

9/20/2018

See Sheet 1A For Index of Sheets
See Sheet 1B For Conventional Symbols

STATE OF NORTH CAROLINA DIVISION OF HIGHWAYS

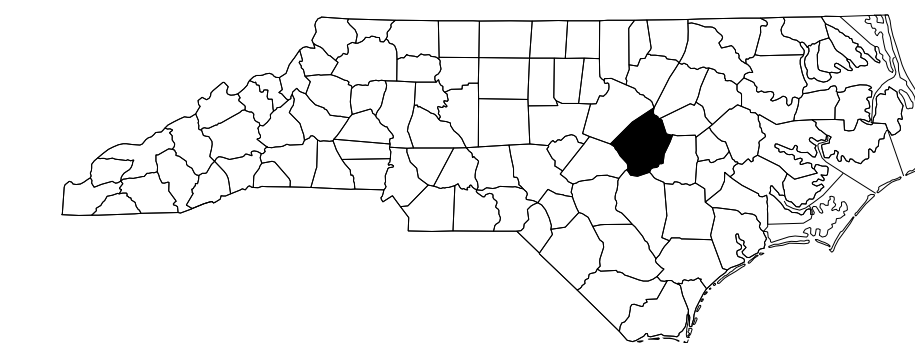
JOHNSTON COUNTY

LOCATION: NC 42 FROM EAST OF SR 1902 (GLEN LAUREL RD) TO SR 1003 (BUFFALO RD). WIDEN TO MULTI-LANES

TYPE OF WORK: DRAINAGE, PAVING, GRADING, STRUCTURES & SIGNALS

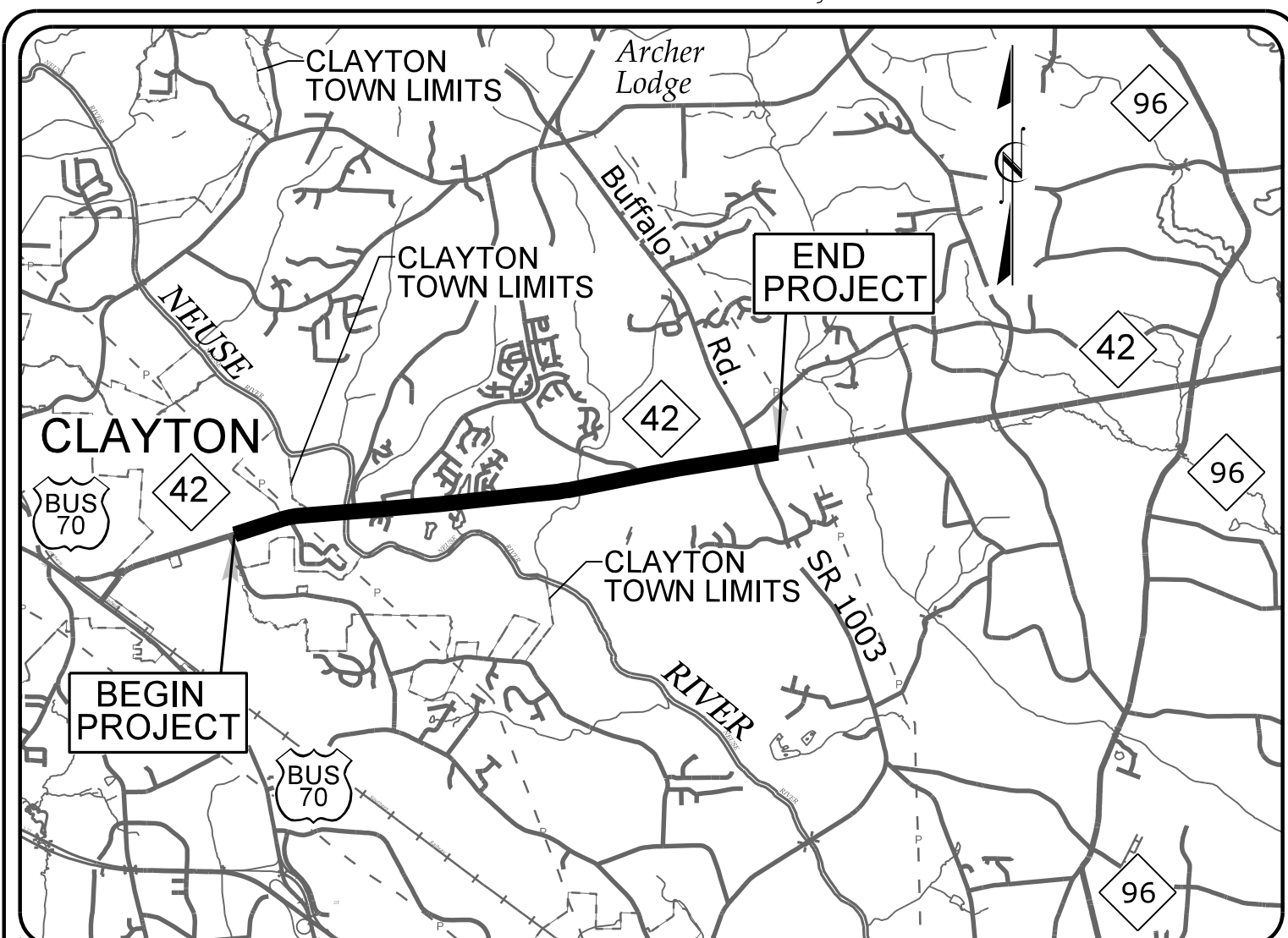
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	R-3825B	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
34552.1.FR3	STP-0042(58)	P.E.	
34552.2.4		RW	
34552.2.5		UTL.	
34552.3.5		CONST.	

**DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED**

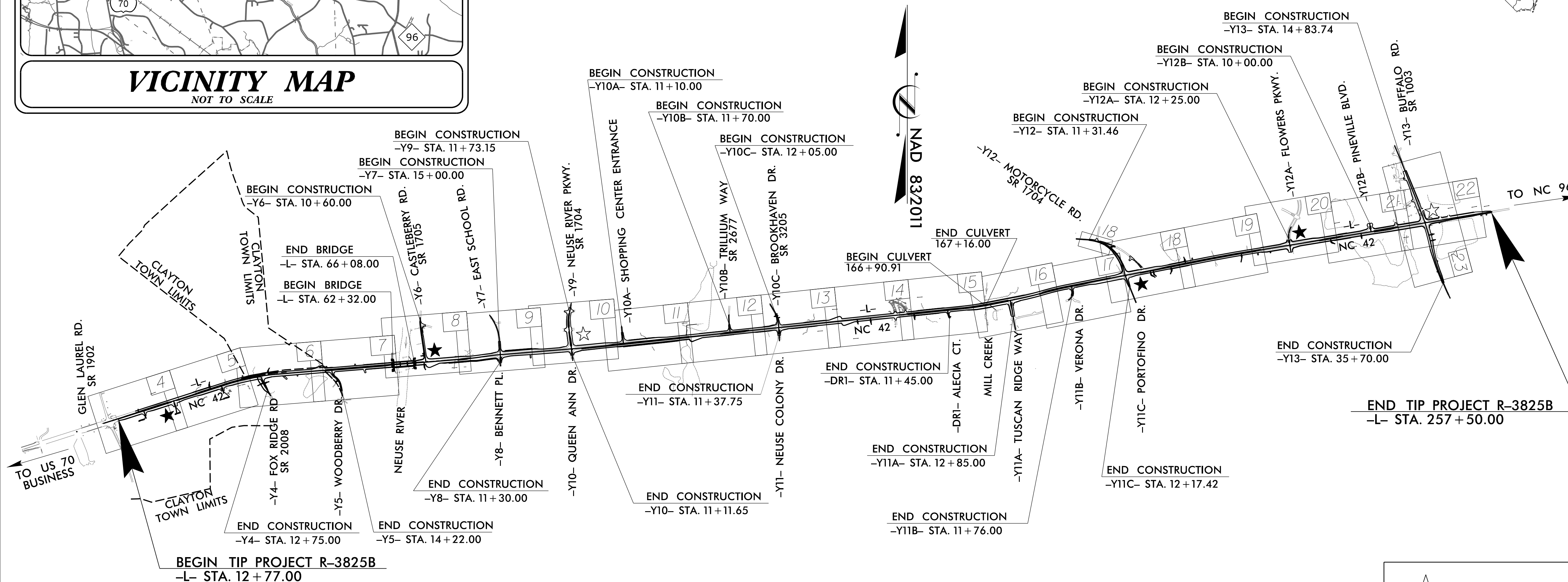


TIP PROJECT: R-3825B

CONTRACT: C204108



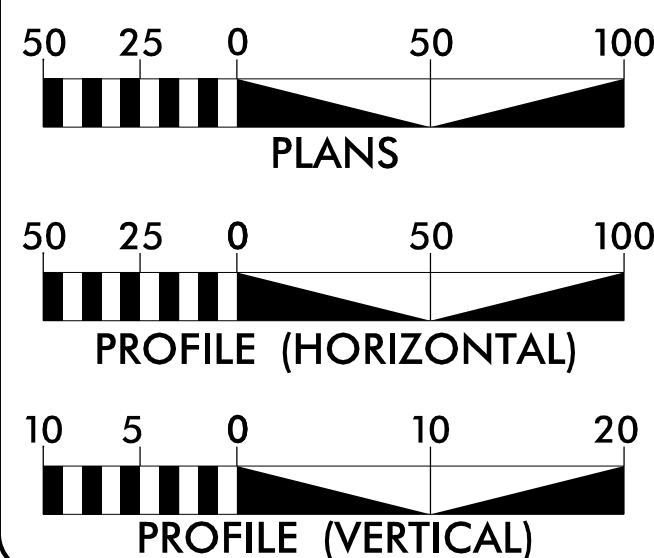
VICINITY MAP
NOT TO SCALE



**THERE IS NO CONTROL OF ACCESS ON THIS PROJECT
EXCEPT AS SHOWN ON PLANS**

☆ EXISTING SIGNAL
★ PROPOSED SIGNAL

GRAPHIC SCALES



DESIGN DATA

ADT 2018 = 21,200
 ADT 2040 = 37,400
 K = 10%
 D = 55%
 T = 5% *
 V = 60 MPH
 * (TTST 1% + DUAL 4%)
 FUNC. CLASS = RURAL
 MAJOR COLLECTOR
 REGIONAL TIER

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT R-3825B = 4.564 MILES
 LENGTH STRUCTURE TIP PROJECT R-3825B = 0.071 MILES
 TOTAL LENGTH OF TIP PROJECT R-3825B = 4.635 MILES



Prepared by
URS
 URS Corporation - North Carolina
 1600 Perimeter Park Drive
 Morrisville, North Carolina 27560
 TELEPHONE: (919) 461-1100 FAX: (919) 461-1415
 NC LICENSE # C-2249

2018 STANDARD SPECIFICATIONS
RIGHT OF WAY DATE:
 SEPTEMBER 8, 2016

LETTING DATE:
 SEPTEMBER 18, 2018

ED EDENS, P.E.
 PROJECT ENGINEER

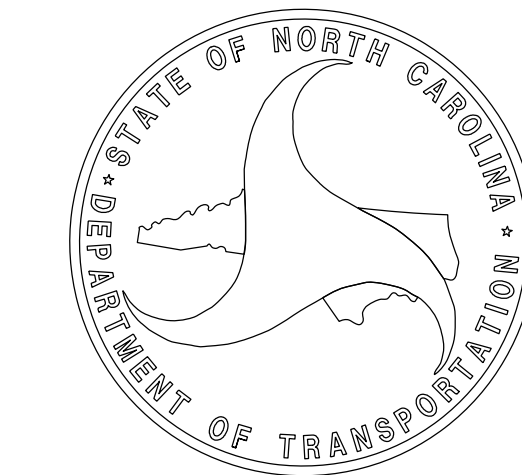
KEVIN VAN METRE, P.E.
 PROJECT DESIGN ENGINEER

GARY R. LOVERING, P.E.
 PROJECT ENGINEER
 NCDOT ROADWAY DESIGN

HYDRAULICS ENGINEER

Professional Engineer Seal for Mike B. Seal, License No. 037863, State of North Carolina. Signature: Mike B. Seal, 8/20/2018.

Professional Engineer Seal for Edward D. Buscemi, License No. 18470, State of North Carolina. Signature: Edward D. Buscemi, 8/20/2018.



8/20/2018
R:\Roadway\AP-r-oj\NR3825B-r.dwg, tsh.dgn

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	○ EP
Computed Property Corner	-----x
Property Monument	□ ECM
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	---WLB---
Proposed Wetland Boundary	---WLB---
Existing Endangered Animal Boundary	---EAB---
Existing Endangered Plant Boundary	---EPB---
Existing Historic Property Boundary	---HPB---
Known Contamination Area: Soil	☠-S-☠
Potential Contamination Area: Soil	☠-S-☠
Known Contamination Area: Water	☠-W-☠
Potential Contamination Area: Water	☠-W-☠
Contaminated Site: Known or Potential	☠?

BUILDINGS AND OTHER CULTURE:

Gas Pump Vent or U/G Tank Cap	○
Sign	○
Well	○ W
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	▭
Proposed Lateral, Tail, Head Ditch	▭
False Sump	▭

RAILROADS:

Standard Gauge	-----
RR Signal Milepost	○ MILEPOST 35
Switch	□ SWITCH
RR Abandoned	-----
RR Dismantled	-----

RIGHT OF WAY & PROJECT CONTROL:

Secondary Horiz and Vert Control Point	◆
Primary Horiz Control Point	○
Primary Horiz and Vert Control Point	●
Exist Permanent Easment Pin and Cap	◇
New Permanent Easement Pin and Cap	◆
Vertical Benchmark	⊕
Existing Right of Way Marker	△
Existing Right of Way Line	-----
New Right of Way Line	-----
New Right of Way Line with Pin and Cap	-----
New Right of Way Line with Concrete or Granite R/W Marker	-----
New Control of Access Line with Concrete C/A Marker	-----
Existing Control of Access	-----
New Control of Access	-----
Existing Easement Line	-----
New Temporary Construction Easement	-----
New Temporary Drainage Easement	-----
New Permanent Drainage Easement	-----
New Permanent Drainage / Utility Easement	-----
New Permanent Utility Easement	-----
New Temporary Utility Easement	-----
New Aerial Utility Easement	-----

ROADS AND RELATED FEATURES:

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

VEGETATION:

Single Tree	☘
Single Shrub	☙

Note: Not to Scale

*S.U.E. = Subsurface Utility Engineering

Hedge	-----
Woods Line	-----
Orchard	☘
Vineyard	▭ Vineyard

EXISTING STRUCTURES:

MAJOR:	
Bridge, Tunnel or Box Culvert	▭ CONC
Bridge Wing Wall, Head Wall and End Wall	▭ CONC WW
MINOR:	
Head and End Wall	▭ CONC HW
Pipe Culvert	-----
Footbridge	-----
Drainage Box: Catch Basin, DI or JB	□ CB
Paved Ditch Gutter	-----
Storm Sewer Manhole	○ S
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	●
U/G Power Line LOS B (S.U.E.*)	-----
U/G Power Line LOS C (S.U.E.*)	-----
U/G Power Line LOS D (S.U.E.*)	-----

TELEPHONE:

Existing Telephone Pole	●
Proposed Telephone Pole	○
Telephone Manhole	⊕
Telephone Pedestal	⊕
Telephone Cell Tower	⊕
U/G Telephone Cable Hand Hole	○
U/G Telephone Cable LOS B (S.U.E.*)	-----
U/G Telephone Cable LOS C (S.U.E.*)	-----
U/G Telephone Cable LOS D (S.U.E.*)	-----
U/G Telephone Conduit LOS B (S.U.E.*)	-----
U/G Telephone Conduit LOS C (S.U.E.*)	-----
U/G Telephone Conduit LOS D (S.U.E.*)	-----
U/G Fiber Optics Cable LOS B (S.U.E.*)	-----
U/G Fiber Optics Cable LOS C (S.U.E.*)	-----
U/G Fiber Optics Cable LOS D (S.U.E.*)	-----

WATER:

Water Manhole	⊕
Water Meter	○
Water Valve	⊗
Water Hydrant	⊕
U/G Water Line LOS B (S.U.E.*)	-----
U/G Water Line LOS C (S.U.E.*)	-----
U/G Water Line LOS D (S.U.E.*)	-----
Above Ground Water Line	-----

TV:

TV Pedestal	⊕
TV Tower	⊗
U/G TV Cable Hand Hole	⊕
U/G TV Cable LOS B (S.U.E.*)	-----
U/G TV Cable LOS C (S.U.E.*)	-----
U/G TV Cable LOS D (S.U.E.*)	-----
U/G Fiber Optic Cable LOS B (S.U.E.*)	-----
U/G Fiber Optic Cable LOS C (S.U.E.*)	-----
U/G Fiber Optic Cable LOS D (S.U.E.*)	-----

GAS:

Gas Valve	◇
Gas Meter	⊕
U/G Gas Line LOS B (S.U.E.*)	-----
U/G Gas Line LOS C (S.U.E.*)	-----
U/G Gas Line LOS D (S.U.E.*)	-----
Above Ground Gas Line	-----

SANITARY SEWER:

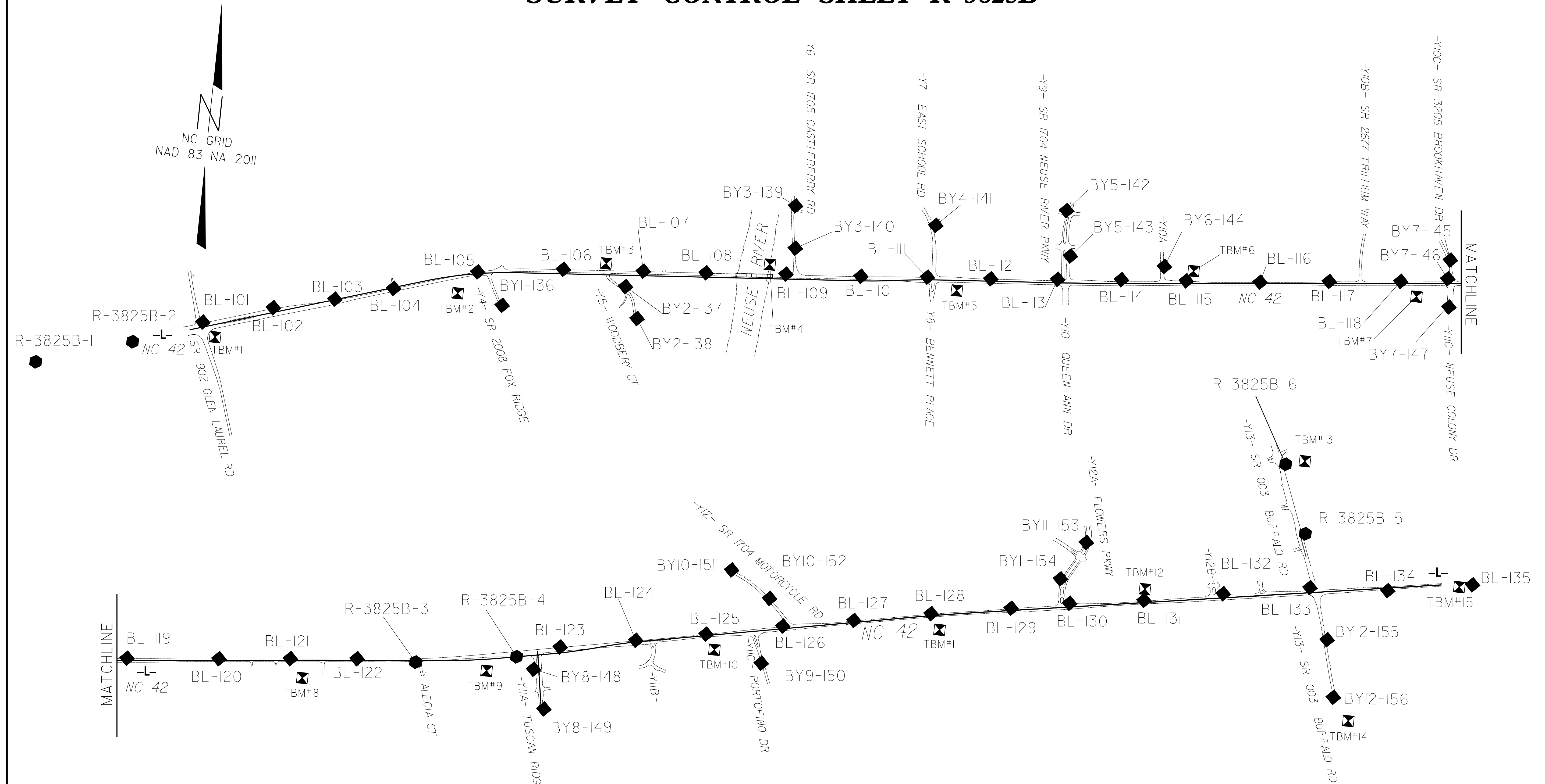
Sanitary Sewer Manhole	⊕
Sanitary Sewer Cleanout	⊕
U/G Sanitary Sewer Line	-----
Above Ground Sanitary Sewer	-----
SS Forced Main Line LOS B (S.U.E.*)	-----
SS Forced Main Line LOS C (S.U.E.*)	-----
SS Forced Main Line LOS D (S.U.E.*)	-----

MISCELLANEOUS:

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

PROJECT REFERENCE NO.	SHEET NO.
R-3825B	1C-1
Location and Surveys	

SURVEY CONTROL SHEET R-3825B



DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "R3825B-3"

WITH NAD 83/NA 2011 STATE PLANE GRID COORDINATES OF
 NORTHING: 691930.052(ft) EASTING: 2186093.940(ft)
 ELEVATION: 327.29(ft)

THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.999889085

THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "R3825B-3" TO -L- STATION 10+00 IS
 S82°24'03.79"W 14938.3489

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

NOTES:

1. THE CONTROL DATA FOR THIS PROJECT CAN BE FOUND ELECTRONICALLY BY SELECTING PROJECT CONTROL DATA AT:
[HTTPS://CONNECT.NCDOT.GOV/RESOURCES/LOCATION/](https://connect.ncdot.gov/resources/location/)
 THE FILES TO BE FOUND ARE AS FOLLOWS:
 R3825B_LS_CONTROL.TXT
- SITE CALIBRATION INFORMATION HAS NOT BEEN PROVIDED FOR THIS PROJECT. IF FURTHER INFORMATION IS NEEDED, PLEASE CONTACT THE LOCATION AND SURVEYS UNIT.
- INDICATES GEODETIC CONTROL MONUMENTS USED OR SET FOR HORIZONTAL PROJECT CONTROL BY THE NCDOT LOCATION AND SURVEYS UNIT.
 PROJECT CONTROL ESTABLISHED USING GLOBAL POSITIONING SYSTEM.

NOTE: DRAWING NOT TO SCALE

SURVEY CONTROL SHEET R-3825B

BASELINE DATA

BENCHMARK DATA

BL POINT	DESC.	NORTH	EAST	ELEVATION	L STATION	OFFSET
1	GPS1	689500.1000	2169863.0260	327.29	OUTSIDE PROJECT LIMITS	
2	GPS2	689785.7150	2170759.3560	320.81	OUTSIDE PROJECT LIMITS	
101	BL-101	690040.7260	2171403.1750	314.64	11-37.07	46.61 LT
102	BL-102	690247.1860	2172055.5410	297.78	18-21.32	44.88 LT
103	BL-103	690388.5300	2172629.5460	264.70	24-11.12	4.94 LT
104	BL-104	690548.7860	2173173.8700	254.35	29-78.40	7.95 RT
105	BL-105	690788.0110	2173953.0260	243.45	37-92.67	16.78 LT
106	BL-106	690897.5860	2174760.6640	206.18	46-05.47	43.42 LT
107	BL-107	690959.0570	2175518.2760	172.48	53-65.57	43.62 LT
108	BL-108	691005.6880	2176113.1710	158.32	59-62.29	42.15 LT
109	BL-109	691072.1490	2176869.5910	157.47	67-21.60	47.42 LT
110	BL-110	691125.6290	2177580.7140	163.86	74-34.93	43.34 LT
111	BL-111	691183.8610	2178210.5960	177.30	80-68.37	25.37 LT
112	BL-112	691230.4470	2178810.8910	193.25	86-69.94	22.41 LT
113	BL-113	691291.4100	2179443.5340	216.41	93-05.52	32.33 LT
114	BL-114	691351.9720	2180046.7440	210.82	99-12.28	38.05 LT
115	BL-115	691405.0350	2180660.7050	179.19	105-28.66	27.56 LT
116	BL-116	691465.5830	2181360.7540	169.33	112-31.21	14.83 LT
117	BL-117	691540.8520	2182013.5020	183.18	118-88.25	21.66 LT
118	BL-118	691612.2170	2182689.9280	202.45	125-68.43	22.15 LT
119	BL-119	691681.4400	2183361.4830	189.10	132-43.54	21.01 LT
120	BL-120	691767.6600	2184231.1810	196.96	141-17.49	16.13 LT
121	BL-121	691839.4430	2184906.3580	216.09	147-96.47	17.17 LT
122	BL-122	691904.8720	2185537.0560	207.68	154-30.55	16.51 LT
3	GPS3	691930.0520	2186093.9400	191.25	159-87.03	16.48 RT
4	GPS4	692081.3550	2187042.9240	171.75	169-47.88	0.80 LT
123	BL-123	692216.3980	2187445.7390	190.31	173-70.29	56.22 LT
124	BL-124	692354.8260	2188154.4770	228.88	180-92.86	15.50 LT
125	BL-125	692482.8800	2188811.9210	258.01	187-62.37	14.03 LT
126	BL-126	692634.8780	2189530.1940	271.77	194-96.46	25.31 LT
127	BL-127	692758.6470	2190197.2180	281.93	201-74.84	18.72 LT
128	BL-128	692899.8770	2190919.6870	297.21	209-10.78	19.90 LT
129	BL-129	693030.1340	2191671.5260	309.07	216-73.45	21.56 LT
130	BL-130	693134.5270	2192218.7280	304.02	222-30.35	35.29 LT
131	BL-131	693235.7000	2192920.4030	291.73	229-39.13	20.64 LT
132	BL-132	693377.7450	2193661.9170	286.08	236-93.88	39.82 LT
133	BL-133	693520.8150	2194476.2410	288.98	245-20.64	48.13 LT
134	BL-134	693569.2280	2195214.2440	290.23	252-56.65	24.50 RT
135	BL-135	693708.4770	2196010.6040	291.07	OUTSIDE PROJECT LIMITS	

BY1 POINT	DESC.	NORTH	EAST	ELEVATION	Y4 STATION	OFFSET
105	BL-105	690788.0110	2173953.0260	243.45	OUTSIDE PROJECT LIMITS	
136	BY1-136	690495.9560	2174217.0920	251.19	13-33.33	14.12 LT
BY2 POINT	DESC.	NORTH	EAST	ELEVATION	Y5 STATION	OFFSET
106	BL-106	690897.5860	2174760.6640	206.18	OUTSIDE PROJECT LIMITS	
137	BY2-137	690795.0410	2175364.9530	199.17	11-28.37	18.57 LT
138	BY2-138	690584.5480	2175505.8200	213.09	OUTSIDE PROJECT LIMITS	
BY3 POINT	DESC.	NORTH	EAST	ELEVATION	Y6 STATION	OFFSET
139	BY3-139	691727.1820	2176892.9890	144.91	10-92.03	27.81 LT
140	BY3-140	691326.4570	2176932.5150	151.19	14-95.87	13.85 LT
109	BL-109	691072.1490	2176869.5910	157.47	17-37.93	86.35 RT
BY4 POINT	DESC.	NORTH	EAST	ELEVATION	Y7 STATION	OFFSET
141	BY4-141	691681.3470	2178237.5670	187.54	12-27.01	44.86 LT
111	BL-111	691183.8610	2178210.5960	177.30	17-11.61	58.53 RT
BY5 POINT	DESC.	NORTH	EAST	ELEVATION	Y9 STATION	OFFSET
142	BY5-142	691951.2520	2179460.0410	237.45	11-28.00	36.57 RT
143	BY5-143	691525.5570	2179541.2330	225.93	15-56.95	50.62 LT
113	BL-113	691291.4100	2179443.5340	216.41	17-76.88	75.88 RT
BY6 POINT	DESC.	NORTH	EAST	ELEVATION	Y10A STATION	OFFSET
144	BY6-144	691519.1820	2180440.3070	194.72	11-50.35	20.78 LT
115	BL-115	691405.0350	2180660.7050	179.19	12-83.94	228.19 LT
BY7 POINT	DESC.	NORTH	EAST	ELEVATION	Y10C STATION	OFFSET
145	BY7-145	691863.4210	2183137.7240	205.39	12-29.82	14.58 LT
146	BY7-146	691683.5610	2183131.4560	195.99	14-06.11	32.21 RT
147	BY7-147	691417.5210	2183170.3770	201.26	OUTSIDE PROJECT LIMITS	
BY8 POINT	DESC.	NORTH	EAST	ELEVATION	Y11A STATION	OFFSET
123	BL-123	692216.3980	2187445.7390	190.31	OUTSIDE PROJECT LIMITS	
148	BY8-148	691979.9840	2187216.2740	181.31	11-32.56	49.31 RT
149	BY8-149	691613.9350	2187352.9560	170.48	15-17.88	21.84 LT
BY9 POINT	DESC.	NORTH	EAST	ELEVATION	Y11C STATION	OFFSET
126	BL-126	692634.8780	2189530.1940	271.77	10-29.06	281.80 LT
150	BY9-150	692262.3680	2189362.9910	281.47	13-11.39	13.18 RT
BY10 POINT	DESC.	NORTH	EAST	ELEVATION	Y12 STATION	OFFSET
151	BY10-151	693115.2170	2189990.4540	258.57	14-88.02	58.54 LT
152	BY10-152	692883.5810	2189377.7500	269.87	18-50.07	207.51 LT
126	BL-126	692634.8780	2189530.1940	271.77	20-74.15	282.16 LT
BY11 POINT	DESC.	NORTH	EAST	ELEVATION	Y12A STATION	OFFSET
153	BY11-153	693726.7240	2192316.7880	313.07	OUTSIDE PROJECT LIMITS	
154	BY11-154	693356.6020	2192108.1060	312.34	10-73.53	44.28 RT
130	BL-130	693134.5270	2192218.7280	304.02	12-96.60	69.38 LT
BY12 POINT	DESC.	NORTH	EAST	ELEVATION	Y13 STATION	OFFSET
6	GPS6	694664.0620	2194124.0370	309.03	12-11.68	47.29 LT
5	GPS5	694025.7130	2194379.2830	301.81	18-98.07	51.09 LT
133	BL-133	693520.8150	2194476.2410	288.98	24-04.79	40.70 RT
155	BY12-155	693044.7010	2194689.7820	289.09	29-22.64	36.88 LT
156	BY12-156	692506.6980	2194805.8470	283.83	34-72.98	15.68 RT

TBM*1	ELEVATION - 320.03	TBM*9	ELEVATION - 175.60
N 689911	E 2171535	N 691919	E 2186774
L STATION 12-23.00	117 RIGHT	L STATION 166-56.00	109 RIGHT
RR SPIKE IN 24' PINE		RR SPIKE IN 15' PINE	
TBM*2	ELEVATION - 262.50	TBM*10	ELEVATION - 258.12
N 690566	E 2173786	N 692343	E 2188907
L STATION 35-00.00	167 RIGHT	L STATION 188-29.00	141 RIGHT
RR SPIKE IN 14' GUM		RR SPIKE IN 15' PINE	
TBM*3	ELEVATION - 177.87	TBM*11	ELEVATION - 316.27
N 690995	E 2175160	N 692755	E 2191016
L STATION 50-11.00	109 LEFT	L STATION 209-80.00	140 RIGHT
RR SPIKE IN 18' OAK		RR SPIKE IN 12' OAK	
TBM*4	ELEVATION - 140.97	TBM*12	ELEVATION - 296.28
N 691147	E 2176708	N 693343	E 2192918
L STATION 65-67.00	135 LEFT	L STATION 229-54.00	127 LEFT
RR SPIKE IN 16' OAK		RR SPIKE IN 14' GUM	
TBM*5	ELEVATION - 180.56	TBM*13	ELEVATION - 304.50
N 691086	E 2178502	N 694712	E 2194304
L STATION 83-50.00	97 RIGHT	L STATION 245-45.00	1252 LEFT
RR SPIKE IN 12' OAK		RR SPIKE IN 24' PINE	
TBM*6	ELEVATION - 171.66	TBM*14	ELEVATION - 280.98
N 691505	E 2180722	N 692297	E 2194971
L STATION 106-00.00	120 LEFT	L STATION 248-09.00	1240 RIGHT
RR SPIKE IN 20' OAK		RR SPIKE IN 14' PINE	
TBM*7	ELEVATION - 196.61	TBM*15	ELEVATION - 293.19
N 691484	E 2182854	N 693674	E 2195888
L STATION 127-18.00	123 RIGHT	OUTSIDE PROJECT LIMITS	
RR SPIKE IN 15' OAK		L STATION 10-00.00	
		N 81-24' 6.78" E DIST	24881.33
TBM*8	ELEVATION - 214.96		RR SPIKE IN 22' PINE
N 691667	E 2185039		
L STATION 149-10.00	168 RIGHT		
RR SPIKE IN 18' PINE			

NOTES:

- THE CONTROL DATA FOR THIS PROJECT CAN BE FOUND ELECTRONICALLY BY SELECTING PROJECT CONTROL DATA AT:
[HTTPS://CONNECT.NCDOT.GOV/RESOURCES/LOCATION](https://connect.ncdot.gov/resources/location)
- THE FILES TO BE FOUND ARE AS FOLLOWS:
[R3825B_LS_CONTROL.TXT](#)
- SITE CALIBRATION INFORMATION HAS NOT BEEN PROVIDED FOR THIS PROJECT. IF FURTHER INFORMATION IS NEEDED, PLEASE CONTACT THE LOCATION AND SURVEYS UNIT.
- INDICATES GEODETIC CONTROL MONUMENTS USED OR SET FOR HORIZONTAL PROJECT CONTROL BY THE NCDOT LOCATION AND SURVEYS UNIT.
- PROJECT CONTROL ESTABLISHED USING GLOBAL POSITIONING SYSTEM.

DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "R3825B-3" WITH NAD 83/NA 2011 STATE PLANE GRID COORDINATES OF NORTHING: 691930.052(±) EASTING: 2186093.940(±) ELEVATION: 327.29(±) THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.999889085 THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "R3825B-3" TO -L- STATION 10+00 IS S82°24'03.79"W 14938.3489 ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES VERTICAL DATUM USED IS NAVD 88

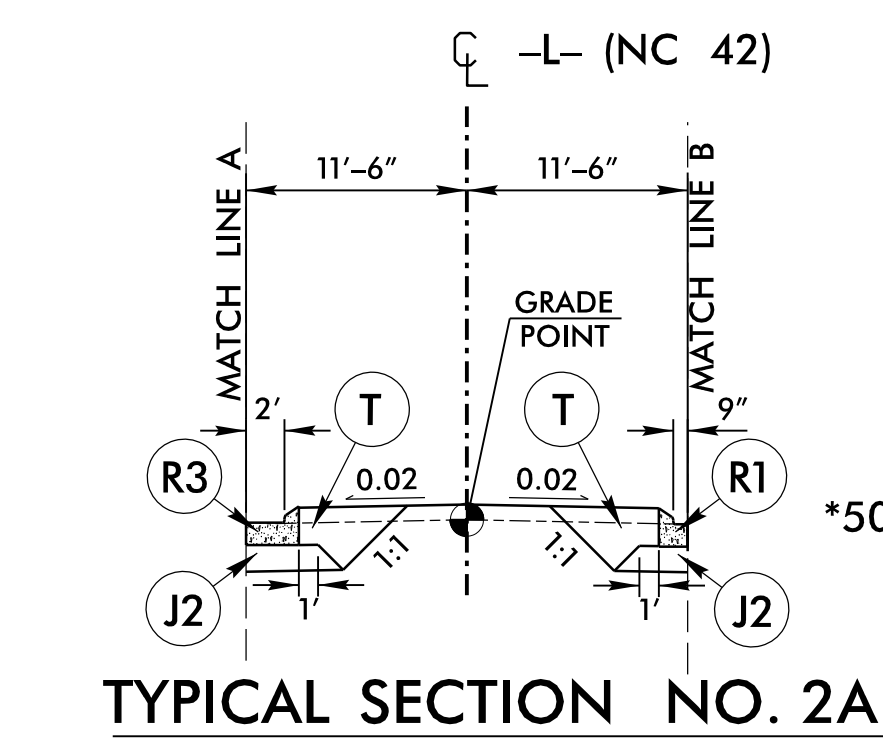
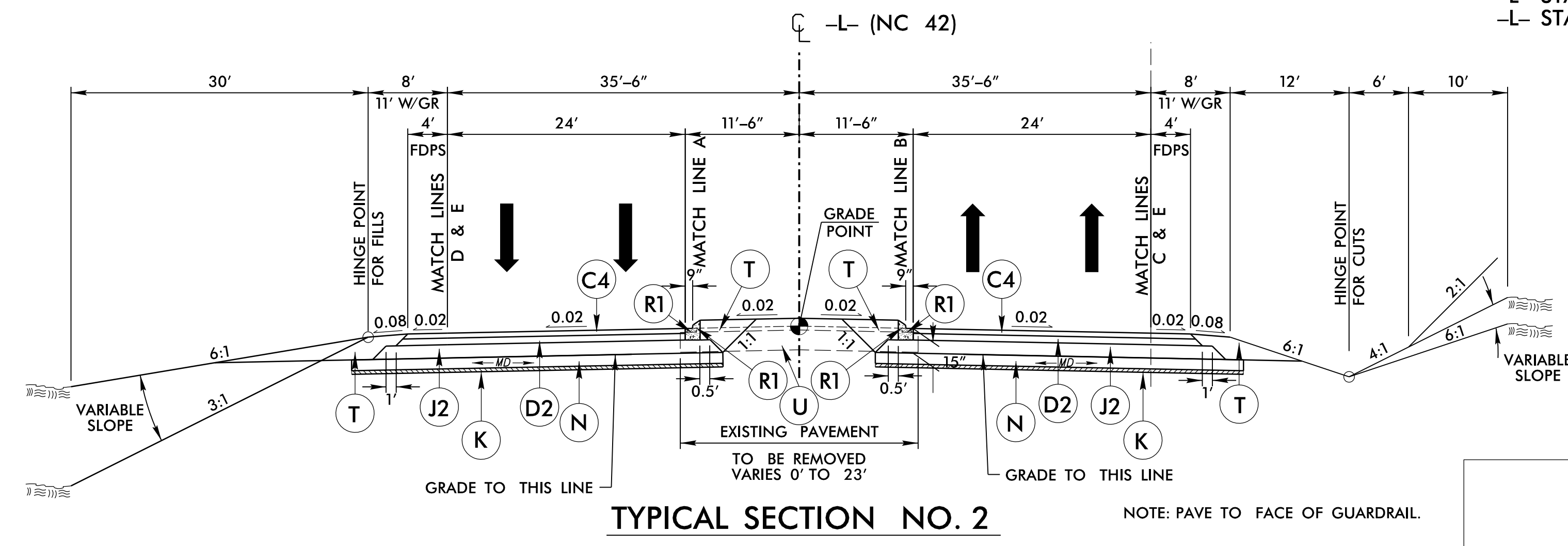
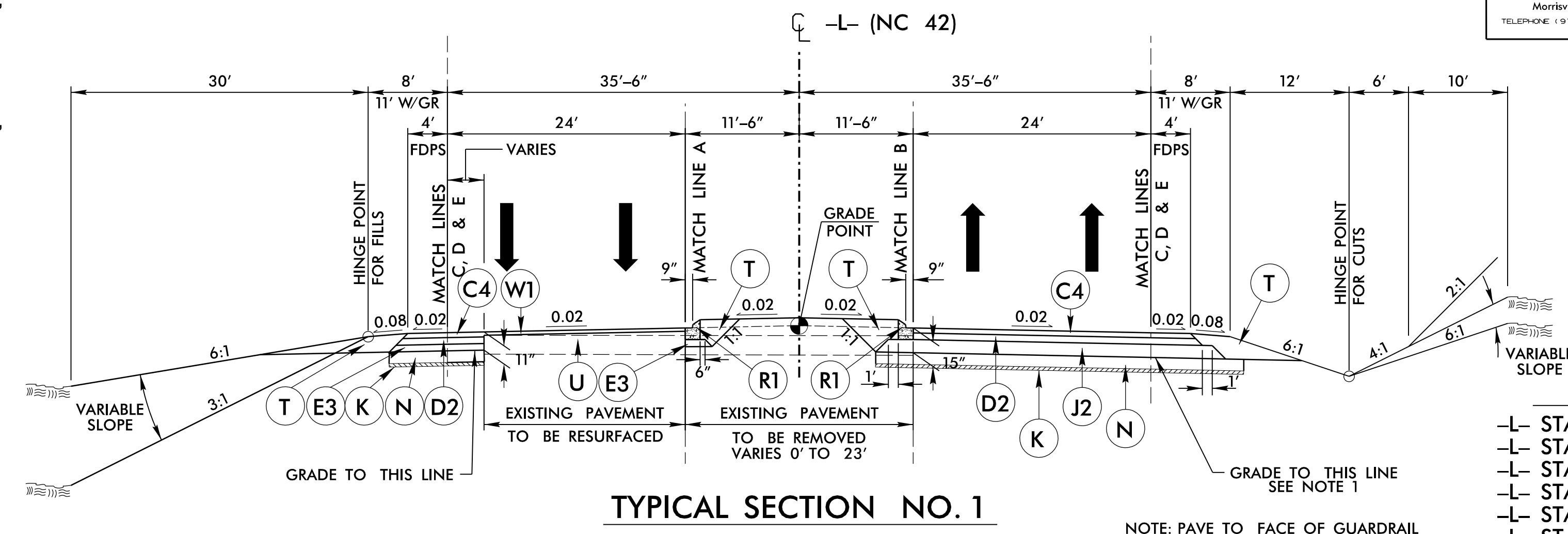
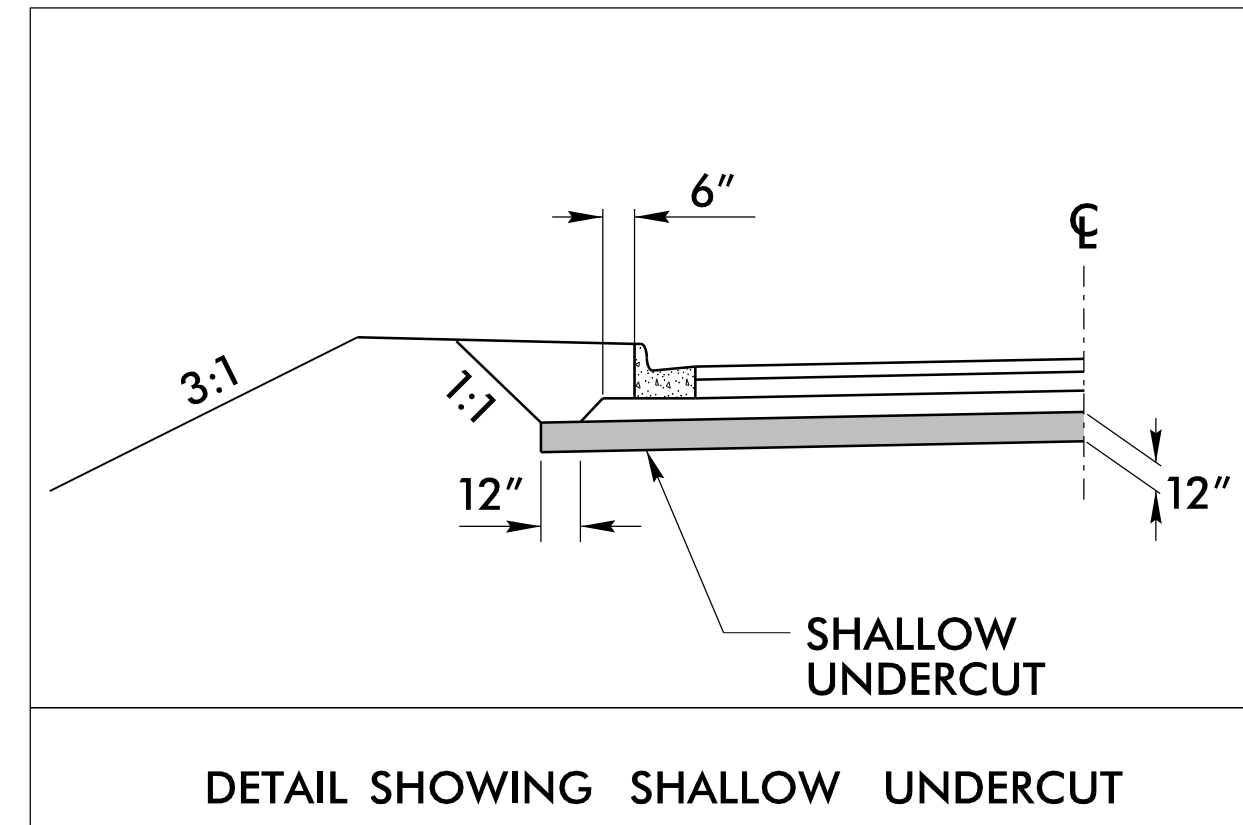
NOTE: DRAWING NOT TO SCALE

8/17/99

**PAVEMENT SCHEDULE
FINAL PAVEMENT DESIGN**

C1	PROP. APPROX. 2 1/2" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B AT AN AVERAGE RATE OF 138 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
C2	PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 110 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT TO EXCEED 1 1/2" IN DEPTH.
C3	PROP. APPROX. 1 1/2" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
C4	PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
C5	PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 112 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT TO EXCEED 2" IN DEPTH.
D1	PROP. APPROX. 2 1/2" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 285 LBS. PER SQ. YD.
D2	PROP. APPROX. 4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
D3	PROP. VAR. DEPTH ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT LESS THAN 2 1/2" IN DEPTH OR GREATER THAN 4" IN DEPTH.
E1	PROP. APPROX. 4 1/2" ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 513 LBS. PER SQ. YD.
E2	PROP. APPROX. 5" ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 570 LBS. PER SQ. YD.
E3	PROP. APPROX. 4" ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
E4	PROP. APPROX. 5 1/2" ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 627 LBS. PER SQ. YD.
E5	PROP. VAR. DEPTH ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT LESS THAN 3" IN DEPTH OR GREATER THAN 5 1/2" IN DEPTH.
J1	PROP. 6" AGGREGATE BASE COURSE.
J2	PROP. 8" AGGREGATE BASE COURSE.
K	BASE TO BE TREATED WITH LIME (METHOD-SLURRY) TO A DEPTH OF 8" AT A RATE OF 20 LBS. PER SQ. YD. AS DIRECTED BY THE ENGINEER. OR BASE TO BE TREATED WITH CEMENT TO A DEPTH OF 7" AT A RATE OF 55 LBS. PER SQ. YD. AS DIRECTED BY THE ENGINEER.
N	GEOTEXTILE FOR PAVEMENT STABILIZATION
P	PRIME COAT AT RATE OF .35 GAL PER SQ. YARD
R1	1'-6" CONCRETE CURB AND GUTTER.
R2	2'-6" CONCRETE CURB AND GUTTER.
R3	2'-9" CONCRETE CURB AND GUTTER. SEE DETAIL, THIS SHEET.
R4	EXPRESSWAY GUTTER.
R5	SHOULDER BERM GUTTER.
R6	5" MONOLITHIC CONCRETE ISLAND (KEYED IN)
S	4" CONCRETE SIDEWALK
T	EARTH MATERIAL.
U	EXISTING PAVEMENT.
W1	VARIABLE DEPTH ASPHALT PAVEMENT (SEE DETAIL SHOWING METHOD OF WEDGING NO. 1)
W2	VARIABLE DEPTH ASPHALT PAVEMENT (SEE DETAIL SHOWING METHOD OF WEDGING NO. 2)

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

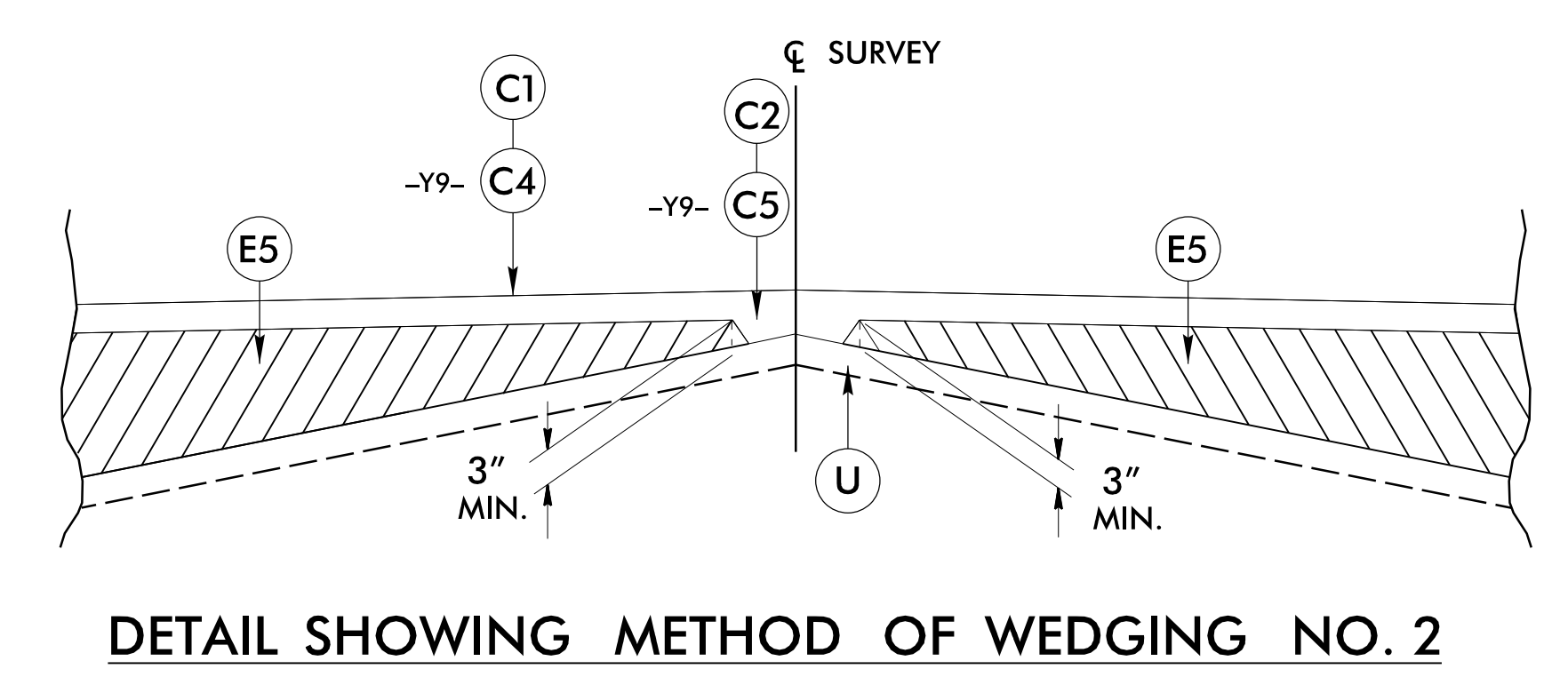
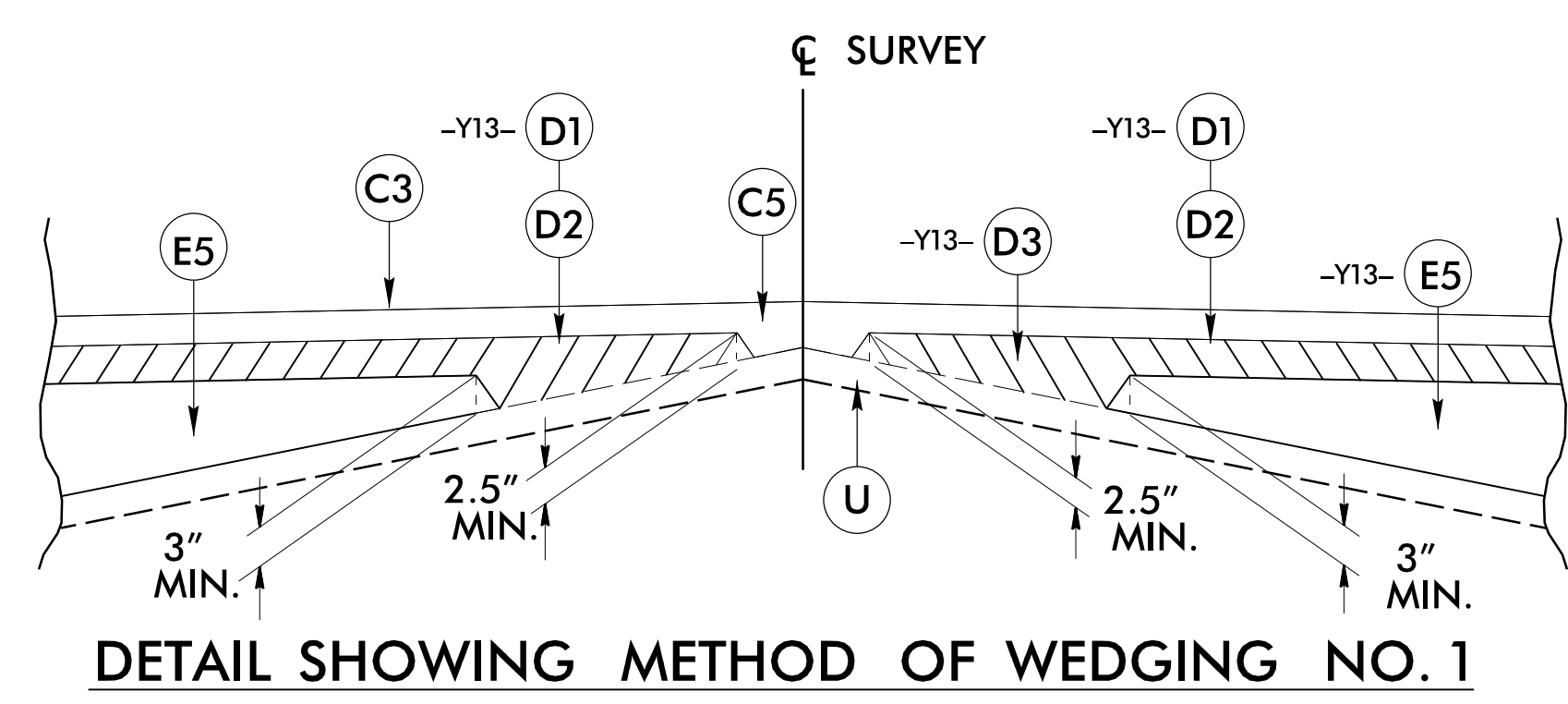


USE TYPICAL SECTION NO. 2A IN CONJUNCTION WITH TYPICAL SECTION NO. 1 AT THE FOLLOWING LOCATIONS:

- L- STA. 32+20.26 TO STA. 38+37.76 LT*
- L- STA. 74+14.22 TO STA. 75+63.04 RT*
- L- STA. 162+90.63 TO STA. 167+94.19 RT*
- L- STA. 177+60.00 TO STA. 182+97.18 LT*

*50' TRANSITION BETWEEN 1'-6" CURB AND 2'-9" CURB & GUTTER

- L- STA. 31+70.26 LT
- L- STA. 38+37.76 LT
- L- STA. 73+64.22 RT
- L- STA. 75+63.04 RT
- L- STA. 162+40.63 RT
- L- STA. 167+94.19 RT
- L- STA. 177+10.00 LT
- L- STA. 182+97.18 LT



Prepared by
URS
URS Corporation - North Carolina
1600 Perimeter Park Drive
Morrisville, North Carolina 27560
TELEPHONE: (919) 461-1100 FAX: (919) 461-1415
NO. L10266E - C-2242

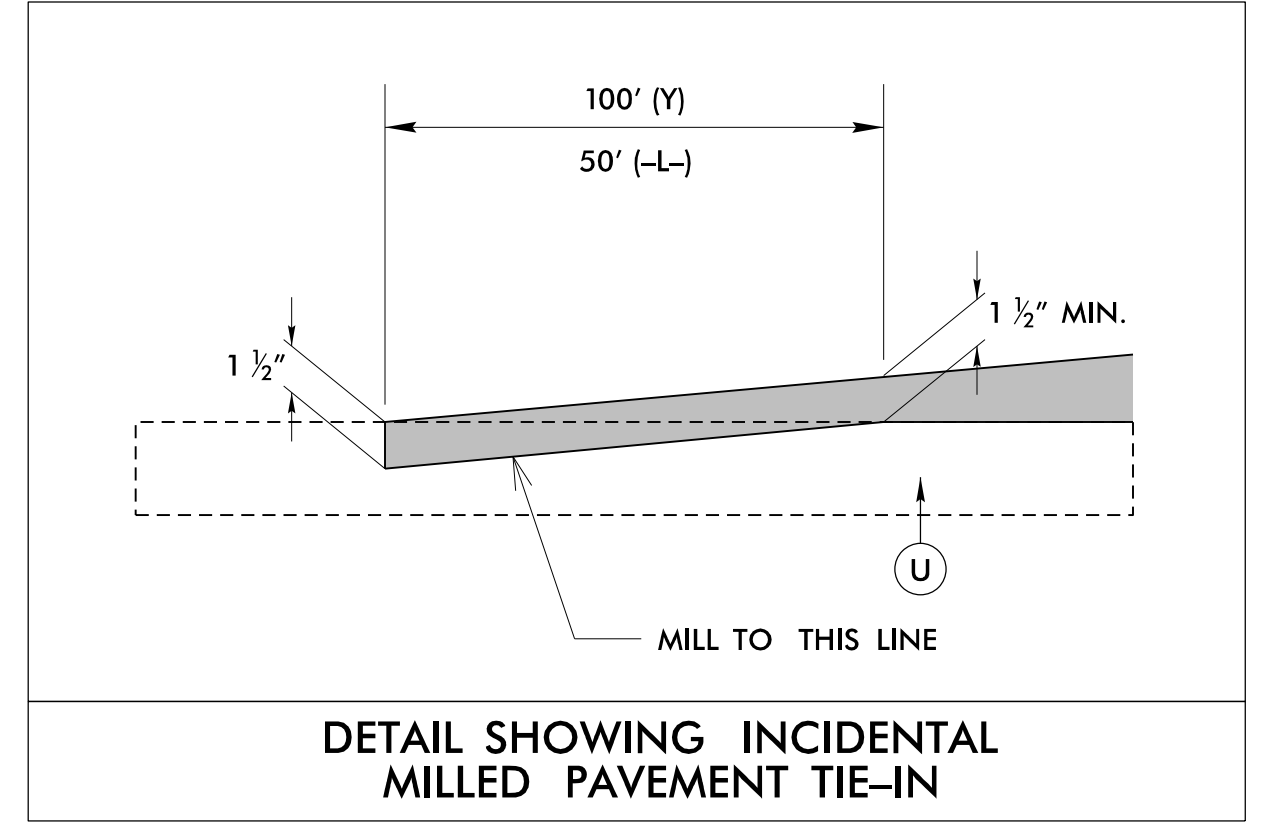
PROJECT REFERENCE NO. R-3825B SHEET NO. 2A-1

R/W SHEET NO. PAVEMENT DESIGN ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

- USE TYPICAL SECTION NO. 1 AT THE FOLLOWING LOCATION:
- L- STA. 12+77.00 TO STA. 16+50.00 MILL & RESURFACE
 - L- STA. 16+50.00 TO STA. 23+50.50 RESURF. LT & RT
 - L- STA. 26+00.50 TO STA. 38+87.76 RESURF. LT & RT
 - L- STA. 50+30.17 TO STA. 62+07.50 RESURF. LT
 - L- STA. 73+64.22 TO STA. 76.32.36 RESURF. LT
 - L- STA. 95+55.70 TO STA. 107+83.69 RESURF. LT & RT
 - L- STA. 120+10.11 TO STA. 125+25.01 RESURF. LT & RT
 - L- STA. 153+22.00 TO STA. 171+16.31 RESURF. LT & RT
 - L- STA. 176+62.24 TO STA. 189+58.30 RESURF. LT & RT
 - L- STA. 194+80.16 TO STA. 199+60.16 RESURF. LT & RT
 - L- STA. 214+42.08 TO STA. 216+29.03 RESURF. LT & RT
- NOTE 1: SEE TYPICAL SECTION NO. 3A & 3B FOR PAVEMENT STABILIZATION LOCATIONS.

- USE TYPICAL SECTION NO. 2 AT THE FOLLOWING LOCATION:
- L- STA. 107+87.06 TO STA. 114+65.11
 - L- STA. 199+60.16 TO STA. 214+42.08



REVISIONS

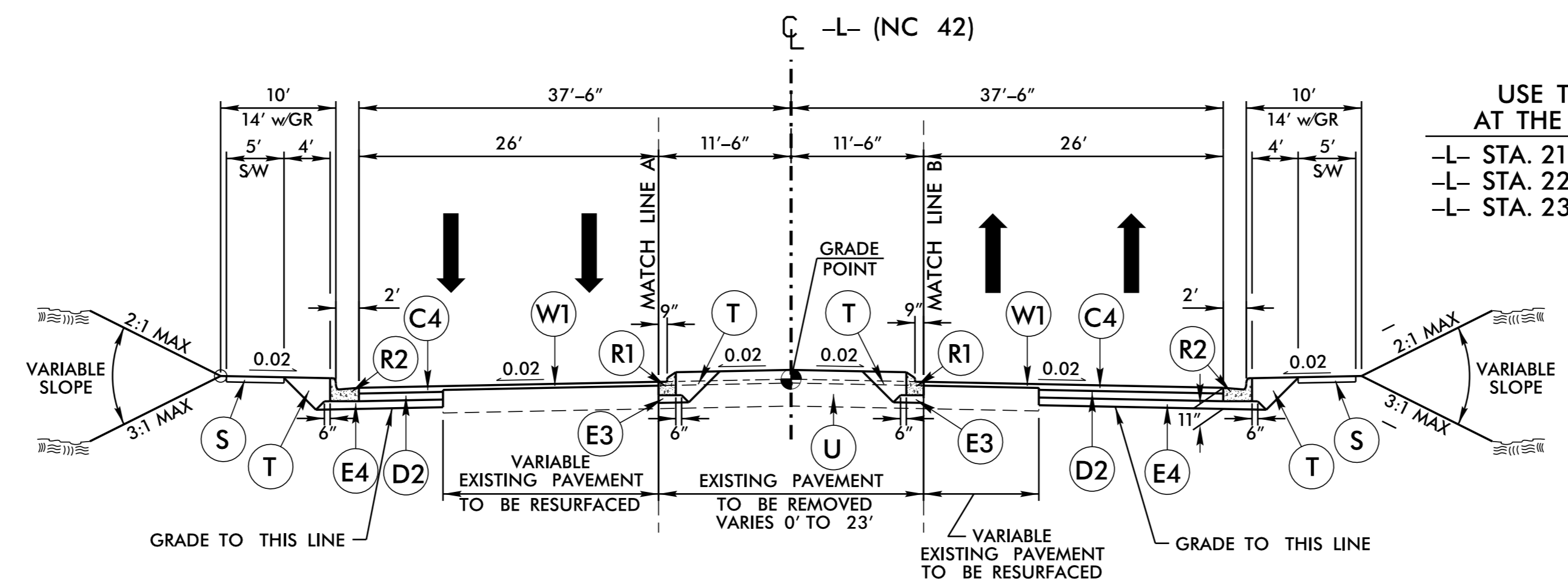
9/6/2018
R:\Roadway\Proj\NR3825b_rdy_tjpb.dgn
tjpb

8/17/09

PAVEMENT SCHEDULE
FINAL PAVEMENT DESIGN

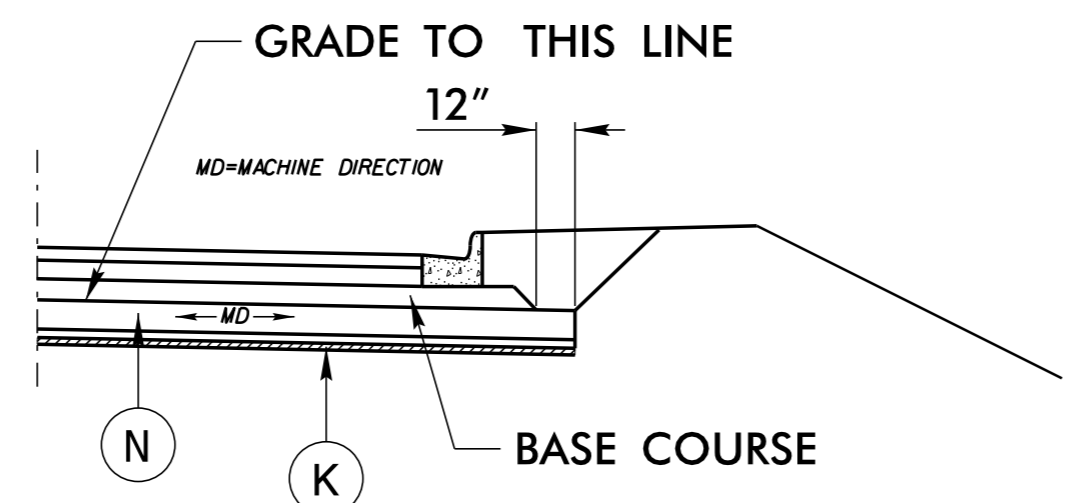
C1	2 1/2" S9.5B
C2	VAR. S9.5B
C3	1 1/2" S9.5C
C4	3" S9.5C
C5	VAR. S9.5C
D1	2 1/2" I19.0C
D2	4" I19.0C
D3	VAR. I19.0C
E1	4 1/2" B25.0C
E2	5" B25.0C
E3	4" B25.0C
E4	5 1/2" B25.0C
E5	VAR. B25.0C
J1	6" ABC
J2	8" ABC
K	K LIME OR CEMENT
N	GEOTEXTILE PVMT. STAB.
P	PRIME COAT
R1	1'-6" C & G
R2	2'-6" C & G
R3	2'-9" C & G
R4	EXPRESSWAY GUTTER
R5	SHOULDER BERM GUTTER
R6	5" CONC. ISLAND
S	4" CONC. SIDEWALK
T	EARTH MATERIAL
U	EXISTING PAVEMENT
W1	WEDGING DETAIL No. 1
W2	WEDGING DETAIL No. 2

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

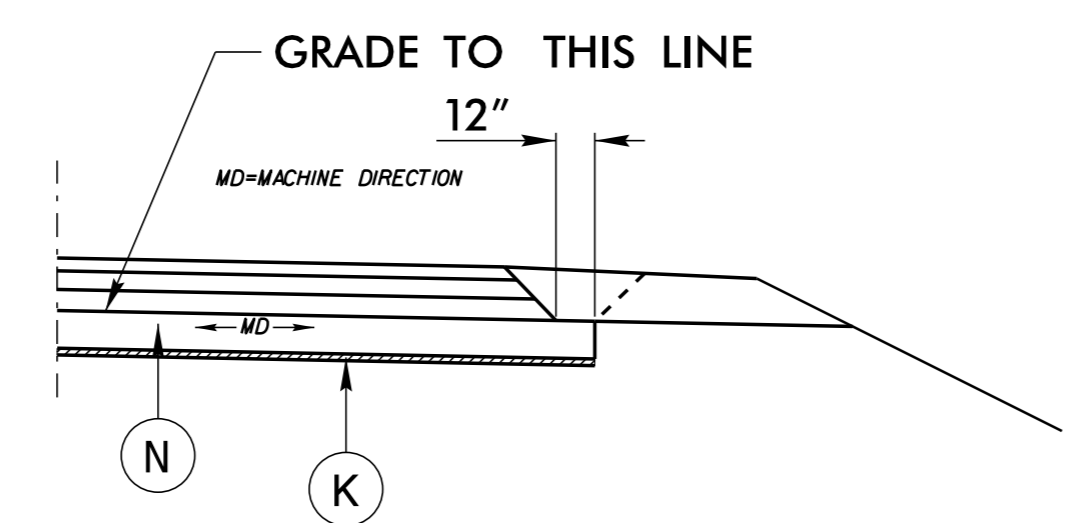


TYPICAL SECTION NO. 3

USE TYPICAL SECTION NO. 3
AT THE FOLLOWING LOCATION:
-L- STA. 216+29.03 TO STA. 216+44.00
-L- STA. 226+78.00 TO STA. 231+07.28
-L- STA. 236+59.28 TO STA. 240+84.98

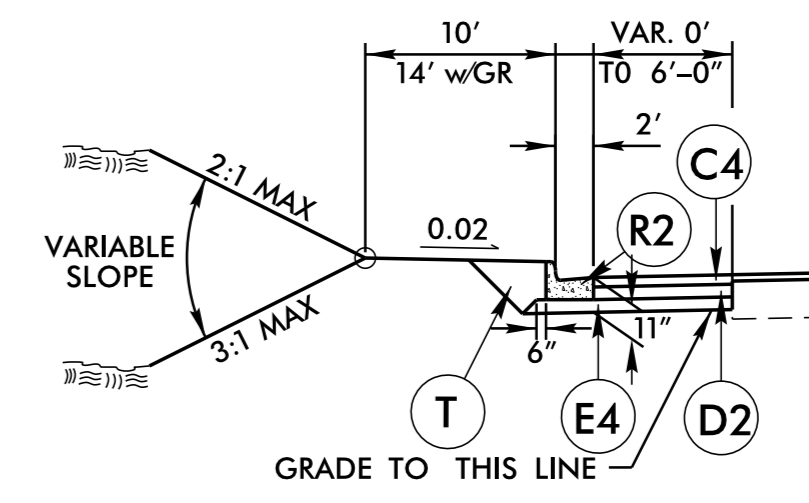


TYPICAL SECTION NO. 3A



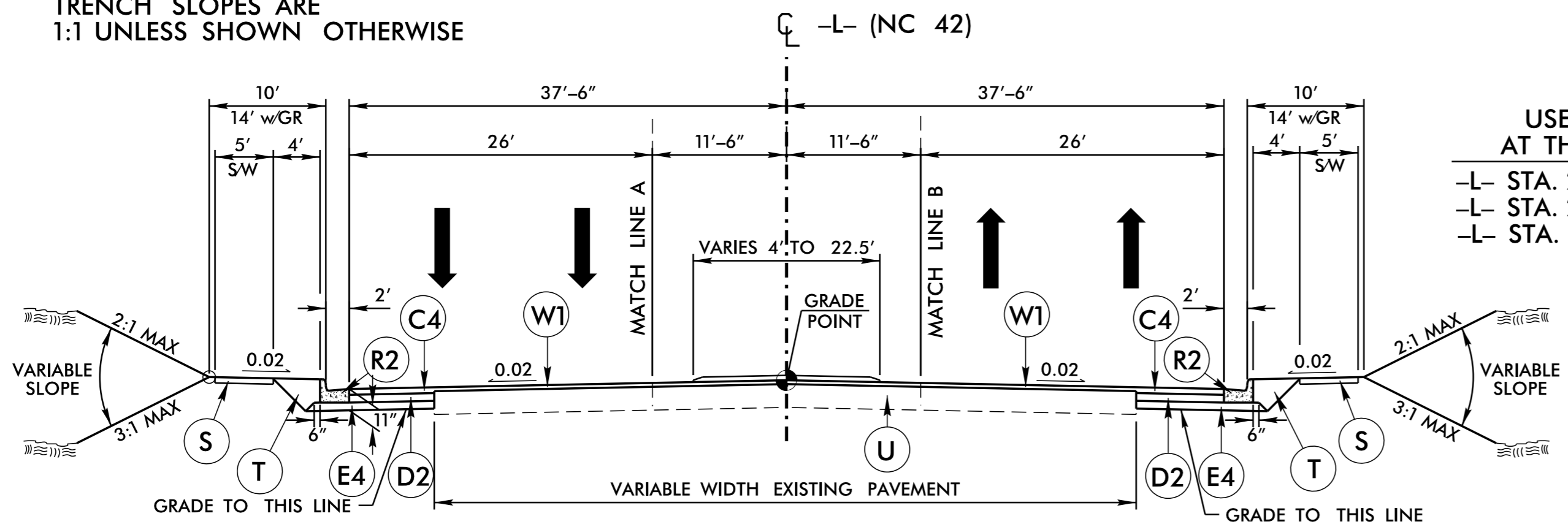
TYPICAL SECTION NO. 3B

GEOTEXTILE FOR PAVEMENT STABILIZATION
TYPICAL SECTION NO'S. 3A & 3B TO BE USED
IN CONJUNCTION WITH TYPICAL SECTION NO.
1, 7, & 17 AT THE FOLLOWING LOCATIONS:
-L- STA. 24+00 TO STA. 29+50 LT
-L- STA. 37+00 TO STA. 39+00 LT
-L- STA. 48+75 TO STA. 50+25 LT
-L- STA. 48+75 TO STA. 49+75 RT
-L- STA. 57+75 TO STA. 62+50 RT
-L- STA. 66+25 TO STA. 67+25 RT
-L- STA. 105+00 TO STA. 108+50 LT
-L- STA. 107+00 TO STA. 109+00 RT
-L- STA. 112+75 TO STA. 115+25 RT
-L- STA. 127+25 TO STA. 129+00 LT, RT
-L- STA. 134+75 TO STA. 137+50 LT, RT
-L- STA. 155+00 TO STA. 158+00 LT, RT
-L- STA. 165+25 TO STA. 169+00 RT
-L- STA. 200+25 TO STA. 203+00 LT
-L- STA. 201+25 TO STA. 204+00 RT
-L- STA. 230+00 TO STA. 232+25 LT
-L- STA. 230+00 TO STA. 232+50 RT



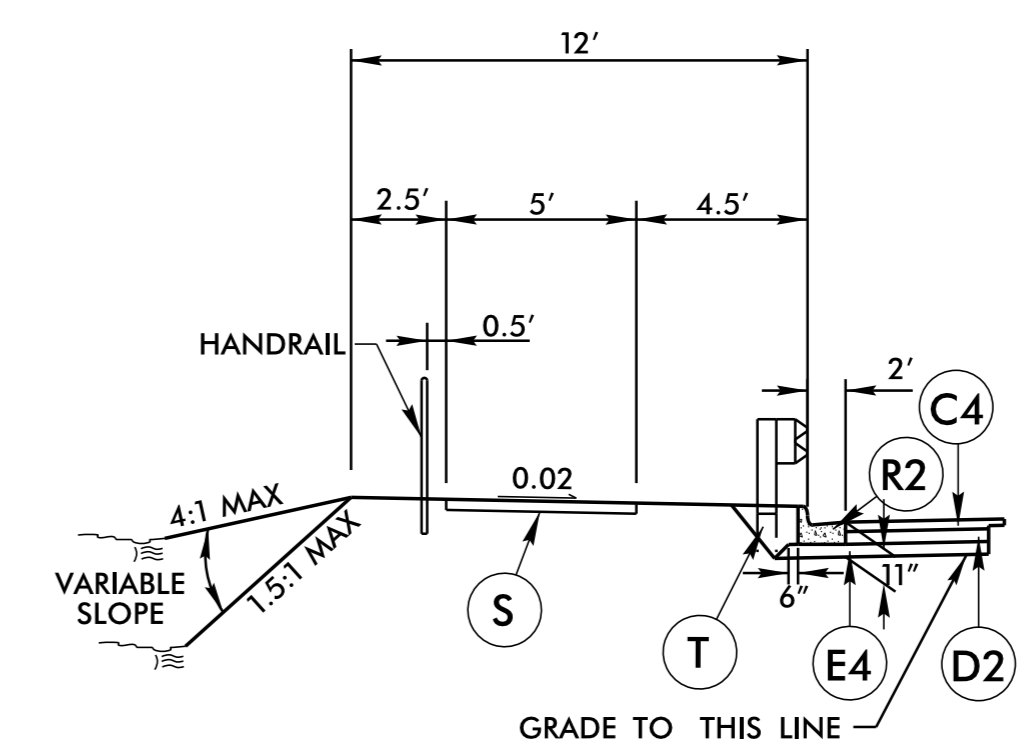
NARROW WIDENING DETAIL
-L- STA. 16+50.00 TO STA. 18+50.00 LT
-L- STA. 22+50.00 TO STA. 23+00.00 RT
-L- STA. 164+00.00 TO STA. 164+50.00 LT
-L- STA. 174+50.00 TO STA. 176+50.00 LT
-L- STA. 248+00.00 TO STA. 260+00.00 RT
-Y6- STA. 11+00.00 TO STA. 16+50.00 RT
-Y8- STA. 10+50.00 TO STA. 11+00.00 RT
-Y13- STA. 14+83.74 TO STA. 15+00.00 LT
-Y13- STA. 18+50.00 TO STA. 19+00.00 RT

REVISIONS
01/08/2021-CONSTRUCTION REVISION: ADDED TYPICAL SECTION 4A. (HN)

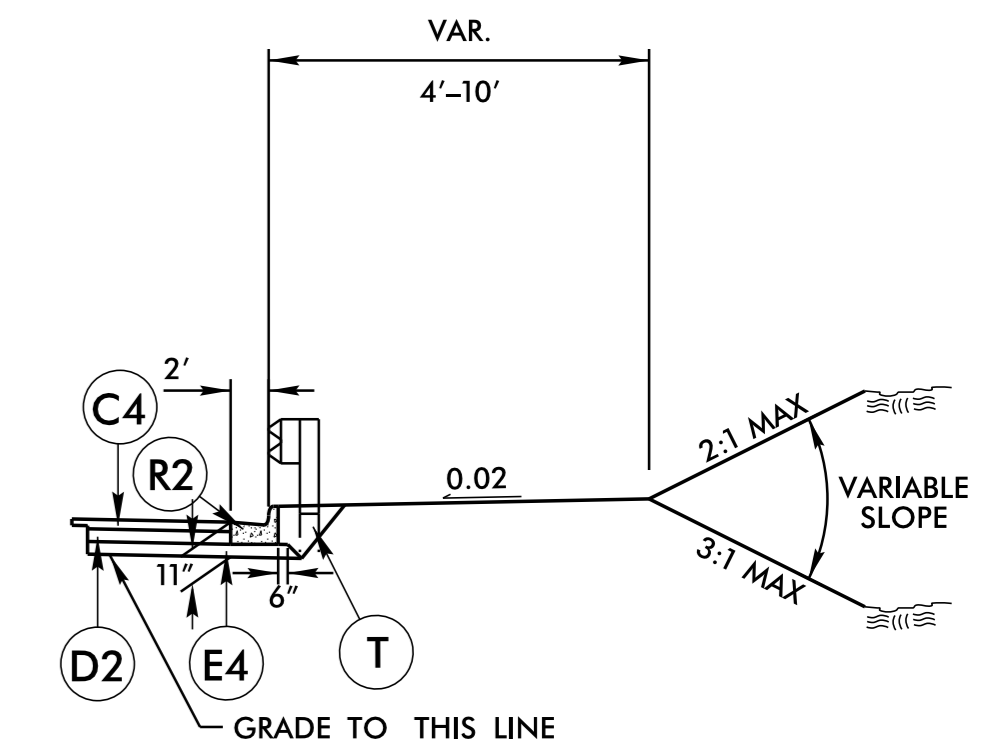


TYPICAL SECTION NO. 4

USE TYPICAL SECTION NO. 4
AT THE FOLLOWING LOCATION:
-L- STA. 216+44.00 TO STA. 226+78.00
-L- STA. 231+07.28 TO STA. 236+59.28
-L- STA. 240+84.98 TO STA. 249+75.21



TYPICAL SECTION NO. 4A
USE TYPICAL SECTION NO. 4A IN CONJUNCTION
WITH TYPICAL SECTION NO. 4 AT:
-L- STA. 241+75 TO STA. 242+60



TYPICAL SECTION NO. 4B
TRANSITION BERM FROM 4' TO 10'
IN TYPICAL SECTION NO. 5
USE TYPICAL SECTION NO. 4B IN
CONJUNCTION WITH TYPICAL SECTION NO. 4
& 5 AT THE FOLLOWING LOCATIONS:
-L- STA. 248+40.06 TO STA. 254+33 +/- RT.

Prepared by
URS
URS Corporation - North Carolina
1600 Perimeter Park Drive
Morrisville, North Carolina 27560
TELEPHONE (919) 461-1100 FAX (919) 461-1415
NC LICENSE # C-2243

PROJECT REFERENCE NO. R-3825B SHEET NO. 2A-3
RW SHEET NO.
ROADWAY DESIGN ENGINEER PAVEMENT DESIGN ENGINEER
NOT A CERTIFIED DOCUMENT AS TO THE ORIGINAL DOCUMENT BUT ONLY AS TO THE REVISIONS.
THIS DOCUMENT ORIGINALLY ISSUED AND SEALED BY:
EDWARD GLENN EDENS, JR.
18470 ON 08/17/2018
THIS DOCUMENT IS ONLY CERTIFIED AS TO THE REVISIONS.
Clark S. Morrison
1/7/2021
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

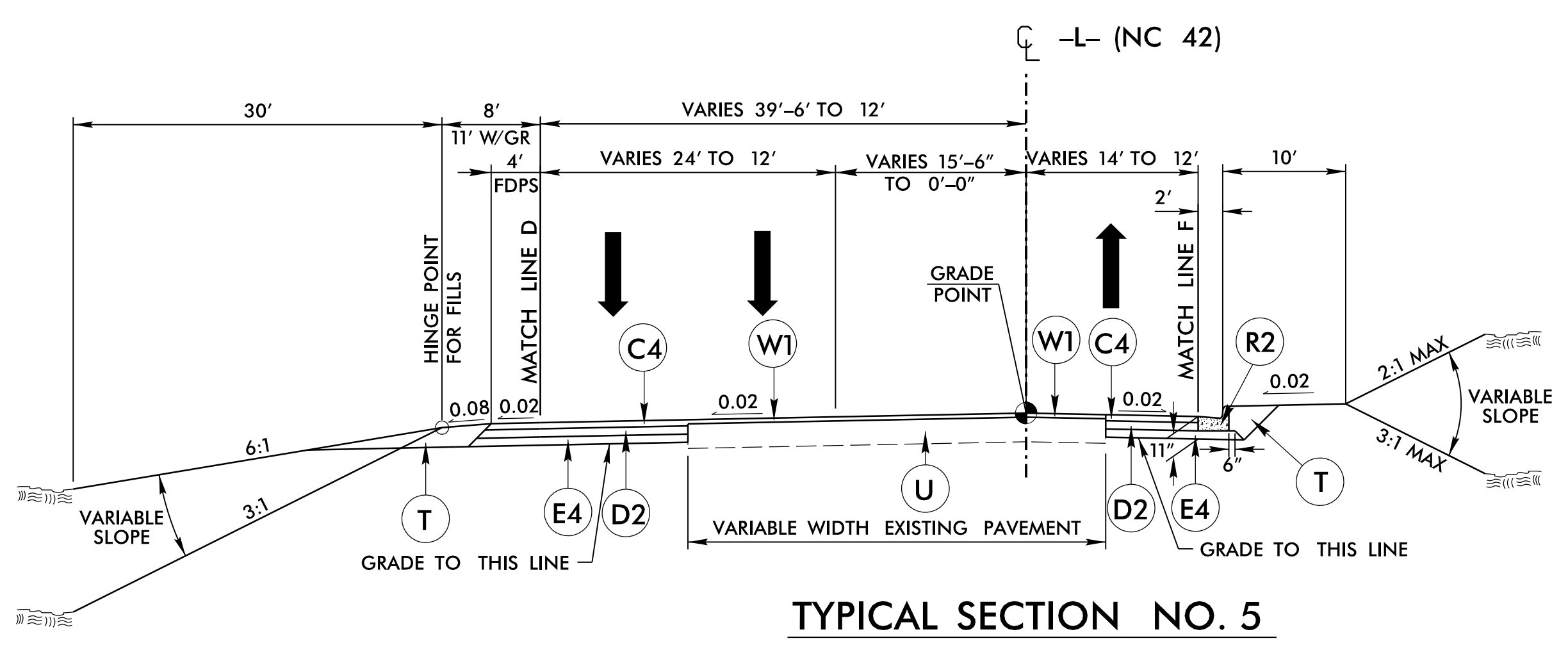
ROADWAY DESIGN ENGINEER
Clark S. Morrison
1/7/2021
SEAL 022896
SEAL 024641

06 JAN 2021 15:49
S:\PROJECTS\2021\1549\1549.DWG

8/17/99

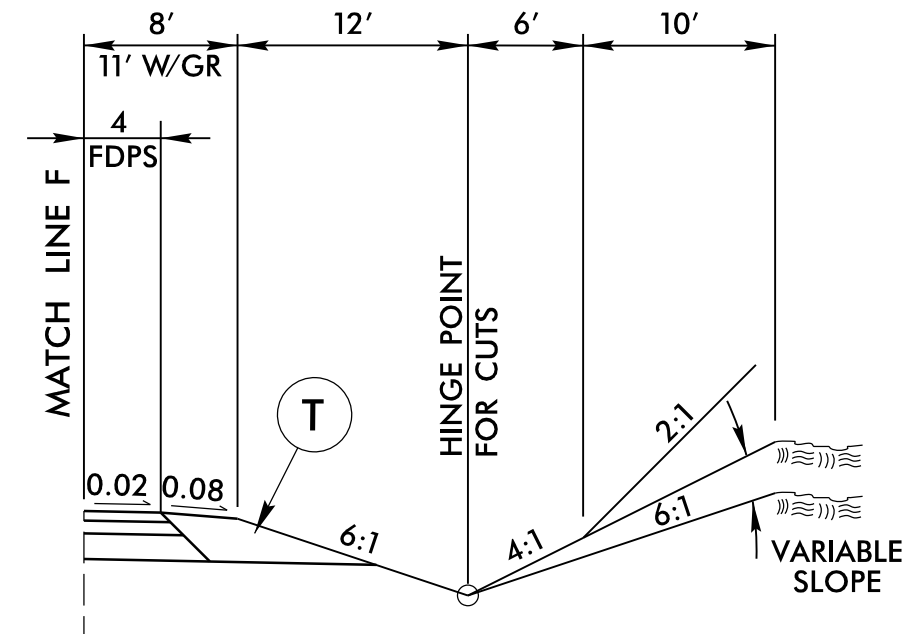
PAVEMENT SCHEDULE FINAL PAVEMENT DESIGN	
C1	2 1/2" S9.5B
C2	VAR. S9.5B
C3	1 1/2" S9.5C
C4	3" S9.5C
C5	VAR. S9.5C
D1	2 1/2" I19.0C
D2	4" I19.0C
D3	VAR. I19.0C
E1	4 1/2" B25.0C
E2	5" B25.0C
E3	4" B25.0C
E4	5 1/2" B25.0C
E5	VAR. B25.0C
J1	6" ABC
J2	8" ABC
K	K LIME OR CEMENT
N	GEOTEXTILE PVMT. STAB.
P	PRIME COAT
R1	1'-6" C & G
R2	2'-6" C & G
R3	2'-9" C & G
R4	EXPRESSWAY GUTTER
R5	SHOULDER BERM GUTTER
R6	5" CONC. ISLAND
S	4" CONC. SIDEWALK
T	EARTH MATERIAL
U	EXISTING PAVEMENT
W1	WEDGING DETAIL No. 1
W2	WEDGING DETAIL No. 2

REVISIONS



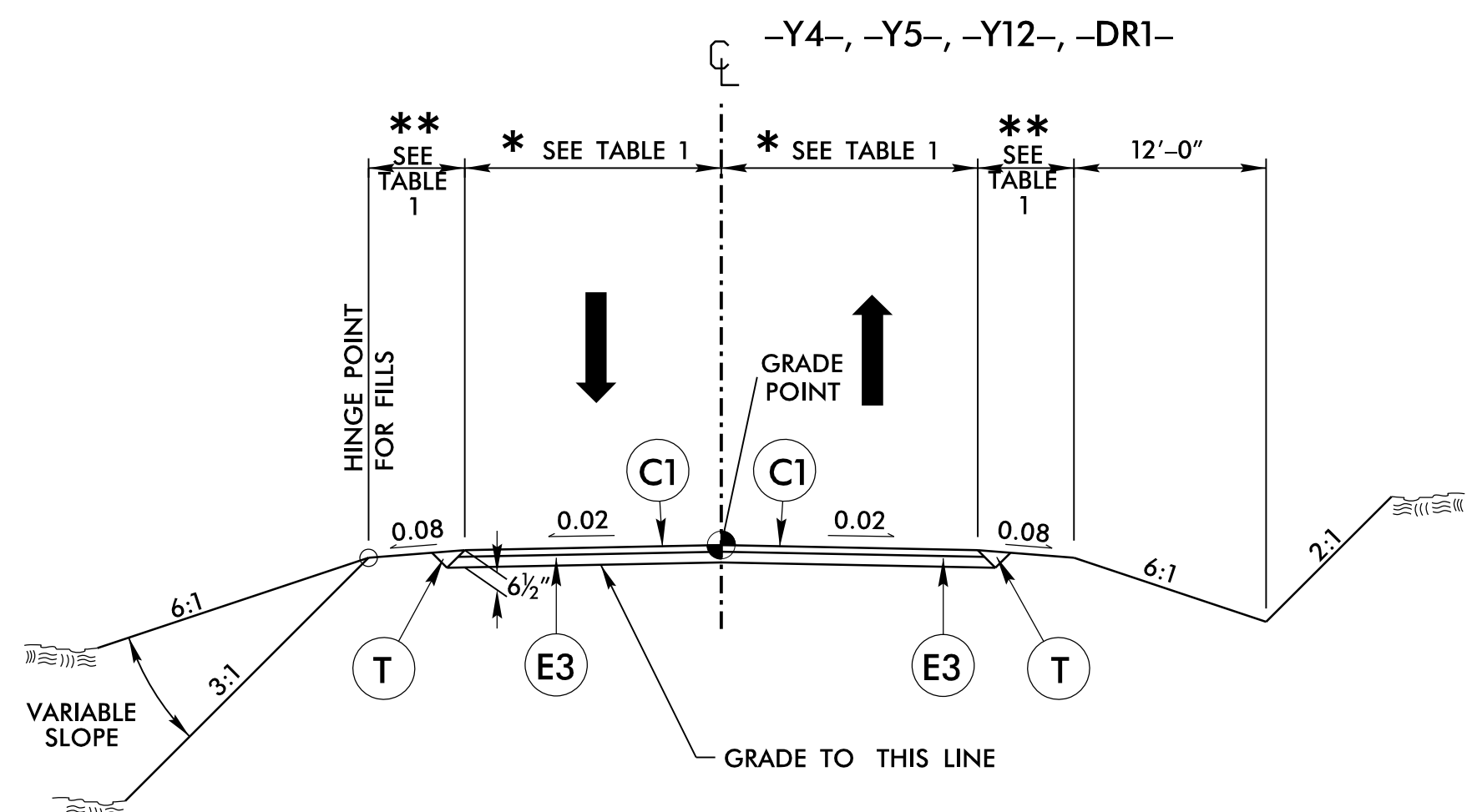
TYPICAL SECTION NO. 5

USE TYPICAL SECTION NO. 5
AT THE FOLLOWING LOCATION:
-L- STA. 249 + 75.21 TO STA. 254 + 65.92



TYPICAL SECTION NO. 5A

USE TYPICAL SECTION NO. 5A IN
CONJUNCTION WITH TYPICAL SECTION NO. 5
AT THE FOLLOWING LOCATIONS:
-L- STA. 254 + 67.06 TO STA. 257 + 50 RT.



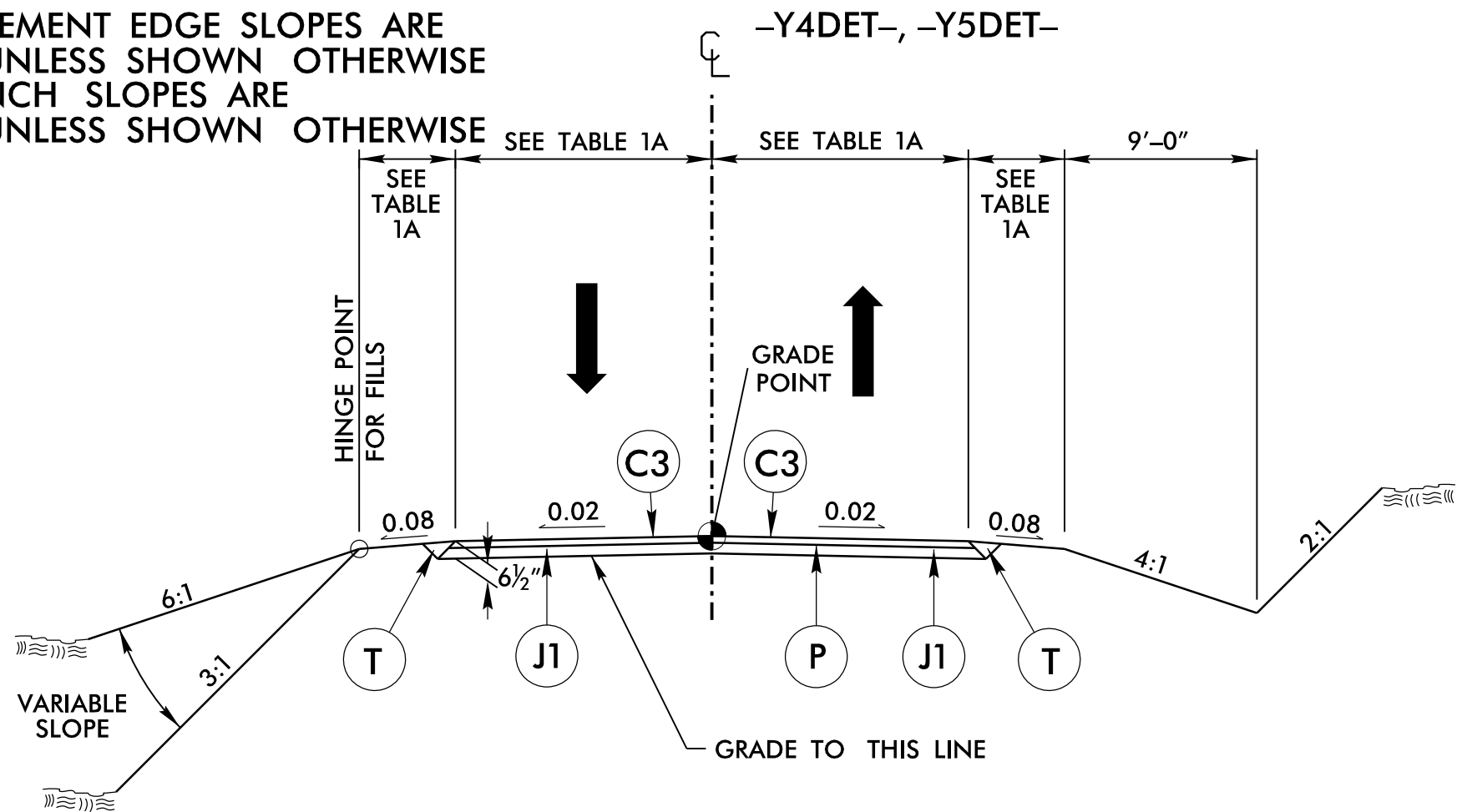
TYPICAL SECTION NO. 6

USE TYPICAL SECTION NO. 6
AT THE FOLLOWING LOCATION:

- Y4- STA. 10 + 35.91 TO STA. 12 + 75.00
- Y5- STA. 10 + 35.51 TO STA. 14 + 22.00
- Y12- STA. 13 + 59.32 TO STA. 20 + 51.95
- DRI- STA. 10 + 35.53 TO STA. 11 + 45.00

TABLE 1		
LINE	*	**
-Y4-	RT VAR 12'-0" TO 16'-0" LT VAR 12'-0" TO 16'-0"	6'-0", 9'-0" W/GR
-Y5-	12'-0"	2'-0", 7'-0" W/GR
-Y12-	RT VAR 12'-0" TO 26'-0" LT VAR 12'-0" TO 22'-0"	8'-0", 11'-0" W/GR
-DRI-	12'-0"	2'-0", 7'-0" W/GR

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

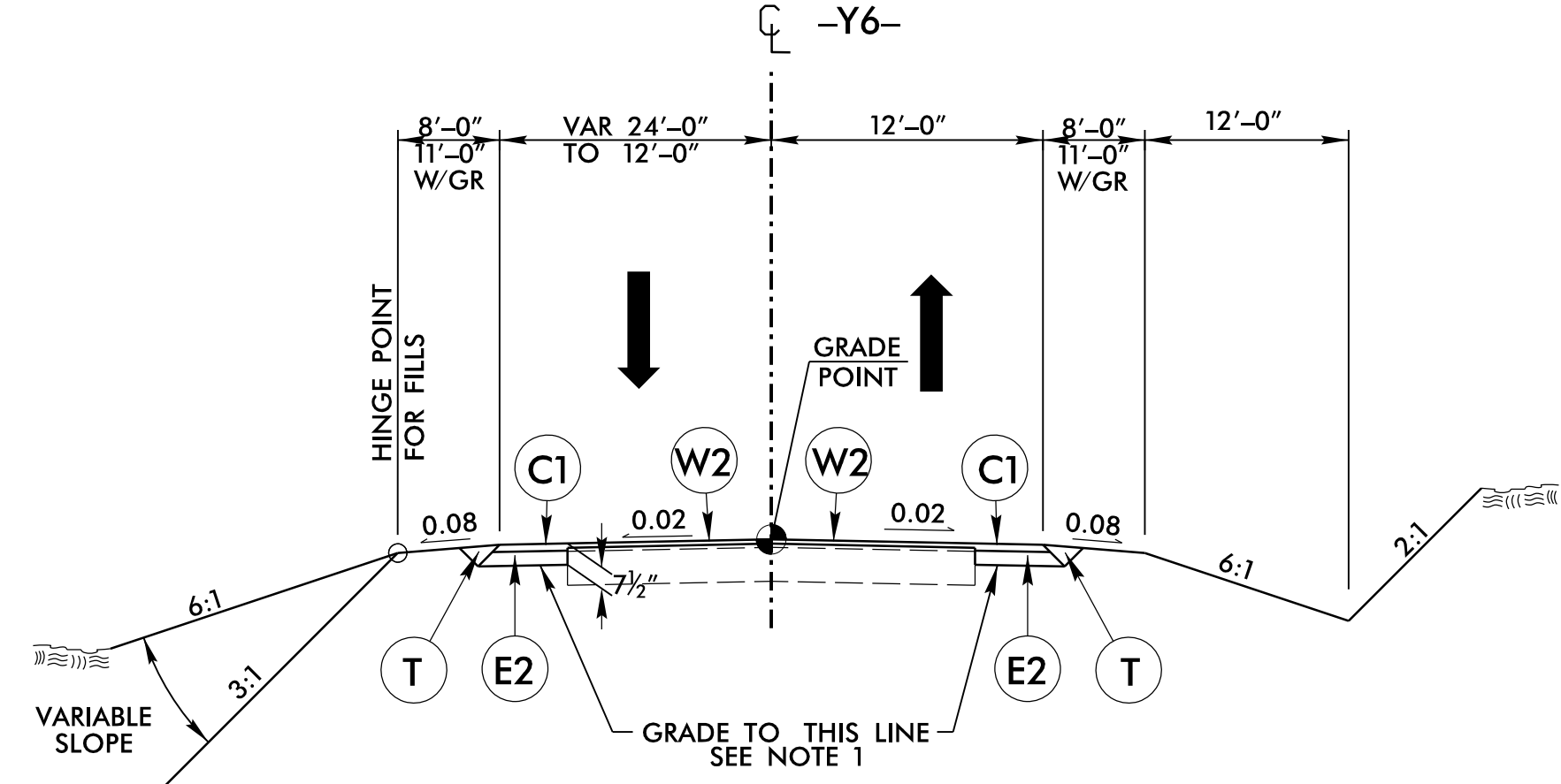


TYPICAL SECTION NO. 6A

USE TYPICAL SECTION NO. 6A
AT THE FOLLOWING LOCATION:

- Y4DET- STA. 0 + 19.29 TO STA. 3 + 62.00
- Y5DET- STA. 0 + 84.67 TO STA. 5 + 05.83

TABLE 1A		
LINE	LANE WIDTH	SHLDR WIDTH
-Y4DET-	RT 10'-0" LT 10'-0"	RT 2'-0" LT 2'-0"
-Y5DET-	RT 10'-0" LT 10'-0"	RT 2'-0" LT 2'-0"



TYPICAL SECTION NO. 7

USE TYPICAL SECTION NO. 7
AT THE FOLLOWING LOCATION:

- Y6- STA. 10 + 60.00 TO STA. 17 + 43.84

Prepared by
URS
URS Corporation - North Carolina
1600 Perimeter Park Drive
Morrisville, North Carolina 27560
TELEPHONE: (919) 461-1100 FAX: (919) 461-1415
NO. L10262E • C-2292

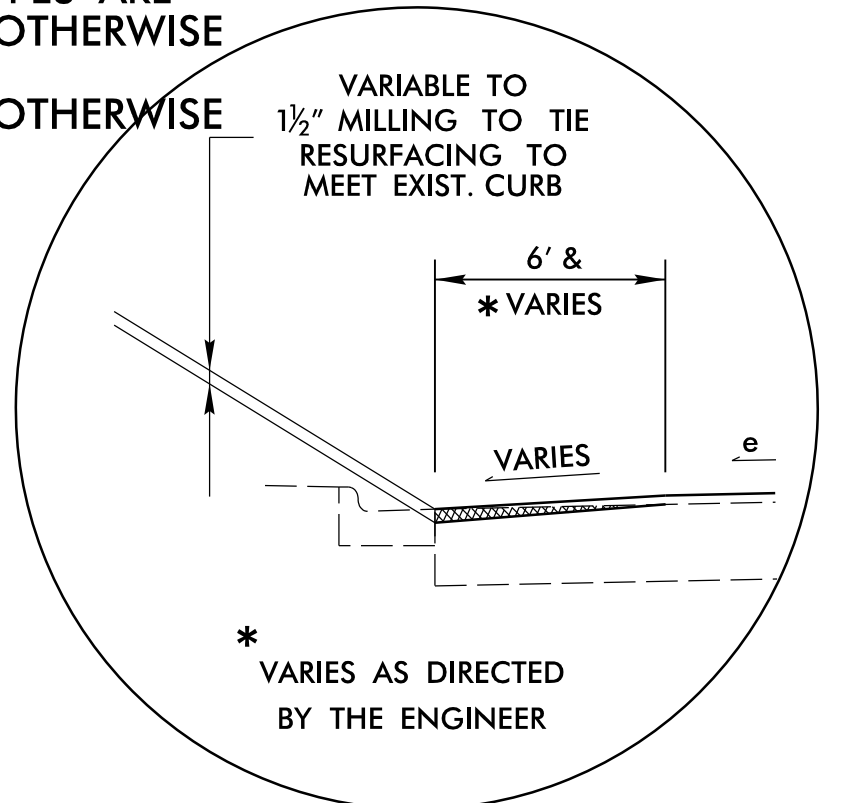
PROJECT REFERENCE NO. R-3825B	SHEET NO. 2A-4
RW SHEET NO.	
ROADWAY DESIGN ENGINEER <i>Edward S. Seal</i> 18470	PAVEMENT DESIGN ENGINEER <i>Clark S. Morrison</i> 022896
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

8/17/2018
R:\Roadway\Pro\NR3825b_rdy_tjpb.dgn
tjpb

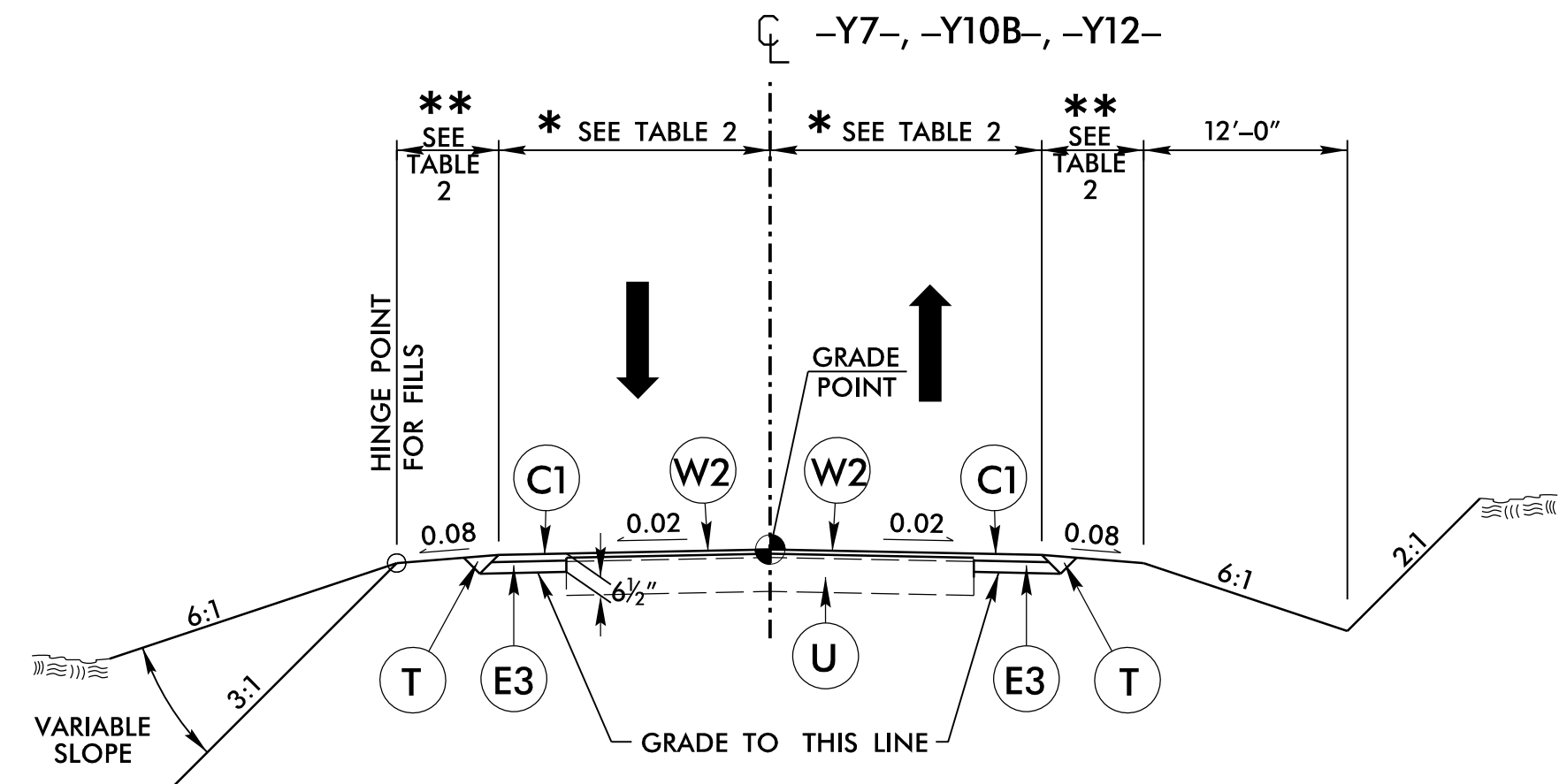
8/17/19

PAVEMENT SCHEDULE FINAL PAVEMENT DESIGN	
C1	2 1/2" S9.5B
C2	VAR. S9.5B
C3	1 1/2" S9.5C
C4	3" S9.5C
C5	VAR. S9.5C
D1	2 1/2" I19.0C
D2	4" I19.0C
D3	VAR. I19.0C
E1	4 1/2" B25.0C
E2	5" B25.0C
E3	4" B25.0C
E4	5 1/2" B25.0C
E5	VAR. B25.0C
J1	6" ABC
J2	8" ABC
K	K LIME OR CEMENT
N	GEOTEXTILE PVMT. STAB.
P	PRIME COAT
R1	1'-6" C & G
R2	2'-6" C & G
R3	2'-9" C & G
R4	EXPRESSWAY GUTTER
R5	SHOULDER BERM GUTTER
R6	5" CONC. ISLAND
S	4" CONC. SIDEWALK
T	EARTH MATERIAL
U	EXISTING PAVEMENT
W1	WEDGING DETAIL No. 1
W2	WEDGING DETAIL No. 2

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



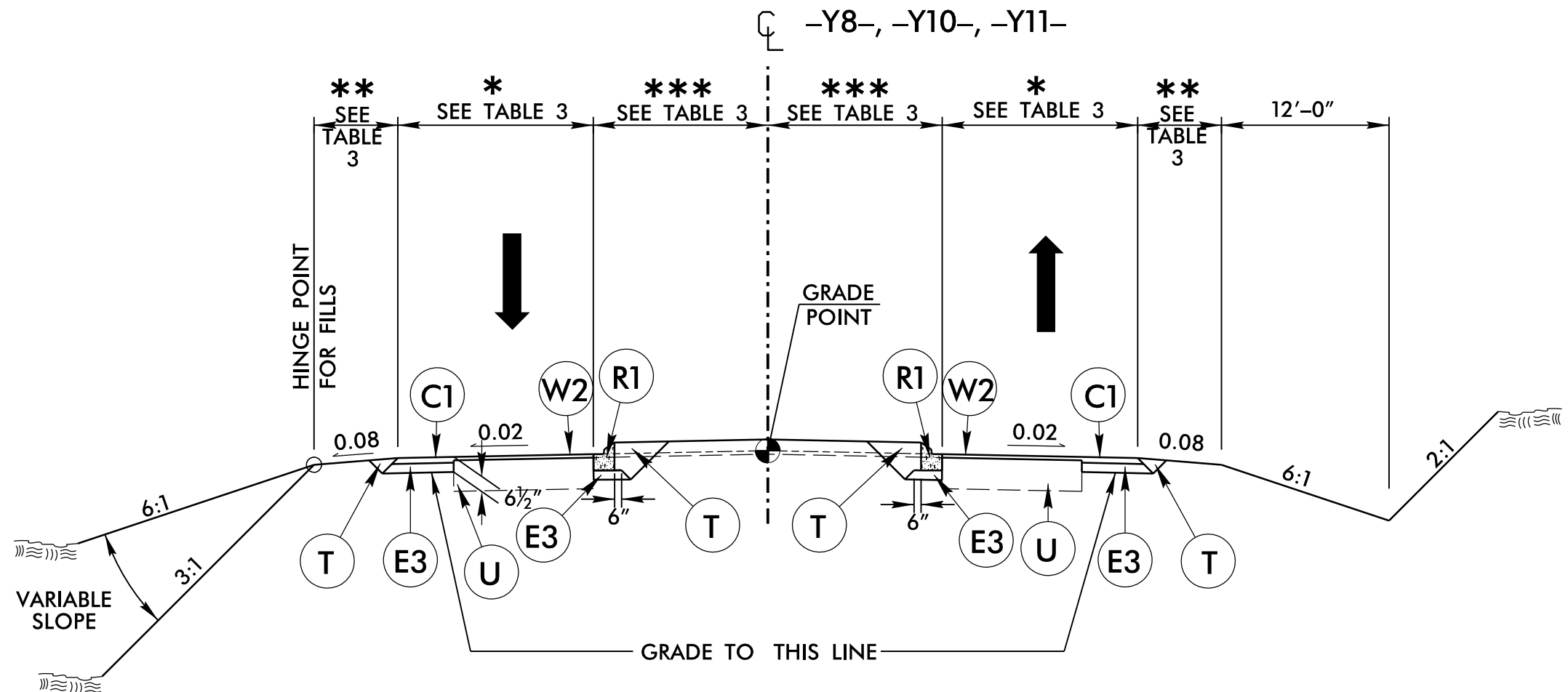
(INCIDENTAL) MILLING DETAIL
ADJACENT TO CURB & GUTTER



TYPICAL SECTION NO. 8

USE TYPICAL SECTION NO. 8
AT THE FOLLOWING LOCATION:
-Y7- STA. 15+00.00 TO STA. 16+87.82
-Y10B- STA. 11+70.00 TO STA. 12+16.46
-Y12- STA. 11+31.46 TO STA. 13+59.32

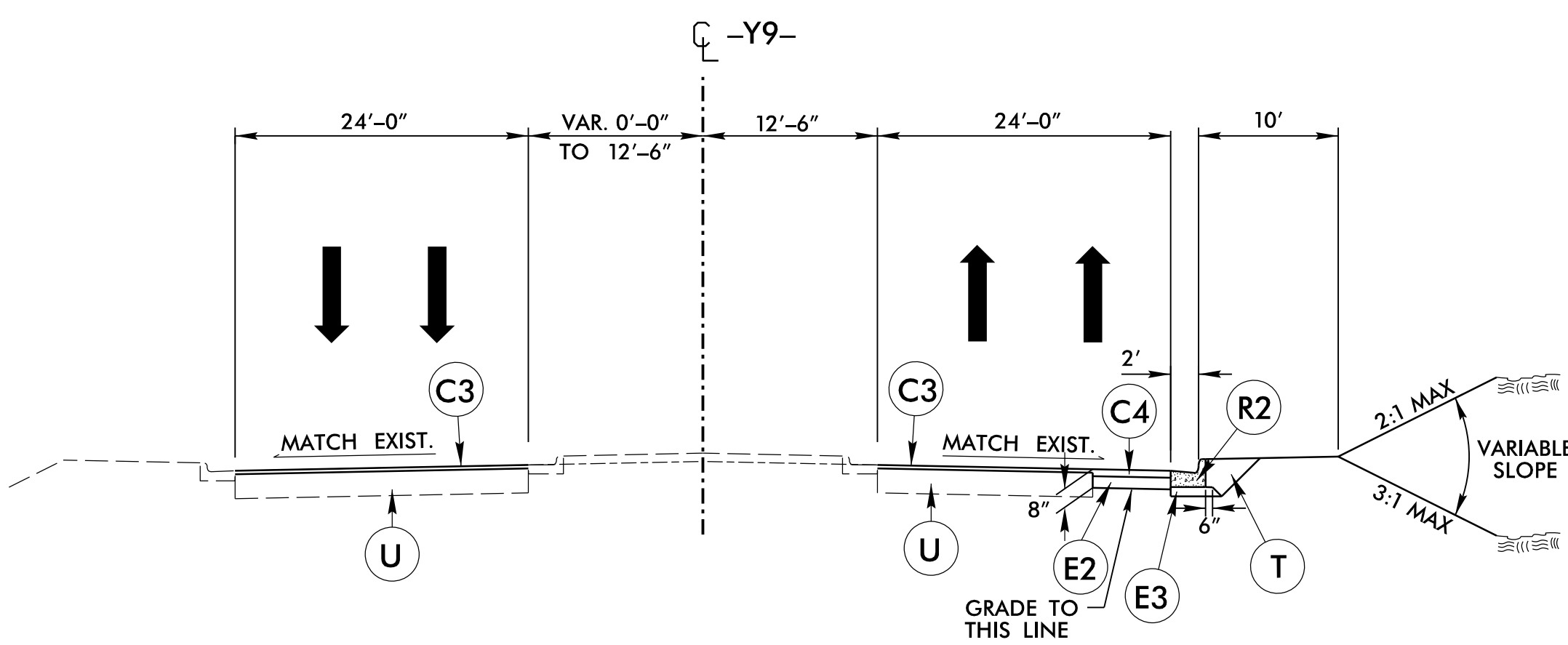
TABLE 2		
LINE	*	**
-Y7-	18'-0"	6'-0", 9'-0" W/GR
-Y10B-	VAR 11'-4" TO 12'-0"	2'-0", 7'-0" W/GR
-Y12-	12'-0"	8'-0", 11'-0" W/GR



TYPICAL SECTION NO. 9

USE TYPICAL SECTION NO. 9
AT THE FOLLOWING LOCATION:
-Y8- STA. 10+47.74 TO STA. 11+30.00
-Y10- STA. 10+60.02 TO STA. 11+11.65
-Y11- STA. 10+47.56 TO STA. 11+37.75

TABLE 3			
LINE	*	**	***
-Y8-	RT 16'-0" LT 14'-0"	6'-0", 9'-0" w/GR	RT 10'-6" LT 12'-6"
-Y10-	14'-0"	2'-0", 7'-0" w/GR	RT 10'-0" LT 10'-0"
-Y11-	12'-0"	2'-0", 7'-0" w/GR	RT 13'-6" LT 13'-6"



TYPICAL SECTION NO. 10

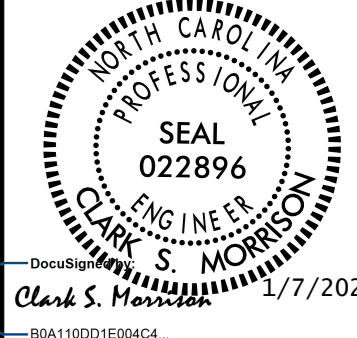
USE TYPICAL SECTION NO. 10
AT THE FOLLOWING LOCATION:
-Y9- STA. 11+73.15 TO STA. 14+37.69

Prepared by
URS
URS Corporation - North Carolina
1600 Perimeter Park Drive
Morrisville, North Carolina 27560
TELEPHONE (919) 461-1100 FAX (919) 461-1415
NO. L10266E - C-2242

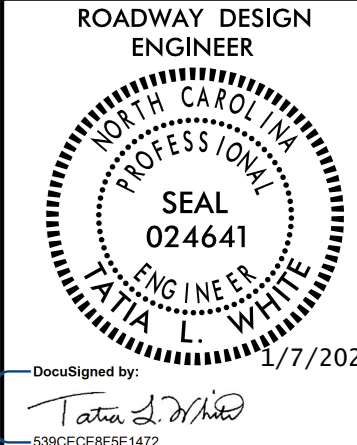
PROJECT REFERENCE NO. R-3825B	SHEET NO. 2A-5
RW SHEET NO.	
ROADWAY DESIGN ENGINEER <i>[Signature]</i>	PAVEMENT DESIGN ENGINEER <i>[Signature]</i>
PROFESSIONAL SEAL 18470 ENGINEER WARD GLENN EDENS 8/17/2018	PROFESSIONAL SEAL 022896 ENGINEER CLARK S. MORRISON 8/20/2018
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

REVISIONS

8/17/2018
R:\Roadway\Pro\NR3825B_rdy_tjpb.dgn
tjpb

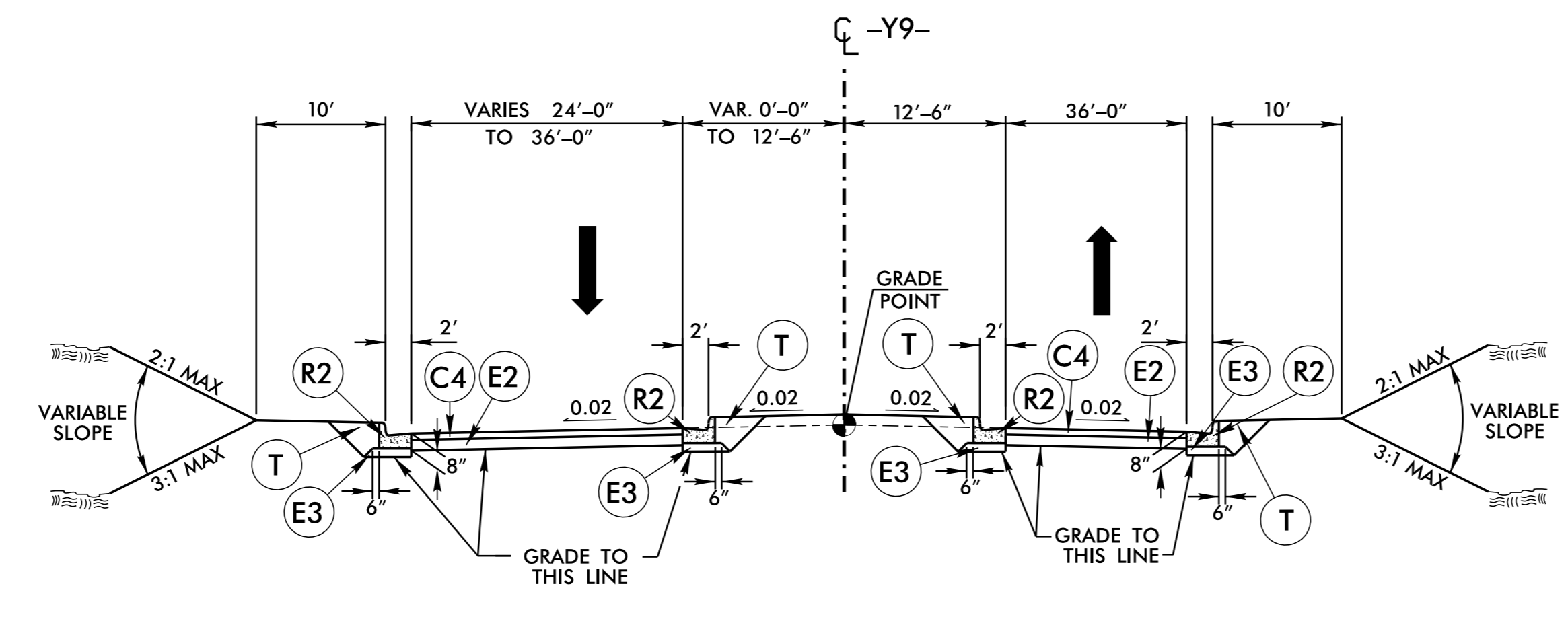


DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



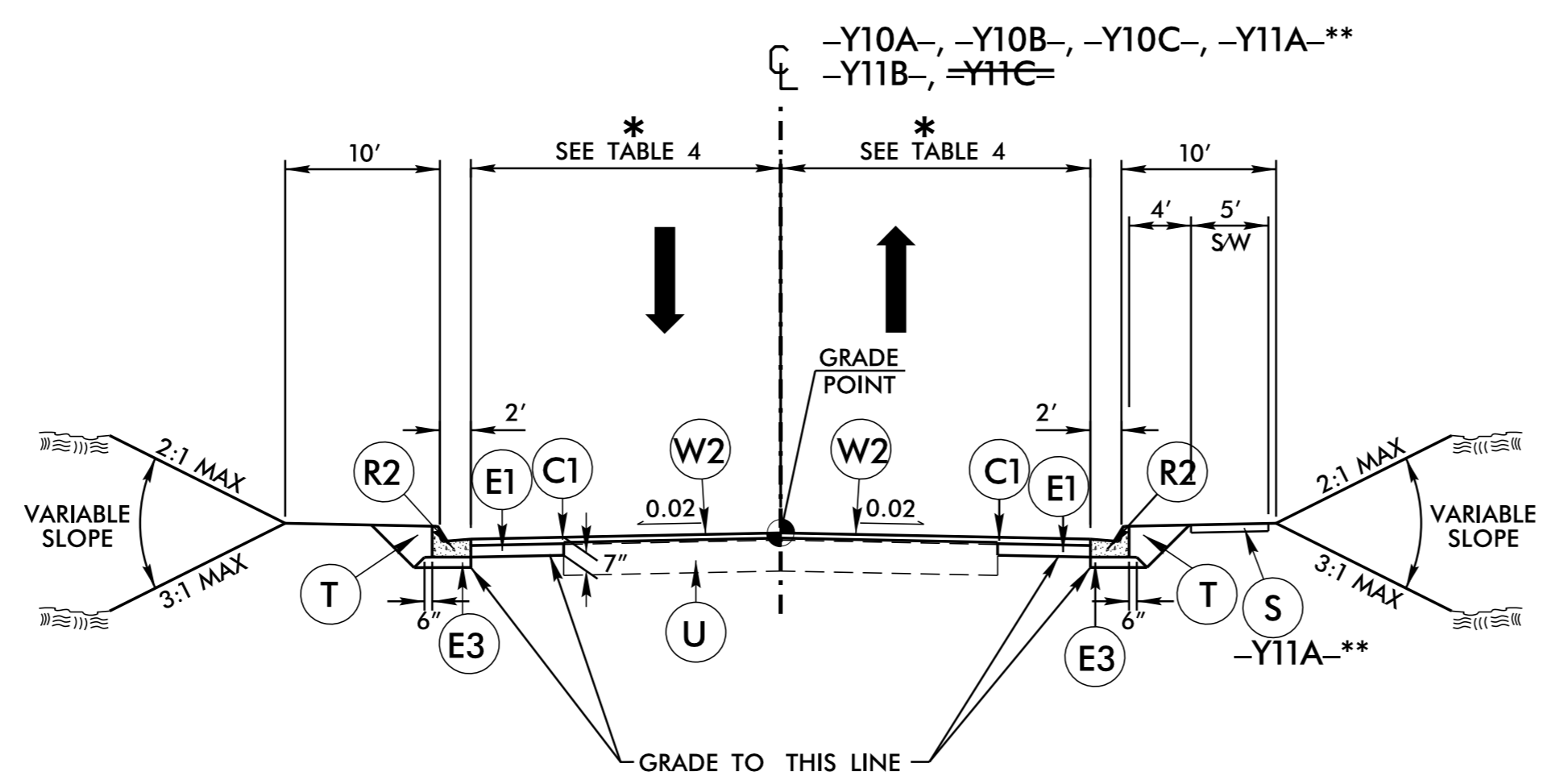
PAVEMENT SCHEDULE FINAL PAVEMENT DESIGN	
C1	2 1/2" S9.5B
C2	VAR. S9.5B
C3	1 1/2" S9.5C
C4	3" S9.5C
C5	VAR. S9.5C
D1	2 1/2" I19.0C
D2	4" I19.0C
D3	VAR. I19.0C
E1	4 1/2" B25.0C
E2	5" B25.0C
E3	4" B25.0C
E4	5 1/2" B25.0C
E5	VAR. B25.0C
J1	6" ABC
J2	8" ABC
K	K LIME OR CEMENT
N	GEOTEXTILE PVMT. STAB.
P	PRIME COAT
R1	1'-6" C & G
R2	2'-6" C & G
R3	2'-9" C & G
R4	EXPRESSWAY GUTTER
R5	SHOULDER BERM GUTTER
R6	5" CONC. ISLAND
S	4" CONC. SIDEWALK
T	EARTH MATERIAL
U	EXISTING PAVEMENT
W1	WEDGING DETAIL No. 1
W2	WEDGING DETAIL No. 2

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



TYPICAL SECTION NO. 11

USE TYPICAL SECTION NO. 11 AT THE FOLLOWING LOCATION:
 -Y9- STA. 14+37.69 TO STA. 17+62.94

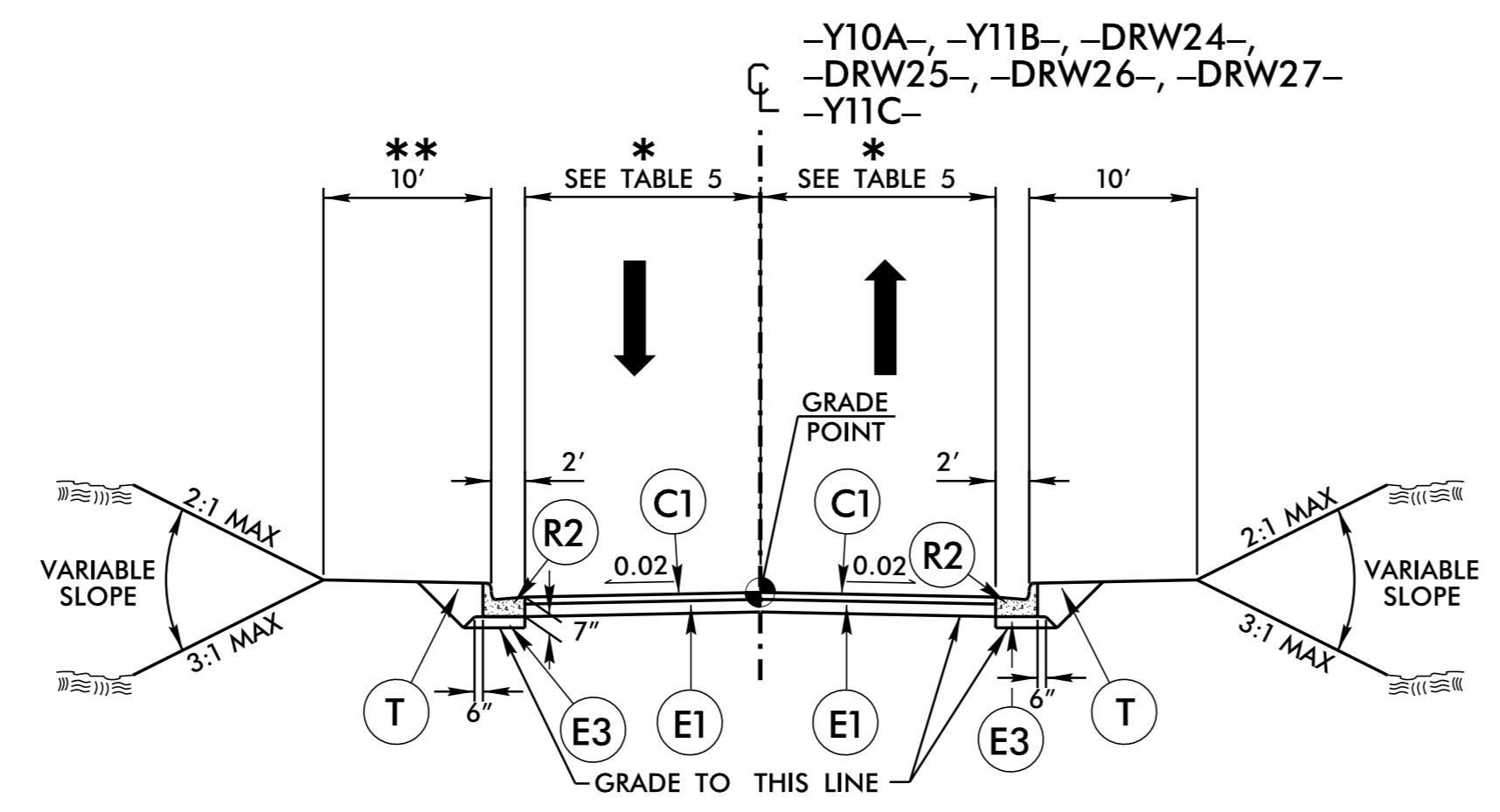


TYPICAL SECTION NO. 12

NOTE: ONLY Y11A REQUIRES THE REPLACEMENT OF EXISTING SIDEWALK

USE TYPICAL SECTION NO. 12 AT THE FOLLOWING LOCATION:
 -Y10A- STA. 11+10.00 TO STA. 11+77.50
 -Y10B- STA. 12+16.46 TO STA. 12+77.97
 -Y10C- STA. 12+05.00 TO STA. 14+05.57
 ** -Y11A- STA. 11+67.96 TO STA. 12+85.00
 -Y11B- STA. 10+84.79 TO STA. 11+76.00
 -Y11C- STA. 11+56.79 TO STA. 12+17.42

LINE	*
-Y10A-	RT VAR 14'-11" TO 16'-0" LT VAR 14'-11" TO 16'-0"
-Y10B-	RT 12'-0" LT 12'-0"
-Y10C-	RT VAR 12'-0" TO 21'-10" LT VAR 12'-0" TO 20'-6"
-Y11A-	LT VAR 28'-10" TO 27'-7" RT VAR 32'-3" TO 27'-6"
-Y11B-	RT 16'-0" LT 16'-0"
-Y11C-	RT VAR 11'-0" TO 14'-0" LT VAR 11'-0" TO 14'-0"



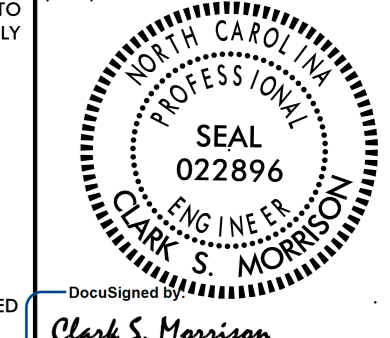
TYPICAL SECTION NO. 13

USE TYPICAL SECTION NO. 13 AT THE FOLLOWING LOCATION:
 -Y10A- STA. 11+77.50 TO STA. 12+61.81
 -Y11B- STA. 28+46.41 TO STA. 10+84.79
 -Y11C- STA. 10+48.39 TO STA. 12+17.42
 -DRW24- STA. 10+46.18 TO STA. 10+98.17
 -DRW25- STA. 10+45.50 TO STA. 11+00.21
 -DRW26- STA. 10+45.50 TO STA. 10+98.66
 -DRW27- STA. 10+22.85 TO STA. 10+76.44

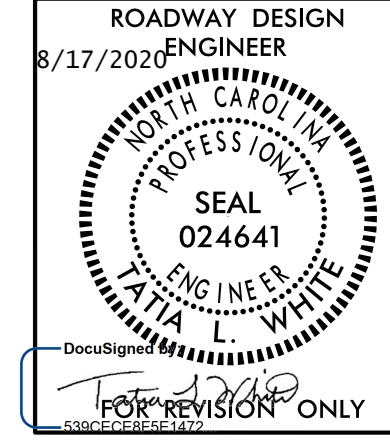
LINE	*	**
-Y10A-	RT 16'-0" LT 20'-0"	-
-Y11B-	RT 16'-0" LT 16'-0"	-
-Y11C-	RT VAR 12'-0" TO 22'-0" LT 22'-0"	LT 6'
-DRW24-	RT VAR 15'-0" TO 23'-6" LT VAR 15'-0" TO 23'-6"	-
-DRW25-	RT VAR 22'-0" TO 35'-6" LT VAR 35'-0" TO 38'-0"	-
-DRW26-	RT 17'-0" LT VAR 17'-0" TO 19'-0"	-
-DRW27-	RT VAR 27'-0" TO 39'-0" LT VAR 19'-6" TO 36'-0"	-

REVISIONS
 02/19/2020 - CONSTRUCTION REVISION: REMOVED -Y11C- STATION RANGES TO TYPICAL SECTION NO. 13. HN
 01/08/2021 - CONSTRUCTION REVISION: CHANGED LEFT SIDE PAVEMENT WIDTH (FROM VAR. TO 22') AND BERM (FROM 10' TO 6') ON Y11C TYPICAL NO. 13. (HN)

06-JAN-2021 15:48
 P:\Projects\2021\1548\1548.dgn

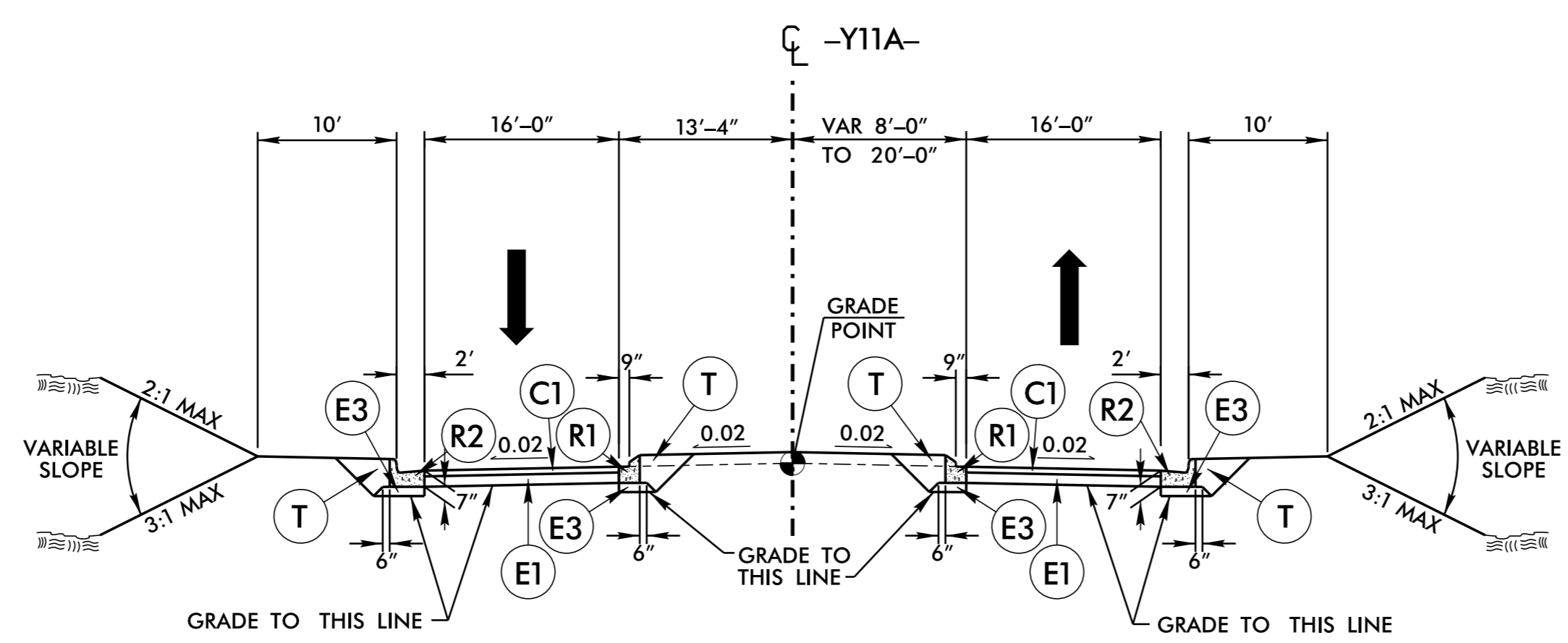


DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



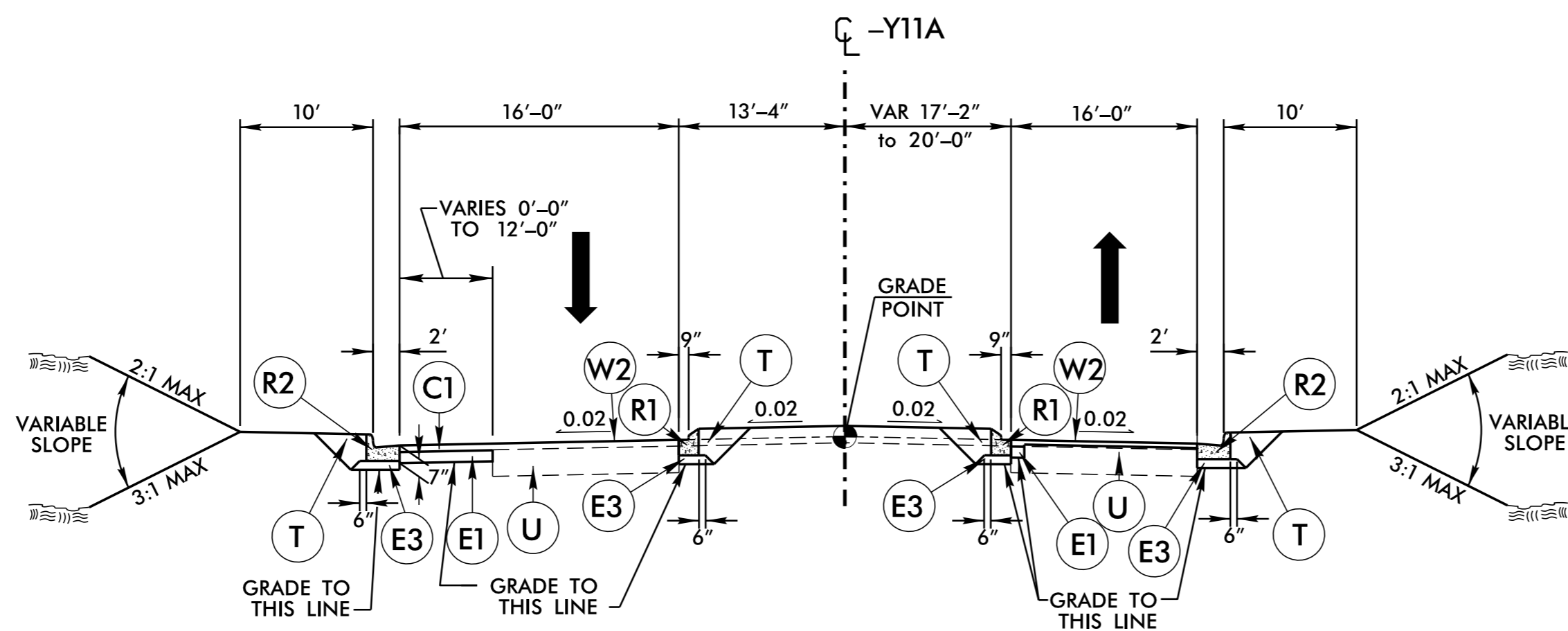
PAVEMENT SCHEDULE FINAL PAVEMENT DESIGN	
C1	2 1/2" S9.5B
C2	VAR. S9.5B
C3	1 1/2" S9.5C
C4	3" S9.5C
C5	VAR. S9.5C
D1	2 1/2" I19.0C
D2	4" I19.0C
D3	VAR. I19.0C
E1	4 1/2" B25.0C
E2	5" B25.0C
E3	4" B25.0C
E4	5 1/2" B25.0C
E5	VAR. B25.0C
J1	6" ABC
J2	8" ABC
K	K LIME OR CEMENT
N	GEOTEXTILE PVMT. STAB.
P	PRIME COAT
R1	1'-6" C & G
R2	2'-6" C & G
R3	2'-9" C & G
R4	EXPRESSWAY GUTTER
R5	SHOULDER BERM GUTTER
R6	5" CONC. ISLAND
S	4" CONC. SIDEWALK
T	EARTH MATERIAL
U	EXISTING PAVEMENT
W1	WEDGING DETAIL No. 1
W2	WEDGING DETAIL No. 2

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



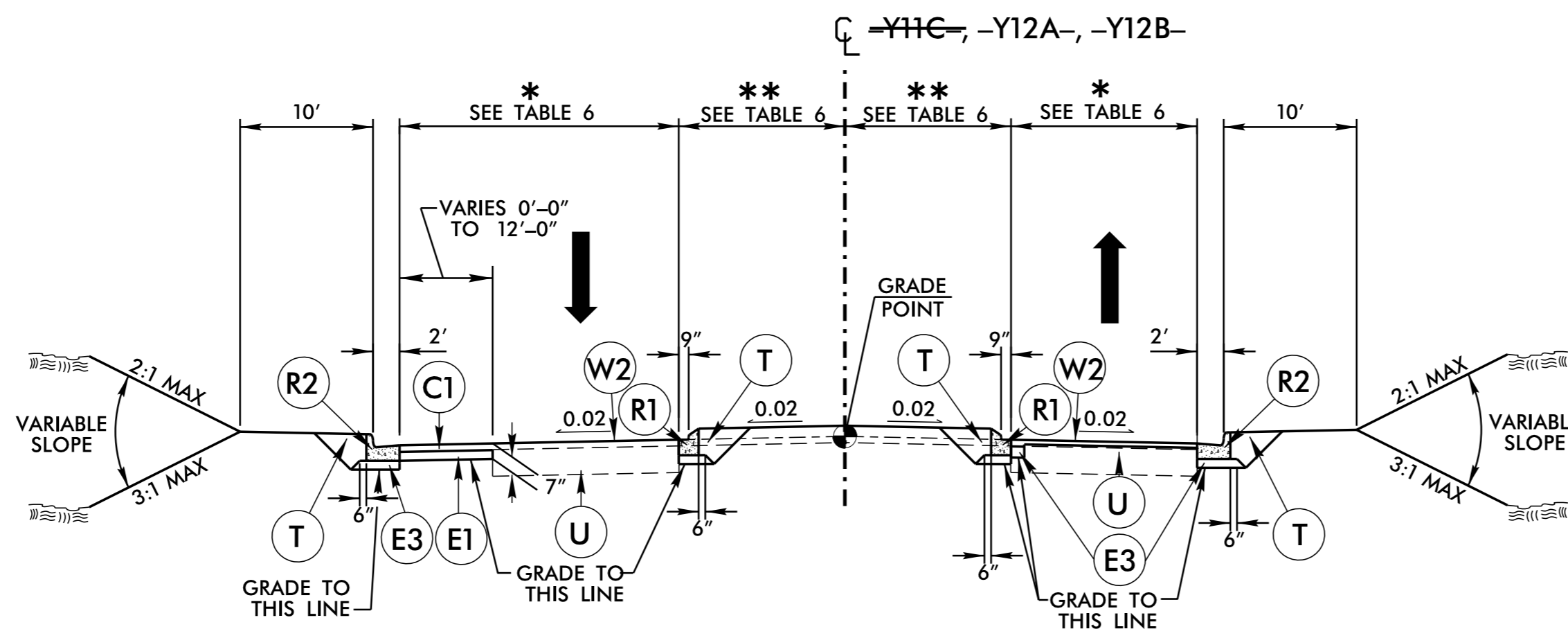
TYPICAL SECTION NO. 14

USE TYPICAL SECTION NO. 14
 AT THE FOLLOWING LOCATION:
 -Y11A- STA. 10+49.51 TO STA. 10+91.41



TYPICAL SECTION NO. 15

USE TYPICAL SECTION NO. 15
 AT THE FOLLOWING LOCATION:
 -Y11A- STA. 10+91.41 TO STA. 11+67.96



TYPICAL SECTION NO. 16

USE TYPICAL SECTION NO. 16
 AT THE FOLLOWING LOCATION:
 -Y11C- STA. 10+48.39 TO STA. 11+56.79
 -Y12A- STA. 12+25.00 TO STA. 12+82.39
 -Y12B- STA. 10+41.28 TO STA. 10+99.57

LINE	TABLE 6	
	*	**
-Y11C-	RT VAR 16'-0" TO 14'-0" LT VAR 16'-0" TO 14'-0"	RT 6'-0" LT 6'-0"
-Y12A-	RT 24' (LT, THROUGH RT) LT 18'	RT 4'-6" LT 10'-6"
-Y12B-	RT 25'-11" LT 24'-0"	RT 13'-0" LT 13'-0"

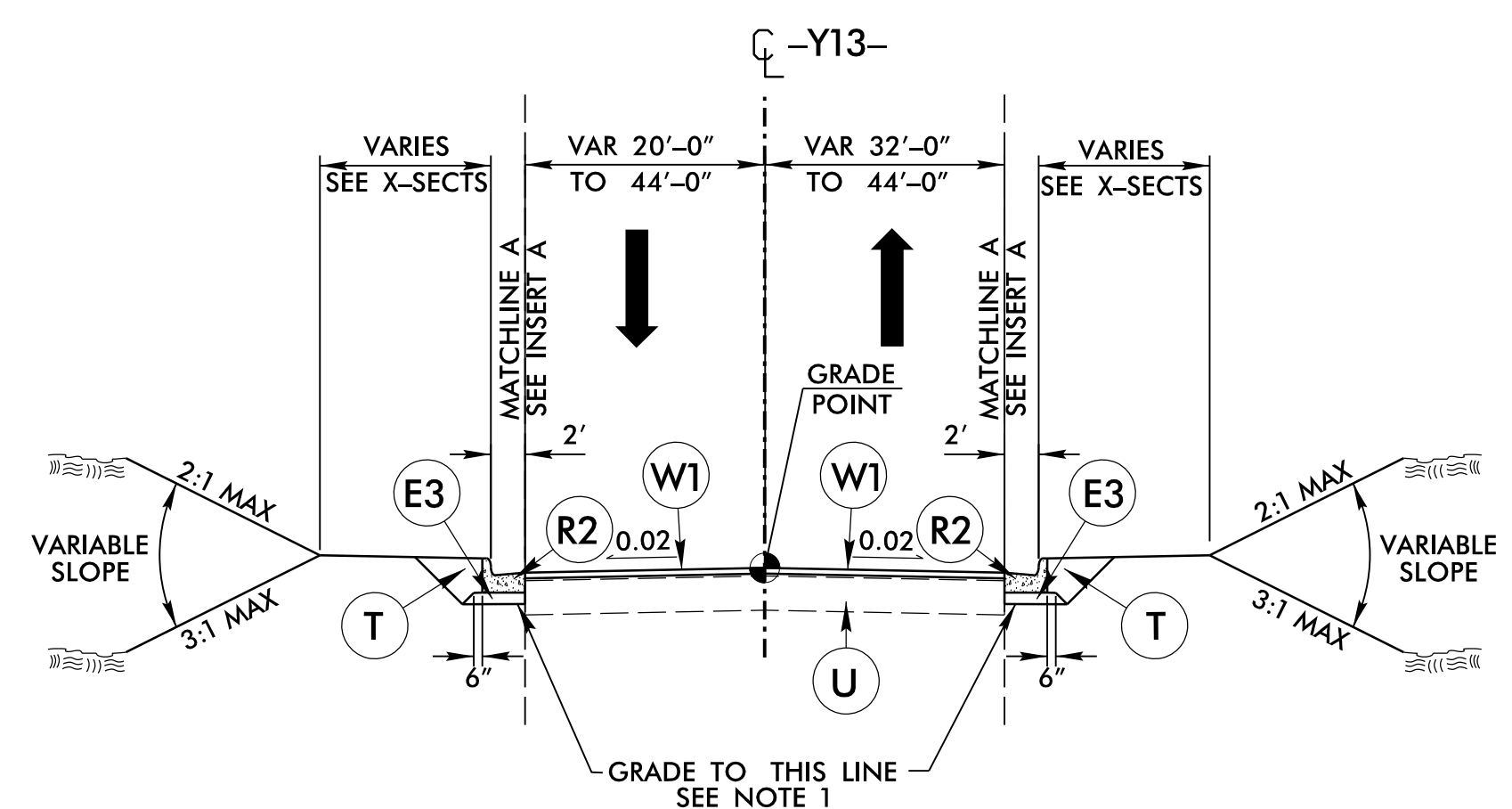
REVISIONS
 02/19/2020 - CONSTRUCTION REVISION: REMOVED -Y11C- STATION RANGES FROM TYPICAL SECTION NO. 16. HN
 08/17/2020 - CONSTRUCTION REVISION: REVISED THE DIMENSIONS FOR -Y12A- ON TYPICAL SECTION NO. 16 FOR A LEFT TURN LANE. HN

17-AUG-2020_09:37
 R:\Roadway\Projects\17-3825B_rdy_tjw.dgn

8/17/19

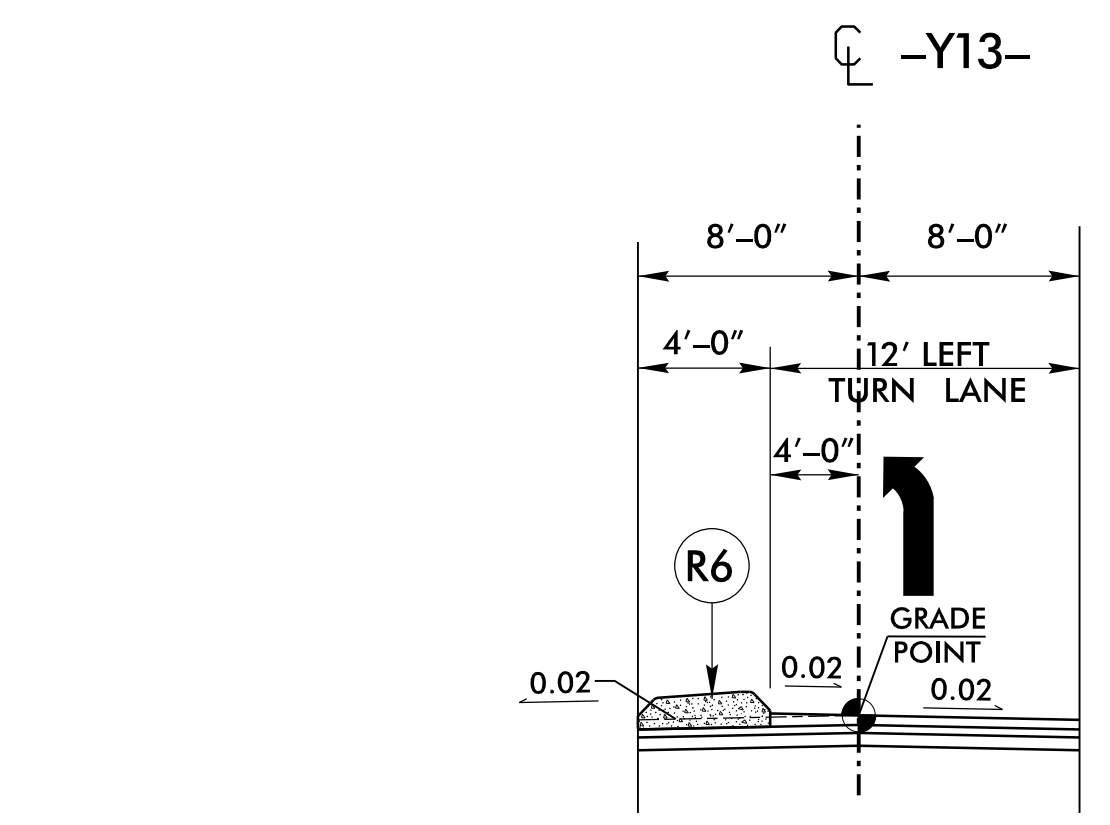
PAVEMENT SCHEDULE FINAL PAVEMENT DESIGN	
C1	2 1/2" S9.5B
C2	VAR. S9.5B
C3	1 1/2" S9.5C
C4	3" S9.5C
C5	VAR. S9.5C
D1	2 1/2" I19.0C
D2	4" I19.0C
D3	VAR. I19.0C
E1	4 1/2" B25.0C
E2	5" B25.0C
E3	4" B25.0C
E4	5 1/2" B25.0C
E5	VAR. B25.0C
J1	6" ABC
J2	8" ABC
K	K LIME OR CEMENT
N	GEOTEXTILE PVMT. STAB.
P	PRIME COAT
R1	1'-6" C & G
R2	2'-6" C & G
R3	2'-9" C & G
R4	EXPRESSWAY GUTTER
R5	SHOULDER BERM GUTTER
R6	5" CONC. ISLAND
S	4" CONC. SIDEWALK
T	EARTH MATERIAL
U	EXISTING PAVEMENT
W1	WEDGING DETAIL No. 1
W2	WEDGING DETAIL No. 2

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



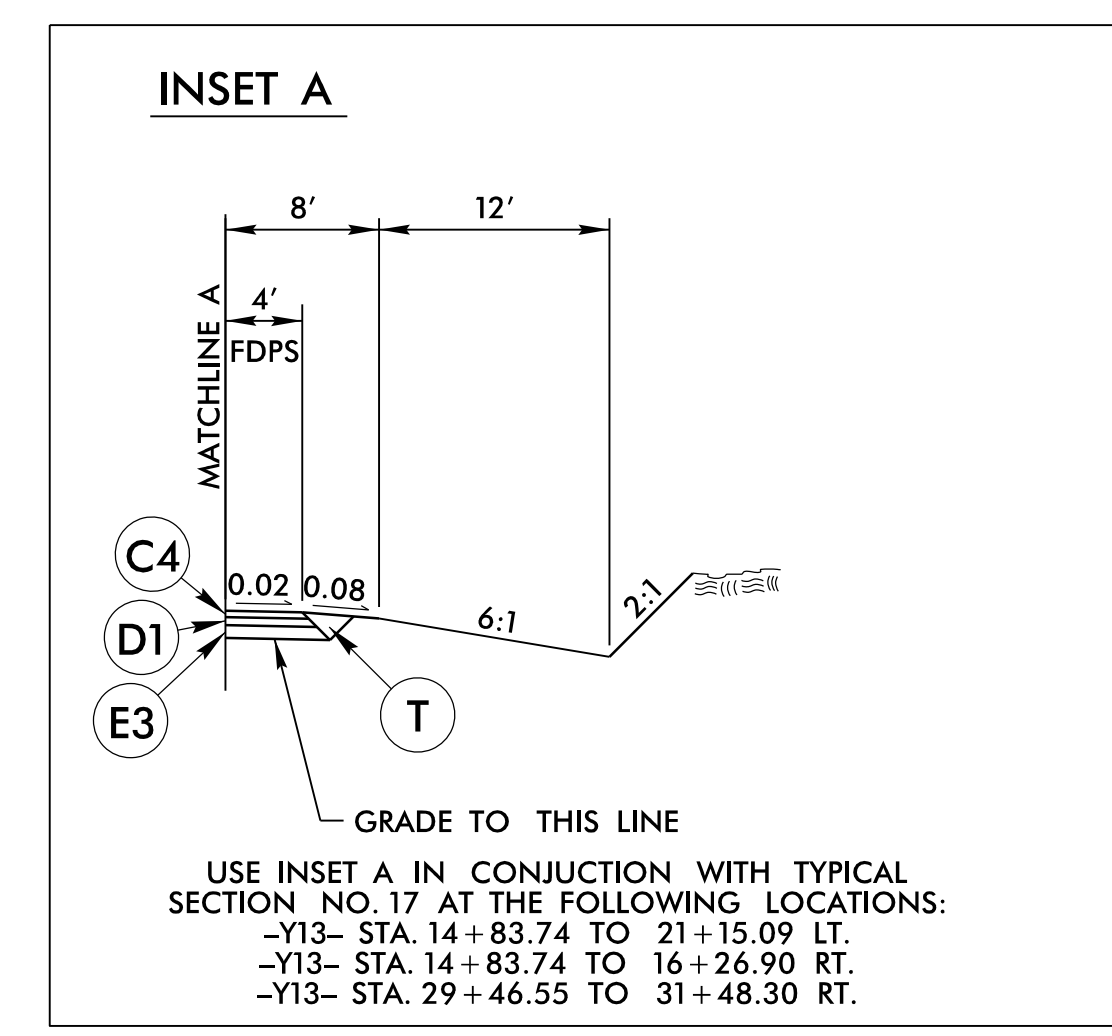
TYPICAL SECTION NO. 17

USE TYPICAL SECTION NO. 17
AT THE FOLLOWING LOCATION:
-Y13- STA. 14+83.74 TO STA. 24+21.09
-Y13- STA. 25+05.65 TO STA. 31+48.30

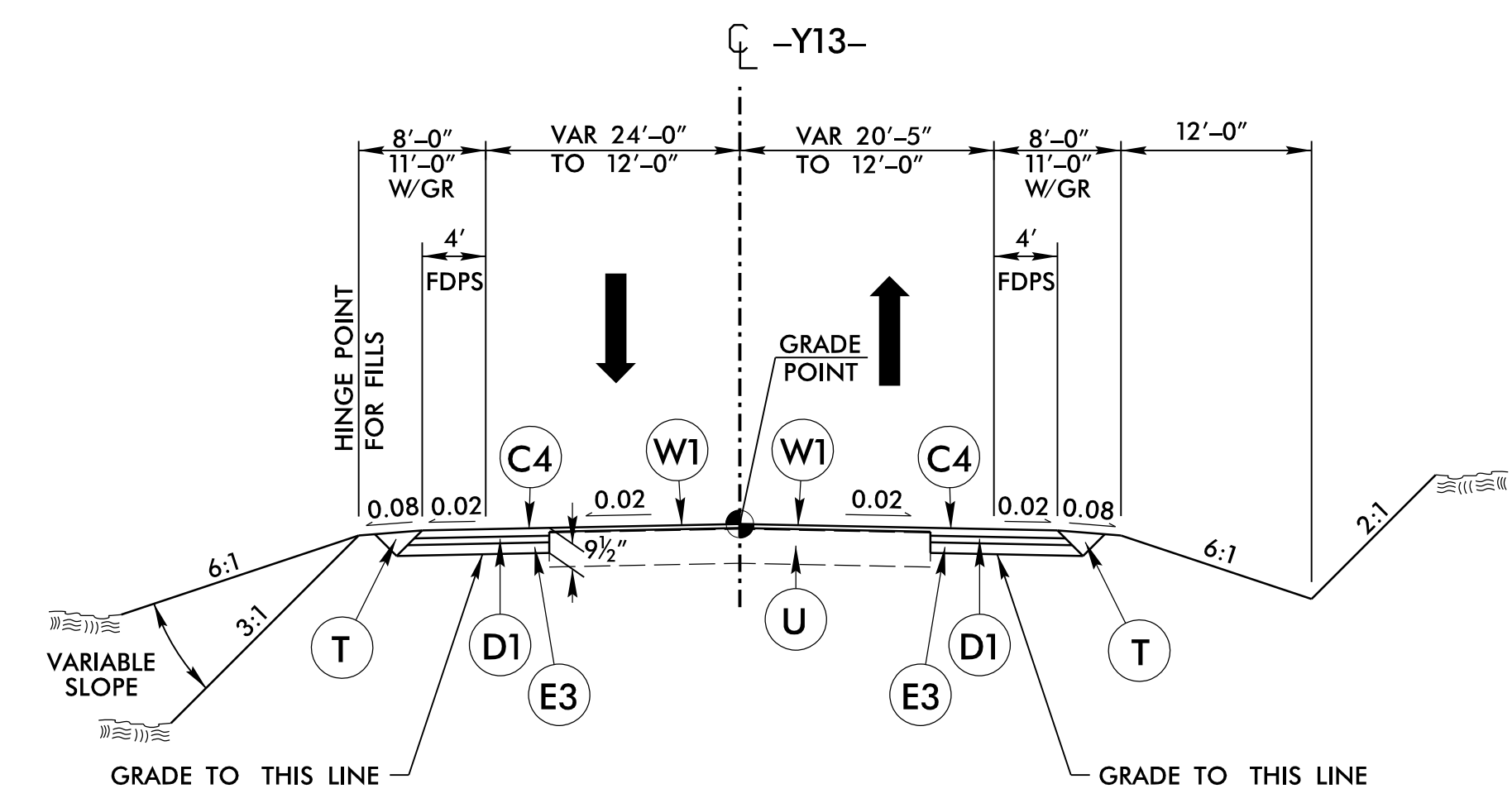


TYPICAL SECTION NO. 17A

USE TYPICAL SECTION NO. 17A IN
CONJUNCTION WITH TYPICAL SECTION NO. 17,
AT THE FOLLOWING LOCATIONS:
-Y13- STA. 16+58.24 TO STA. 23+86.23
-Y13- STA. 25+27.28 TO STA. 29+30.81



USE INSET A IN CONJUNCTION WITH TYPICAL
SECTION NO. 17 AT THE FOLLOWING LOCATIONS:
-Y13- STA. 14+83.74 TO 21+15.09 LT.
-Y13- STA. 14+83.74 TO 16+26.90 RT.
-Y13- STA. 29+46.55 TO 31+48.30 RT.



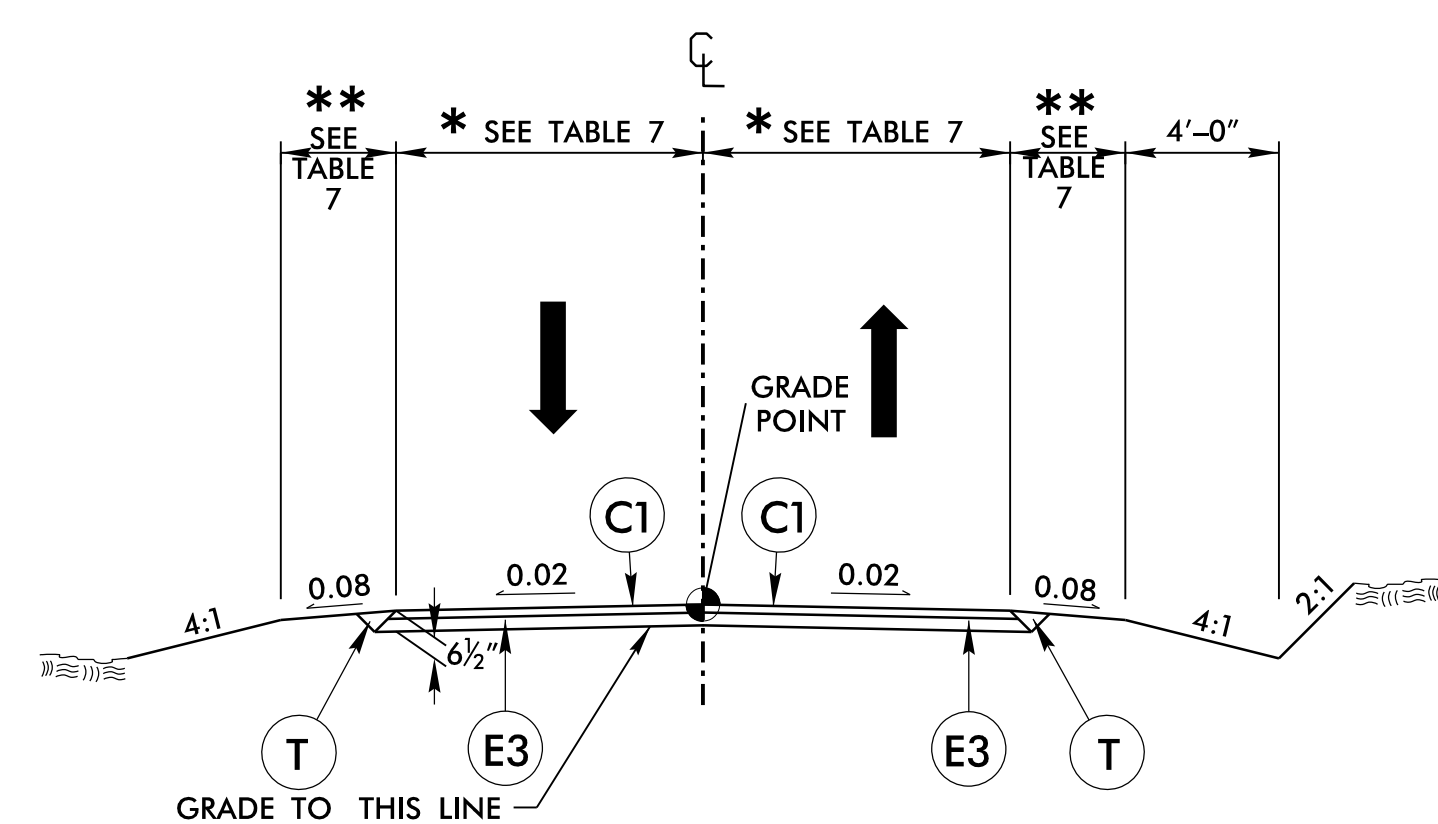
TYPICAL SECTION NO. 18

USE TYPICAL SECTION NO. 18
AT THE FOLLOWING LOCATION:
-Y13- STA. 31+48.30 TO STA. 35+70.00

-DRW1-, -DRW2-, -DRW3-, -DRW7-, -DRW8-,
-DRW9-, -DRW10-, -DRW11-, -DRW12-, -DRW15-,
-DRW16-, -DRW17-, -DRW18-, -DRW23-

USE TYPICAL SECTION NO. 19
AT THE FOLLOWING LOCATION:

-DRW1-	10+34.00	TO	10+94.57
-DRW2-	10+45.00	TO	10+94.50
-DRW3-	10+35.50	TO	10+97.00
-DRW7-	10+35.50	TO	10+93.00
-DRW8-	10+35.50	TO	11+29.03
-DRW9-	10+35.50	TO	10+94.00
-DRW10-	10+35.50	TO	10+94.00
-DRW11-	10+36.00	TO	10+84.50
-DRW12-	10+35.50	TO	10+74.09
-DRW15-	10+56.45	TO	11+04.80
-DRW16-	10+14.53	TO	10+55.00
-DRW17-	10+37.38	TO	10+88.00
-DRW18-	10+38.35	TO	10+63.00
-DRW23-	10+12.00	TO	10+95.63



TYPICAL SECTION NO. 19

TABLE 7		
LINE	*	**
-DRW1-	8'	1'
-DRW2-	8'	1'
-DRW3-	8'	1'
-DRW7-	8'	1'
-DRW8-	8'	1'
-DRW9-	8'	1'
-DRW10-	8'	1'
-DRW11-	8'	1'
-DRW12-	8'	1'
-DRW15-	8'	1'
-DRW16-	8'	1'
-DRW17-	8'	1'
-DRW18-	10'	2'
-DRW23-	12'	2'

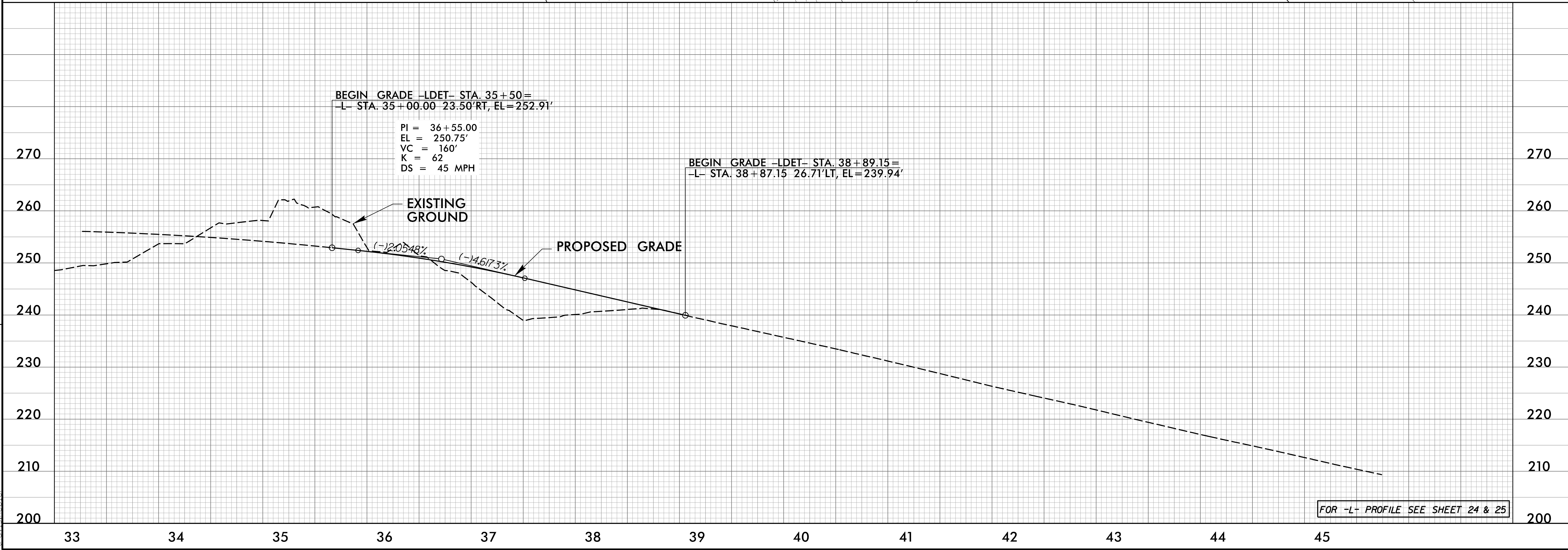
Prepared by
URS
URS Corporation - North Carolina
1600 Perimeter Park Drive
Morrisville, North Carolina 27560
TELEPHONE (919) 461-1100 FAX (919) 461-1415
NO. L10266E • C-2242

PROJECT REFERENCE NO. <i>R-3825B</i>	SHEET NO. <i>2A-8</i>
R/W SHEET NO.	PAVEMENT DESIGN ENGINEER
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

REVISIONS

8/17/2018
R:\Roadway\Pro\NR3825B_rdy_tjpb.dgn
tjpb

8/17/99



8/9/2018
R:\Roadway\Proj\NR3825b_rdy_psh02B.1.dgn
Travis Hedler

REVISIONS

-LDET - NC 42

PI Sta 34+16.79 Δ = 3° 58' 23.8" (RT) D = 1' 29' 26.6" L = 266.54' T = 133.32' R = 3,843.50'	PI Sta 36+86.11 Δ = 4° 52' 06.3" (RT) D = 1' 47' 22.3" L = 272.05' T = 136.11' R = 3,201.71'
PI Sta 40+89.85 Δ = 4° 08' 45.3" (RT) D = 0' 46' 27.9" L = 535.36' T = 267.80' R = 7,398.60'	PI Sta 44+57.62 Δ = 0' 01' 17.2" (RT) D = 0' 00' 38.5" L = 200.42' T = 100.21' R = 535,208.36'

Prepared by
URS
URS Corporation - North Carolina
1600 Perimeter Park Drive
Morrisville, North Carolina 27560
TELEPHONE 1 919 461-1100 FAX 1 919 461-1415
NC LICENSE # C-22843

PROJECT REFERENCE NO. R-3825B	SHEET NO. 2B-1
R/W SHEET NO.	HYDRAULICS ENGINEER
ROADWAY DESIGN ENGINEER	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	



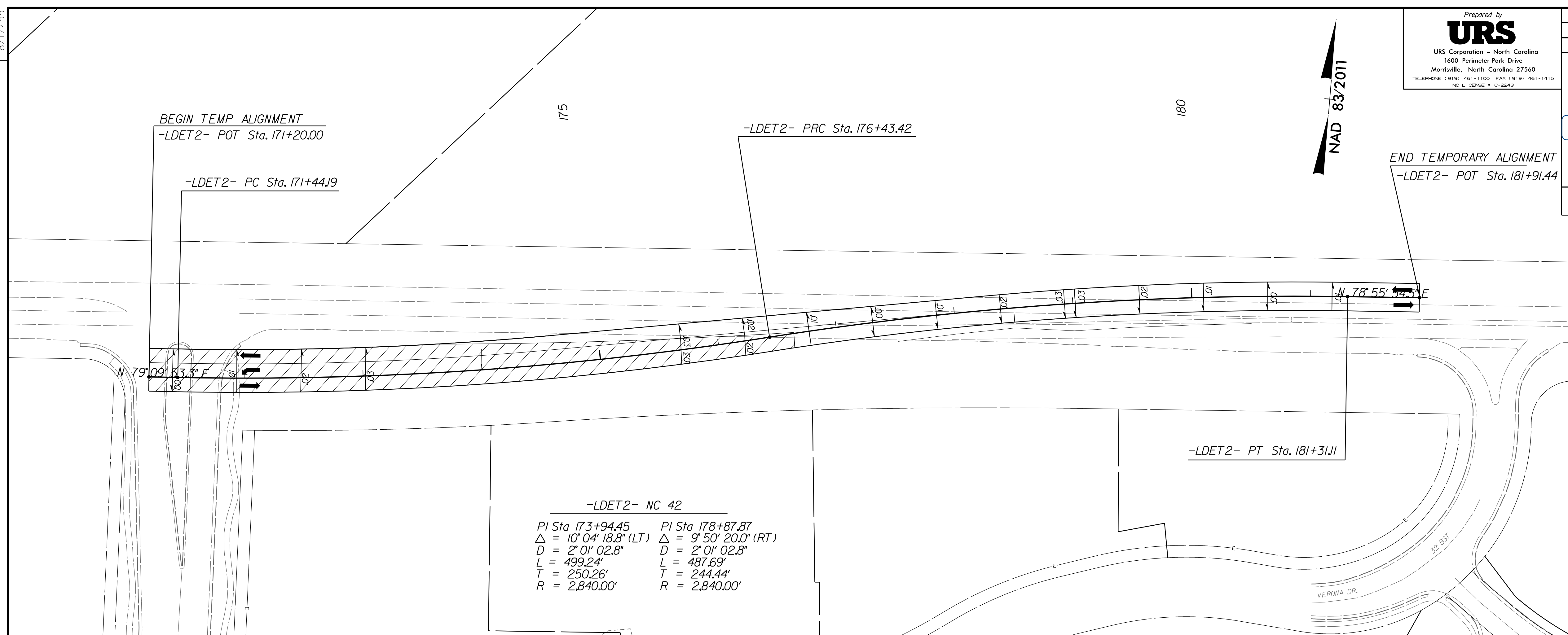
P.E.

8/17/19

Prepared by
URS
 URS Corporation - North Carolina
 1600 Perimeter Park Drive
 Morrisville, North Carolina 27560
 TELEPHONE 1 919 461-1100 FAX 1 919 461-1415
 NC LICENSE # C-2243

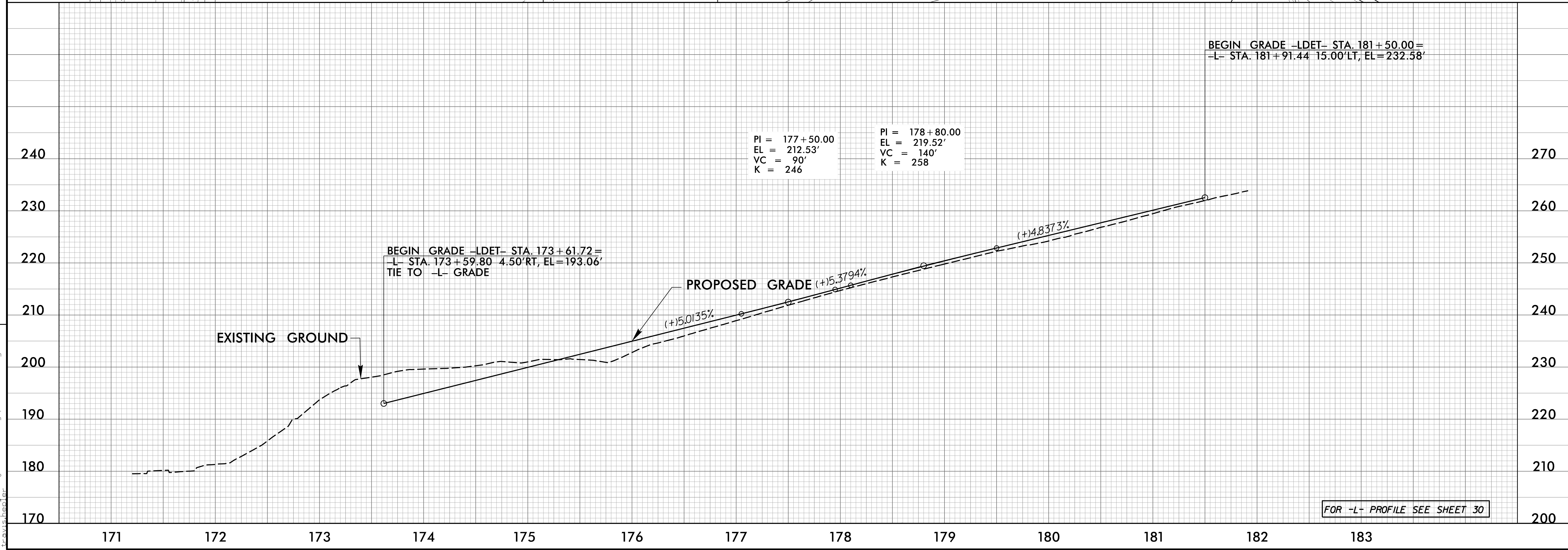
PROJECT REFERENCE NO. R-3825B	SHEET NO. 2B-1A
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

NAD 83/2011



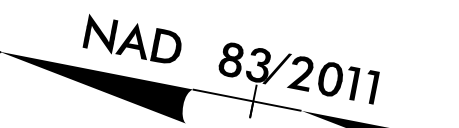
-LDET2- NC 42
 PI Sta 173+94.45 PI Sta 178+87.87
 $\Delta = 10^{\circ} 04' 18.8''$ (LT) $\Delta = 9^{\circ} 50' 20.0''$ (RT)
 D = 2' 01" 02.8" D = 2' 01" 02.8"
 L = 499.24' L = 487.69'
 T = 250.26' T = 244.44'
 R = 2,840.00' R = 2,840.00'

REVISIONS

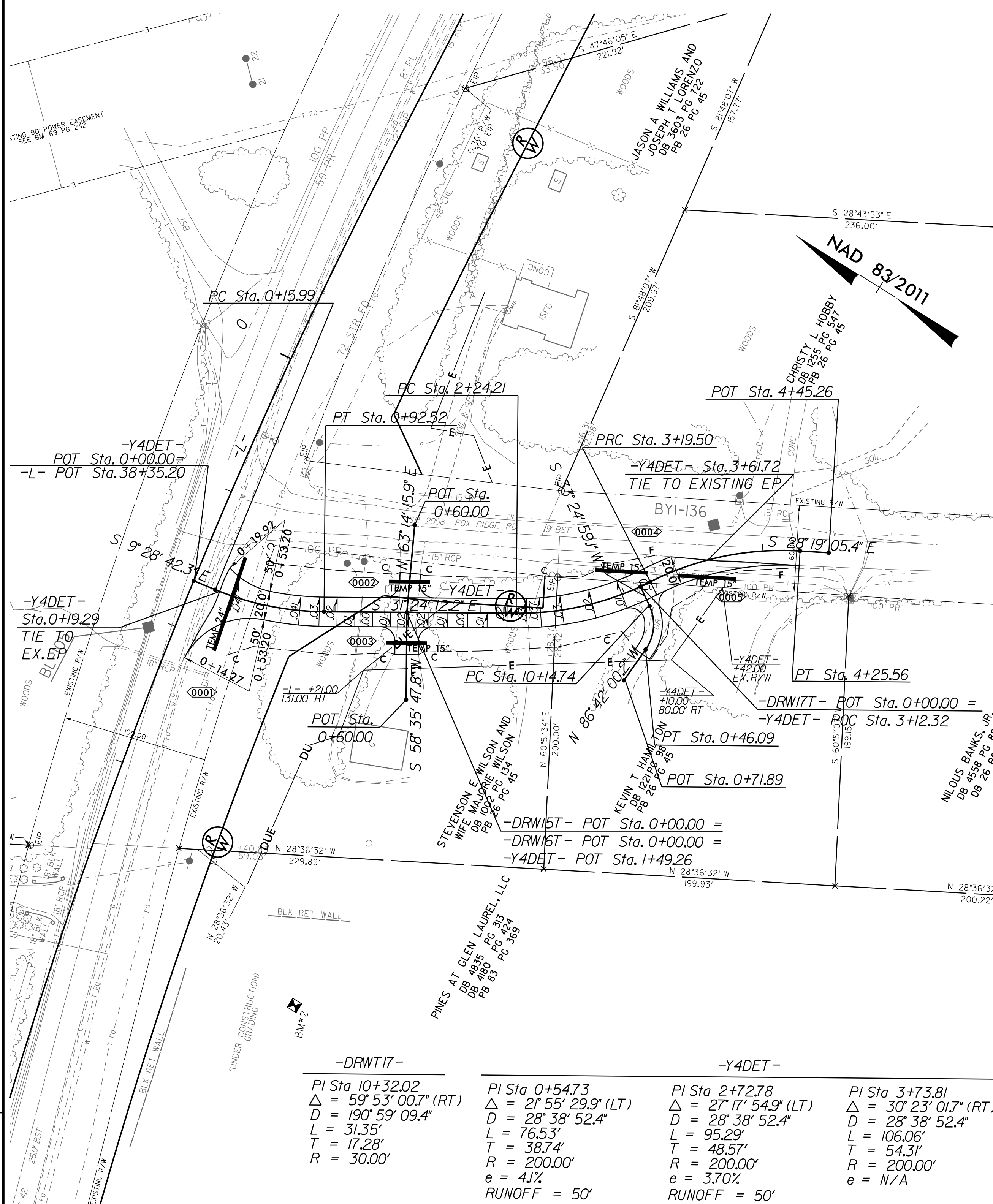


FOR -L- PROFILE SEE SHEET 30

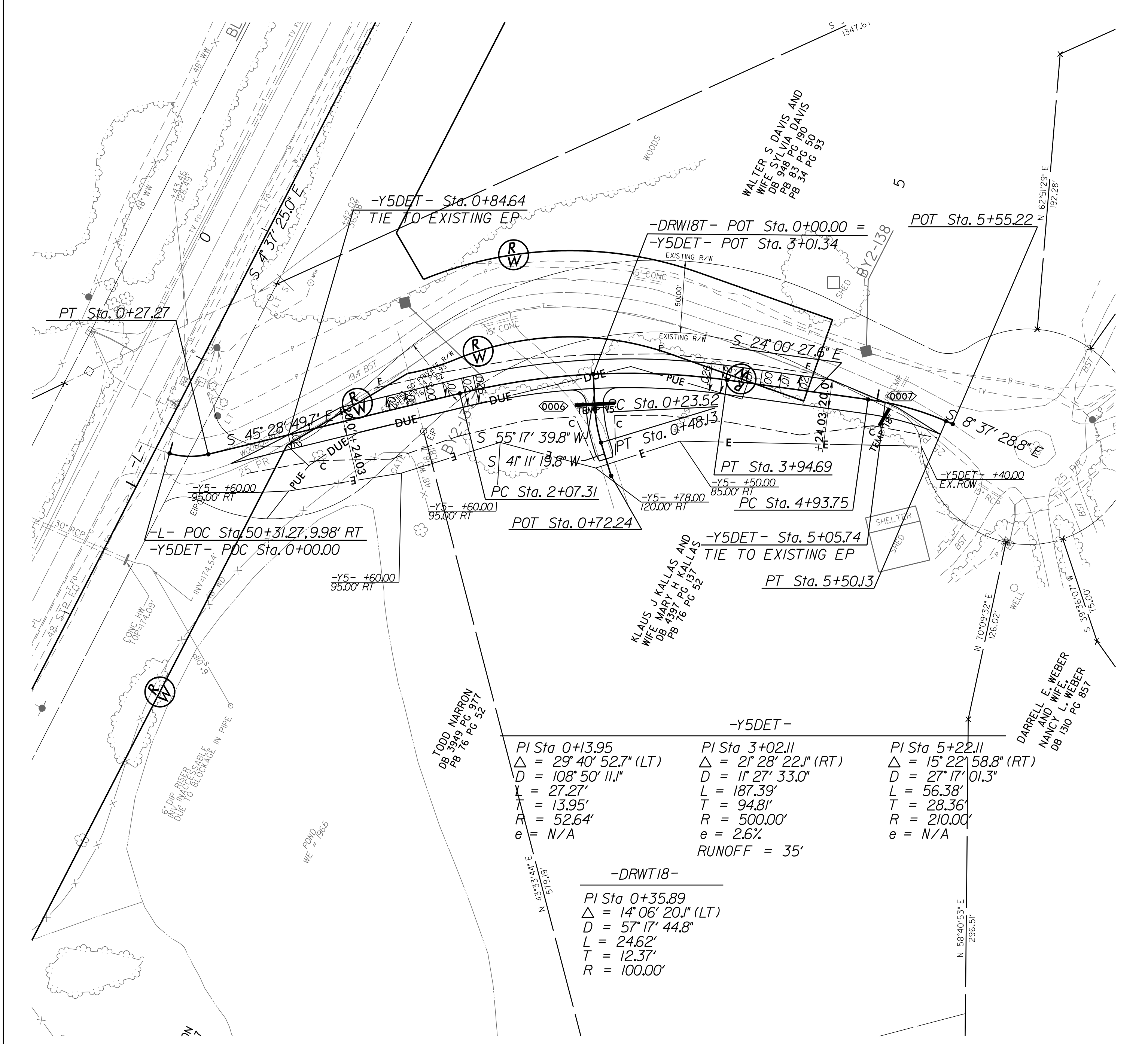
8/17/2018 P:\o\13825b_r\dj_psh02B_3A.dgn
 10:08:11 AM
 10/20/18



REVISIONS



-DRWT17-	-Y4DET-	-Y4DET-	-Y4DET-
PI Sta 10+32.02	PI Sta 0+54.73	PI Sta 2+72.78	PI Sta 3+73.81
$\Delta = 59^{\circ} 53' 00.7''$ (RT)	$\Delta = 21^{\circ} 55' 29.9''$ (LT)	$\Delta = 27^{\circ} 17' 54.9''$ (LT)	$\Delta = 30^{\circ} 23' 01.7''$ (RT)
D = 190' 59" 09.4"	D = 28' 38" 52.4"	D = 28' 38" 52.4"	D = 28' 38" 52.4"
L = 31.35'	L = 76.53'	L = 95.29'	L = 106.06'
T = 17.28'	T = 38.74'	T = 48.57'	T = 54.31'
R = 30.00'	R = 200.00'	R = 200.00'	R = 200.00'
e = N/A	e = 4.1%	e = 3.70%	e = N/A
	RUNOFF = 50'	RUNOFF = 50'	

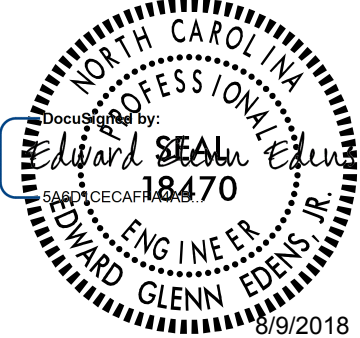


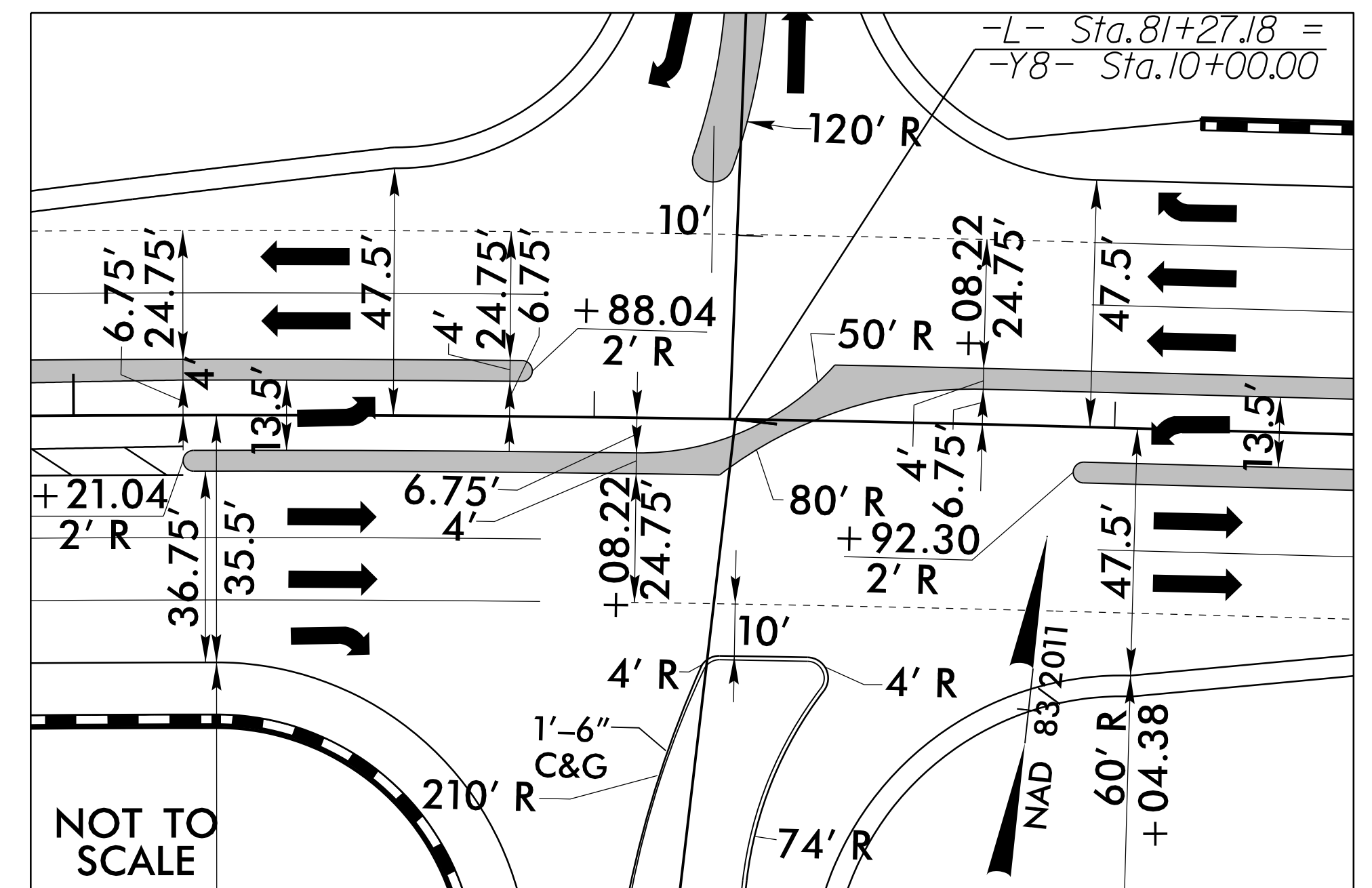
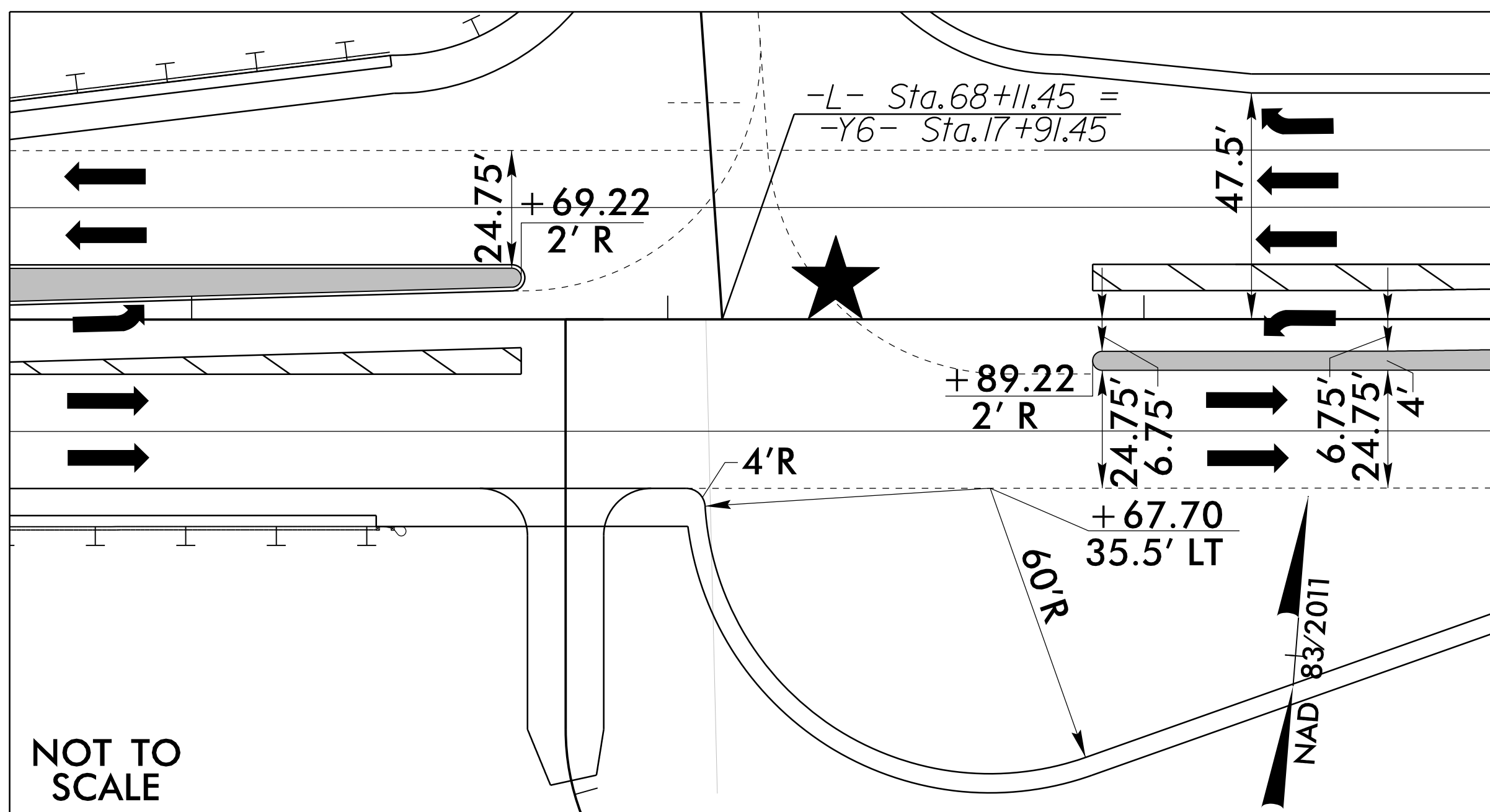
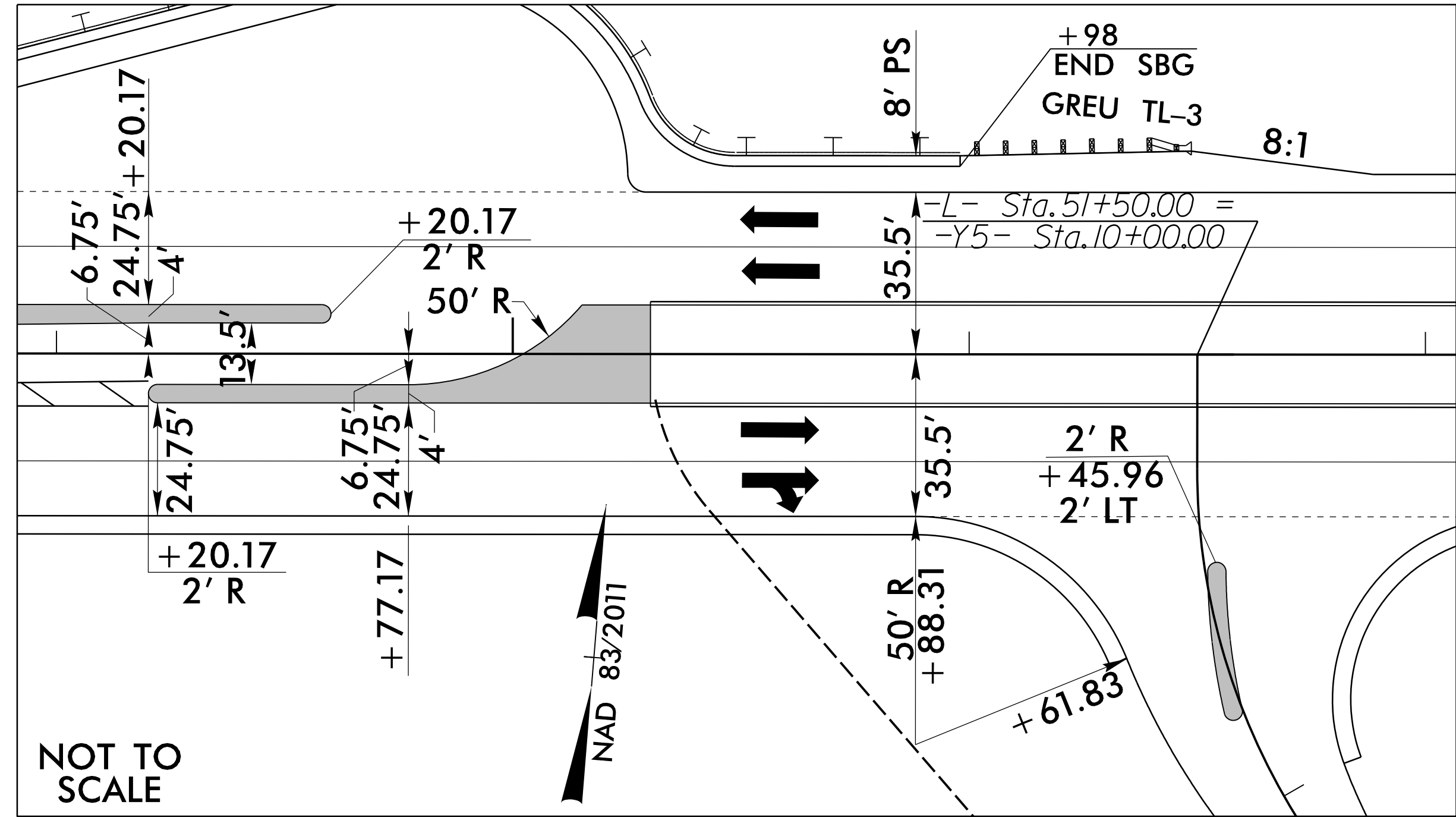
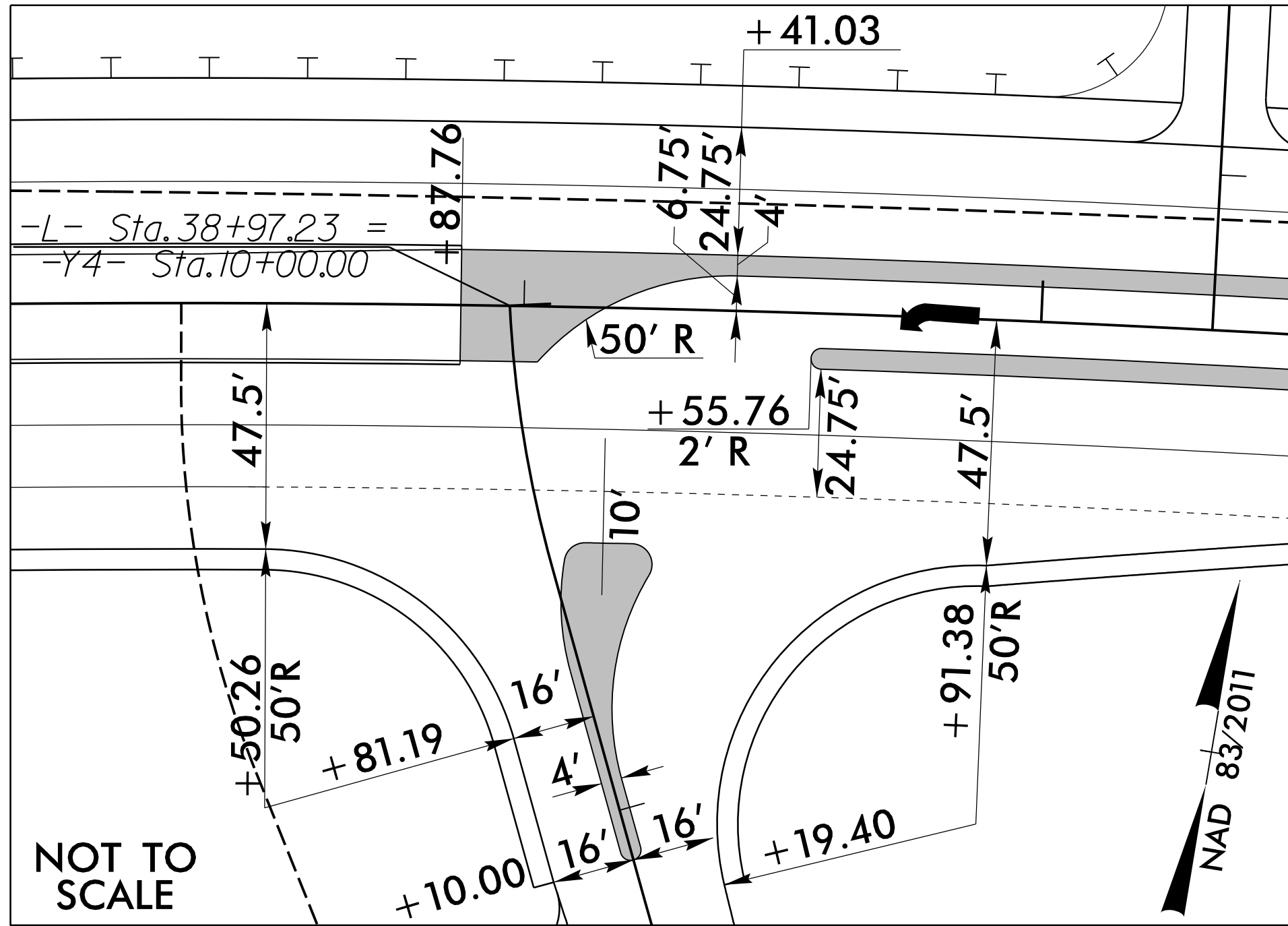
-Y5DET-	-Y5DET-	-Y5DET-
PI Sta 0+13.95	PI Sta 3+02.11	PI Sta 5+22.11
$\Delta = 29^{\circ} 40' 52.7''$ (LT)	$\Delta = 21^{\circ} 28' 22.1''$ (RT)	$\Delta = 15^{\circ} 22' 58.8''$ (RT)
D = 108' 50" 11.1"	D = 11' 27" 33.0"	D = 27' 17" 01.3"
L = 27.27'	L = 187.39'	L = 56.38'
T = 13.95'	T = 94.81'	T = 28.36'
R = 52.64'	R = 500.00'	R = 210.00'
e = N/A	e = 2.6%	e = N/A
	RUNOFF = 35'	

-DRWT18-
PI Sta 0+35.89
$\Delta = 14^{\circ} 06' 20.1''$ (LT)
D = 57' 17" 44.8"
L = 24.62'
T = 12.37'
R = 100.00'

CONCRETE ISLAND DETAILS

Prepared by
URS
 URS Corporation - North Carolina
 1600 Perimeter Park Drive
 Morrisville, North Carolina 27560
 TELEPHONE: (919) 461-1100 FAX: (919) 461-1415
 NC LICENSE # C-22843

PROJECT REFERENCE NO. R-3825B	SHEET NO. 2B-4
R/W SHEET NO.	HYDRAULICS ENGINEER
ROADWAY DESIGN ENGINEER	
	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

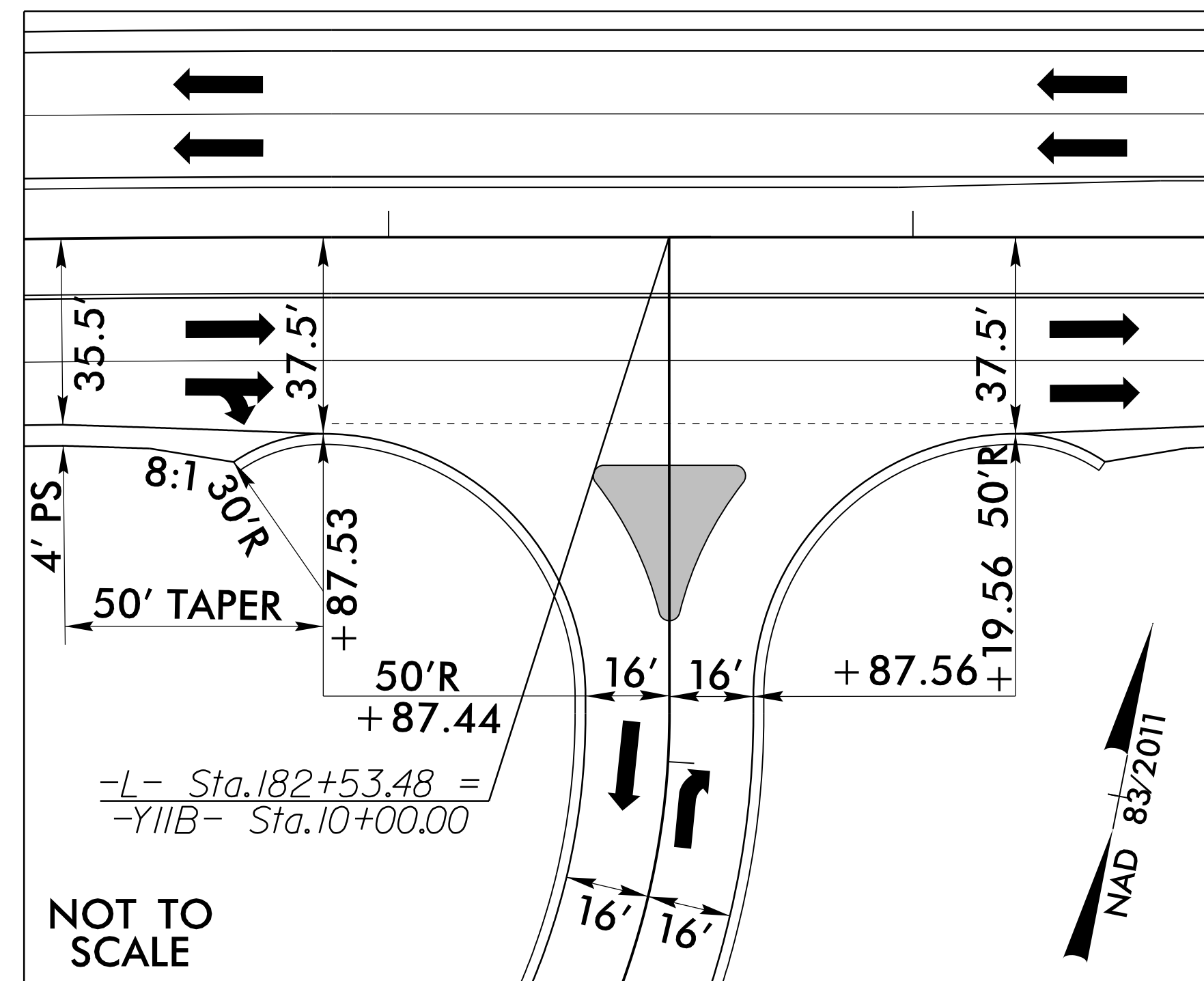
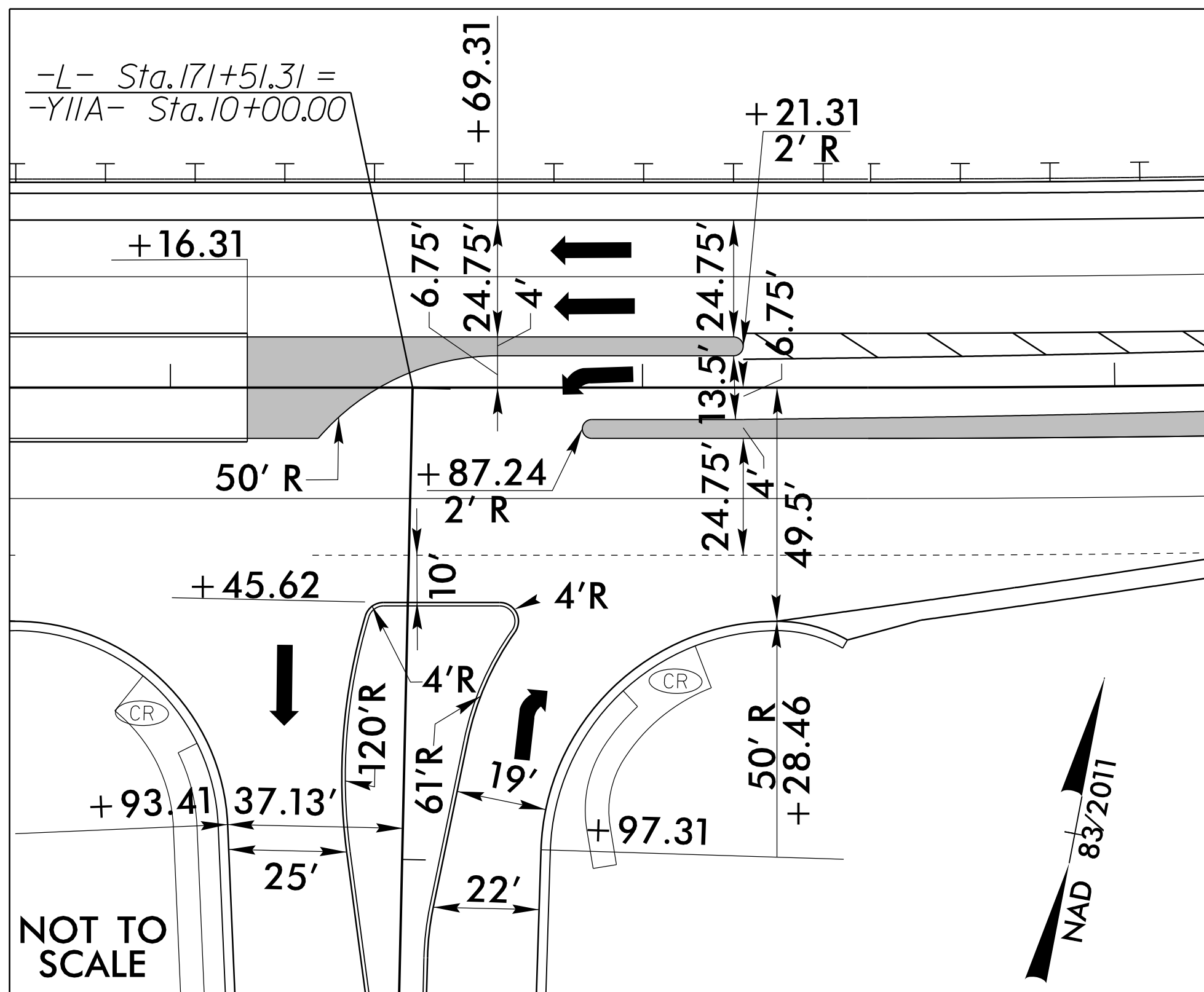
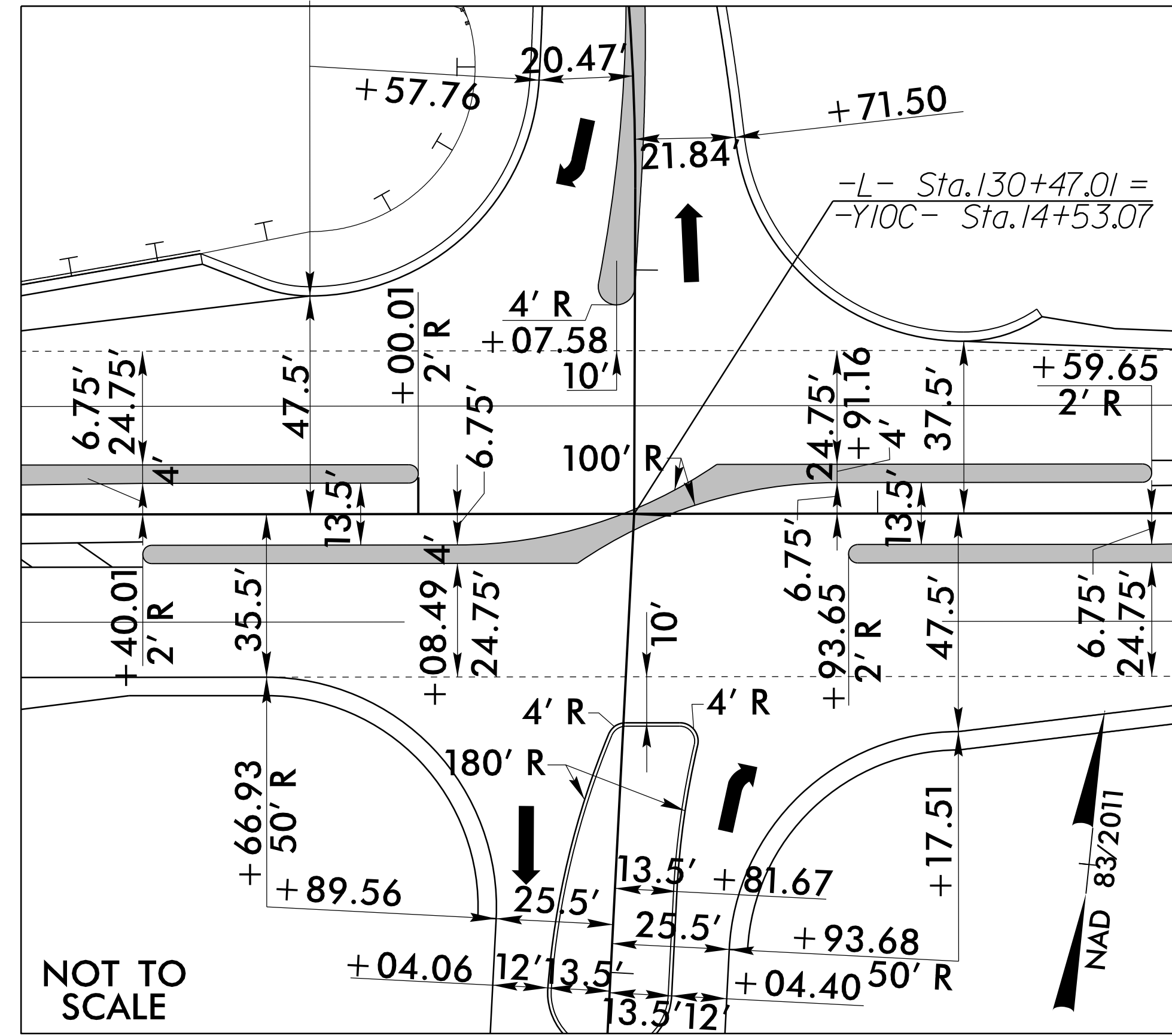
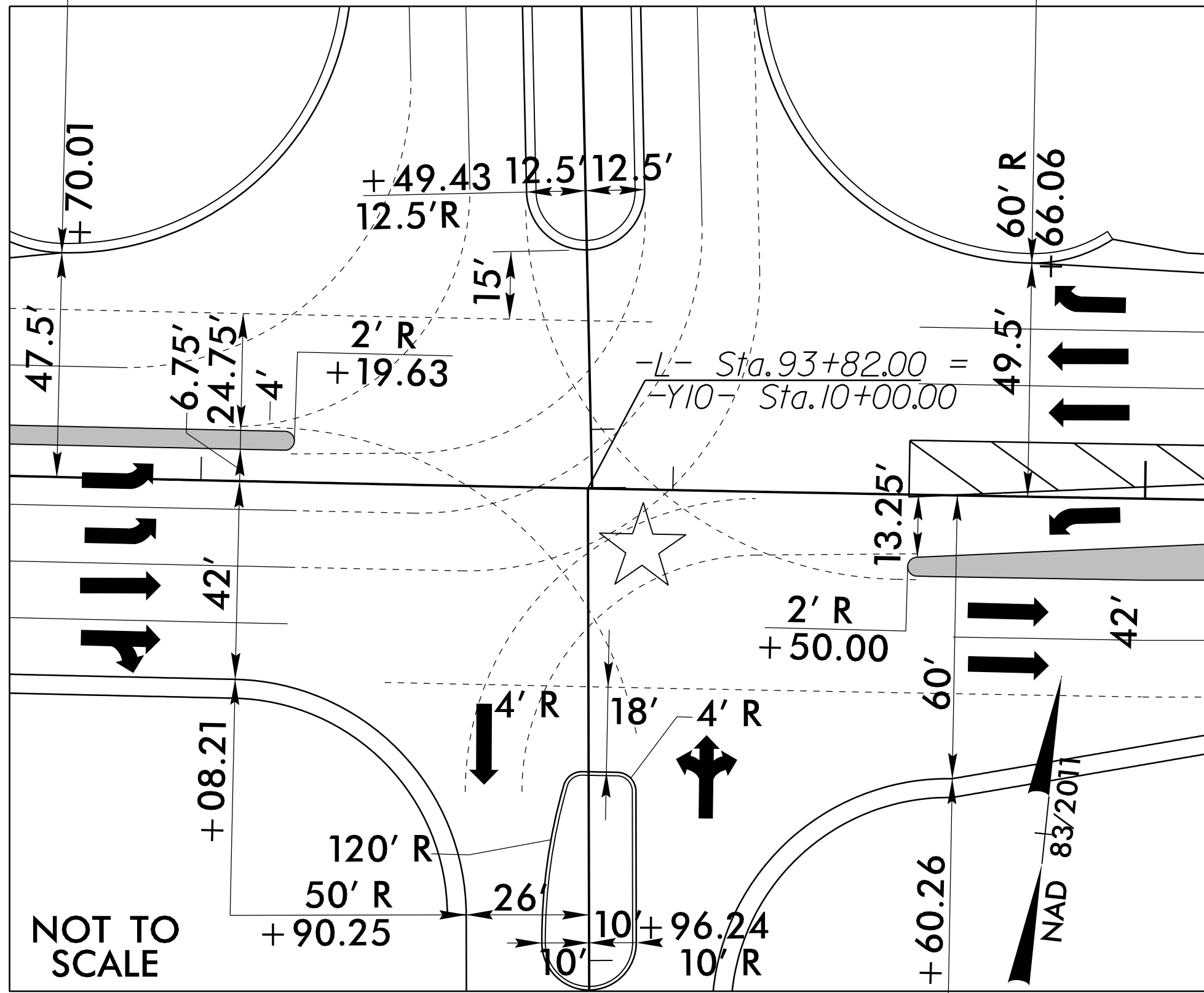


CONCRETE ISLAND DETAILS

Prepared by
URS

URS Corporation - North Carolina
1600 Perimeter Park Drive
Morrisville, North Carolina 27560
TELEPHONE: (919) 461-1100 FAX: (919) 461-1415
NO. L10296E - C-2242

PROJECT REFERENCE NO. <i>R-3825B</i>	SHEET NO. <i>2B-5</i>
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

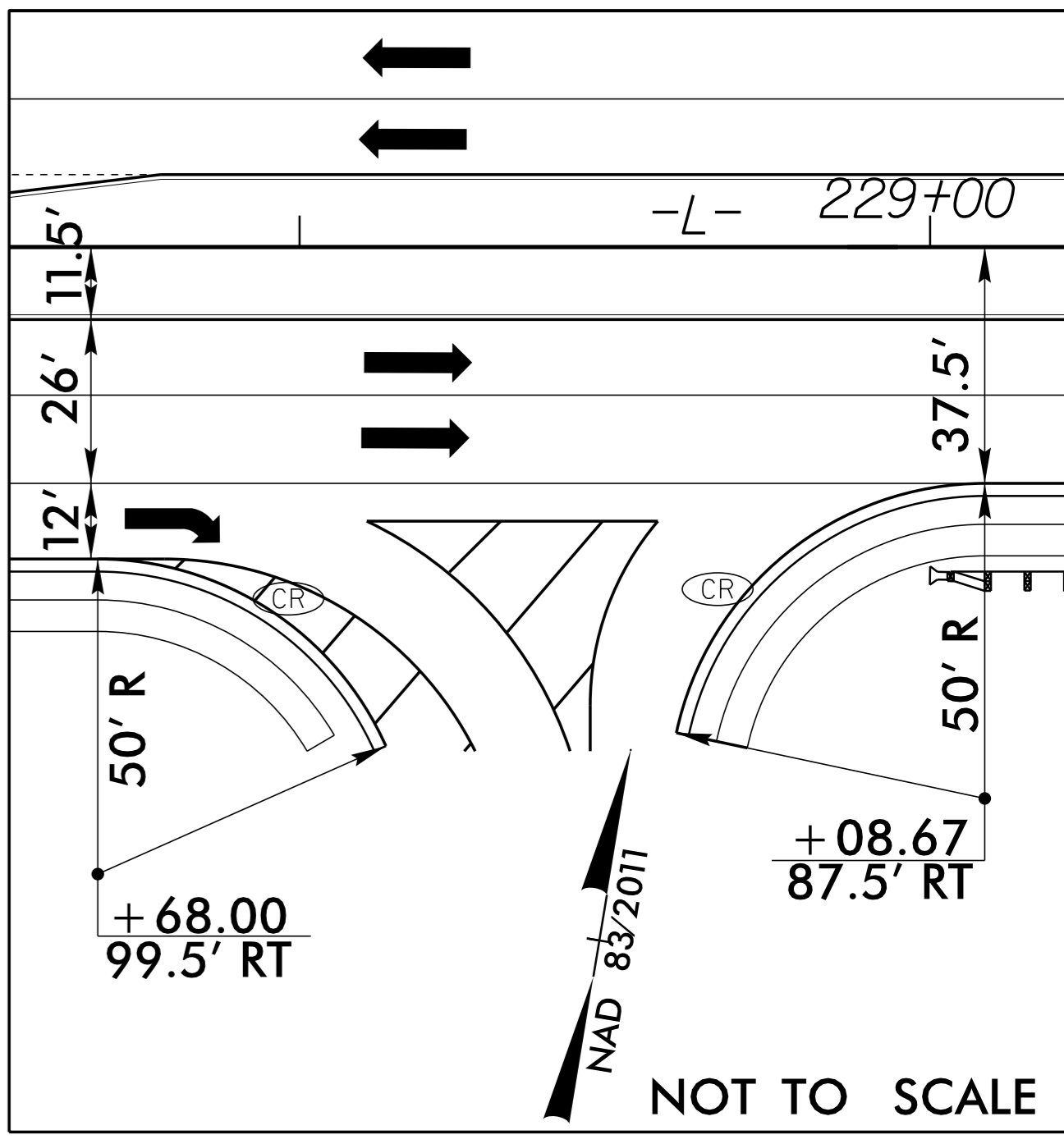
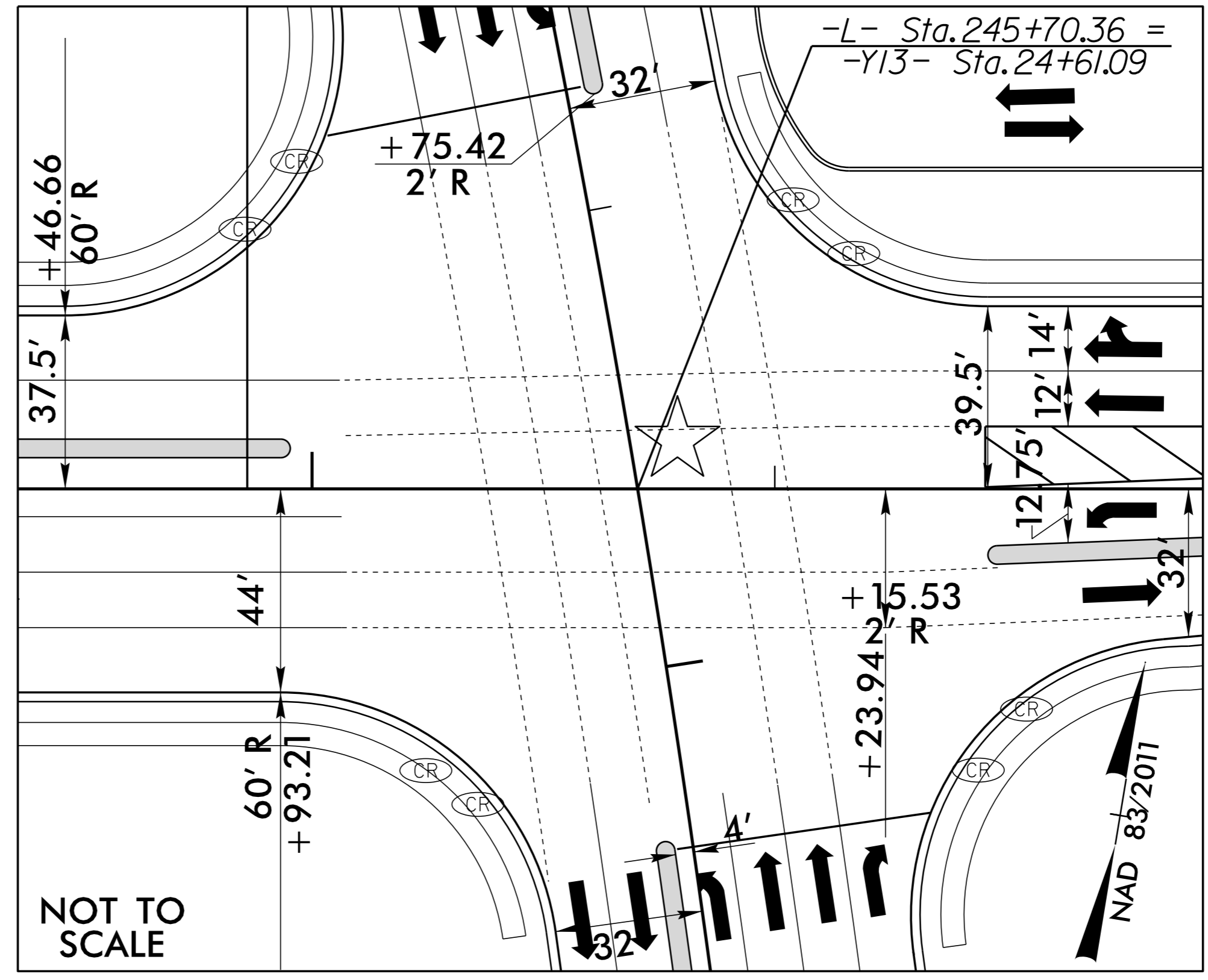
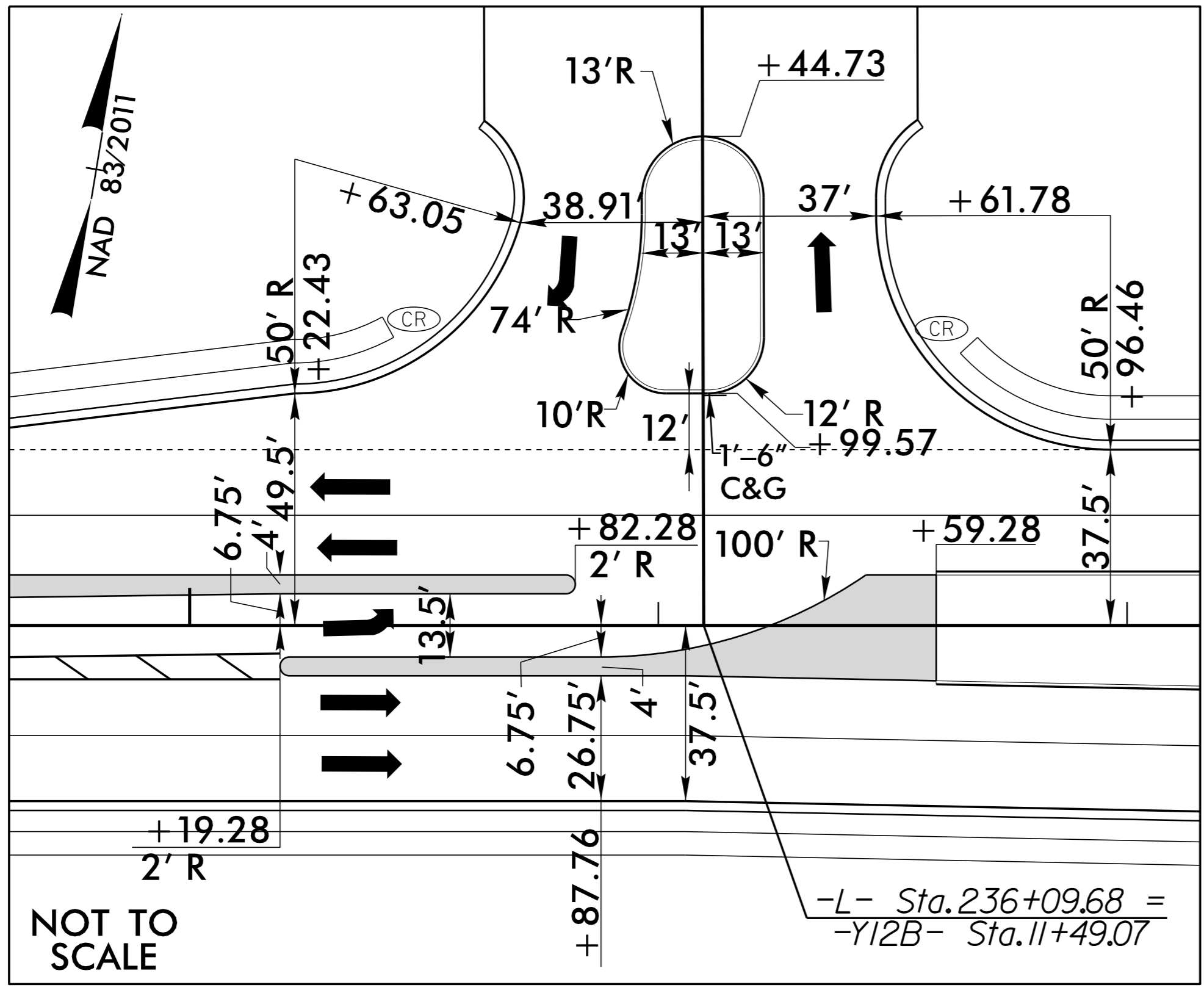
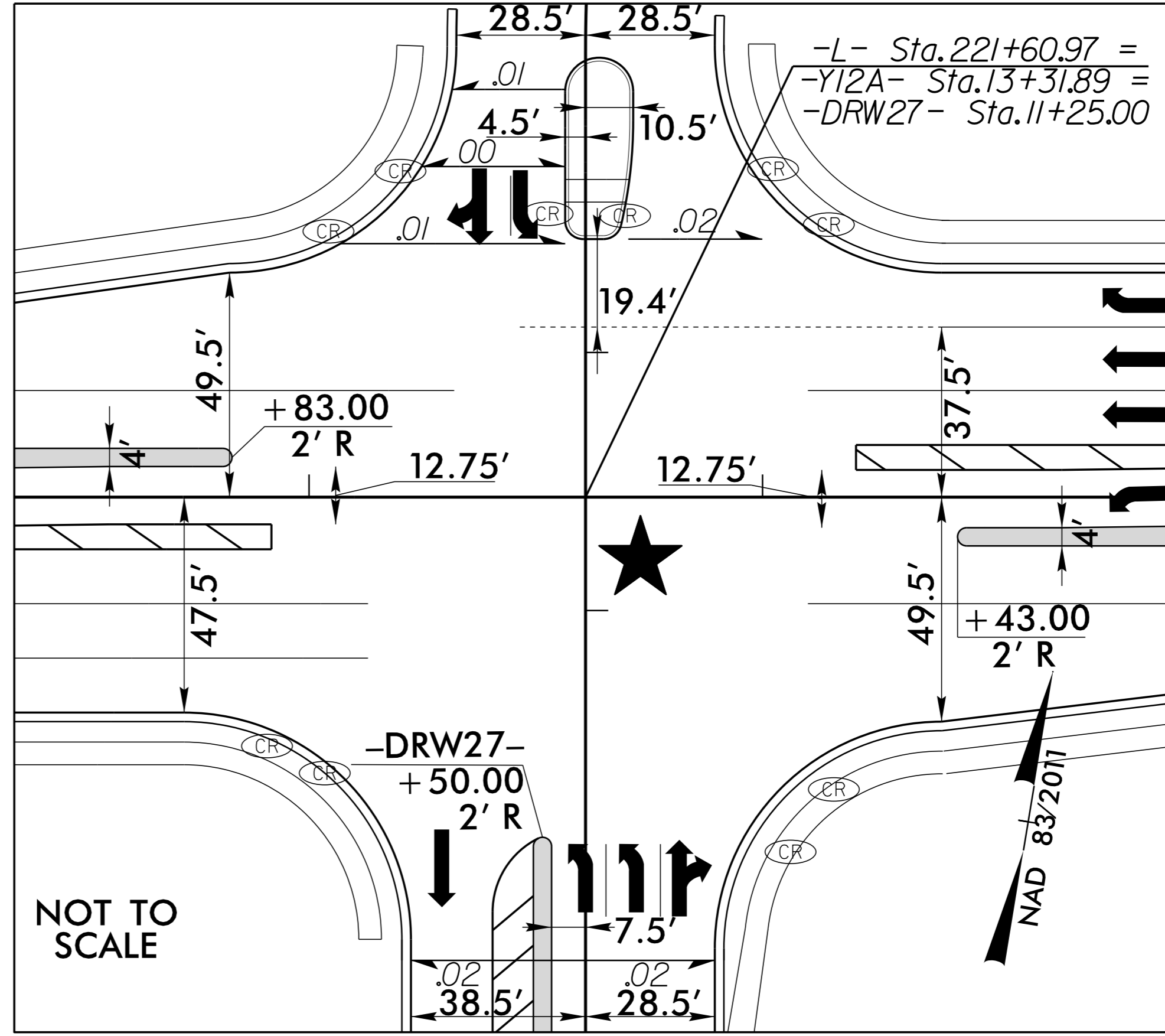
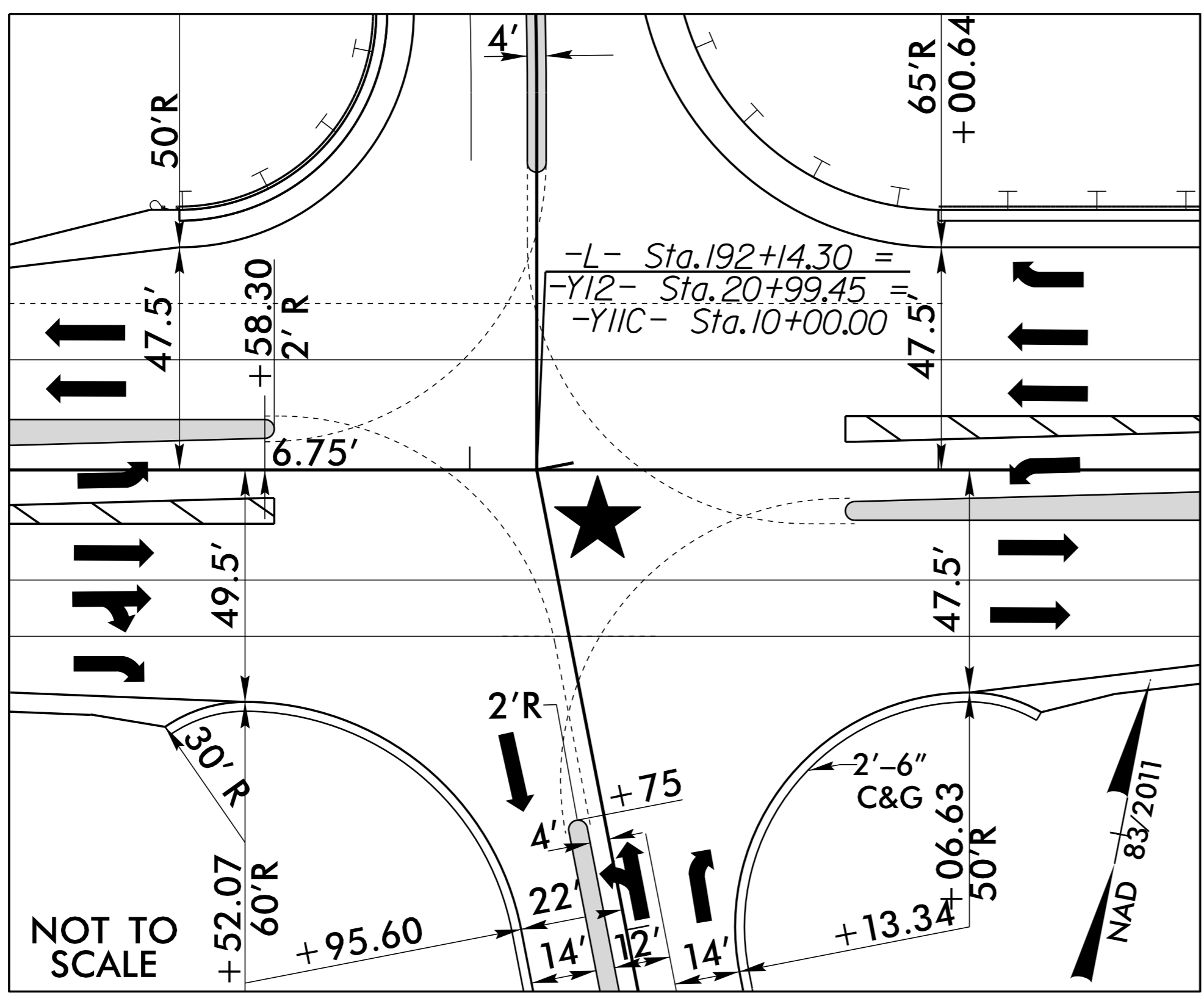


CONCRETE ISLAND DETAILS

Prepared by
URS
 URS Corporation - North Carolina
 1600 Perimeter Park Drive
 Morrisville, North Carolina 27560
 TELEPHONE (919) 461-1100 FAX (919) 461-1415
 NC LIC# 0024641 EIT-02243

PROJECT REFERENCE NO. R-3825B	SHEET NO. 2B-6
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	ROADWAY DESIGN ENGINEER
NOT A CERTIFIED DOCUMENT AS TO THE ORIGINAL DOCUMENT	8/17/2020
THIS DOCUMENT ORIGINALLY ISSUED AND SEALED BY:	
EDWARD GLENN EDENS, JR.	
18470	ON 08/09/2018
THIS DOCUMENT IS ONLY CERTIFIED AS TO THE REVISIONS.	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

REVISIONS
 10/16/2019 - CONSTRUCTION REVISION: ADDED DETAIL FOR RIGHT TURN LANE STARTING AT -L- STA. 228+83.67 RIGHT: HN
 02/19/2020 - CONSTRUCTION REVISION: REVISED LANE CONFIGURATION AND DRAINAGE TO INCLUDE A RIGHT TURN LANE ON -Y11C-. HN
 08/17/2020 - CONSTRUCTION REVISION: ADDED AN EXCLUSIVE LEFT TURN TO -Y12A- AND -DRW27-, AND WIDENED THE INGRESS RADIUS FOR THE DRIVEWAY AT -L- STATION 227+84. TO ACCOMMODATE A WB-67. REDUCED NOSE OF CONCRETE ISLAND FROM -L- STA. 220+93.71 TO STA. 220+83.00 AND FROM -L- STA. 222+18.60 TO STA. 222+43.00. HN



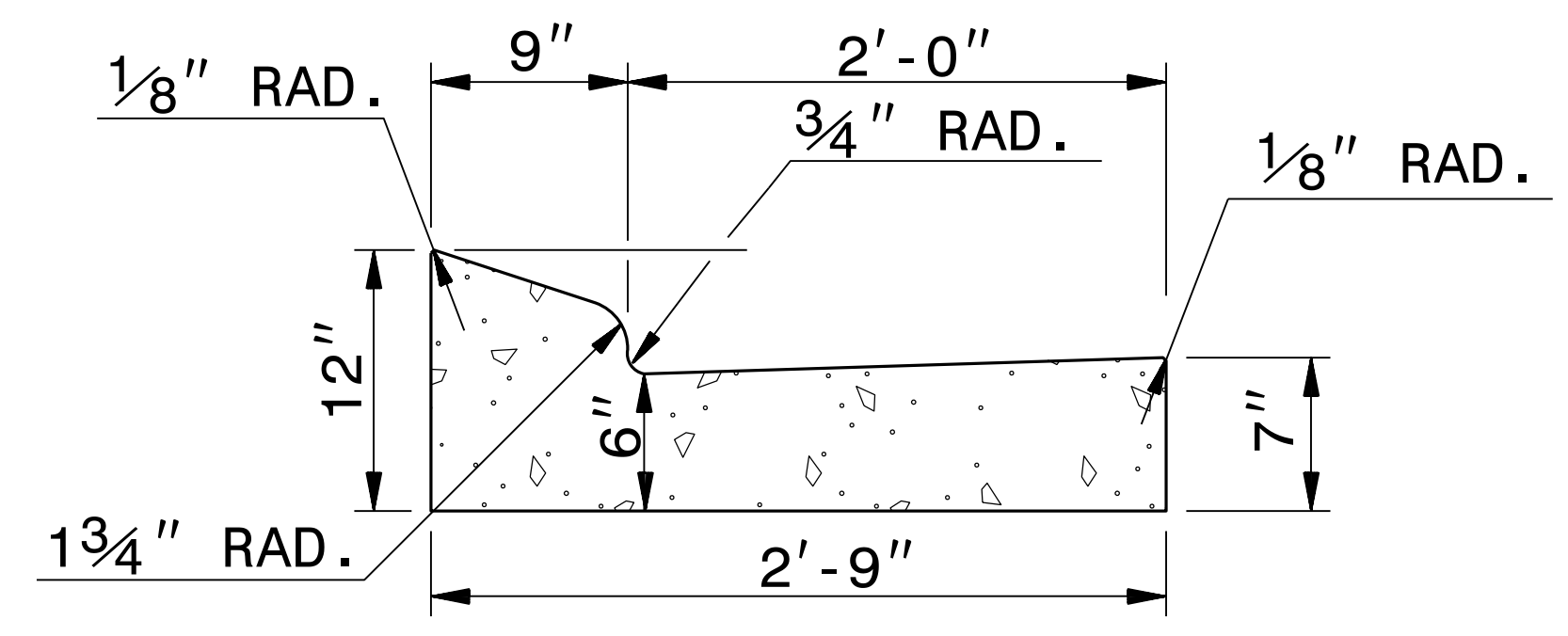
17-AUG-2020 17:36
 R:\Projects\2020\1736\Roadway\Drawings\2B-6\3825B_rdy_med.dgn layout.dgn

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

ENGLISH DETAIL DRAWING FOR
2'-9" CONCRETE CURB & GUTTER

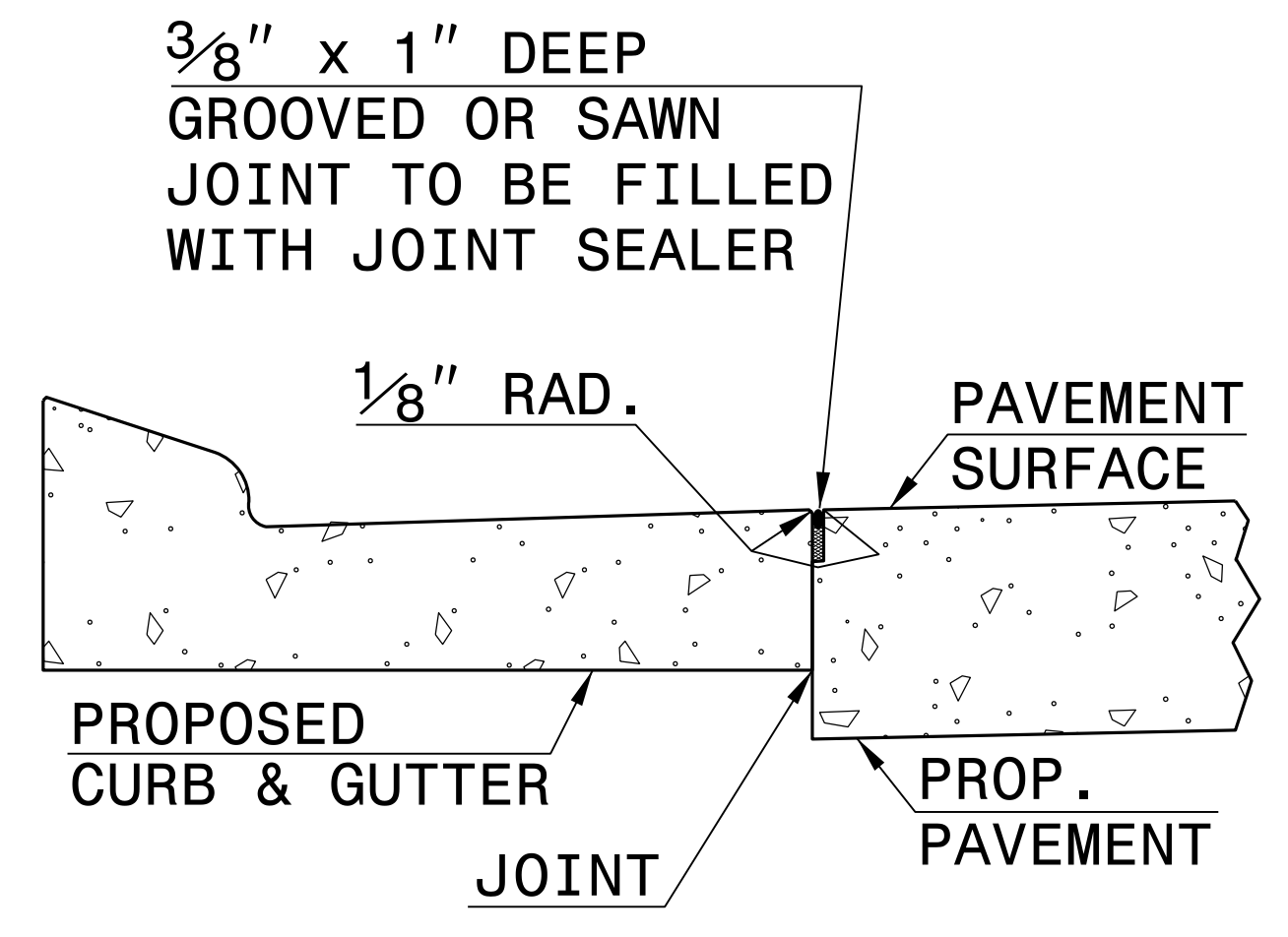
SHEET 1 OF 1
846D01

- GENERAL NOTES:
- PLACE CONTRACTION JOINTS AT 10' INTERVALS, EXCEPT THAT A 15' SPACING MAY BE USED WHEN A MACHINE IS USED OR WHEN SATISFACTORY SUPPORT FOR THE FACE FORM CAN BE OBTAINED WITHOUT THE USE OF TEMPLATES AT 10' INTERVALS.
 - JOINT SPACING MAY BE ALTERED IF REQUIRED BY THE ENGINEER.
 - CONTRACTION JOINTS MAY BE INSTALLED WITH THE USE OF TEMPLATES OR FORMED BY OTHER APPROVED METHODS. MAKE NON-TEMPLATE FORMED JOINTS A MIN. OF 1½" DEEP.
 - FILL ALL CONSTRUCTION JOINTS WITH JOINT FILLER AND SEALER.
 - SPACE EXPANSION JOINTS AT 90' INTERVALS AND ADJACENT TO ALL RIGID OBJECTS.
 - SEE RDWY. STD. DWG. NO. 846.01, SHEET 2 OF 3 FOR PLACEMENT IN SUPERELEVATIONS. (USE 2'-6" CURB AND GUTTER RATES)

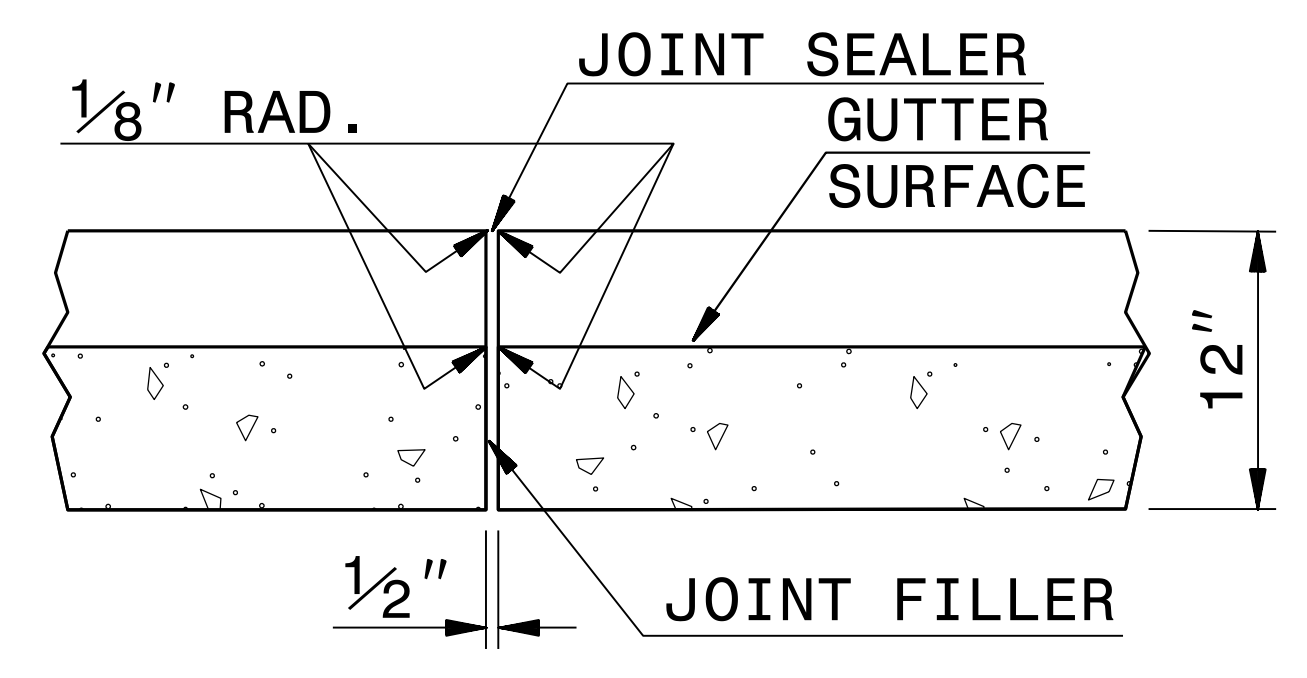


2'-9" CURB AND GUTTER

SECTION VIEW OF CURB AND GUTTER



LONGITUDINAL JOINT



TRANSVERSE EXPANSION JOINT IN CURB AND GUTTER

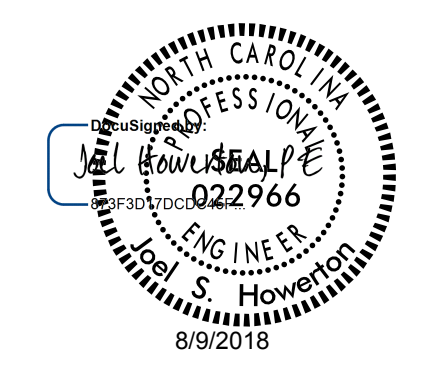
SECTION VIEW OF JOINTS

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

ENGLISH DETAIL DRAWING FOR
2'-9" CONCRETE CURB & GUTTER

SHEET 1 OF 1
846D01

J:\AUG-2017\1146 S:\Contracts\Contractors\Special Details\vertical\usr\details\stand\c&g2'-9.dgn J:\overton AT_CSD-2\2595



CONTRACT STANDARDS AND DEVELOPMENT UNIT
Office 919-707-6950 FAX 919-250-4119

SEE PLATE FOR TITLE

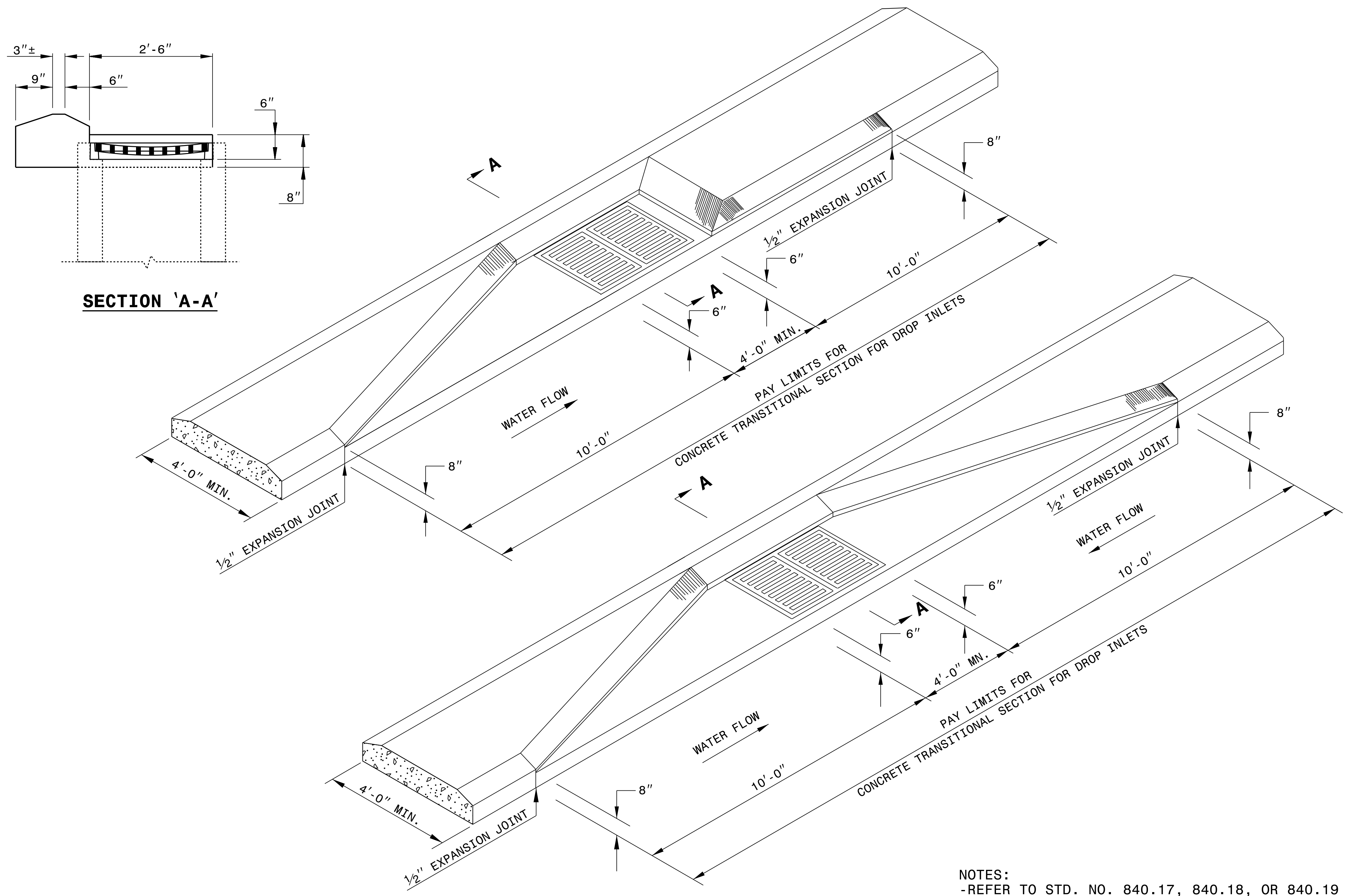
ORIGINAL BY: STD. 846.01 DATE: _____
 MODIFIED BY: E.E. WARD DATE: 8-15-00
 CHECKED BY: _____ DATE: _____
 FILE SPEC.: /usr/details/stand/c&g2'-9.dgn

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

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

ENGLISH DETAIL DRAWING FOR
**METHOD FOR PLACEMENT OF
DROP INLETS IN CONCRETE ISLANDS**

SHEET 1 OF 1
852D06



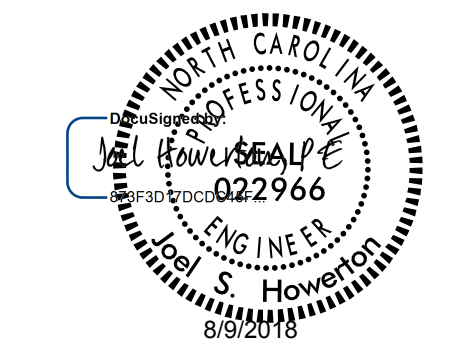
NOTES:
-REFER TO STD. NO. 840.17, 840.18, OR 840.19 FOR DRAINAGE STRUCTURE.
-REFER TO STD. NO. 840.20 OR 840.29 FOR GRATE AND FRAME.

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

ENGLISH DETAIL DRAWING FOR
**METHOD FOR PLACEMENT OF
DROP INLETS IN CONCRETE ISLANDS**

SHEET 1 OF 1
852D06

06-MAR-2018 10:58
S:\Contracts\Projects\Spacial_Details\kkempf\english\852D0601.dgn
Jpower ton AT_CSD-252595



DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

**CONTRACT STANDARDS
AND DEVELOPMENT UNIT**
Office 919-707-6950 FAX 919-250-4119

SEE TITLE PLATE

ORIGINAL BY: KKEMP DATE: 8/2/10
 MODIFIED BY: _____ DATE: _____
 CHECKED BY: _____ DATE: _____
 FILE SPEC.: KKEMP\ENGLISH\852D0601.DGN

I4-DEC-2017 10:36
 S:\Contracts\Special Details\Standard Drawings\Division 8\0862d0301.dgn
 Jhowerton AT: USD-292595

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

ROADWAY DETAIL DRAWING FOR
STRUCTURE ANCHOR UNITS
GUARDRAIL ANCHOR UNIT, TYPE III
FOR ATTACHMENT TO RAIL ON BRIDGE

SHEET 1 OF 7
862D03

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

NOTE:

- **POST NOT REQUIRED FOR SKEW ANGLES GREATER THAN 150° OR LESS THAN 30° UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
- *THE DISTANCE FROM END OF BRIDGE RAIL TO CENTER LINE OF THE FIRST POST SHOULD BE 11½" IF CONCRETE BACKWALL IS NOT PRESENT.
- SHOULDER BERM GUTTER MUST BE INSTALLED TO THE LIMITS 8" x 4" LIP CURB IS SHOWN IF ANCHOR UNIT IS NOT ADJACENT TO AN APPROACH SLAB.
- MEASURE GUARDRAIL HEIGHT FROM THE TOP OF ADJACENT SURFACE (SHOULDER, BERM, OR GUTTER).
- LAP JOINTS IN THE DIRECTION OF TRAFFIC FLOW.
- SEE SHEET 3 FOR POST SECTIONS 1 THRU 9.

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

ROADWAY DETAIL DRAWING FOR
STRUCTURE ANCHOR UNITS
GUARDRAIL ANCHOR UNIT, TYPE III FOR ATTACHMENT TO
RAIL ON BRIDGE - SUB REGIONAL TIER

SHEET 1 OF 7
862D03

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

NOTE:

- **POST NOT REQUIRED FOR SKEW ANGLES GREATER THAN 150° OR LESS THAN 30° UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
- *THE DISTANCE FROM END OF BRIDGE RAIL TO CENTER LINE OF THE FIRST POST SHOULD BE 11½" IF CONCRETE BACKWALL IS NOT PRESENT.
- SHOULDER BERM GUTTER MUST BE INSTALLED TO THE LIMITS 8" x 4" LIP CURB IS SHOWN IF ANCHOR UNIT IS NOT ADJACENT TO AN APPROACH SLAB.
- MEASURE GUARDRAIL HEIGHT FROM THE TOP OF ADJACENT SURFACE (SHOULDER, BERM, OR GUTTER).
- LAP JOINTS IN THE DIRECTION OF TRAFFIC FLOW.
- SEE SHEET 3 FOR POST SECTIONS 1 THRU 9.

CONTRACT STANDARDS AND DEVELOPMENT UNIT
Office 919-707-6950 FAX 919-250-4119

SEE TITLE BLOCK

ORIGINAL BY: J HOWERTON

DATE: 06-22-12

MODIFIED BY:

DATE:

CHECKED BY:

DATE:

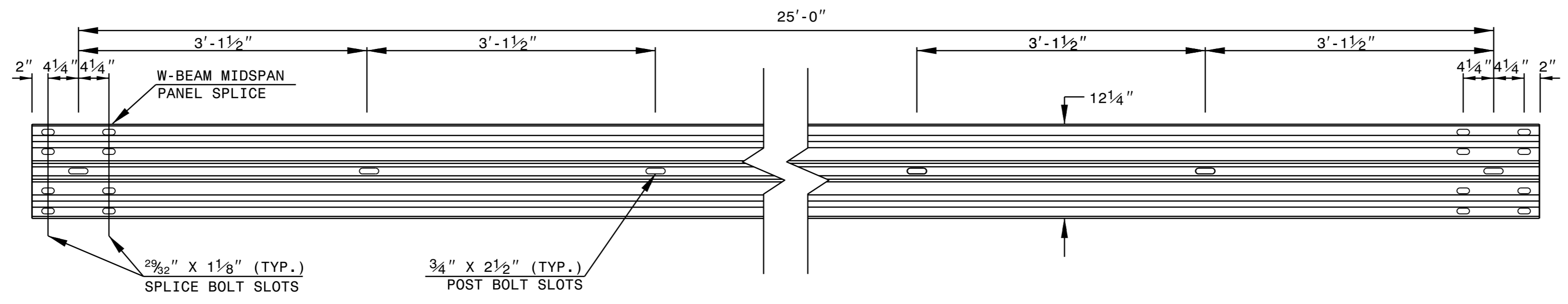
FILE SPEC.:

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

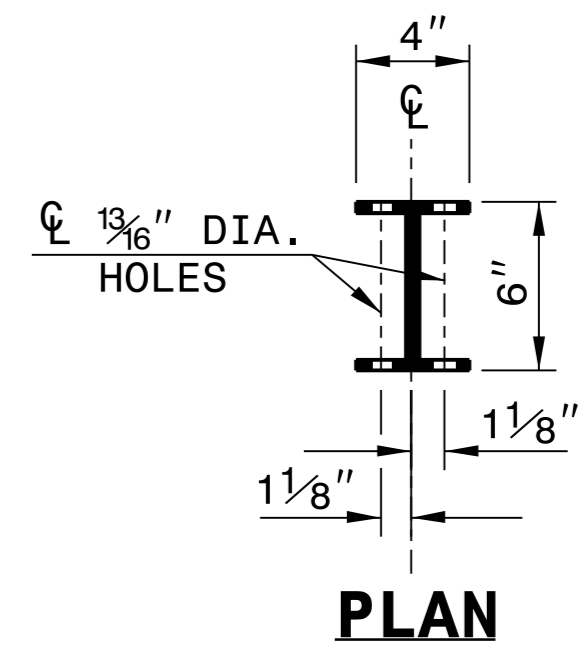
STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

ROADWAY DETAIL DRAWING FOR
GUARDRAIL INSTALLATION

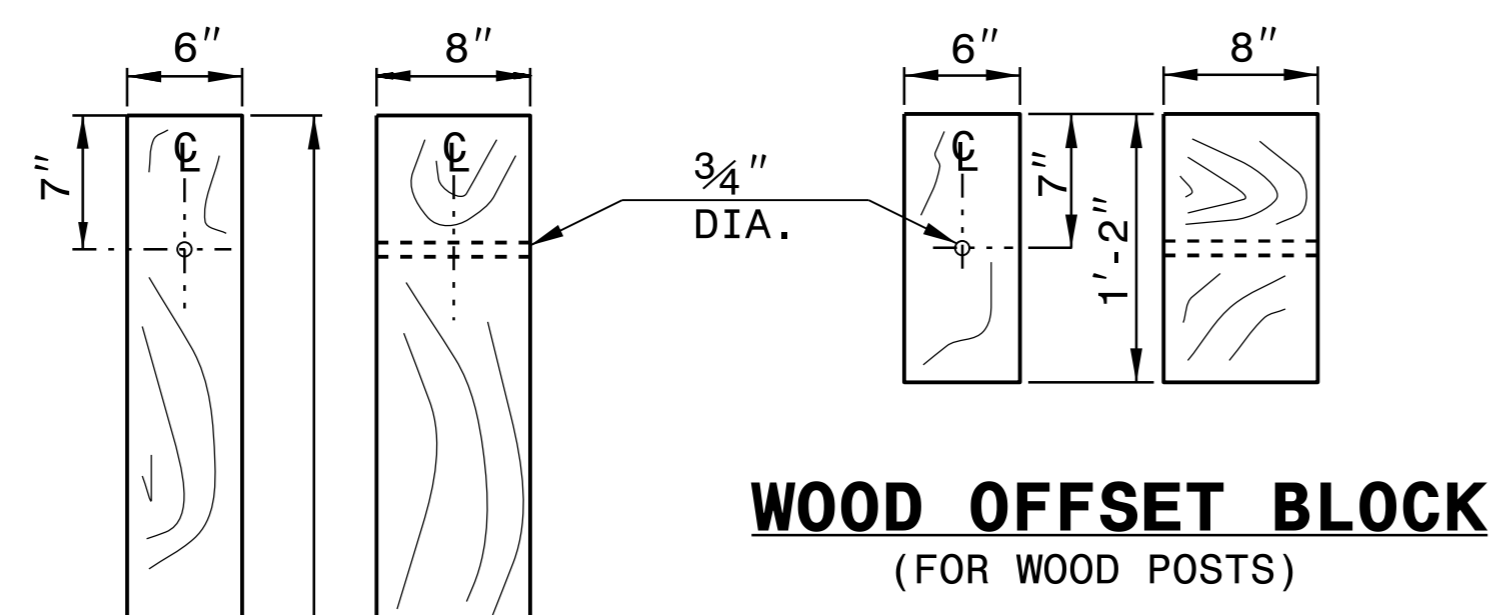
SHEET 6 OF 8
862D02



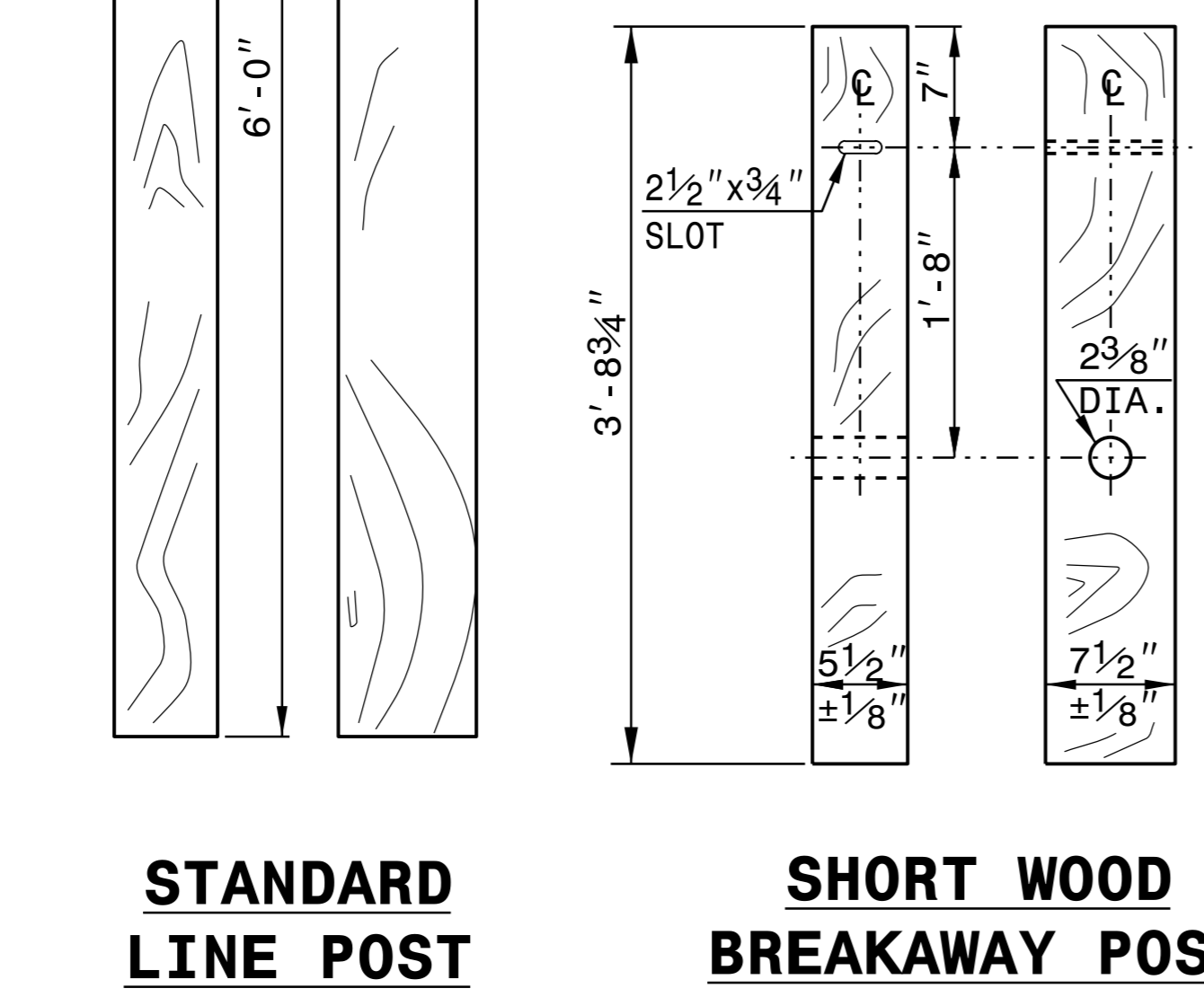
STANDARD W-BEAM GUARDRAIL



PLAN

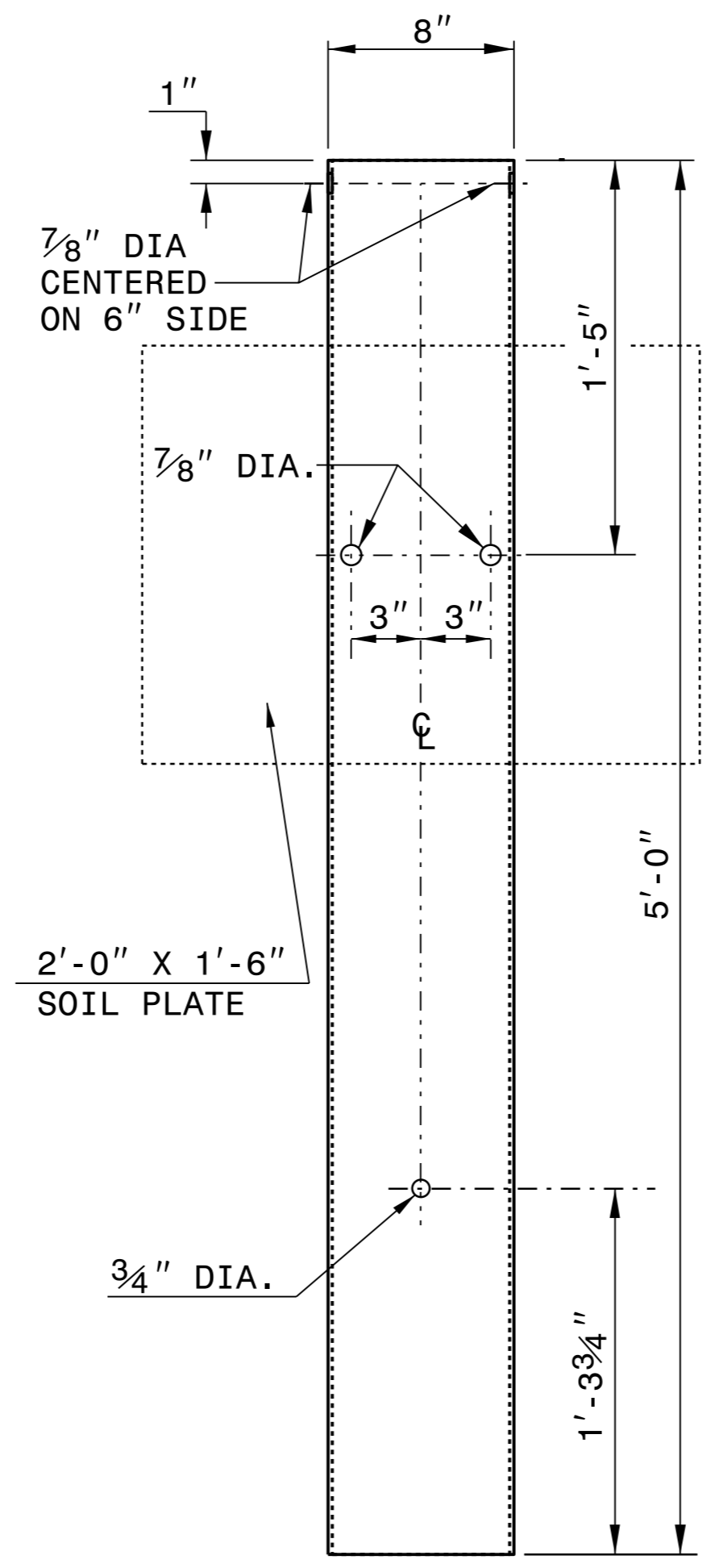


**WOOD OFFSET BLOCK
(FOR WOOD POSTS)**

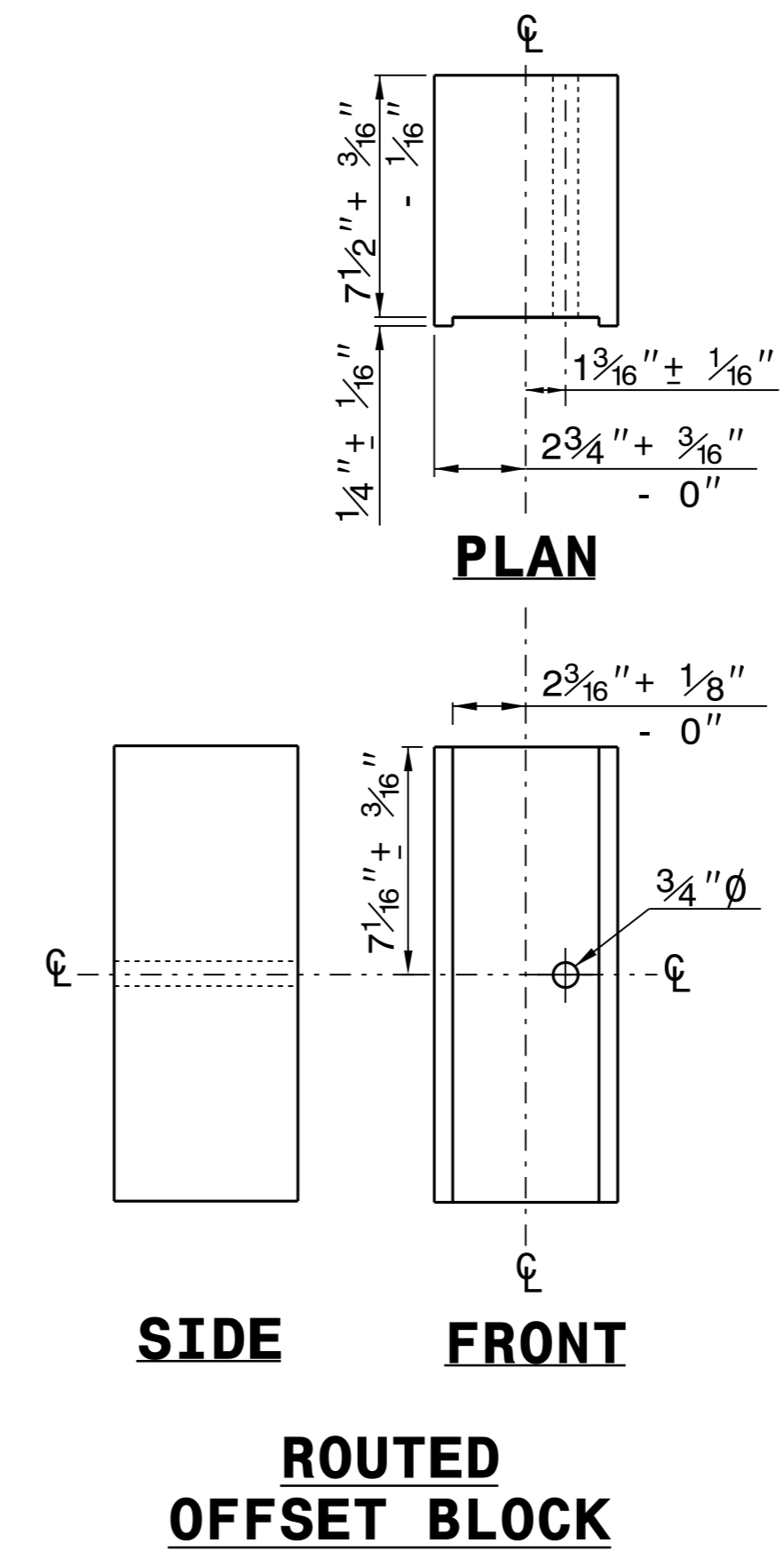


**STANDARD
LINE POST**

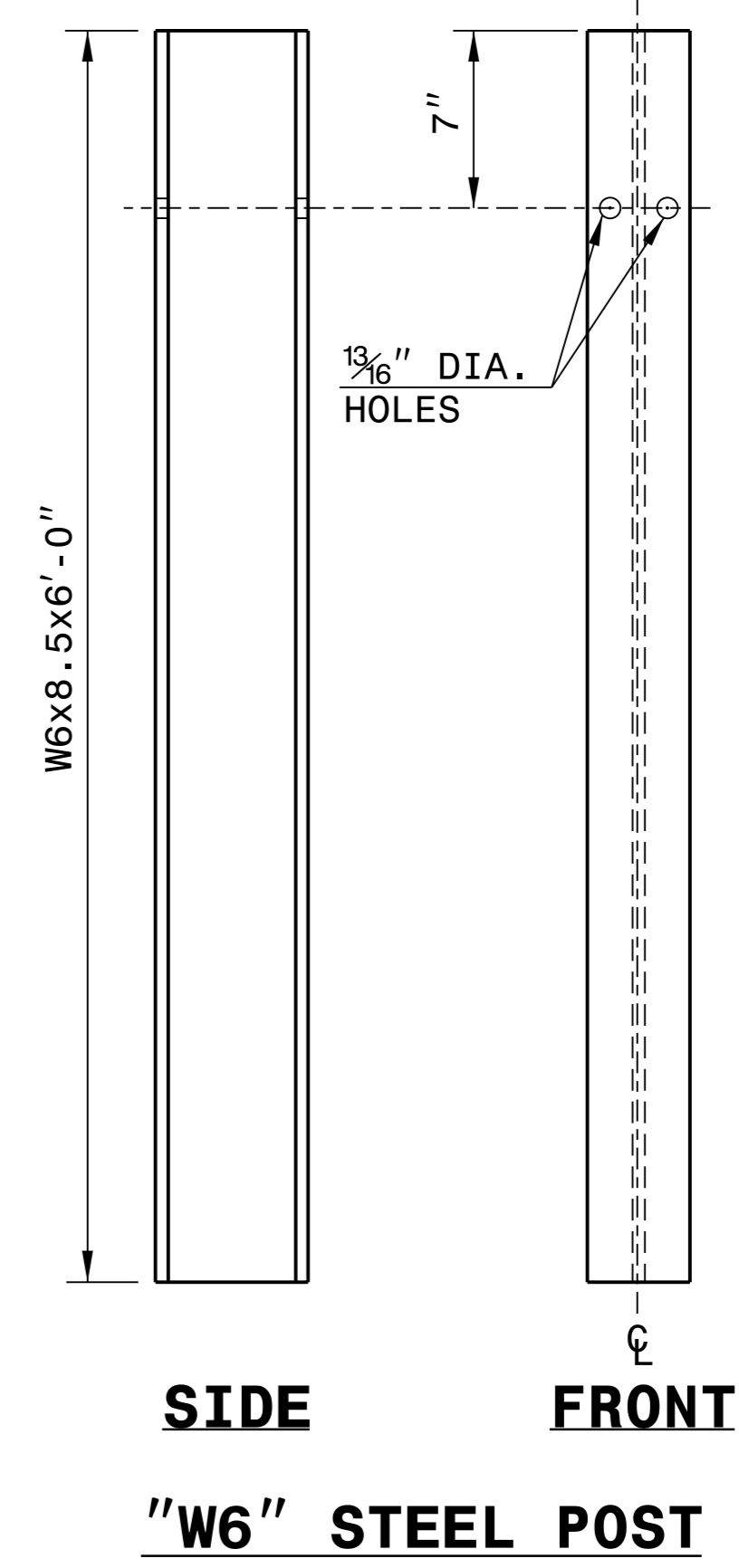
**SHORT WOOD
BREAKAWAY POST**



**STEEL TUBE
TS 6" x 8" x 0.1875"**



**ROUTED
OFFSET BLOCK**



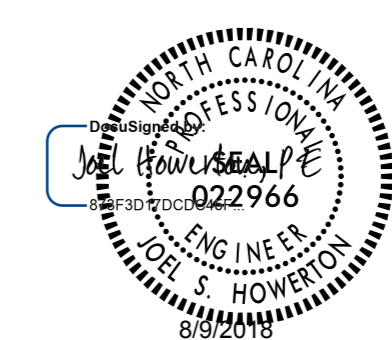
W6 STEEL POST

SYSTEM PARTS

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

ROADWAY DETAIL DRAWING FOR
GUARDRAIL INSTALLATION

SHEET 6 OF 8
862D02



**CONTRACTS STANDARDS
AND DEVELOPMENT UNIT**
Office 919-707-6950 FAX 919-250-4119

SEE TITLE BLOCK

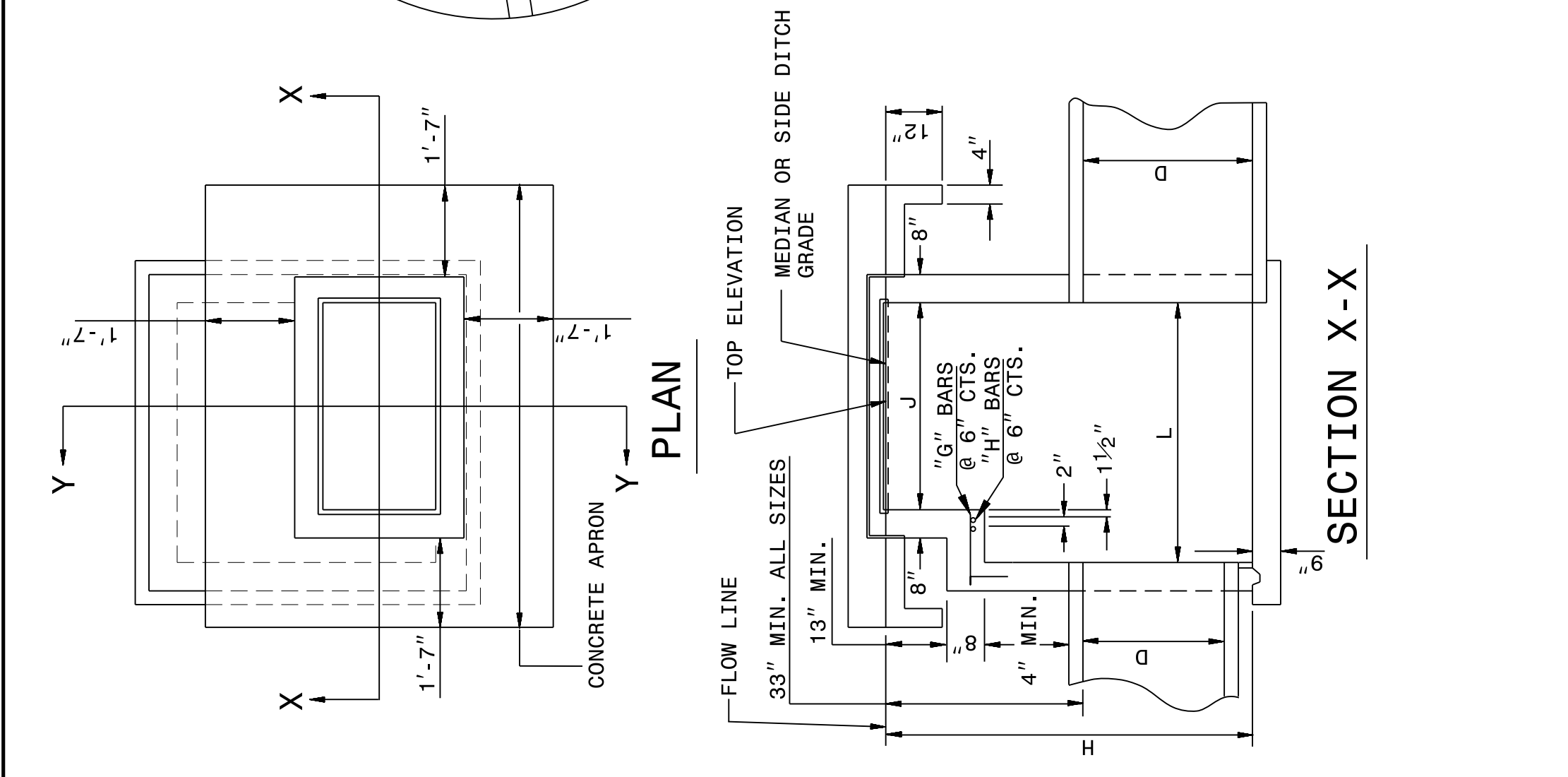
ORIGINAL BY: J. HOWERTON DATE: 3-7-2018
MODIFIED BY: DATE: _____
CHECKED BY: DATE: _____
FILE SPEC.: _____

01-MAR-2018 07:39
 S:\Contracts\Standards\stand\840d17 Extra Depth 2G1.dgn
 J:\over ton AT_CSD-292595

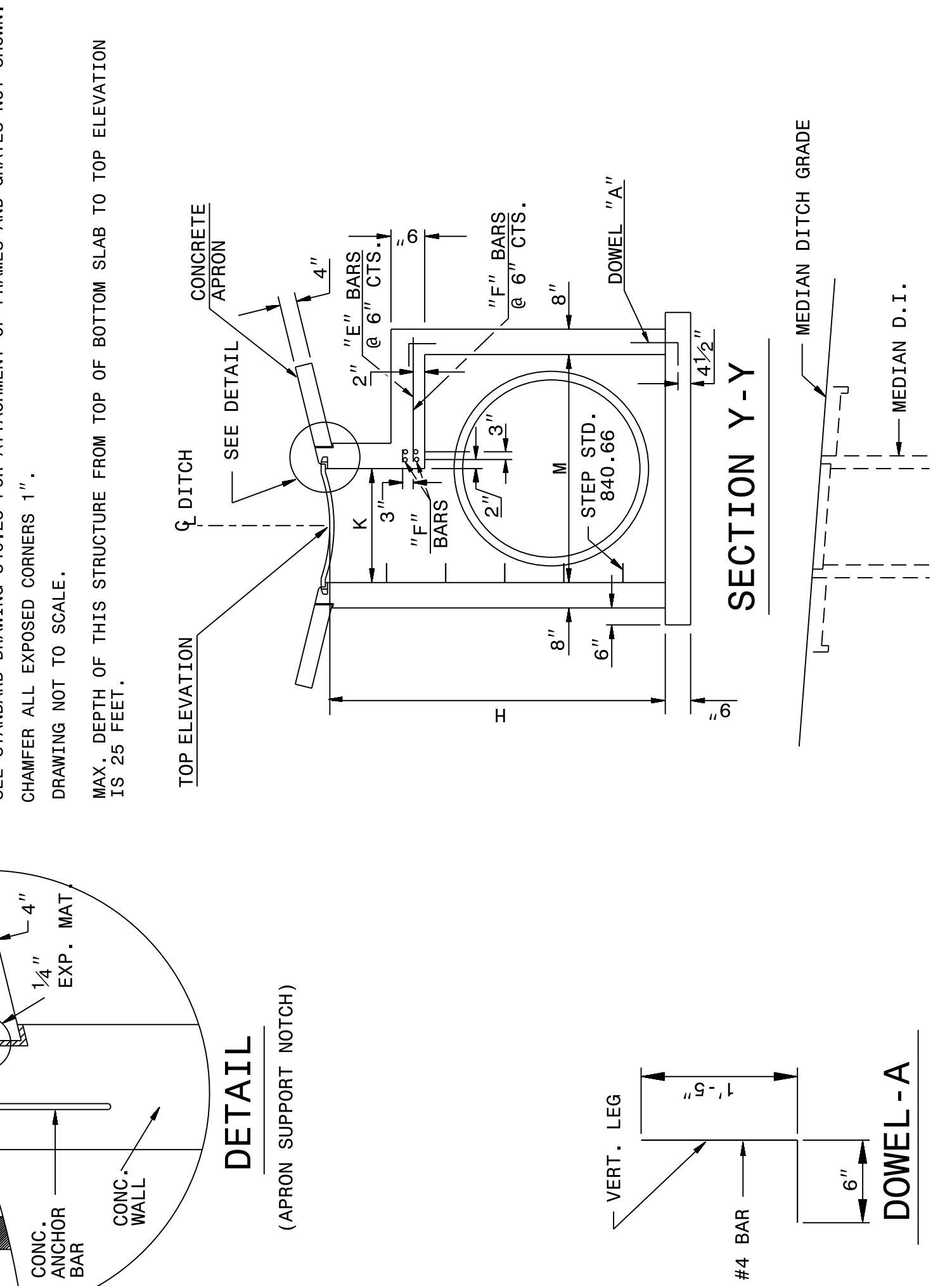
STATE OF NORTH CAROLINA
 DEPT. OF TRANSPORTATION
 DIVISION OF HIGHWAYS
 RALEIGH, N.C.

ENGLISH DETAIL DRAWING FOR
CONCRETE MEDIAN DROP INLET TYPE 'A'
EXTRA DEPTH OVER 12' TO 25'
 12" THRU 72" PIPE

SHEET 1 OF 2
840D17



GENERAL NOTES:
 USE CLASS "B" CONCRETE THROUGHOUT.
 PROVIDE DROP INLETS WITH STEPS 12" ON CENTER. USE STEPS WHICH COMPLY WITH STD. DRAWING 840.66.
 OPTIONAL CONSTRUCTION - MONOLITHIC POUR, 2" KEYWAY, OR #4 BAR DOWELS AT 12" CENTERS AS DIRECTED BY THE ENGINEER.
 USE FORMS FOR THE CONSTRUCTION OF THE BOTTOM SLAB.
 IF REINFORCED CONCRETE PIPE IS SET IN BOTTOM SLAB OF BOX, ADD TO SLAB AS SHOWN ON STD. NO. 840.00.
 WHEN PAYMENT FOR THE DROP INLET IS MADE ON A PER EACH BASIS, THE CONCRETE APRON WILL BE CONSIDERED PART OF THE DROP INLET.
 CONSTRUCT WITH PIPE CROWNS MATCHING.
 USE STANDARD FRAMES AND GRATES 840.22 (SHOWN), 840.24 (SHOWN), 840.20, 840.29, AND 840.33.
 SEE STANDARD DRAWING 840.25 FOR ATTACHMENT OF FRAMES AND GRATES NOT SHOWN.
 CHAMFER ALL EXPOSED CORNERS 1".
 DRAWING NOT TO SCALE.
 MAX. DEPTH OF THIS STRUCTURE FROM TOP OF BOTTOM SLAB TO TOP ELEVATION IS 25 FEET.



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

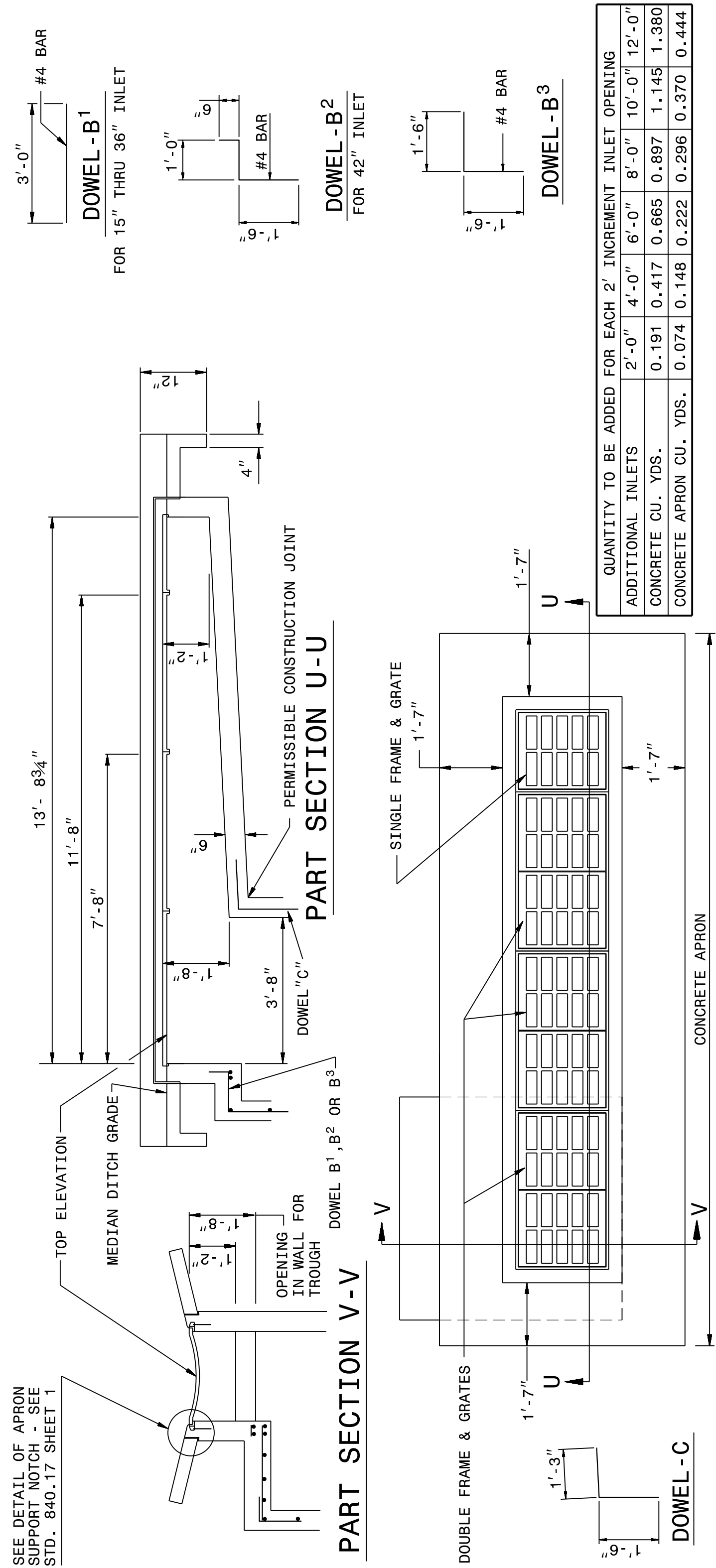
ENGLISH DETAIL DRAWING FOR
CONCRETE MEDIAN DROP INLET TYPE 'A'
EXTRA DEPTH OVER 12' TO 25'
 12" THRU 72" PIPE

SHEET 1 OF 2
840D17

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

ENGLISH DETAIL DRAWING FOR
CONCRETE MEDIAN DROP INLET TYPE 'A'
EXTRA DEPTH OVER 12' TO 25'
 12" THRU 72" PIPE

SHEET 2 OF 2
840D17



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

ENGLISH DETAIL DRAWING FOR
CONCRETE MEDIAN DROP INLET TYPE 'A'
EXTRA DEPTH OVER 12' TO 25'
 12" THRU 72" PIPE

SHEET 2 OF 2
840D17

MIN. DIMENSIONS AND QUANTITIES FOR CONCRETE GRATED DROP INLET (BASED ON MIN. HEIGHT, H)																			
DIMENSIONS OF BOX AND PIPE		REINFORCING STEEL - NO. 4 BARS				CU YDS CONC. IN BOX				DEDUCTIONS FOR ONE PIPE									
PIPE	SPAN	WIDTH	SPAN	WIDTH	HEIGHT	BARS E	BARS F	BARS G	BARS H	TOTAL	H PER	APRON	TOTAL	C. S.	R. C.				
D	J	K	L	M	H	NO.	LENGTH	NO.	LENGTH	NO.	LENGTH	NO.	LENGTH	FT	FT				
12"	3'-8"	2'-0"	3'-8"	2'-0"	3'-9"	—	—	—	—	—	0.362	0.926	0.247	0.395	1.683	0.015	0.024		
15"	3'-8"	2'-0"	3'-8"	2'-0"	4'-0"	—	—	—	—	—	0.362	0.988	0.247	0.395	1.745	0.023	0.036		
18"	—	—	—	—	4'-3"	—	—	—	—	—	0.362	1.050	0.247	—	1.807	0.033	0.049		
24"	—	—	—	—	4'-9"	8	1'-5"	6	4'-9"	—	0.444	1.362	0.278	—	2.201	0.059	0.085		
30"	—	—	—	—	5'-3"	8	2'-0"	7	4'-9"	—	0.502	1.644	0.288	—	2.541	0.092	0.127		
36"	—	—	—	—	5'-9"	8	2'-5"	8	4'-11"	4	0'-9"	2	4'-11"	47	0.560	1.931	0.321		
42"	—	—	—	—	6'-3"	10	3'-1"	9	5'-7"	3	1'-5"	3	5'-7"	67	0.704	2.500	0.370		
48"	—	—	—	—	6'-9"	11	3'-7"	10	6'-1"	4	6'-1"	87	0.823	3.013	0.407	4.315	0.235	0.317	
54"	—	—	—	—	7'-3"	12	4'-1"	11	6'-7"	5	2'-5"	107	0.951	3.589	0.444	5.072	0.297	0.401	
60"	—	—	—	—	7'-9"	13	4'-9"	12	7'-3"	6	7'-3"	135	1.311	4.539	0.494	6.170	0.367	0.495	
66"	—	—	—	—	8'-3"	14	5'-4"	14	7'-10"	7	7'-10"	188	1.136	5.061	0.537	6.901	0.444	0.599	
72"	—	—	—	—	8'-9"	15	5'-11"	15	8'-5"	4	4'-3"	199	1.500	5.860	0.560	0.395	7.868	0.528	0.713

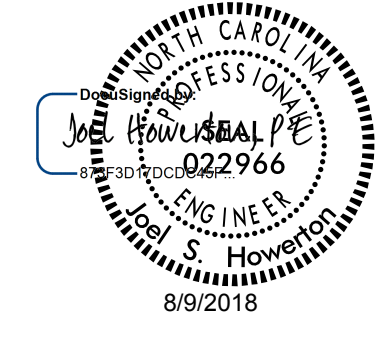
QUANTITY TO BE ADDED FOR EACH 2' INCREMENT INLET OPENING

ADDITIONAL INLETS	2'-0"	4'-0"	6'-0"	8'-0"	10'-0"	12'-0"
CONCRETE CU. YDS.	0.191	0.417	0.665	0.897	1.145	1.380
CONCRETE APRON CU. YDS.	0.074	0.148	0.222	0.296	0.370	0.444

CONTRACT STANDARDS AND DEVELOPMENT UNIT
 Office 919-707-6950 FAX 919-250-4119

SEE PLATE FOR TITLE

ORIGINAL BY: 2002 STD.840.1 DATE: _____
 MODIFIED BY: K.A. KEMPF DATE: 07-06-09
 CHECKED BY: _____ DATE: _____
 FILE SPEC.: /stand/840d17 Extra Depth 2G1.dgn



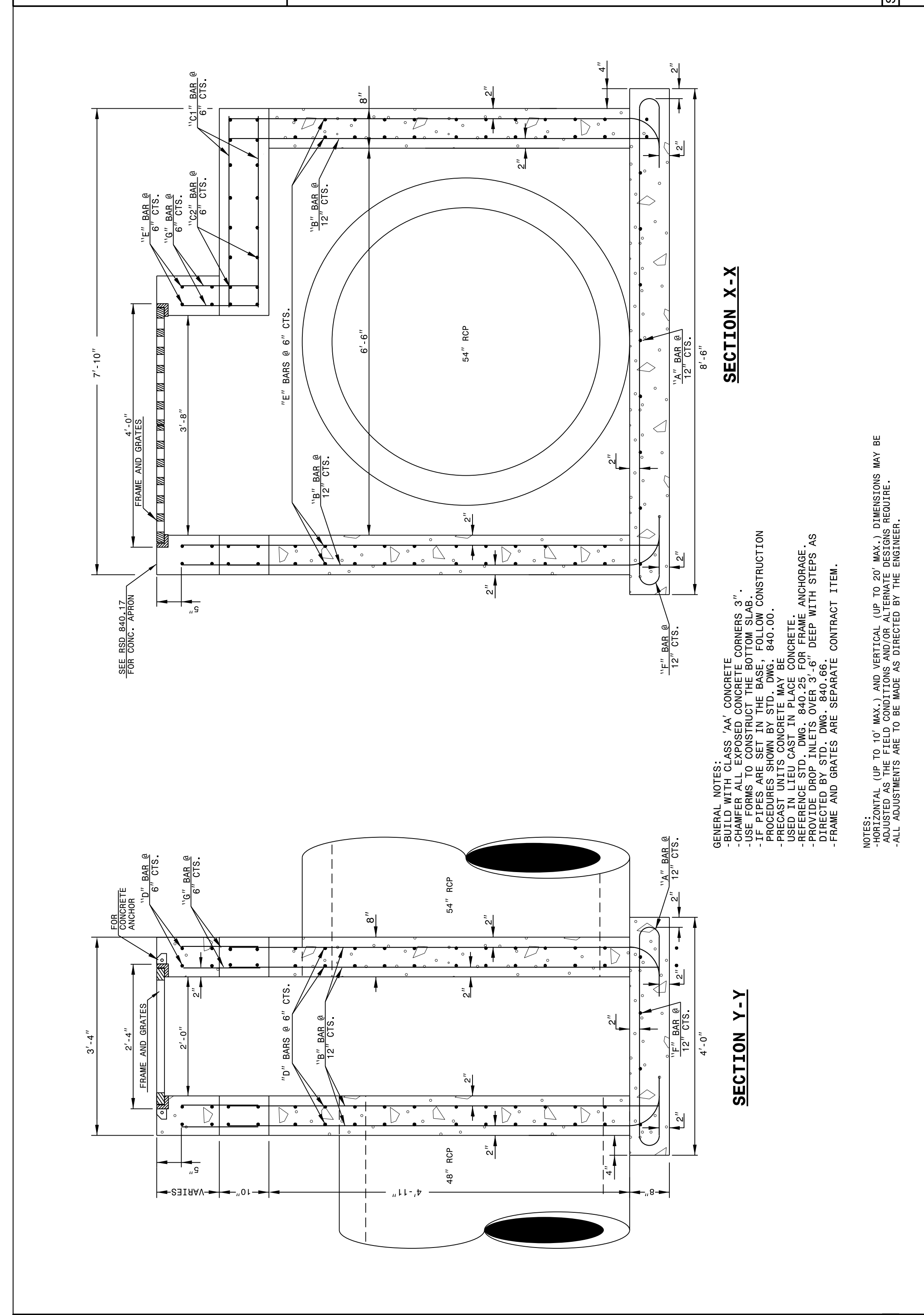
DOCUMENT NOT CONSIDERED FINAL
 UNLESS ALL SIGNATURES COMPLETED

15-FEB-2018 11:11
 S:\Contracts\Contractors\Special Details\Joverton\840d35 TB01 Up to 54in.dgn
 Joverton AT: USD-292595

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

ENGLISH DETAIL DRAWING FOR
TRAFFIC BEARING GRATED INLET
 FOR PIPES UP TO 54"

SHEET 1 OF 2
840D35



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

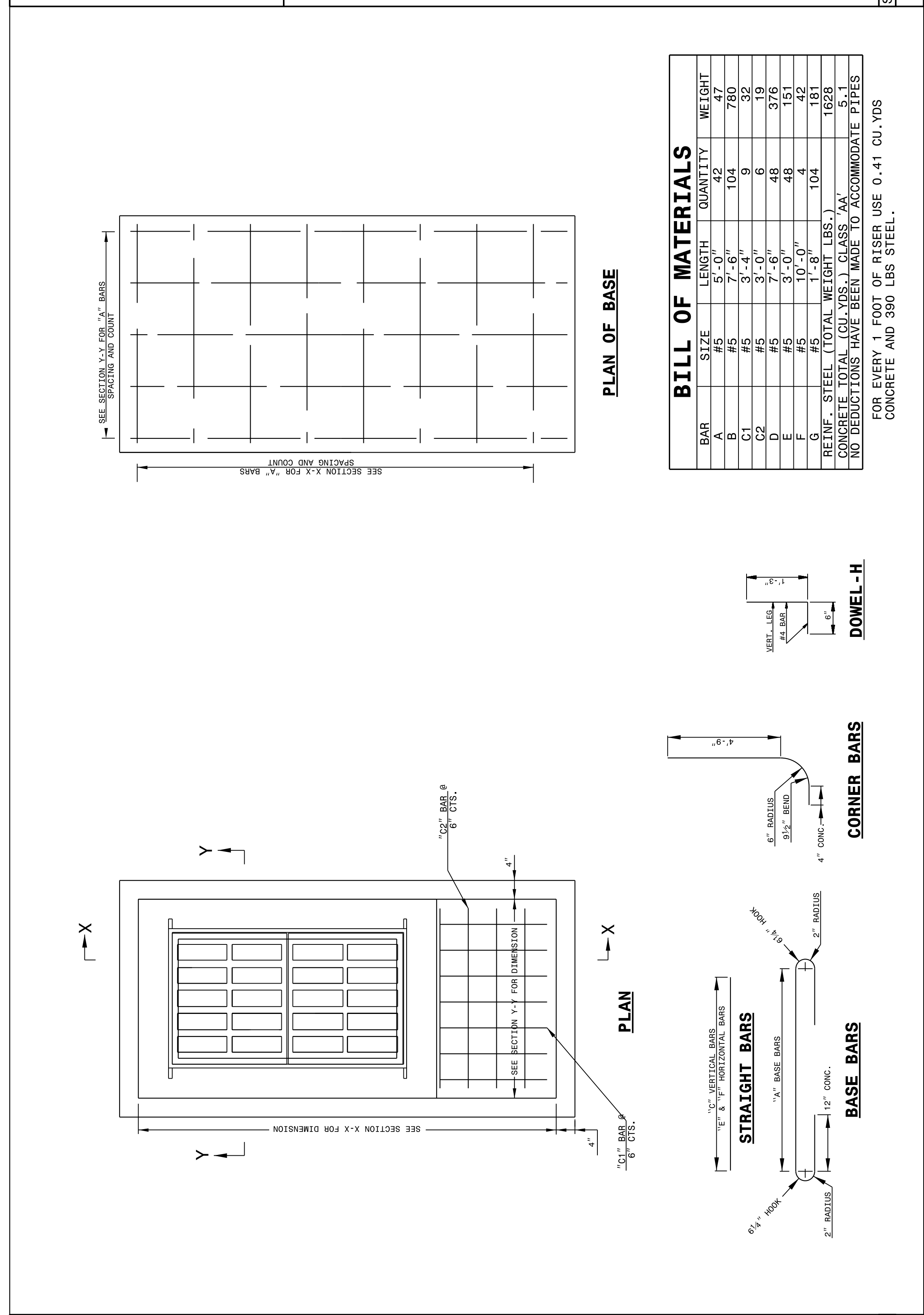
ENGLISH DETAIL DRAWING FOR
TRAFFIC BEARING GRATED INLET
 FOR PIPES UP TO 54"

SHEET 1 OF 2
840D35

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

ENGLISH DETAIL DRAWING FOR
TRAFFIC BEARING GRATED INLET
 FOR PIPES UP TO 54"

SHEET 2 OF 2
840D35



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

ENGLISH DETAIL DRAWING FOR
TRAFFIC BEARING GRATED INLET
 FOR PIPES UP TO 54"

SHEET 2 OF 2
840D35

SECTION X-X

GENERAL NOTES:
 -BUILD WITH CLASS 'AA' CONCRETE
 -CHAMFER ALL EXPOSED CONCRETE CORNERS 3".
 -USE FORMS TO CONSTRUCT THE BOTTOM SLAB.
 -PIPE ANCHORS IN THE BASE, FOLLOW CONSTRUCTION PRACTICES SHOWN IN THE DRAWING.
 -PRECAST UNITS CONCRETE MAY BE USED IN LIEU CAST IN PLACE CONCRETE.
 -REFERENCE STD. DWG. 840.25 FOR FRAME ANCHORAGE.
 -FRAME AND GRATES ARE SEPARATE CONTRACT ITEM.

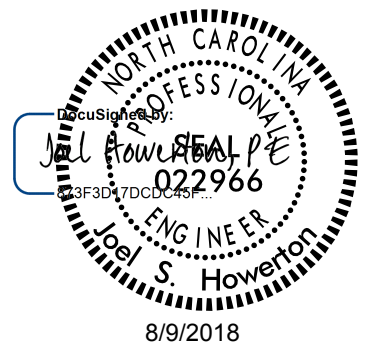
NOTES:
 -HORIZONTAL (UP TO 10" MAX.) AND VERTICAL (UP TO 20" MAX.) DIMENSIONS MAY BE ADJUSTED AS THE FIELD CONDITIONS AND/OR ALTERNATE DESIGNS REQUIRE.
 -ALL ADJUSTMENTS ARE TO BE MADE AS DIRECTED BY THE ENGINEER.

SECTION Y-Y

BILL OF MATERIALS

BAR	SIZE	LENGTH	QUANTITY	WEIGHT
A	#4	5'-0"	42	47
B	#3	7'-6"	104	790
C1	#3	3'-4"	9	32
C2	#3	3'-0"	6	19
D	#5	3'-6"	48	376
E	#5	3'-0"	48	151
F	#5	1'-0"	4	42
G	#5	1'-0"	104	181
REFIN. STEEL (TOTAL WEIGHT LBS.)				1626
CONCRETE TOTAL (CU. YDS.) CLASS 'AA'				5.1
NO DEDUCTIONS HAVE BEEN MADE TO ACCOMMODATE PIPES				

FOR EVERY 1 FOOT OF RISER USE 0.41 CU. YDS CONCRETE AND 390 LBS STEEL.

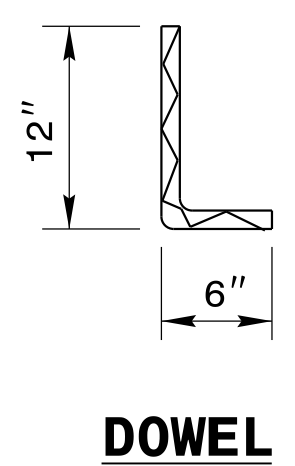
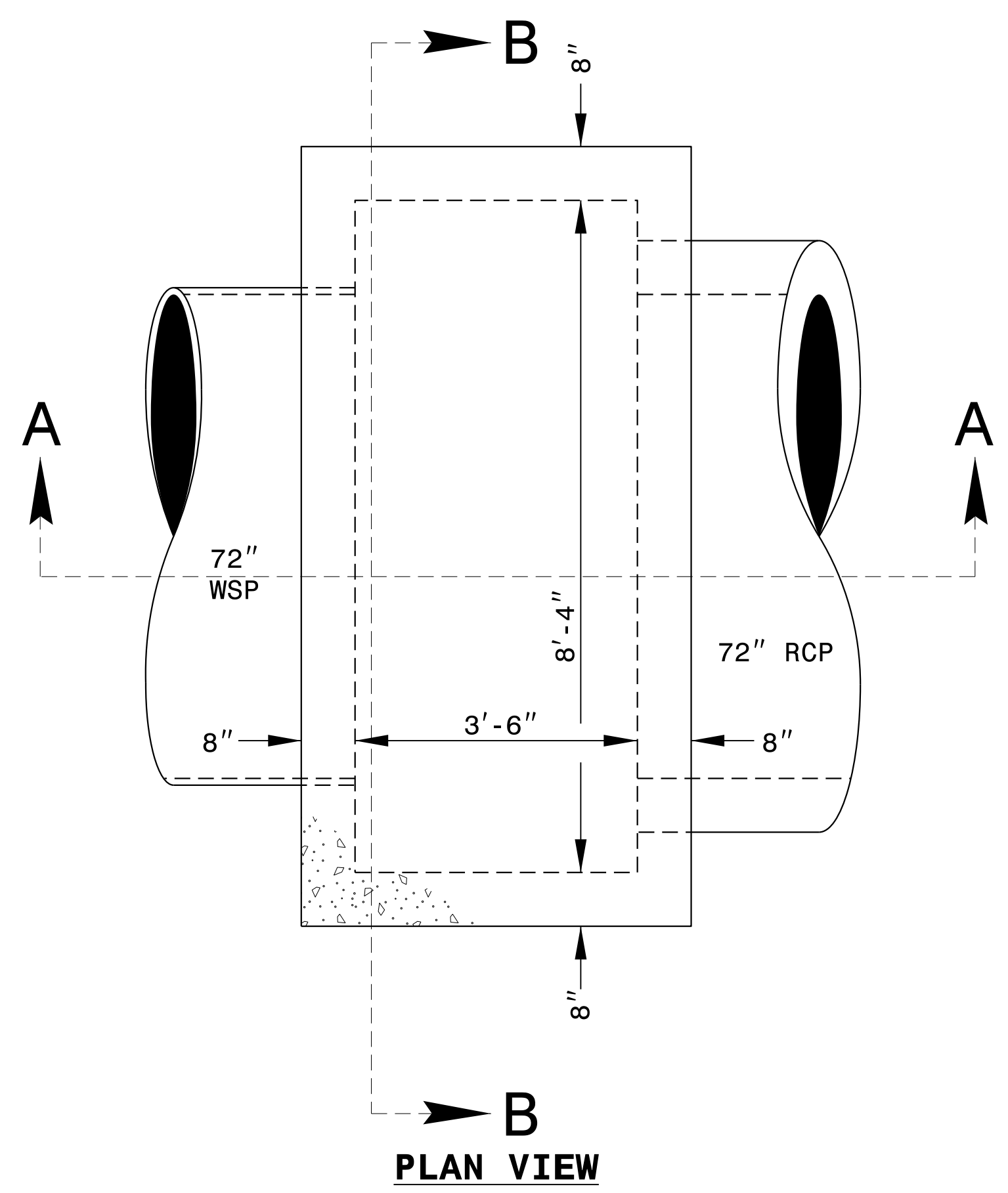


DOCUMENT NOT CONSIDERED FINAL
 UNLESS ALL SIGNATURES COMPLETED

**CONTRACT STANDARDS
 AND DEVELOPMENT UNIT**
 Office 919-707-6950 FAX 919-250-4119

SEE PLATE FOR TITLE

ORIGINAL BY: K. KEMPF DATE: 03-03-2015
 MODIFIED BY: DATE:
 CHECKED BY: DATE:
 FILE SPEC.: kkempf\english\B5121-B5317_840d35_54_TB261.dgn



GENERAL NOTES:

USE CLASS "B" CONCRETE THROUGHOUT.

OPTIONAL CONSTRUCTION - MONOLITHIC POUR, 2" KEYWAY, OR #4 BAR DOWELS AT 12" CENTERS AS DIRECTED BY THE ENGINEER.

USE FORMS FOR THE CONSTRUCTION OF THE BOTTOM SLAB.

IF REINFORCED CONCRETE PIPE IS SET IN BOTTOM SLAB OF BOX, ADD TO SLAB AS SHOWN ON STD. NO. 840.00.

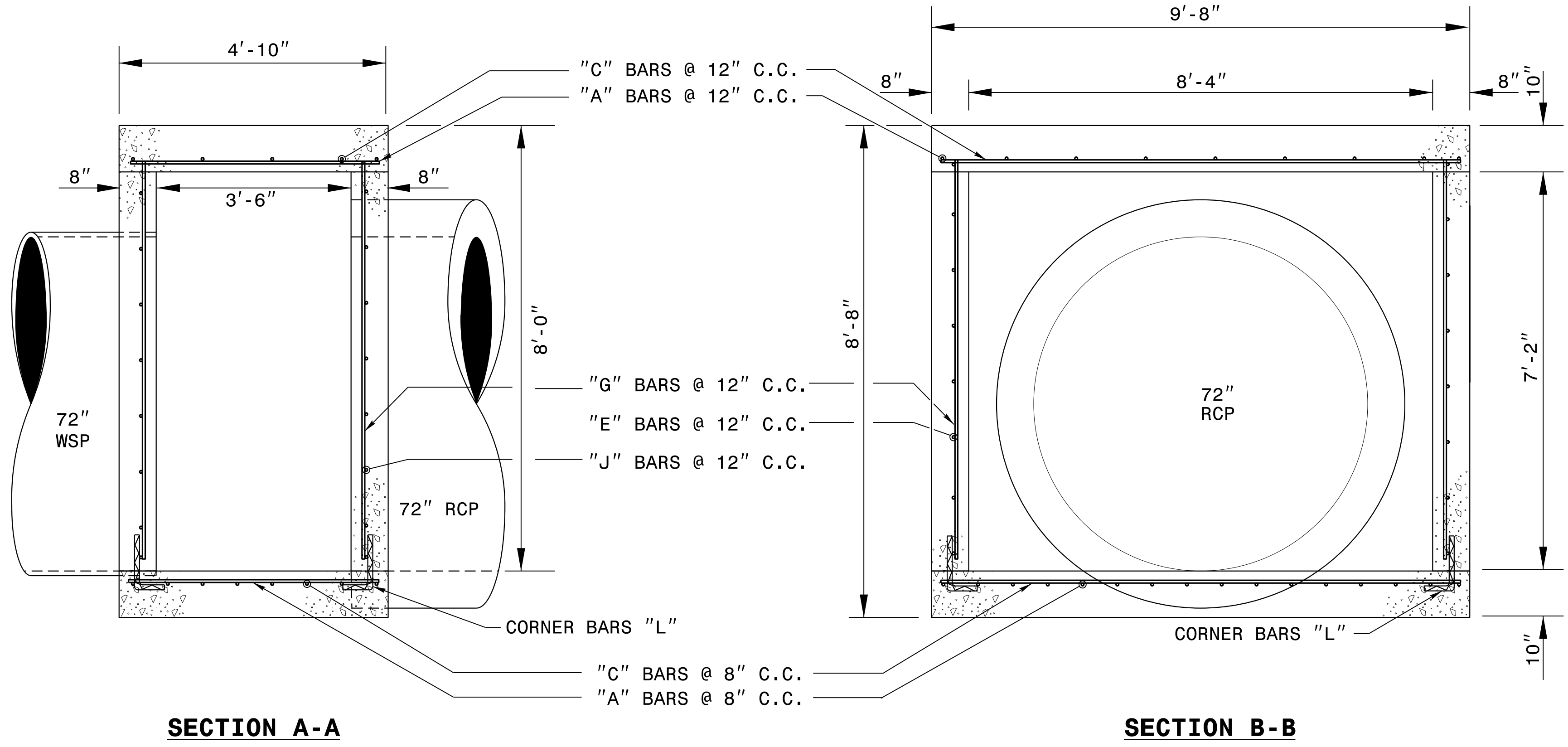
NO DEDUCTIONS HAVE BEEN MADE FOR PIPES.

CHAMFER ALL EXPOSED CORNERS 1".

BOX DIMENSIONS MAY BE FIELD ADJUSTED AS DIRECTED BY THE ENGINEER.

DRAWING NOT TO SCALE.

BILL OF MATERIAL FOR CATCH BASIN				
REINF. STEEL			1 PIPE	
BAR	SIZE	LENGTH	NO.	WEIGHT
A	#5	4'-6"	24	113
C	#5	9'-4"	13	127
E	#4	4'-0"	16	43
G	#4	7'-2"	26	124
J	#4	8'-8"	16	93
REINF. STEEL LBS.			500	
CLASS "B" CONCRETE			CU. YDS.	7.5

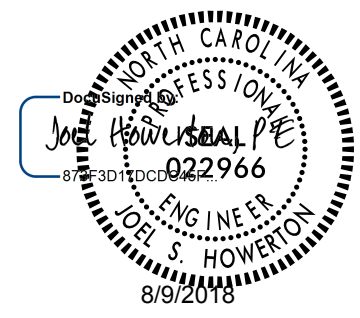


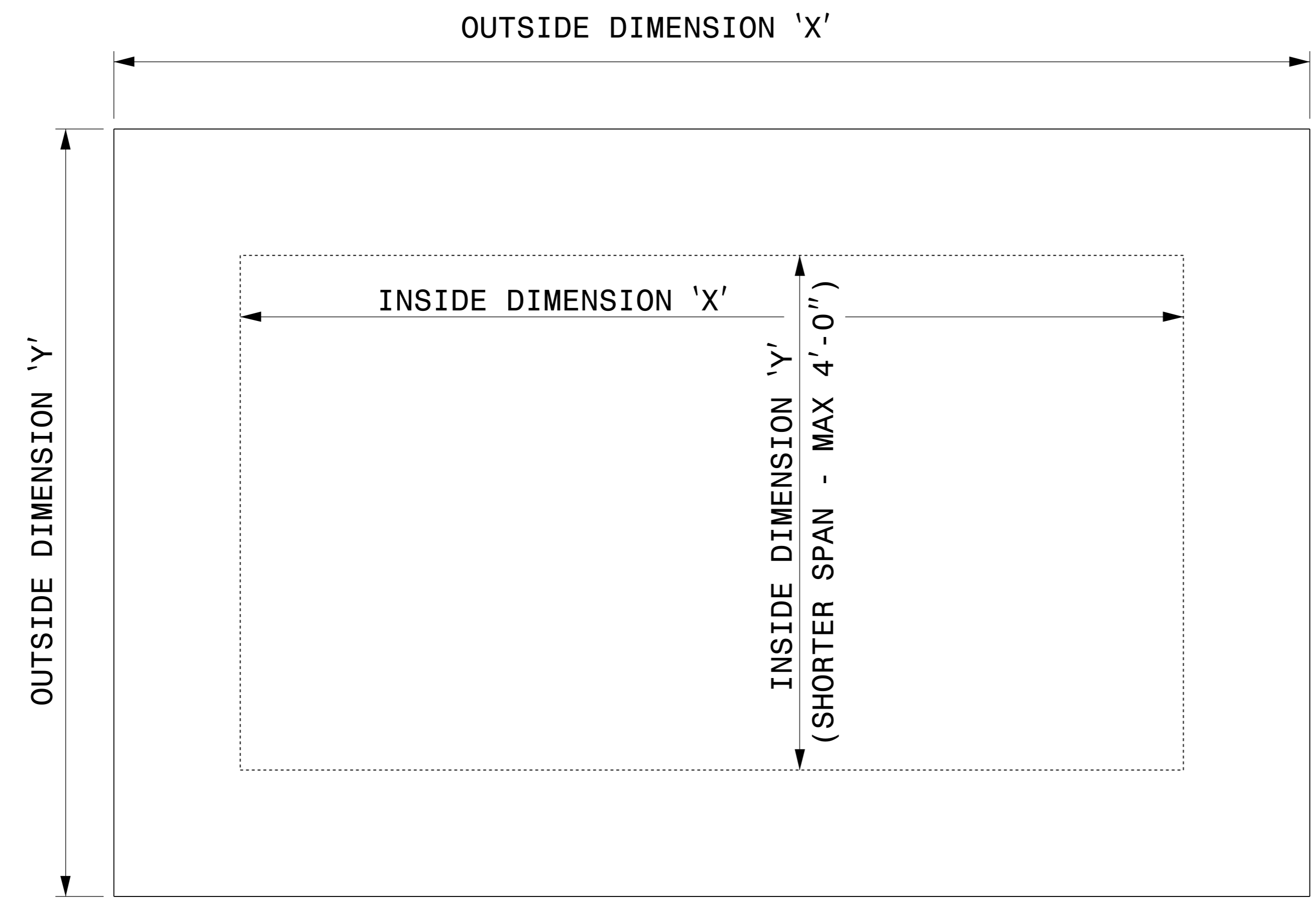
DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

**CONTRACTS STANDARDS
AND DEVELOPMENT UNIT**
Office 919-707-6950 FAX 919-250-4119

**SPECIAL JUNCTION BOX
W/ SLAB LID**

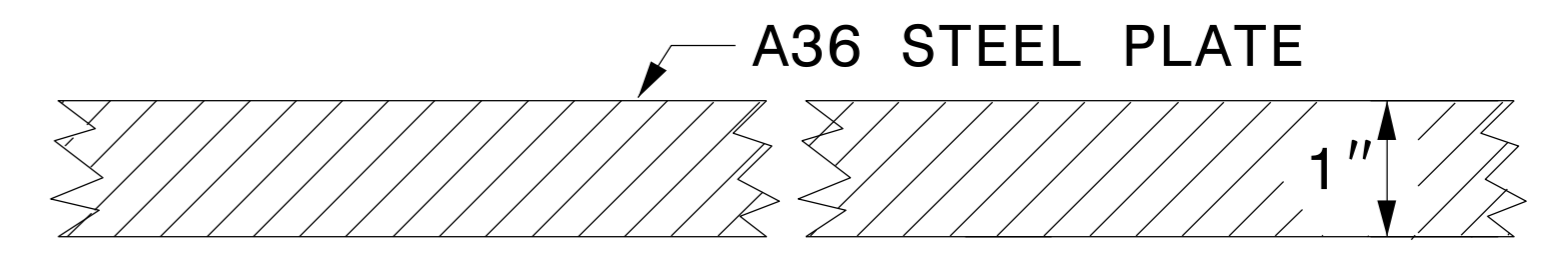
ORIGINAL BY: K. KEMPF DATE: 5-22-18
 MODIFIED BY: DATE:
 CHECKED BY: DATE:
 FILE SPEC.: kkempf\english\R5825B_84_2gi_23ft_deep.dgn





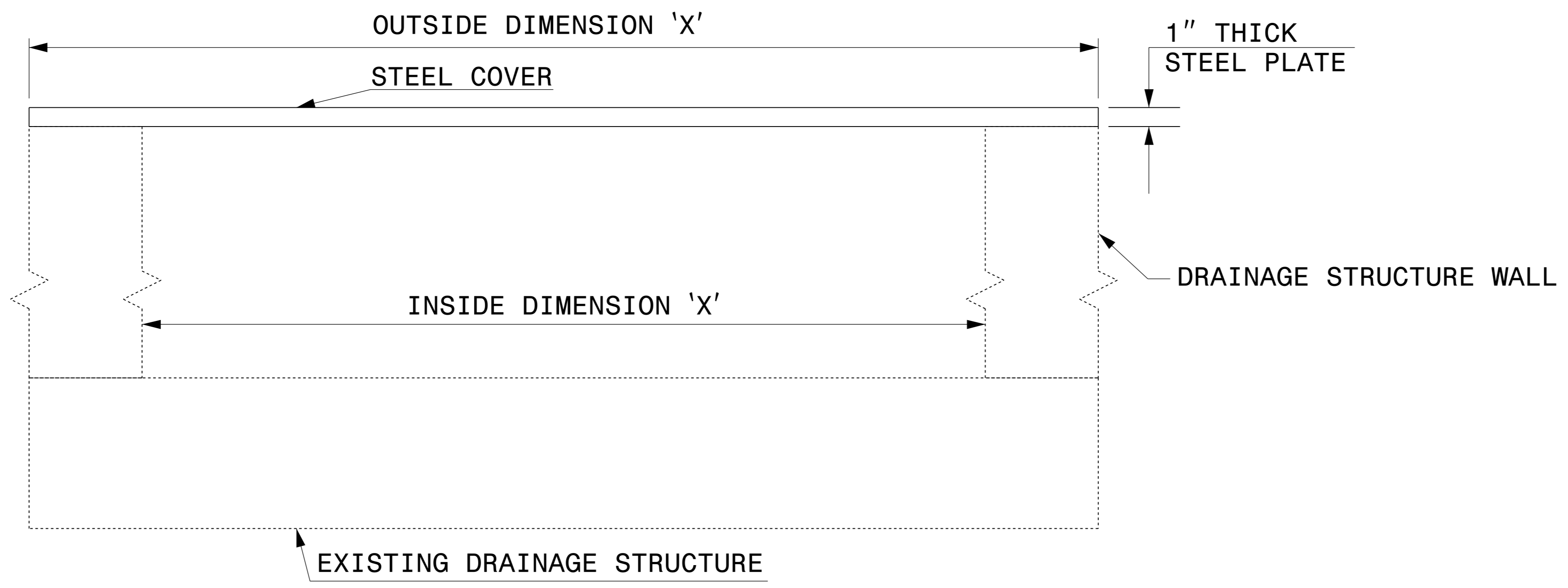
GENERAL NOTES:

- USE GRADE A36 STEEL
- STEEL COVERS ARE FOR TEMPORARY USE DURING PHASE CONSTRUCTION.
- FILL SHALL BE PLACED DIRECTLY OVER THE STEEL PLATES.
- SEE ROADWAY PLANS AND PROVISIONS FOR LOCATIONS
- QUANTITIES TO BE PAID FOR AT THE UNIT PRICE BID PER EACH.

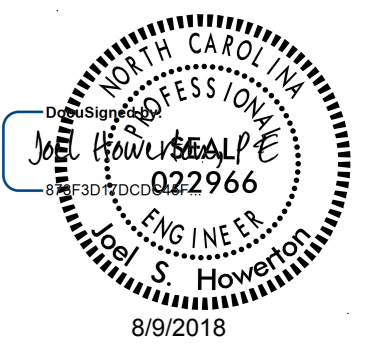


SECTION VIEW OF STEEL TOP PLATE

PLAN VIEWS



ELEVATION VIEWS



DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

CONTRACT STANDARDS AND DEVELOPMENT UNIT
Office 919-707-6950 FAX 919-250-4119

DETAIL OF TEMPORARY 1" STEEL COVER OVER DRAINAGE STRUCTURE

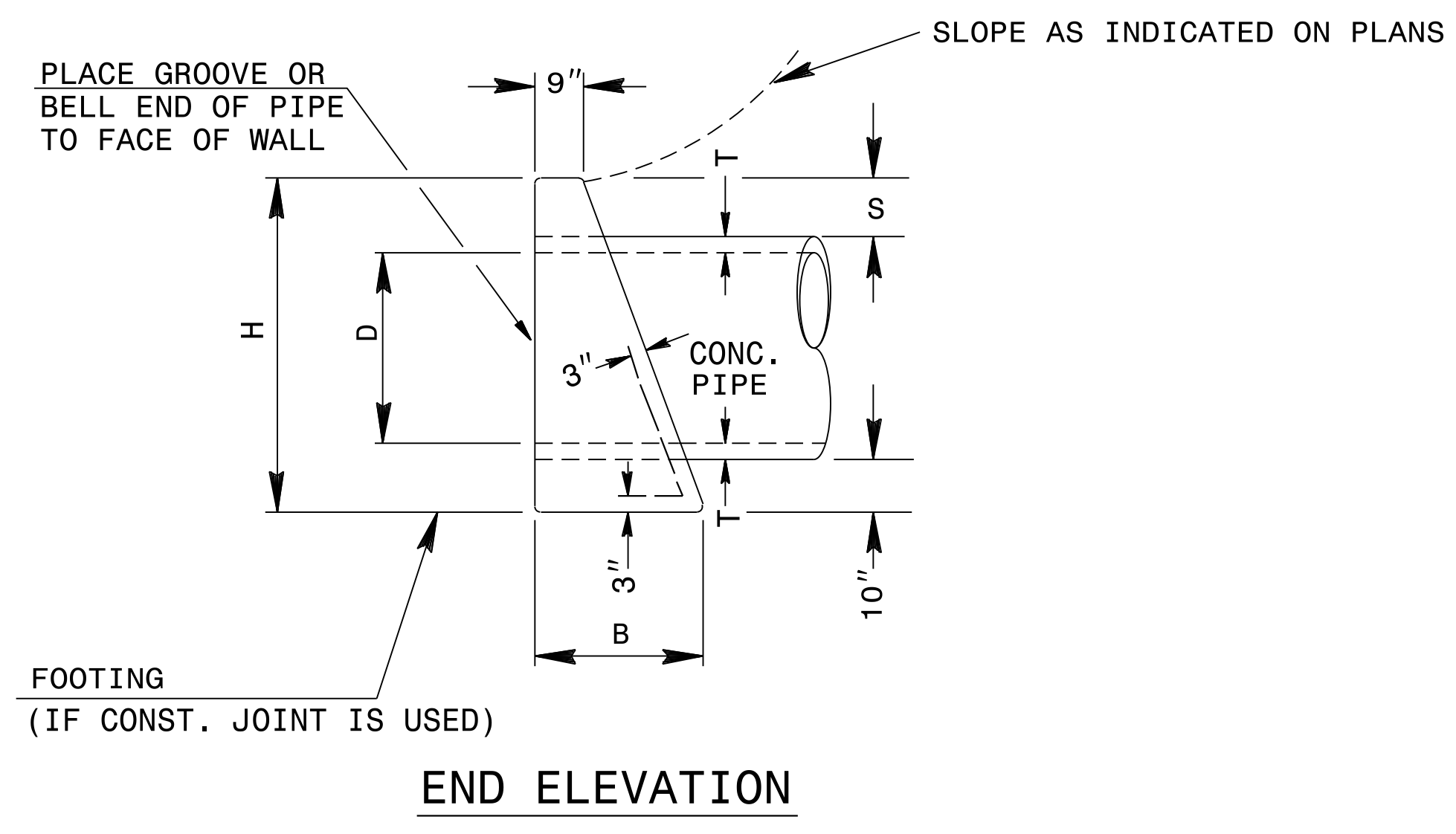
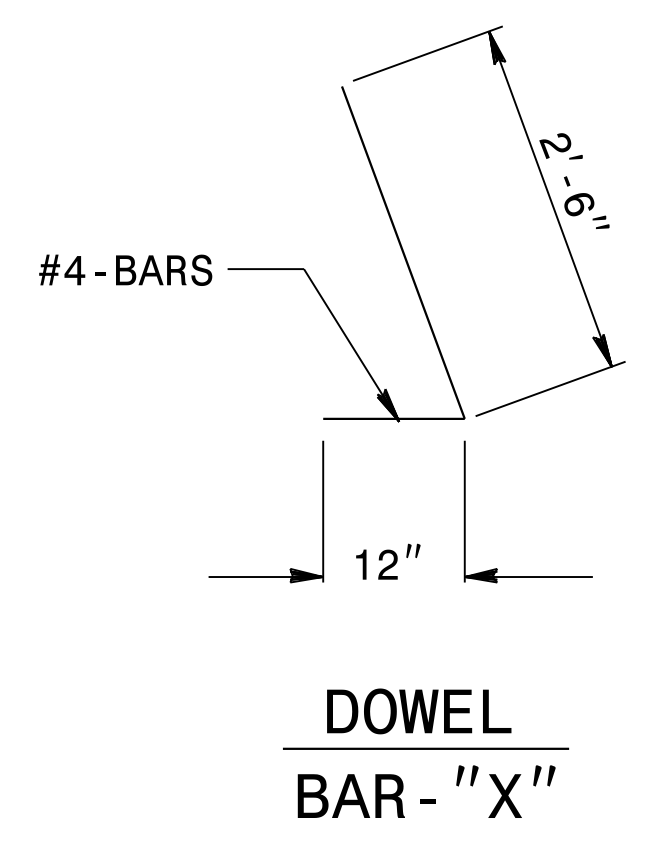
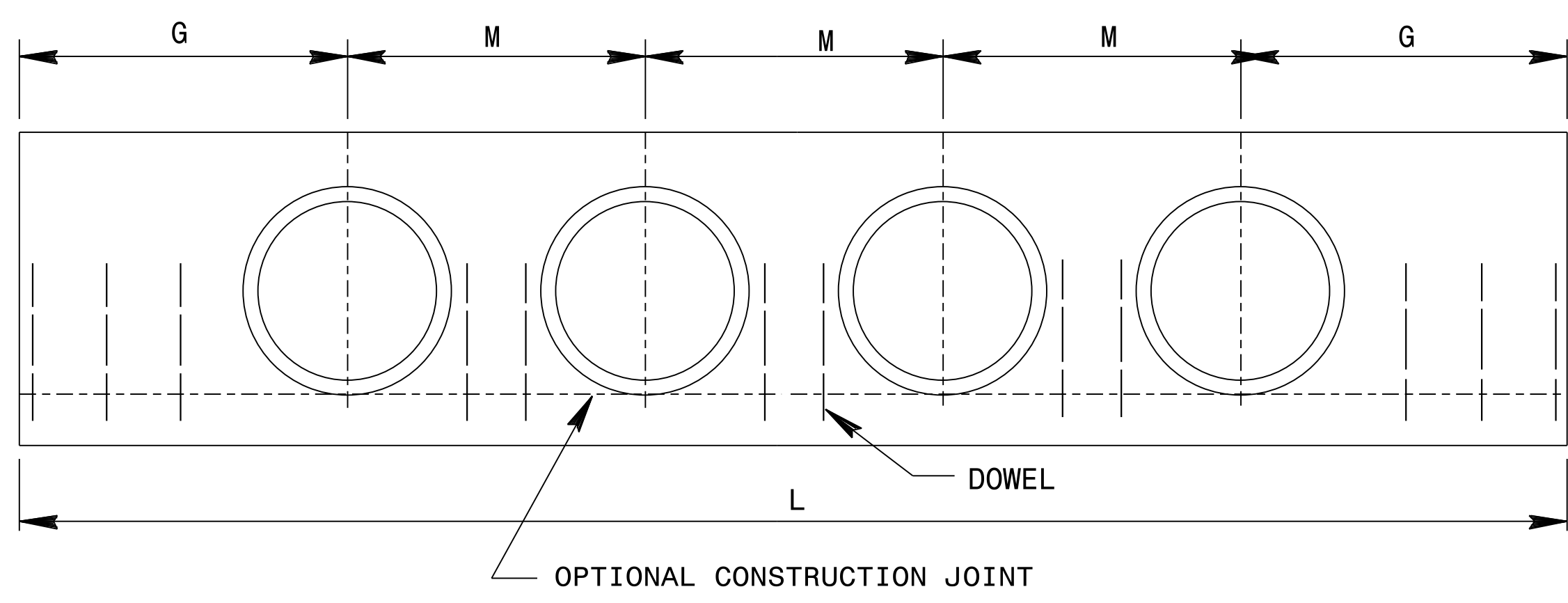
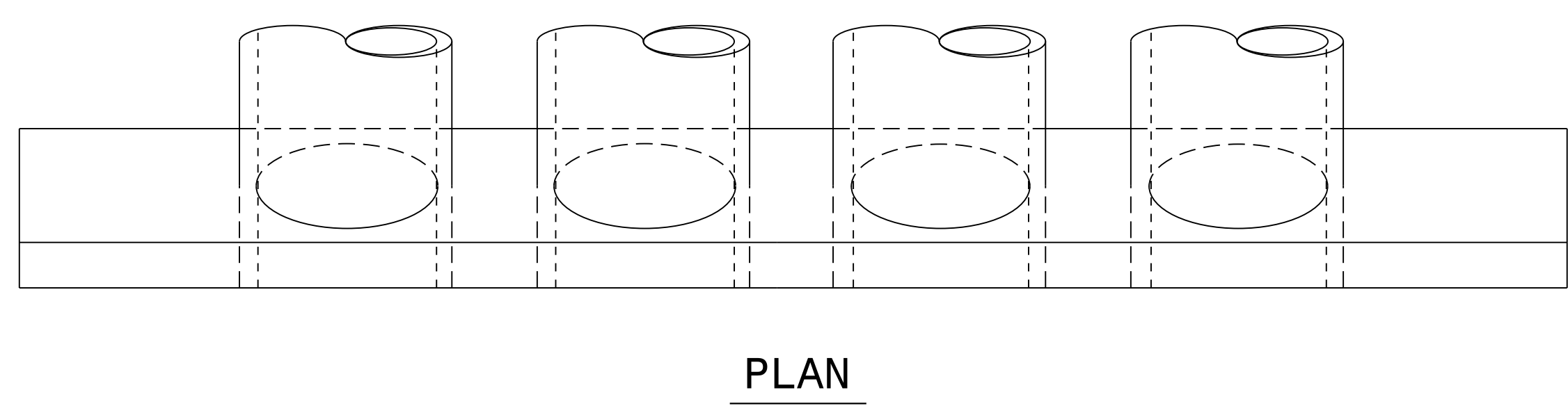
ORIGINAL BY: E. E. WARD DATE: 2-2-98
 MODIFIED BY: DATE: _____
 CHECKED BY: DATE: _____
 FILE SPEC.: eric:/usr/details/metric/stand/st1cvr2.dgn

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

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

ENGLISH DETAIL DRAWING FOR
**CONCRETE ENDWALL FOR TRIPLE AND
 QUADRUPLE PIPE CULVERTS**
 15" THRU 48" PIPE - 90° SKEW

SHEET 1 OF 3
838D01



DIMENSIONS AND CONCRETE QUANTITIES										
USING CONCRETE PIPE										
D	COMMON DIMENSIONS					TRIPLE PIPE		QUADRUPLE PIPE		M
	H	B	G	T	S	L	YD ³	L	YD ³	
15"	3'-3"	1'-8"	2'-9"	2 1/4"	9 1/2"	9'-10"	1.3	12'-0"	1.6	2'-2"
18"	3'-7"	1'-10"	3'-2"	2 1/2"	10"	11'-6"	1.6	14'-1"	1.9	2'-7"
24"	4'-2"	2'-1"	4'-0"	3"	10"	14'-10"	2.5	18'-3"	3.0	3'-5"
30"	5'-0"	2'-6"	4'-7"	4 1/4"	11 1/2"	17'-8"	3.9	21'-11"	4.7	4'-3"
36"	5'-8"	2'-8"	5'-6"	4 3/4"	12 1/2"	21'-0"	5.6	26'-0"	6.7	5'-0"
42"	6'-2"	3'-1"	6'-4"	5 1/4"	11 1/2"	24'-4"	7.5	30'-2"	9.0	5'-10"
48"	6'-9"	3'-5"	7'-2"	5 3/4"	11 1/2"	27'-8"	10.0	34'-4"	12.0	6'-8"

* NOTE: SEE ROADWAY STANDARD DRAWING 838.01 SHEET 3 OF 3 FOR GENERAL NOTES

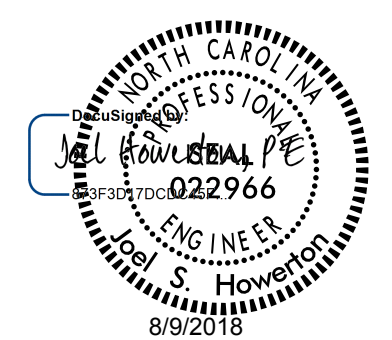
DOWELS IN ENDWALL WITH REINFORCED CONCRETE PIPE																	
LOC.	PIPE DIA.	TRIPLE PIPE						QUADRUPLE PIPE									
		15"	18"	24"	30"	36"	42"	15"	18"	24"	30"	36"	42"	48"			
	BARS	"X"	"X"	"X"	"X"	"X"	Y*	"X"	Y*	"X"	"X"	"X"	"X"	"X"	Y*	"X"	Y*
G	QTY.	2	2	3	3	4	4	5	2	2	3	3	4	4	5		
M(s)	QTY.	2	2	4	4	4	4	6	2	3	3	6	6	6	2	9	2
G	QTY.	2	2	3	3	4	4	5		2	2	3	3	4	5		
	TOTAL LBS.	14	14	23	23	28	100	119		17	17	28	28	33	122		147

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

ENGLISH DETAIL DRAWING FOR
**CONCRETE ENDWALL FOR TRIPLE AND
 QUADRUPLE PIPE CULVERTS**
 15" THRU 48" PIPE - 90° SKEW

SHEET 1 OF 3
838D01

03-MAY-2018 10:22
 S:\Contracts\Projects\Special\Details\kempf\english\838d0101 triple and quad pipes.dgn
 J:\overton AT_CSD-232595



DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

CONTRACT STANDARDS AND DEVELOPMENT UNIT
 Office 919-707-6950 FAX 919-250-4119

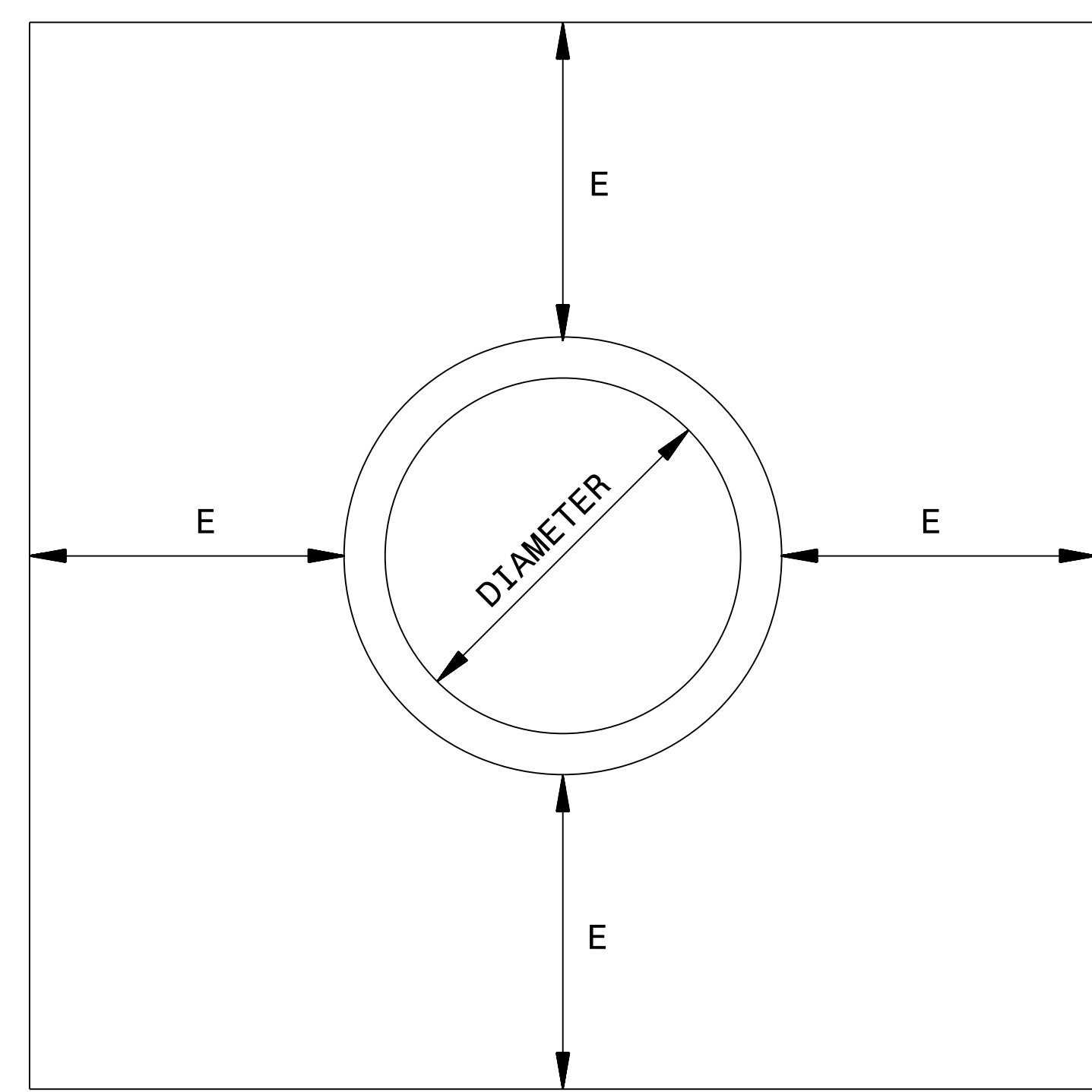
SEE PLATE FOR TITLE

ORIGINAL BY: E.E. WARD DATE: _____
 MODIFIED BY: K.A. Kempf DATE: _____
 CHECKED BY: _____ DATE: _____
 FILE SPEC.: details/kkempf/english/838d0101.dgn

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

ROADWAY DETAIL DRAWING FOR
PIPE COLLAR

SHEET 1 OF 1
840D72



ELEVATION

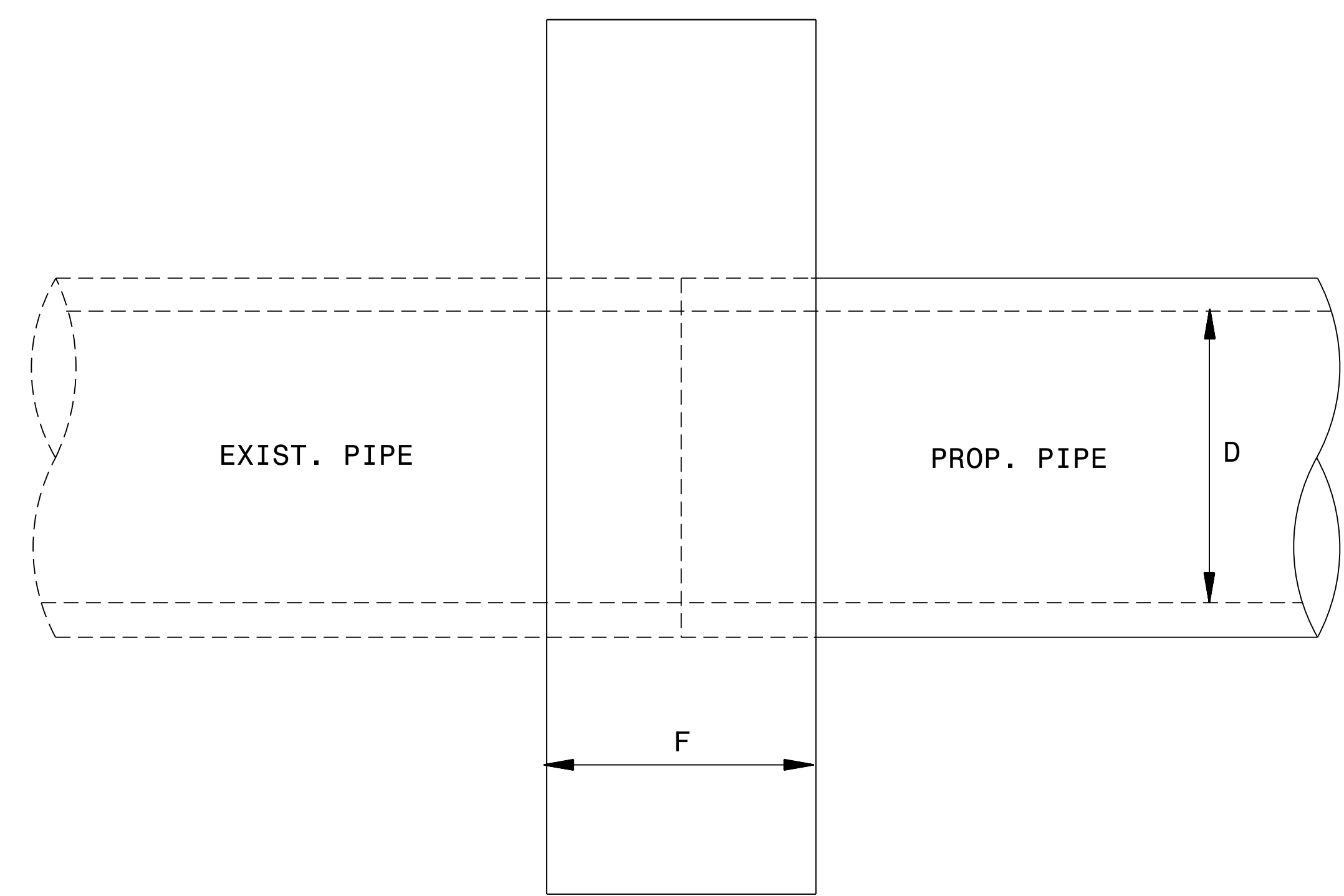
GENERAL NOTES:

USE PIPE COLLAR FOR EXTENDING EXISTING CONCRETE PIPE CULVERTS AT LOCATIONS SHOWN ON PLANS OR AS DIRECTED BY THE ENGINEER. THIS INCLUDES EXTENDING EXISTING PIPES WITH PIPES OF DIFFERENT MATERIALS.

CONSTRUCT THE PIPE COLLAR WITH CLASS "B" OR BETTER CONCRETE.

OBSERVE ALL REQUIREMENTS OF SECTION 840 OF THE STANDARD SPECIFICATIONS.

* USE 12 INCH DIAMETER VALUES FOR PIPE DIAMETERS LESS THAN 12 INCH.



SIDE ELEVATION

D	E	F	CU. YD.
12"	12"	24"	0.7056
15"	12"	24"	0.7980
18"	12"	24"	0.8930
24"	12"	24"	0.5526
30"	12"	24"	1.1052
36"	12"	24"	1.5280
42"	12"	24"	1.7712
48"	12"	24"	2.0252
54"	18"	30"	4.2988
60"	18"	30"	4.7520
66"	18"	30"	5.2189
72"	18"	30"	5.6971

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

ROADWAY DETAIL DRAWING FOR
PIPE COLLAR

SHEET 1 OF 1
840D72

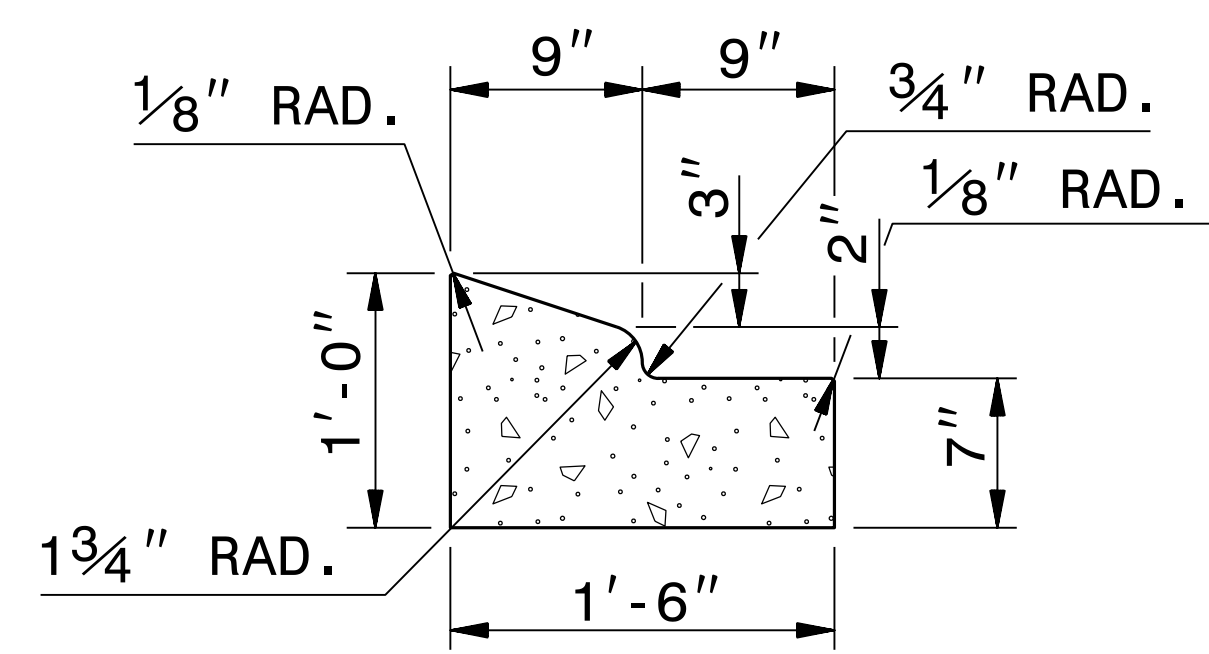
DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

CONTRACTS STANDARDS AND DEVELOPMENT UNIT
 Office 919-707-6950 FAX 919-250-4119

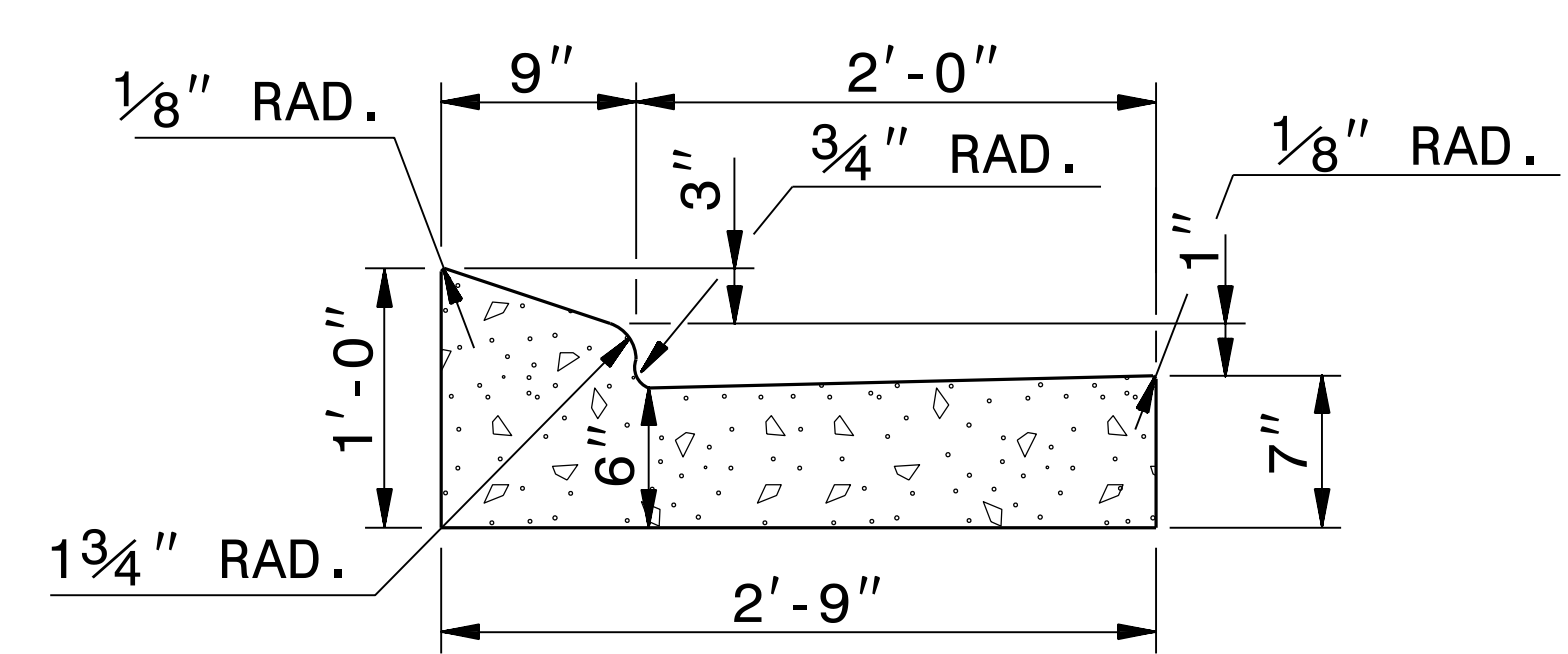
SEE TITLE PLATE

ORIGINAL BY: _____ DATE: _____
 MODIFIED BY: K.KEMPF DATE: 4/23/2018
 CHECKED BY: _____ DATE: _____
 FILE SPEC.: kkempf\english\840D72.dgn





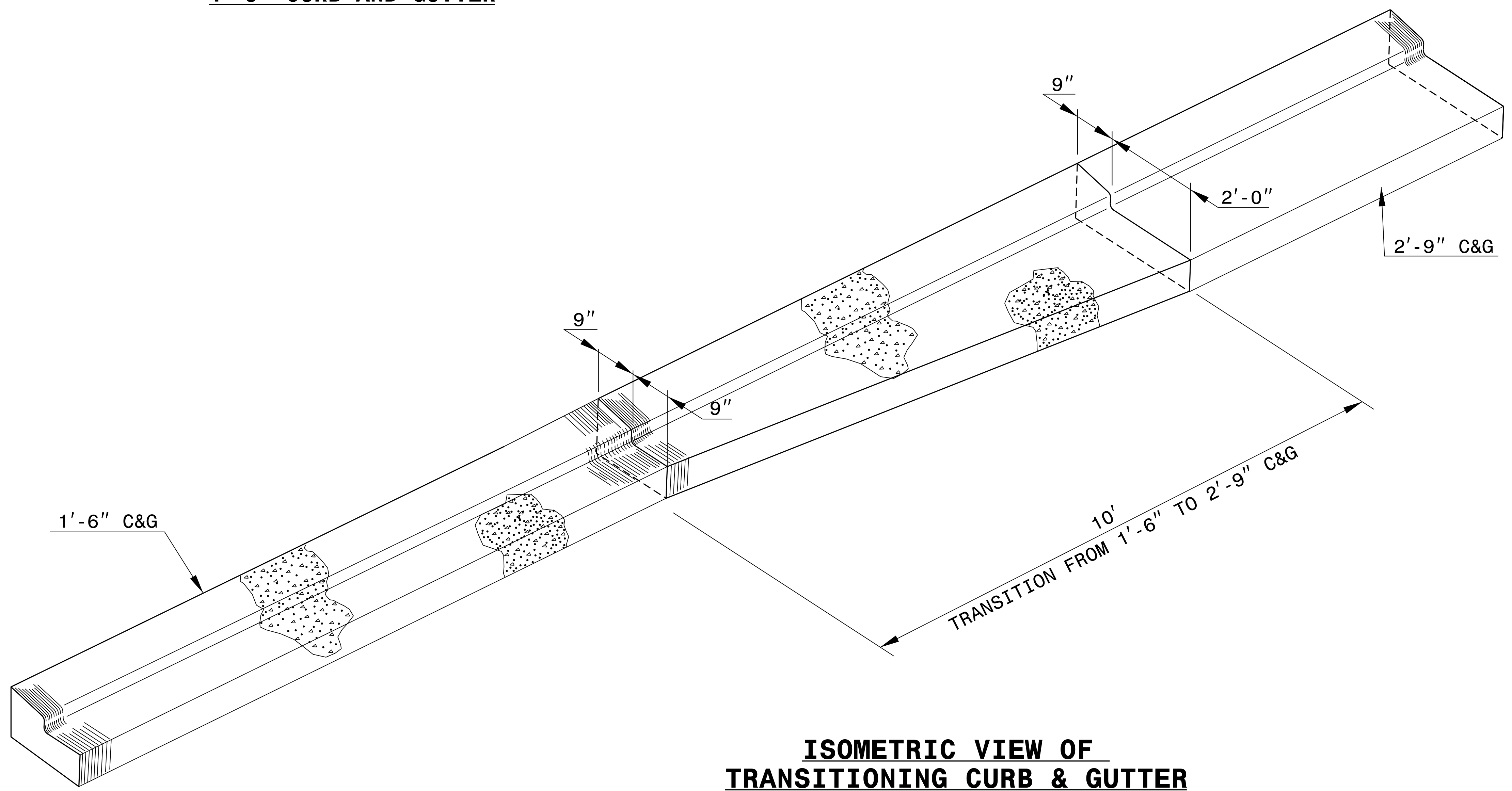
1'-6" CURB AND GUTTER



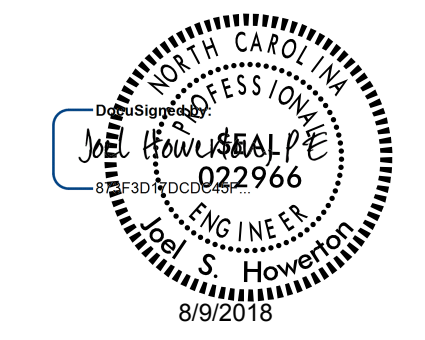
2'-9" CURB AND GUTTER

NOTE: SEE STD. DWG. 846.01 FOR ADDITIONAL CURB AND GUTTER INFORMATION.

SEE ROADWAY PLANS FOR LOCATION OF CURB TRANSITION.



**ISOMETRIC VIEW OF
TRANSITIONING CURB & GUTTER**



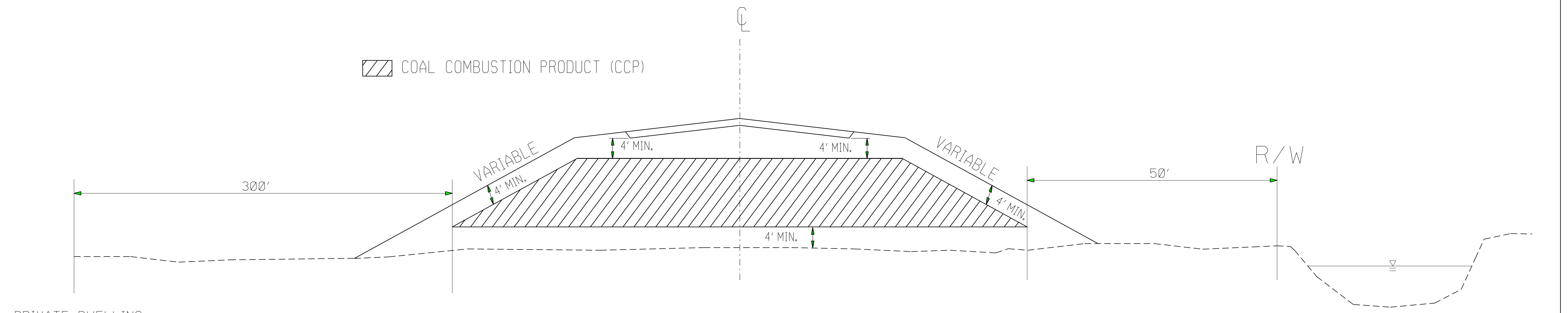
DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

**CONTRACT STANDARDS
AND DEVELOPMENT UNIT**
Office 919-707-6950 FAX 919-250-4119

**DETAIL OF 1'-6"
TO 2'-9" CURB & GUTTER
TRANSITION SECTION**

ORIGINAL BY: T.S.SPELL DATE: NOV. 26, 2001
 MODIFIED BY: T.S.SPELL DATE: JAN. 23, 2007
 CHECKED BY: DATE:
 FILE SPEC.: DS174:/usr/details/stand/cotrtransit.dgn

COAL COMBUSTION PRODUCT PLACEMENT



PRIVATE DWELLING OR WELL

PERENNIAL STREAM, OTHER SURFACE WATER BODY OR *WETLAND

*(OBTAIN PERMISSION FROM ARMY CORPS OF ENGINEERS)

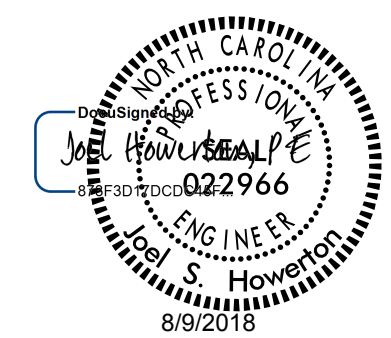
PLACE CCP IN HATCHED AREA IN ACCORDANCE WITH THE PROJECT SPECIAL PROVISIONS

PLACE CCP A MINIMUM OF 5' ABOVE SEASONAL HIGH GROUND WATER

PLACE AT LOCATIONS AS APPROVED BY THE ENGINEER

PLACE SOIL BORROW MATERIAL ON THE OUTSIDE OF CCP AS EACH LIFT OF CCP IS PLACED

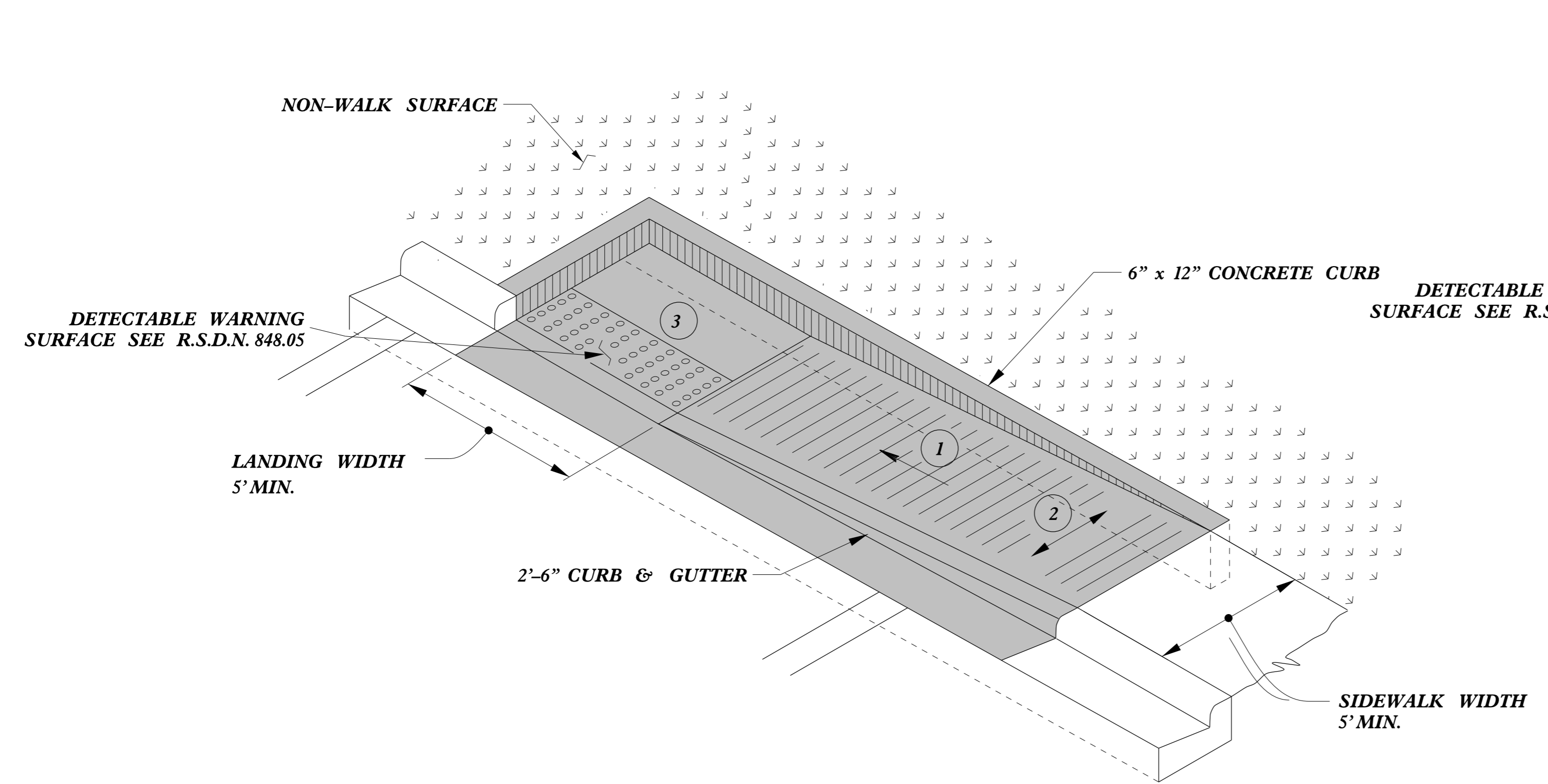
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



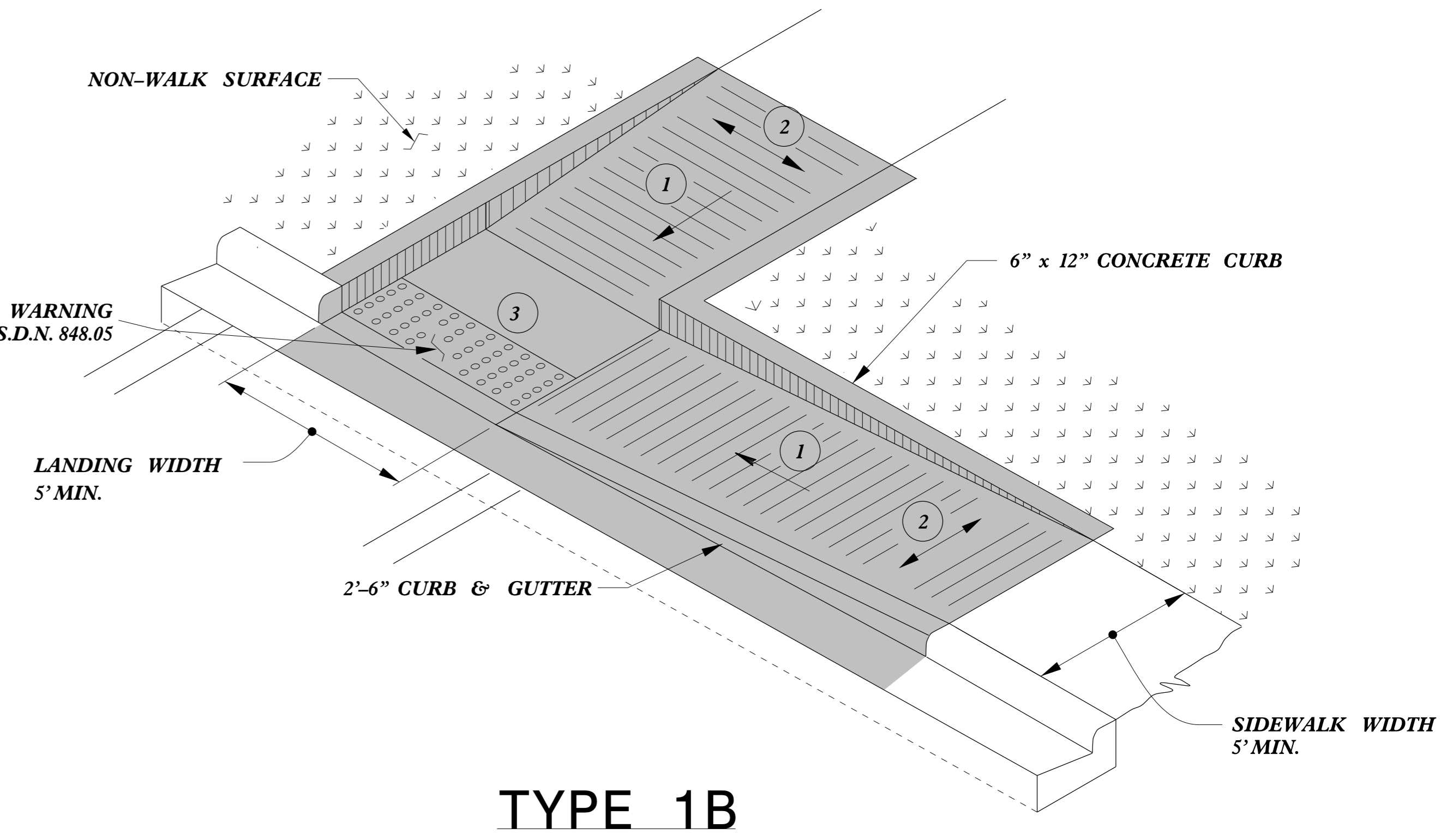
CONTRACT STANDARDS AND DEVELOPMENT UNIT	
Office 919-707-6950 FAX 919-250-4119	
COAL COMBUSTION PRODUCT PLACEMENT DETAIL	
ORIGINAL BY: J.S.H.	DATE: 3/16/15
MODIFIED BY:	DATE:
CHECKED BY:	DATE:
FILE SPEC.: joel/coal combustion material detail.dgn	

07-SEP-2017 08:21 S:\Contracts\Projects\Special Details\Howerton\Coal Combustion Product Detail.dgn Howerton AT USD-232595

5/14/99



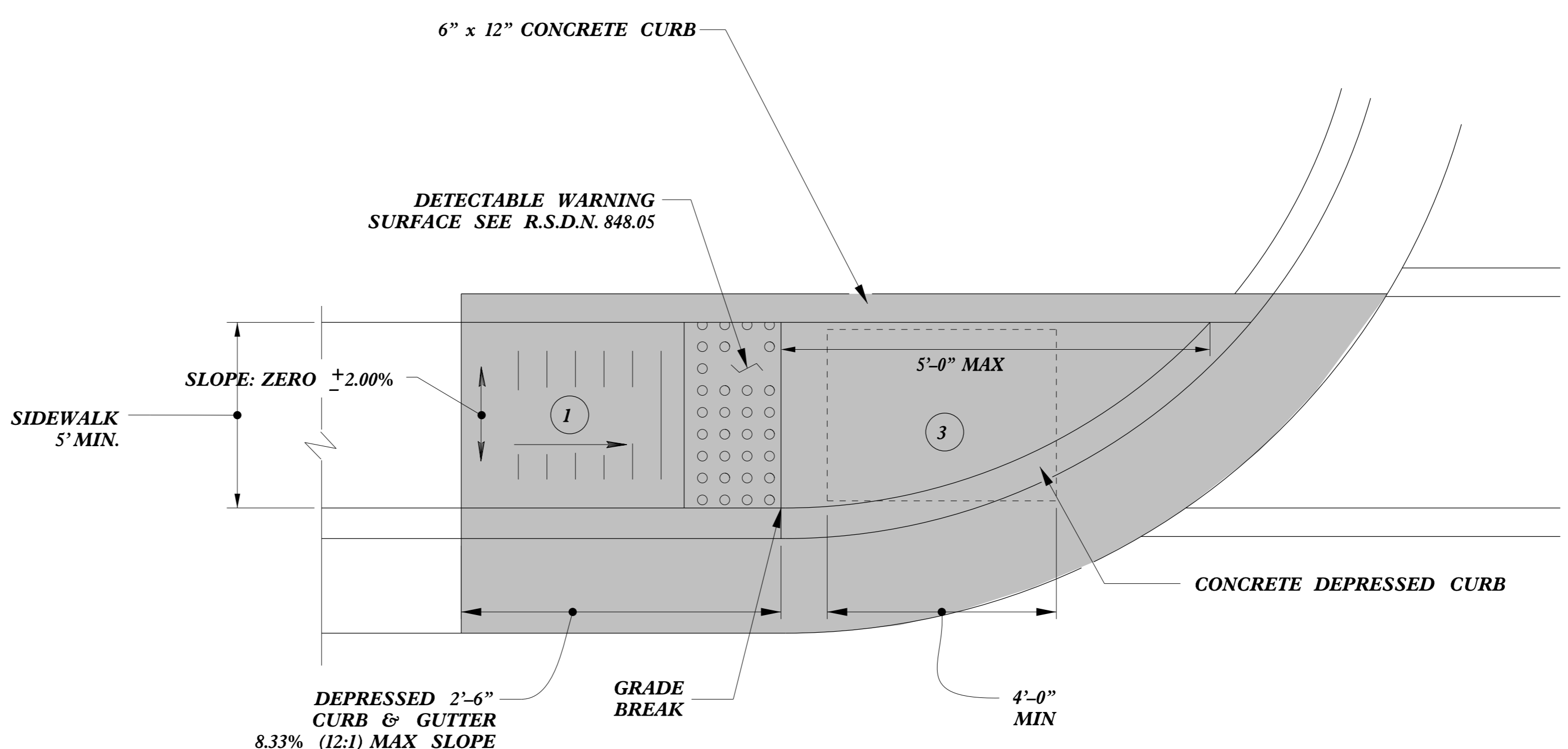
TYPE 1A



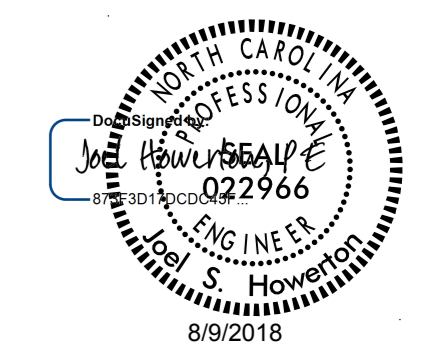
TYPE 1B

 PAY LIMITS FOR 1 CURB RAMP

- 1 8.33% (12:1) MAX RAMP SLOPE
- 2 CROSS SLOPE: 2.00%
- 3 CURB RAMPS REQUIRE A (4'-0") MINIMUM LANDING WITH A MAXIMUM CROSS SLOPE AND LONGITUDINAL SLOPE OF 2.00% WHERE PEDESTRIANS PERFORM TURNING MANEUVERS. SLOPE TO DRAIN TO CURB.



TYPE 1



DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

CONTRACT STANDARDS AND DEVELOPMENT UNIT
Office 919-707-6950 FAX 919-250-4119

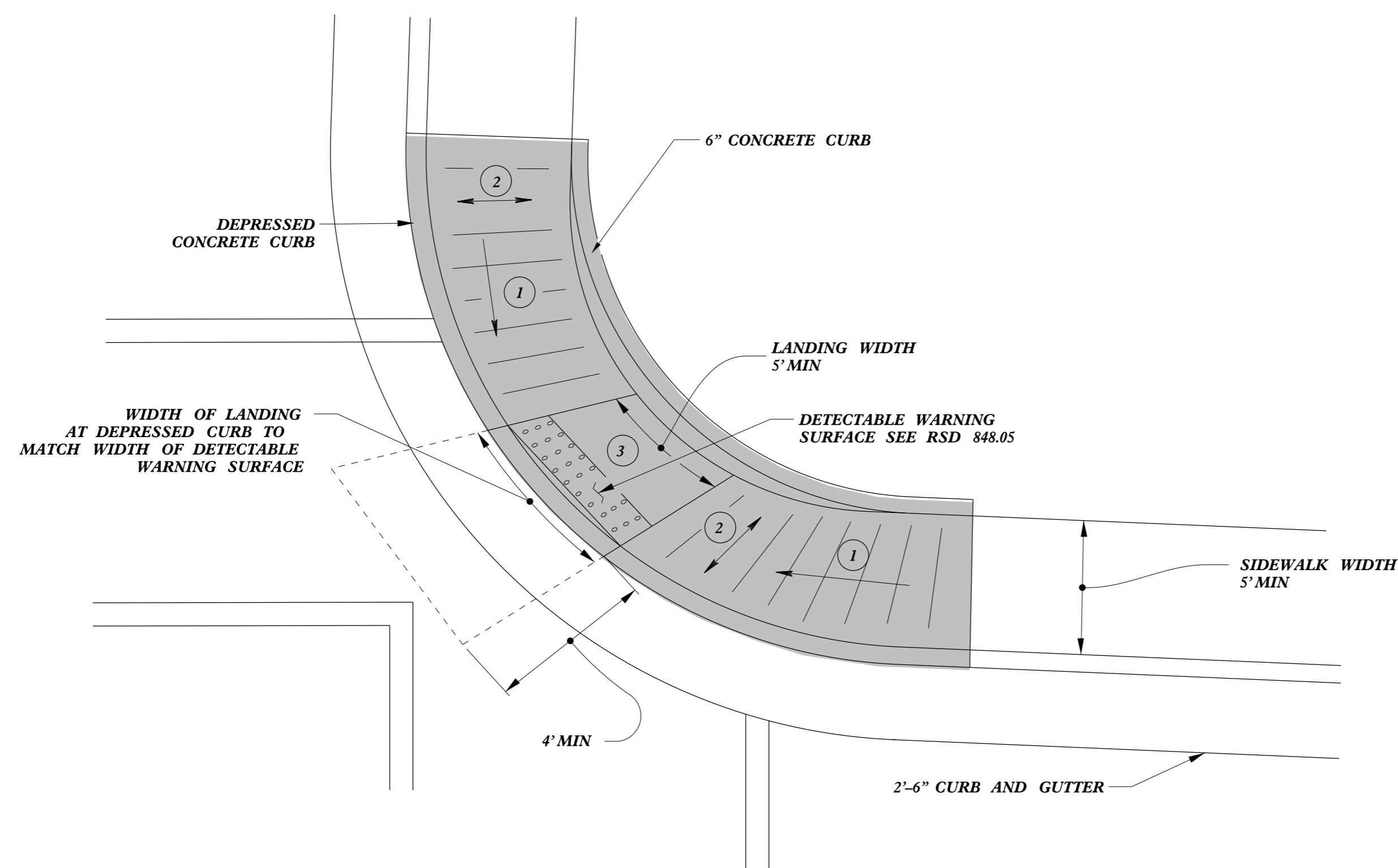
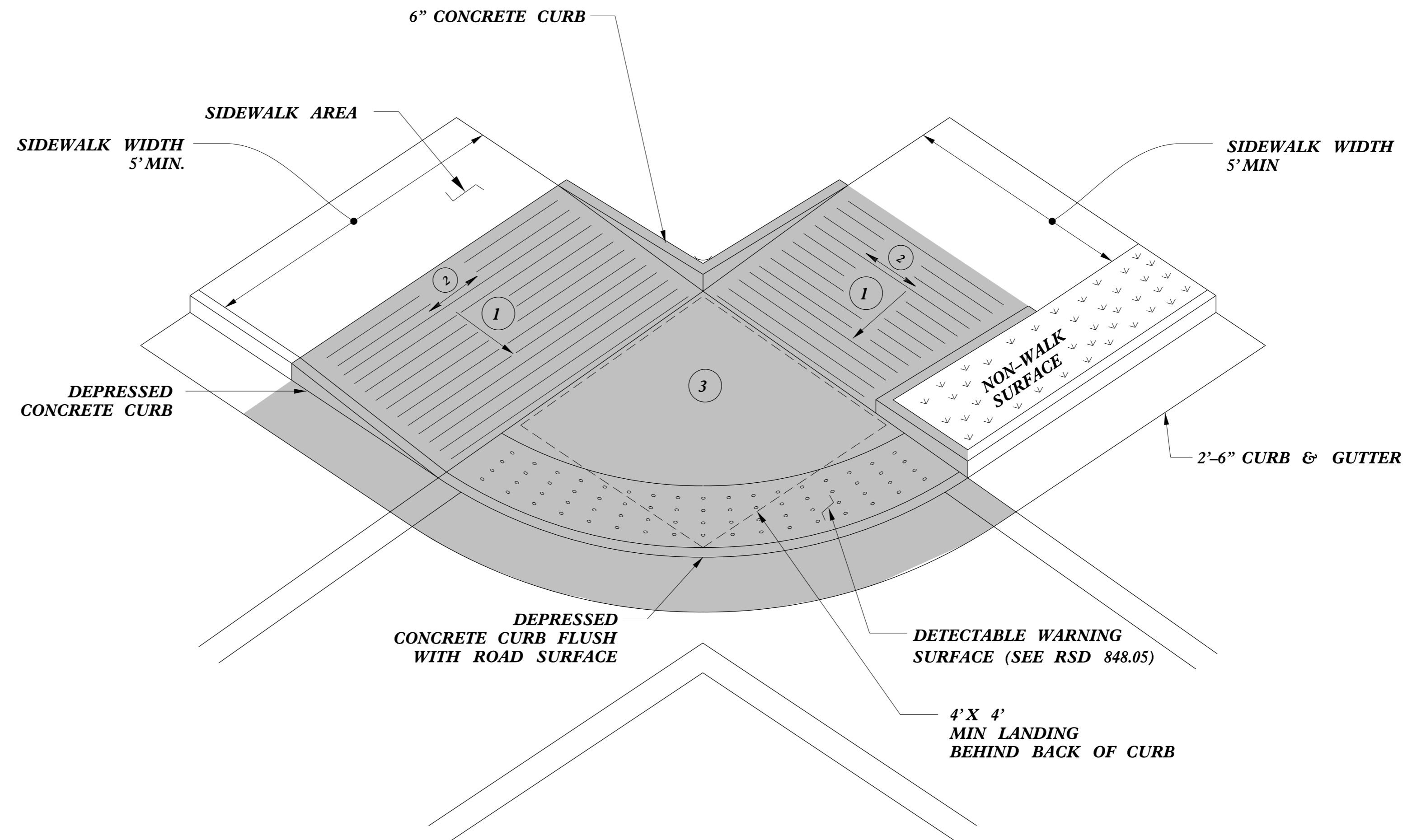
CURB RAMPS
Directional Ramps

ORIGINAL BY: J.S. HOWERTON DATE: 7/7/11
 MODIFIED BY: _____ DATE: _____
 CHECKED BY: _____ DATE: _____
 FILE SPEC: stds/2012CurbRamp/CurbRampDetails.dgn

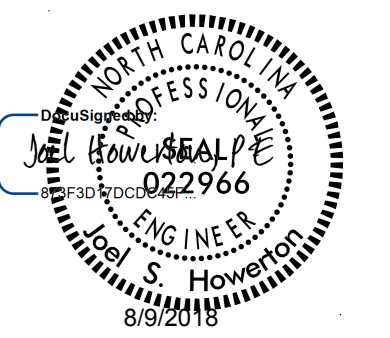
REFER TO ROADWAY STANDARD DRAWING NUMBER 848.05 SHEET 3 OF 3 FOR ALL RAMP NOTES

5/14/99

PAY LIMITS FOR 1 CURB RAMP



- 1 8.33% (12:1) MAX RAMP SLOPE
- 2 CROSS SLOPE: 2.00%
- 3 CURB RAMPS REQUIRE A (4'-0") MINIMUM LANDING WITH A MAXIMUM CROSS SLOPE AND LONGITUDINAL SLOPE OF 2.00% WHERE PEDESTRIANS PERFORM TURNING MANEUVERS. SLOPE TO DRAIN TO CURB.



DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

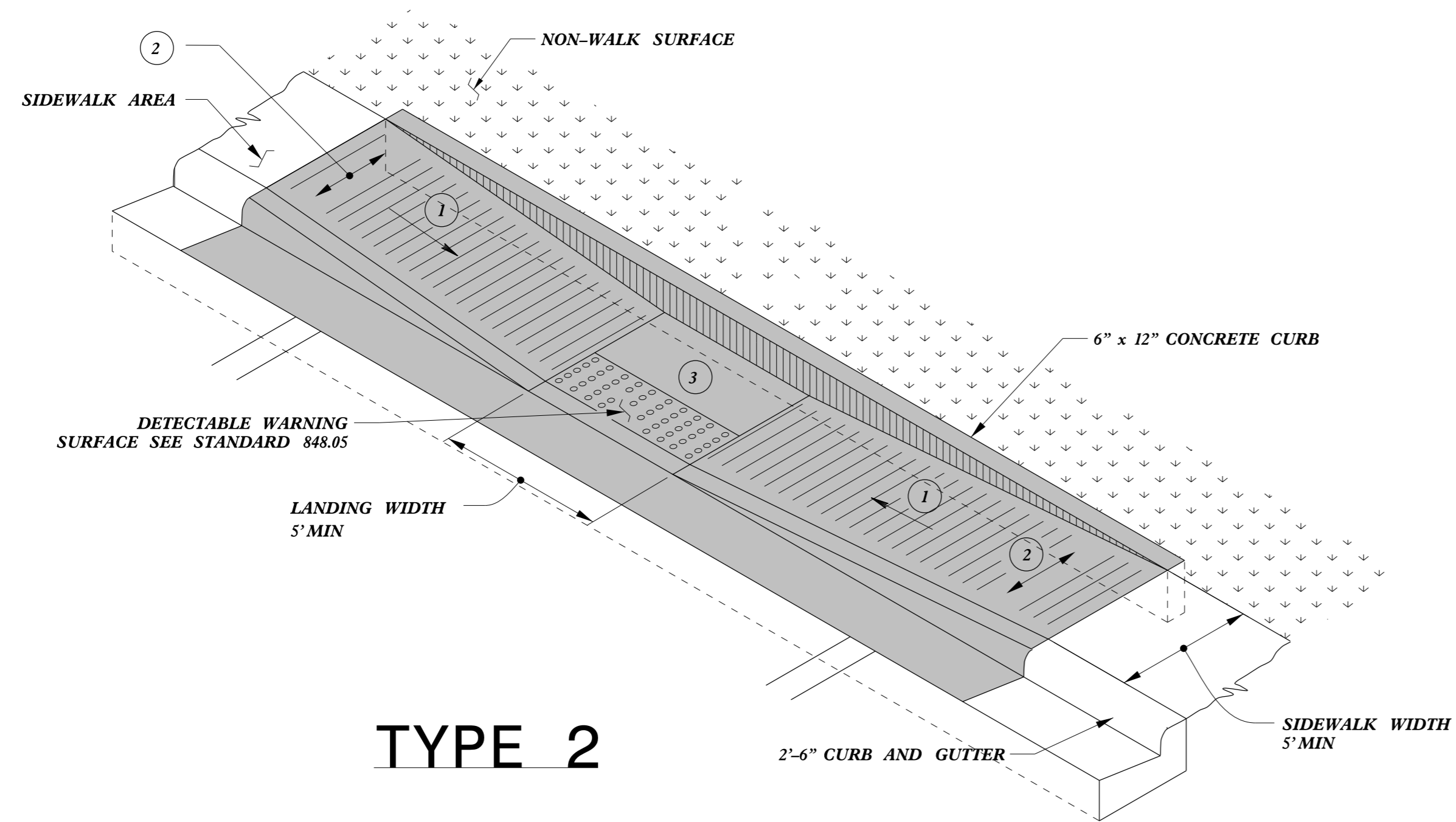
CONTRACT STANDARDS AND DEVELOPMENT UNIT
 Office 919-707-6950 FAX 919-250-4119

CURB RAMPS
 Blended Transition

ORIGINAL BY: J.S. HOWERTON DATE: 7/7/11
 MODIFIED BY: _____ DATE: _____
 CHECKED BY: _____ DATE: _____
 FILE SPEC: stds/2012CurbRamp/CurbRampDetails.dgn

REFER TO ROADWAY STANDARD DRAWING NUMBER 848.05 SHEET 3 OF 3 FOR ALL RAMP NOTES

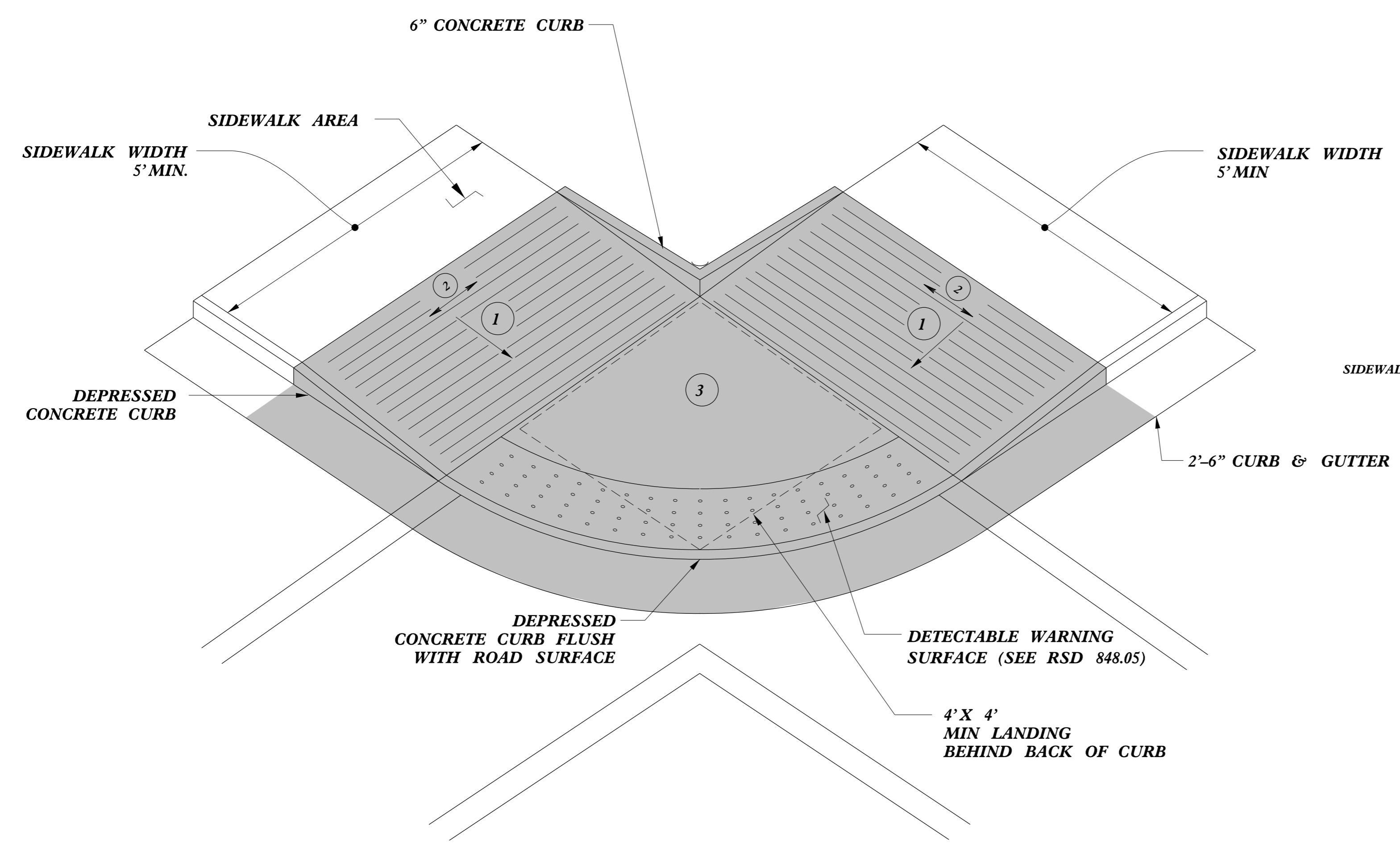
TIME \$\$\$\$\$\$
DATE \$\$\$\$\$\$
C:\P\CON\CON\USER\NAME\$\$\$\$



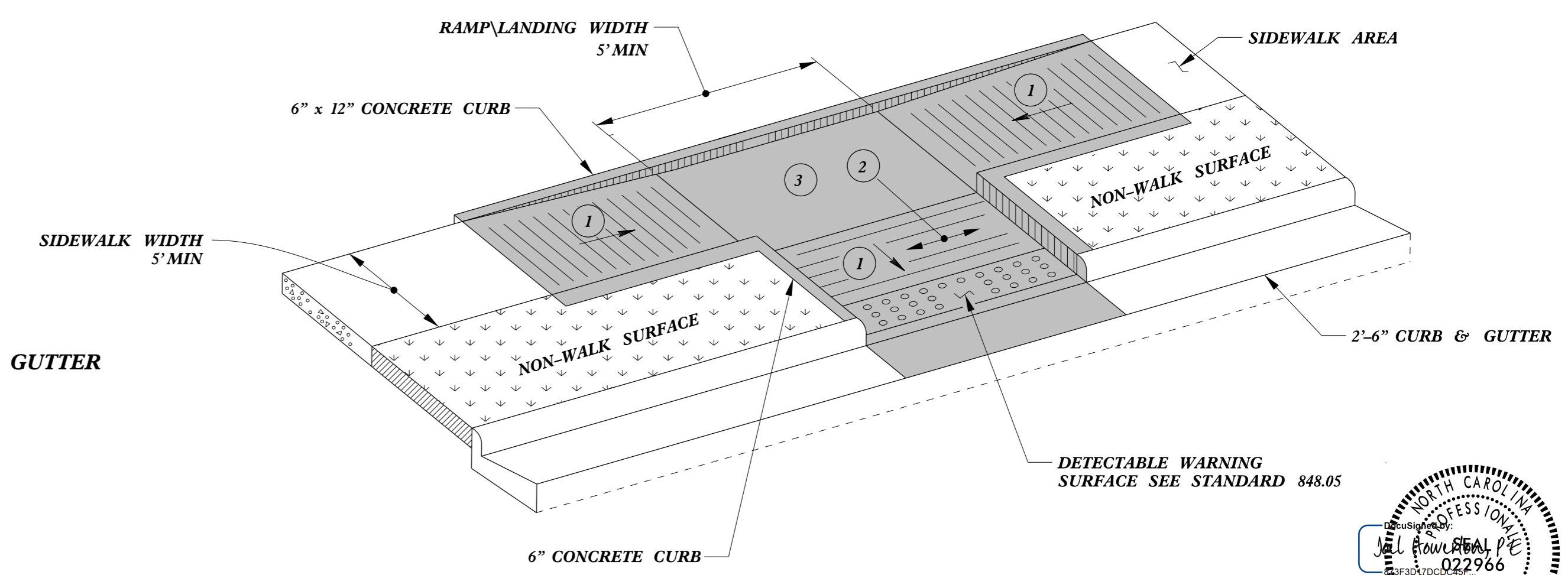
TYPE 2

PAY LIMITS FOR 1 CURB RAMP

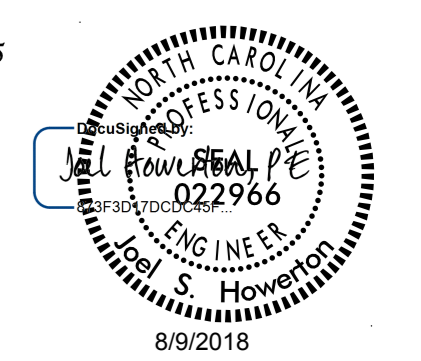
- 1 8.33% (12:1) MAX RAMP SLOPE
- 2 CROSS SLOPE: 2.00%
- 3 CURB RAMPS REQUIRE A (4'-0") MINIMUM LANDING WITH A MAXIMUM CROSS SLOPE AND LONGITUDINAL SLOPE OF 2.00% WHERE PEDESTRIANS PERFORM TURNING MANEUVERS. SLOPE TO DRAIN TO CURB.



TYPE 2A



TYPE 3



DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

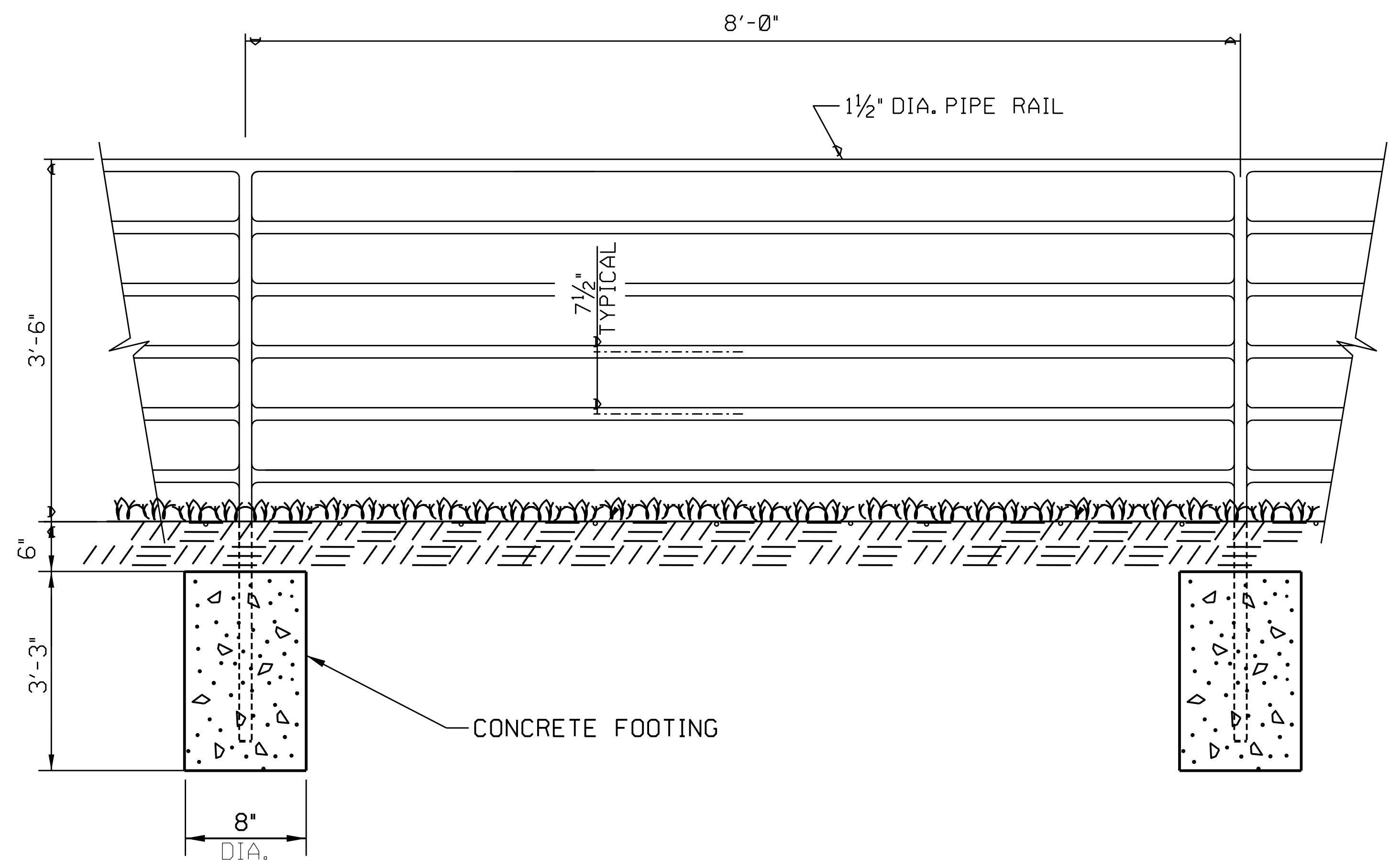
CONTRACT STANDARDS AND DEVELOPMENT UNIT
Office 919-707-6950 FAX 919-250-4119

CURB RAMPS
Parallel Ramps

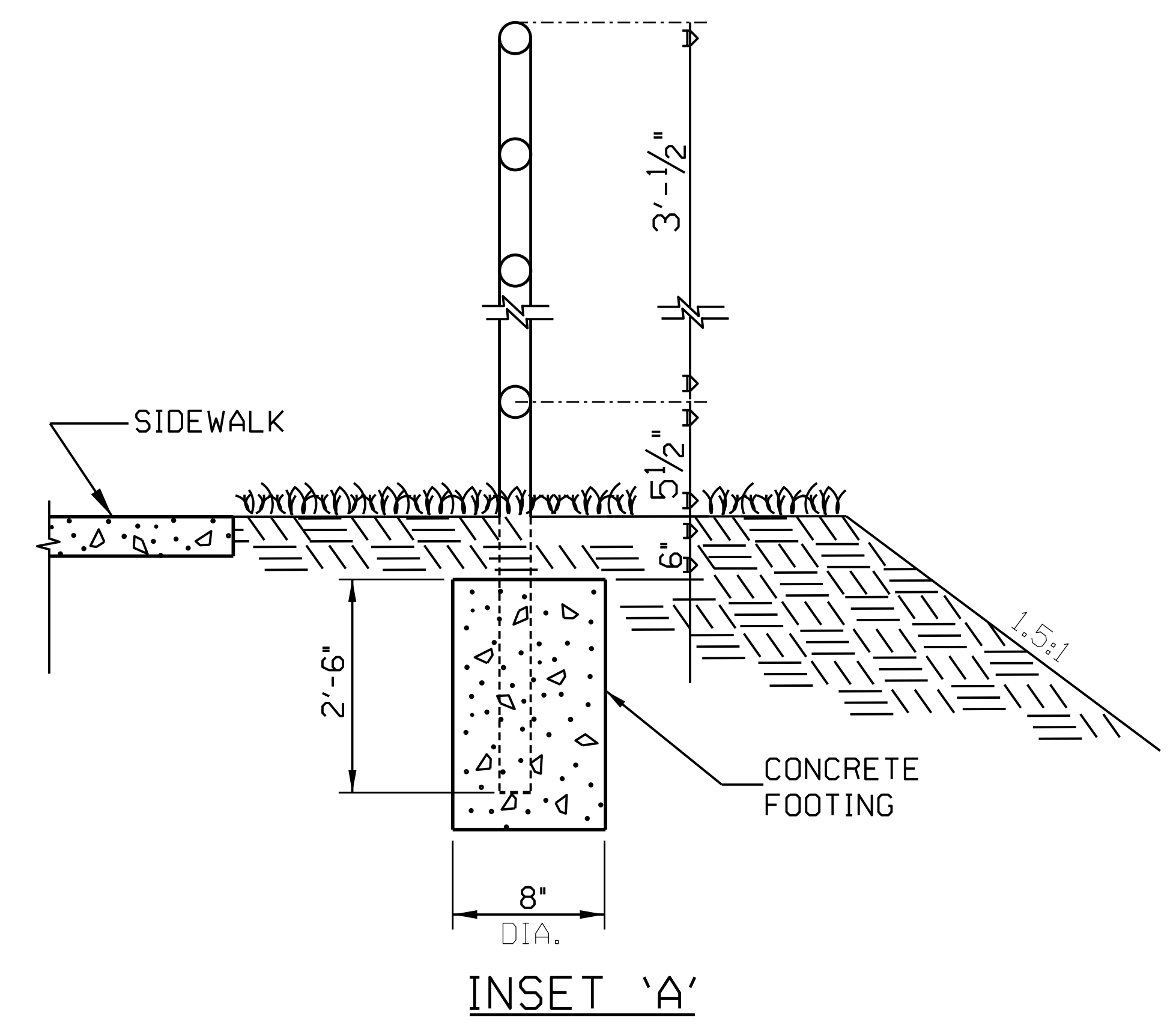
ORIGINAL BY: J.S. HOWERTON DATE: 7/7/11
 MODIFIED BY: _____ DATE: _____
 CHECKED BY: _____ DATE: _____
 FILE SPEC.: stds/2012CurbRamp/CurbRampDetails.dgn

REFER TO ROADWAY STANDARD DRAWING NUMBER 848.05 SHEET 3 OF 3 FOR ALL RAMP NOTES

5/14/99
C:\P\2012\CON\CON\USER\NAME



ELEVATION OF HANDRAIL



NOTES:

CONSTRUCT PROPOSED STEEL PIPE RAIL OF 1 1/2" DIAMETER SCHEDULE 40 PLAIN STEEL PIPE MEETING THE REQUIREMENTS OF ASTM A53. PLACE AN ALL BLACK ENAMEL COATING ON THE HANDRAIL.

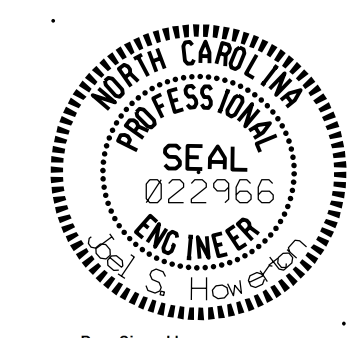
PAINT, IF REQUIRED BY THE ENGINEER, IN ACCORDANCE WITH SECTION 1080 OF THE STANDARD SPECIFICATIONS.

WELD IN ACCORDANCE WITH ARTICLE 1072-18 OF THE STANDARD SPECIFICATIONS.

USE CLASS 'B' CONCRETE FOR HANDRAIL FOOTINGS.

PLACEMENT OF HANDRAIL IN RELATION TO SHOULDER BREAK POINT AND SIDEWALK MAY BE MODIFIED AS DIRECTED BY THE ENGINEER.


\$\$\$\$\$ SYSTEMS ENGINEERING CONSULTANTS, INC. PERMANENT OFFICE\$\$\$\$\$

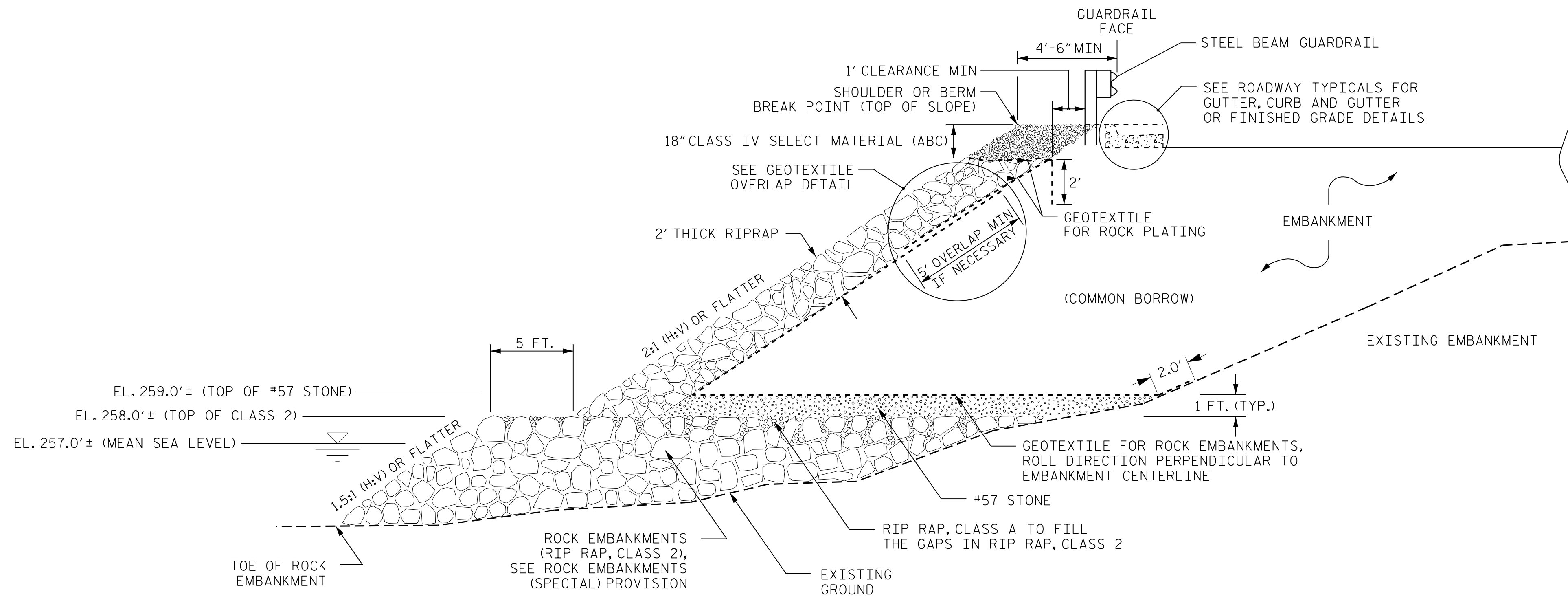


DocuSigned by:
F.E. Ward
1/7/2021

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

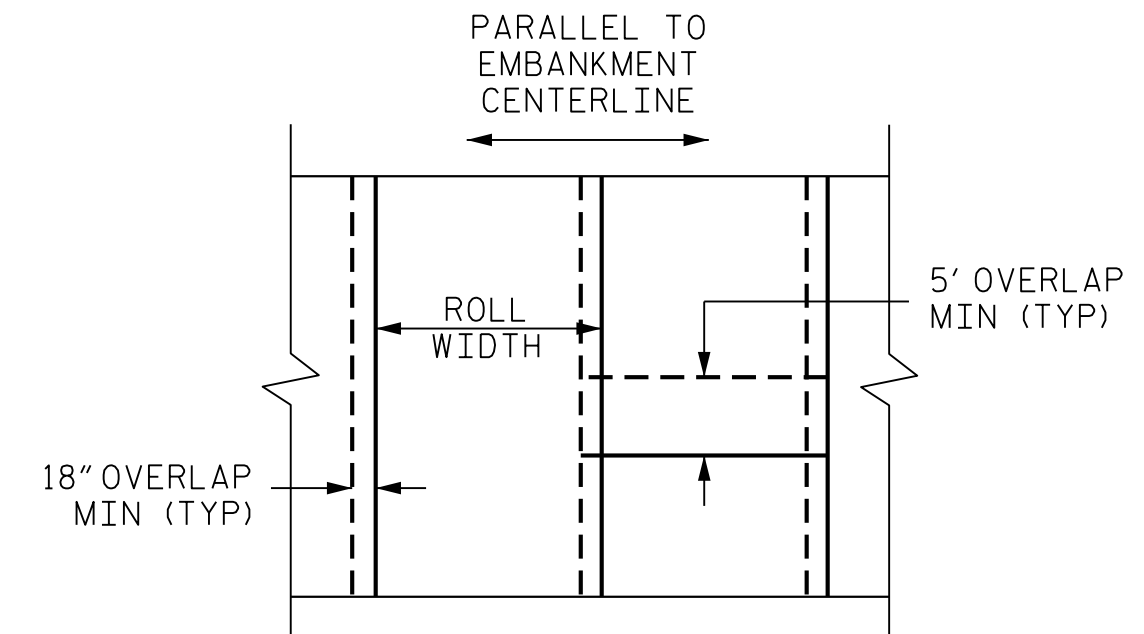
CONTRACT STANDARDS AND DEVELOPMENT UNIT Office 919-707-6950 FAX 919-250-4119	
PROPOSED PEDESTRIAN HANDRAIL	
ORIGINAL BY: F.E. WARD	DATE: 12-99
MODIFIED BY:	DATE:
CHECKED BY:	DATE:
FILE SPEC.: hower ton/handrail adjacent to sidewalk.dgn	

PROJECT REFERENCE NO. R-3825B		SHEET NO. 2G-1	
GEOTECHNICAL ENGINEER 		ENGINEER _____ DATE: 3/27/2018 SIGNATURE: _____ DATE: _____	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED			



ROCK EMBANKMENT TYPICAL SECTION

NOT TO SCALE



GEOTEXTILE OVERLAP DETAIL

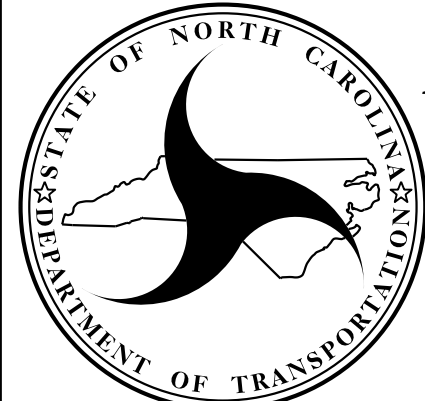
(PLAN VIEW)

ESTIMATED QUANTITIES	
RIP RAP, CLASS 2	570 TONS
RIP RAP, CLASS A	230 TONS
#57 STONE (SELECT MATERIAL, CLASS VI)	200 TONS
GEOTEXTILE FOR ROCK EMBANKMENTS	440 SY

NOTES

1. FOR ROCK EMBANKMENTS, SEE ROCK EMBANKMENTS (SPECIAL) PROVISIONS.
2. INSTALL ROCK EMBANKMENTS USING CLASS 2 RIP RAP AS SHOWN IN THE PLAN AND TO 1.0 FT ABOVE THE MEAN SEA LEVEL.
3. FILL VOIDS IN THE TOP OF ROCK EMBANKMENTS WITH RIP RAP, CLASS A.
4. PLACE #57 STONE (SELECT MATERIAL, CLASS VI) 1 FT. (TYP.) ABOVE RIP RAP, CLASS 2 AS SHOWN IN THE PLAN.
5. INSTALL GEOTEXTILE FOR ROCK EMBANKMENT ON TOP OF #57 STONE.
6. CONSTRUCT ROCK PLATING ABOVE ROCK EMBANKMENTS. FOR ROCK PLATING, SEE SECTION 275 OF STANDARD SPECIFICATIONS AND STANDARD ROADWAY DRAWING NO. 275.01.


PREPARED BY: J. PARK	DATE: 03 / 2018
REVIEWED BY: J. BATTS	DATE: 03 / 2018

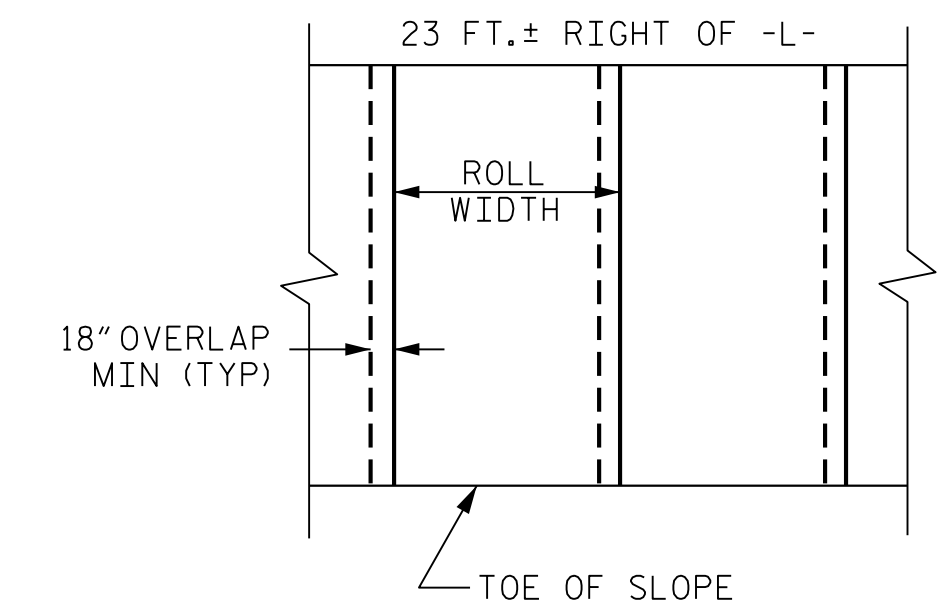
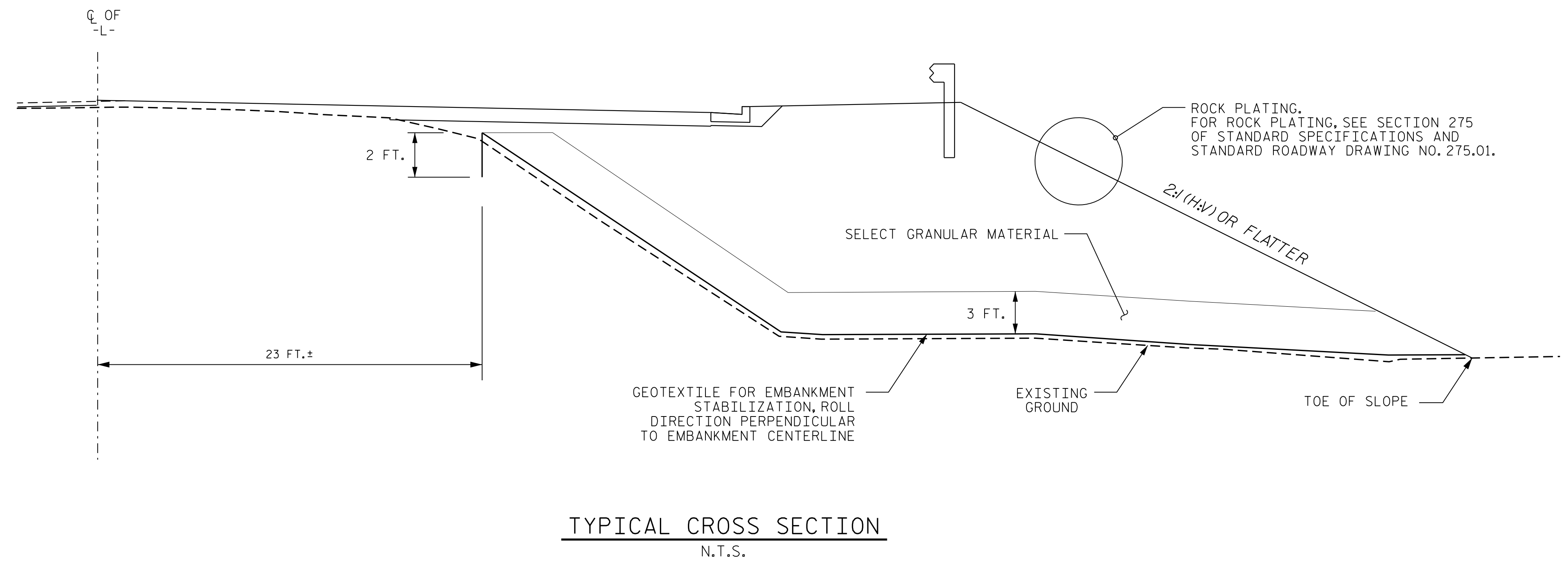
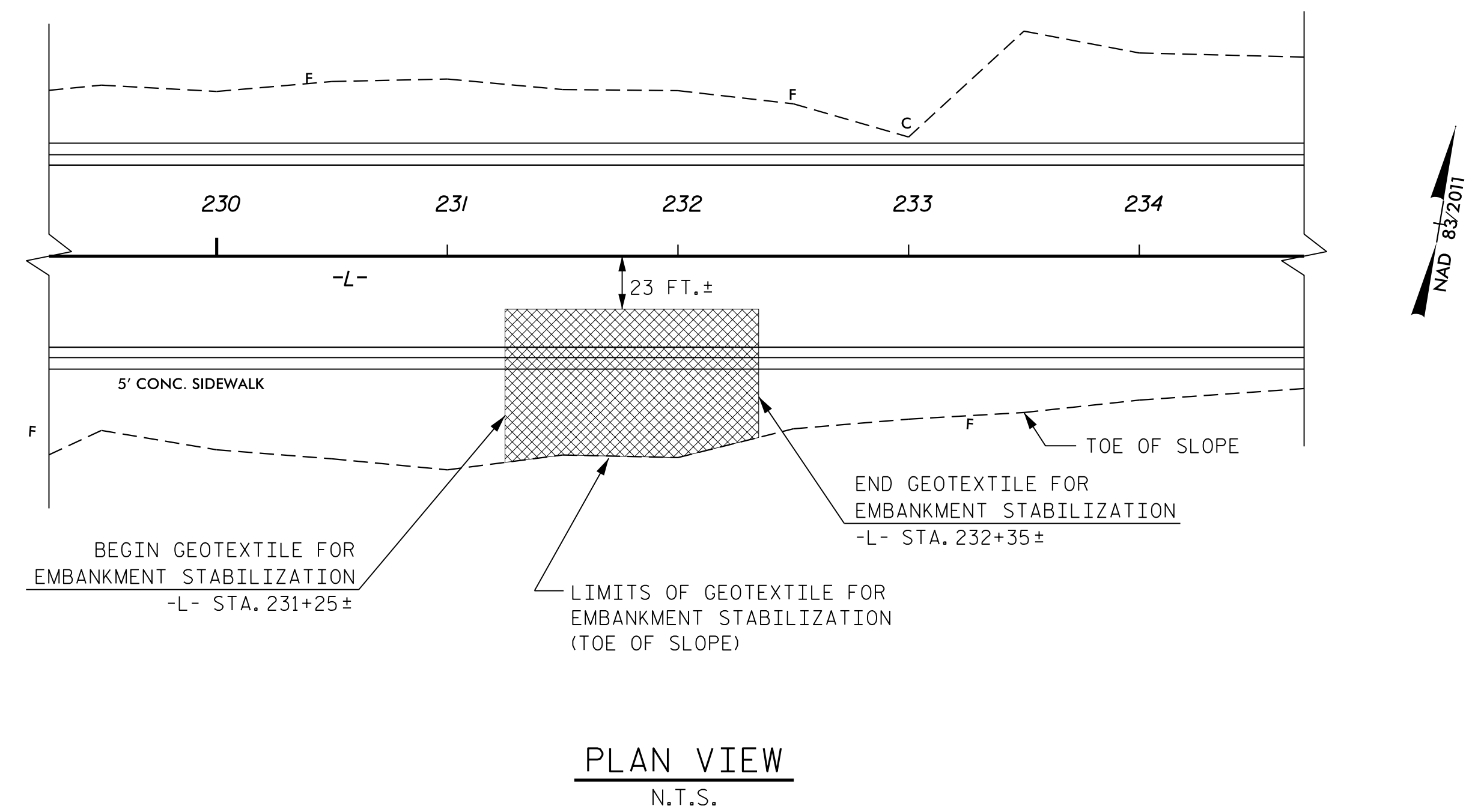


NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

GEOTECHNICAL
ENGINEERING UNIT

ROCK EMBANKMENTS DETAILS					
REVISIONS					
NO.	BY	DATE	NO.	BY	DATE
1	J. PARK	03 / 2018	3		
2			4		

PROJECT REFERENCE NO. R-3825B	SHEET NO. 2G-2
GEOTECHNICAL ENGINEER  Documented by: <i>J. Park</i> 3/27/2018 DATE: 3/27/2018	ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	



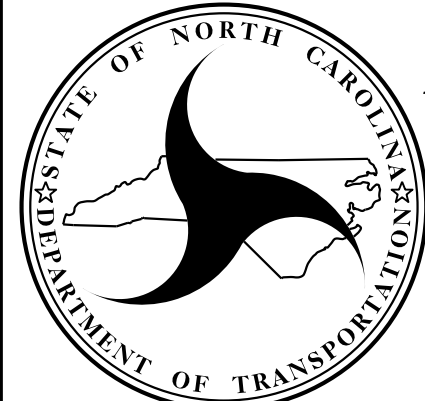
NOTES

1. FOR GEOTEXTILE FOR EMBANKMENT STABILIZATION, SEE GEOTEXTILE FOR EMBANKMENT STABILIZATION (SPECIAL) PROVISION.
2. CLEAR THE AREA WITHIN LIMITS FOR GEOTEXTILE FOR EMBANKMENT STABILIZATION.
3. PLACE GEOTEXTILE FOR EMBANKMENT STABILIZATION ROLL DIRECTION PERPENDICULAR TO EMBANKMENT CENTERLINE ON THE EXISTING GROUND.
4. PLACE 3 FT. OF SELECT GRANULAR MATERIAL ON THE GEOTEXTILE FOR EMBANKMENT STABILIZATION.
5. PLACE THE GEOTEXTILE FOR EMBANKMENT STABILIZATION WITHOUT ANY WRINKLES OR CREASES.
6. NO SEAMS OR JOINTS ARE ALLOWED IN THE MACHINE DIRECTION OF GEOTEXTILE FOR EMBANKMENT STABILIZATION.
7. THE TERMS ROLL AND MACHINE DIRECTION ARE USED INTERCHANGEABLY.
8. ALL JOINTS IN THE CROSS MACHINE DIRECTION MUST BE OVERLAPPED A MINIMUM OF 18 INCHES.

ESTIMATED QUANTITIES	
GEOTEXTILE FOR EMBANKMENT STABILIZATION	900 SY*
SELECT GRANULAR MATERIAL	850 CY

* GEOTEXTILE FOR EMBANKMENT STABILIZATION ESTIMATED QUANTITY DOES NOT INCLUDE OVERLAPS OR WASTE.

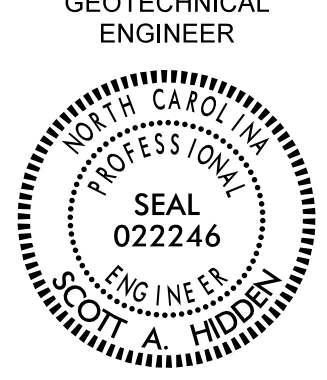
PREPARED BY: J. PARK	DATE: 03 / 2018
REVIEWED BY: J. BATTS	DATE: 03 / 2018



**NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS**

**GEOTECHNICAL
ENGINEERING UNIT**

GEOTEXTILE FOR EMBANKMENT STABILIZATION DETAILS					
REVISIONS					
NO.	BY	DATE	NO.	BY	DATE
1	J. PARK	03 / 2018	3	-	-
2	-	-	4	-	-

PROJECT REFERENCE NO. R-3825B		SHEET NO. 2G-3
GEOTECHNICAL ENGINEER  SEAL 022246 SCOTT A. HADDEN ENGINEER		ENGINEER
DocuSigned by: Scott A. Hadden 5/21/2018 SIGNATURE DATE		SIGNATURE DATE
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED		

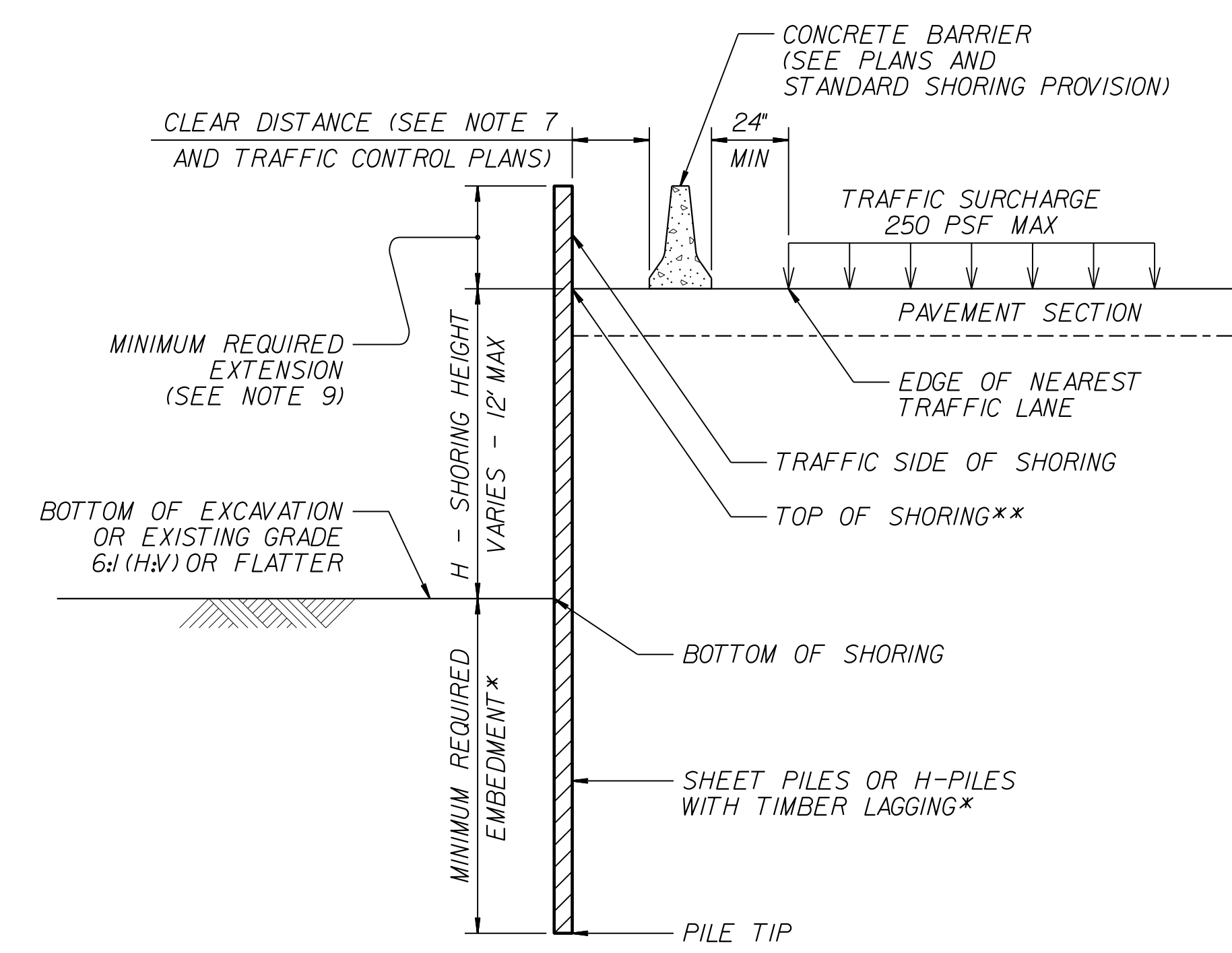
GROUNDWATER CONDITION (SEE NOTE 6)	H SHORING HEIGHT (FT)	SLOPE OR SURCHARGE CASE WITH NO TRAFFIC IMPACT					SURCHARGE CASE WITH TRAFFIC IMPACT				
		SHEET PILES		H-PILES WITH TIMBER LAGGING			SHEET PILES		H-PILES WITH TIMBER LAGGING		
		MINIMUM REQUIRED EMBEDMENT (FT)	MINIMUM REQUIRED SECTION MODULUS (IN ³ /FT)	MINIMUM REQUIRED EMBEDMENT* (FT) (SEE NOTE 10)			MINIMUM REQUIRED EMBEDMENT (FT)	MINIMUM REQUIRED SECTION MODULUS (IN ³ /FT)	MINIMUM REQUIRED EMBEDMENT* (FT) (SEE NOTE 10)		
				HP 10x42	HP 12x53	HP 14x73			HP 10x42	HP 12x53	HP 14x73
GROUNDWATER ELEVATION BETWEEN BOTTOM OF SHORING AND PILE TIP	< 6	11.5	4.5	11.5	11.5	11.5	16.0	12.0	13.0	13.0	13.0
	7	13.0	7.0	13.0	13.0	13.0	17.0	14.5	14.5	14.5	14.5
	8	15.0	10.0	--	15.0	15.0	18.0	17.0	--	15.5	15.5
	9	17.0	14.0	--	17.0	17.0	19.0	20.0	--	17.0	17.0
	10	18.5	19.5	--	--	18.5	20.0	23.5	--	--	18.5
	11	20.5	26.0	--	--	--	21.0	28.0	--	--	20.0
12	22.5	33.0	--	--	--	22.0	33.0	--	--	21.5	
GROUNDWATER ELEVATION BELOW PILE TIP	< 6	7.5	3.0	8.0	8.0	8.0	11.0	10.0	9.5	9.5	9.5
	7	8.5	4.5	9.5	9.5	9.5	12.0	12.0	10.5	10.5	10.5
	8	10.0	6.5	10.5	10.5	10.5	12.5	14.0	11.5	11.5	11.5
	9	11.0	9.5	--	12.0	12.0	13.5	16.5	--	12.5	12.5
	10	12.5	13.0	--	--	13.5	14.0	19.5	--	13.5	13.5
	11	13.5	17.0	--	--	14.5	15.0	22.5	--	--	14.5
12	15.0	21.5	--	--	16.0	16.0	25.5	--	--	15.5	

NOTES:

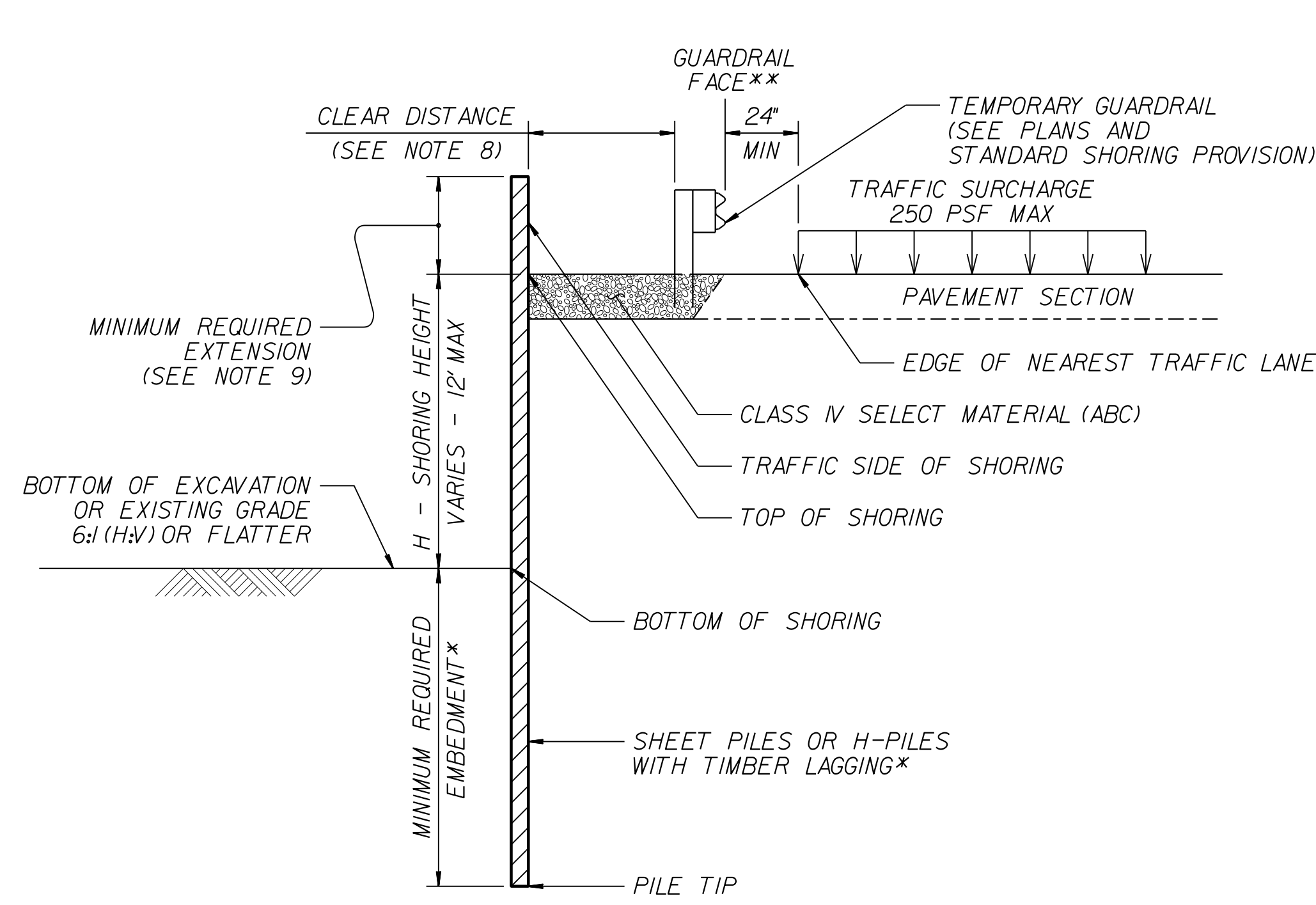
- AT THE CONTRACTOR'S OPTION, USE STANDARD TEMPORARY SHORING AS NOTED IN THE PLANS.
- FOR STANDARD TEMPORARY SHORING, SEE STANDARD SHORING PROVISION.
- STANDARD TEMPORARY SHORING IS BASED ON THE FOLLOWING IN-SITU ASSUMED SOIL PARAMETERS:
UNIT WEIGHT, $\gamma = 120$ PCF
FRICTION ANGLE, $\phi = 30$ DEGREES
COHESION, $c = 0$ PSF
- DO NOT USE STANDARD TEMPORARY SHORING IF ASSUMED SOIL PARAMETERS ARE NOT APPLICABLE.
- DO NOT USE STANDARD TEMPORARY SHORING WHEN VERY LOOSE OR SOFT SOIL OR MUCK IS WITHIN THE EMBEDMENT DEPTH.
- USE GROUNDWATER ELEVATION NOTED IN THE PLANS. IF NO GROUNDWATER ELEVATION IS SHOWN IN THE PLANS, USE "GROUNDWATER ELEVATION BETWEEN BOTTOM OF SHORING AND PILE TIP" FOR GROUNDWATER CONDITION. DO NOT USE STANDARD TEMPORARY SHORING IF GROUNDWATER IS ABOVE BOTTOM OF SHORING.
- AT THE CONTRACTOR'S OPTION OR IF AVAILABLE CLEAR DISTANCE IS LESS THAN THE MINIMUM REQUIRED FOR CONCRETE BARRIER, SET BARRIER NEXT TO AND UP AGAINST TRAFFIC SIDE OF PILES AND USE "SURCHARGE CASE WITH TRAFFIC IMPACT".
- AT THE CONTRACTOR'S OPTION OR IF AVAILABLE CLEAR DISTANCE IS LESS THAN 4' FOR TEMPORARY GUARDRAIL, ATTACH GUARDRAIL TO TRAFFIC SIDE OF PILES AS SHOWN IN THE PLANS AND USE "SURCHARGE CASE WITH TRAFFIC IMPACT".
- MINIMUM REQUIRED EXTENSION IS 6" FOR "SLOPE OR SURCHARGE CASE WITH NO TRAFFIC IMPACT" AND 32" FOR "SURCHARGE CASE WITH TRAFFIC IMPACT".
- MINIMUM REQUIRED EMBEDMENT FOR H-PILES WITH TIMBER LAGGING IS BASED ON DRIVEN H-PILES AT MAXIMUM 6' SPACING. AT THE CONTRACTOR'S OPTION, EMBEDMENT DEPTHS MAY BE REDUCED BY 25% FOR DRILLED-IN H-PILES.
- SUBMIT A "STANDARD TEMPORARY SHORING SELECTION FORM" AT LEAST 7 DAYS BEFORE STARTING TEMPORARY SHORING CONSTRUCTION. UP TO 3 SHORING LOCATIONS MAY BE INCLUDED ON EACH FORM. STANDARD SHORING SELECTION FORMS ARE AVAILABLE FROM:
connect.ncdot.gov/resources/Geological/Pages/Geotech_Forms_Details.aspx
- CONTACT THE ENGINEER IF PILES DO NOT ATTAIN THE MINIMUM REQUIRED EMBEDMENT.

MINIMUM REQUIRED EMBEDMENT AND SECTION MODULUS

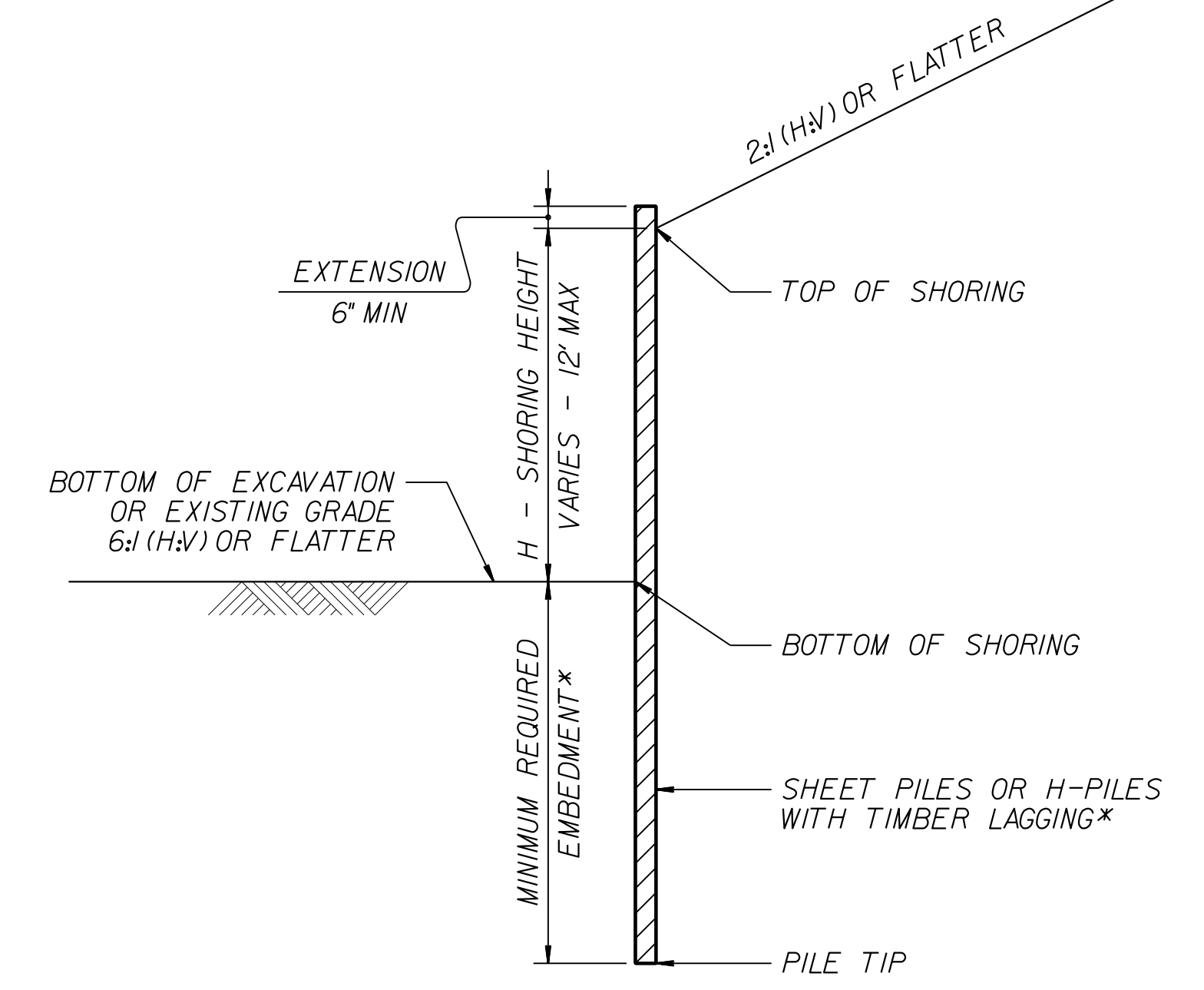
***DO NOT USE H-PILES WITH TIMBER LAGGING FOR GROUNDWATER CONDITION, SHORING HEIGHT AND H-PILE SIZE SHOWN IF MINIMUM REQUIRED EMBEDMENT IS "--".**



CONCRETE BARRIER
**TOP OF SHORING = EDGE OF PAVEMENT

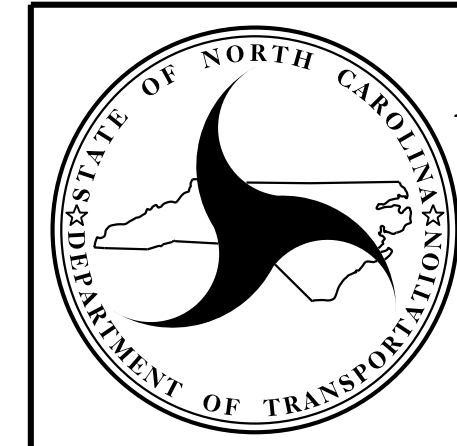


TEMPORARY GUARDRAIL
**GUARDRAIL FACE = EDGE OF PAVEMENT



STANDARD TEMPORARY SHORING (SLOPE CASE)
*SEE TABLE ABOVE.


STANDARD TEMPORARY SHORING (SURCHARGE CASE)
*SEE TABLE ABOVE.

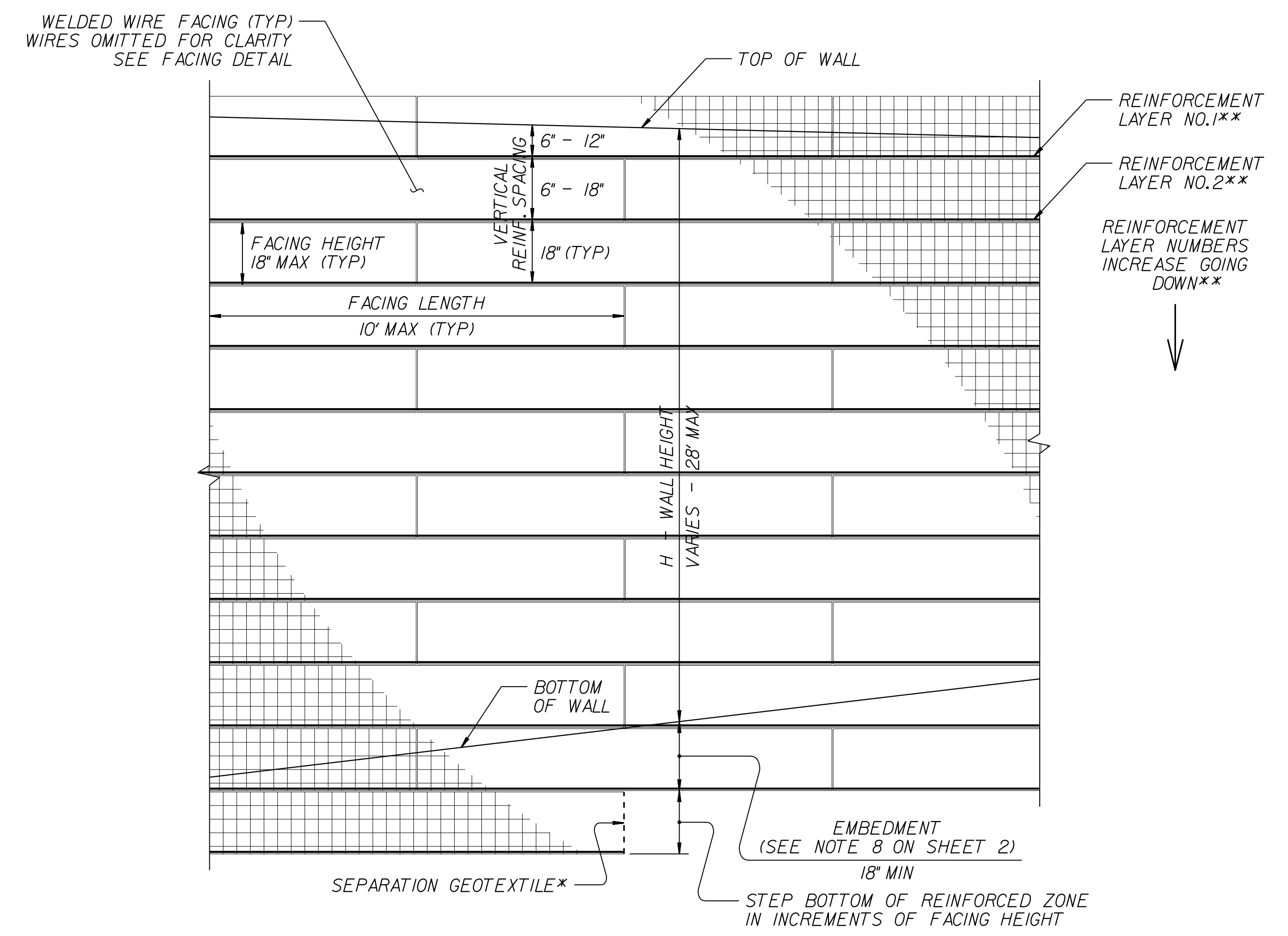
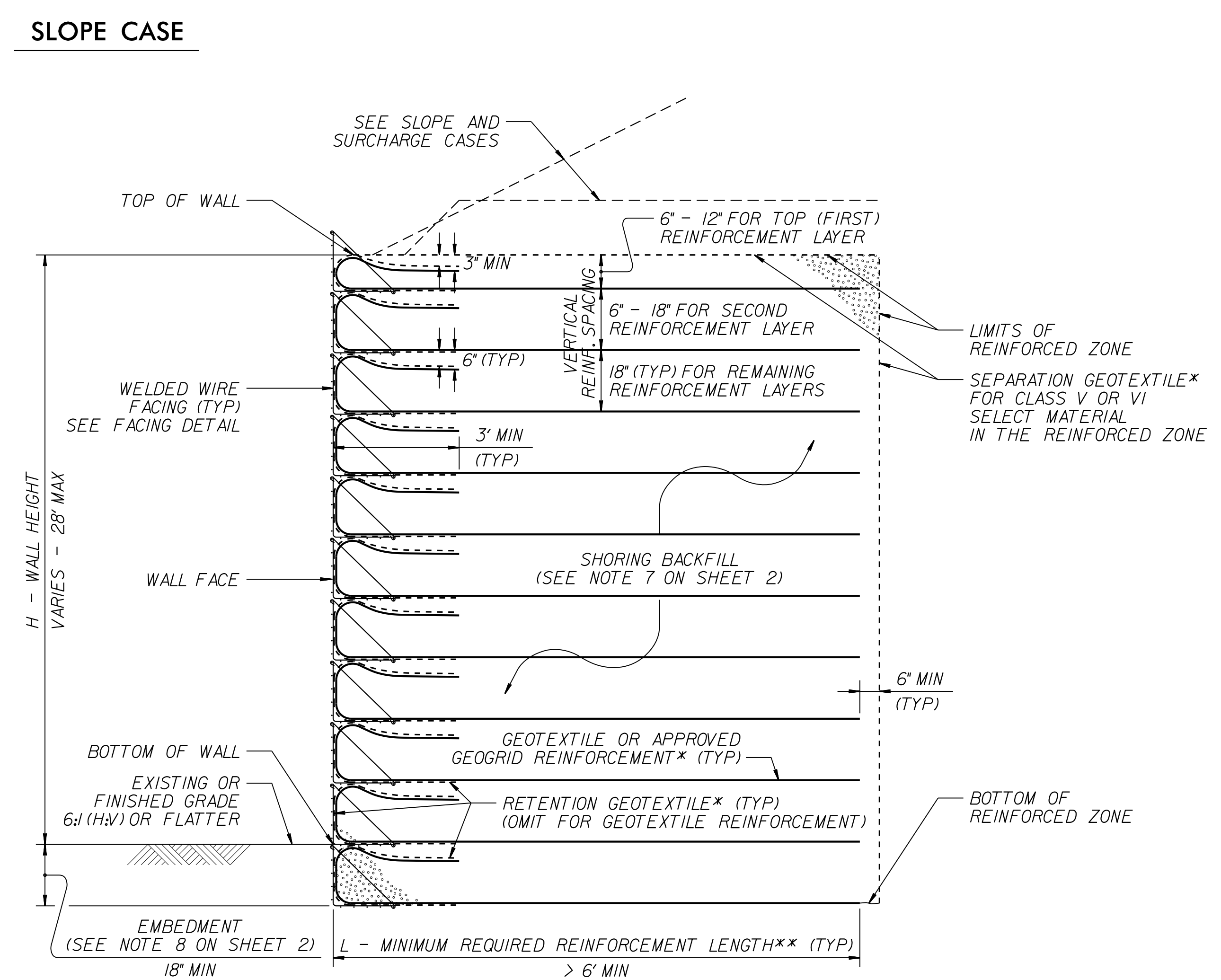
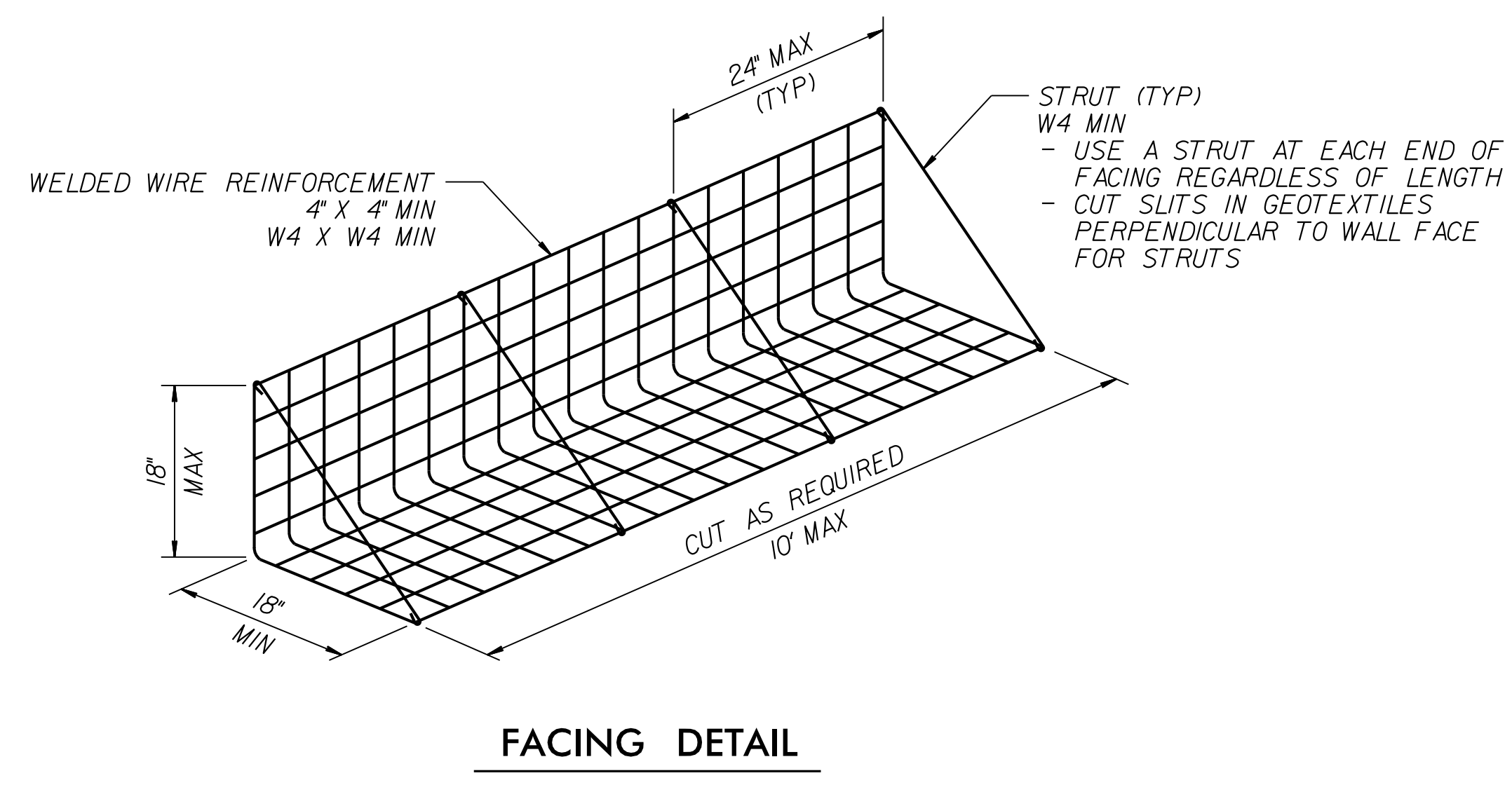
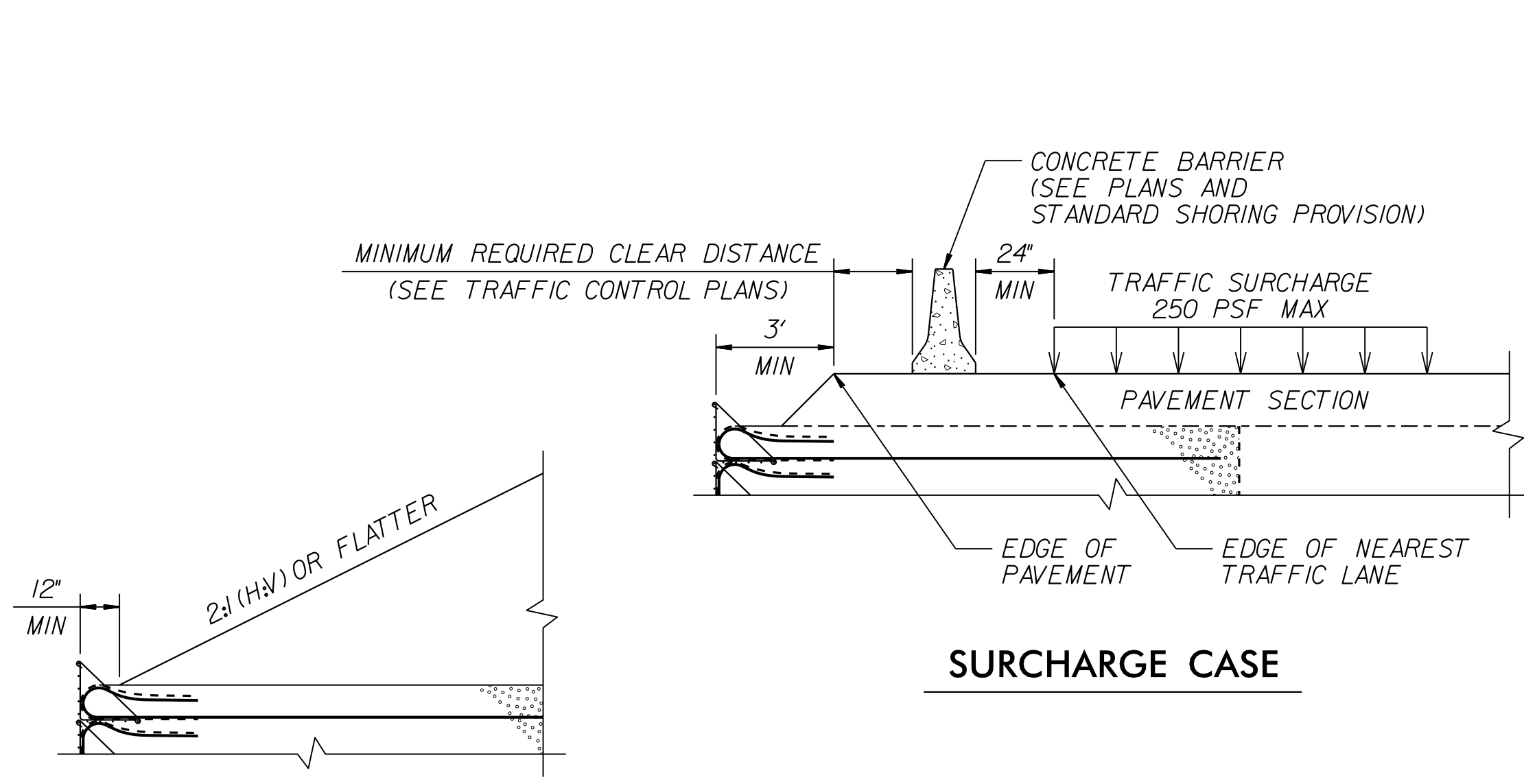


NORTH CAROLINA DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS
GEOTECHNICAL ENGINEERING UNIT

STANDARD DETAIL NO. 1801.01

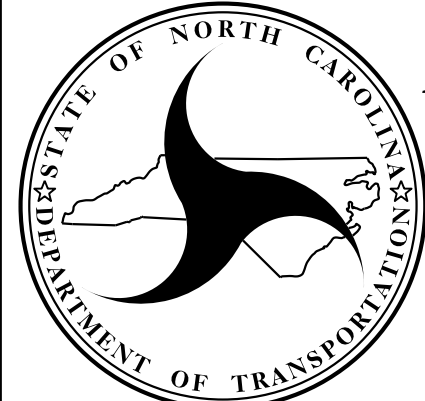
STANDARD TEMPORARY SHORING


PROJECT REFERENCE NO. R-3825B	SHEET NO. 2G-4
GEOTECHNICAL ENGINEER  Scott A. Hadden 5/21/2018	ENGINEER _____ DATE
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

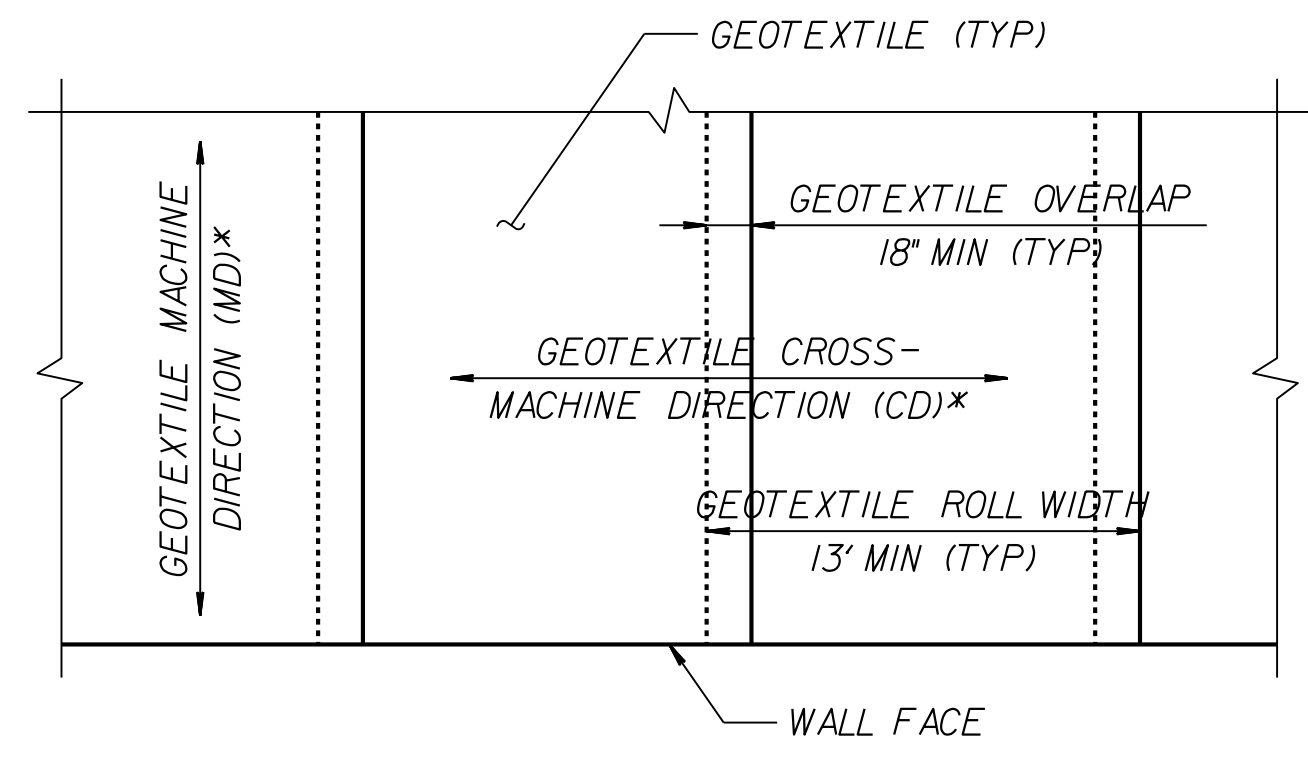


STANDARD TEMPORARY WALL
 (FOR STANDARD TEMPORARY WALLS ON STRUCTURES, SEE TEMPORARY WALL ON STRUCTURE DETAIL ON SHEET 2.)
 *SEE GEOSYNTHETIC PLACEMENT DETAILS ON SHEET 2.
 **SEE REINFORCEMENT TABLES ON SHEET 3.

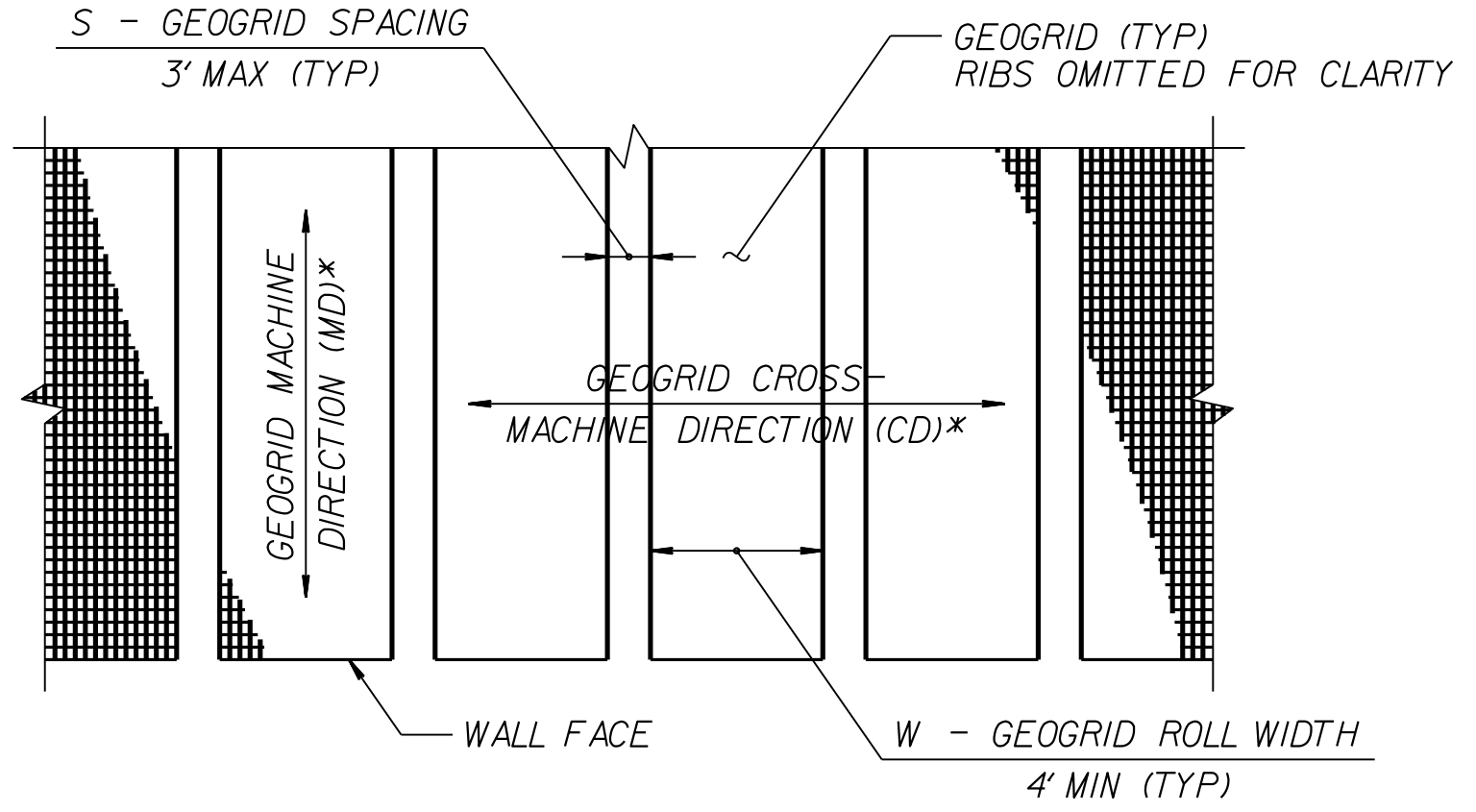
STANDARD TEMPORARY WALL - PARTIAL ELEVATION
 *SEE GEOSYNTHETIC PLACEMENT DETAILS ON SHEET 2.
 **SEE REINFORCEMENT TABLES ON SHEET 3.

 NORTH CAROLINA DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS GEOTECHNICAL ENGINEERING UNIT	STANDARD DETAIL NO. 1801.02
	STANDARD TEMPORARY WALL SHEET 1 OF 3 DATE: 11-19-13

PROJECT REFERENCE NO. R-3825B	SHEET NO. 2G-5
GEOTECHNICAL ENGINEER  DocuSigned by: Scott A. Hidden 5/21/2018	ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

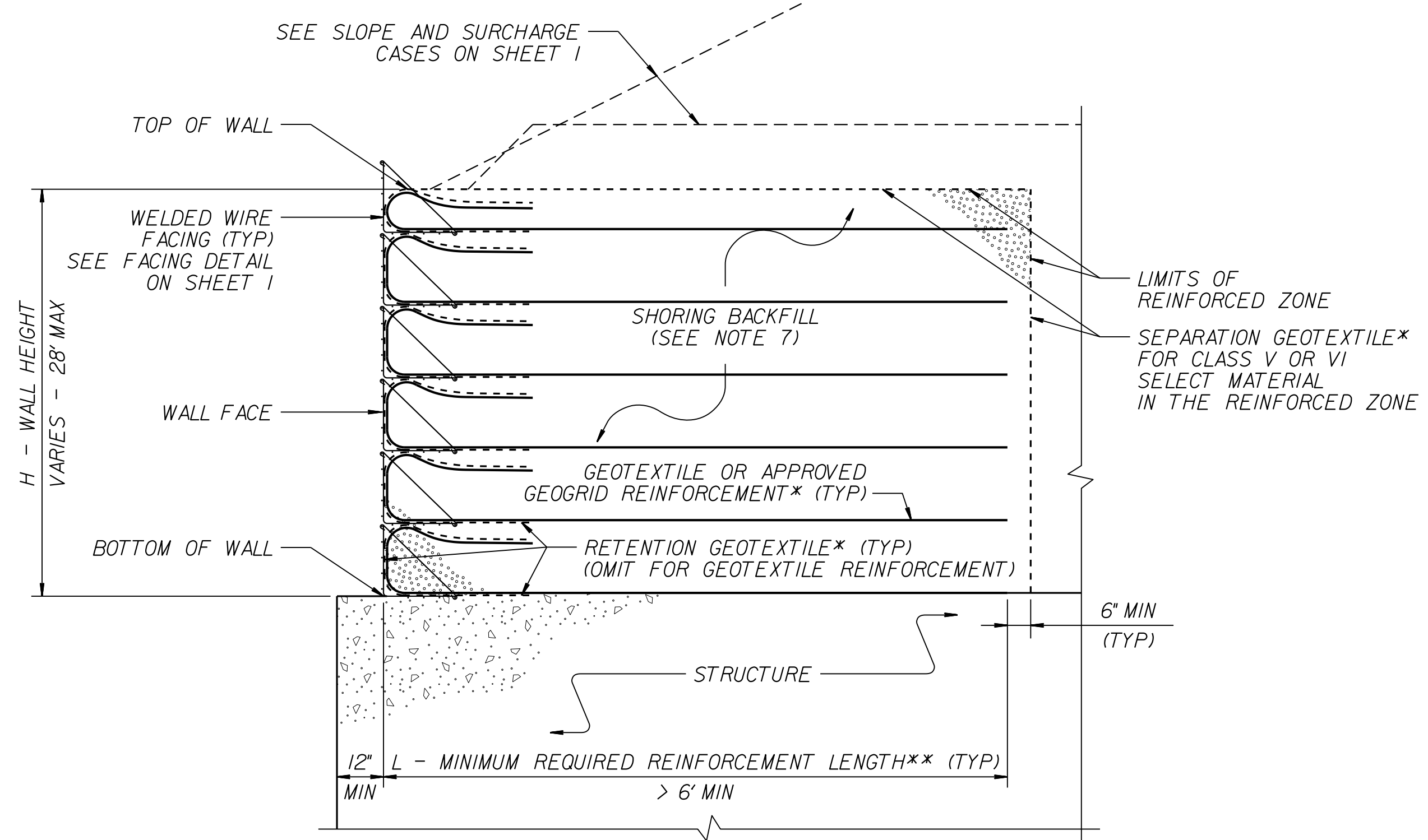


GEOTEXTILE PLACEMENT
(100% COVERAGE MIN FOR GEOTEXTILE REINFORCEMENT)



GEOGRID PLACEMENT
(80% COVERAGE MIN FOR GEOGRID REINFORCEMENT - $\frac{W}{W+S} \times 100 \geq 80\%$, SEE NOTE 11)

GEOSYNTHETIC PLACEMENT DETAILS
(PLAN VIEW)
*SEE NOTE 12.



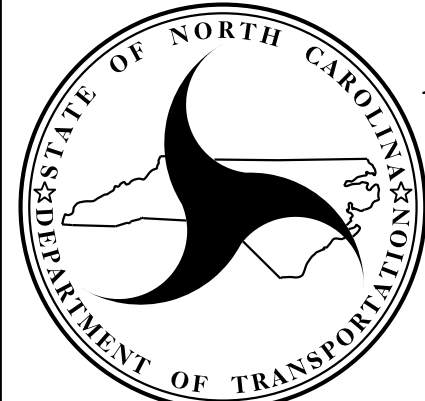
TEMPORARY WALL ON STRUCTURE DETAIL
*SEE GEOSYNTHETIC PLACEMENT DETAILS.
**SEE REINFORCEMENT TABLES ON SHEET 3.

NOTES:

1. AT THE CONTRACTOR'S OPTION, USE STANDARD TEMPORARY WALLS AS NOTED IN THE PLANS.
2. FOR STANDARD TEMPORARY WALLS, SEE STANDARD SHORING PROVISION.
3. STANDARD TEMPORARY WALLS ARE BASED ON THE FOLLOWING IN-SITU ASSUMED SOIL PARAMETERS:
UNIT WEIGHT, $\gamma = 120$ PCF
FRICTION ANGLE, $\phi = 30$ DEGREES
COHESION, $c = 0$ PSF
4. DO NOT USE STANDARD TEMPORARY WALLS IF ASSUMED SOIL PARAMETERS ARE NOT APPLICABLE.
5. DO NOT USE STANDARD TEMPORARY WALLS WHEN VERY LOOSE OR SOFT SOIL OR MUCK IS BELOW TEMPORARY WALLS.
6. USE GROUNDWATER ELEVATION NOTED IN THE PLANS. IF NO GROUNDWATER ELEVATION IS SHOWN IN THE PLANS, ASSUME GROUNDWATER DEPTH IS LESS THAN 7' BELOW BOTTOM OF REINFORCED ZONE. DO NOT USE STANDARD TEMPORARY WALLS IF GROUNDWATER IS ABOVE BOTTOM OF REINFORCED ZONE.
7. DO NOT USE A-2-4 SOIL FOR STANDARD TEMPORARY WALLS AROUND CULVERTS OR IN THE REINFORCED ZONE OF STANDARD TEMPORARY WALLS FOR SLOPE CASES. DO NOT USE CLASS VI SELECT MATERIAL IN THE REINFORCED ZONE OF STANDARD TEMPORARY WALLS WITH GEOTEXTILE REINFORCEMENT.
8. EMBEDMENT IS NOT REQUIRED FOR STANDARD TEMPORARY WALLS ON STRUCTURES OR ROCK AS DETERMINED BY THE ENGINEER.
9. DO NOT USE MORE THAN 4 DIFFERENT REINFORCEMENT STRENGTHS FOR EACH STANDARD TEMPORARY WALL.
10. GEOGRIDS ARE TYPICALLY APPROVED FOR ULTIMATE TENSILE STRENGTHS IN THE MACHINE DIRECTION (MD) AND CROSS-MACHINE DIRECTION (CD) OR SHORT-TERM DESIGN STRENGTHS FOR A 3-YEAR DESIGN LIFE IN THE MD BASED ON MATERIAL TYPE. THE LIST OF APPROVED GEOGRIDS WITH DESIGN STRENGTHS IS AVAILABLE FROM:
connect.ncdot.gov/resources/Materials/Pages/Materials-Manual-by-Manual.aspx
DEFINE MATERIAL TYPE FROM THE WEBSITE ABOVE FOR SHORING BACKFILL AS FOLLOWS:

MATERIAL TYPE	SHORING BACKFILL
BORROW	A-2-4 SOIL
FINE AGGREGATE	CLASS II, TYPE I OR CLASS III SELECT MATERIAL
COARSE AGGREGATE	CLASS V OR VI SELECT MATERIAL

- IF THE WEBSITE DOES NOT LIST A SHORT-TERM DESIGN STRENGTH FOR AN APPROVED GEOGRID, USE A SHORT-TERM DESIGN STRENGTH EQUAL TO THE ULTIMATE TENSILE STRENGTH DIVIDED BY 3.5 FOR THE GEOGRID REINFORCEMENT.
11. FOR GEOGRID REINFORCEMENT WITH LESS THAN 100% COVERAGE, STAGGER REINFORCEMENT SO GEOGRIDS ARE CENTERED OVER GAPS IN THE REINFORCEMENT LAYER BELOW.
 12. AT THE CONTRACTOR'S OPTION, REINFORCEMENT MAY BE INSTALLED WITH THE MD PARALLEL TO THE WALL FACE IF BOTH OF THE FOLLOWING CONDITIONS OCCUR:
- W (REINFORCEMENT ROLL WIDTH) \geq (MINIMUM REQUIRED REINFORCEMENT LENGTH) + 4.5' AND
- REINFORCEMENT STRENGTH IN CD \geq MINIMUM REQUIRED REINFORCEMENT STRENGTH IN MD.
 13. SUBMIT A "STANDARD TEMPORARY WALL SELECTION FORM" AT LEAST 7 DAYS BEFORE STARTING TEMPORARY WALL CONSTRUCTION. STANDARD SHORING SELECTION FORMS ARE AVAILABLE FROM:
connect.ncdot.gov/resources/Geological/Pages/Geotech_Forms_Details.aspx
 14. DO NOT PLACE SHORING BACKFILL OR REINFORCEMENT UNTIL EXCAVATION DIMENSIONS AND FOUNDATION MATERIAL ARE APPROVED.
 15. FOR STANDARD TEMPORARY WALLS WITH PILE FOUNDATIONS IN THE REINFORCED ZONE, DRIVE PILES THROUGH REINFORCEMENT AFTER CONSTRUCTING TEMPORARY WALLS.
 16. DO NOT SPLICE OR OVERLAP REINFORCEMENT SO SEAMS ARE PARALLEL TO THE WALL FACE.
 17. CONTACT THE ENGINEER WHEN EXISTING OR FUTURE OBSTRUCTIONS SUCH AS FOUNDATIONS, PAVEMENTS, PIPES, INLETS OR UTILITIES WILL INTERFERE WITH REINFORCEMENT.
 18. FOR STANDARD TEMPORARY WALLS WITH INTERIOR ANGLES LESS THAN 90 DEGREES, WRAP GEOSYNTHETICS AT ACUTE CORNERS AS DIRECTED BY THE ENGINEER.
 19. FOR STANDARD TEMPORARY WALLS WITH TOP OF WALL WITHIN 5' OF FINISHED GRADE, REMOVE TOP FACING AND INCORPORATE TOP REINFORCEMENT LAYER INTO FILL WHEN PLACING FILL IN FRONT OF WALL.



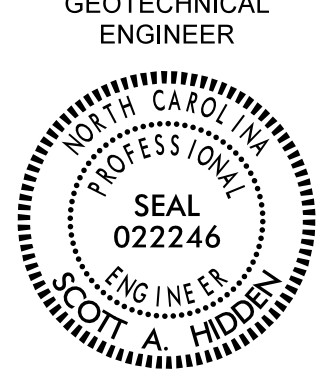
**NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS**

**GEOTECHNICAL
ENGINEERING UNIT**

STANDARD DETAIL NO. 1801.02

**STANDARD
TEMPORARY WALL
SHEET 2 OF 3**

DATE: 11-19-13

PROJECT REFERENCE NO. R-3825B	SHEET NO. 2G-6
GEOTECHNICAL ENGINEER  ENGINEER	ENGINEER DATE: 5/21/2018 SIGNATURE: Scott A. Hidden
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

SLOPE OR SURCHARGE CASE	GROUNDWATER DEPTH BELOW BOTTOM OF REINFORCED ZONE (SEE NOTE 6 ON SHEET 2) (FT)	SHORING BACKFILL TYPE IN THE REINFORCED ZONE (SEE NOTE 7 ON SHEET 2)	H - WALL HEIGHT (FT)																									
			< 4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	
SLOPE CASE	> 0	CLASS II, TYPE I, CLASS III, CLASS V OR CLASS VI SELECT MATERIAL	6	6	7	8	9	11	12	13	13	14	15	16	17	18	19	20	21	22	23	24	24	25	26	27	27	
SURCHARGE CASE	> 0 TO 7 FOR H < 20' > 0 TO 10 FOR H ≥ 20'	ALL SHORING BACKFILL TYPES	6	7	7	8	8	9	9	10	11	11	12	12	13	14	14	15	16	17	17	18	19	19	20	21	22	
		A-2-4 SOIL	6	6	7	8	8	9	9	10	11	11	12	12	13	14	14	15	16	16	17	18	18	19	20	20	21	
		CLASS II, TYPE I OR CLASS III SELECT MATERIAL	6	6	7	7	8	8	9	10	10	11	11	12	12	13	14	15	15	16	16	17	17	18	18	19	20	
	> 7 FOR H < 20' > 10 FOR H ≥ 20'	CLASS V OR CLASS VI SELECT MATERIAL	6	6	7	7	7	8	8	9	9	10	10	11	12	13	13	14	14	15	15	16	17	17	18	19	19	

L - MINIMUM REQUIRED REINFORCEMENT LENGTH (FT)
(FOR ALL REINFORCEMENT TYPES)

WALL HEIGHT (H) + EMBEDMENT (FT)	NUMBER OF REINFORCEMENT LAYERS*
2.5 - 4	3
4 - 5.5	4
5.5 - 7	5
7 - 8.5	6
8.5 - 10	7
10 - 11.5	8
11.5 - 13	9
13 - 14.5	10
14.5 - 16	11
16 - 17.5	12
17.5 - 19	13
19 - 20.5	14
20.5 - 22	15
22 - 23.5	16
23.5 - 25	17
25 - 26.5	18
26.5 - 28	19
28 - 29.5	20

*BASED ON VERTICAL REINFORCEMENT SPACING SHOWN ON SHEET 1.

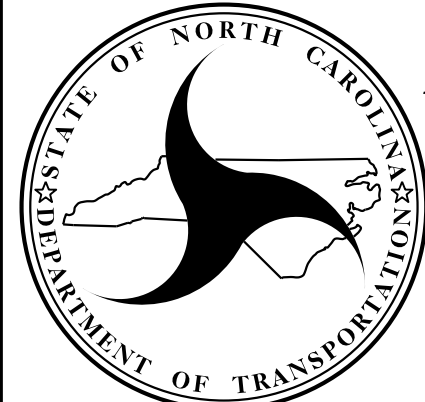
REINFORCEMENT LAYER NUMBER*	SHORING BACKFILL TYPE IN THE REINFORCED ZONE (SEE NOTE 7 ON SHEET 2)				
	SLOPE CASE		SURCHARGE CASE		
	CLASS II, TYPE I OR CLASS III SELECT MATERIAL	CLASS V SELECT MATERIAL	A-2-4 SOIL	CLASS II, TYPE I OR CLASS III SELECT MATERIAL	CLASS V SELECT MATERIAL
1	2400	2400	2400	2400	2400
2	2400	2400	2400	2400	2400
3	2400	2400	2400	2400	2400
4	2400	2400	2500	2400	2400
5	2500	2400	3000	2400	2400
6	3000	2400	3500	2800	2400
7	3500	2700	4000	3200	2600
8	4000	3100	4500	3600	2900
9	4500	3500	5000	4000	3200
10	5000	3900	5500	4400	3500
11	5500	4300	6000	4800	3800
12	6000	4700	6500	5200	4100
13	6500	5100	7000	5600	4400
14	7000	5400	7500	6000	4700
15	7500	5800	8000	6400	5000
16	8000	6200	8500	6800	5300
17	8500	6600	9000	7200	5600
18	9000	7000	9500	7600	5900
19	9500	7400	10000	8000	6200
20	10000	7800	10500	8400	6500

GEOTEXTILE REINFORCEMENT
ULTIMATE TENSILE STRENGTH (LB/FT)

REINFORCEMENT LAYER NUMBER*	SHORING BACKFILL TYPE IN THE REINFORCED ZONE (SEE NOTE 7 ON SHEET 2)				
	SLOPE CASE		SURCHARGE CASE		
	CLASS II, TYPE I OR CLASS III SELECT MATERIAL	CLASS V OR CLASS VI SELECT MATERIAL	A-2-4 SOIL	CLASS II, TYPE I OR CLASS III SELECT MATERIAL	CLASS V OR CLASS VI SELECT MATERIAL
1	240	200	340	290	240
2	380	310	520	430	350
3	530	420	700	570	460
4	690	550	870	720	570
5	860	690	1050	860	680
6	1030	830	1220	1000	790
7	1200	970	1400	1150	900
8	1370	1110	1580	1290	1010
9	1550	1240	1750	1430	1120
10	1720	1380	1930	1580	1230
11	1890	1520	2100	1720	1340
12	2060	1660	2280	1860	1450
13	2240	1800	2450	2010	1560
14	2410	1940	2630	2150	1670
15	2580	2080	2800	2290	1780
16	2750	2220	2980	2440	1890
17	2930	2360	3160	2580	2000
18	3100	2500	3330	2720	2110
19	3270	2640	3510	2860	2220
20	3440	2780	3690	3000	2330

GEOGRID REINFORCEMENT
SHORT-TERM DESIGN STRENGTH (LB/FT)
(SEE NOTE 10 ON SHEET 2.)

MINIMUM REQUIRED REINFORCEMENT STRENGTH IN MD
(SEE NOTE 9 ON SHEET 2.)
*SEE PARTIAL ELEVATION ON SHEET 1 FOR REINFORCEMENT LAYER NUMBERING.

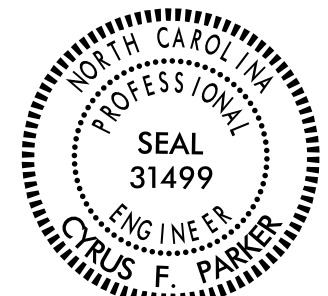


NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
GEOTECHNICAL
ENGINEERING UNIT

STANDARD DETAIL NO. 1801.02

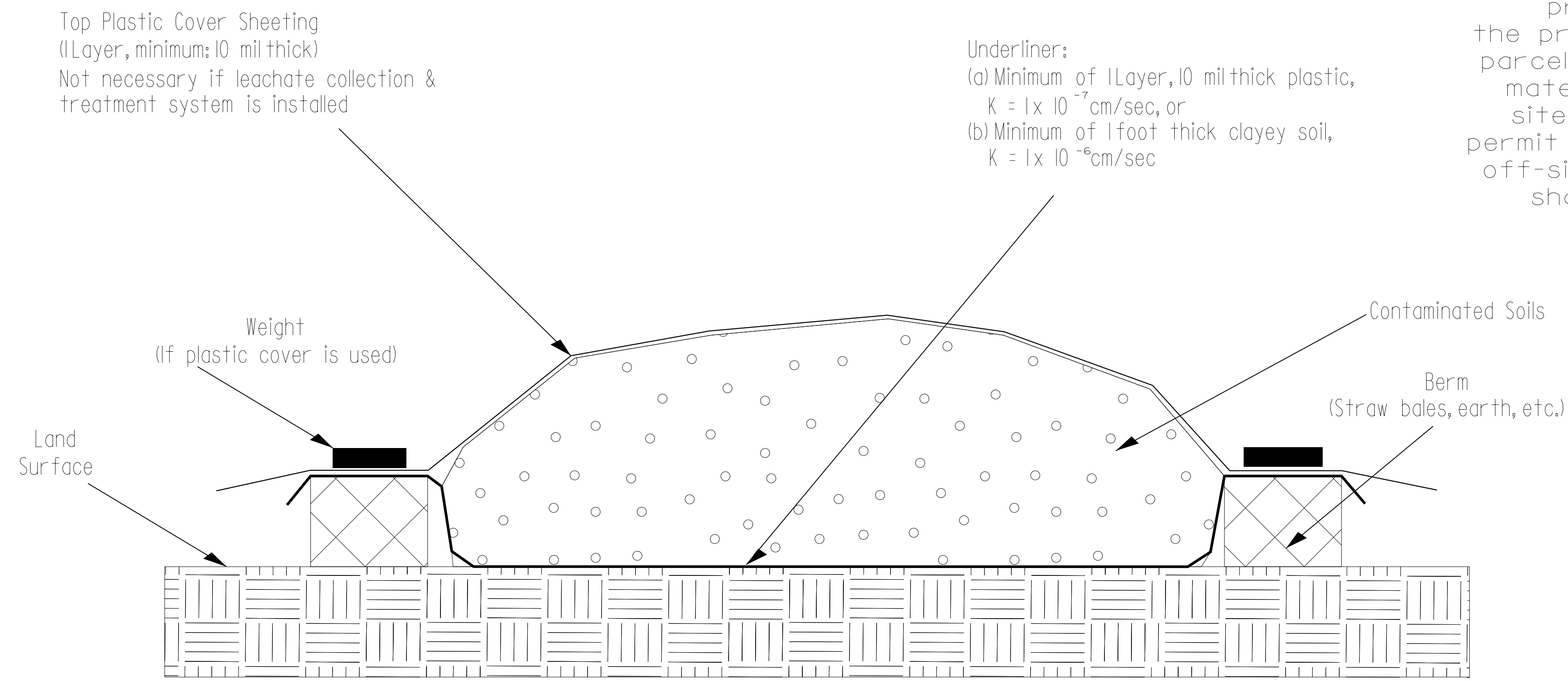
STANDARD
TEMPORARY WALL
SHEET 3 OF 3

DATE: 11-19-13

PROJECT REFERENCE NO. R-3825B		SHEET 2H-1	
GEOENVIRONMENTAL ENGINEER		ENGINEER	
		_____ SIGNATURE DATE	

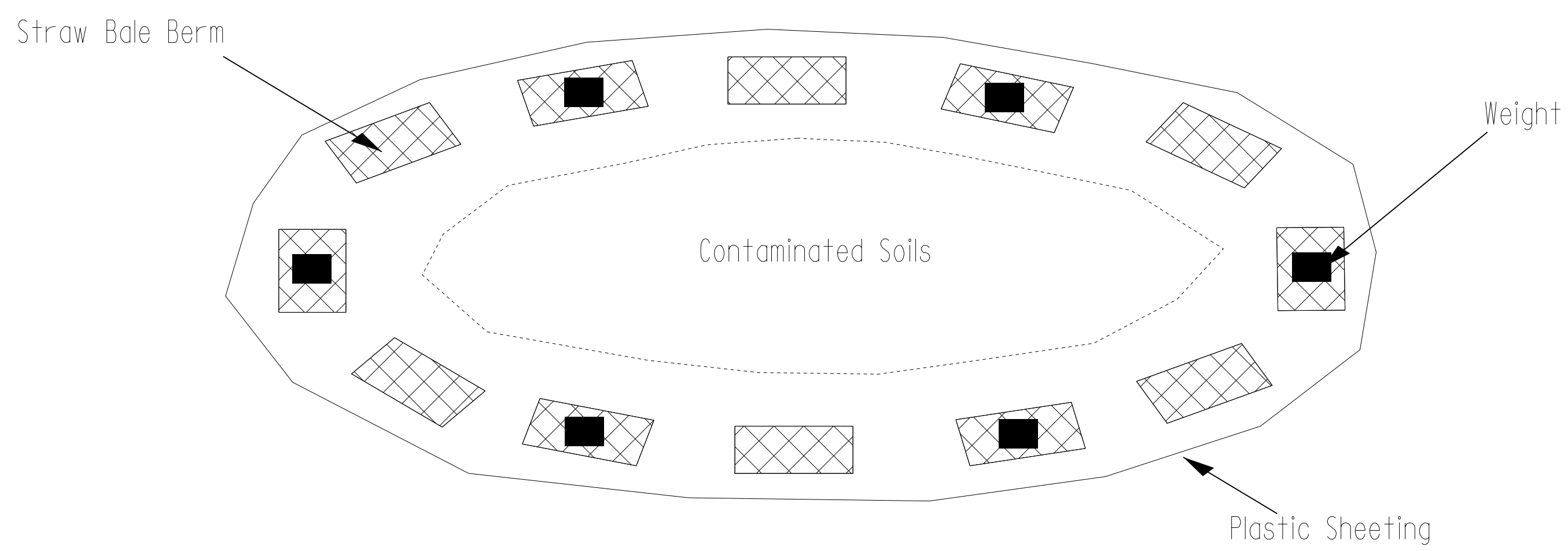
Detail for Temporary Containment of Contaminated Soil

Cross-Section View



NOTE:
The Contractor shall stockpile all contaminated soil excavated from a property in a location within the property boundaries of the source parcel. If the volume of contaminated material exceeds available space on site, the Contractor shall obtain a permit from the NCDEQ UST Section for off-site temporary storage. Stockpile shall be removed within 45 days.

Map View



PREPARED BY:	DATE:
REVIEWED BY:	DATE:

GEOTECHNICAL ENGINEERING UNIT

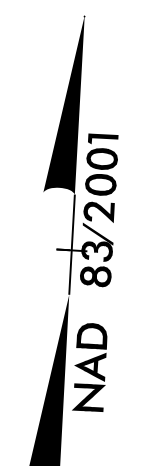
EASTERN REGIONAL OFFICE
 WESTERN REGIONAL OFFICE
 CONTRACT OFFICE

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

STOCKPILE CONTAINMENT DETAIL					
REVISIONS					
NO.	BY	DATE	NO.	BY	DATE
1			3		
2			4		

5/28/99

NOISE WALL -NW2A-

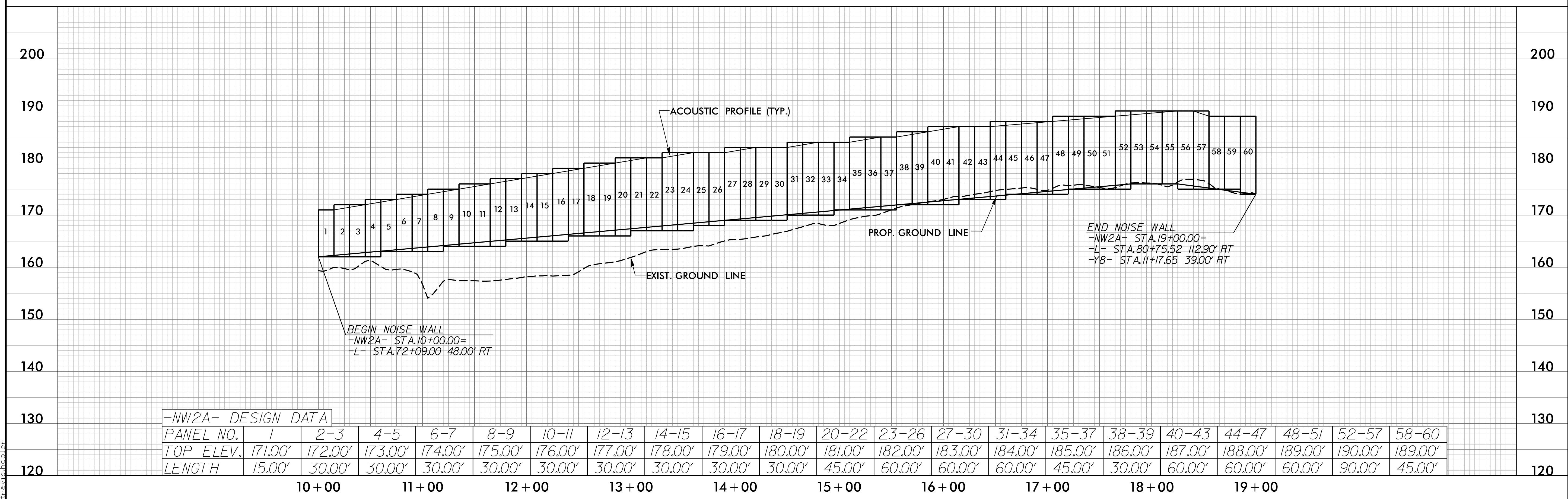
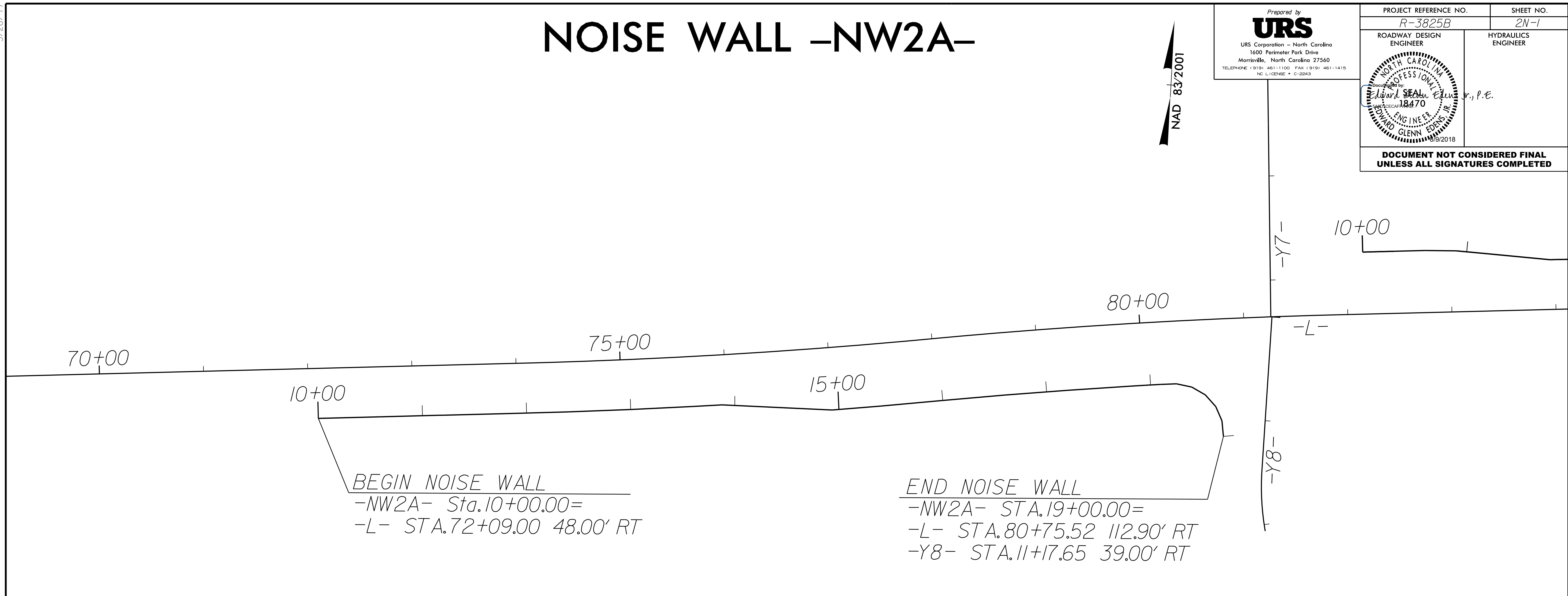


Prepared by
URS
 URS Corporation - North Carolina
 1600 Perimeter Park Drive
 Morrisville, North Carolina 27560
 TELEPHONE 1 919 461-1100 FAX 1 919 461-1415
 NC LICENSE # C-2843

PROJECT REFERENCE NO. R-3825B	SHEET NO. 2N-1
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

Professional Engineer Seal: Edward S. Eders, P.E., License No. 18470, State of North Carolina, expires 9/2018.

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



-NW2A- DESIGN DATA	
PANEL NO.	1 2-3 4-5 6-7 8-9 10-11 12-13 14-15 16-17 18-19 20-22 23-26 27-30 31-34 35-37 38-39 40-43 44-47 48-51 52-57 58-60
TOP ELEV.	171.00' 172.00' 173.00' 174.00' 175.00' 176.00' 177.00' 178.00' 179.00' 180.00' 181.00' 182.00' 183.00' 184.00' 185.00' 186.00' 187.00' 188.00' 189.00' 190.00' 189.00'
LENGTH	15.00' 30.00' 30.00' 30.00' 30.00' 30.00' 30.00' 30.00' 30.00' 30.00' 45.00' 60.00' 60.00' 60.00' 45.00' 30.00' 60.00' 60.00' 60.00' 90.00' 45.00'
	10+00 11+00 12+00 13+00 14+00 15+00 16+00 17+00 18+00 19+00

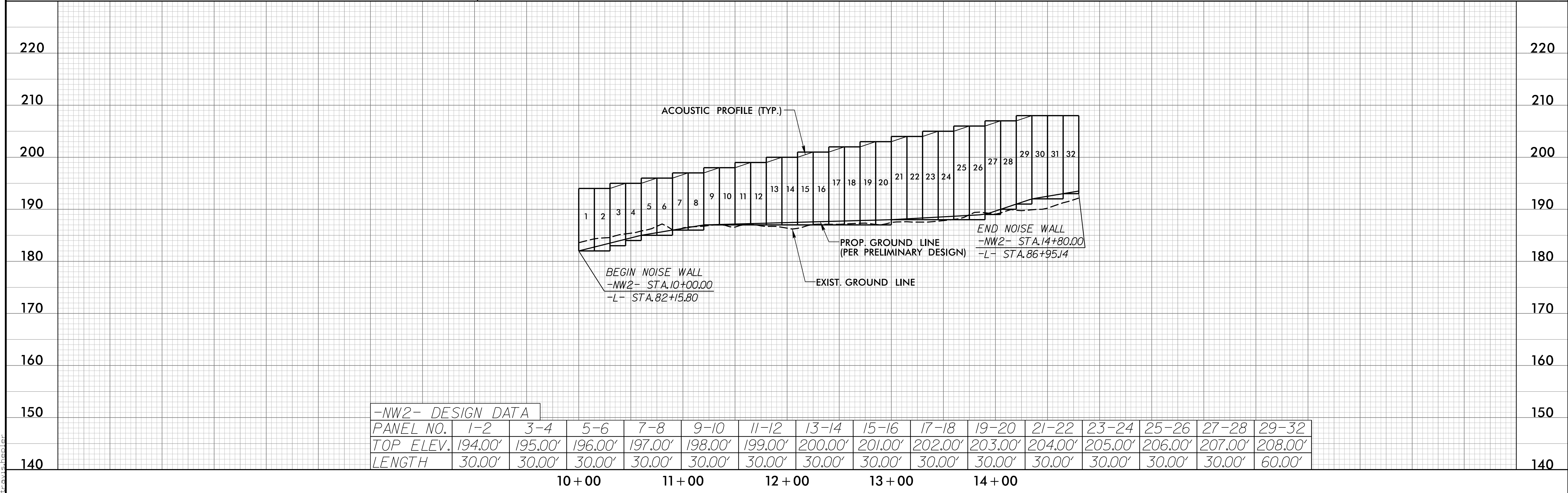
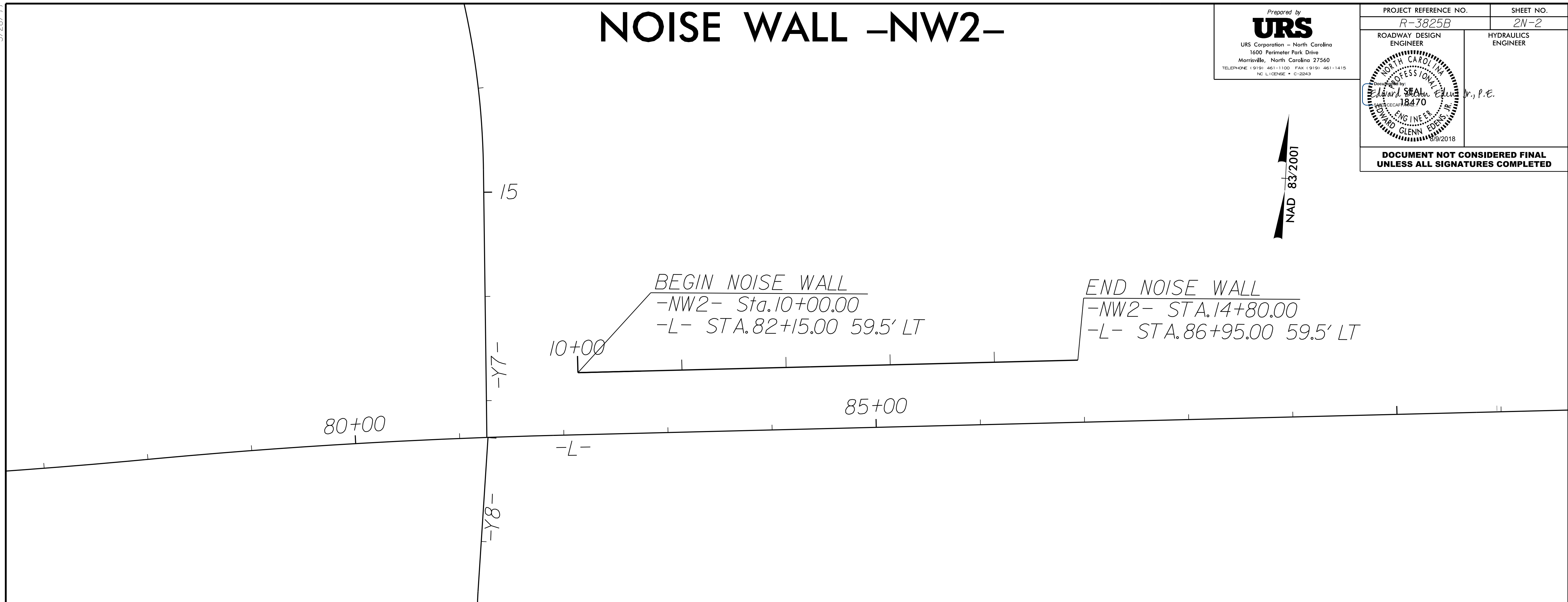
8/9/2016
 R:\Projects\Noise\183825B_Rdy_NW_DNR_Addendum\183825B_Rdy_psh_02N_1.dgn
 Edward S. Eders, P.E.
 License No. 18470

5/28/19

NOISE WALL -NW2-

Prepared by
URS
 URS Corporation - North Carolina
 1600 Perimeter Park Drive
 Morrisville, North Carolina 27560
 TELEPHONE 1 919 461-1100 FAX 1 919 461-1415
 NC LICENSE # C-2843

PROJECT REFERENCE NO. <i>R-3825B</i>	SHEET NO. <i>2N-2</i>
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
	<i>[Signature]</i> , P.E.
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	



-NW2- DESIGN DATA

PANEL NO.	1-2	3-4	5-6	7-8	9-10	11-12	13-14	15-16	17-18	19-20	21-22	23-24	25-26	27-28	29-32
TOP ELEV.	194.00'	195.00'	196.00'	197.00'	198.00'	199.00'	200.00'	201.00'	202.00'	203.00'	204.00'	205.00'	206.00'	207.00'	208.00'
LENGTH	30.00'	30.00'	30.00'	30.00'	30.00'	30.00'	30.00'	30.00'	30.00'	30.00'	30.00'	30.00'	30.00'	30.00'	60.00'

10 + 00 11 + 00 12 + 00 13 + 00 14 + 00

8/9/2018
 C:\Users\j...nd Noise\R3825B_Rdy_NW_01.dgn
 DNR\R3825B_Rdy_psh_02N.dgn
 R3825B_Rdy_psh_02N.dgn

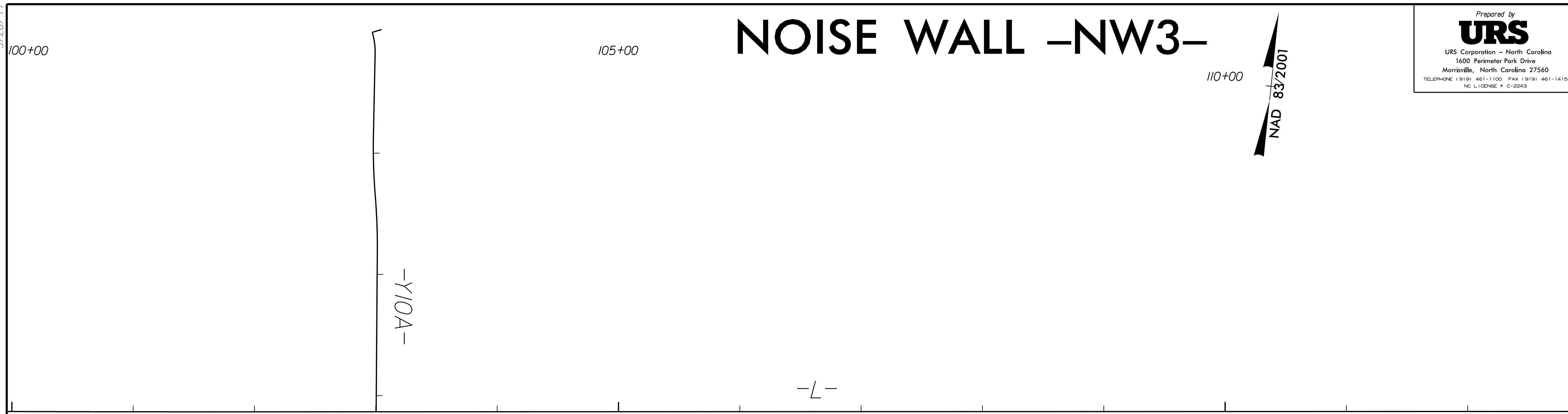
5/28/19

NOISE WALL -NW3-

Prepared by
URS
 URS Corporation - North Carolina
 1600 Perimeter Park Drive
 Morrisville, North Carolina 27560
 TELEPHONE 1 919 461-1100 FAX 1 919 461-1415
 NC LICENSE # C-2843

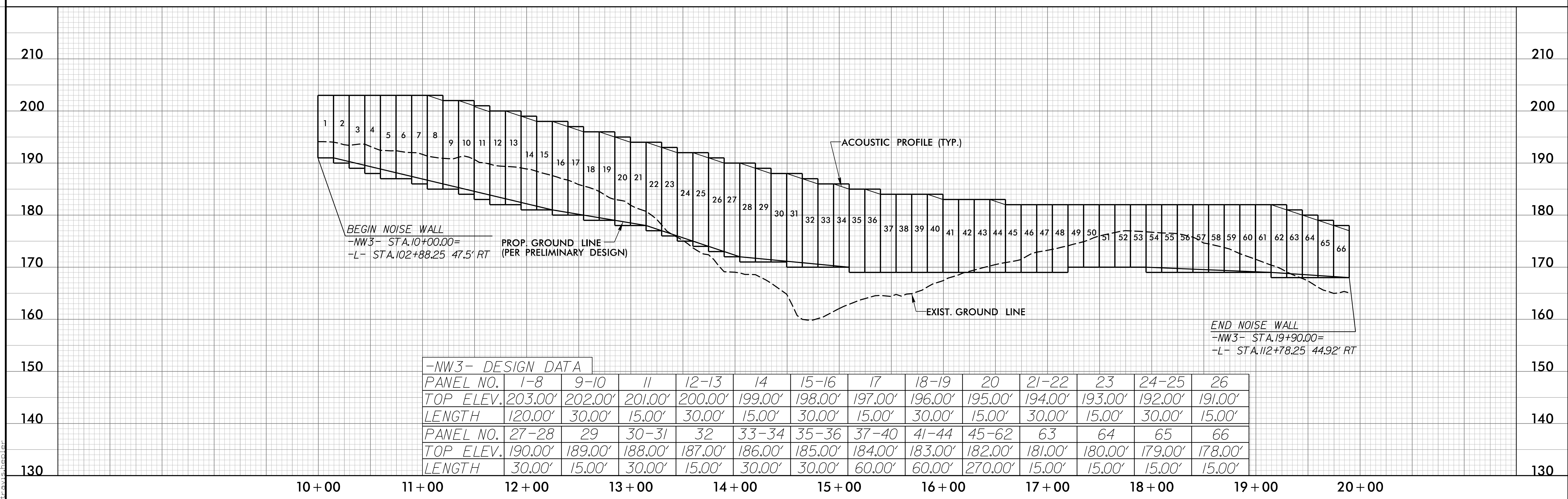
PROJECT REFERENCE NO. <i>R-3825B</i>	SHEET NO. <i>2N-3</i>
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
<i>Edward S. ...</i>	<i>... P.E.</i>

**DOCUMENT NOT CONSIDERED FINAL
 UNLESS ALL SIGNATURES COMPLETED**



BEGIN NOISE WALL
 -NW3- Sta.10+00.00=
 -L- Sta.102+88.25 47.5' RT

END NOISE WALL
 -NW3- Sta.19+90.00=
 -L- Sta.112+78+25 44.92' RT



PANEL NO.	1-8	9-10	11	12-13	14	15-16	17	18-19	20	21-22	23	24-25	26
TOP ELEV.	203.00'	202.00'	201.00'	200.00'	199.00'	198.00'	197.00'	196.00'	195.00'	194.00'	193.00'	192.00'	191.00'
LENGTH	120.00'	30.00'	15.00'	30.00'	15.00'	30.00'	15.00'	30.00'	15.00'	30.00'	15.00'	30.00'	15.00'
PANEL NO.	27-28	29	30-31	32	33-34	35-36	37-40	41-44	45-62	63	64	65	66
TOP ELEV.	190.00'	189.00'	188.00'	187.00'	186.00'	185.00'	184.00'	183.00'	182.00'	181.00'	180.00'	179.00'	178.00'
LENGTH	30.00'	15.00'	30.00'	15.00'	30.00'	30.00'	60.00'	60.00'	270.00'	15.00'	15.00'	15.00'	15.00'

8/9/2018
 C:\Users\... \Public\NoiseWall\NoiseWall.dgn
 D:\Projects\3825B\NoiseWall\NoiseWall.dgn

USRAL31T7006

COMPUTED BY: AECOM DATE: 07/02/2018
CHECKED BY: AECOM DATE: 07/02/2018

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

PROJECT NO. R-3825B SHEET NO. 3D-13

Note: Invert Elevations indicated are for Bid Purposes only and shall not be used for project construction stakeout.
See "Standard Specifications For Roads and Structures, Section 300-5".

LIST OF PIPES, ENDWALLS, ETC. (FOR PIPES 48 INCHES & UNDER)

Main data table with columns for Line & Station, Offset, Structure Number, Invert Elevation, Minimum Required Slope, Pipe Material (Drainage, C.S., R.C., Welded Steel), Endwalls, Quantities for Drainage Structures, Frame/Grates, and Remarks. Includes a SHEET TOTALS row at the bottom.

ABBREVIATIONS table listing codes like C.A.A., C.B., C.S., D.I., G.D.I., H.D.P.E., J.B., M.H., N.S., P.V.C., R.C., T.B.D.I., T.B.J.B., W.S. and their corresponding material names.

REMARKS

COMPUTED BY: Jinyoung Park DATE: 3/26/2018
 REVISED BY: Jinyoung Park DATE: 12/9/2020
 CHECKED BY: Jamey Batts DATE: 12/9/2020

(2-16-16)

PROJECT NO.	SHEET NO.
R-3825B	3G-1

STATE OF NORTH CAROLINA
 DIVISION OF HIGHWAYS

SUMMARY OF SUBSURFACE DRAINAGE

LINE	Station	Station	Location LT/RT/CL	Drain Type* UD/BD/SD	LF
L	41+75	43+25	RT	UD	150
L	75+25	76+25	LT	UD	150
L	79+75	82+25	LT, RT	UD	500
L	110+25	113+25	LT, RT	UD	600
L	234+25	236+25	LT, RT	UD	400
L	243+75	248+75	LT, RT	UD	1000
L	251+00	253+25	LT, RT	UD	450
L	255+25	257+75	LT, RT	UD	500
Y7	14+75	16+50	LT, RT	UD	350
CONTINGENCY					
				UD	2000
				TOTAL LF:	6100

*UD = Underdrain
 *BD = Blind Drain
 *SD = Subsurface Drain

SUMMARY OF AGGREGATE SUBGRADE/STABILIZATION

LINE	Station	Station	Aggregate Type* ASU/AST	Aggregate Thickness INCHES	Shallow Undercut CY	Class IV Subgrade Stabilization TONS	Geotextile for Soil Stabilization SY	Stabilizer Aggregate TONS	Class IV Aggregate Stabilization TONS
L	81+75	83+75	ASU	12	50	100	300		
L	89+75	94+75	ASU	12	350	600	1000		
L	177+25	180+25	ASU	12	200	350	650		
L	220+25	222+25	ASU	12	200	375	600		
L	223+25	224+75	ASU	12	150	250	400		
L	242+75	246+75	ASU	12	600	1100	2000		
L	251+25	253+25	ASU	12	200	400	600		
Y6	13+75	15+75	ASU	12	100	100	200		
Y13	20+25	22+75	ASU	12	100	175	400		
CONTINGENCY									
			ASU	12	1000	1500	3000		
			TOTAL CY/TONS/SY:		2950	4950	9150**	0	0

*ASU = Aggregate Subgrade
 *AST = Aggregate Stabilization
 **Total square yards of "Geotextile for Soil Stabilization" is only the estimated quantity for ASU/AST and may only represent a portion of the geotextile quantity shown in the Item Sheets of the Proposal.

SUMMARY OF ROCK PLATING

LINE	Beginning Slope (H:V)	Approx. Station	Ending Slope (H:V)	Approx. Station	Location LT/RT	Rock Plating Detail No. 1/2/3/4	Riprap Class* 1/2/B	Rock Plating SY
L	2.5:1	200+25 ±	2.5:1	202+75 ±	LT	2	1	1400
L	2.5:1	229+75 ±	2.5:1	231+75 ±	LT	2	1	550
L	2.5:1	231+25 ±	2.5:1	232+75 ±	RT	2	1	600
L	2.5:1	241+79 ±	2.5:1	242+56 ±	LT	1	-	110
TOTAL SY:								2660

*Use Class 1, 2 or B riprap if riprap class is not shown for rock plating location.

SUMMARY OF GEOTEXTILE FOR
 PAVEMENT STABILIZATION

LINE	Station	Station	OFFSET	SY
L	24+00.00	29+50.00	LT	2322
L	37+00.00	39+00.00	LT	844
L	48+75.00	50+25.00	LT	767
L	48+75.00	49+75.00	RT	622
L	57+75.00	62+50.00	RT	2428
L	66+25.00	67+25.00	RT	622
L	105+00.00	108+50.00	LT	1906
L	107+00.00	109+00.00	RT	756
L	112+75.00	115+25.00	RT	1528
L	127+25.00	129+00.00	LT, RT	833
L	134+75.00	137+50.00	LT, RT	2750
L	155+00.00	158+00.00	LT, RT	2467
L	165+25.00	169+00.00	RT	1875
L	200+25.00	203+00.00	LT	1161
L	201+25.00	204+00.00	RT	978
L	230+00.00	232+25.00	LT	625
L	230+00.00	232+50.00	RT	778
TOTAL SY:				23262

DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA **PARCEL INDEX SHEET**

PARCEL No.	SHEET No.	PROPERTY OWNER INFORMATION
1	4	KEVIN M AMIGH AND WIFE ELIZABETH B AMIGH
2	4,5	THE SHOPPES AT GLEN LAUREL
3	4,5	ROBERT B HUNT AND WIFE MARGARET H HUNT
4	4,5,6	PINES AT GLEN LAUREL, LLC
5	5,6,7	FALCON HAMLET LLC
6	7,8	RIVER MEWS ESTATE LLC
7	6	STEVENSON E WILSON AND WIFE MAJORIE WILSON
8	6	KEVIN T HAMILTON
9	6	CHRISTY L HOBBY
10	6	JASON A WILLIAMS AND JOSEPH T LORENZO
11	6,7	TODD NARRON
12	6	ALVIN BROUGHTON JR AND WIFE CAROL BROUGHTON
13	7	KLAUS J KALLAS AND WIFE MARY H KALLAS
14	7	WALTER S DAVIS AND WIFE SYLVIA DAVIS
15	7,8	REBECCA D FLOWERS
16	8	JOHNSTON COUNTY BOARD OF EDUCATION
17	8,9	COUNTY OF JOHNSTON
18	8,9	REBECCA FLOWERS FINCH
19	8	AQUA NORTH CAROLINA INC.
21	9	CARE OF CLAYTON, LLC
22	9	WOODARD INSURANCE, INC
23	9	REBECCA FLOWERS FINCH
24	9,10	GEORGE EDWARD NICHOLDS
25	9,10	BHH, LLC
26	10	PRAZE PROPERTIES, LLC
27	10	JERAULD G. THELIN AND WIFE SANDRA M. THELIN
28	10	CLAYTON 99, LLC
29	10	SUSO 4 FLOWERS LP
30	10	RICHARD ALLEN LEE AND WIFE LISA JEANINE BOYKIN
31	10	JAMES A. JOY II AND WIFE CHRISTINE C. JOY
32	10	AQUA NORTH CAROLINA, INC FORMALLY (HEATER UTILITIES, INC)
33	10	CAROLINA TELEPHONE AND TELEGRAPH CO.
34	10	ALBERT HARVEY WALSTON AND JEAN TURNER MURRAY
35	11	CLAYTON 99, LLC
36	11	CLAYTON 99, LLC
37	11	THE GARDENS AT FLOWERS PLANTATION ASSOCIATION
39	11	AQUA NORTH CAROLINA, INC FORMALLY (HEATER UTILITIES, INC)
40	11	CHARLES RAY WILLIAMS
41	11	INSPIRED, LLC
42	11	IRENE V. DAVUDOVA-FORQUER
43	11	AQUA NORTH CAROLINA, INC
44	11	BRADLEY SCOTT SIMMONS AND WIFE JILL DAVIS SIMMONS
45	11	RICHARD TODD STUTTS
46	11,12	PETER JOSEPH BIGNESS AND CINDY JOHNSON BIGNESS
47	12	NEUSE PARK DEVELOPMENT CO., LLC
48	12,13	CENTEX HOMES
49	12	M. ANDREW JONES, JR. AND WIFE NANCY S. JONES
50	12	MARSHALL H. MALPASS AND WIFE ROBIN M. MALPASS
51	12	CHRISTOPHER V. CIPRIANI AND WIFE PATRICIA S. CIPRIANI
52	12,13	RODNEY GEOHAGAN, JR.
53	13	EUGENE V. BERTOCCHI AND SPOUSE ROBERTA T. BERTOCCH
54	13	ANDREW J. BOND
55	13	HARRISON N. MWAURA AND BEATRICE W. CHEGE
56	13	CREESHA D. HOGAN
57	13	ERICA L. SETH
58	13,14,15	42 EAST, LLC
60	13	SOARD FAMILY LLC

PARCEL No.	SHEET No.	PROPERTY OWNER INFORMATION
62	13,14,15	NEUSE COLONY ASSOCIATION INC. ACQUISITION OF WHITE VINYL FENCE LOCATED ON PARCEL 24-59
63	14	WILLIAM R. JAMESON
64	14	SHANNON L. HILL AND WIFE REGINA HILL
67	15,16	GERRY LYNCH
68	15	CHRISTIE TRIPP MINGA
69	15	42 EAST, LLC
70	15	JOYCE I. ARMSTRONG
71	15	GREG R. DUNSTON AND WIFE, TAKICEY M. DUNSTON
72	15,16	GEORGE P. MEREWETHER AND WIFE, MARIAN L. MEREWETHER
73	16	JOHN T. SHULER AND WIFE, CATHIE G. SHUKER
74	16	GREG C. JONES AND WIFE, ANGELA V. JONES
75	16,17,18	PEGGY ANNE FLOWERS
76	16	42 EAST LLC
77	16,17	42 EAST LLC
80	17	42 EAST LLC
81	17	42 EAST LLC
82	17,18	PEGGY FLOWERS BENSON
83	18	JANA GUERTLER
84	18,19	PAMELA DENISE FLOWERS
85	18	ALLIE TEW-DECEASED EST. 05E1387-WAKE CO.
86	18	JIMMY ROGERS FLOWERS
87	18,19	REBECCA D FLOWERS
88	19	LARRY B SWANEY AND WIFE LYNN R SWANEY
89	19	COUNTY OF JOHNSTON
90	19	CHRISTOPHER M FORD AND WIFE MELANIE P FORD
91	19	JAMES M WILCOX AND WIFE ELAINE B WILCOX
92	19	RAYMOND B WORTHINGTON AND WIFE PEBBLES L WORTHINGTON
93	19	RICHARD M PREUSS AND WIFE LOUISE F MAISENHALDER
94	19,20	DWF DEVELOPMENT INC
95	19,20	PEGGY ANN FLOWERS
97	20	MARK DAVEY AND WIFE MITZI DAVEY
98	20	SWEETGRASS AT FLOWERS PLANTATION
99	20,21	REBECCA D FLOWERS
100	20,21,22,23	REBECCA D FLOWERS
102	21	REBECCA D FLOWERS
103	21,22,23	FLOWERS PLANTATION COMMERCIAL, LLC
105	22	FPC DRUGSTORE OUTPARCEL LLC
106	22	PERCY FLOWERS STORE LLC
107	22,23	REBECCA D FLOWERS
108	22,23	REBECCA FLOWERS FINCH
112	22,23	REBECCA D FLOWERS
114	22,23	REBECCA FLOWERS FINCH
116	23	FPC PHASE, ILLC
117	23	FPC MENAGERIE OUTLOT, LLC