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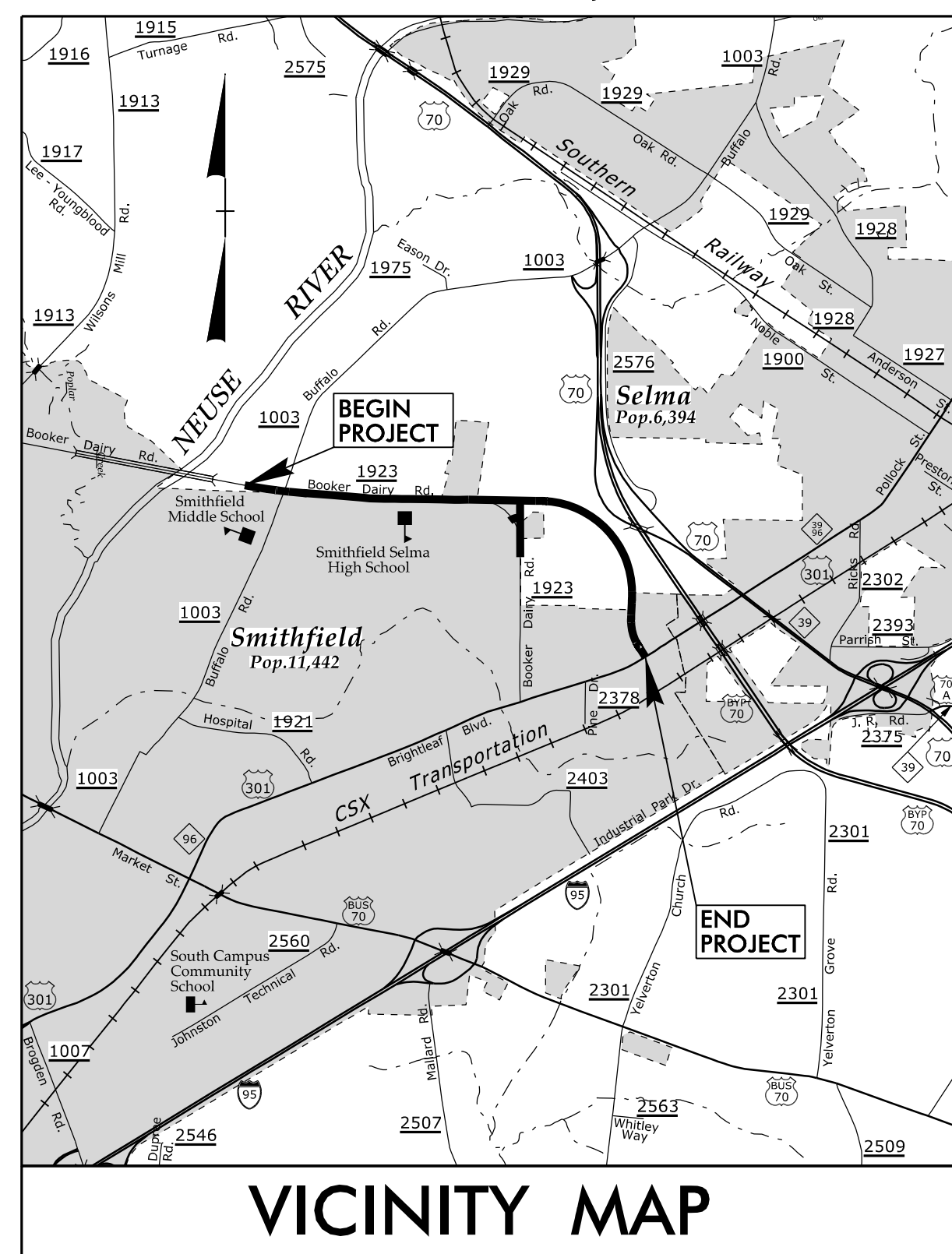
09/08/19

See Sheet 1A for Index of Sheets, General Notes, and List of Standard Drawings
 See Sheet 1B for Conventional Symbols
 See Sheets 1C-1 thru 1C-4 for Survey Control Sheets

STATE OF NORTH CAROLINA
 DIVISION OF HIGHWAYS
JOHNSTON COUNTY

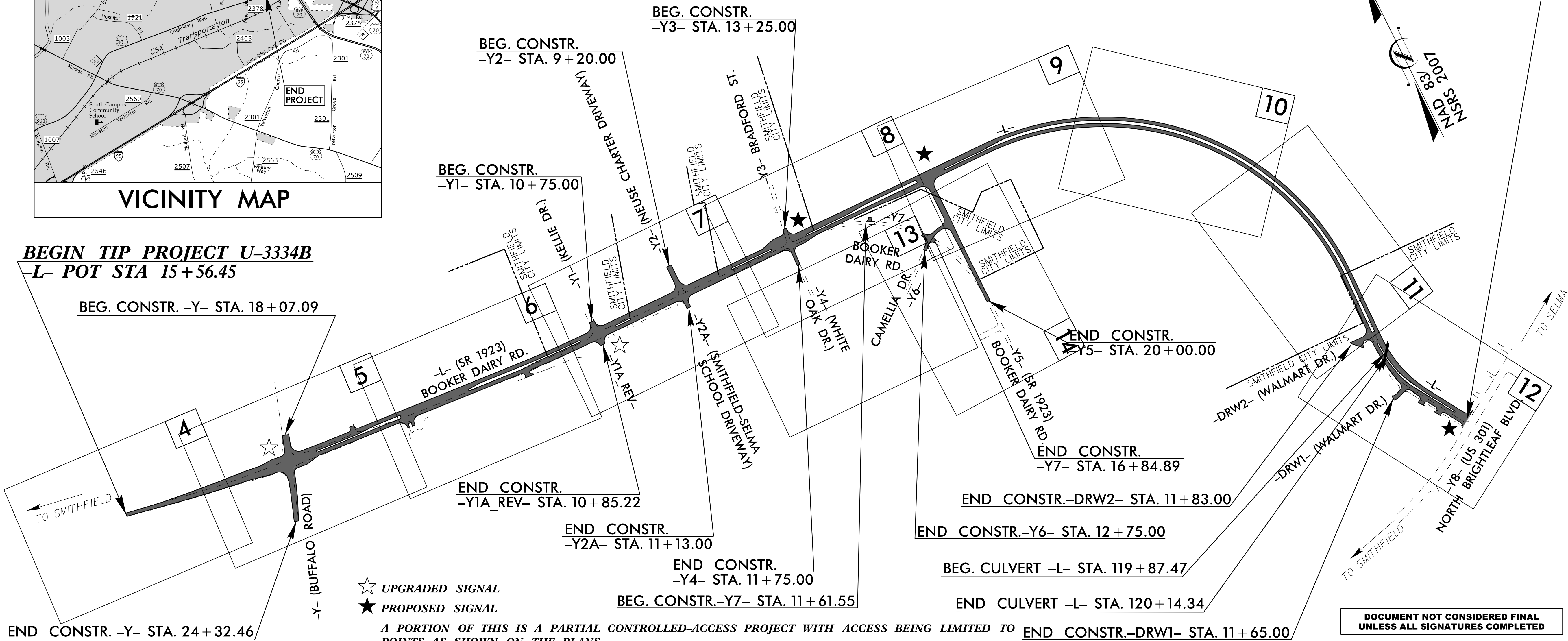
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	U-3334B	1	
STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION	
34929.1.4		P.E.	
34929.2.5		R/W	
34929.2.6		UTIL.	
34929.3.3		CONSTR.	

TIP PROJECT: U-3334B



BEGIN TIP PROJECT U-3334B
 -L- POT STA 15+56.45

BEG. CONSTR. -Y- STA. 18+07.09



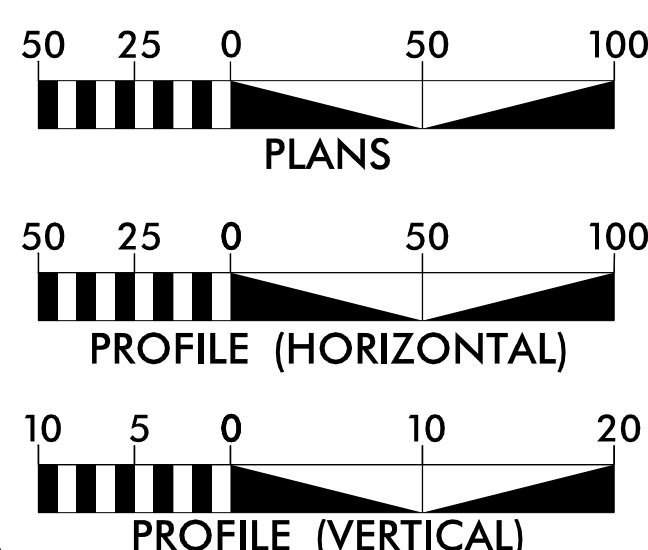
☆ UPGRADED SIGNAL
 ★ PROPOSED SIGNAL

A PORTION OF THIS IS A PARTIAL CONTROLLED-ACCESS PROJECT WITH ACCESS BEING LIMITED TO END CONSTR.-DRW1- STA. 11+65.00 POINTS AS SHOWN ON THE PLANS.

DOCUMENT NOT CONSIDERED FINAL
 UNLESS ALL SIGNATURES COMPLETED

CONTRACT: C204060

GRAPHIC SCALES



DESIGN DATA

ADT 2018 = 10,987
 ADT 2038 = 18,532
 K = 9 %
 D = 55 %
 T = 3 % *
 V = 50 MPH
 * (1% TTST + 2% DUALS)
 FUNC CLASS =
 URBAN COLLECTOR
 SUBREGIONAL TIER

PROJECT LENGTH

LENGTH OF ROADWAY TIP PROJECT U-3334B = 2.119 MILES
 LENGTH OF STRUCTURE TIP PROJECT U-3334B = 0.005 MILES
 TOTAL LENGTH OF TIP PROJECT U-3334B = 2.124 MILES

Prepared in the Office of:

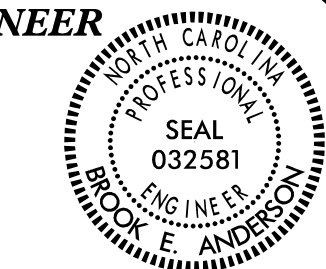


for the North Carolina Department of Transportation

2018 STANDARD SPECIFICATIONS	STANTEC CONTACT
RIGHT OF WAY DATE: JUNE 10, 2016	STEVE SMALLWOOD, P.E. PROJECT ENGINEER
LETTING DATE: JANUARY 16, 2018	NC DOT CONTACT:
	TATIA L. WHITE, P.E., PLS

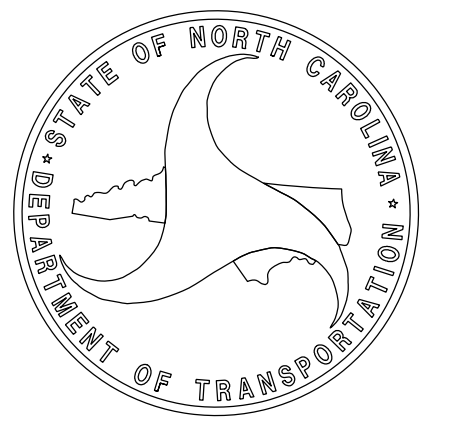
HYDRAULICS ENGINEER

DocuSigned by:
 Brook Anderson
 SIGNATURE: _____ P.E. 11/28/2017

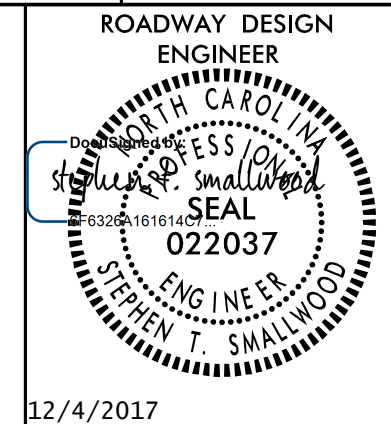


ROADWAY DESIGN ENGINEER

DocuSigned by:
 Stephen T Smallwood
 SIGNATURE: _____ P.E. 11/28/2017



11/27/2017 U:\Roadway\Proj\U3334B.Rdy_tsh.dgn amozingo



SHEET NUMBER	SHEET
1	TITLE SHEET
1A	INDEX OF SHEETS, GENERAL NOTES, AND LIST OF STANDARD DRAWINGS
1B	CONVENTIONAL SYMBOLS
1C-1 THRU 1C-4	SURVEY CONTROL SHEETS
2A-1 THRU 2A-6	PAVEMENT SCHEDULE AND TYPICAL SECTIONS
2B-1	INTERSECTION DETAILS
2C-1	DETAIL OF MINIMUM DEPTH CONCRETE CATCH BASIN
2C-2	DETAIL OF SIDE BY SIDE HOODED CATCH BASIN WITH DOUBLE SIZE BOX
2C-3	DETAIL OF 2'-9" CURB & GUTTER
2C-4	DETAIL OF COAL COMBUSTION PRODUCT
2C-5	DETAIL OF TRANSITION 2'-6" CURB AND GUTTER TO VALLEY GUTTER
2C-6	DETAIL OF 1'-6" TO 2'-9" CURB & GUTTER TRANSITION SECTION
2C-7	DETAIL OF 2'-9" CG TRANSITION TO FRAME AND GRATE
2C-8	DETAIL OF CONVERT DI, CB, DTCB OR GI to JB
2C-9	TB 261 w/ 66" pipe
2D-1	DITCH DETAILS
3B-1 THRU 3B-2	SUMMARY OF ROADWAY QUANTITIES SUMMARY OF GUARDRAIL, EARTHWORK SUMMARY, AND ASPHALT PAVEMENT REMOVAL SUMMARY
3D-1 THRU 3D-8	DRAINAGE SUMMARIES
3G-1	GEOTECHNICAL SUMMARIES
3P-1	PARCEL INDEX SHEETS
4 THRU 14	PLAN SHEETS
15 THRU 22	PROFILE SHEETS
TMP-1 THRU TMP-27	TRANSPORTATION MANAGEMENT PLANS
PMP-1 THRU PMP-8	PAVEMENT MARKING PLANS
EC-1 THRU EC-25	EROSION CONTROL PLANS
RF-1	REFORESTATION PLANS
SIGN-1 THRU SIGN-7	SIGNING PLANS
SIG. 1.0 THRU SIG. 12.1	SIGNAL PLANS
SIG. M1 THRU SIG. M8	STANDARD DRAWINGS FOR METAL POLES
SCP. 1 THRU SCP. 9	COMMUNICATIONS CABLE AND CONDUIT ROUTING PLANS
UD-1 THRU UD-10	UTILITIES BY OTHERS PLANS
X-1A	CROSS-SECTION INDEX
X-1B THRU X-1E	CROSS-SECTION EARTHWORK SUMMARY SHEETS
X-1 THRU X-67	CROSS-SECTIONS
C-1 THRU C-16	CULVERT PLANS

GENERAL NOTES: 2018 SPECIFICATIONS
EFFECTIVE: 01-16-2018
REVISED:

GRADING AND SURFACING OR RESURFACING AND WIDENING:

THE GRADE LINES SHOWN DENOTE THE FINISHED ELEVATION OF THE PROPOSED SURFACING AT GRADE POINTS SHOWN ON THE TYPICAL SECTIONS. WHERE NO GRADE LINES ARE SHOWN, THE PROFILES SHOWN DENOTE THE TOP ELEVATION OF THE EXISTING PAVEMENT ALONG THE CENTER LINE OF SURVEY ON WHICH THE PROPOSED RESURFACING WILL BE PLACED. GRADE LINES MAY BE ADJUSTED BY THE ENGINEER IN ORDER TO SECURE A PROPER TIE-IN.

CLEARING:

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

SUPERELEVATION:

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

SHOULDER CONSTRUCTION:

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

SIDE ROADS:

THE CONTRACTOR WILL BE REQUIRED TO DO ALL NECESSARY WORK TO PROVIDE SUITABLE CONNECTIONS WITH ALL ROADS, STREETS, AND DRIVES ENTERING THIS PROJECT. THIS WORK WILL BE PAID FOR AT THE CONTRACT UNIT PRICE FOR THE PARTICULAR ITEMS INVOLVED.

UNDERDRAINS:

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

DRIVEWAYS:

DRIVEWAYS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STD. 848.02 USING 3 FOOT RADIUS OR RADIUS AS SHOWN ON THE PLANS. LOCATIONS OF DRIVES WILL BE AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER.

STREET TURNOUT:

STREET RETURNS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STD. NO. 848.04 USING THE RADIUS NOTED ON PLANS.

GUARDRAIL:

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

TEMPORARY SHORING:

SHORING REQUIRED FOR THE MAINTENANCE OF TRAFFIC NOT SHOWN ON THE PLANS WILL BE PAID FOR AT THE CONTRACT PRICE FOR "TEMPORARY SHORING".

UTILITIES:

UTILITY OWNERS ON THIS PROJECT ARE Town of Smithfield, Johnston County, Piedmont Natural Gas, Centurylink, Charter Communications. ANY RELOCATION OF EXISTING UTILITIES WILL BE ACCOMPLISHED BY OTHERS.

RIGHT-OF-WAY MARKERS:

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

CURB RAMPS

CURB RAMPS ARE SHOWN ON THE PLANS AT APPROXIMATE LOCATIONS. CONSTRUCT ALL CURB RAMPS ACCORDANCE WITH STD 848.05 and/or 848.06.

2018 ROADWAY ENGLISH STANDARD DRAWINGS

The following Roadway Standards as appear in "Roadway Standard Drawings" Highway Design Branch - N. C. Department of Transportation - Raleigh, N. C., Dated January, 2018 are applicable to this project and by reference hereby are considered a part of these plans:

STD. NO.	TITLE
DIVISION 2 - EARTHWORK	
200.03	Method of Clearing - Method III
225.02	Guide for Grading Subgrade - Secondary and Local
225.04	Method of Obtaining Superelevation - Two Lane Pavement
225.06	Method of Grading Sight Distance at Intersections
DIVISION 3 - PIPE CULVERTS	
300.01	Method of Pipe Installation
310.10	Driveway Pipe Construction
DIVISION 5 - SUBGRADE, BASES AND SHOULDERS	
560.01	Method of Shoulder Construction - High Side of Superelevated Curve - Method I
DIVISION 6 - ASPHALT BASES AND PAVEMENTS	
654.01	Pavement Repairs
DIVISION 8 - INCIDENTALS	
806.01	Concrete Right-of-Way Marker
806.02	Granite Right-of-Way Marker
815.03	Pipe Underdrain and Blind Drain
838.01	Concrete Endwall for Single and Double Pipe Culverts - 15" thru 48" Pipe 90 Skew
838.11	Brick Endwall for Single and Double Pipe Culverts - 15" thru 48" Pipe 90 Skew
838.27	Reinforced Concrete Endwall - for Single 60" Pipe 90 Skew
838.33	Reinforced Concrete Endwall - for Single 66" Pipe 90 Skew
838.45	Notes for Reinforced Concrete Endwall - Std. Dwg 838.21 thru 838.40
838.57	Reinforced Brick Endwall - for Single 60" Pipe 90 Skew
838.63	Reinforced Brick Endwall - for Single 66" Pipe 90 Skew
838.75	Notes for Reinforced Brick Endwall - Std. Dwg 838.51 thru 838.70
840.00	Concrete Base Pad for Drainage Structures
840.01	Brick Catch Basin - 12" thru 54" Pipe
840.02	Concrete Catch Basin - 12" thru 54" Pipe
840.03	Frame, Grates and Hood - for Use on Standard Catch Basin
840.14	Concrete Drop Inlet - 12" thru 30" Pipe
840.15	Brick Drop Inlet - 12" thru 30" Pipe
840.16	Drop Inlet Frame and Grates - for use with Std. Dwg 840.14 and 840.15
840.17	Concrete Grated Drop Inlet Type 'A' - 12" thru 72" Pipe
840.18	Concrete Grated Drop Inlet Type 'B' - 12" thru 36" Pipe
840.19	Concrete Grated Drop Inlet Type 'D' - 12" thru 36" Pipe
840.22	Frames and Wide Slot Sag Grates
840.24	Frames and Narrow Slot Sag Grates
840.25	Anchorage for Frames - Brick or Concrete or Precast
840.26	Brick Grated Drop Inlet Type 'A' - 12" thru 72" Pipe
840.27	Brick Grated Drop Inlet Type 'B' - 12" thru 36" Pipe
840.28	Brick Grated Drop Inlet Type 'D' - 12" thru 36" Pipe
840.29	Frames and Narrow Slot Flat Grates
840.34	Traffic Bearing Junction Box - for Use with Pipes 42" and Under
840.35	Traffic Bearing Grated Drop Inlet - for Cast Iron Double Frame and Grates
840.45	Precast Drainage Structure
840.46	Traffic Bearing Precast Drainage Structure
840.54	Manhole Frame and Cover
840.66	Drainage Structure Steps
846.01	Concrete Curb, Gutter and Curb & Gutter
848.01	Concrete Sidewalk
848.02	Driveway Turnout - Radius Type
848.04	Street Turnout
848.05	Curb Ramp - Proposed Curb & Gutter
852.01	Concrete Islands
852.04	Method for Placement of Drop Inlets in Grassed Median - Using 1'-6" Curb and Gutter
852.05	Median Curb for Catch Basin - for Use with 1'-6" Curb and Gutter
852.06	Method for Placement of Drop Inlets in Concrete Islands
852.10	Median Construction - with Curb and Gutter
862.01	Guardrail Placement
862.02	Guardrail Installation
866.02	Woven Wire Fence - with Wood Post
876.01	Rip Rap in Channels
876.02	Guide for Rip Rap at Pipe Outlets
876.04	Drainage Ditches with Class 'B' Rip Rap

EFF. 01-16-2018
REV.

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	○ EIP
Computed Property Corner	-----
Property Monument	□ EDM
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	-----

Note: Not to Scale

*S.U.E. = Subsurface Utility Engineering

RIGHT OF WAY & PROJECT CONTROL:

Secondary Horiz and Vert Control Point	◆
Primary Horiz Control Point	○
Primary Horiz and Vert Control Point	◆
Exist Permanent Easement 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	----- R/W
New Right of Way Line with Pin and Cap	----- R/W ▲
New Right of Way Line with Concrete or Granite RW Marker	----- R/W
New Control of Access Line with Concrete CA Marker	----- C/A
Existing Control of Access	-----
New Control of Access	-----
Existing Easement Line	----- E
New Temporary Construction Easement	----- E
New Temporary Drainage Easement	----- TDE
New Permanent Drainage Easement	----- PDE
New Permanent Drainage / Utility Easement	----- DUE
New Permanent Utility Easement	----- PUE
New Temporary Utility Easement	----- TUE
New Aerial Utility Easement	----- AUE

ROADS AND RELATED FEATURES:

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

VEGETATION:

Single Tree	○
Single Shrub	○

Hedge	-----
Woods Line	-----
Orchard	-----
Vineyard	----- 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	⊕
Storm Sewer	----- S

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.*)	----- P
U/G Power Line LOS C (S.U.E.*)	----- P
U/G Power Line LOS D (S.U.E.*)	----- P

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.*)	----- T
U/G Telephone Cable LOS C (S.U.E.*)	----- T
U/G Telephone Cable LOS D (S.U.E.*)	----- T
U/G Telephone Conduit LOS B (S.U.E.*)	----- TC
U/G Telephone Conduit LOS C (S.U.E.*)	----- TC
U/G Telephone Conduit LOS D (S.U.E.*)	----- TC
U/G Fiber Optics Cable LOS B (S.U.E.*)	----- T FO
U/G Fiber Optics Cable LOS C (S.U.E.*)	----- T FO
U/G Fiber Optics Cable LOS D (S.U.E.*)	----- T FO

WATER:

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

TV:

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

GAS:

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

SANITARY SEWER:

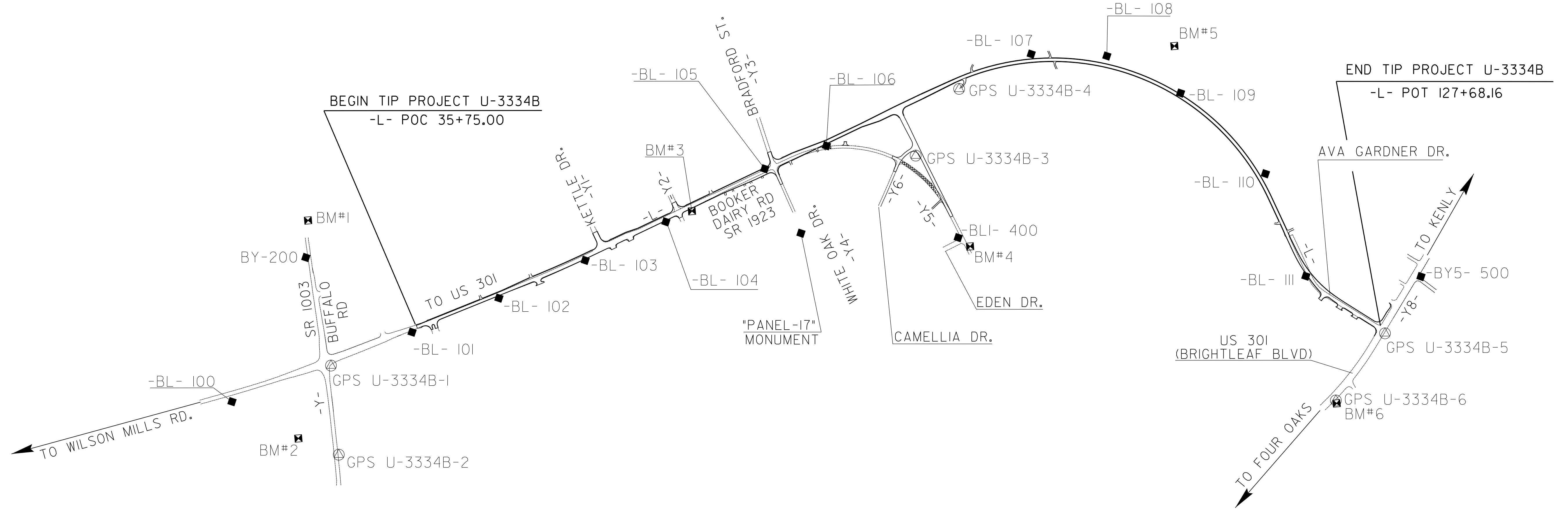
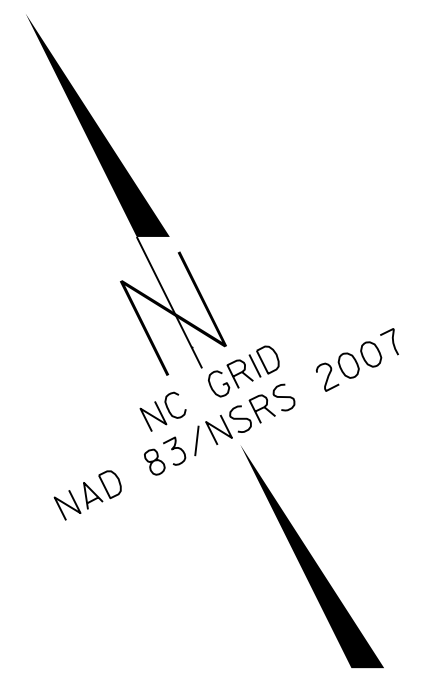
Sanitary Sewer Manhole	⊕
Sanitary Sewer Cleanout	⊕
U/G Sanitary Sewer Line	----- SS
Above Ground Sanitary Sewer	----- A/G Sanitary Sewer
SS Forced Main Line LOS B (S.U.E.*)	----- FSS
SS Forced Main Line LOS C (S.U.E.*)	----- FSS
SS Forced Main Line LOS D (S.U.E.*)	----- FSS

MISCELLANEOUS:

Utility Pole	●
Utility Pole with Base	⊠
Utility Located Object	○
Utility Traffic Signal Box	⊠
Utility Unknown U/G Line LOS B (S.U.E.*)	----- 7UTL
U/G Tank; Water, Gas, Oil	-----
Underground Storage Tank, Approx. Loc.	⊠ UST
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.

SURVEY CONTROL SHEET U-3334B

PROJECT REFERENCE NO.	SHEET NO.
U-3334B	1C-1
Location and Surveys	



DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "PANEL-17"

WITH NAD 83/NSRS 2007 STATE PLANE GRID COORDINATES OF
 NORTHING: 648176.316(ft) EASTING: 2202480.609(ft)
 ELEVATION: 149.548'

THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.99988249

THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "PANEL-17" TO -L- STATION 35+75.00 IS
 N 76° 51' 43.3" W 3,188.70 (ft)

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/PAGES/DEFAULT.ASPX](https://connect.ncdot.gov/resources/location/pages/default.aspx)
 THE FILES TO BE FOUND ARE AS FOLLOWS:
 U3334B_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.
 NETWORK ESTABLISHED FROM EXISTING HARN MONUMENTATION

NOTE: DRAWING NOT TO SCALE

9/7/2007 U:\R2007\proj\U3334B\1s_1C-1.dgn

SURVEY CONTROL SHEET U-3334B

PROJECT REFERENCE NO.	SHEET NO.
U-3334B	1C-2
Location and Surveys	

BASELINE DATA

BL	POINT	DESC.	NORTH	EAST	ELEVATION	L STATION	OFFSET
100		BL-100	649001.5887	2197777.4514	144.50	19+80.47	83.80 RT
1		GPS U3334B-1	648906.9860	2198620.3750	143.04	28+23.48	57.86 RT
101		BL-101	648856.9167	2199324.1163	139.71	35+27.32	48.01 RT
102		BL-102	648791.0274	2200072.0054	152.78	42+78.06	55.89 RT
103		BL-103	648754.2166	2200828.9495	155.16	50+33.18	46.93 RT
104		BL-104	648742.5755	2201548.1721	156.31	57+52.29	46.63 RT
105		BL-105	648770.2637	2202450.7666	152.97	66+54.30	4.06 RT
106		BL-106	648715.9491	2202977.5058	154.70	71+81.87	49.68 RT
3		GPS U3334B-3	648324.8090	2203585.6640	153.95	77+96.39	430.74 RT
4		GPS U3334B-4	648649.9540	2204138.1780	152.72	83+46.10	95.83 RT
107		BL-107	648642.5865	2204781.8564	151.63	89+90.65	32.39 LT
108		BL-108	648357.6552	2205319.9121	151.71	95+87.63	57.35 LT
109		BL-109	647825.9700	2205717.9739	152.25	102+42.57	3.78 LT
110		BL-110	646940.4852	2206040.3129	148.04	111+83.24	38.71 LT
111		BL-111	646057.3950	2205964.4710	142.26	120+56.35	46.16 RT
5		GPS U3334B-5	645361.6720	2206329.5990	152.68	OUTSIDE PROJECT LIMITS	

BY	POINT	DESC.	NORTH	EAST	ELEVATION	Y STATION	OFFSET
200		BY-200	649776.0715	2198826.6479	146.07	11+55.47	24.54 RT
A1		GPS U3334B-1	648906.9860	2198620.3750	143.04	20+45.19	45.70 LT
2		GPS U3334B-2	648236.5930	2198357.1850	144.82	27+63.77	25.95 LT

BL1	POINT	DESC.	NORTH	EAST	ELEVATION	Y5 STATION	OFFSET
A3		GPS U3334B-3	648324.8090	2203585.6640	153.95	14+30.14	35.15 RT
400		BL1-400	647581.1003	2203597.8020	151.65	21+73.88	25.16 RT

BY5	POINT	DESC.	NORTH	EAST	ELEVATION	Y8 STATION	OFFSET
500		BY5-500	645641.9320	2206792.1040	153.76	OUTSIDE PROJECT LIMITS	
A5		GPS U3334B-5	645361.6720	2206329.5990	152.68	17+04.09	63.09 LT
6		GPS U3334B-6	645053.9070	2205735.1740	148.47	OUTSIDE PROJECT LIMITS	

BENCHMARK DATA

<p>*****</p> <p>BM*1 ELEVATION = 148.09 N 650034 E 2198971 Y STATION 10+00.00 N 31+02'6.63" E DIST 138.13 (OUT OF PROJECT LIMITS) RR SPIKE IN BASE OF 15" PECAN</p> <p>*****</p> <p>BM*2 ELEVATION = 145.63 N 648497 E 2198120 Y STATION 26+02.00 288 RIGHT RR SPIKE IN BASE OF 36" OAK</p> <p>*****</p> <p>BM*3 ELEVATION = 156.44 N 648725 E 2201770 L STATION 59+74.00 60 RIGHT RR SPIKE BASE OF 18" OAK</p> <p>*****</p>	<p>*****</p> <p>BM*4 ELEVATION = 152.54 N 647474 E 2203648 Y5 STATION 22+81.00 24 LEFT RR SPIKE IN BASE OF 15" OAK</p> <p>*****</p> <p>BM*5 ELEVATION = 153.00 N 648186 E 2205838 L STATION 100+32.00 309 LEFT RR SPIKE IN BASE OF 15" PINE</p> <p>*****</p> <p>BM*6 ELEVATION = 151.79 N 645029 E 2205726 L STATION 127+96.00 S 58+16'25.66" W DIST 720.90 (OUT OF PROJECT LIMITS) RR SPIKE IN BASE OF 36" OAK</p> <p>*****</p>
---	---

NOTES:

1. THE CONTROL DATA FOR THIS PROJECT CAN BE FOUND ELECTRONICALLY BY SELECTING PROJECT CONTROL DATA AT:
[HTTPS://CONNECT.NCDOT.GOV/RESOURCES/LOCATION/PAGES/DEFAULT.ASPX](https://connect.ncdot.gov/resources/location/pages/default.aspx)

THE FILES TO BE FOUND ARE AS FOLLOWS:
 U3334B_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.
 NETWORK ESTABLISHED FROM EXISTING HARN MONUMENTATION

DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "PANEL-17"
 WITH NAD 83/NSRS 2007 STATE PLANE GRID COORDINATES OF
 NORTHING: 648176.316(±) EASTING: 2202480.609(±)
 ELEVATION: 149.548'
 THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.99988249
 THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "PANEL-17" TO -L- STATION 35+75.00 IS
 N 76° 51' 43.3" W 3,188.70 (±)
 ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES
 VERTICAL DATUM USED IS NAVD 88

NOTE: DRAWING NOT TO SCALE

SURVEY CONTROL SHEET U-3334B

L			
TYPE	STATION	NORTH	EAST
POT	10+00.00	649266.2852	2196828.8616
PC	18+59.45	649106.0384	2197673.2411
PT	31+81.57	648931.5081	2198983.1164
PC	45+81.12	648823.3278	2200378.4823
PT	50+68.17	648800.4812	2200864.9182
PC	83+03.60	648747.1233	2204099.9070
PT	113+84.63	646747.2583	2206017.1036
TS	118+00.46	646331.5611	2206006.4134
SC	119+44.46	646187.5994	2206006.4270
CS	123+38.17	645810.2977	2206108.1648
ST	124+82.16	645685.8531	2206180.5225
POT	128+00.65	645414.7460	2206347.6617

Y			
TYPE	STATION	NORTH	EAST
POT	10+00.00	649915.4431	2198899.9531
PC	10+66.13	649852.8621	2198878.5884
PT	15+09.12	649432.0738	2198740.1181
PC	18+76.56	649081.7964	2198629.1350
PT	24+43.92	648545.3969	2198444.4498
PC	28+88.82	648128.4525	2198289.2464
PT	29+70.32	648052.8258	2198258.8806
POT	30+11.95	648014.6062	2198242.3922

Y1			
TYPE	STATION	NORTH	EAST
POT	10+00.00	648970.3052	2200996.1271
POT	11+71.96	648798.3644	2200993.2533

Y1A			
TYPE	STATION	NORTH	EAST
POT	10+00.00	648798.3644	2200993.2533
POT	11+71.96	648626.4237	2200990.3795

Y2			
TYPE	STATION	NORTH	EAST
POT	9+00.00	649026.8400	2201672.9881
POT	11+39.65	648787.2229	2201668.7402

Y2A			
TYPE	STATION	NORTH	EAST
POT	10+00.00	648787.2229	2201668.7402
POT	11+17.65	648669.5794	2201667.1167

Y3			
TYPE	STATION	NORTH	EAST
POT	10+00.00	649195.9356	2202586.3615
POT	14+27.46	648773.1245	2202523.5008

Y4			
TYPE	STATION	NORTH	EAST
POT	10+00.00	648773.1488	2202522.0263
PC	10+35.33	648737.8722	2202520.1256
PT	14+04.99	648368.5986	2202503.2035
PC	15+52.47	648221.2269	2202497.6366
PT	16+91.56	648082.2733	2202491.4196
PC	20+82.80	647691.5621	2202471.2150
PT	21+92.61	647595.7756	2202423.9492
POT	22+08.59	647585.4164	2202411.7910

Y5			
TYPE	STATION	NORTH	EAST
POT	10+00.00	648755.0461	2203619.5621
POT	23+34.69	647420.3662	2203623.4321

Y6			
TYPE	STATION	NORTH	EAST
POT	10+00.00	648379.5577	2203620.6508
PC	10+46.72	648379.4184	2203573.9313
PT	12+24.63	648318.2521	2203410.8404
POT	14+33.61	648181.3000	2203252.9935

Y7			
TYPE	STATION	NORTH	EAST
PC	10+00.00	648710.5289	2202929.8695
PT	11+95.24	648636.5675	2203110.1572
PC	12+23.96	648622.8852	2203135.4073
PT	15+42.61	648425.1499	2203383.1533
PC	15+67.80	648406.2144	2203399.7666
PT	16+32.83	648354.6848	2203439.3591
POT	17+01.33	648297.7661	2203477.4784

Y8			
TYPE	STATION	NORTH	EAST
POT	10+00.00	645769.1006	2206904.9048
PC	18+53.03	645311.3656	2206185.0901
PT	24+53.63	645058.7856	2205642.0696
POT	25+53.79	645028.7719	2205546.5143

Y8_EOP			
TYPE	STATION	NORTH	EAST
POT	14+05.00	645575.4046	2206548.1264
POT	17+72.21	645378.3586	2206238.2601

L_TIE			
TYPE	STATION	NORTH	EAST
PC	10+00.00	649143.6593	2197371.9678
PRC	16+47.87	649050.4883	2198012.8966
PT	19+14.15	649018.8983	2198277.2871

DRW1			
TYPE	STATION	NORTH	EAST
POT	10+00.00	645877.9930	2206076.7149
PC	11+12.90	645834.5651	2205972.4972
PT	11+51.48	645826.8757	2205934.9377
POT	11+83.79	645826.5833	2205902.6336

DRW2TEMP			
TYPE	STATION	NORTH	EAST
POT	10+00.00	646303.9426	2206005.7294
POT	11+97.28	646308.4523	2205808.4990

NOTES:

1. THE CONTROL DATA FOR THIS PROJECT CAN BE FOUND ELECTRONICALLY BY SELECTING PROJECT CONTROL DATA AT:
[HTTPS://CONNECT.NCDOT.GOV/RESOURCES/LOCATION/PAGES/DEFAULT.ASPX](https://connect.ncdot.gov/resources/location/pages/default.aspx)

THE FILES TO BE FOUND ARE AS FOLLOWS:
U3334B_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 "PANEL-17"
WITH NAD 83/NSRS 2007 STATE PLANE GRID COORDINATES OF
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"PANEL-17" TO -L- STATION 35+75.00 IS
N 76° 51' 43.3" W 3,188.70 (ft)
ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES
VERTICAL DATUM USED IS NAVD 88

NOTE: DRAWING NOT TO SCALE

PAVEMENT SCHEDULE

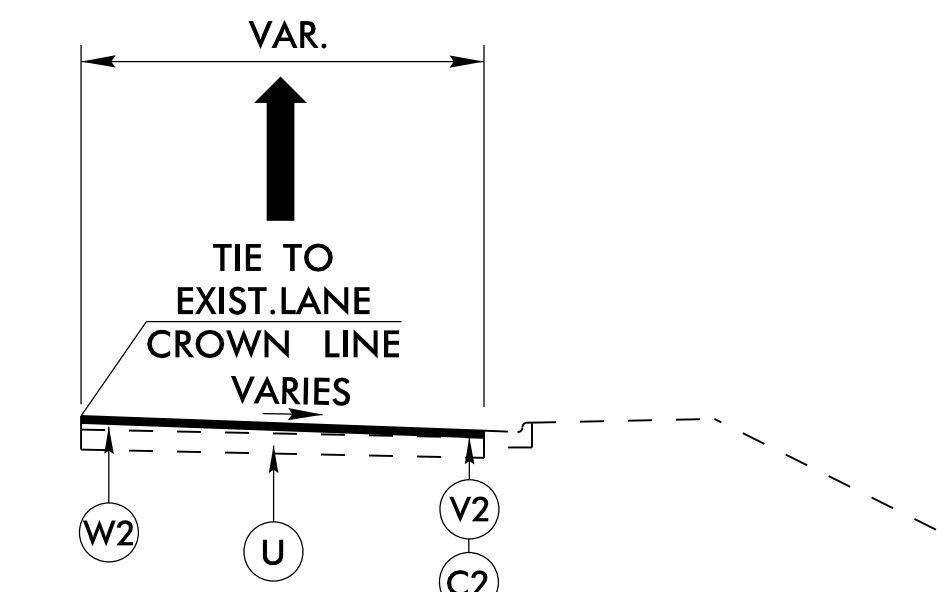
(FINAL PAVEMENT DESIGN)

C1	PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.	N	GEOTEXTILE FOR SOIL STABILIZATION.
C2	PROP. APPROX. 1½" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.	P	PRIME COAT.
C3	PROP. APPROX. 2" ASPHALT CONCRETE SURFACE COURSE TYPE S9.5B, AT AN AVERAGE RATE OF 224 LBS. PER SQ. YD.	R1	1'-6" CONCRETE CURB AND GUTTER.
C4	PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 112 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT TO EXCEED 2" IN DEPTH.	R2	2'-6" CONCRETE CURB AND GUTTER.
D1	PROP. APPROX. 4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.	R3	2'-9" CONCRETE CURB AND GUTTER.
D2	PROP. APPROX. 3" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 342 LBS. PER SQ. YD.	S	CONCRETE SIDEWALK.
D3	PROP. VAR. DEPTH ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT LESS THAN 2½" IN DEPTH OR GREATER THAN 4" IN DEPTH.	T	EARTH MATERIAL.
E1	PROP. APPROX. 3" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 342 LBS. PER SQ. YD.	U	EXISTING PAVEMENT.
E2	PROP. APPROX. 4" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.	V1	3" MILLING EXISTING PAVEMENT.
E3	PROP. VAR. DEPTH ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, 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 5½" IN DEPTH.	V2	1½" MILLING EXISTING PAVEMENT.
J1	PROP. 6" AGGREGATE BASE COURSE.	W1	VARIABLE DEPTH ASPHALT PAVEMENT (SEE STANDARD WEDGING DETAIL).
J2	PROP. 8" AGGREGATE BASE COURSE.	W2	VARIABLE DEPTH ASPHALT PAVEMENT (SEE STANDARD WEDGING DETAIL).
L	CLASS IV SUBGRADE STABILIZATION.	NOTE: PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE.	



Stantec Consulting Services Inc.
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Suite 300
Raleigh, NC 27606
Tel. (919) 851-6866
Fax. (919) 851-7024
www.stantec.com
License No. F-0672

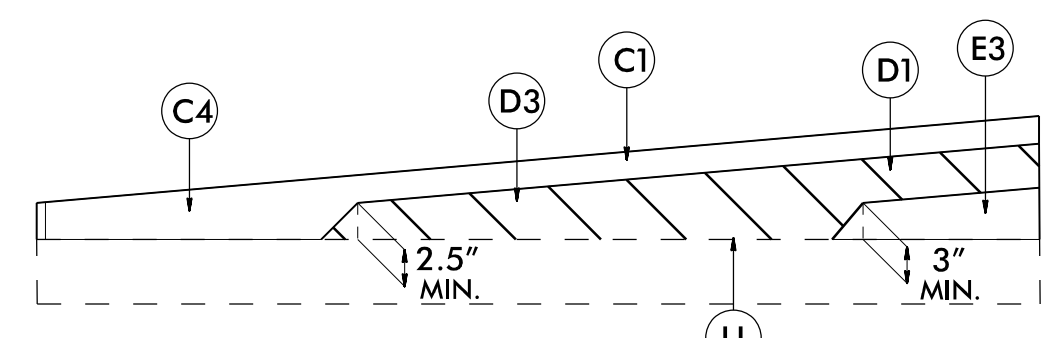
PROJECT REFERENCE NO. <i>U-3334B</i>	SHEET NO. <i>2A-1</i>
ROADWAY DESIGN ENGINEER <i>Stephen T. Smallwood</i> SEAL 022037	PAVEMENT DESIGN ENGINEER <i>Quinn S. Morrison</i> SEAL 022896
12/4/2017	12/4/2017
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	



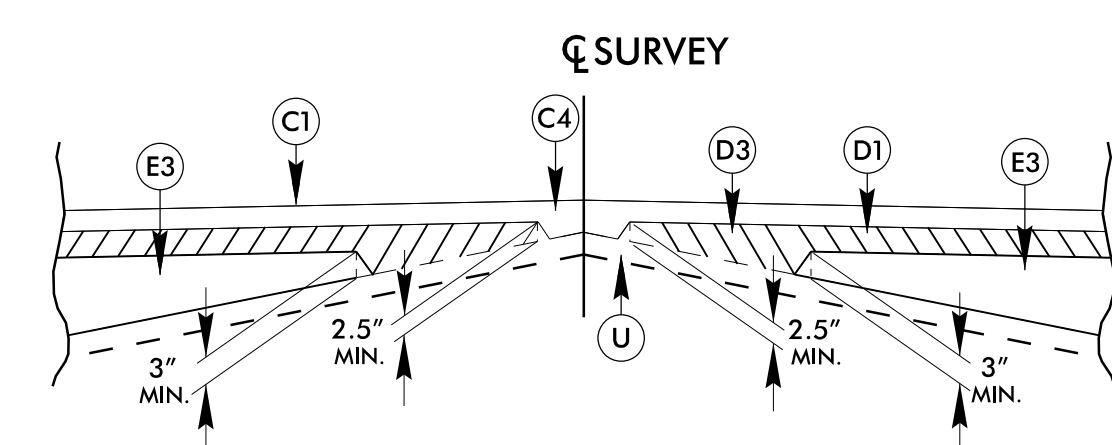
CURB MILLING DETAIL

USE MILLING DETAIL AT THE FOLLOWING LOCATIONS:

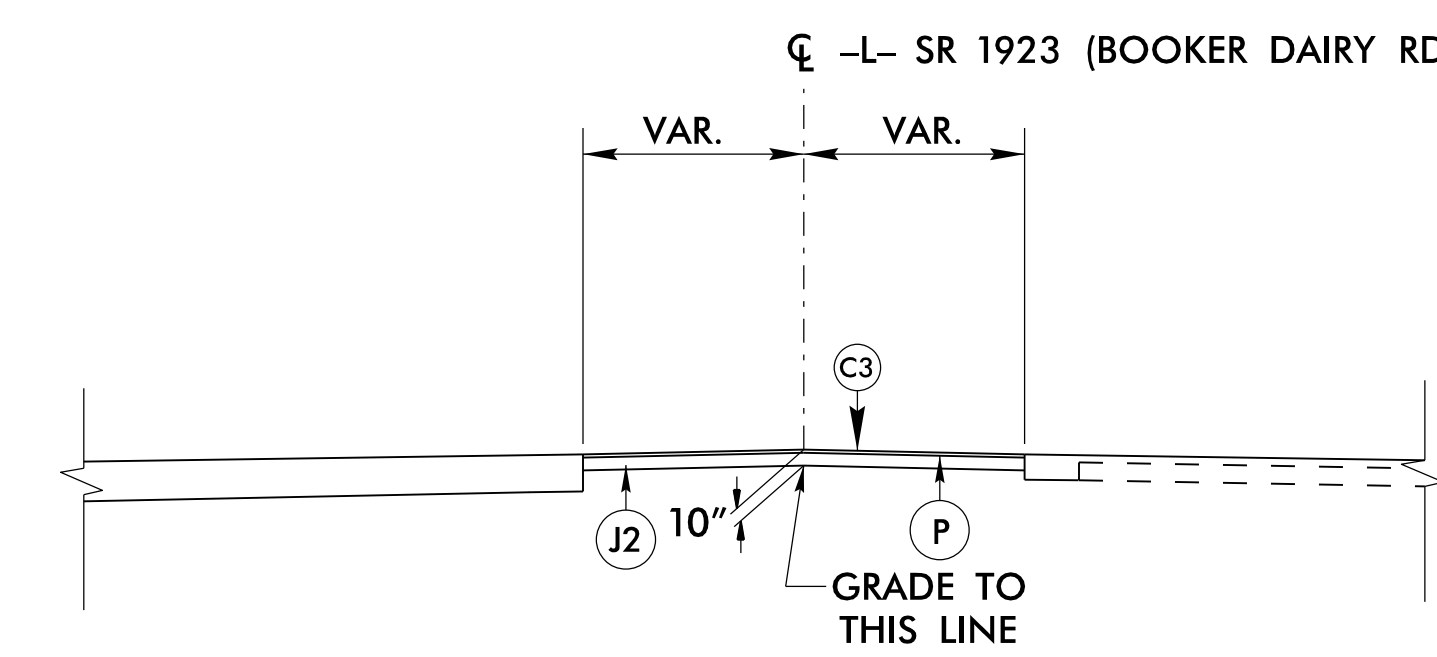
- Y- STA. 18+07.09 LT TO -Y- STA. 19+36.39 LT
- Y- STA. 20+55.92 LT TO -Y- STA. 21+03.05 LT
- Y1- STA. 10+75.00 LT/RT TO -Y1- STA. 11+34.45 LT/RT
- Y1A REV- STA. 10+37.51 RT TO -Y1A REV- STA. 10+87.51 RT
- Y2- STA. 10+20.00 LT/RT TO -Y2- STA. 11+02.24 LT/RT
- Y2A- STA. 10+37.34 LT/RT TO -Y2A- STA. 11+13.00 LT/RT
- Y3- STA. 13+25.00 LT TO -Y3- STA. 13+82.38 LT
- Y3- STA. 13+25.00 RT TO -Y3- STA. 13+64.01 RT
- Y4- STA. 10+39.86 RT TO -Y4- STA. 11+09.64 RT
- DRW1- STA. 10+36.06 LT TO -DRW1- STA. 11+65.00 LT
- DRW1- STA. 10+48.31 RT TO -DRW1- STA. 11+65.00 RT



Detail W1 Wedging Detail For Resurfacing



Detail W2 Showing Method of Wedging



TEMPORARY PAVEMENT DETAIL

USE TEMPORARY PAVEMENT DETAIL AT THE FOLLOWING LOCATION:

- L- STA. 42+82.04 TO -L- STA. 51+58.83
- L- STA. 70+36.81 TO -L- STA. 74+32.81
- L- STA. 122+45.99 TO -L- STA. 123+34.85

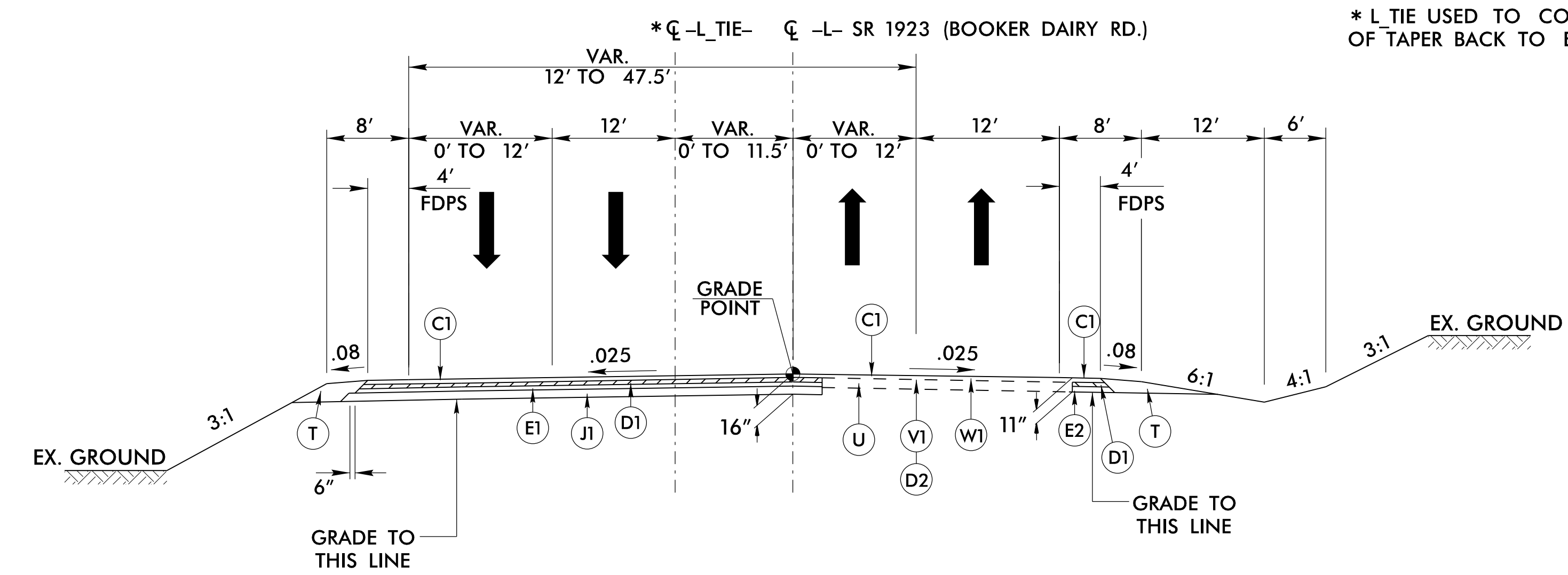
NOTE: SEE TRANSPORTATION MANAGEMENT PLANS FOR PAVEMENT LOCATIONS

6/2/19



PROJECT REFERENCE NO. U-3334B	SHEET NO. 2A-2
ROADWAY DESIGN ENGINEER STEPHEN T. SMALLWOOD 022037	PAVEMENT DESIGN ENGINEER CHRISTOPHER S. MORRISON 022896
12/4/2017	12/4/2017

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



TYPICAL SECTION NO. 1

USE TYPICAL SECTION NO. 1 AT THE FOLLOWING LOCATION:

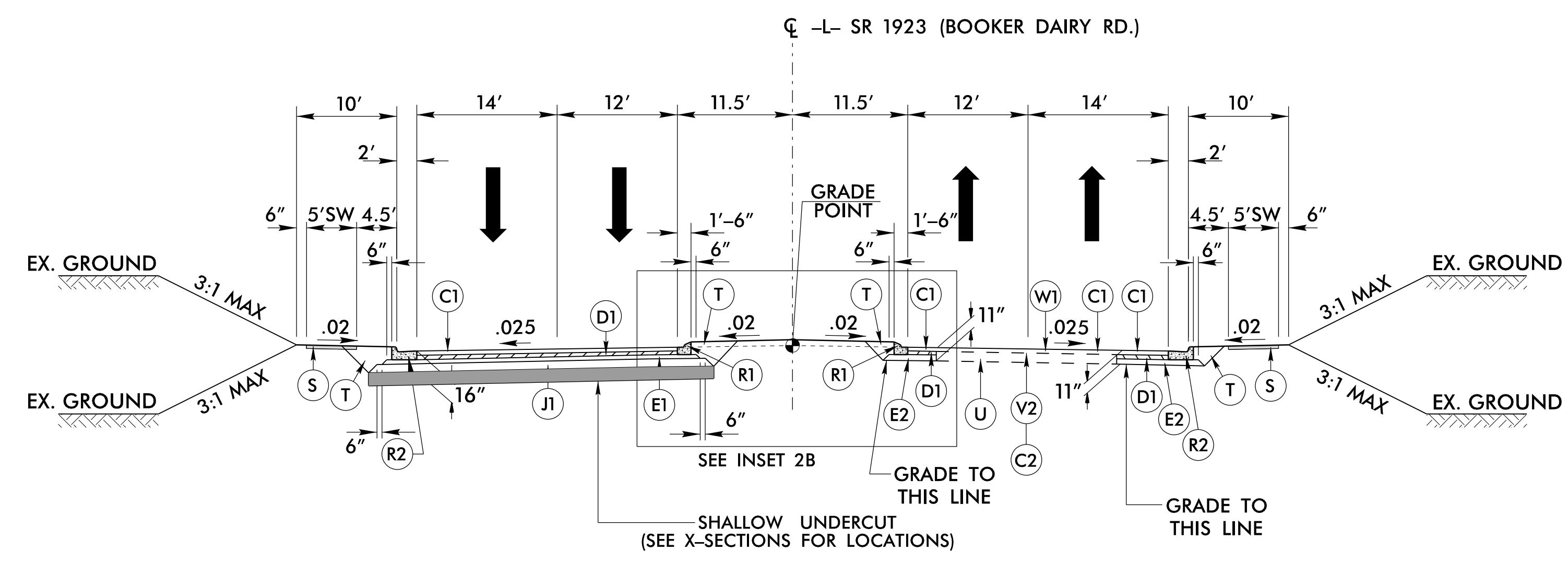
-L- STA. 15+56.45 TO -L- STA. 27+89.21

TRANSITION FROM EXISTING TWO-LANE TO TYPICAL SECTION NO. 1

* L_TIE USED TO CONTROL WIDTH OF TAPER BACK TO EXISTING WIDTH

FINAL PAVEMENT SCHEDULE

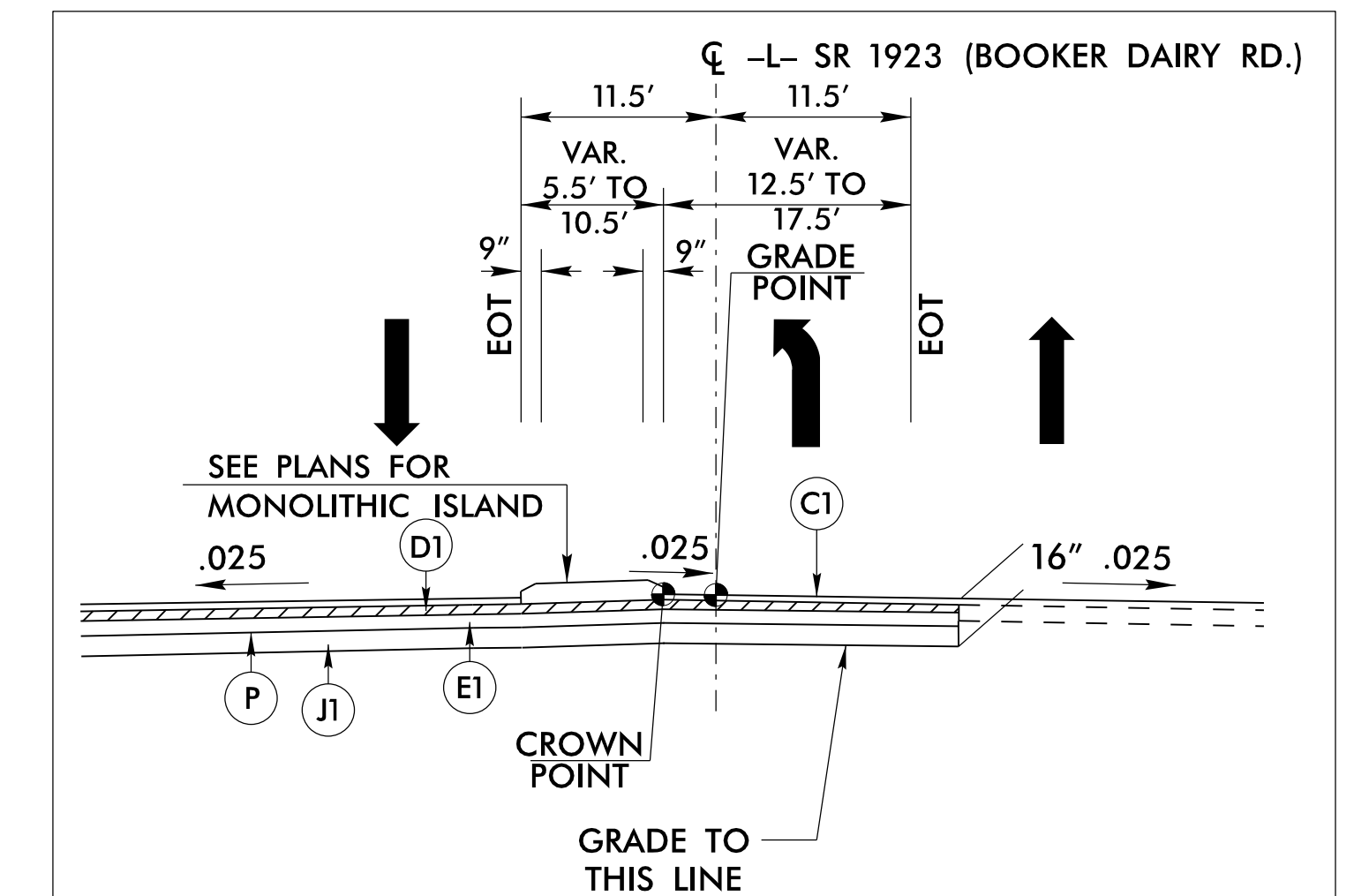
C1	3" S9.5B	N	GEOTEXTILE FOR SOIL STABILIZATION
C2	1 1/2" S9.5B	P	PRIME COAT
C3	2" S9.5B	R1	1'-6" C & G
C4	VAR. S9.5B	R2	2'-6" C & G
D1	4" I19.0B	R3	2'-9" C & G
D2	3" I19.0B	S	CONCRETE SIDEWALK
D3	VAR. I19.0B	T	EARTH MATERIAL
E1	3" B25.0B	U	EXISTING PAVEMENT
E2	4" B25.0B	V1	3" MILLING EXISTING PAVEMENT
E3	VAR. B25.0B	V2	1 1/2" MILLING EXISTING PAVEMENT
J1	6" ABC	W1	WEDGING (SEE DETAIL ON SHT. 2A-1)
J2	8" ABC	W2	WEDGING (SEE DETAIL ON SHT. 2A-1)
L	CLASS IV SUBGRADE STABILIZATION		NOTE: PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE.



TYPICAL SECTION NO. 2

USE TYPICAL SECTION NO. 2 AT THE FOLLOWING LOCATION:

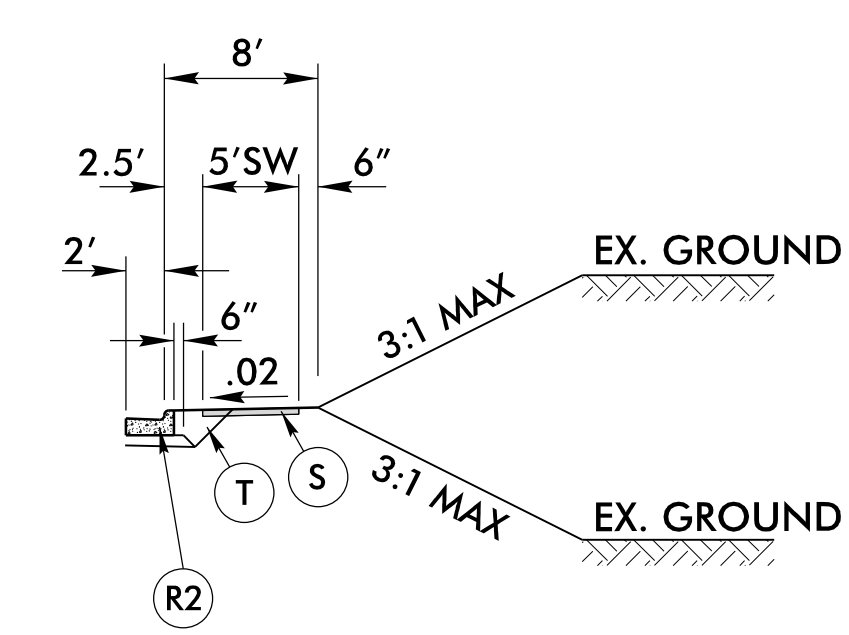
-L- STA. 27+89.21 TO -L- STA. 67+26.98



INSET NO. 2B

USE INSET NO. 2B AT THE FOLLOWING LOCATIONS:

- L- STA. 24+70.00 TO -L- STA. 27+20.00
- L- STA. 28+65.03 TO -L- STA. 29+98.44
- L- STA. 36+56.78 TO -L- STA. 41+83.51
- L- STA. 50+61.42 TO -L- STA. 51+40.00
- L- STA. 52+55.00 TO -L- STA. 53+34.03
- L- STA. 54+61.52 TO -L- STA. 63+55.00
- L- STA. 65+91.42 TO -L- STA. 66+70.00
- L- STA. 67+85.00 TO -L- STA. 68+64.03
- L- STA. 77+45.00 TO -L- STA. 77+67.59
- L- STA. 78+85.00 TO -L- STA. 79+64.03
- L- STA. 126+53.99 TO -L- STA. 127+42.57



INSET NO. 2A

USE WITH TYPICAL SECTION NO. 2

USE INSET NO. 2A AT THE FOLLOWING LOCATION:

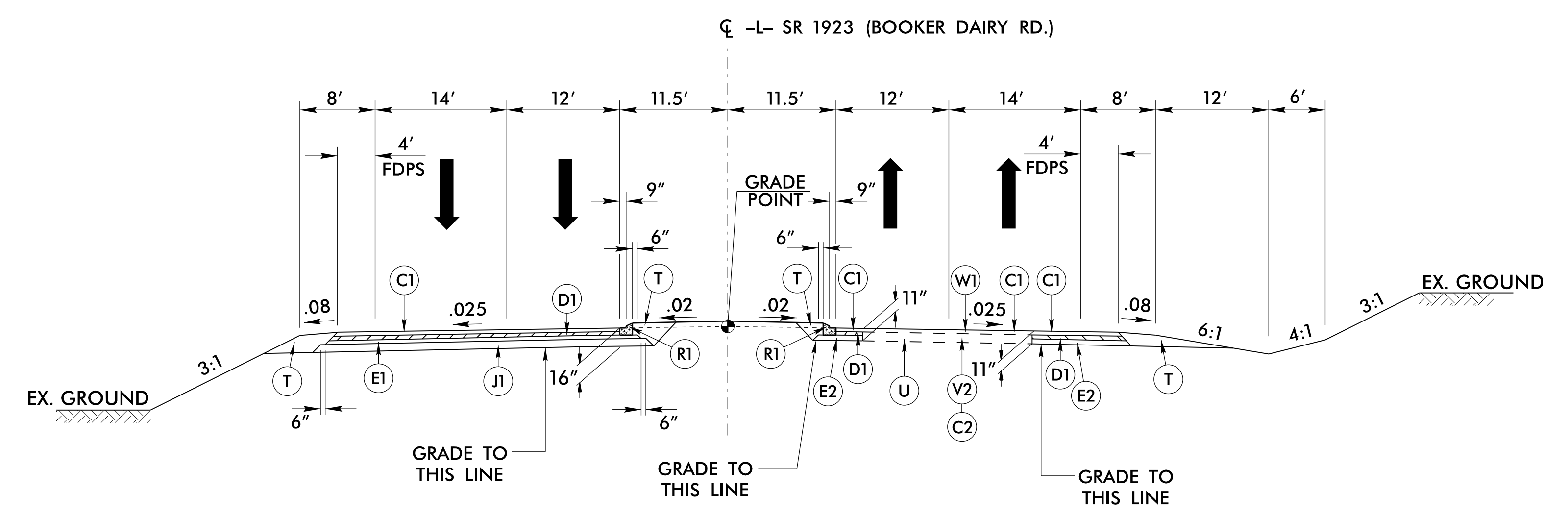
- L- STA. 37+33.00 RT TO -L- STA. 46+00.00 RT
- L- STA. 52+15.00 RT TO -L- STA. 58+56.00 RT

12/4/2017 U:\Roadway\Proy\U3334B_RdJ-tyr.dgn



PROJECT REFERENCE NO. U-3334B	SHEET NO. 2A-3
ROADWAY DESIGN ENGINEER STEPHEN T. SMALLWOOD 022037	PAVEMENT DESIGN ENGINEER CHRISTOPHER S. MORRISON 022896
12/4/2017	12/4/2017

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

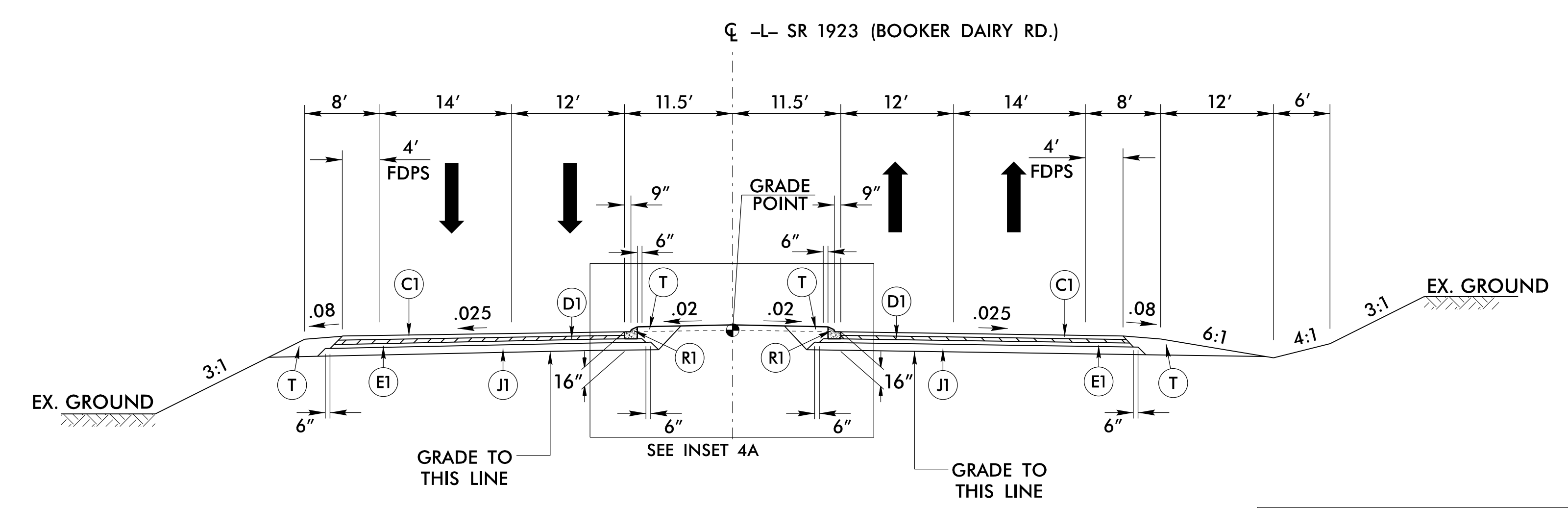


TYPICAL SECTION NO. 3

USE TYPICAL SECTION NO. 3 AT THE FOLLOWING LOCATION:
-L- STA. 67+26.98 TO -L- STA. 71+00.00

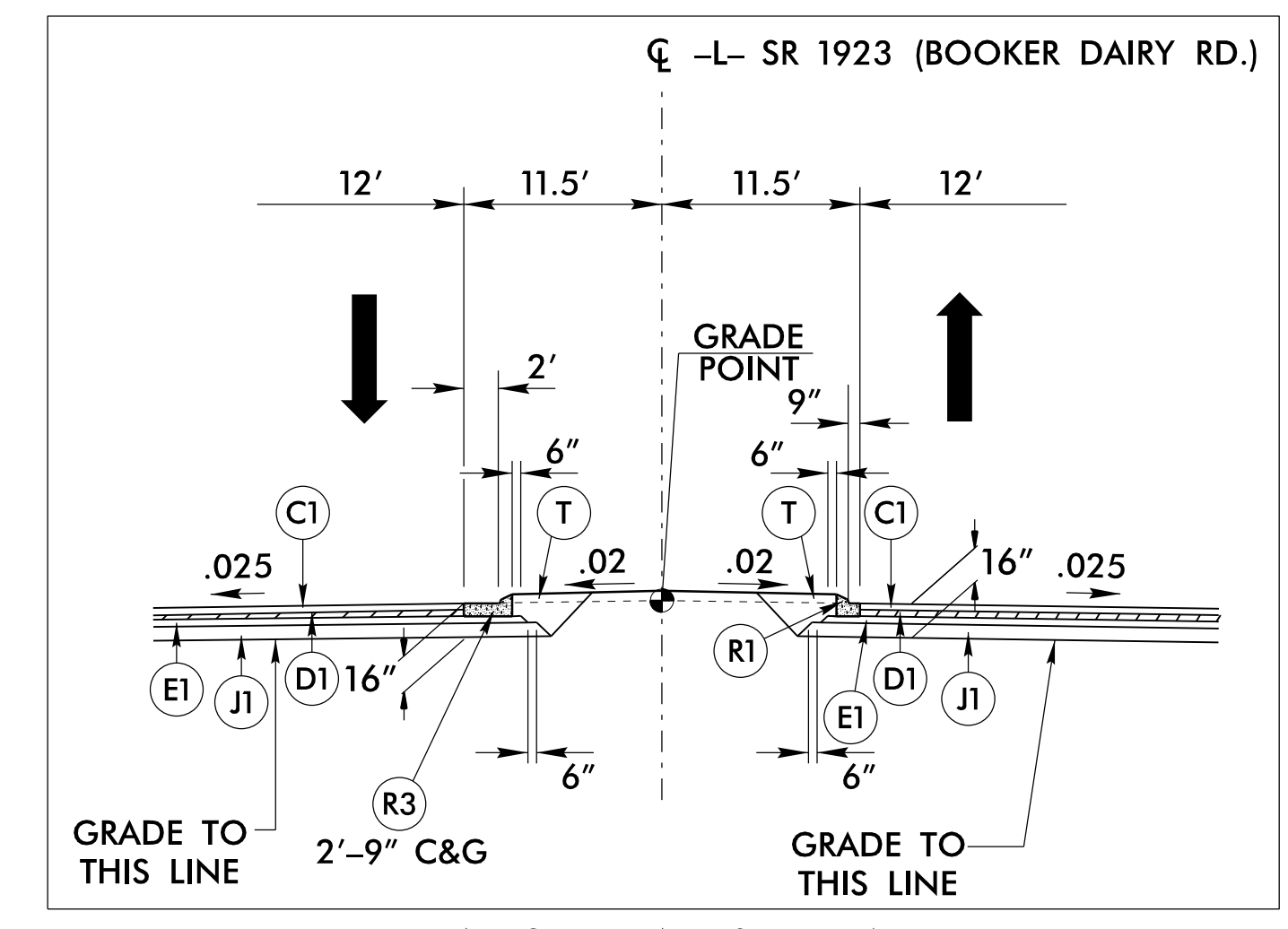
FINAL PAVEMENT SCHEDULE

C1	3" S9.5B	N	GEOTEXTILE FOR SOIL STABILIZATION
C2	1 1/2" S9.5B	P	PRIME COAT
C3	2" S9.5B	R1	1'-6" C & G
C4	VAR. S9.5B	R2	2'-6" C & G
D1	4" I19.0B	R3	2'-9" C & G
D2	3" I19.0B	S	CONCRETE SIDEWALK
D3	VAR. I19.0B	T	EARTH MATERIAL
E1	3" B25.0B	U	EXISTING PAVEMENT
E2	4" B25.0B	V1	3" MILLING EXISTING PAVEMENT
E3	VAR. B25.0B	V2	1 1/2" MILLING EXISTING PAVEMENT
J1	6" ABC	W1	WEDGING (SEE DETAIL ON SHT. 2A-1)
J2	8" ABC	W2	WEDGING (SEE DETAIL ON SHT. 2A-1)
L	CLASS IV SUBGRADE STABILIZATION		NOTE: PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE.



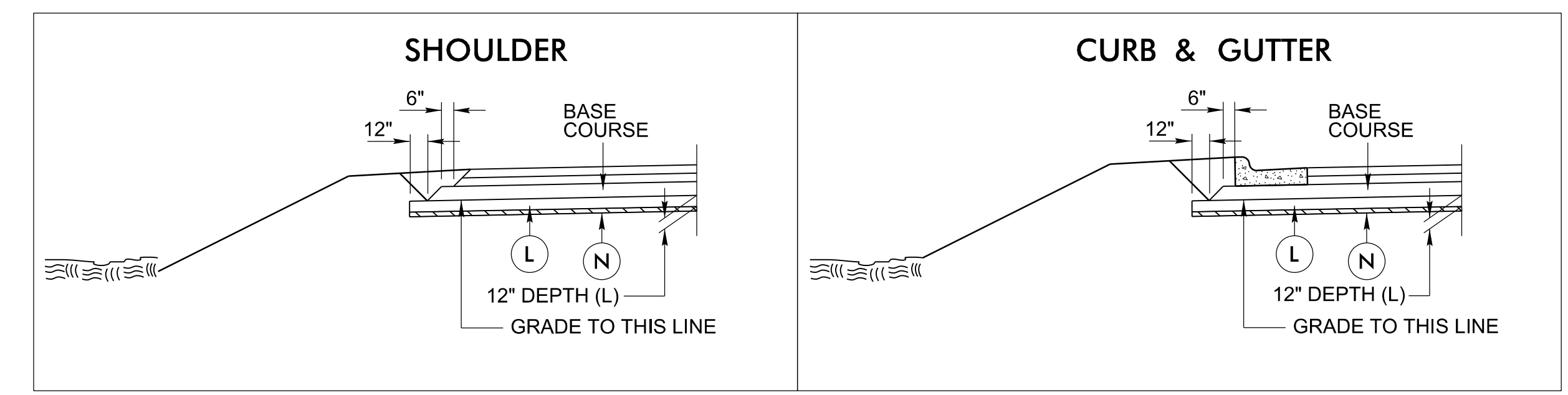
TYPICAL SECTION NO. 4

USE TYPICAL SECTION NO. 4 AT THE FOLLOWING LOCATION:
-L- STA. 71+00.00 TO -L- STA. 117+00.00



INSET NO. 4A

USE WITH TYPICAL SECTION NO. 4
USE INSET NO. 4A AT THE FOLLOWING LOCATIONS:
-L- STA. 82+56.60 TO -L- STA. 114+31.32



GEOTEXTILE FOR SOIL STABILIZATION

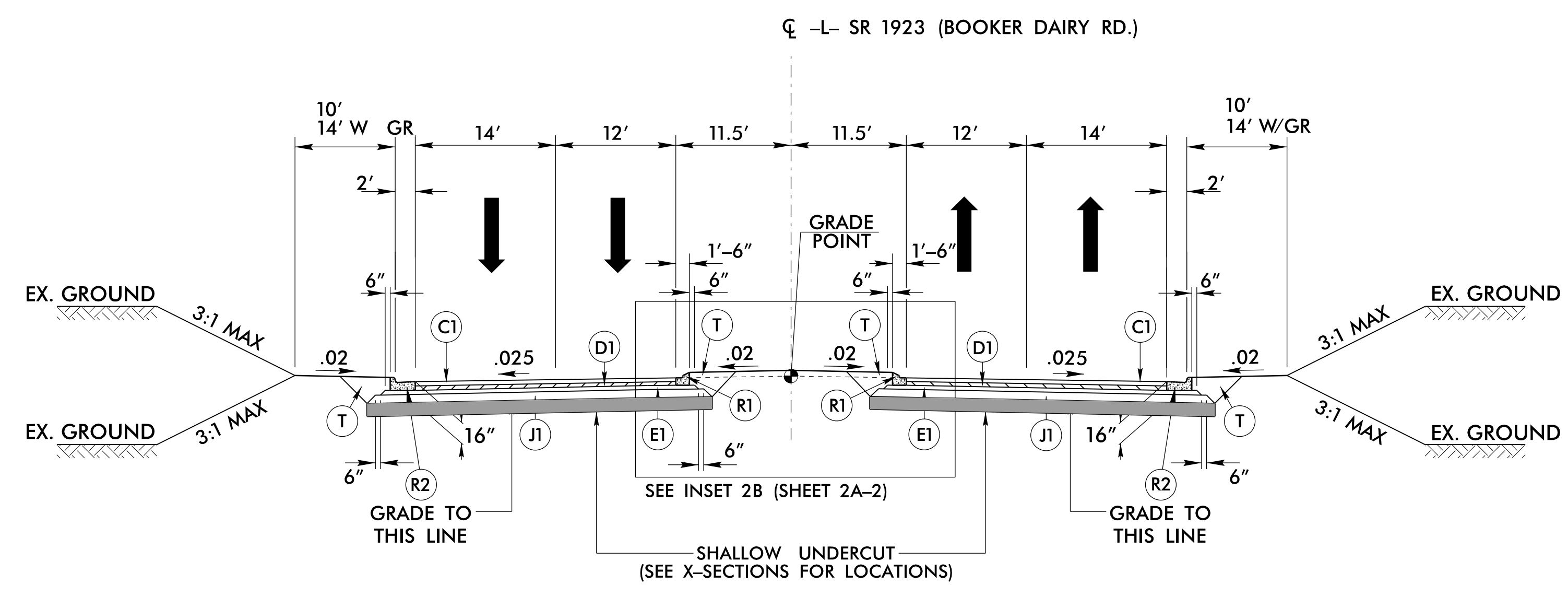
-L- STA. 75+00 +/- TO -L- STA. 84+50 +/-

6/2/17



PROJECT REFERENCE NO. U-3334B	SHEET NO. 2A-4
ROADWAY DESIGN ENGINEER STEPHEN T. SMALLWOOD 022037	PAVEMENT DESIGN ENGINEER CHRISTOPHER S. MORRISON 022896
12/4/2017	12/4/2017

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

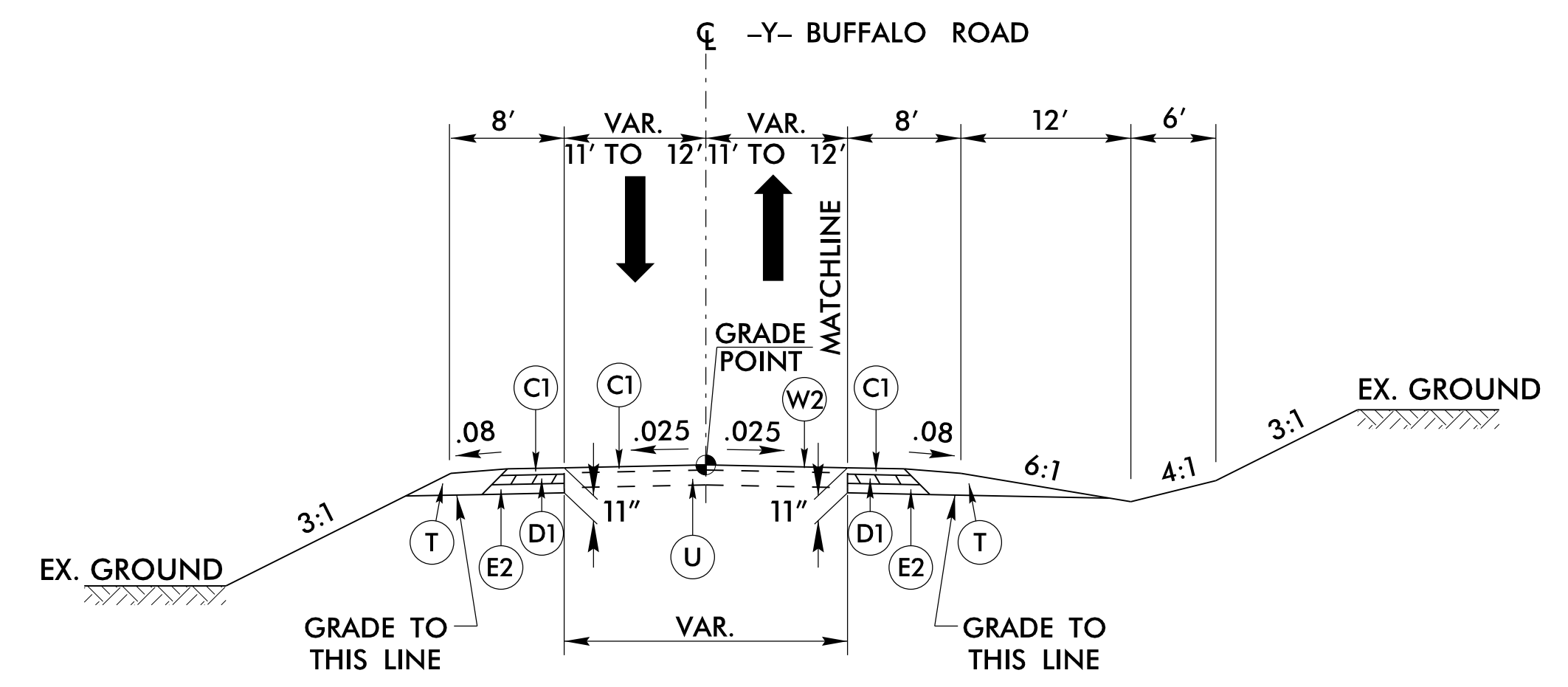


TYPICAL SECTION NO. 5

USE TYPICAL SECTION NO. 5 AT THE FOLLOWING LOCATION:
-L- STA. 117+00.00 TO -L- STA. 127+72.65

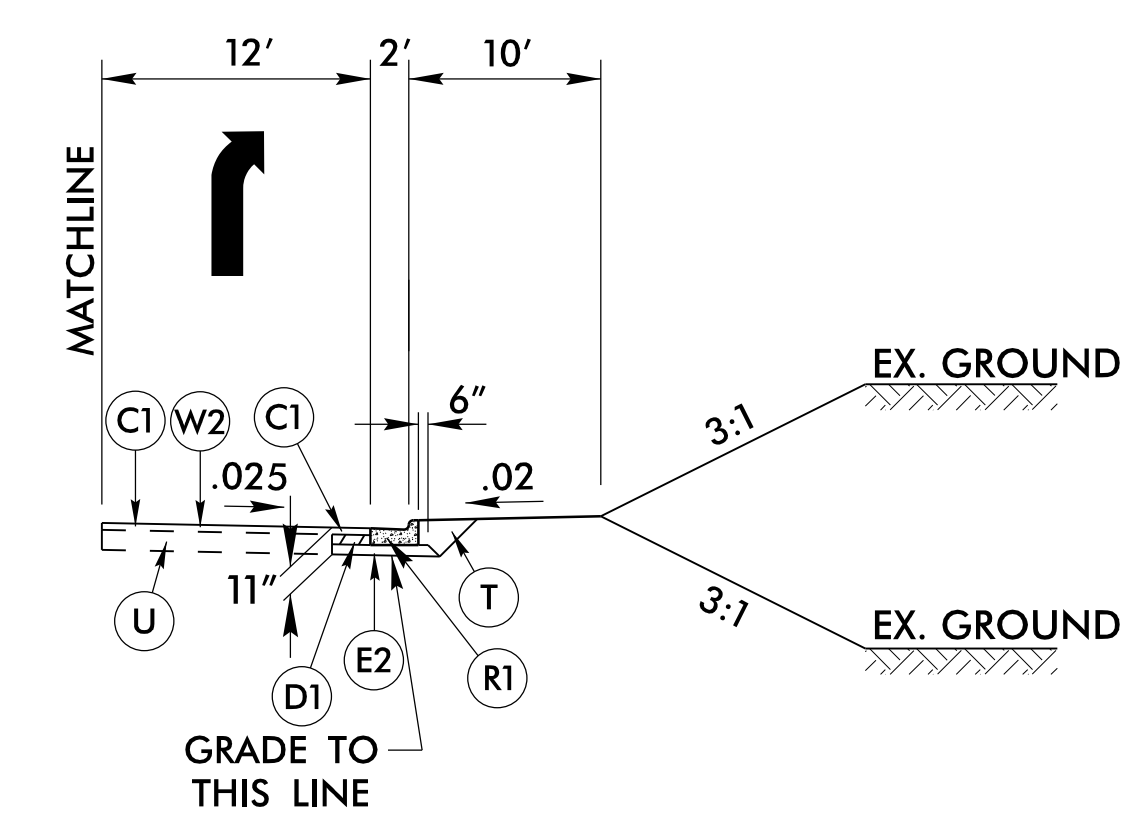
FINAL PAVEMENT SCHEDULE

C1	3" S9.5B	N	GEOTEXTILE FOR SOIL STABILIZATION
C2	1½" S9.5B	P	PRIME COAT
C3	2" S9.5B	R1	1'-6" C & G
C4	VAR. S9.5B	R2	2'-6" C & G
D1	4" I19.0B	R3	2'-9" C & G
D2	3" I19.0B	S	CONCRETE SIDEWALK
D3	VAR. I19.0B	T	EARTH MATERIAL
E1	3" B25.0B	U	EXISTING PAVEMENT
E2	4" B25.0B	V1	3" MILLING EXISTING PAVEMENT
E3	VAR. B25.0B	V2	1½" MILLING EXISTING PAVEMENT
J1	6" ABC	W1	WEDGING (SEE DETAIL ON SHT. 2A-1)
J2	8" ABC	W2	WEDGING (SEE DETAIL ON SHT. 2A-1)
L	CLASS IV SUBGRADE STABILIZATION		NOTE: PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE.



TYPICAL SECTION NO. 6

USE TYPICAL SECTION NO. 6 AT THE FOLLOWING LOCATIONS:
-Y- STA. 18+07.09 TO -Y- STA. 19+57.59
-Y- STA. 20+34.23 TO -Y- STA. 24+32.46



INSET NO. 6A

USE WITH TYPICAL SECTION NO. 6
USE INSET NO. 6A AT THE FOLLOWING LOCATION:
-Y- STA. 18+07.09 LT TO -Y- STA. 19+36.39 LT

NOTE: TIE TO EXISTING CURB & GUTTER.

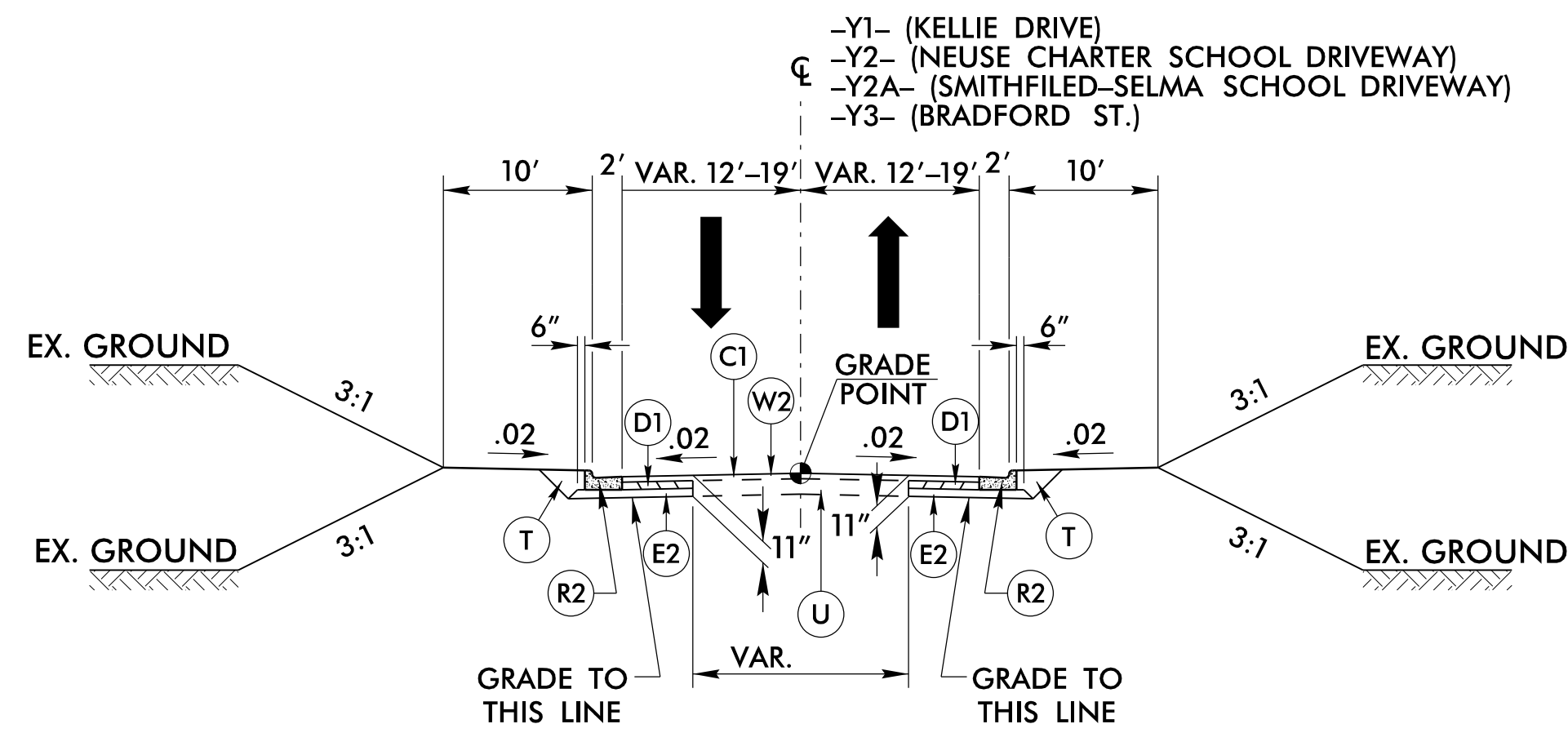
12/4/2017
U:\Roadway\Proj\U3334B_RdJ-tyr.dgn
cno



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801 Jones Franklin Road
Suite 300
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Tel. (919) 851-6866
Fax. (919) 851-7024
www.stantec.com
License No. F-0672

PROJECT REFERENCE NO. <i>U-3334B</i>	SHEET NO. <i>2A-5</i>
ROADWAY DESIGN ENGINEER <i>Stephen T. Smallwood</i> 022037	PAVEMENT DESIGN ENGINEER <i>Quinn S. Morrison</i> 022896
12/4/2017	12/4/2017

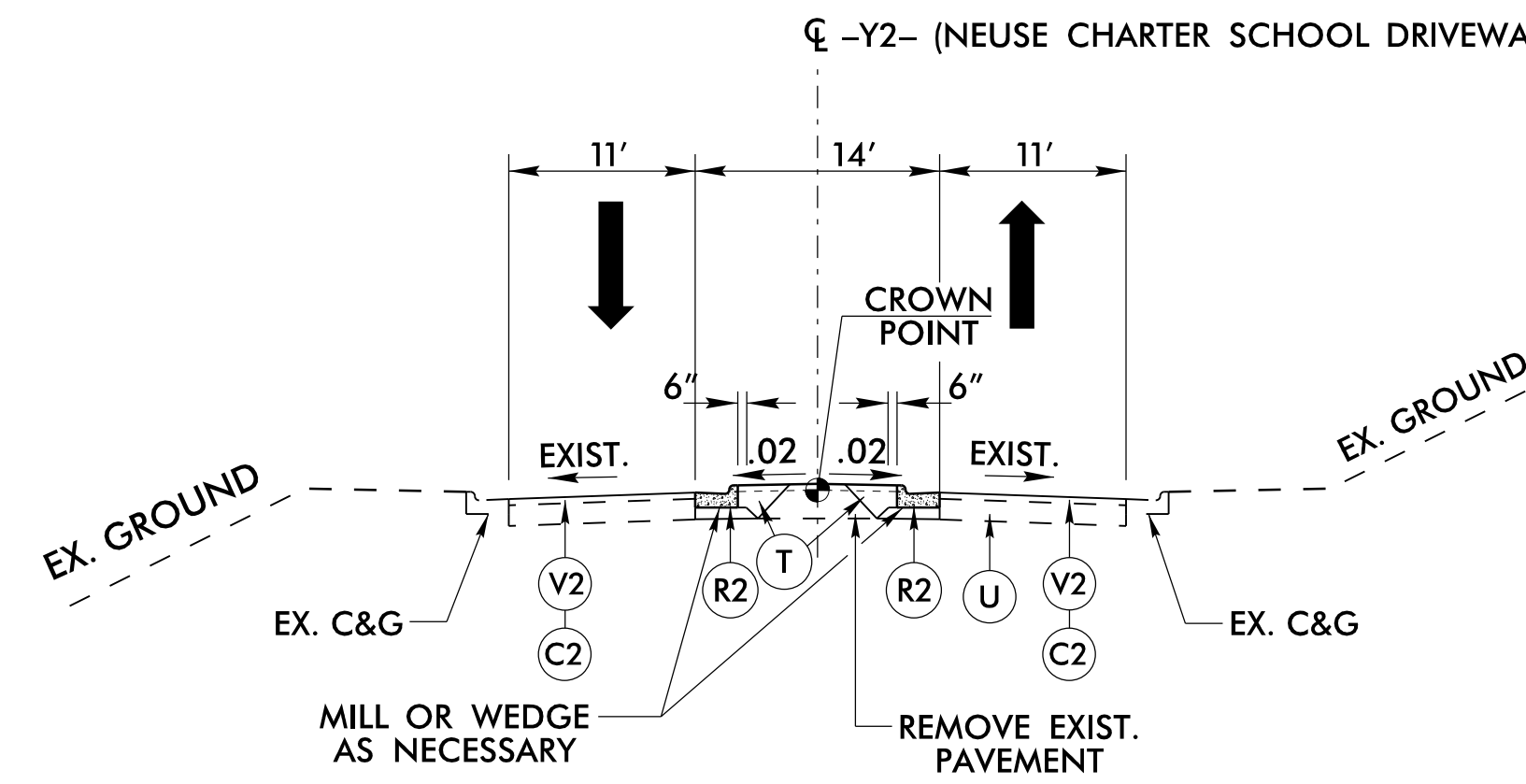
**DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED**



TYPICAL SECTION NO. 7

USE TYPICAL SECTION NO. 7 AT THE FOLLOWING LOCATIONS:

- Y1- STA. 10+75.00 TO -Y1- STA. 11+34.46
- Y2- STA. 10+20.00 TO -Y2- STA. 11+02.15
- Y2A- STA. 10+37.50 TO -Y2A- STA. 11+13.00
- Y3- STA. 13+25.00 TO -Y3- STA. 13+91.65



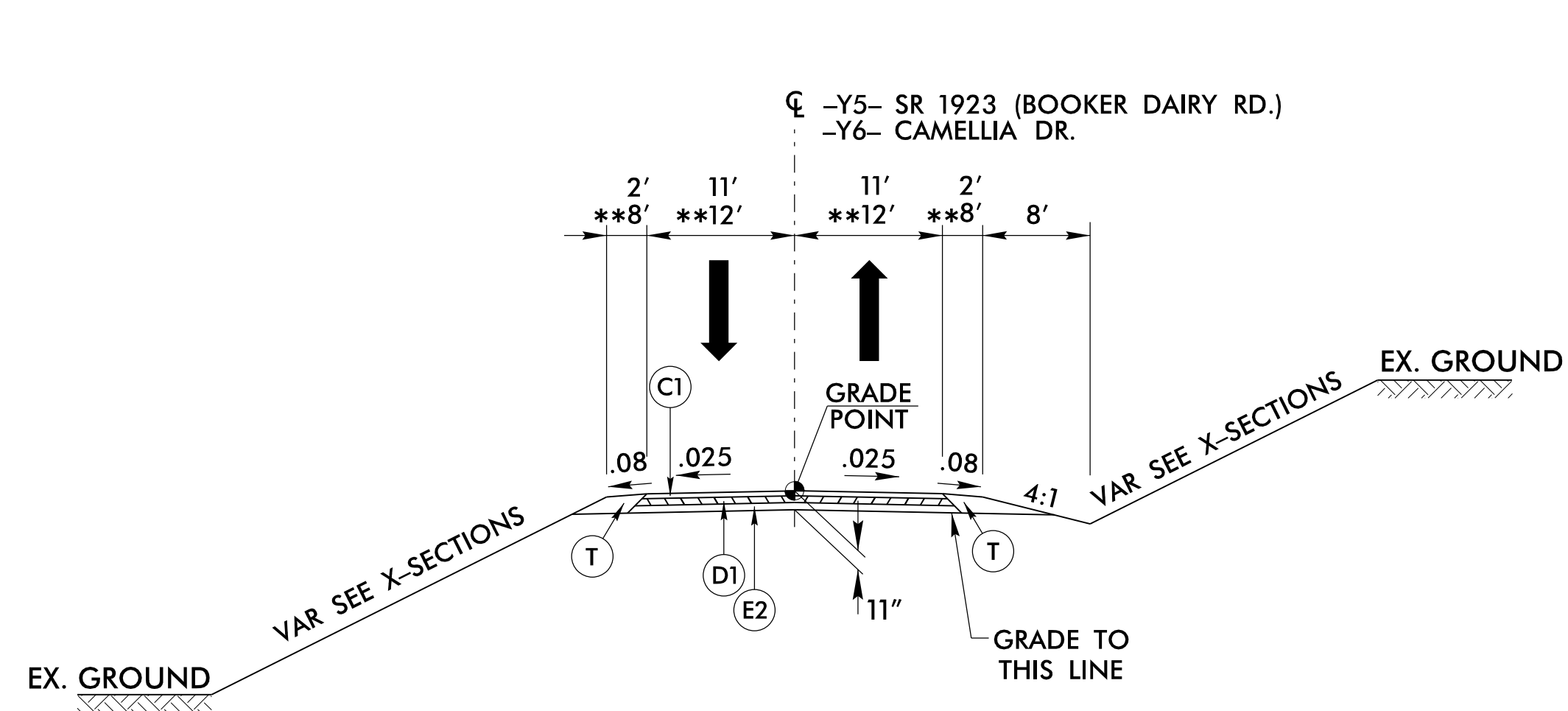
TYPICAL SECTION NO. 7A

USE TYPICAL SECTION NO. 7A AT THE FOLLOWING LOCATIONS:

- Y2- STA. 9+20.00 TO -Y2- STA. 10+20.00

FINAL PAVEMENT SCHEDULE

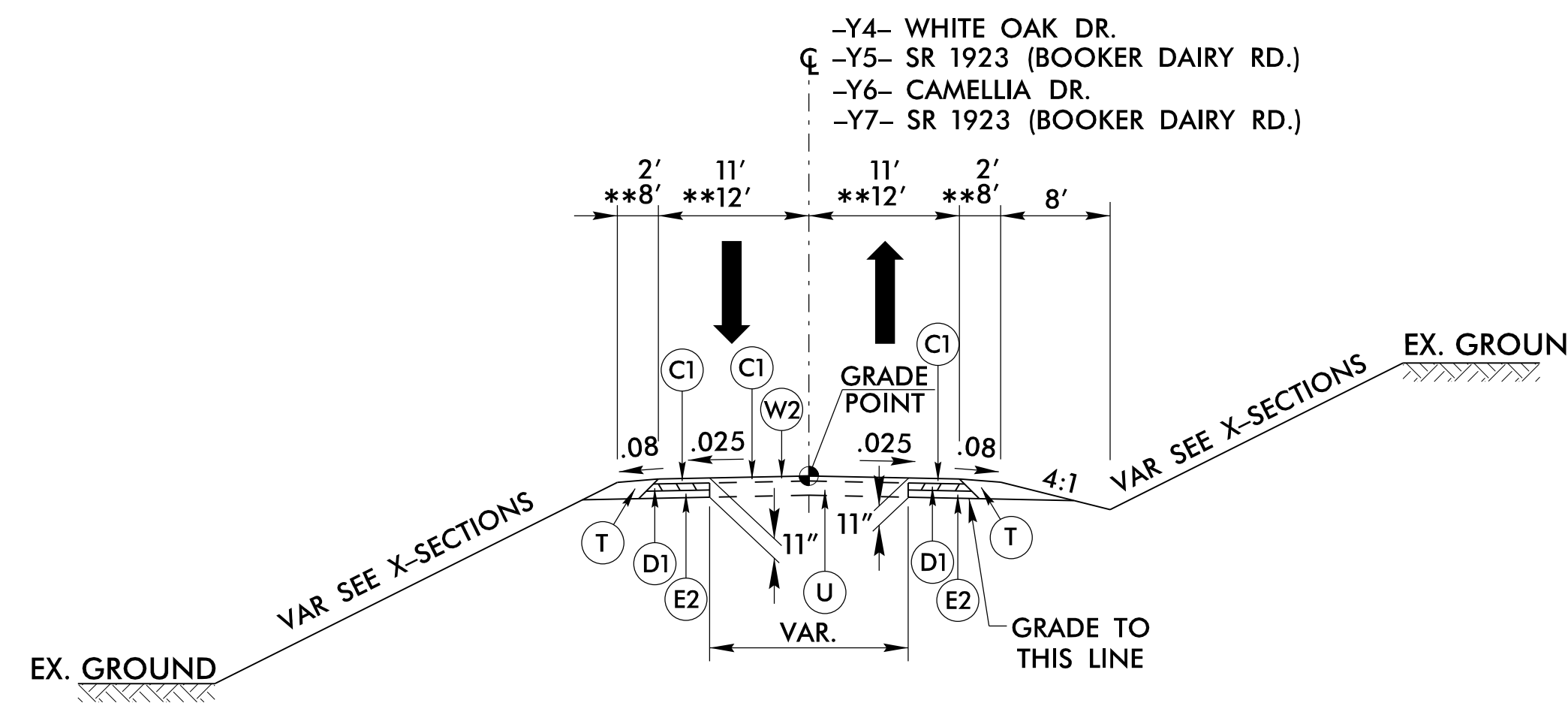
C1	3" S9.5B	N	GEOTEXTILE FOR SOIL STABILIZATION
C2	1½" S9.5B	P	PRIME COAT
C3	2" S9.5B	R1	1'-6" C & G
C4	VAR. S9.5B	R2	2'-6" C & G
D1	4" I19.0B	R3	2'-9" C & G
D2	3" I19.0B	S	CONCRETE SIDEWALK
D3	VAR. I19.0B	T	EARTH MATERIAL
E1	3" B25.0B	U	EXISTING PAVEMENT
E2	4" B25.0B	V1	3" MILLING EXISTING PAVEMENT
E3	VAR. B25.0B	V2	1½" MILLING EXISTING PAVEMENT
J1	6" ABC	W1	WEDGING (SEE DETAIL ON SHT. 2A-1)
J2	8" ABC	W2	WEDGING (SEE DETAIL ON SHT. 2A-1)
L	CLASS IV SUBGRADE STABILIZATION		NOTE: PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE.



TYPICAL SECTION NO. 8

USE TYPICAL SECTION NO. 8 AT THE FOLLOWING LOCATION:

- **_Y5- STA. 10+35.51 TO -Y5- STA. 17+54.14
- Y6- STA. 10+17.99 TO -Y6- STA. 12+75



TYPICAL SECTION NO. 9

USE TYPICAL SECTION NO. 9 AT THE FOLLOWING LOCATIONS:

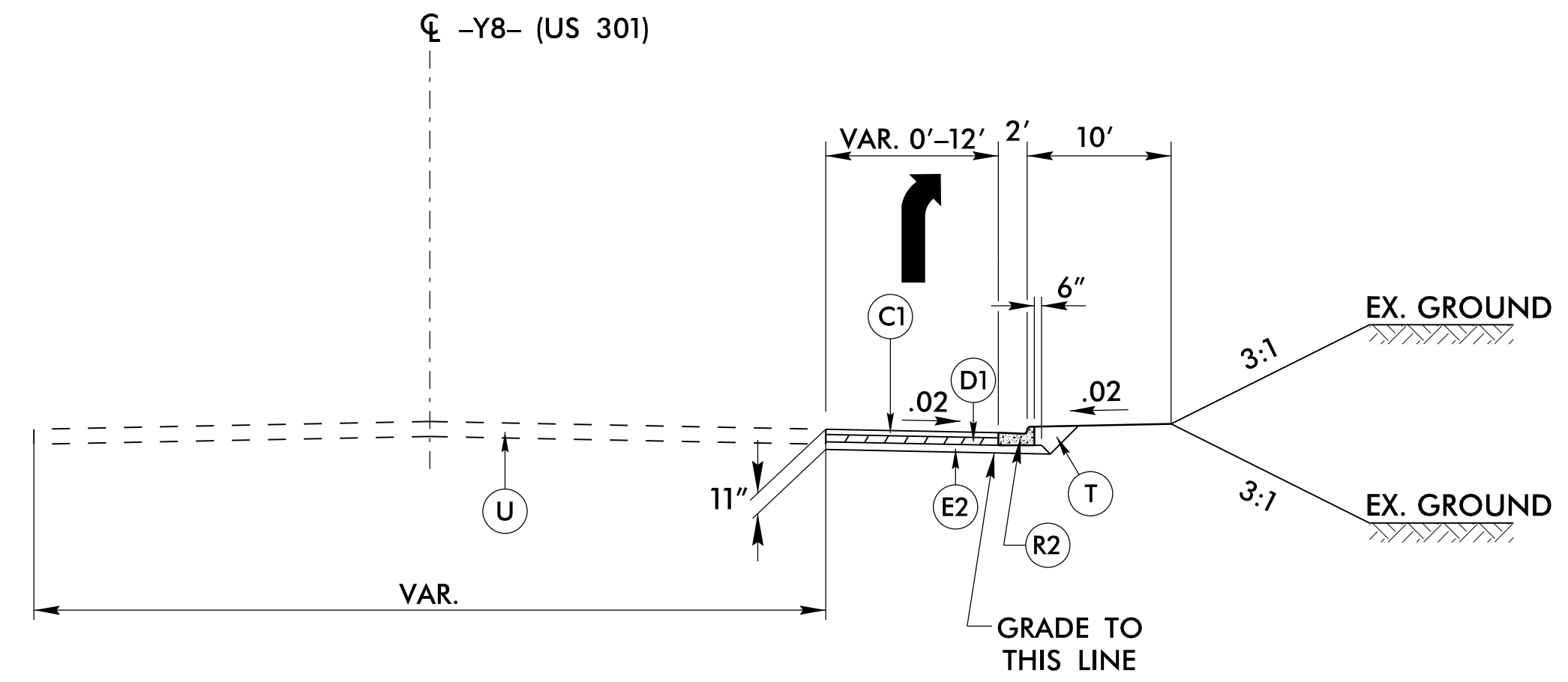
- Y4- STA. 10+37.53 TO -Y4- STA. 11+75.00
- **_Y5- STA. 17+54.14 TO -Y5- STA. 20+00.00
- Y6- STA. 11+68.63 TO -Y6- STA. 12+75.00
- Y7- STA. 15+80.00 TO -Y7- STA. 16+34.61

6/2/17

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PROJECT REFERENCE NO. U-3334B	SHEET NO. 2A-6
ROADWAY DESIGN ENGINEER STEPHEN T. SMALLWOOD 022037	PAVEMENT DESIGN ENGINEER CHRISTOPHER S. MORRISON 022896
12/4/2017	12/4/2017

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

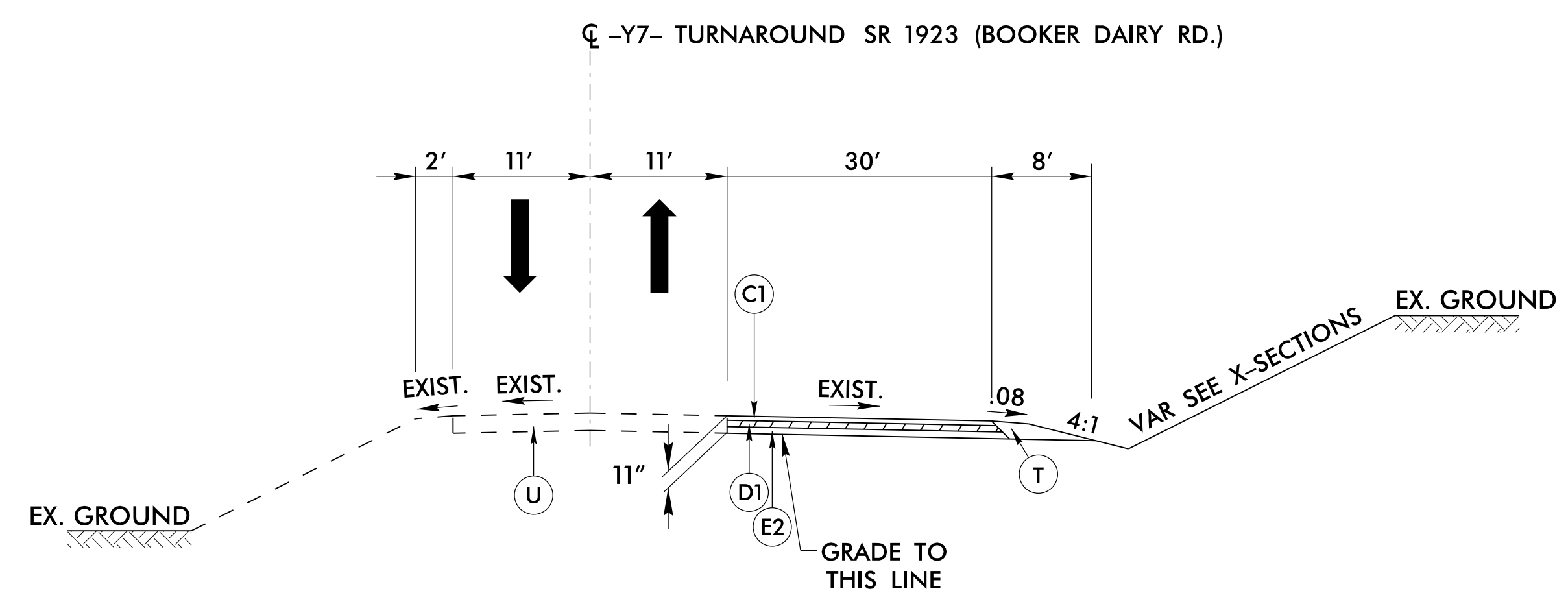


TYPICAL SECTION NO. 10

USE TYPICAL SECTION NO. 10 AT THE FOLLOWING LOCATIONS:
-Y8- STA. 14+80.06 TO -Y8- STA. 16+21.59

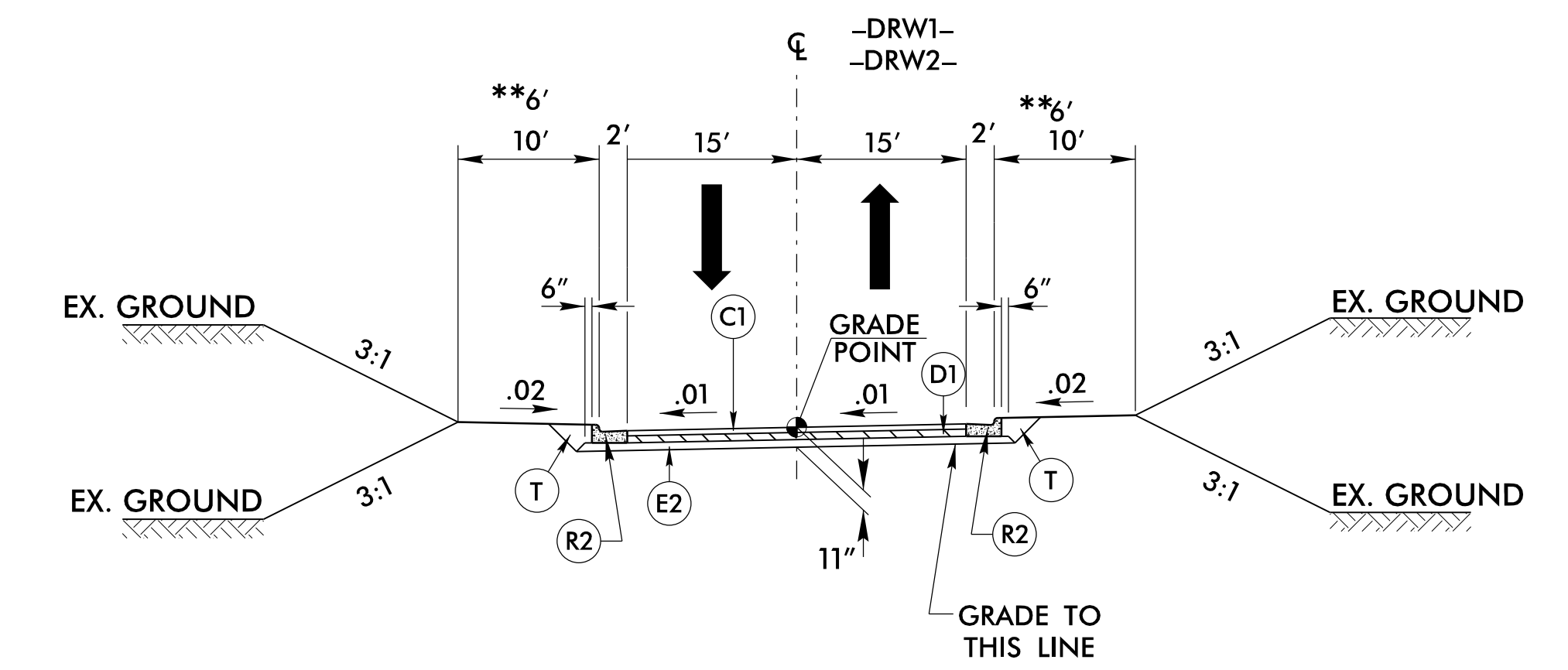
FINAL PAVEMENT SCHEDULE

C1	3" S9.5B	N	GEOTEXTILE FOR SOIL STABILIZATION
C2	1 1/2" S9.5B	P	PRIME COAT
C3	2" S9.5B	R1	1'-6" C & G
C4	VAR. S9.5B	R2	2'-6" C & G
D1	4" I19.0B	R3	2'-9" C & G
D2	3" I19.0B	S	CONCRETE SIDEWALK
D3	VAR. I19.0B	T	EARTH MATERIAL
E1	3" B25.0B	U	EXISTING PAVEMENT
E2	4" B25.0B	V1	3" MILLING EXISTING PAVEMENT
E3	VAR. B25.0B	V2	1 1/2" MILLING EXISTING PAVEMENT
J1	6" ABC	W1	WEDGING (SEE DETAIL ON SHT. 2A-1)
J2	8" ABC	W2	WEDGING (SEE DETAIL ON SHT. 2A-1)
L	CLASS IV SUBGRADE STABILIZATION		NOTE: PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE.



TYPICAL SECTION NO. 11

USE TYPICAL SECTION NO. 11 AT THE FOLLOWING LOCATIONS:
-Y7- TURNAROUND STA 11+61.55 TO 12+19.30



TYPICAL SECTION NO. 12

USE TYPICAL SECTION NO. 12 AT THE FOLLOWING LOCATIONS:
-DRW1- STA. 10+49.50 TO -DRW1- STA. 11+40.00
**-DRW2- STA. 10+37.50 TO -DRW2- STA. 11+47.50

NOTE: MILL & REPLACE WITH 1 1/2" S9.5B
-DRW1- STA. 11+40.00 TO -DRW1- STA. 11+65.00

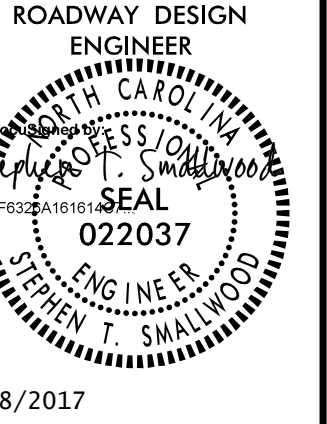
12/4/2017
U:\Roadway\Proj\U3334B_Rdy_typ.dgn

INTERSECTION DETAIL @ -L- (BOOKER DIARY ROAD) -Y- (BUFFALO ROAD)



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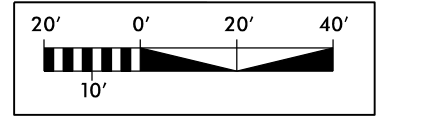
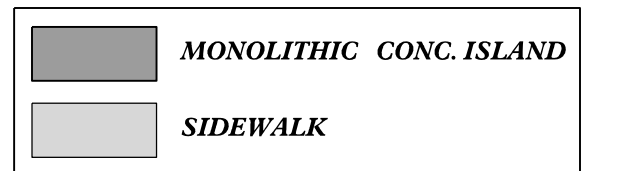
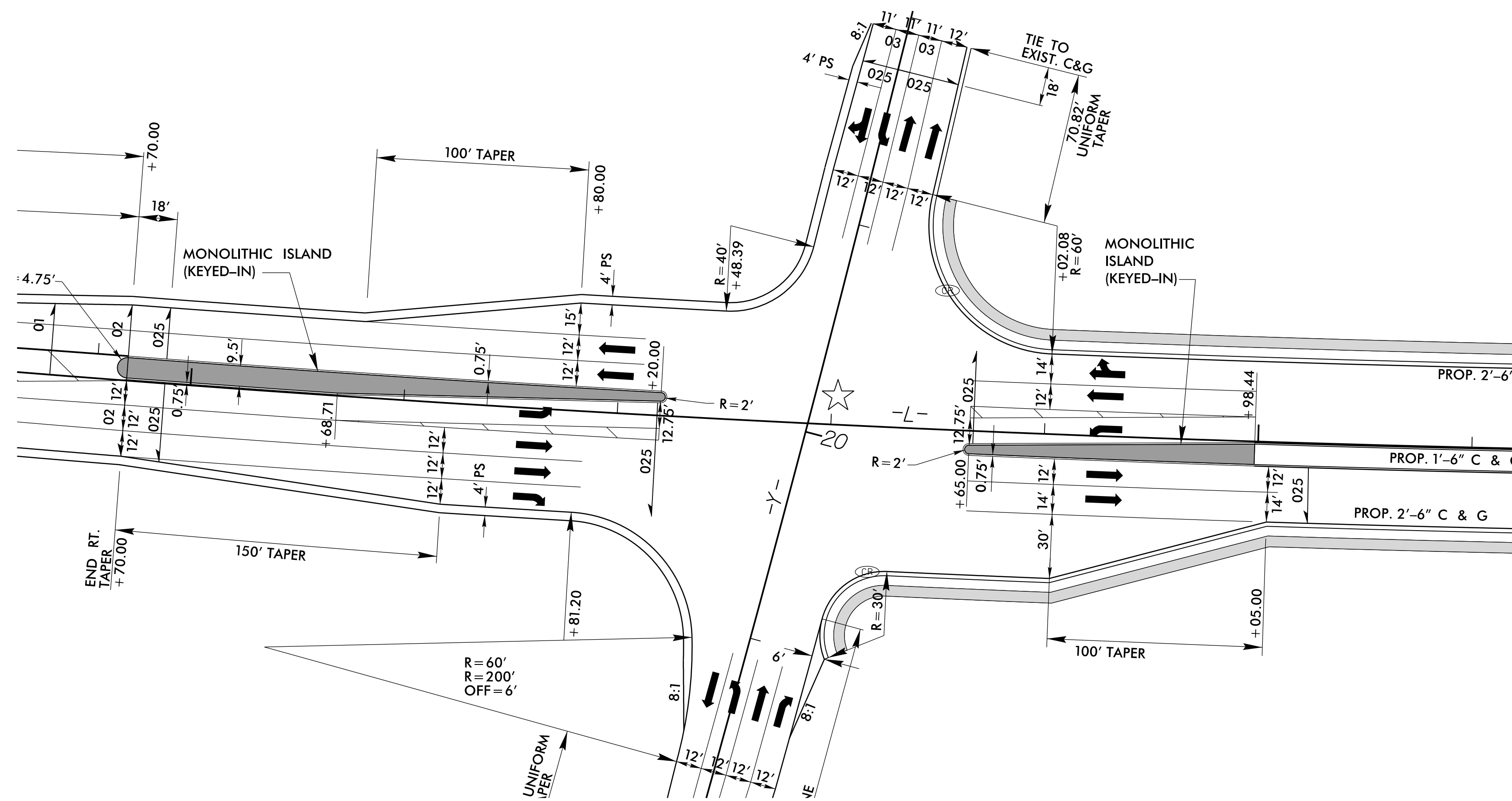
PROJECT REFERENCE NO. U-3334B	SHEET NO. 2B-1
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11/28/2017

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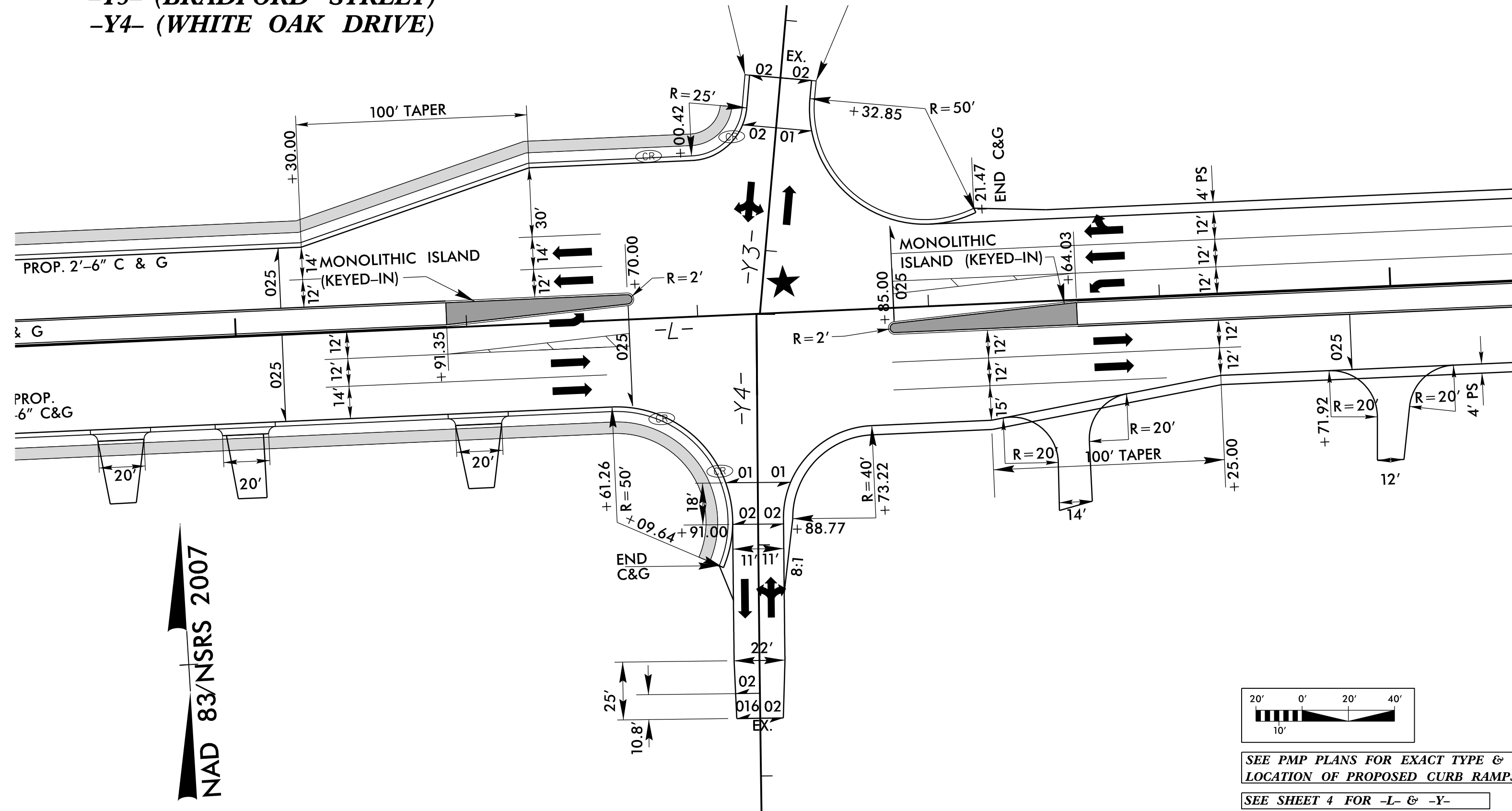
NAD 83/NSRS 2007



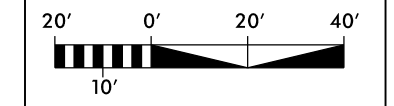
SEE PMP PLANS FOR EXACT TYPE &
LOCATION OF PROPOSED CURB RAMPS
SEE SHEET 4 FOR -L- & -Y-

★ UPGRADE EXISTING SIGNAL

INTERSECTION DETAIL @ -L- (BOOKER DIARY ROAD) -Y3- (BRADFORD STREET) -Y4- (WHITE OAK DRIVE)

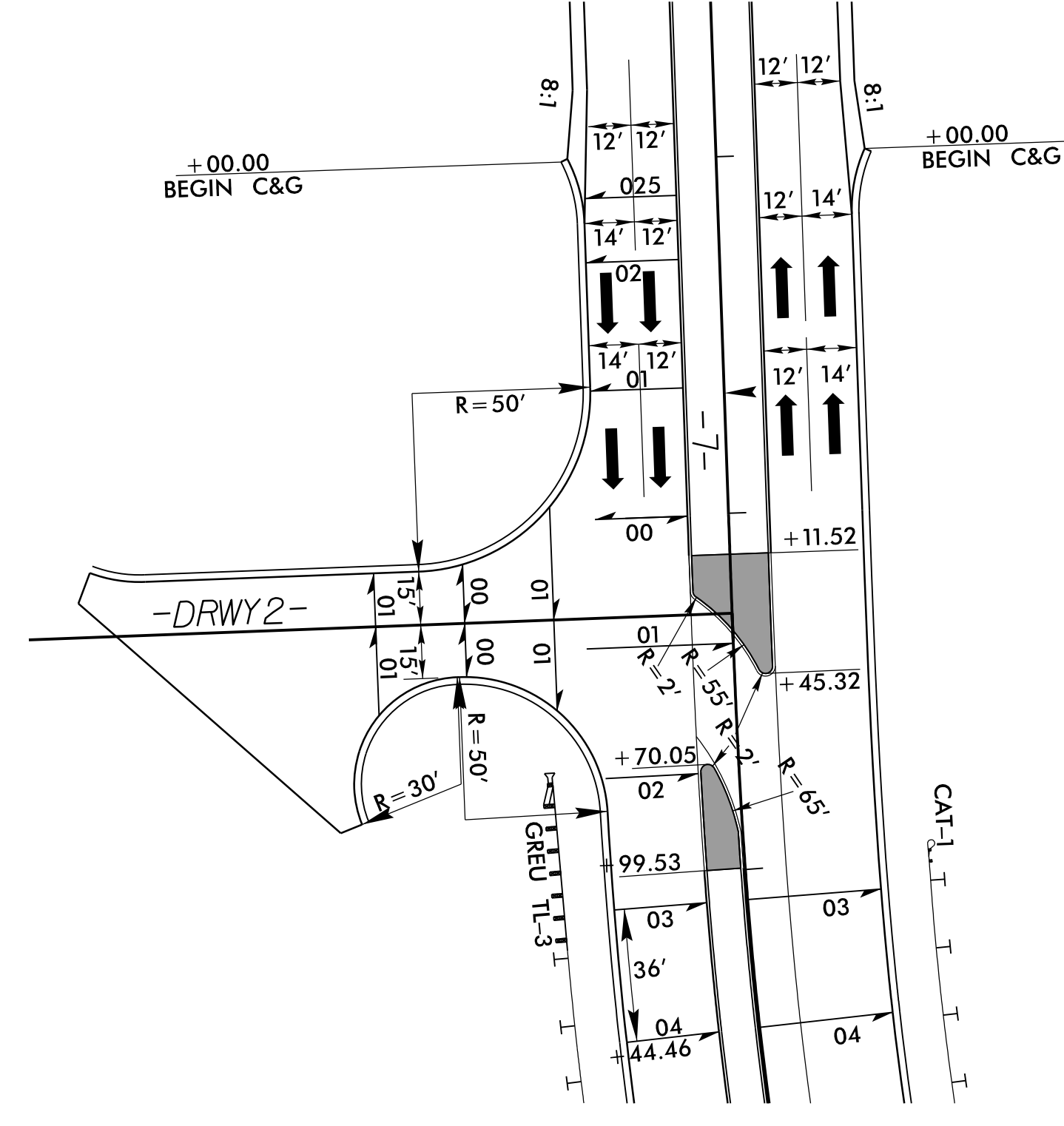


NAD 83/NSRS 2007

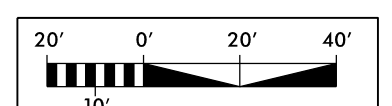


SEE PMP PLANS FOR EXACT TYPE &
LOCATION OF PROPOSED CURB RAMPS
SEE SHEET 4 FOR -L- & -Y-

INTERSECTION DETAIL @ -L- (BOOKER DIARY ROAD) -DRW2- (WALMART TRUCK ENTRANCE)



NAD 83/NSRS 2007



SEE SHEET 12 FOR -L- & -DRW2-

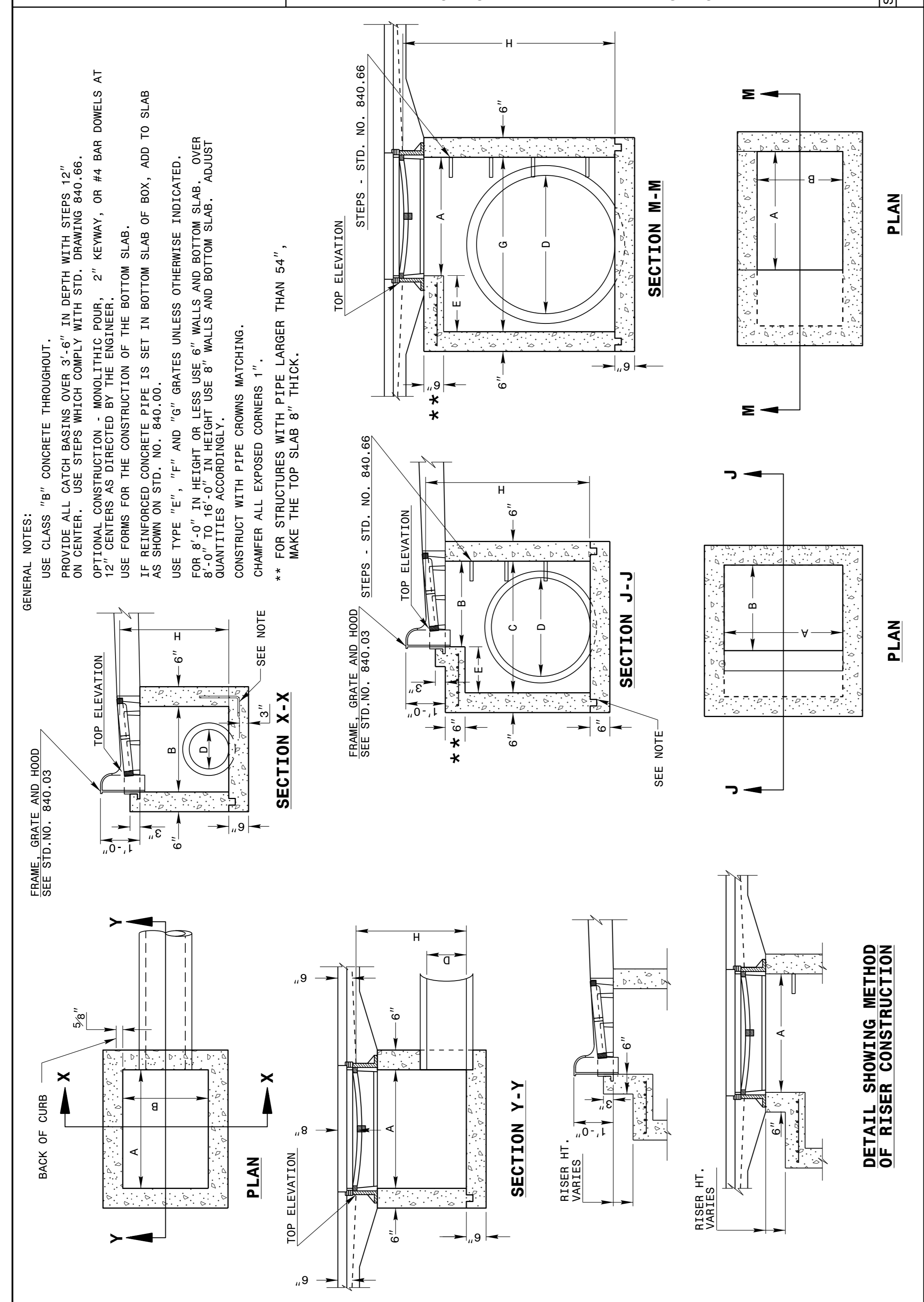
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5/14/99

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

ENGLISH DETAIL DRAWING FOR
**MINIMUM DEPTH
CONCRETE CATCH BASIN**
12" THRU 84" PIPE

SHEET 1 OF 2
840D02



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

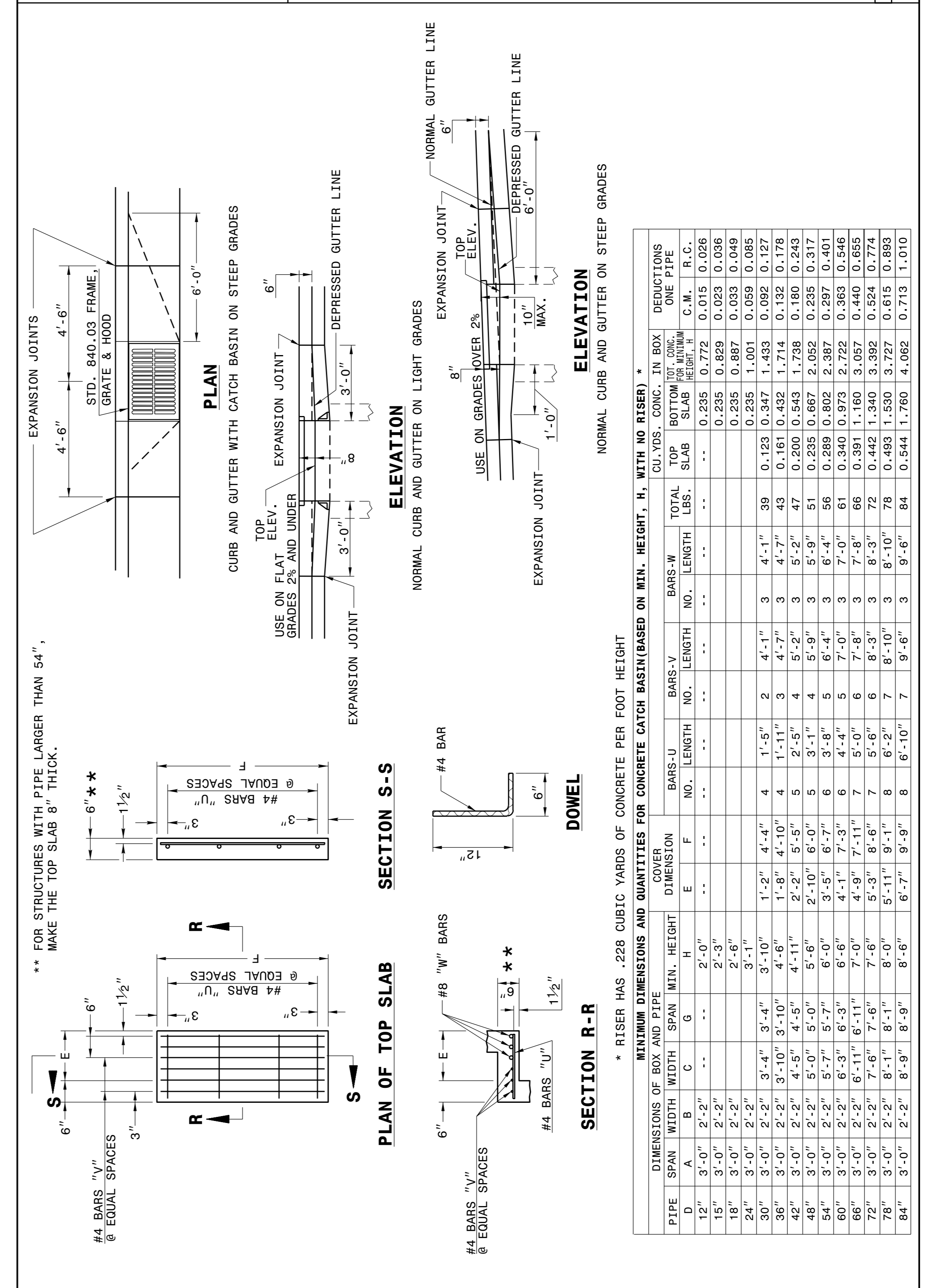
ENGLISH DETAIL DRAWING FOR
**MINIMUM DEPTH
CONCRETE CATCH BASIN**
12" THRU 84" PIPE

SHEET 1 OF 2
840D02

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

ENGLISH DETAIL DRAWING FOR
**MINIMUM DEPTH
CONCRETE CATCH BASIN**
12" THRU 84" PIPE

SHEET 2 OF 2
840D02



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

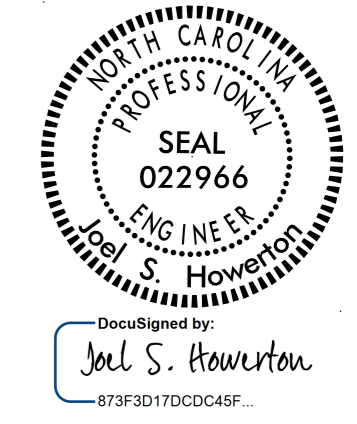
ENGLISH DETAIL DRAWING FOR
**MINIMUM DEPTH
CONCRETE CATCH BASIN**
12" THRU 84" PIPE

SHEET 2 OF 2
840D02

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

SEE PLATE FOR TITLE

ORIGINAL BY: 2002 Std.840.01 DATE:
 MODIFIED BY: E.E. WARD DATE: 3-1-02
 CHECKED BY: DATE:
 FILE SPEC.: s:Special Details/jhowerton/840d02.dgn



12/5/2017

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

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

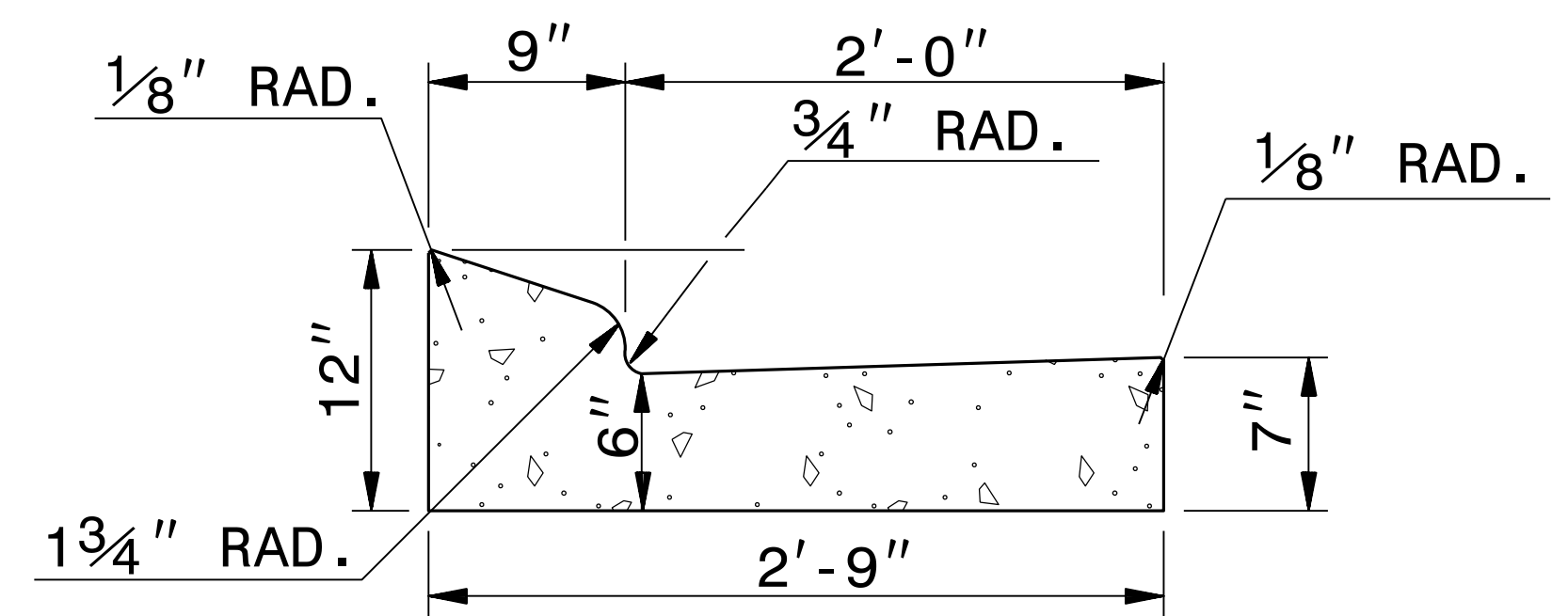
SHEET 1 OF 1
846D01

- 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)

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

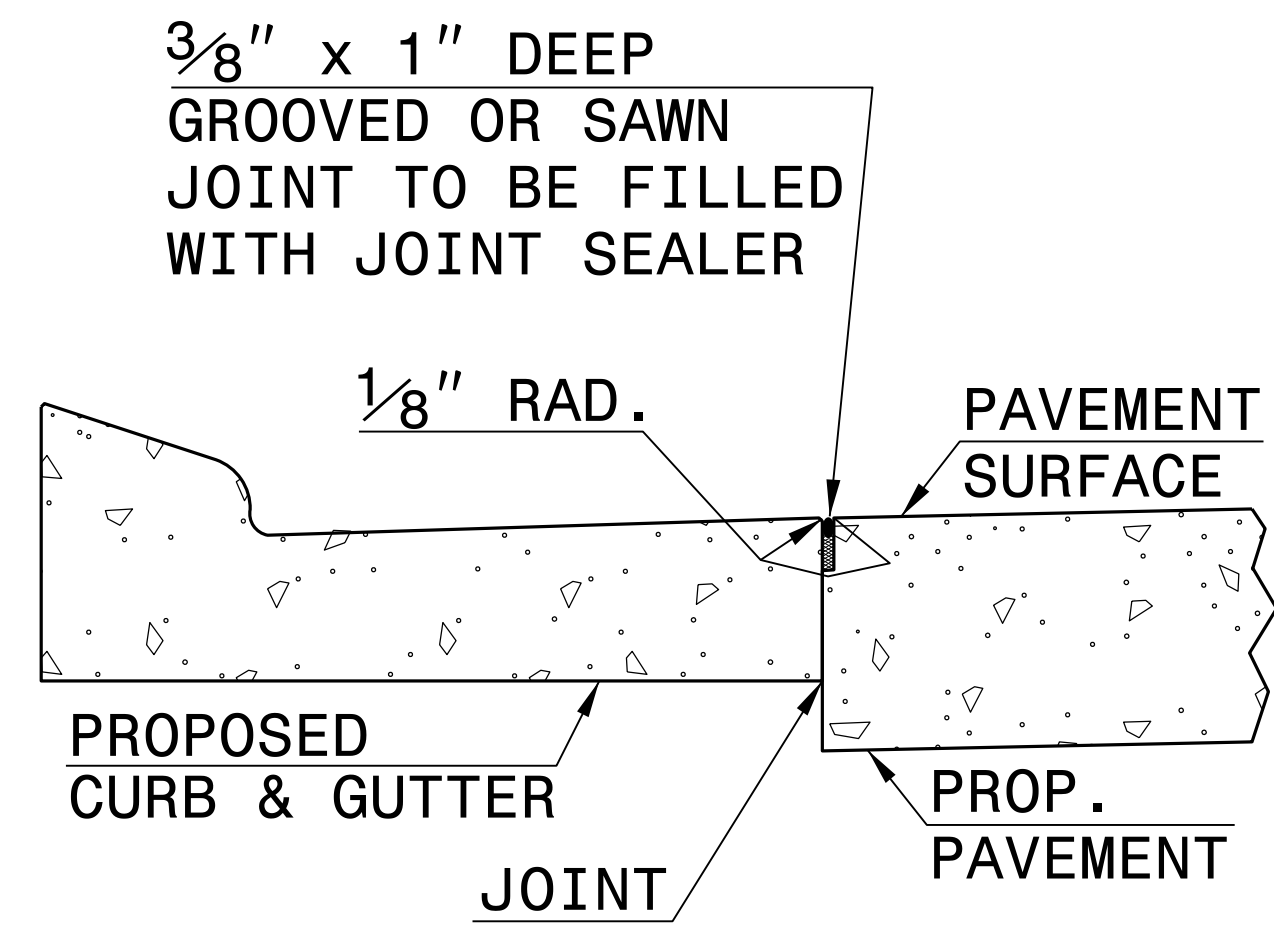
ENGLISH DETAIL DRAWING FOR
2'-9" CONCRETE CURB & GUTTER

SHEET 1 OF 1
846D01

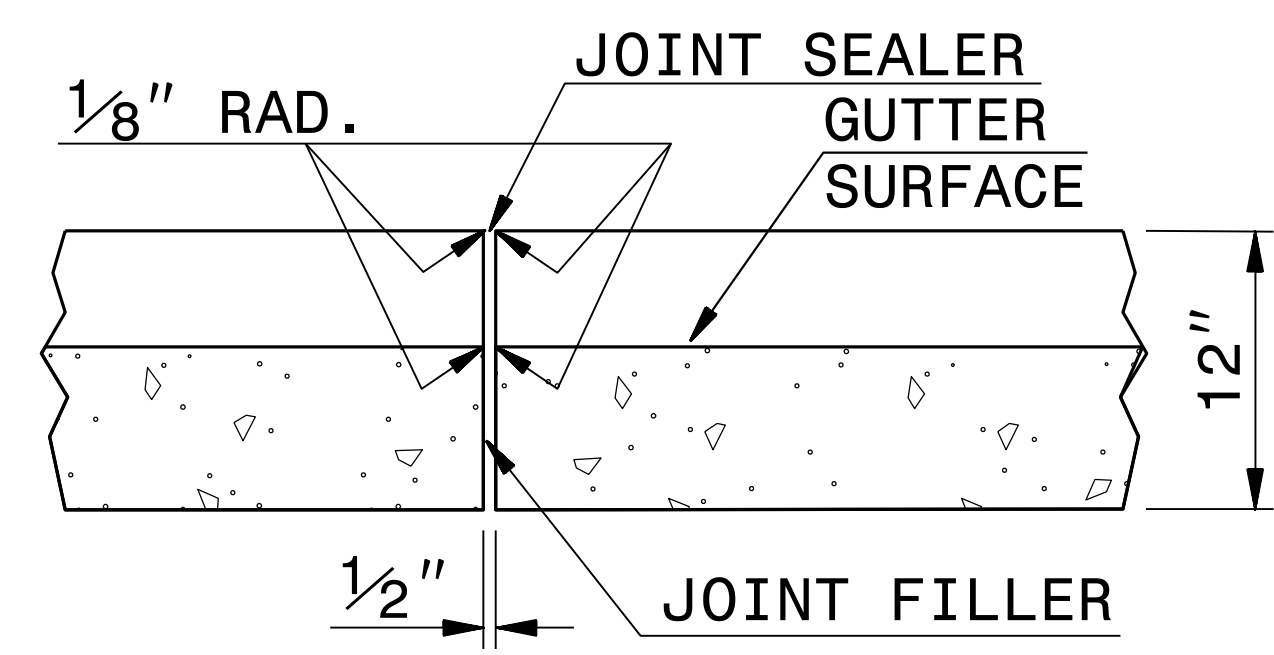


2'-9" CURB AND GUTTER

SECTION VIEW OF CURB AND GUTTER



LONGITUDINAL JOINT



TRANSVERSE EXPANSION JOINT IN CURB AND GUTTER

SECTION VIEW OF JOINTS

I:\OCT-2017 15:23
S:\Contracts\Contractors\Siggo\1 Details\viewcard\usr\details\stand\c&g2'-9.dgn
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12/5/2017

DocuSigned by:
Joel S. Howerton
973F3017DCDC45F...

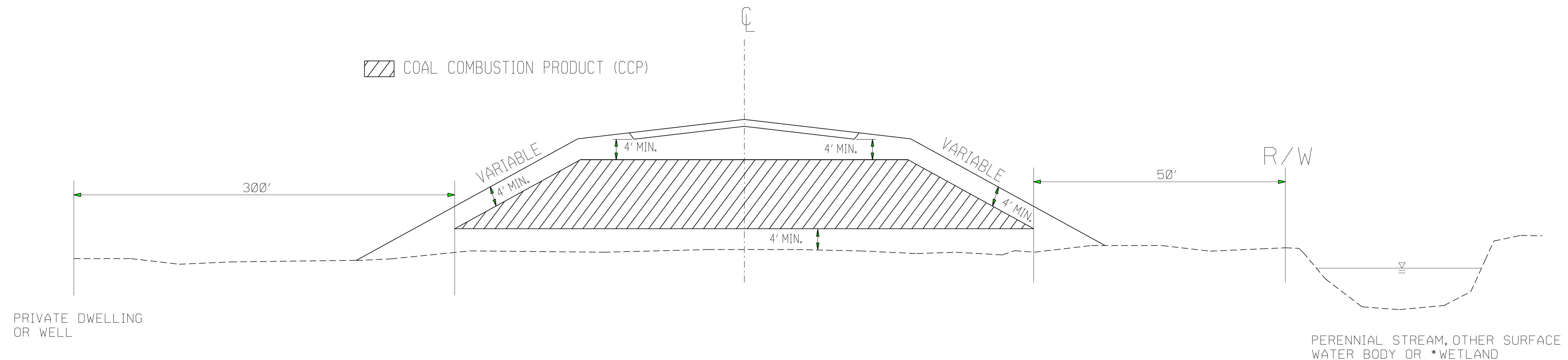
DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

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

SEE PLATE FOR TITLE

ORIGINAL BY: 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

COAL COMBUSTION PRODUCT PLACEMENT



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

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

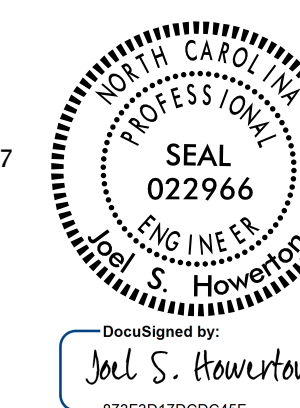
PLACE AT LOCATIONS AS APPROVED BY THE ENGINEER

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

*(OBTAIN PERMISSION FROM ARMY CORPS OF ENGINEERS)

J:\OCT-2017 1526 S:\Contracts\Contractors\Siggoal Details\Howerton\Coal Combustion Product Detail.dgn
 Howerton A1 CS0-23295

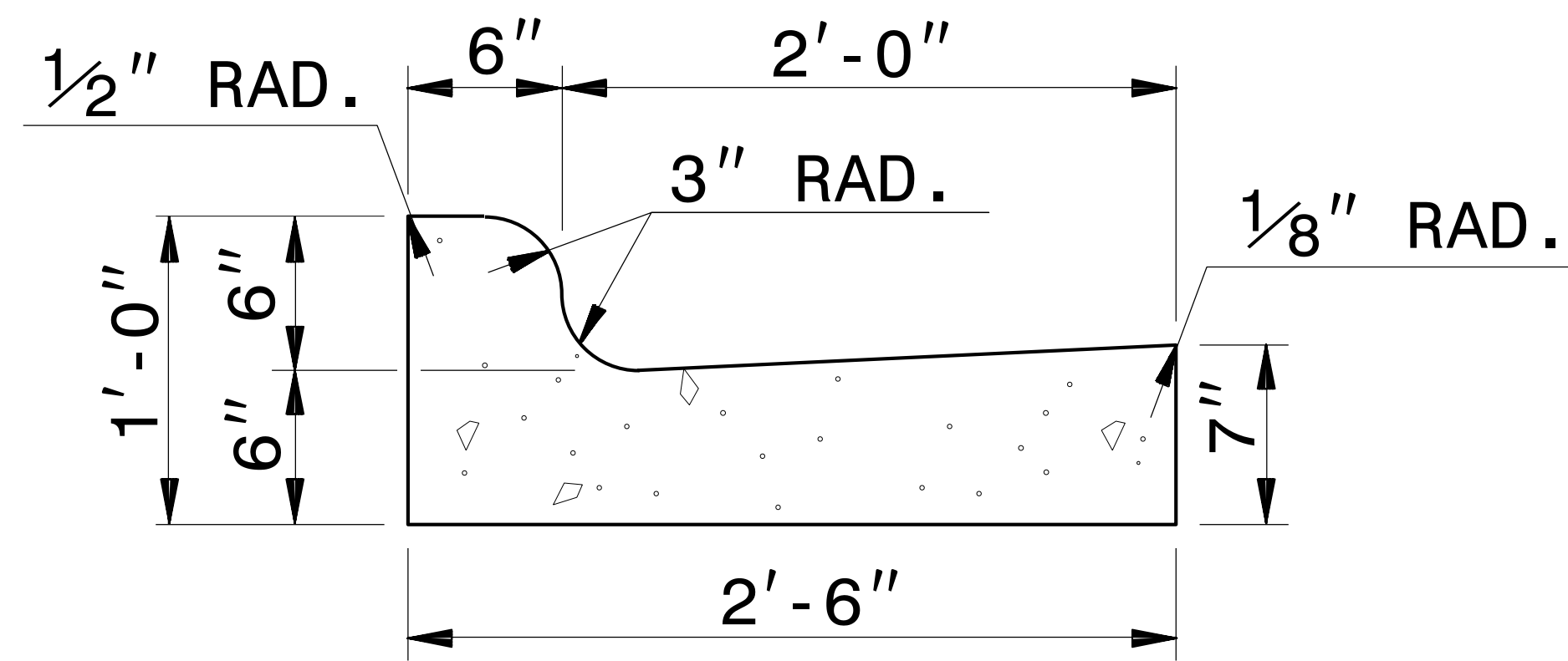
12/5/2017



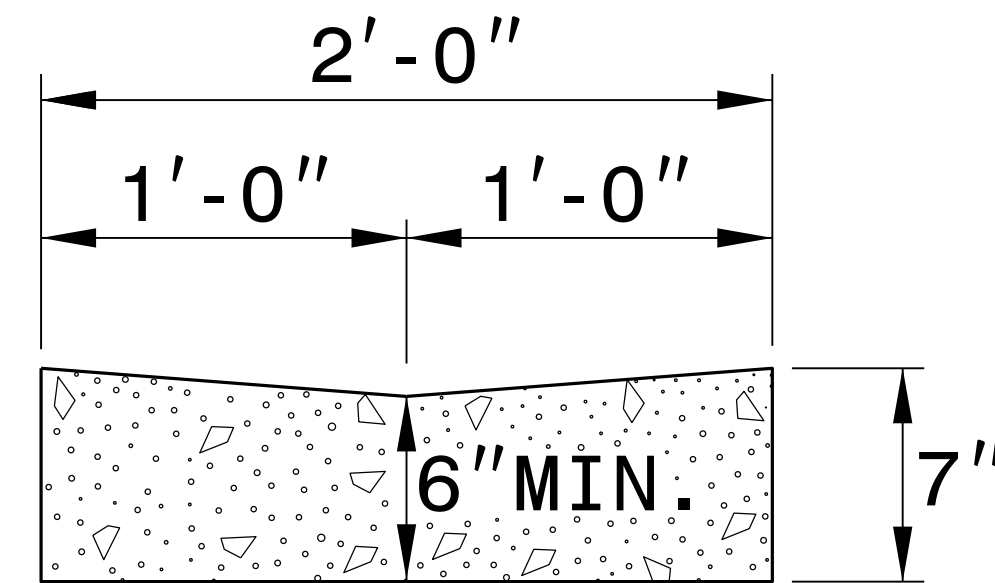
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

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	

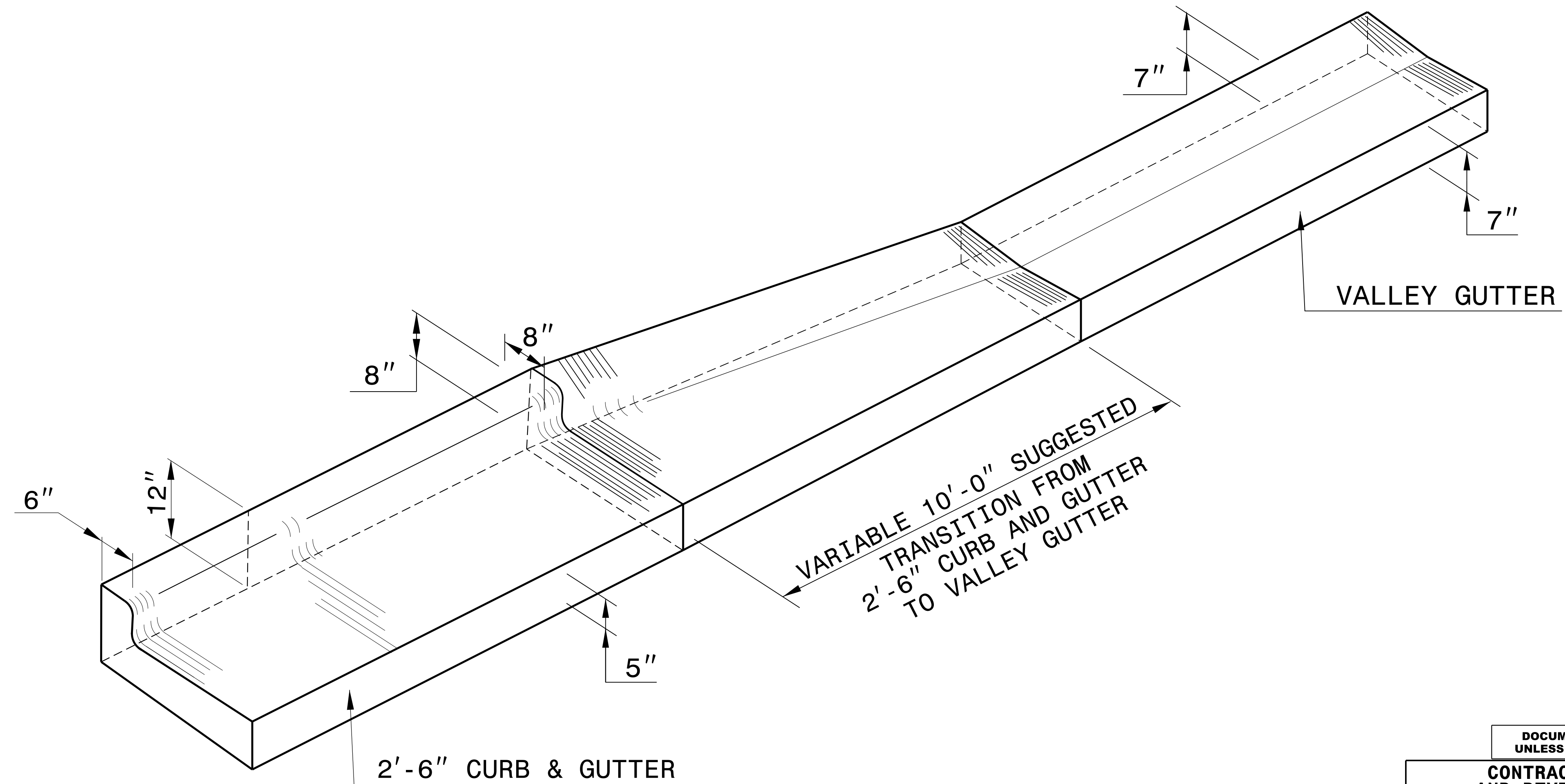
*NOTE: SEE STD. DWG. 846.01
FOR GENERAL NOTES



2'-6" CURB AND GUTTER

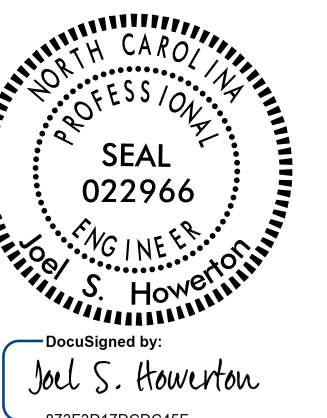


VALLEY GUTTER



ISOMETRIC VIEW OF TRANSITION

12/5/2017

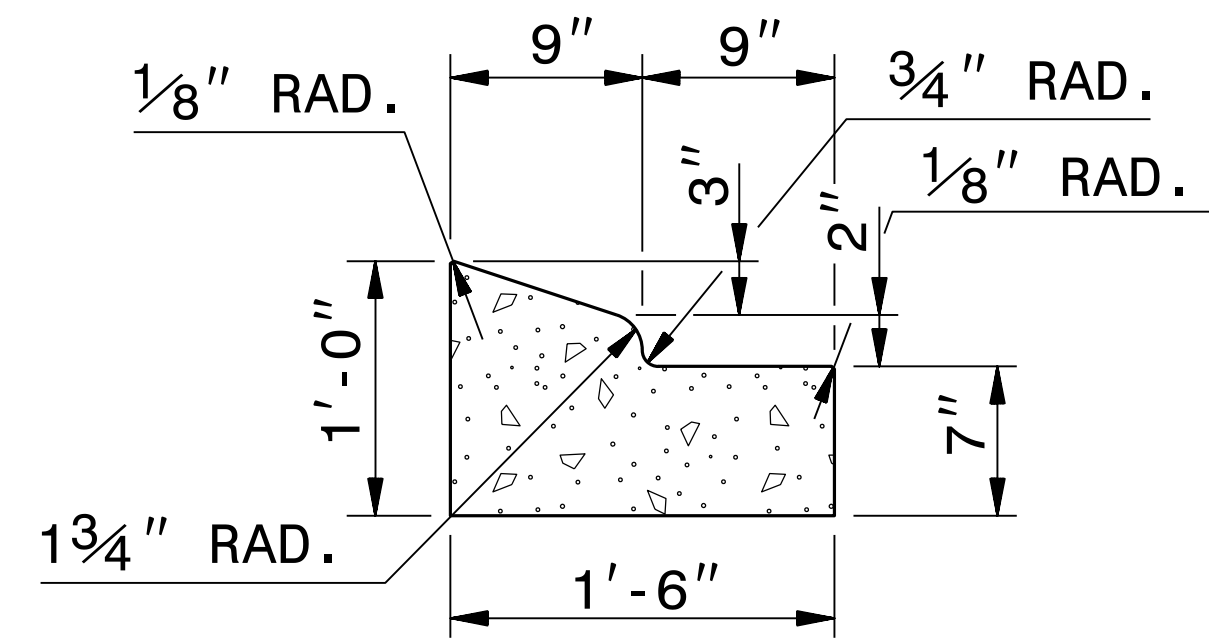


DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

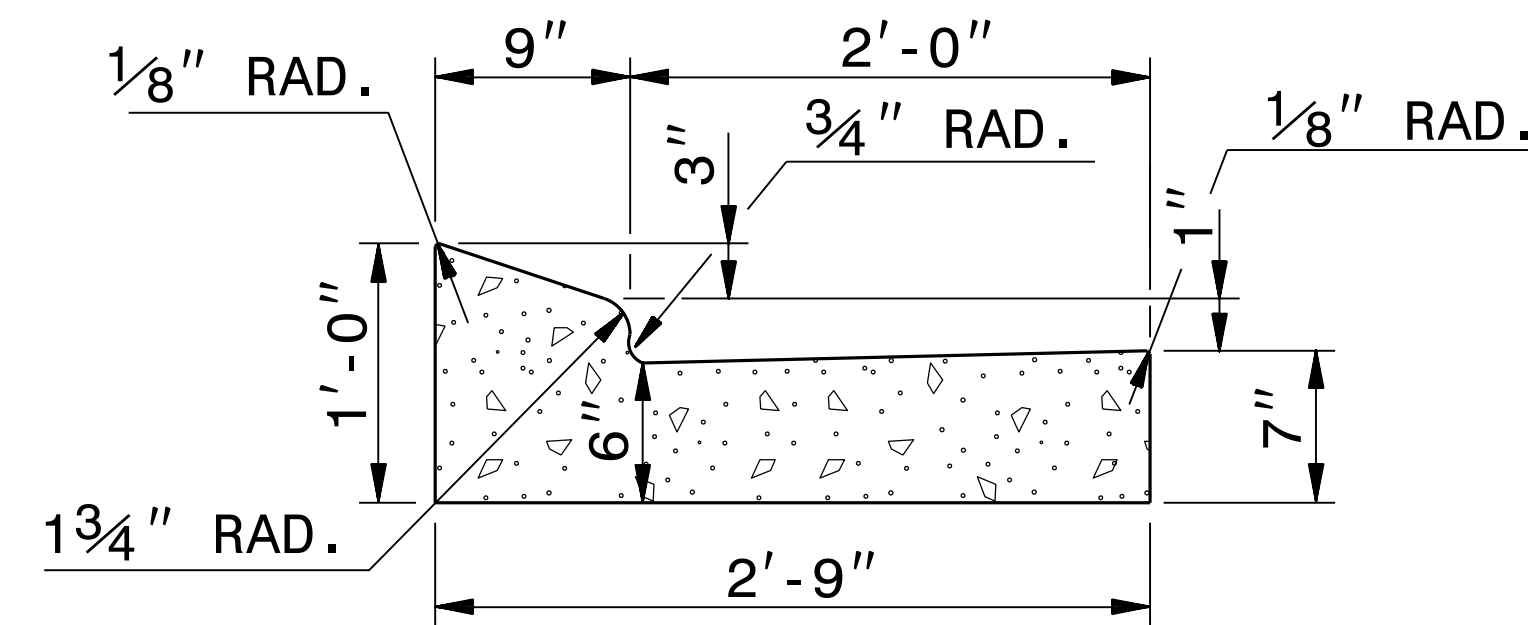
**CONTRACT STANDARDS
AND DEVELOPMENT UNIT**
Office 919-707-6950 FAX 919-250-4119

**TRANSITION FROM
2'-6" CURB AND GUTTER
TO VALLEY GUTTER**

ORIGINAL BY: T.S. SPELL DATE: FEB. 4, 2009
MODIFIED BY: DATE:
CHECKED BY: DATE:
FILE SPEC.: w:\usr\details\stand\cgtransit.dgn



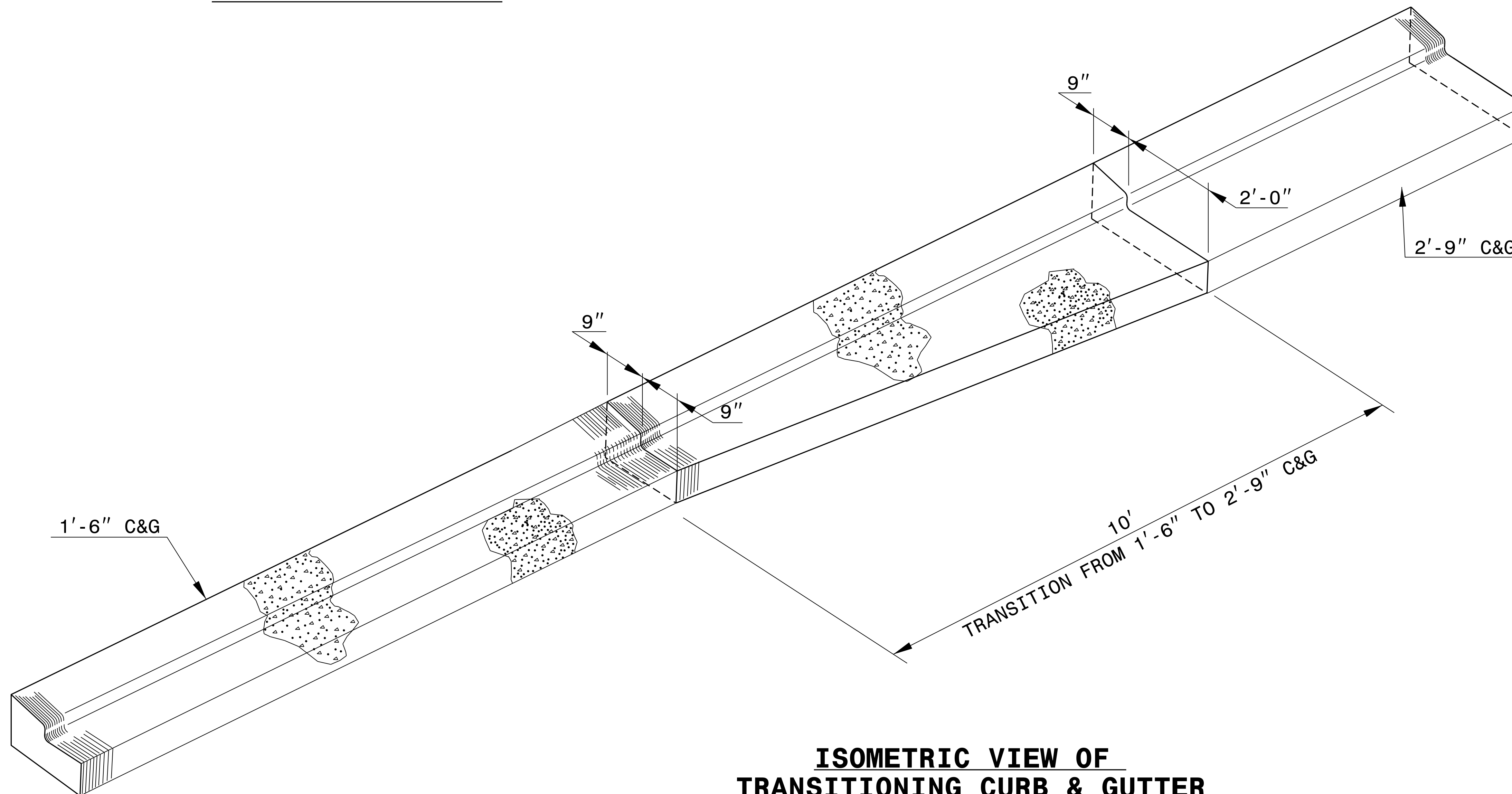
1'-6" CURB AND GUTTER



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**

12/5/2017



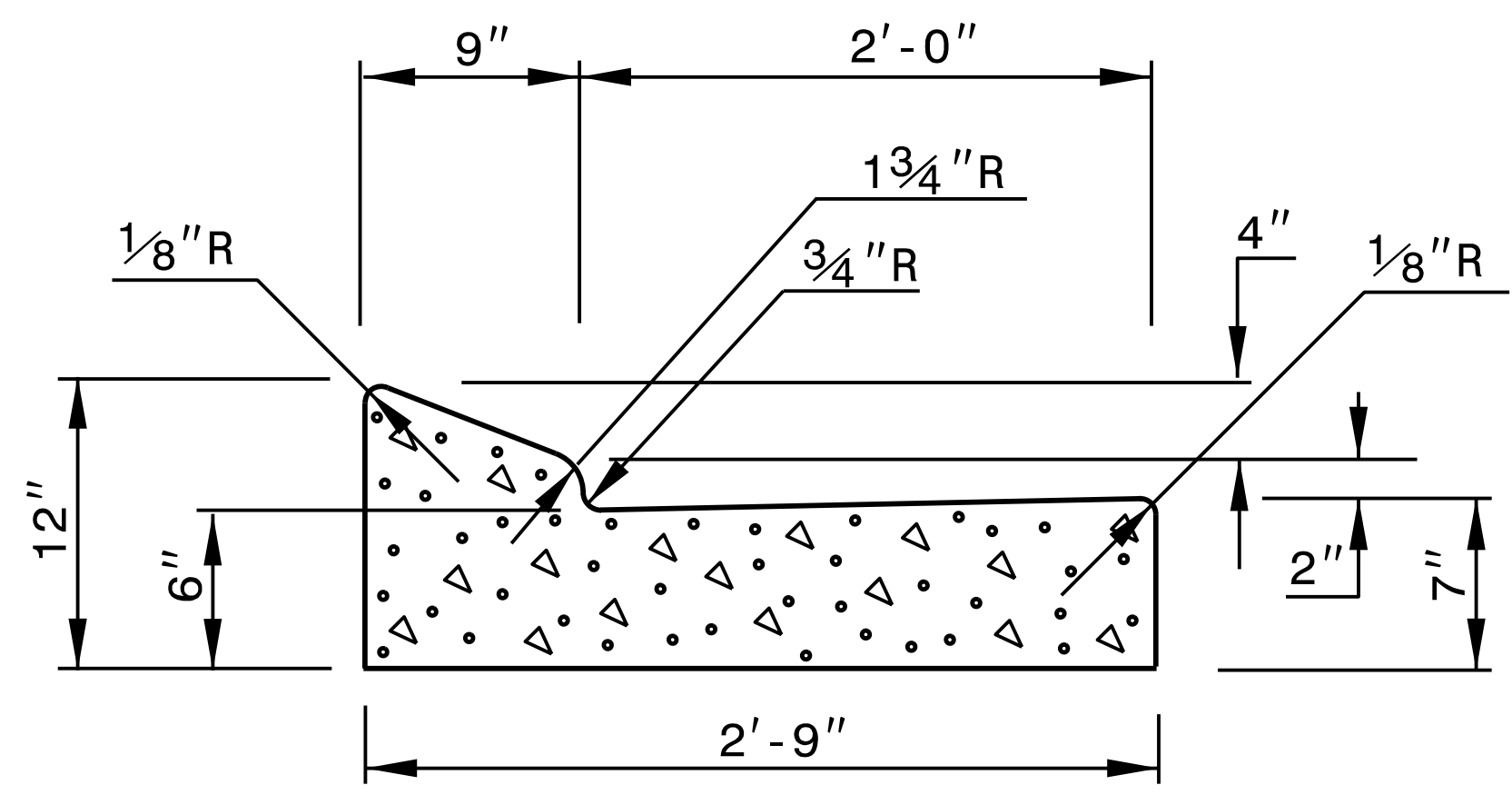
Designed by:
Joel S. Howerton
873F3D17DCDC45F

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

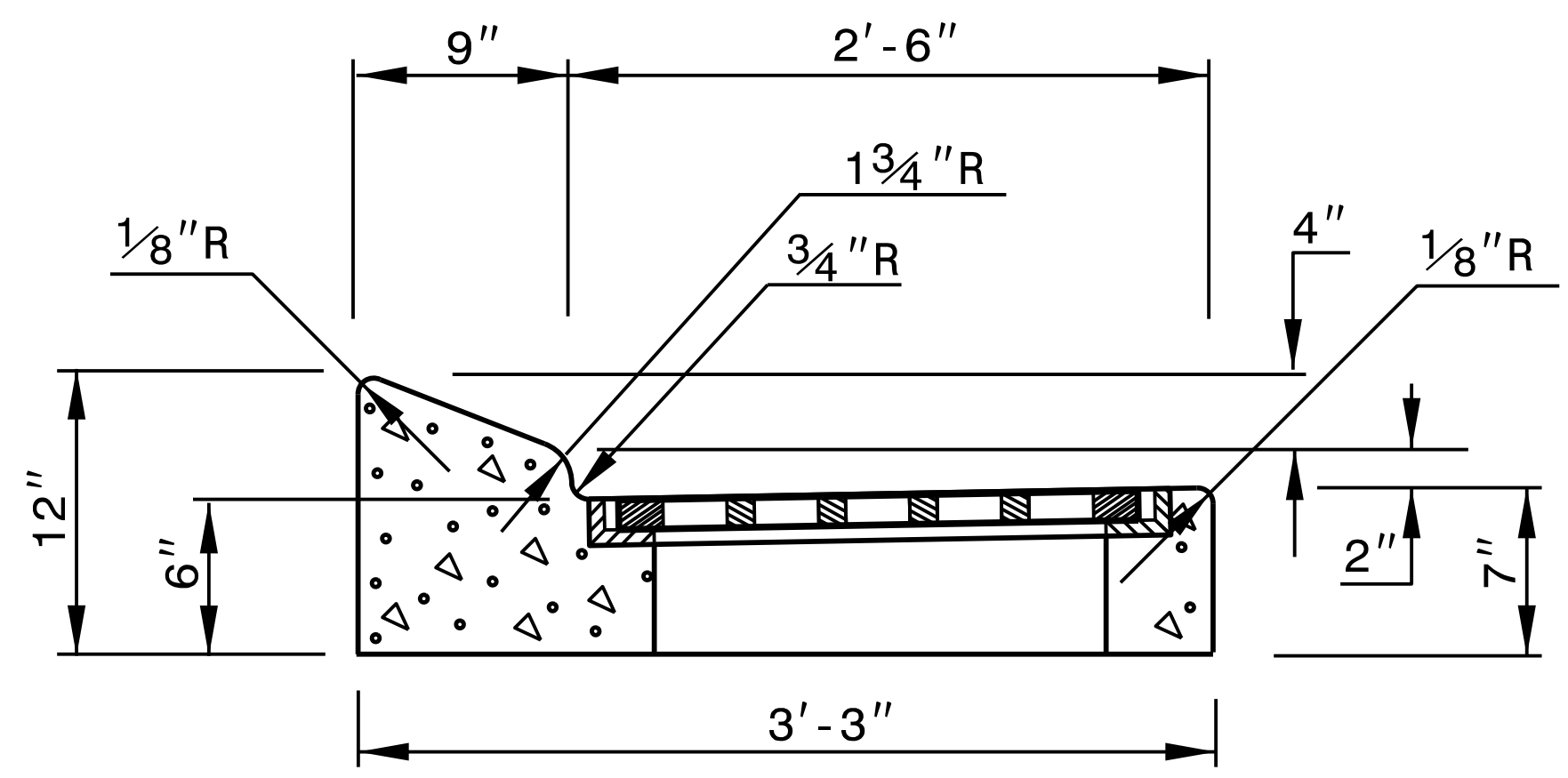
CONTRACT STANDARDS
AND DEVELOPMENT UNIT
Office 919-707-6950 FAX 919-250-4119

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

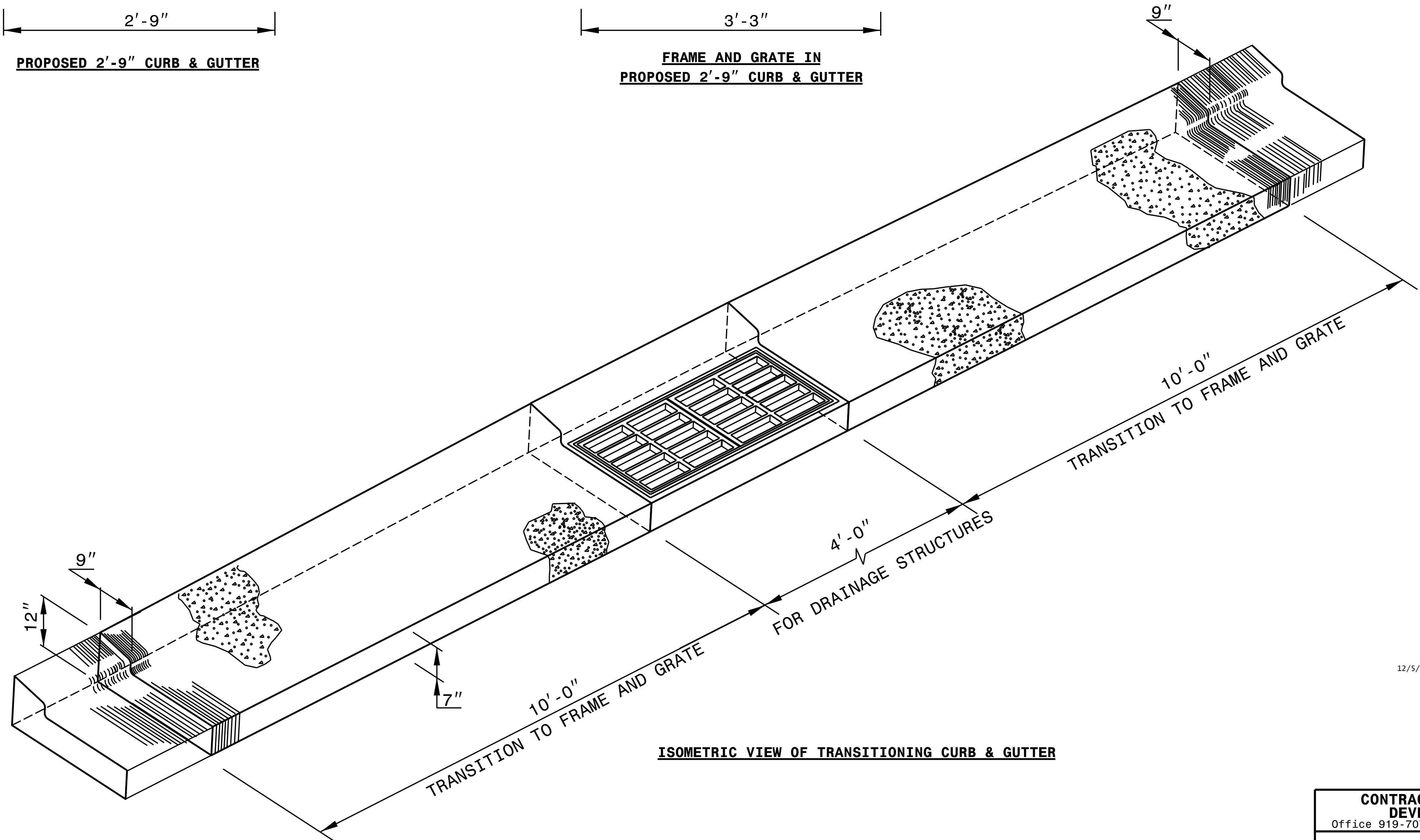
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 MODIFIED BY: T.S.SPELL DATE: JAN. 23, 2007
 CHECKED BY: DATE:
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PROPOSED 2'-9" CURB & GUTTER



FRAME AND GRATE IN PROPOSED 2'-9" CURB & GUTTER



ISOMETRIC VIEW OF TRANSITIONING CURB & GUTTER

12/5/2017



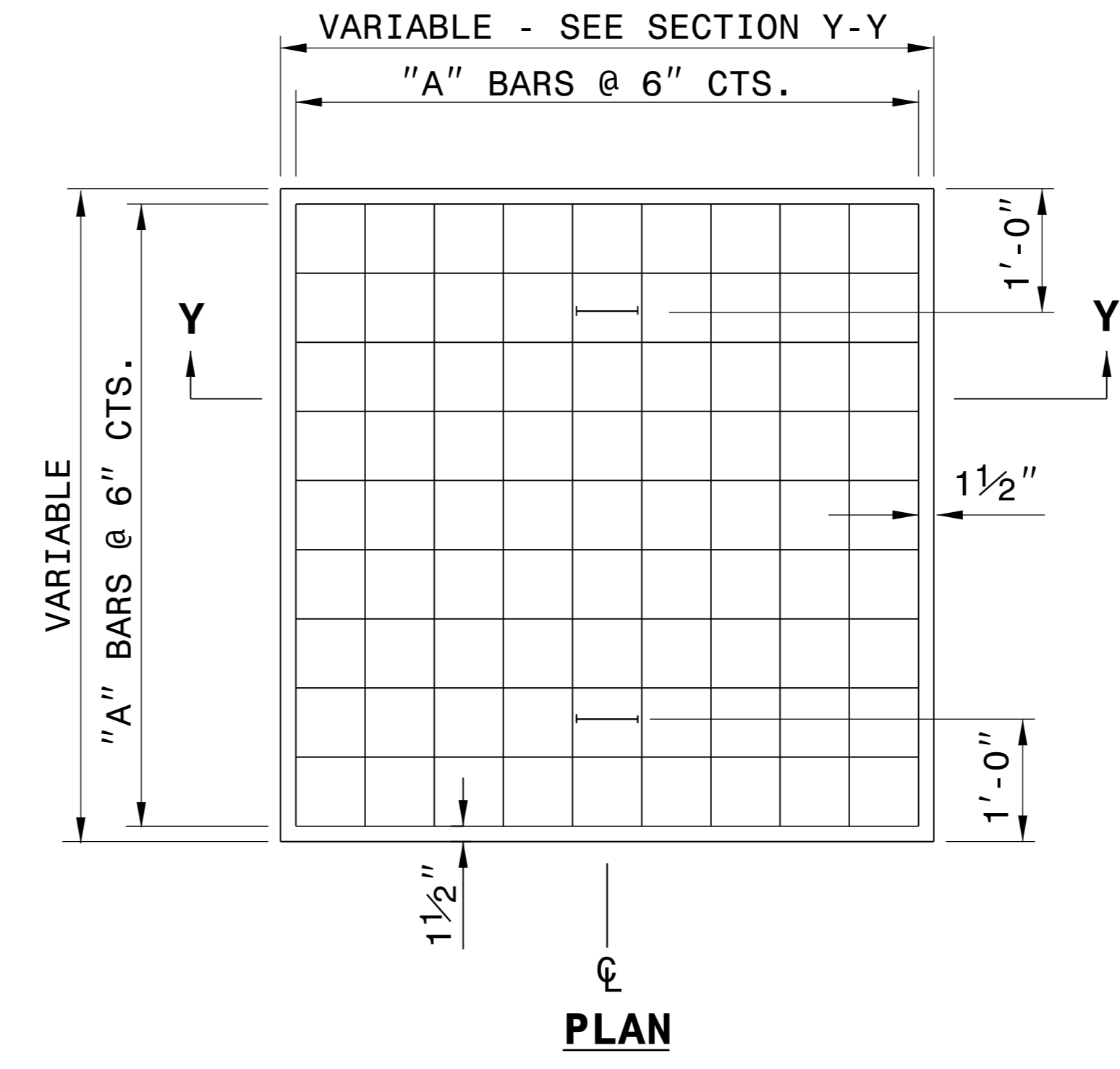
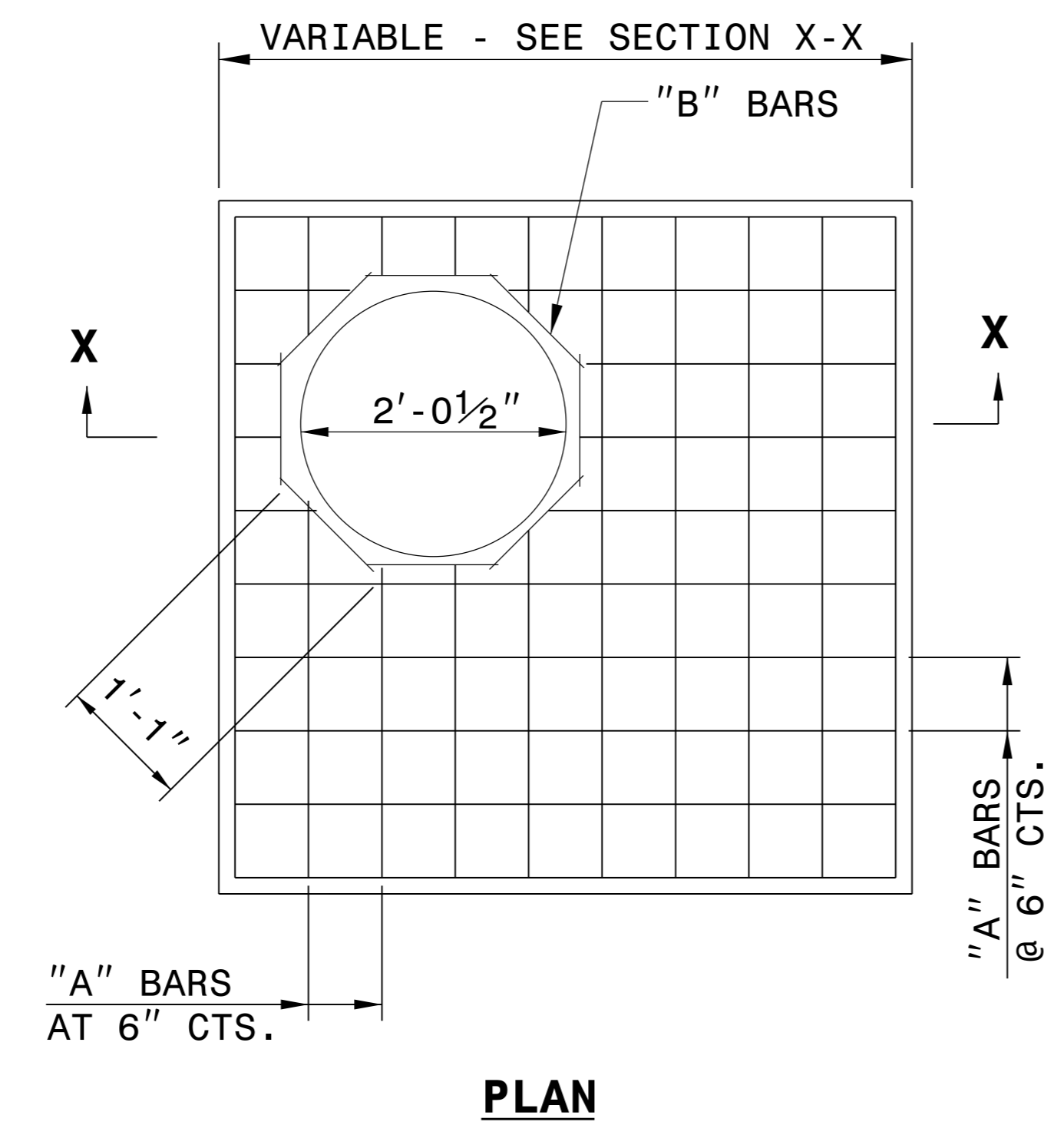
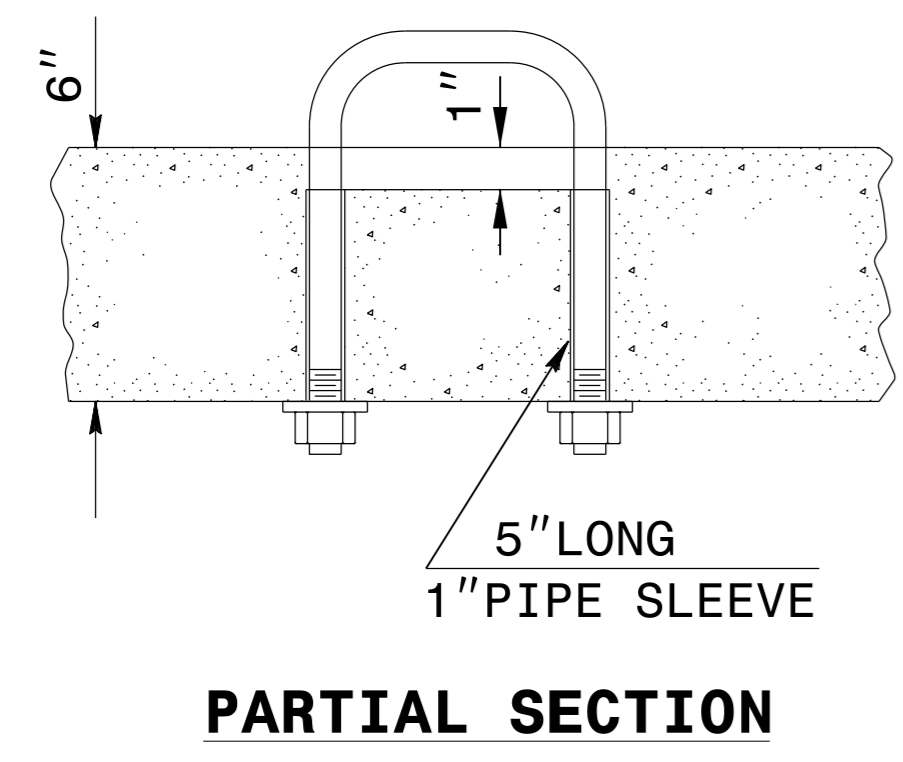
DocuSigned by:
Joel S. Howerton
873F3D17DCDC45F

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

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

DETAIL OF 2'-9" TO FRAME AND GRATE

ORIGINAL BY: _____ DATE: _____
MODIFIED BY: _____ DATE: _____
CHECKED BY: _____ DATE: _____
FILE SPEC.: kkempf/english/curb_gutter_transition.dgn



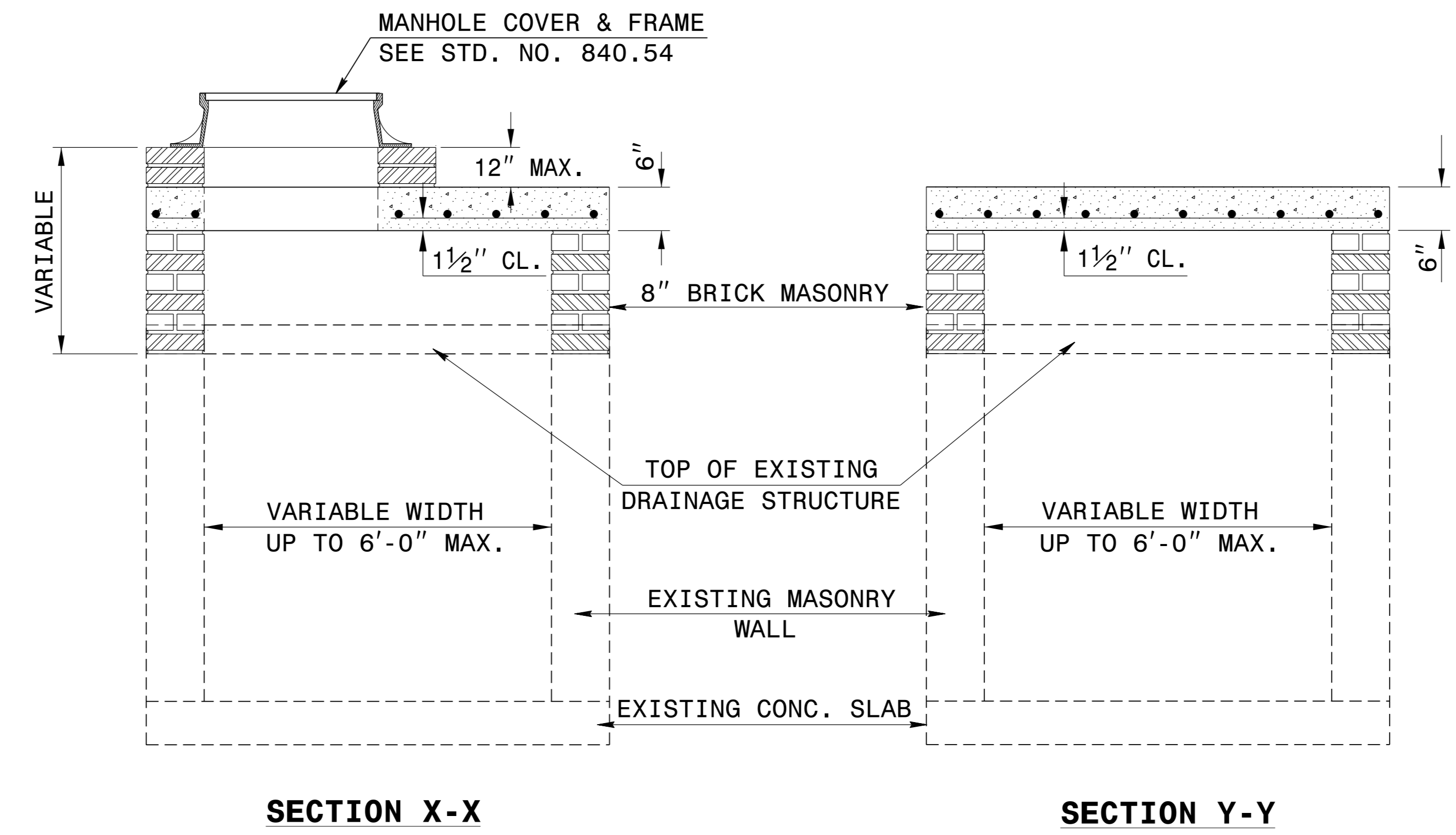
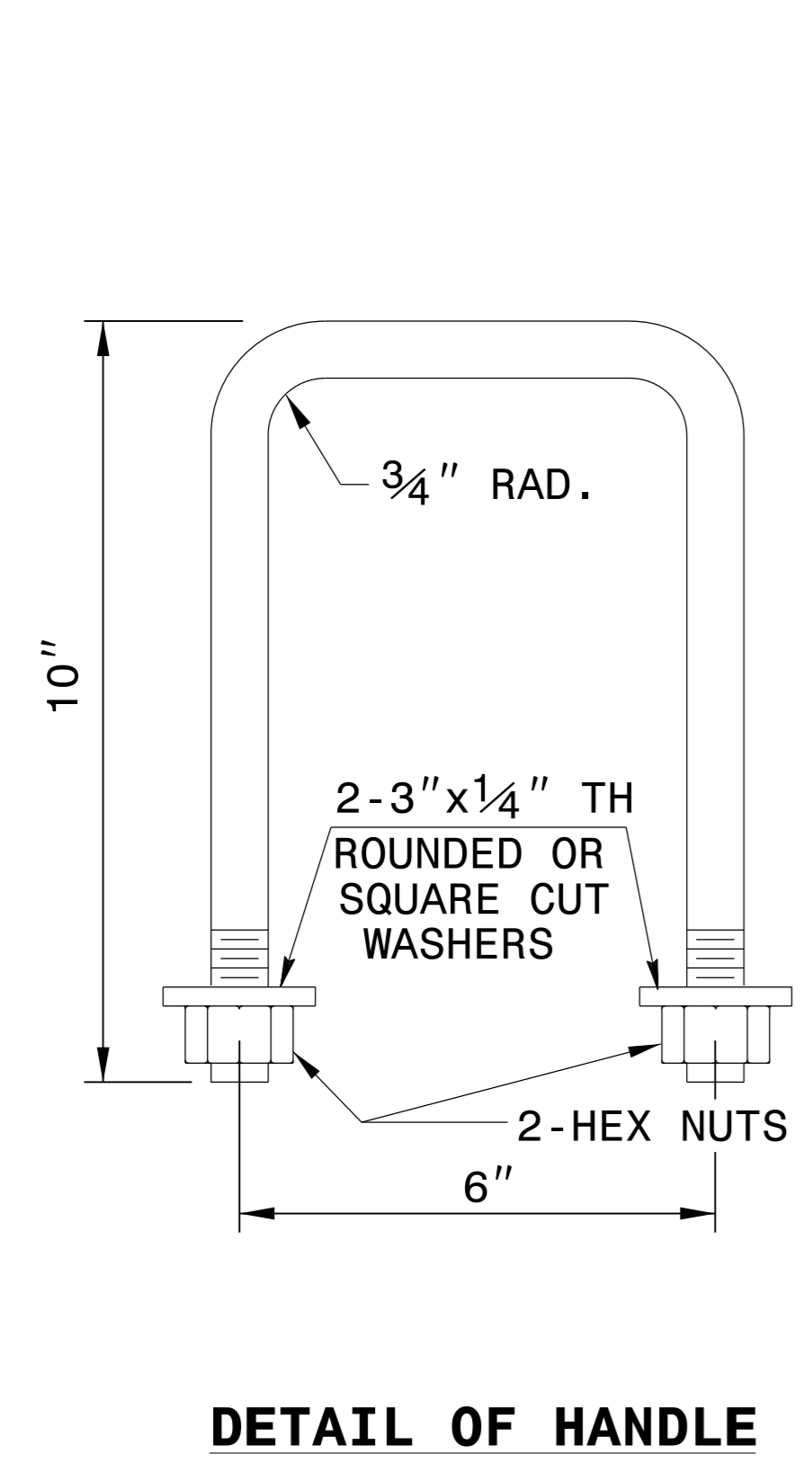
GENERAL NOTES:

CONSTRUCT IN ACCORDANCE WITH SECTION 859 OF THE STANDARD SPECIFICATIONS.

THE DIMENSIONS FOR THE EXISTING BOXES ARE APPROXIMATE AND MAY VARY SLIGHTLY.

DETAIL INTENDED FOR NON-TRAFFIC BEARING DRAINAGE STRUCTURES.

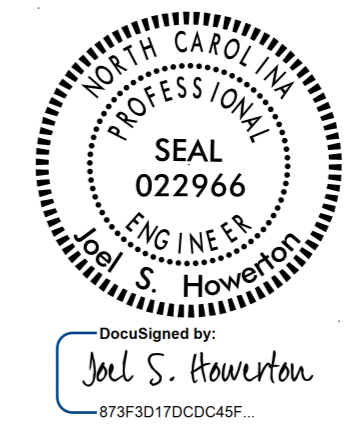
BILL OF MATERIALS				
REINFORCING STEEL				
CODE	SIZE	QTY.	LENGTH	REINF. STEEL LBS.
A	#4	20	4'-6"	60.12
B	#4	8	1'-1"	5.79
TOTAL				65.91 *
MASONRY				CU YDS
TOP SLAB CONCRETE CLASS "B"				.4326 *
BRICK MASONRY PER FT HT (MIN)				.4111



*** NOTE:**
QUANTITIES BASED ON 3'-6" X 3'-6" DRAINAGE STRUCTURE. ADJUST QUANTITIES FOR LARGER STRUCTURES AND MANHOLE CONSTRUCTION.

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12/5/2017

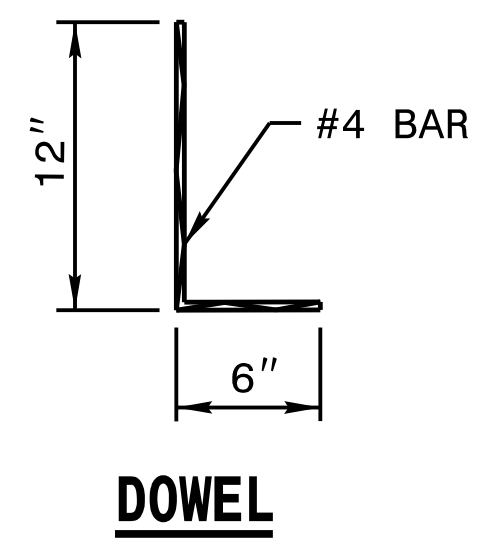
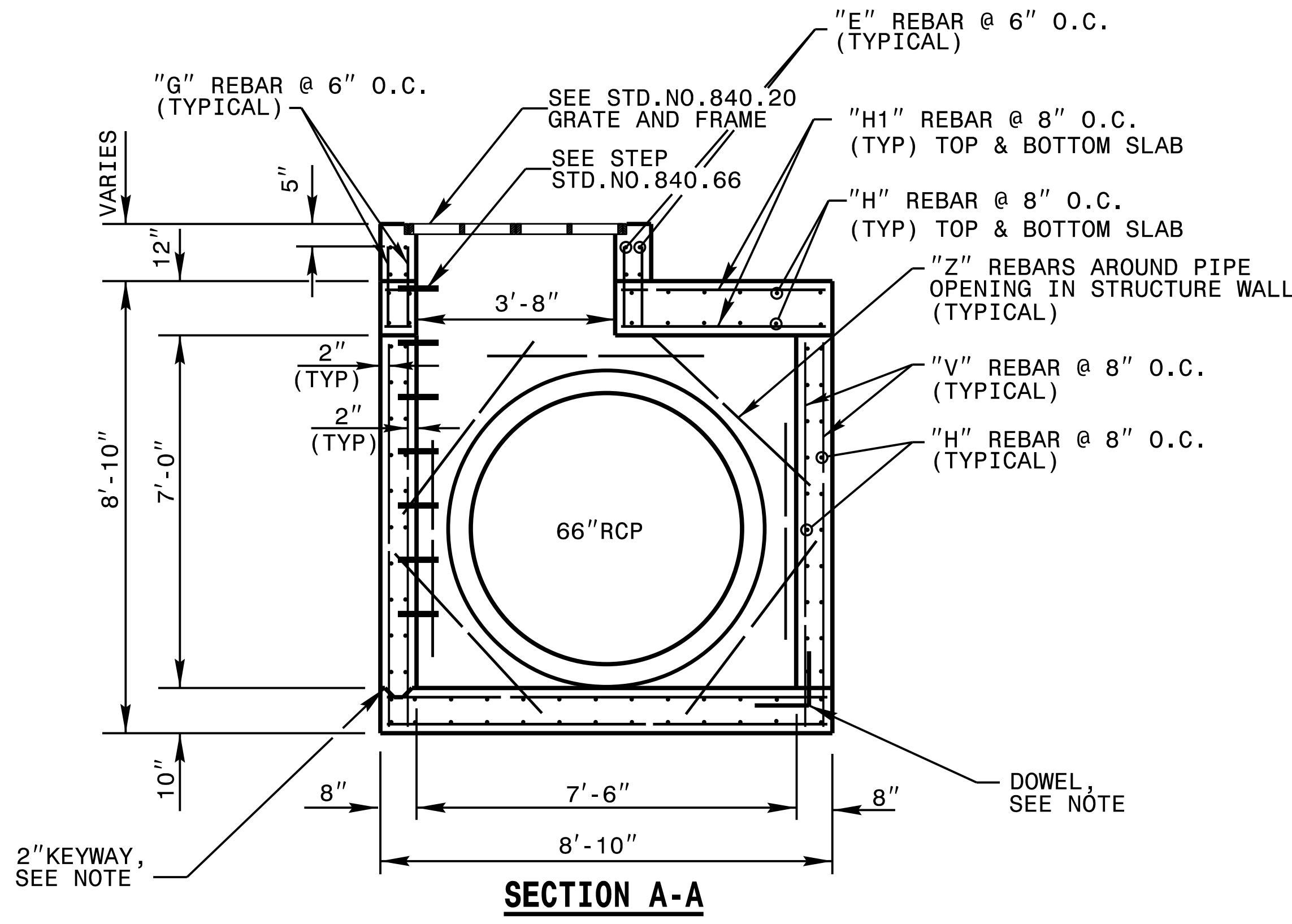


DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

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

DETAIL TO CONVERT EXISTING DI, CB, OTCB or GI TO JUNCTION BOX (MANHOLE OPTIONAL)

ORIGINAL BY: T.S.S.	DATE: NOV. 1997
MODIFIED BY: T.S.S.	DATE: FEB. 2000
CHECKED BY:	DATE:
FILE SPEC.: ds174:/usr/details/stand/boxtojbe.dgn	



GENERAL NOTES:

USE CLASS "AA" CONCRETE THROUGHOUT.

PROVIDE ALL JUNCTION BOXES OVER 3'-6" IN DEPTH 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.

REFERENCE STD. DWG. 840.25 FOR FRAME ANCHORAGE.

CHAMFER ALL EXPOSED CORNERS 1".

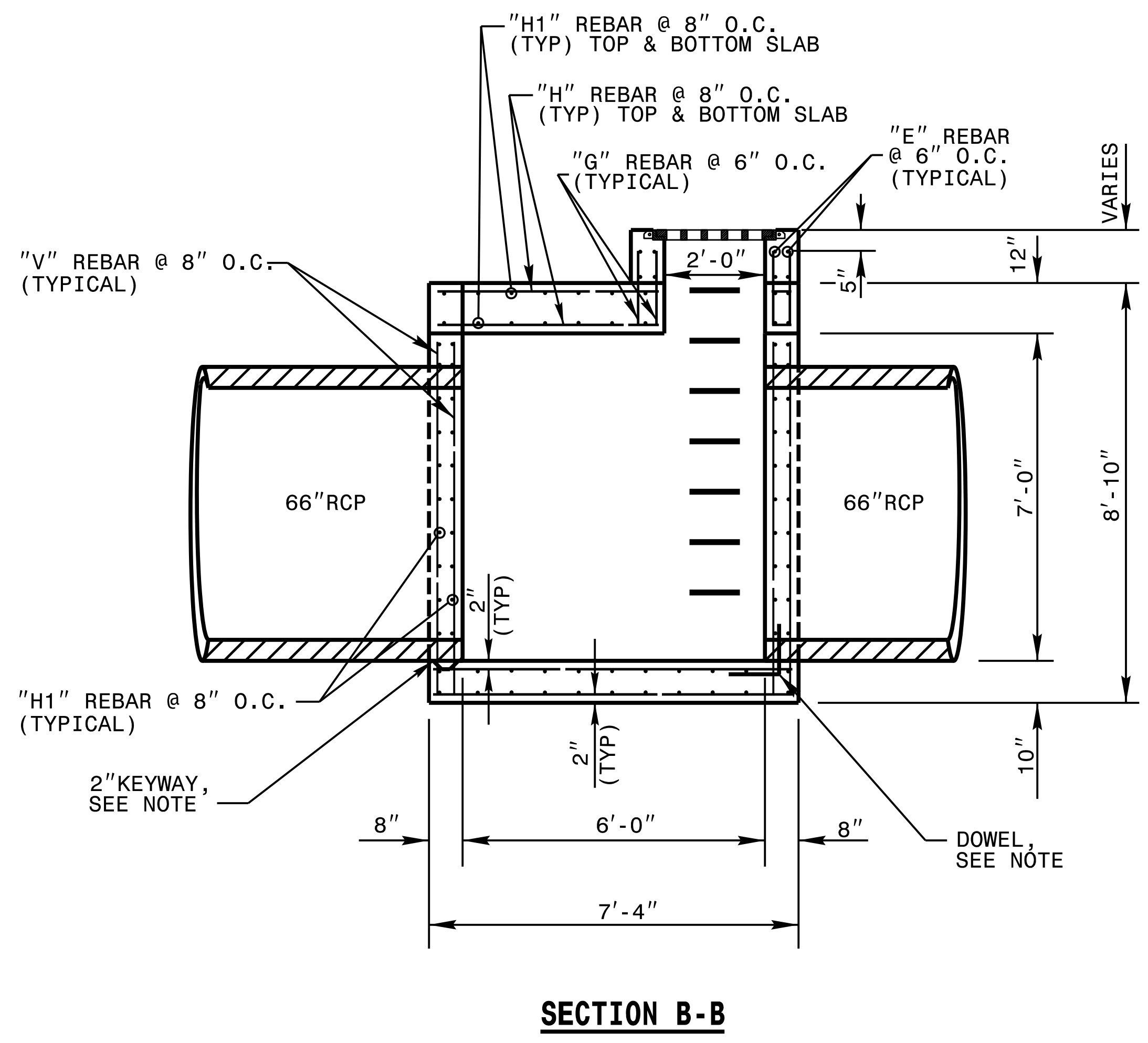
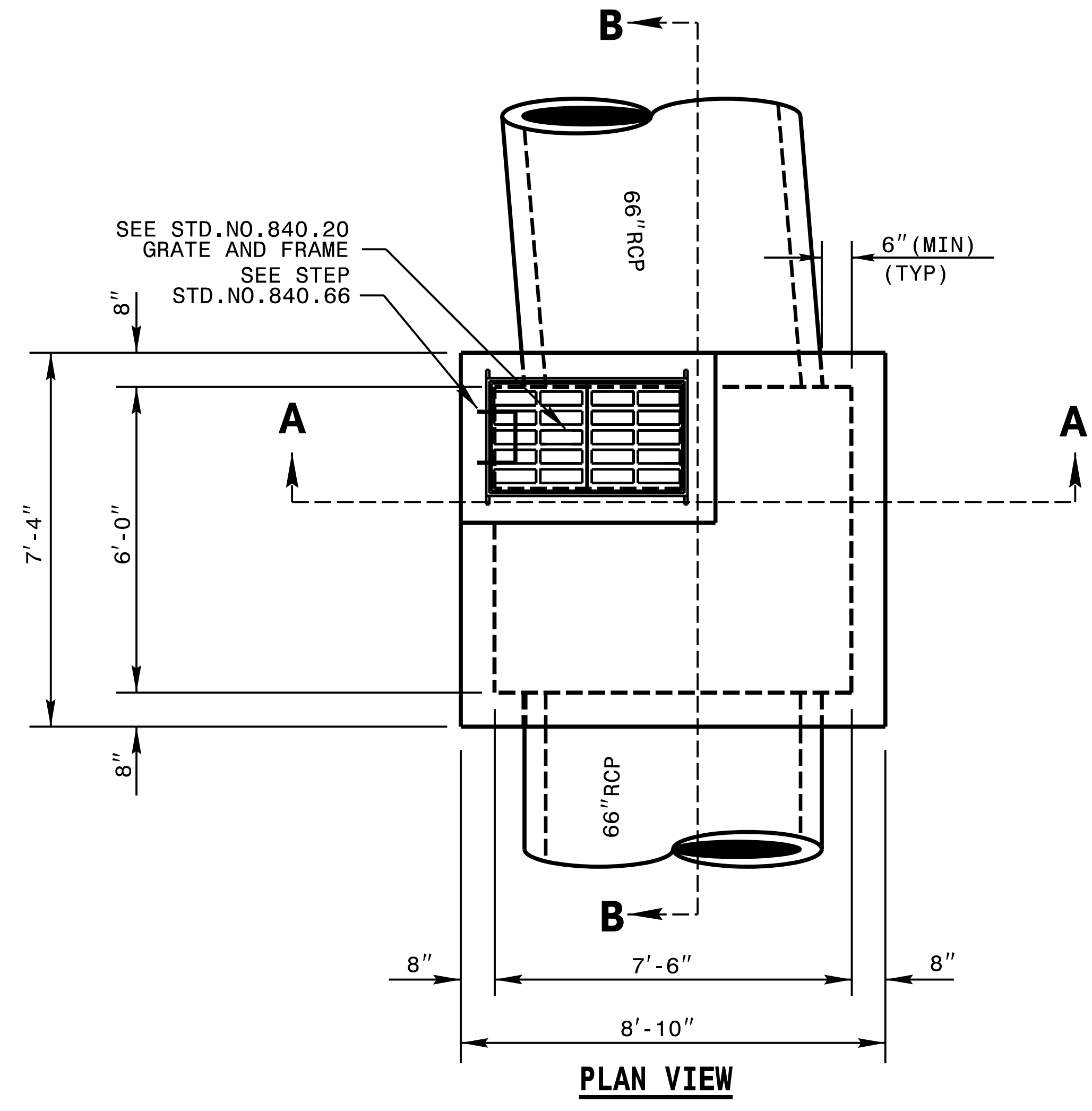
2" MINIMUM CONCRETE COVERAGE ON ALL REBAR.

HEIGHT DIMENSIONS MAY BE ADJUSTED DOWN FOR SMALLER PIPES AS DIRECTED BY THE ENGINEER.

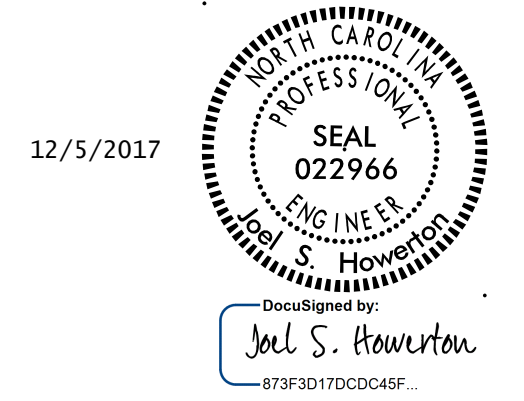
BILL OF MATERIALS				
BAR	NO.	SIZE	LENGTH	WEIGHT
H	92	#5	7'-0"	672
H1	84	#5	8'-6"	745
V	92	#5	7'-6"	720
E	8	#5	4'-8"	39
F	8	#5	3'-0"	25
G	42	#5	1'-8"	73
Z	14	#5	4'-0"	59
TOTAL REINF. STEEL (LBS.)				2333
TOTAL CL. "AA" CONC. (CU. YDS.)				9.9

* 1.75 CU. YD. DEDUCTION FOR 2-66" RC PIPE

* NO DEDUCTION HAS BEEN MADE FOR PIPES



5/14/99
\$\$\$\$\$SYTIME\$\$\$\$\$
\$\$\$\$\$CDGN\$\$\$\$\$
\$\$\$\$\$USERNAME\$\$\$\$\$



12/5/2017

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UNLESS ALL SIGNATURES COMPLETED

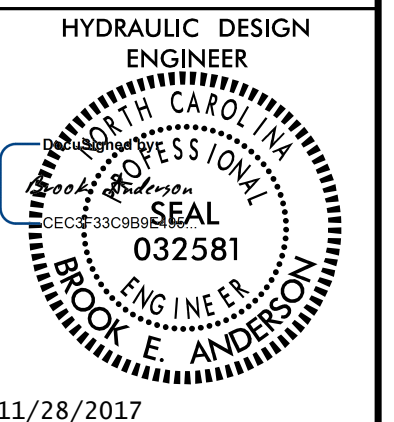
**CONTRACT STANDARDS & DEVELOPMENT UNIT
STANDARDS AND SPECIAL DESIGN**
Office 919-707-6950 FAX 919-250-4119

**TRAFFIC BEARING
GRADED DROP INLET**

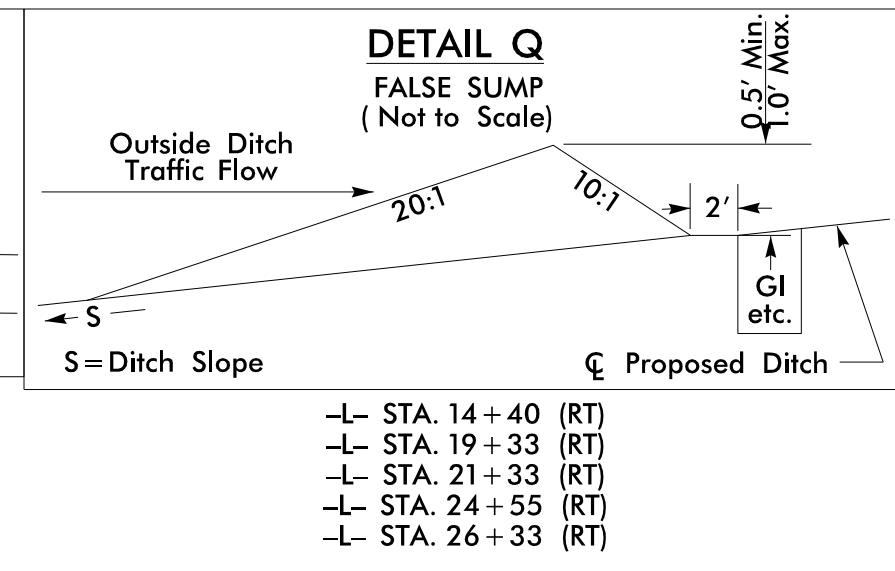
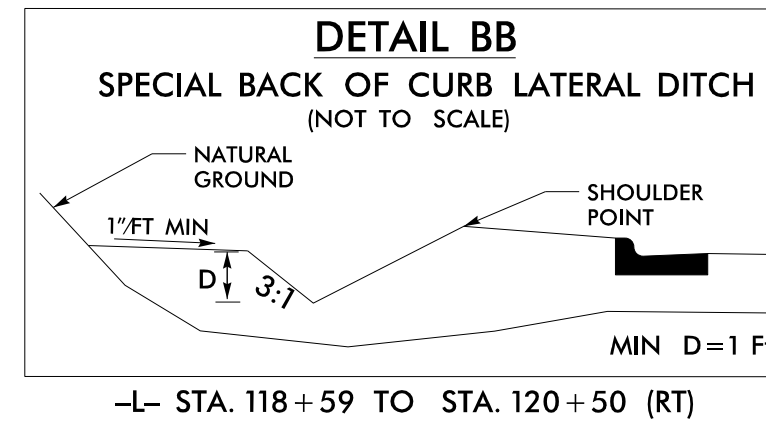
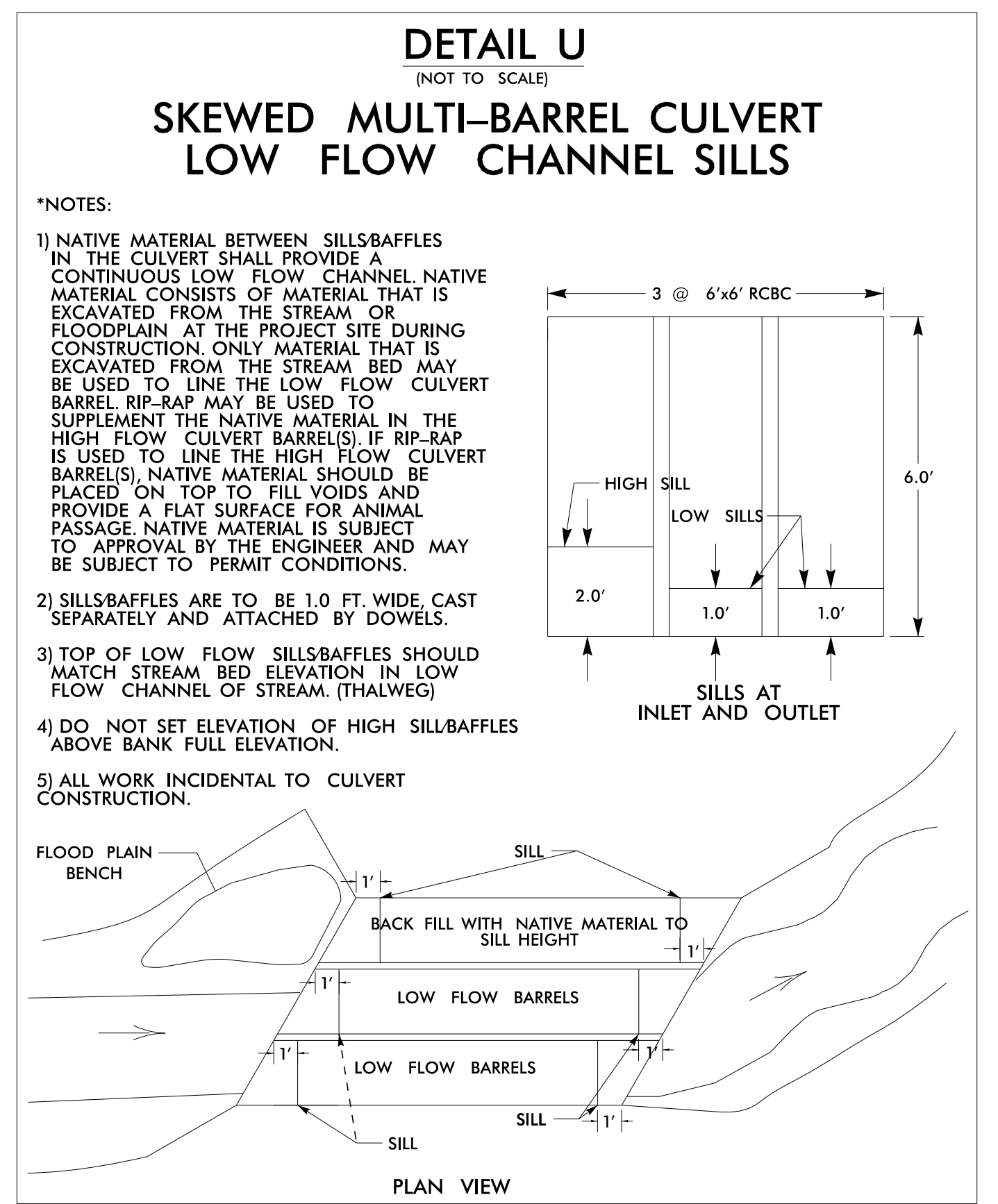
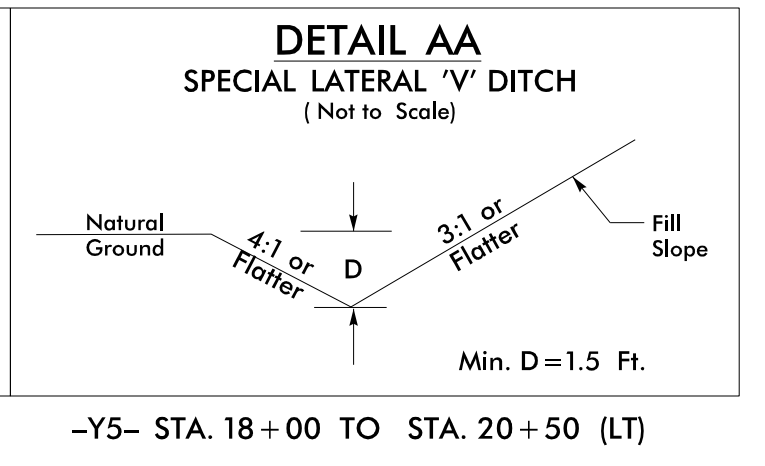
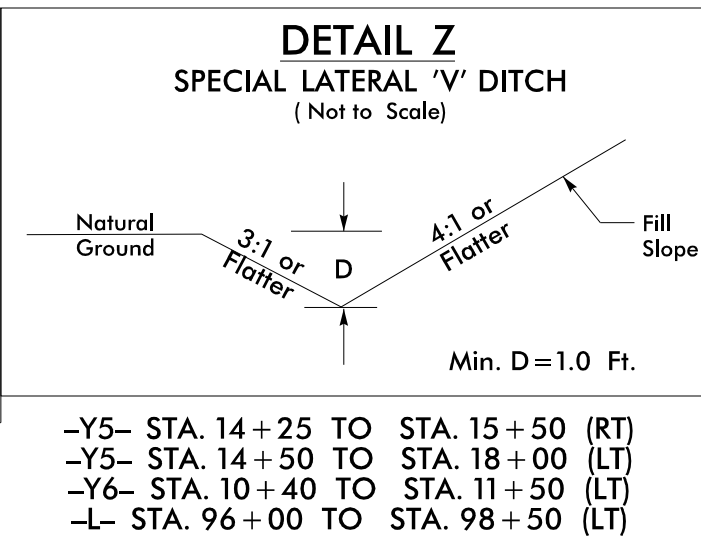
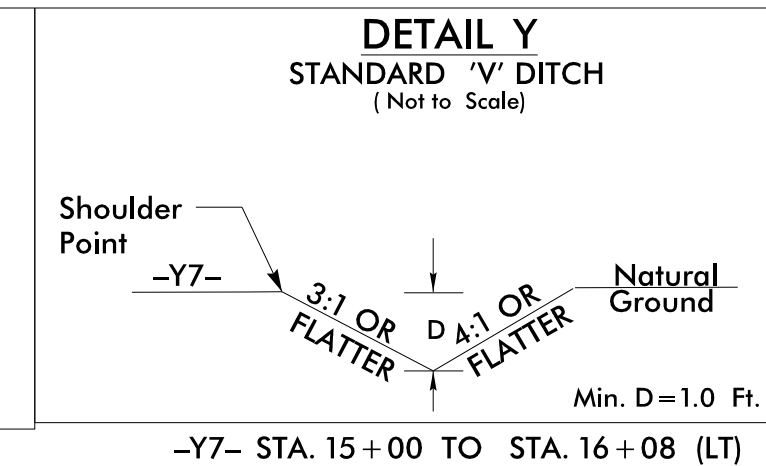
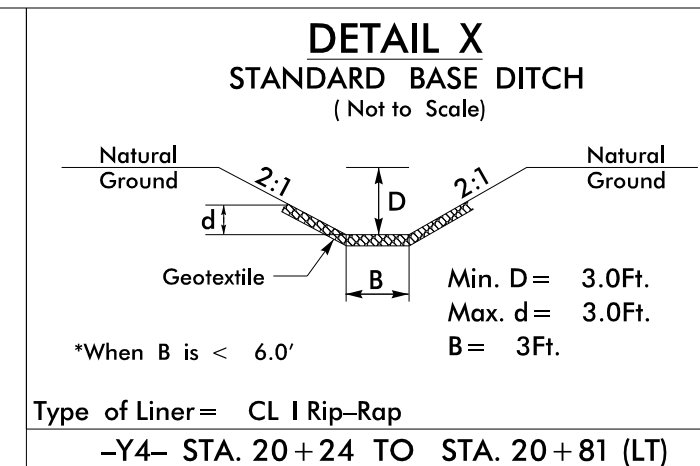
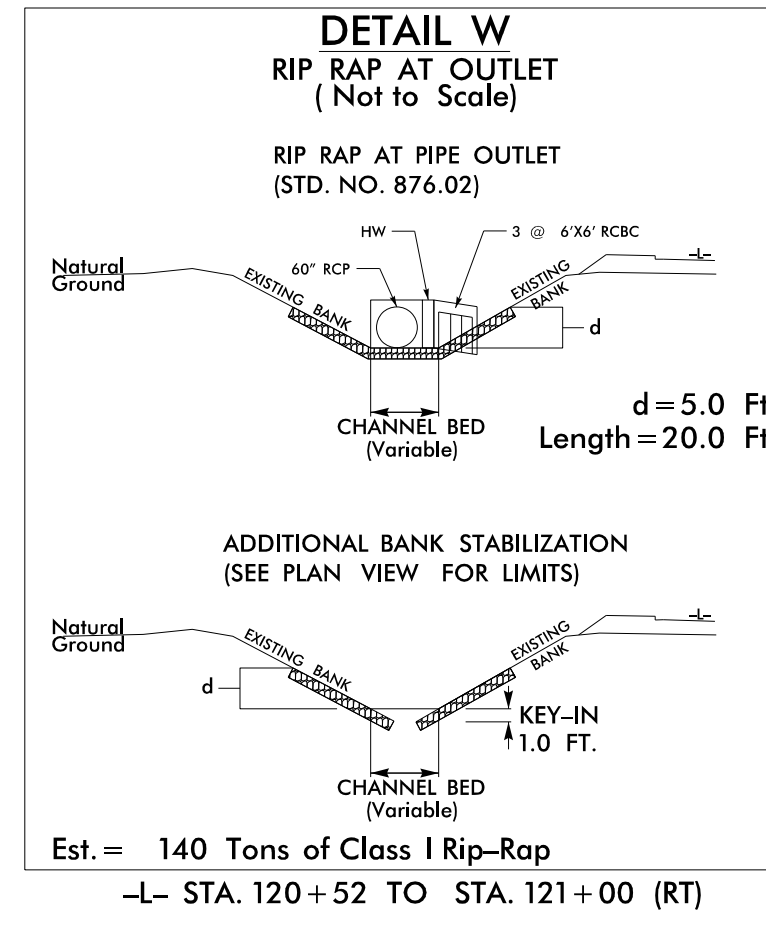
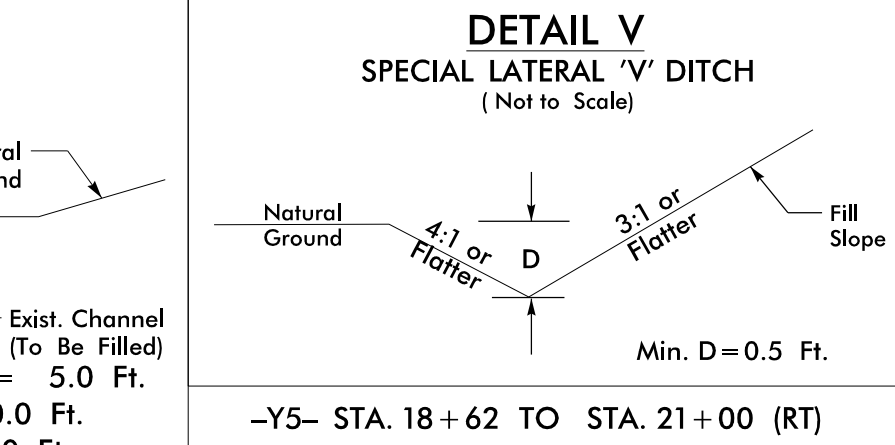
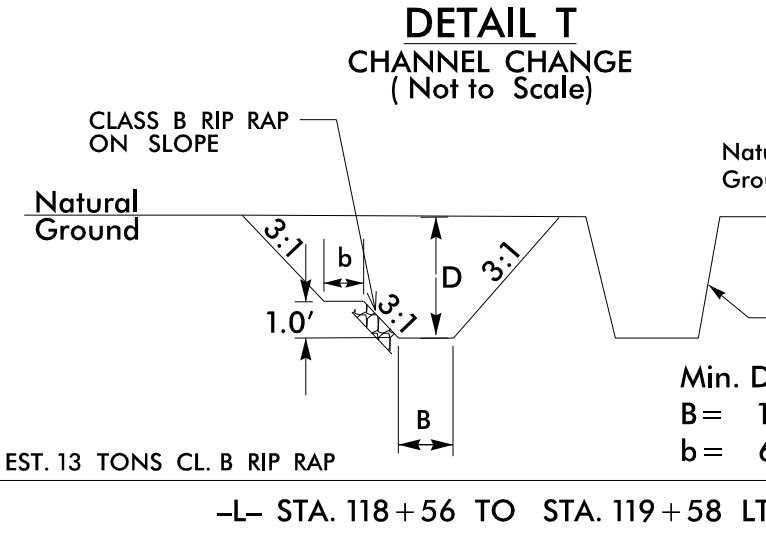
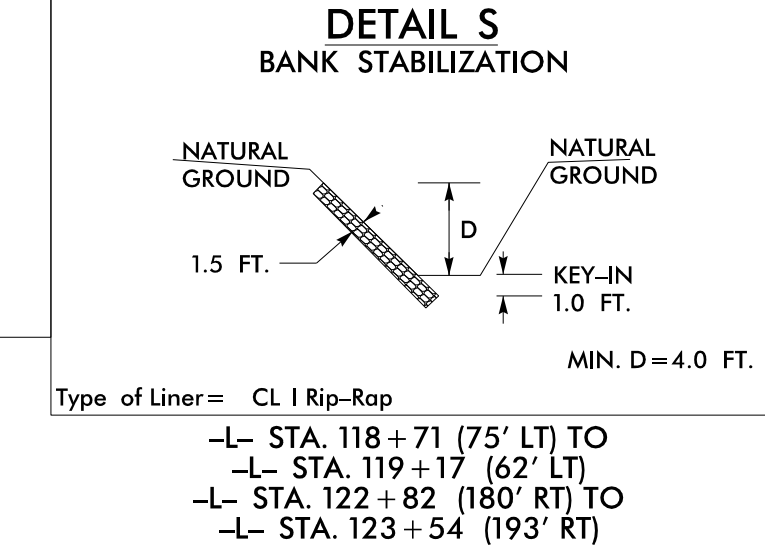
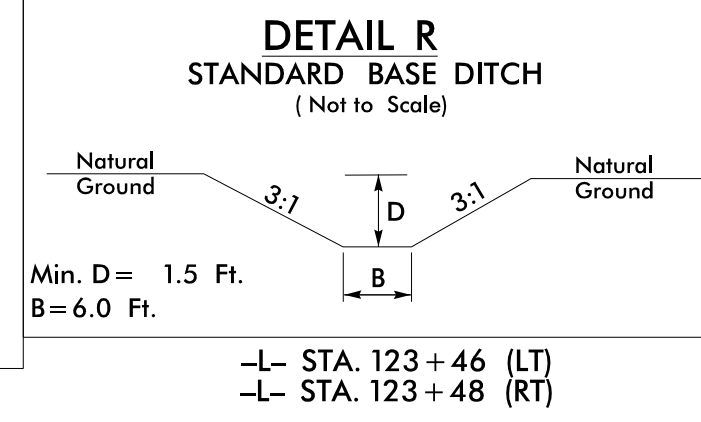
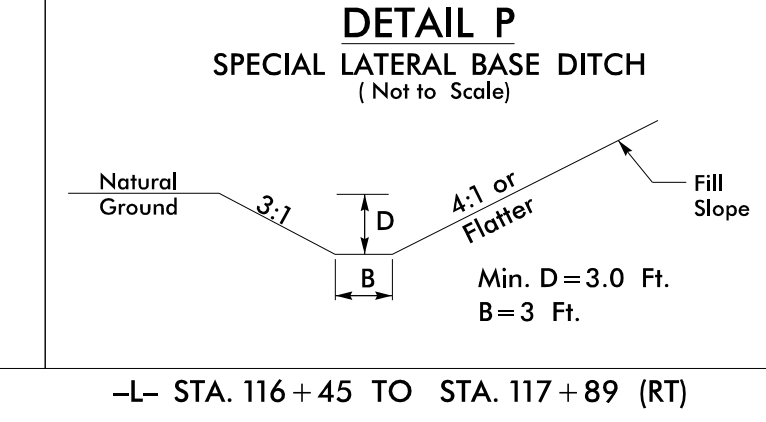
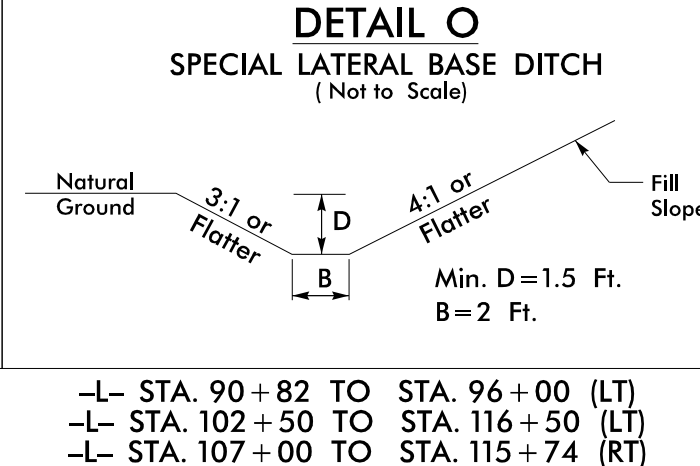
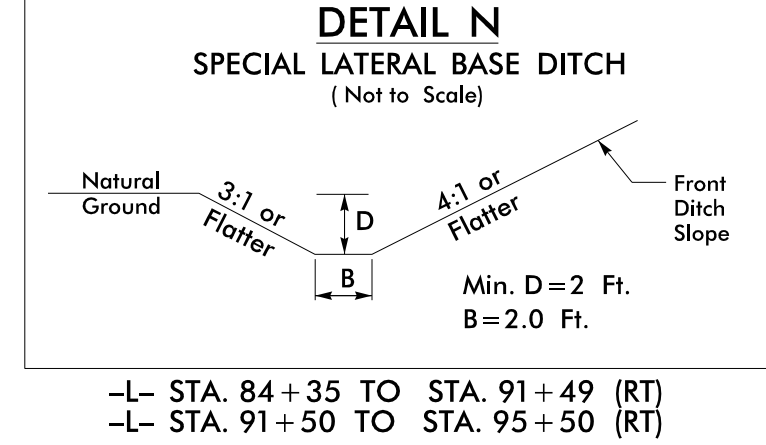
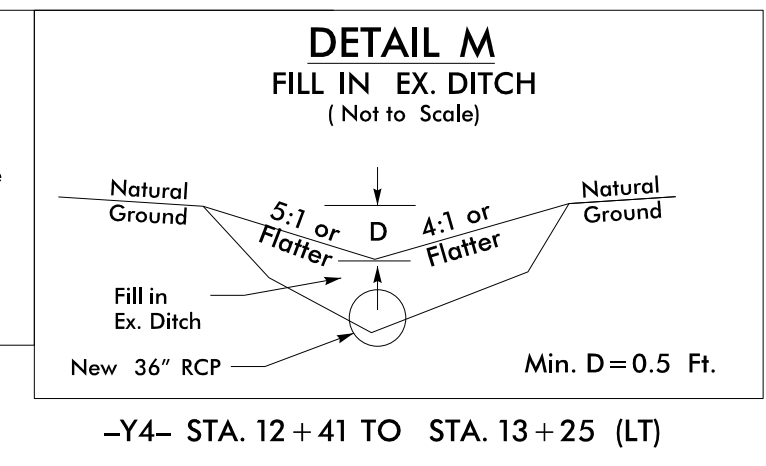
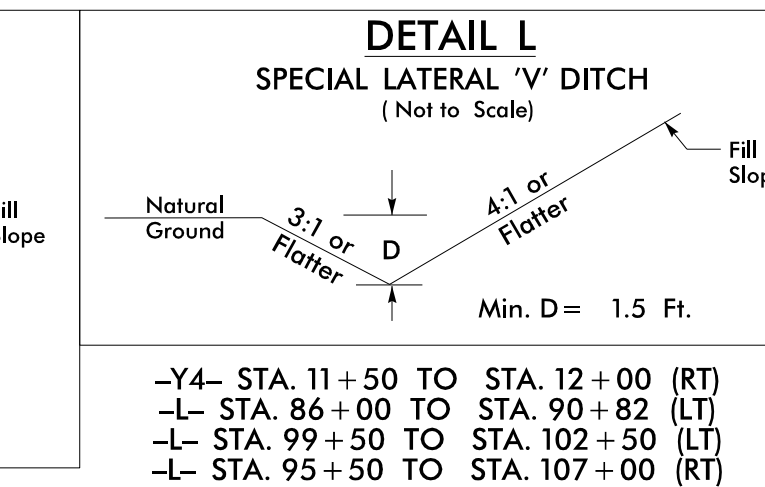
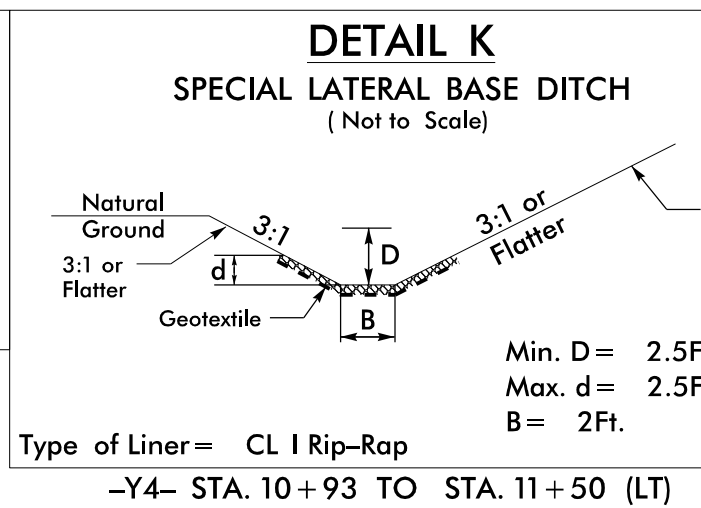
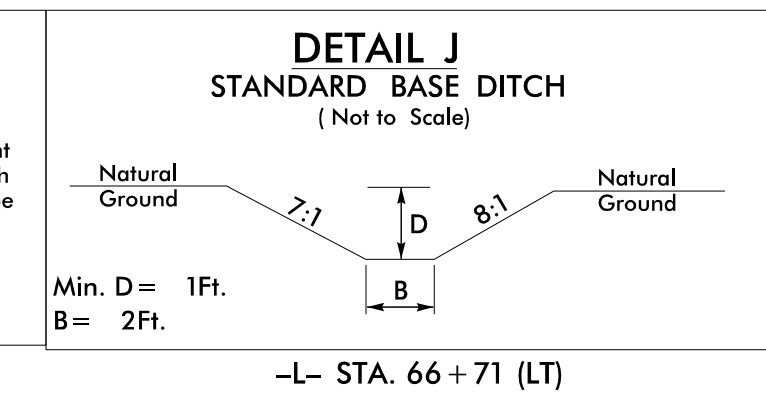
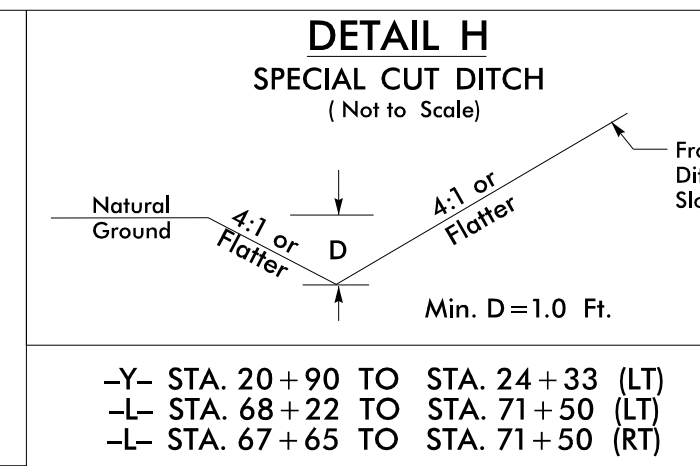
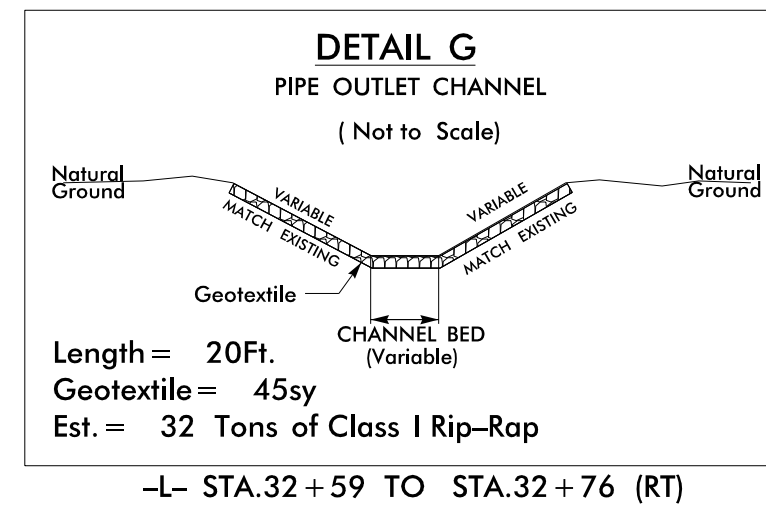
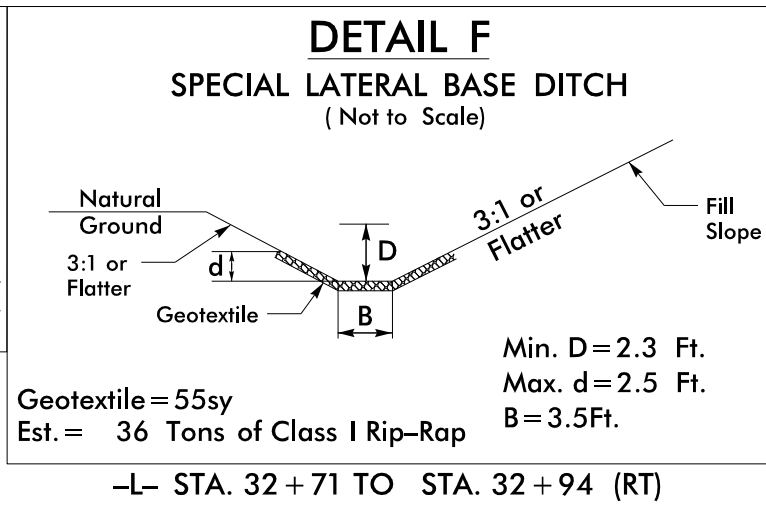
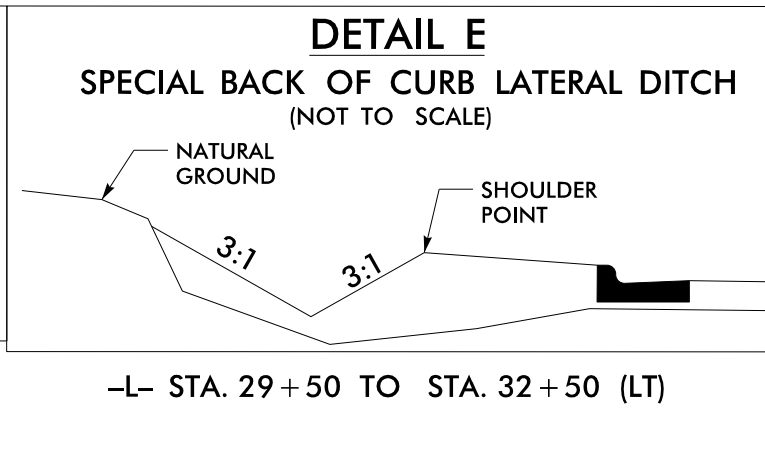
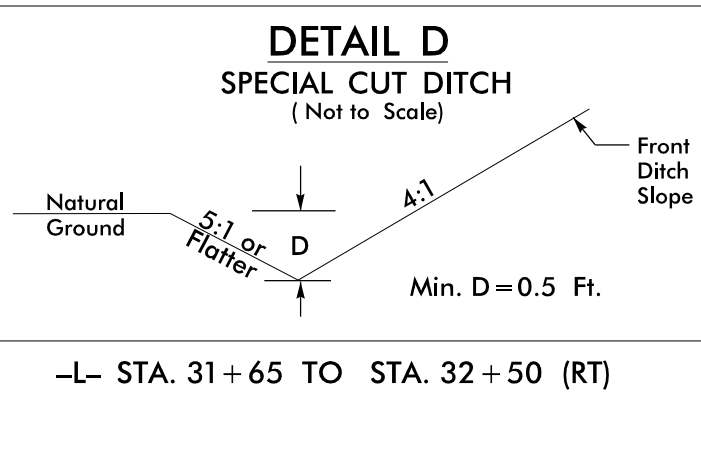
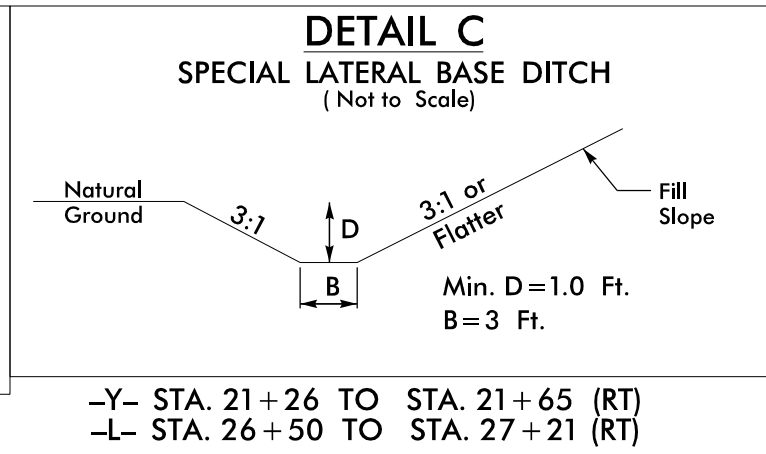
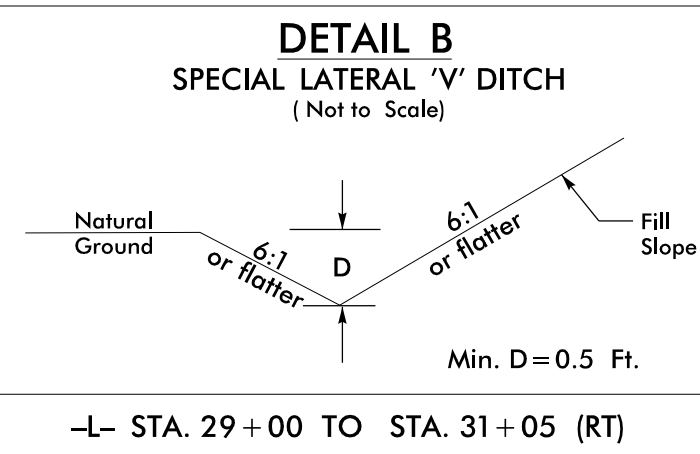
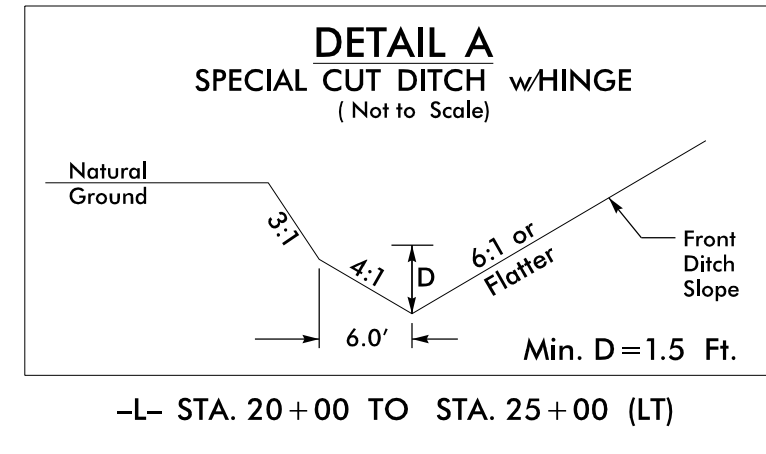
ORIGINAL BY: _____ DATE: _____
MODIFIED BY: kkempf DATE: 11/08/17
CHECKED BY: _____ DATE: _____
FILE SPEC.: detail/nbritt/english/hydro/66 tbib.dgn

DRAWING NOT TO SCALE

DRAINAGE DETAILS



11/28/2017



DIVISION OF HIGHWAYS
 STATE OF NORTH CAROLINA

SUMMARY OF EARTHWORK
 IN CUBIC YARDS

STATION	STATION	SIDE	TOTAL UNCL. EXCAV.	UNDERCUT	EMBANK. + %	BORROW	TOTAL WASTE
PHASE 1							
-L- 16+00.00	-L- 28+00.00	LT	2,004		688		1,317
-L- 28+00.00	-L- 58+00.00	LT	2,225		3,292	1,067	
-L- 58+00.00	-L- 67+00.00	LT	367		1,197	830	
-L- 67+00.00	-L- 72+00.00	LT	178	1,008	1033	1,023	1,176
-L- 72+00.00	-L- 100+50.00	LT & RT	3,149	938	61,795	61,779	4,071
-L- 100+50.00	-L- 122+50.00	LT & RT	6,855	1,553	36,785	35,776	7,399
-L- 122+50.00	-L- 127+50.00	LT	1,318		94	30	1,254
-L- 122+50.00	-L- 127+50.00	MED	530		638	108	
-Y- 18+07.09	-Y- 19+57.59	LT	13		12		2
-Y1- 10+75.00	-Y1- 11+34.46		6		48	42	
-Y2- 10+20.00	-Y2- 11+02.15		34		49	15	
-Y3- 13+25.00	-Y3- 13+91.65		10		17	7	
-Y5- 10+35.51	-Y5- 20+00.00		290		6,125	5,835	
-Y6- 10+17.99	-Y6- 12+75.00		35		318	283	
-Y8- 14+80.06	-Y8- 17+72.21		118		90		28
-DRW1- 10+80.00	-DRW1- 11+40.00		20		318	298	
-DRW2- 10+50.00	-DRW2- 11+25.00		210		372	162	
SUBTOTALS:			17,362	3,499	112,871	107,255	15,246
PHASE 2							
-L- 16+00.00	-L- 28+00.00	RT	311		239		72
-L- 28+00.00	-L- 58+00.00	RT	968		3,809	2,841	
-L- 58+00.00	-L- 67+00.00	RT	196		1,859	1,663	
-L- 67+00.00	-L- 72+00.00	RT	516	408	753	635	806
-Y- 18+07.09	-Y- 19+50.00	RT	7				7
-Y- 20+44.29	-Y- 22+30.00	LT & RT	404		88		317
-Y2A- 10+37.50	-Y2A- 11+13.00		22		54	32	
-Y4- 10+37.53	-Y4- 11+75.00		219		215		4
-Y7- 15+80.00	-Y6- 16+34.61		6		58	52	
SUBTOTALS:			2,649	408	7,075	5,223	1,206
TOTALS:			20,011		119,946	112,478	16,452
MATERIAL FOR SHOULDER CONSTRUCTION					4,500	4,500	
LOSS DUE TO CLEARING & GRUBBING			-1,500			1,500	
ADDITIONAL UNDERCUT				2,400	3,000	3,000	2,400
WASTE IN LIEU OF BORROW						-1,746	-1,746
PROJECT TOTALS:			18,511	6,307	127,446	19,732	17,106
5% TO REPLACE TOP SOIL ON BORROW PIT						5,987	
GRAND TOTALS:			18,511	6,307	127,446	125,718	17,106
SAY:			19,000			126,000	

EST. DDE = 1360 CUBIC YARDS
 EST. SHALLOW UNDERCUT = 3100 CY
 EST. PAVEMENT STRUCTURE VOL = 37,290 CY

NOTE: Earthwork quantities are calculated by the Roadway Design Unit. These earthwork quantities are based in part on subsurface data provided by the Geotechnical Engineering Unit.

NOTE: Quantities are approximate only. The resident engineer will re-cross section the work accurately when the project is staked out. These cross section notes will be used in computing the final quantities for which the contractor will be paid.

5/9/2017
 I:\Roadway\Proj\U3334B_rdy_earthwork_summary_3B_1.dgn
 cmo21000

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

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: LINE & STATION, SIZE, THICKNESS OR GAUGE, OFFSET, STRUCTURE NUMBER, Drainage Pipe (RCP, CSP, CAAP, HDPE, or PVC), C. S. PIPE, R. C. PIPE CLASS III, R. C. PIPE CLASS IV, R. C. PIPE CLASS V, ENDWALLS, QUANTITIES FOR DRAINAGE STRUCTURES, FRAME, GRATES, AND HOOD, GRADE TYPE, CONCRETE TRANSITIONAL SECTION, and REMARKS.

SHEET TOTALS

Summary row for SHEET TOTALS with numerical values across various columns.

COMPUTED BY: NCDOT DATE:
CHECKED BY: C. MOZINGO DATE: 11/7/2017

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

PROJECT NO. SHEET NO.
U-3334B 3D-2

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)

Table with columns: LINE & STATION, OFFSET, STRUCTURE NUMBER, Drainage Pipe (RCP, CSP, CAAP, HDPE, or PVC), C. S. PIPE, R. C. PIPE CLASS III, R. C. PIPE CLASS IV, R. C. PIPE CLASS V, ENDWALLS, QUANTITIES FOR DRAINAGE STRUCTURES, FRAME, GRATES, AND HOOD, CONCRETE TRANSITIONAL SECTION, ABBREVIATIONS, REMARKS. Includes SHEET TOTALS at the bottom.

COMPUTED BY: NCDOT DATE:
CHECKED BY: C. MOZINGO DATE: 11/7/2017

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

PROJECT NO. U-3334B SHEET NO. 3D-3

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)

Table with columns for LINE & STATION, OFFSET, STRUCTURE NUMBER, Drainage Pipe (RCP, CSP, CAAP, HDPE, or PVC), C. S. PIPE, R. C. PIPE CLASS III, R. C. PIPE CLASS IV, R. C. PIPE CLASS V, ENDWALLS, MASONRY, QUANTITIES FOR DRAINAGE STRUCTURES, FRAME, GRATES, AND HOOD, CONCRETE TRANSITIONAL SECTION, and REMARKS. Includes a SHEET TOTALS row at the bottom.

SHEET TOTALS

COMPUTED BY: NCDOT DATE:
CHECKED BY: C. MOZINGO DATE: 11/7/2017

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

PROJECT NO. U-3334B SHEET NO. 3D-4

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, Drainage Pipe, C.S. Pipe, R.C. Pipe Class III, R.C. Pipe Class IV, R.C. Pipe Class V, Quantities for Drainage Structures, Frame, Grates, and Hood, and Abbreviations. Includes a SHEET TOTALS row at the bottom.

RD-283513

COMPUTED BY: NCDOT DATE:
CHECKED BY: C. MOZINGO DATE: 11/7/2017

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

PROJECT NO. SHEET NO.
U-3334B 3D-6

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, Drainage Pipe (RCP, CSP, CAAP, HDPE, or PVC), C. S. PIPE, R. C. PIPE CLASS III, R. C. PIPE CLASS IV, R. C. PIPE CLASS V, ENDWALLS, QUANTITIES FOR DRAINAGE STRUCTURES, FRAME, GRATES, AND HOOD, CONCRETE TRANSITIONAL SECTION, and REMARKS. Includes a 'SHEET TOTALS' row at the bottom.

ABBREVIATIONS table listing materials like CORRUGATED ALUMINIUM ALLOY, CATCH BASIN, CORRUGATED STEEL, etc.

REMARKS

RD-293513

COMPUTED BY: NCDOT DATE:
CHECKED BY: C. MOZINGO DATE: 11/7/2017

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

PROJECT NO. U-3334B SHEET NO. 3D-7

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, Drainage Pipe, C.S. Pipe, R.C. Pipe Class III, R.C. Pipe Class IV, R.C. Pipe Class V, Quantities, Frame/Grates, and Abbreviations. Includes summary rows for SHEET TOTALS and PROJECT TOTALS.

SHEET TOTALS

PROJECT TOTALS

Summary table with 20 columns for totals across various categories, including a final total of 1816.

MOZINGO

COMPUTED BY: NCDOT DATE:
CHECKED BY: C. MOZINGO DATE: 11/7/2017

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

PROJECT NO. U-3334B SHEET NO. 3D-8

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 54 INCHES & OVER)

Table with columns for Line & Station, Offset, Structure Number, Invert Elevation, Minimum Required Slope, Drainage Pipe (RCP, CSP, CAAP, HDPE, or PVC), C. S. PIPE, R. C. PIPE CLASS III, R. C. PIPE CLASS IV, R. C. PIPE CLASS V, Structural Plate Pipe, Endwalls, Reinforced Endwalls, Drainage Structure, Quantities for Drainage Structures, Frame, Grates, and Hood, Concrete Transitional Section, Grate Type, Energy Dissipation Basin, Pipe Removal, and Remarks. Includes SHEET TOTALS and PROJECT TOTALS rows.

**STATE OF NORTH CAROLINA
 DIVISION OF HIGHWAYS**

SUMMARY OF SUBSURFACE DRAINAGE

LINE	Station	Station	Location LT/RT/CL	Drain Type* UD/BD/SD	LF
-Y5-	10+00	15+00	LT/RT	UD	1000
CONTINGENCY				UD	3000
				TOTAL LF:	4000

*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-	38+40	52+20	ASU	12	1500	3600	5500		
-L-	119+40	127+40	ASU	12	1200	2600	4100		
CONTINGENCY			AST	3					250
CONTINGENCY			ASU	12	400	800	1200		
TOTAL CY/TONS/SY:					3100	7000	10800**	0	250

*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.

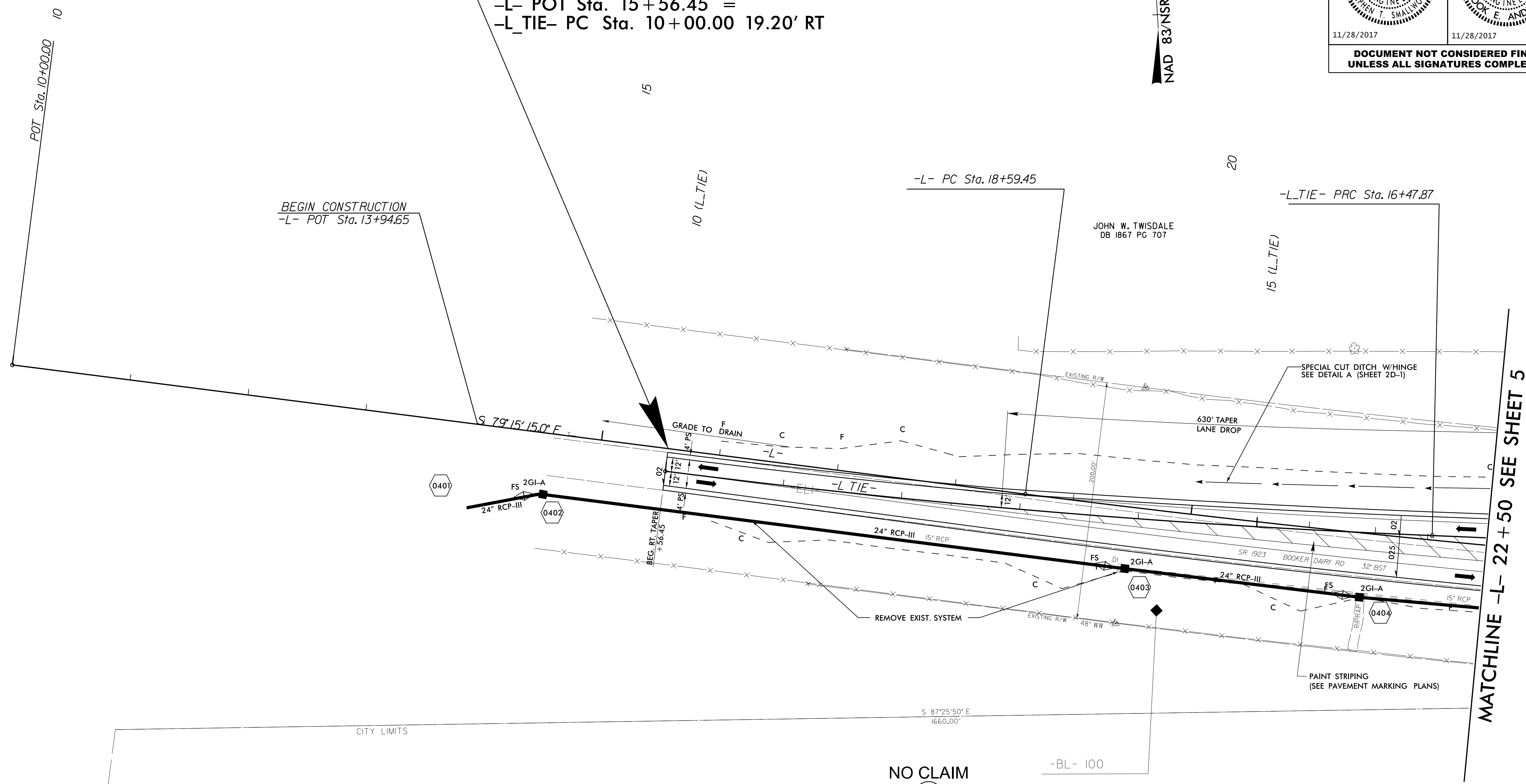
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Stantec
 Stantec Consulting Services Inc.
 801 Jones Franklin Road
 Suite 300
 Raleigh, NC 27606
 Tel: (919) 851-8866
 Fax: (919) 851-7024
 www.stantec.com
 License No. F-0672

PROJECT REFERENCE NO. U-3334B	SHEET NO. 4
RW SHEET NO.	
ROADWAY DESIGN ENGINEER <i>Stephen T. Smallwood</i> SEAL 022037 STEPHEN T. SMALLWOOD ENGINEER	HYDRAULICS ENGINEER <i>Brook E. Anderson</i> SEAL 032581 BROOK E. ANDERSON ENGINEER
11/28/2017	11/28/2017
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

NAD 83/NSRS 2007

BEGIN T.I.P. PROJECT U-3334B
 -L- POT Sta. 15+56.45 =
 -L_TIE- PC Sta. 10+00.00 19.20' RT



REVISIONS

MATCHLINE -L- 22 + 50 SEE SHEET 5

NO CLAIM
 1
 JOHN TWISDALE
 DB 795 PG 258

-L-	-L_TIE-	-L_TIE-
PI Sta 25+21.8	PI Sta 13+24.4	PI Sta 17+81.02
$\Delta = 6' 18' 45.6''$ (LT)	$\Delta = 4' 56' 57.6''$ (LT)	$\Delta = 2' 02' 03.4''$ (RT)
$D = 0' 28' 38.9''$	$D = 0' 45' 50.2''$	$D = 0' 45' 50.2''$
$L = 1,322.12'$	$L = 647.87'$	$L = 266.28'$
$T = 661.73'$	$T = 324.14'$	$T = 133.16'$
$R = 12,000.00'$	$R = 7,500.00'$	$R = 7,500.00'$
Se = NC	Se = N/A	Se = N/A

NOTES:
 SEE SHEET 15 FOR -L- PROFILE

11/27/2017
 I:\Roadway\Proj\U3334B_rnd\j_psh_s4.dgn
 cpo21000

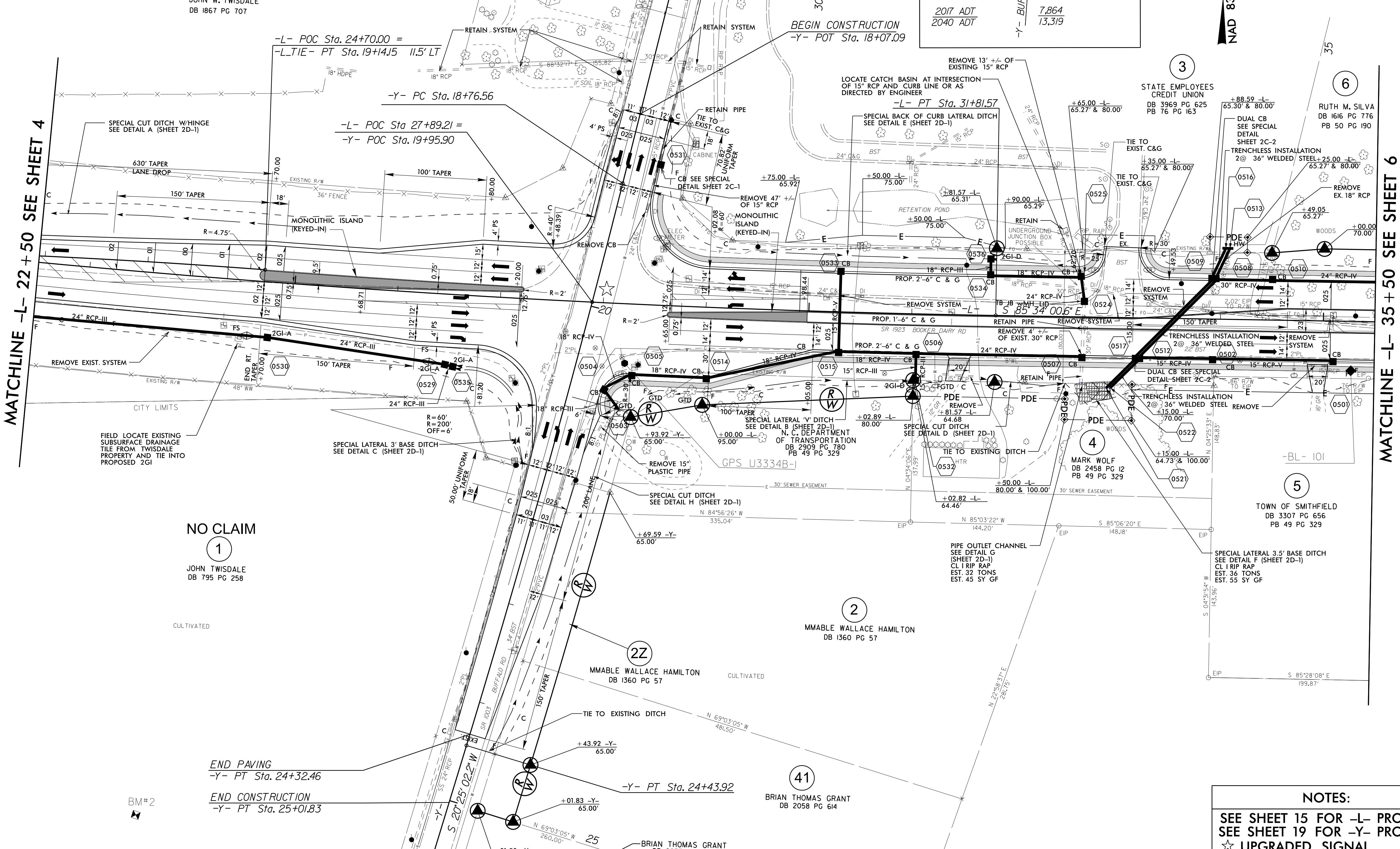
8/17/99

-L-TIE-	-L-TIE-	-L-	-Y-
PI Sta 13+24.14	PI Sta 17+81.02	PI Sta 25+21.18	PI Sta 21+60.30
$\Delta = 4' 56' 57.6" (LT)$	$\Delta = 2' 02' 03.4" (RT)$	$\Delta = 6' 18' 45.6" (LT)$	$\Delta = 2' 50' 12.5" (RT)$
$D = 0' 45' 50.2"$	$D = 0' 45' 50.2"$	$D = 0' 28' 38.9"$	$D = 0' 30' 00.0"$
$L = 647.87'$	$L = 266.28'$	$L = 1,322.12'$	$L = 567.36'$
$T = 324.14'$	$T = 133.16'$	$T = 661.73'$	$T = 283.74'$
$R = 7,500.00'$	$R = 7,500.00'$	$R = 12,000.00'$	$R = 11,459.13'$
$Se = N/A$	$Se = N/A$	$Se = NC$	$Se = NC$

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PROJECT REFERENCE NO. U-3334B	SHEET NO. 5
RW SHEET NO.	
ROADWAY DESIGN ENGINEER <i>[Signature]</i> SEAL 022037	HYDRAULICS ENGINEER <i>[Signature]</i> SEAL 032581
1/9/2018	1/9/2018
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

NAD 83/NSRS 2007



REVISIONS

NO CLAIM
 1
 JOHN TWISDALE
 DB 795 PG 258

NOTES:
 SEE SHEET 15 FOR -L- PROFILE
 SEE SHEET 19 FOR -Y- PROFILE
 ☆ UPGRADED SIGNAL

1/9/2018
L:\Roadway\Proj\U3334B_rdy.psh.s5.dgn

8/17/99



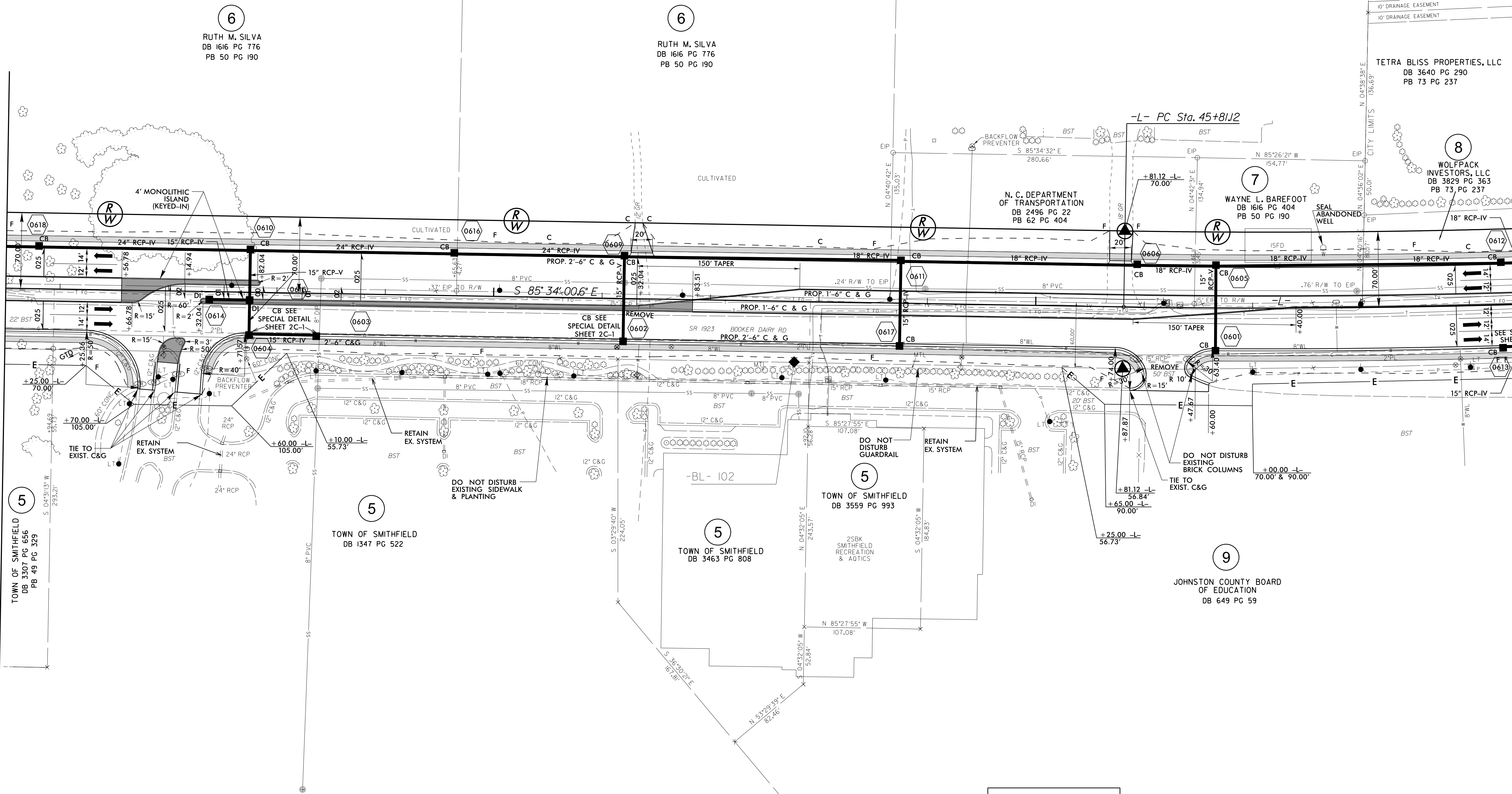
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PROJECT REFERENCE NO. U-3334B	SHEET NO. 6
ROADWAY DESIGN ENGINEER SEAL 022037 STEPHEN T. SMALLWOOD	HYDRAULICS ENGINEER SEAL 032581 BROOK E. ANDERSON
11/28/2017	11/28/2017
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

NAD 83/NSRS 2007

MATCHLINE -L- 35 + 50 SEE SHEET 5

MATCHLINE -L- 49 + 50 SEE SHEET 7



REVISIONS

-L-

$PI\ Sta\ 48+24.72$
 $\Delta = 3^{\circ} 29' 17.6'' (LT)$
 $D = 0^{\circ} 42' 58.3''$
 $L = 487.05'$
 $T = 243.60'$
 $R = 8,000.00'$
 $Se = NC$

NOTES:

SEE SHEET 16 FOR -L- PROFILE

11/27/2017
I:\Roadway\Proj\U3334B_rdy_psh_s6.dgn
C:\Users\jacob

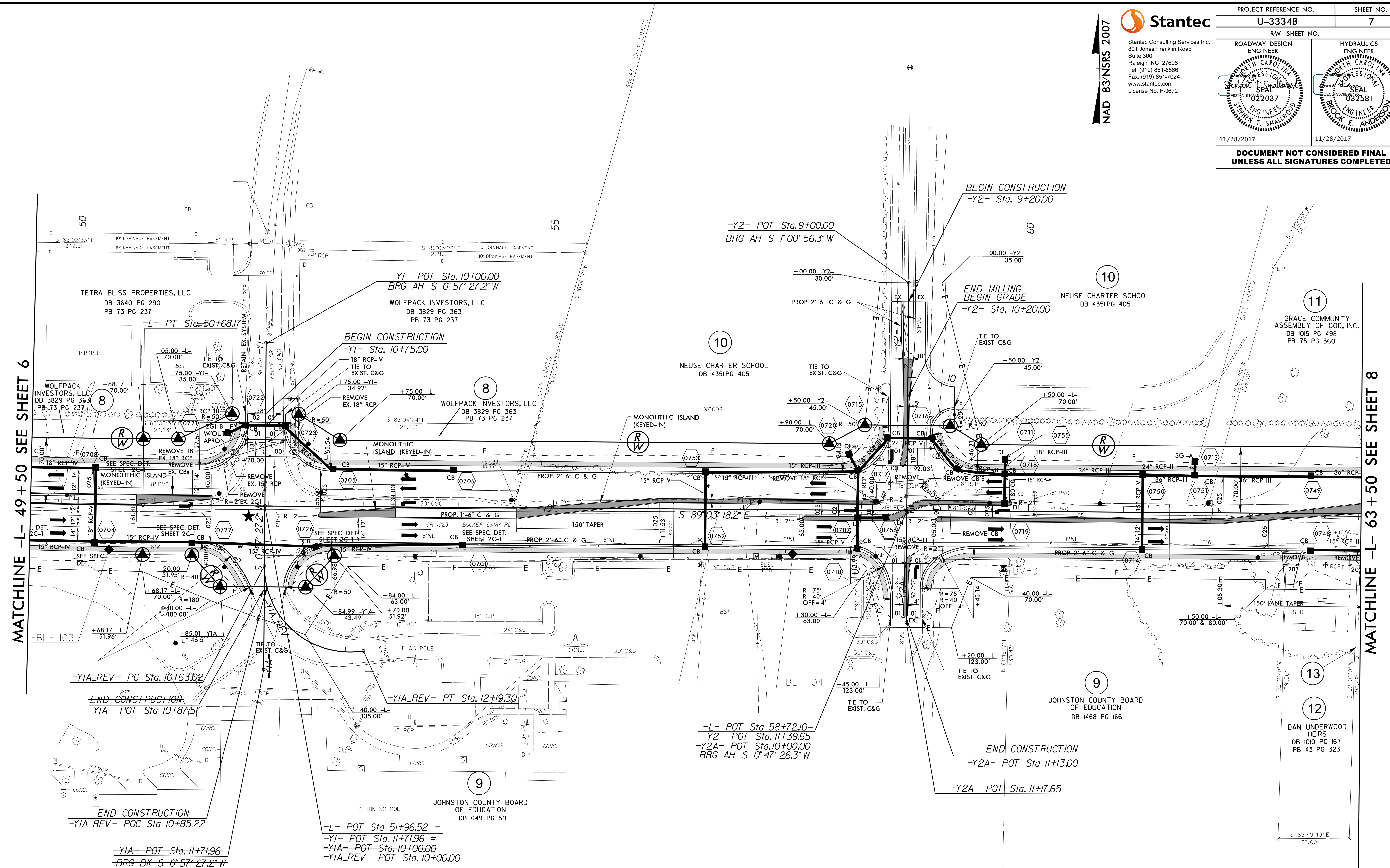
8/17/99



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PROJECT REFERENCE NO. U-3334B	SHEET NO. 7
Roadway Design Engineer SEAL 072037	Hydraulics Engineer SEAL 032581
11/28/2017	11/28/2017
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

NAD 83 NRS 2007



REVISIONS

MATCHLINE -L- 49 + 50 SEE SHEET 6

MATCHLINE -L- 63 + 50 SEE SHEET 8

<p>-YIA_REV-</p> <p>PI Sta 11+69.31 $\Delta = 99^{\circ} 29' 11.0''$ (LT) $D = 63^{\circ} 39' 43.1''$ $L = 156.27'$ $T = 106.29'$ $R = 90.00'$</p>	<p>-L-</p> <p>PI Sta 48+247.2 $\Delta = 3^{\circ} 29' 17.6''$ (LT) $D = 0^{\circ} 42' 58.3''$ $L = 487.05'$ $T = 243.60'$ $R = 8,000.00'$ $Se = NC$</p>
---	--

NOTES:

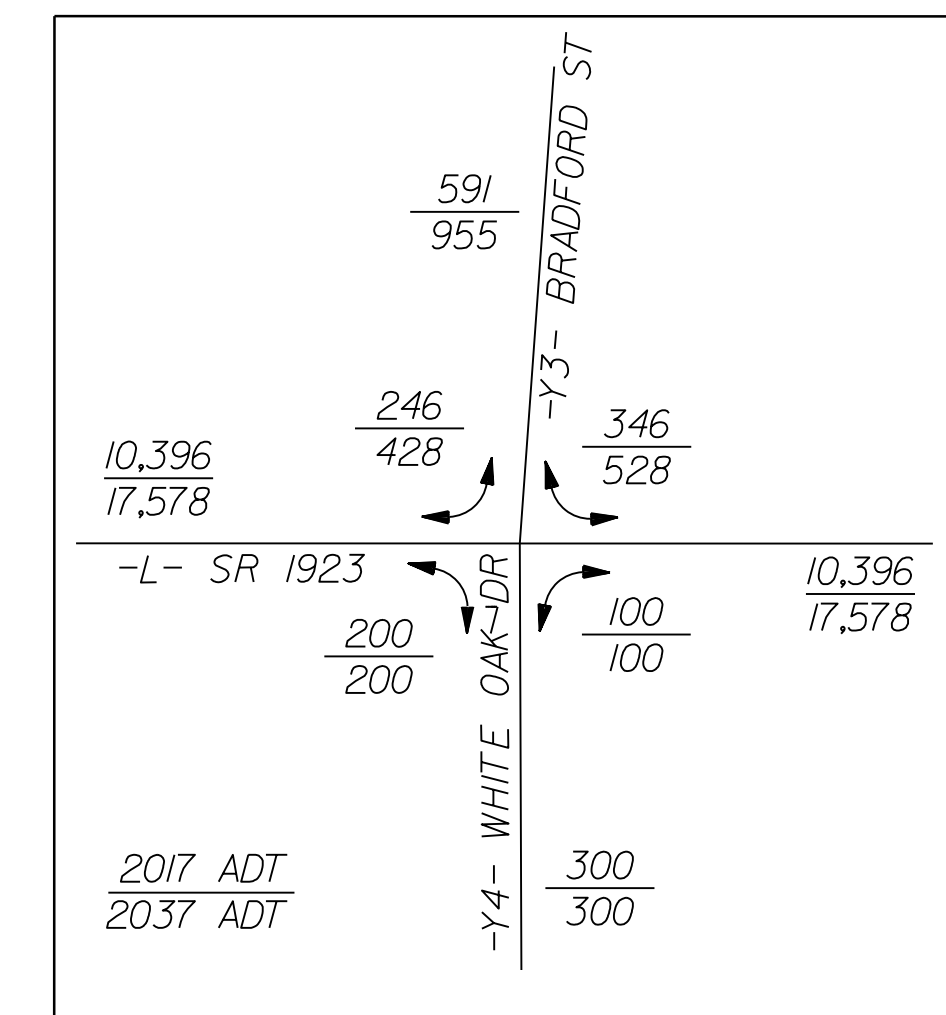
SEE SHEET 16 FOR -L- PROFILE.
 SEE SHEET 20 FOR -Y1-, -Y1A_REV-, -Y2- & -Y2A- PROFILES.
 ★ PROPOSED SIGNAL.

11/27/2017
I:\Roadway\Proj\U3334B_rnd\j.psh.s7.dgn
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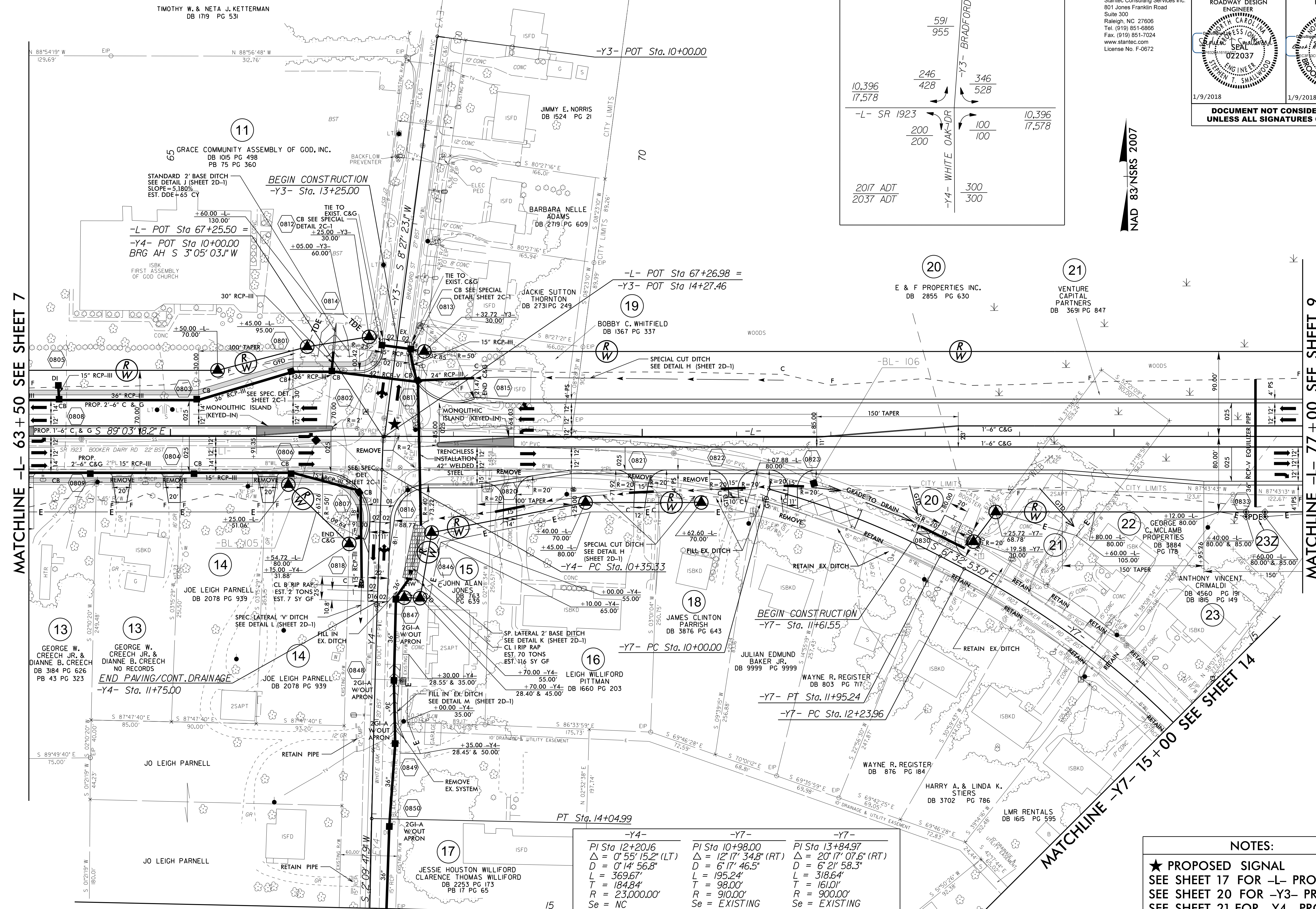
8/17/19

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PROJECT REFERENCE NO. U-3334B	SHEET NO. 8
RW SHEET NO.	
ROADWAY DESIGN ENGINEER <i>[Signature]</i> SEAL 022037	HYDRAULICS ENGINEER <i>[Signature]</i> SEAL 002581
1/9/2018	1/9/2018
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	



NAD 83/NSRS 2007



MATCHLINE -L- 63 + 50 SEE SHEET 7

MATCHLINE -L- 77 + 00 SEE SHEET 9

MATCHLINE -Y7- 15 + 00 SEE SHEET 14

MATCHLINE -Y4- 15 + 00 SEE SHEET 13

-Y4-	-Y7-	-Y7-
PI Sta 12+20.16	PI Sta 10+98.00	PI Sta 13+84.97
$\Delta = 0' 55' 15.2''$ (LT)	$\Delta = 12' 17' 34.8''$ (RT)	$\Delta = 20' 17' 07.6''$ (RT)
$D = 0' 14' 56.8''$	$D = 6' 17' 46.5''$	$D = 6' 21' 58.3''$
$L = 369.67'$	$L = 195.24'$	$L = 318.64'$
$T = 184.84'$	$T = 98.00'$	$T = 161.01'$
$R = 23,000.00'$	$R = 910.00'$	$R = 900.00'$
$Se = NC$	$Se = EXISTING$	$Se = EXISTING$

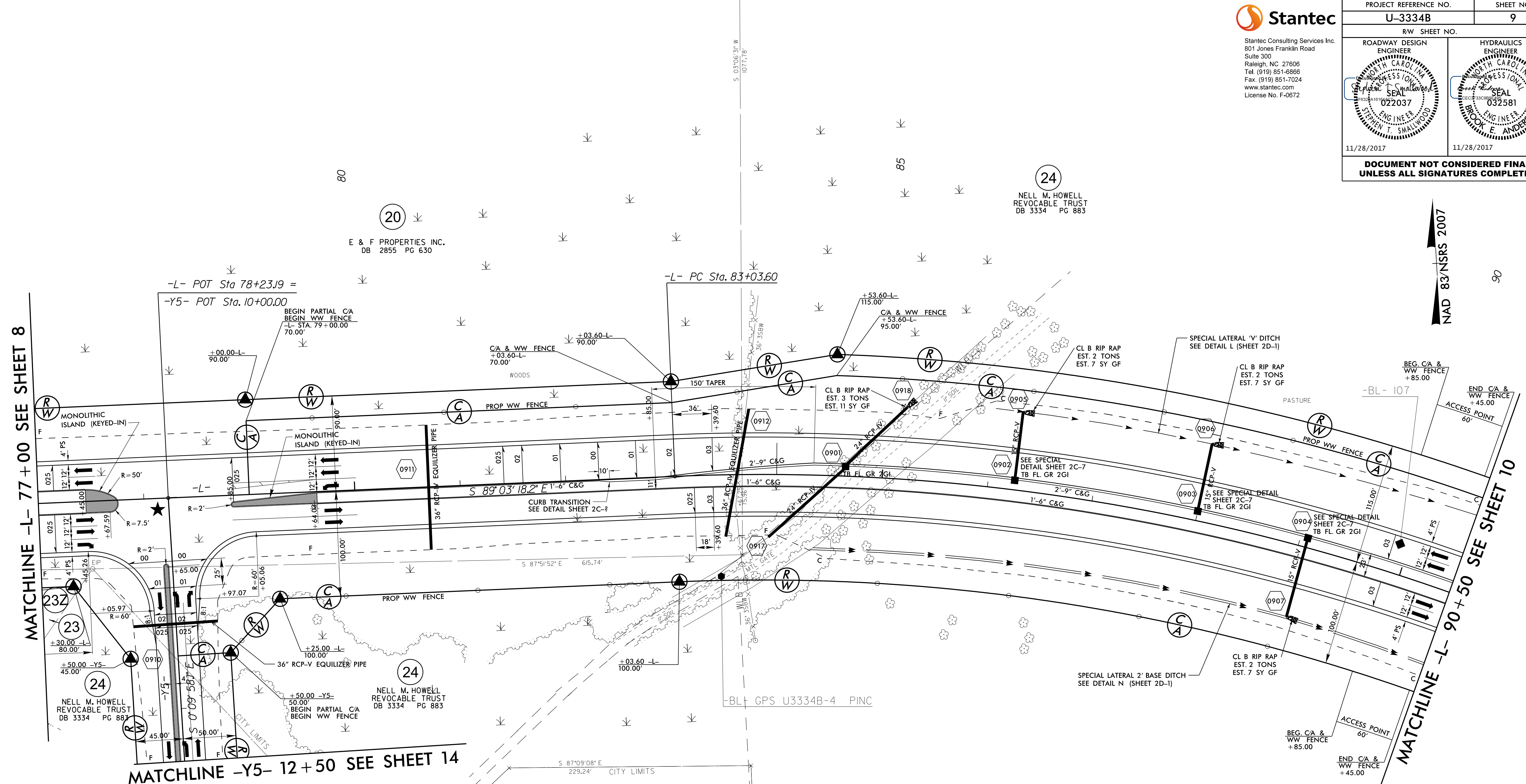
NOTES:

- ★ PROPOSED SIGNAL SEE SHEET 17 FOR -L- PROFILE.
- SEE SHEET 20 FOR -Y3- PROFILE.
- SEE SHEET 21 FOR -Y4- PROFILE.
- SEE SHEET 22 FOR -Y7- PROFILE.

REVISIONS

1/9/2018
L:\Projects\U-3334B\rdy.psh_s8.dgn

PROJECT REFERENCE NO. U-3334B	SHEET NO. 9
ROADWAY DESIGN ENGINEER SEAL 022037 STEPHEN T. SMALLWOOD	HYDRAULICS ENGINEER SEAL 032581 BROOK E. ANDERSON
11/28/2017	11/28/2017
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	



REVISIONS

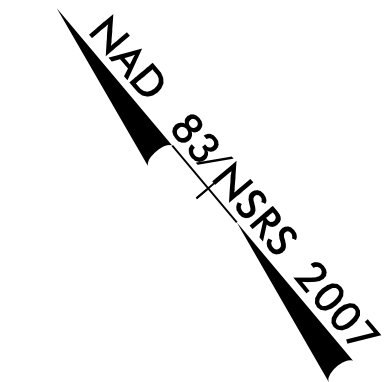
2018 ADT		3,687
2038 ADT	-L- SR 1923	7,232
10,396	6,964	255
17,578	10,419	73
	7,219	
	10,429	
	-Y5- EXIST. SR 1923	

-L-

PI Sta 102+71.66
 $\Delta = 90^\circ 31' 41.4''$ (RT)
 $D = 2' 56' 17.7''$
 $L = 3,081.03'$
 $T = 1,968.06'$
 $R = 1,950.00'$
 $Se = .03$
 $RUNOFF = 108'$

NOTES:
SEE SHEET 17 FOR -L- PROFILE.
SEE SHEET 21 FOR -Y5- PROFILE.

PROJECT REFERENCE NO. U-3334B	SHEET NO. 10
ROADWAY DESIGN ENGINEER SEAL 022037 STEPHEN T. SMALLWOOD	HYDRAULICS ENGINEER SEAL 032581 BROOK E. ANDERSON
12/5/2017	12/5/2017
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

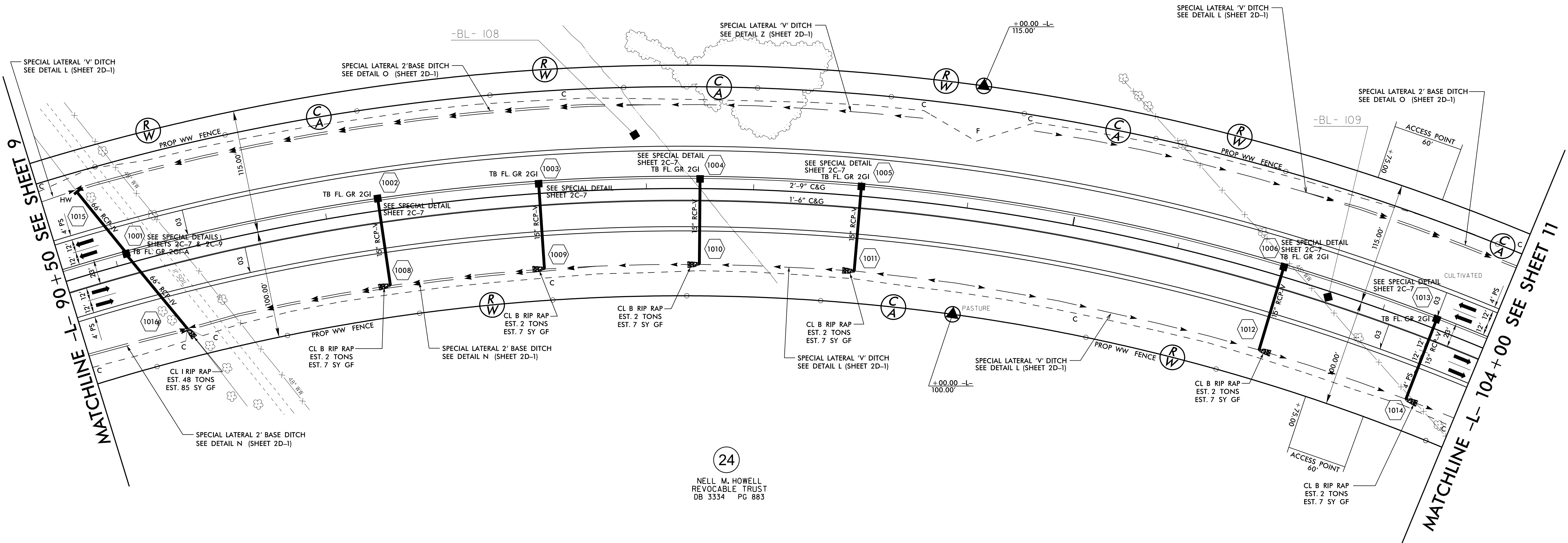


95

24
 NELL M. HOWELL
 REVOCABLE TRUST
 DB 3334 PG 883

100 BM#5

REVISIONS



MATCHLINE -L- 90+50 SEE SHEET 9

MATCHLINE -L- 104+00 SEE SHEET 11

24
 NELL M. HOWELL
 REVOCABLE TRUST
 DB 3334 PG 883

-L-

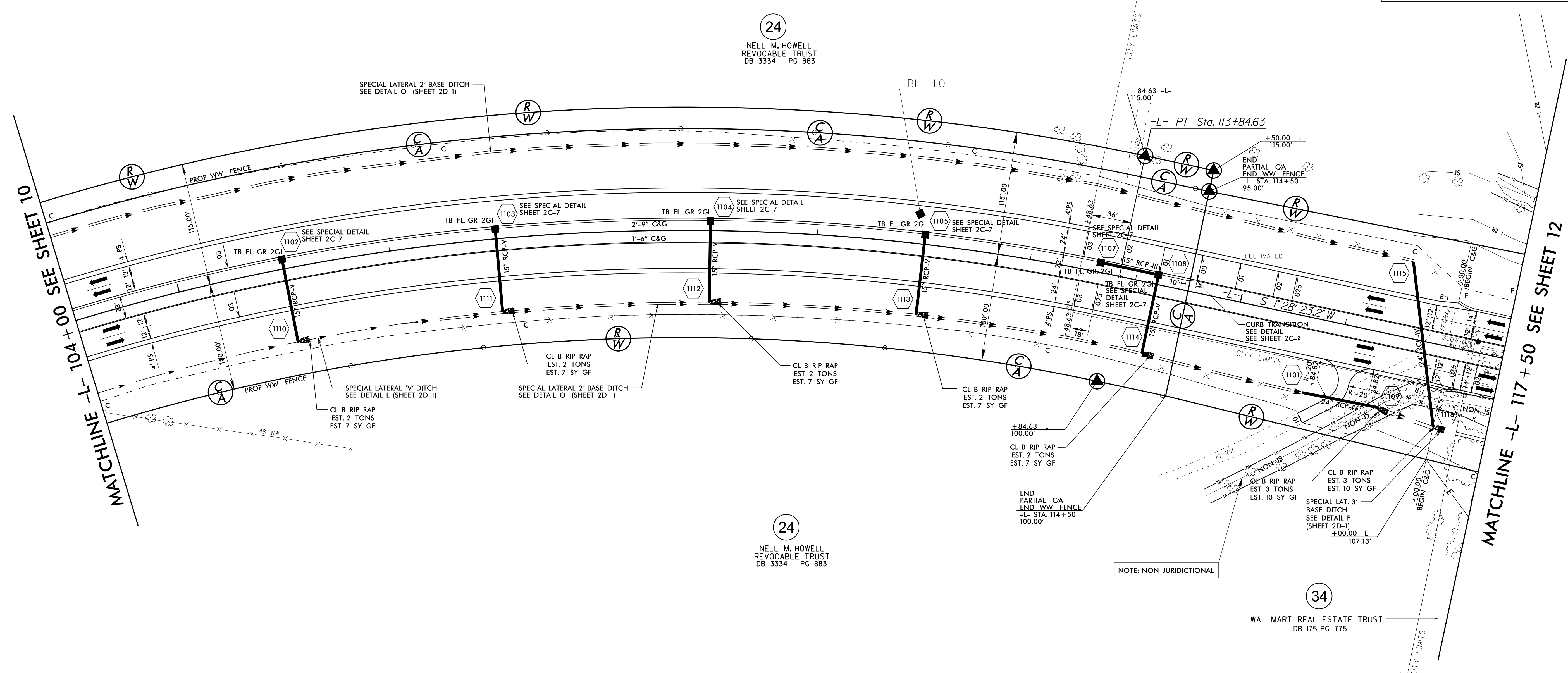
$PI\ Sta\ 102+71.66$
 $\Delta = 90^\circ 31' 41.4" (RT)$
 $D = 2' 56" 17.7"$
 $L = 3,081.03'$
 $T = 1,968.06'$
 $R = 1,950.00'$
 $Se = .03$
 $RUNOFF = 108'$

NOTES:
 SEE SHEET 18 FOR -L- PROFILE.

8/17/17

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PROJECT REFERENCE NO. U-3334B	SHEET NO. 11
RW SHEET NO.	
ROADWAY DESIGN ENGINEER <i>[Signature]</i> SEAL 022037 SHAWN T. SMALLWOOD	HYDRAULICS ENGINEER <i>[Signature]</i> SEAL 032581 BROOK E. ANDERSON
11/28/2017	11/28/2017
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

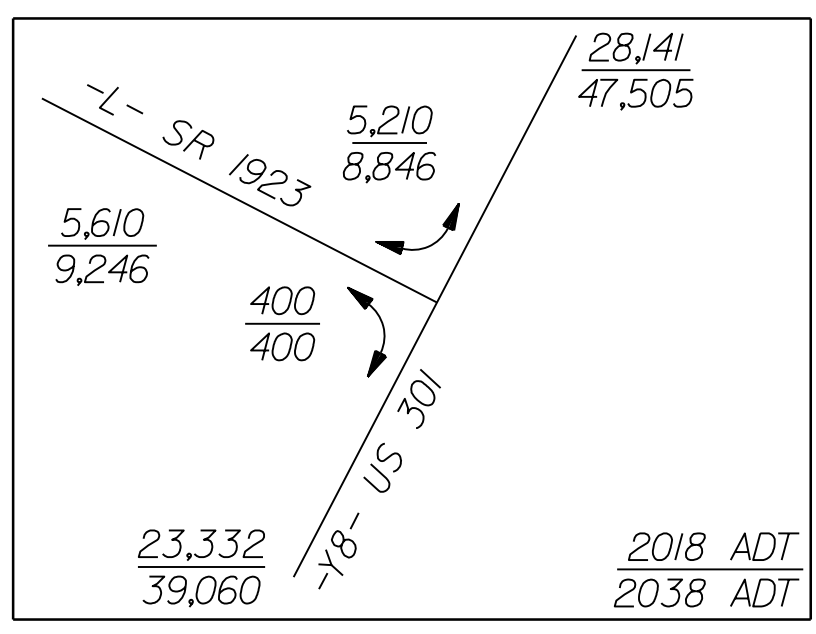


REVISIONS

11/27/2017
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CND

-L-
 PI Sta 102+71.66
 $\Delta = 90^\circ 31' 41.4''$ (RT)
 $D = 2' 56'' 17.7''$
 $L = 3,081.03'$
 $T = 1,968.06'$
 $R = 1,950.00'$
 $S_e = 0.3$
 $RUNOFF = 108'$

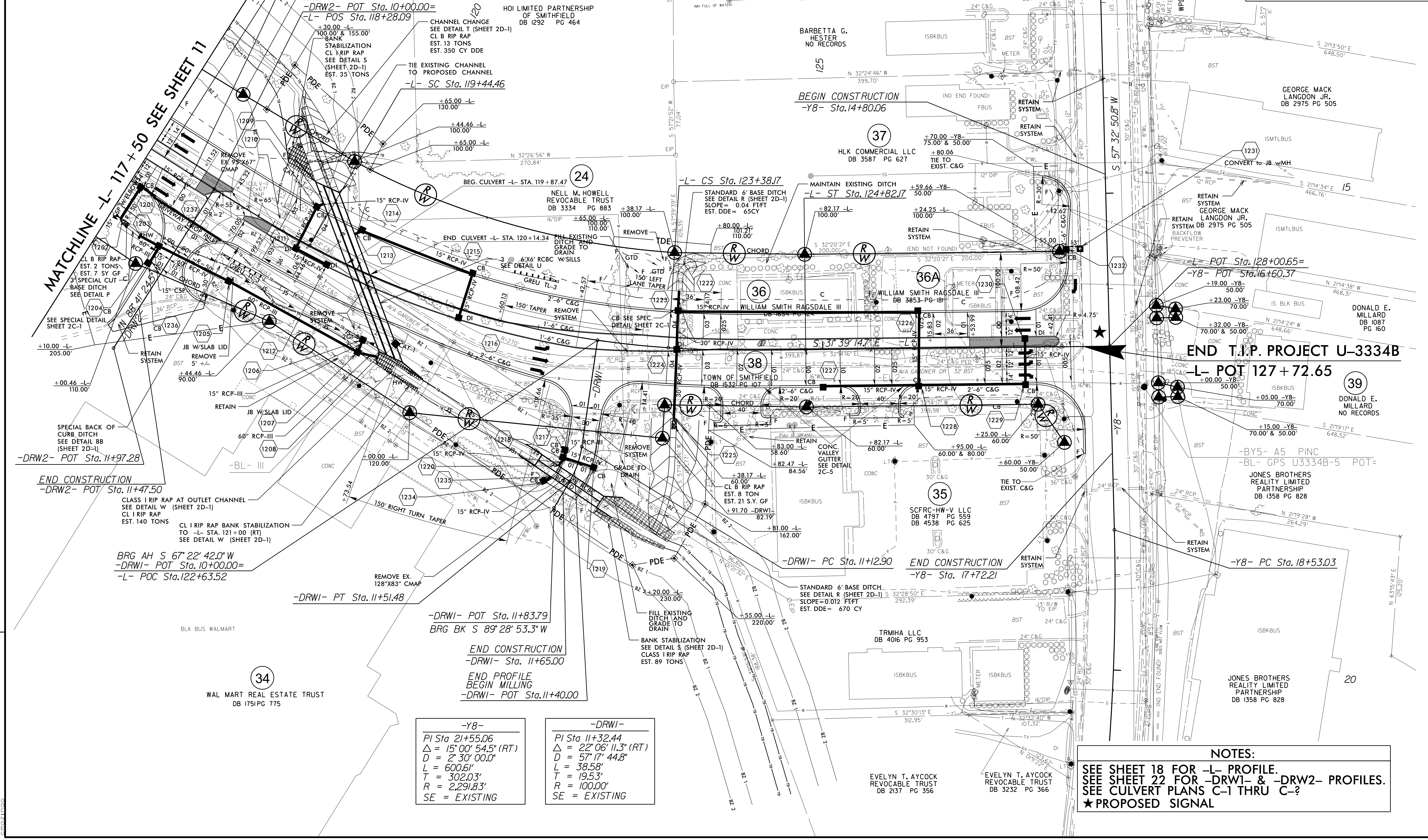
NOTES:
 SEE SHEET 18 FOR -L- PROFILE.



-L-

Pls Sta 118+96.49 Δs = 4° 26' 08.9" Ls = 144.00' T = 96.03' ST = 48.03'	PI Sta 121+44.31 Δ = 24° 15' 20.1" (LT) D = 6° 09' 39.0" L = 393.71' T = 199.85' R = 930.00' Se = .04	Pls Sta 123+86.20 Δs = 4° 26' 08.9" Ls = 144.00' T = 96.03' ST = 48.03'
---	---	---

NAD 83/NSRS 2007



-Y8-

PI Sta 21+55.06 Δ = 15° 00' 54.5" (RT) D = 2° 30' 00.0" L = 600.61' T = 302.03' R = 2,291.83' SE = EXISTING

-DRWI-

PI Sta 11+32.44 Δ = 22° 06' 11.3" (RT) D = 57° 17' 44.8" L = 38.58' T = 19.53' R = 100.00' SE = EXISTING
--

NOTES:
SEE SHEET 18 FOR -L- PROFILE.
SEE SHEET 22 FOR -DRWI- & -DRW2- PROFILES.
SEE CULVERT PLANS C-1 THRU C-2
★ PROPOSED SIGNAL

REVISIONS

8.17.17.99

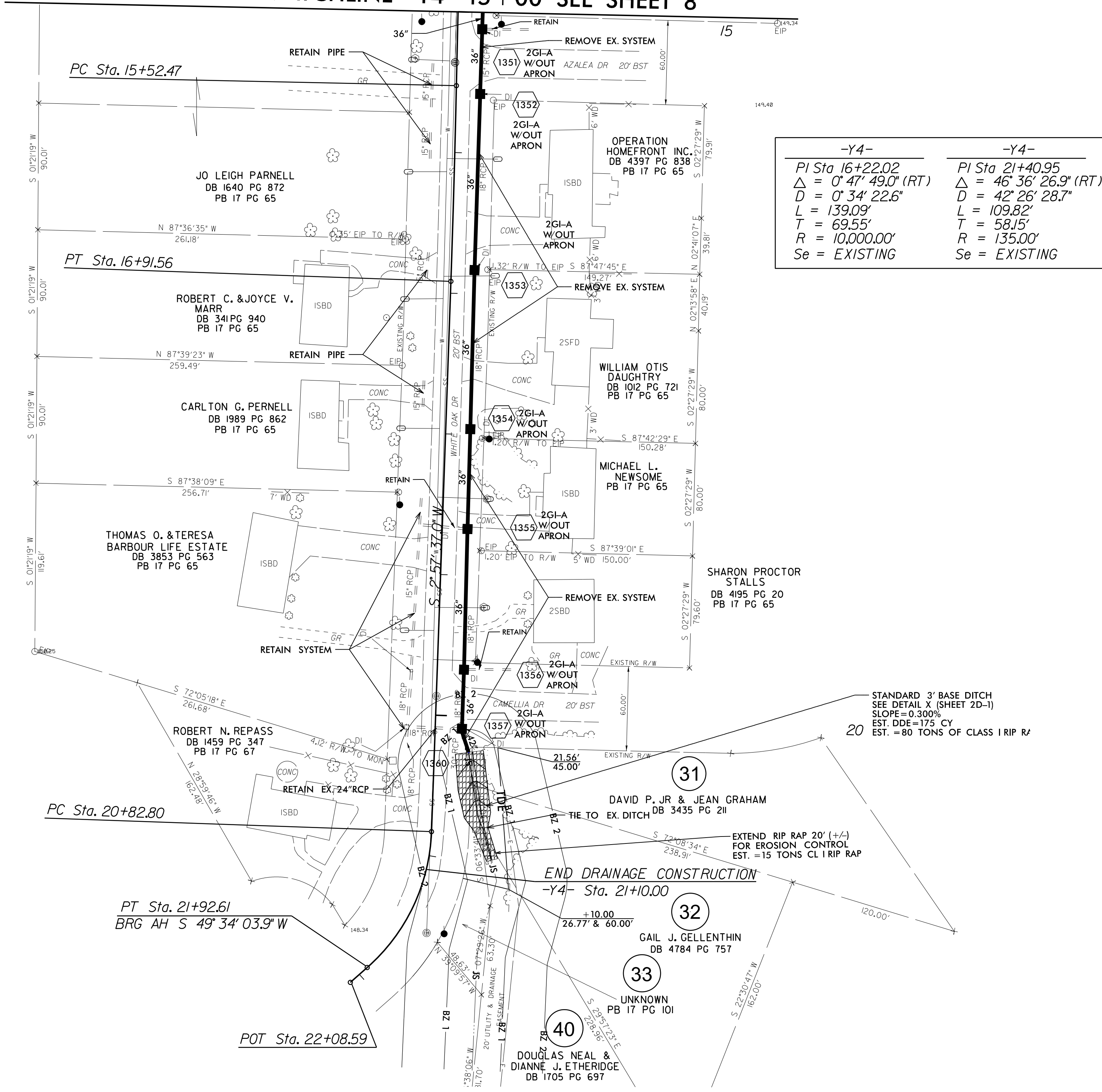
11/27/2017
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PROJECT REFERENCE NO. U-3334B	SHEET NO. 13
RW SHEET NO.	
ROADWAY DESIGN ENGINEER <i>Stephen T. Smallwood</i> SEAL 022037 ENGINEER STEPHEN T. SMALLWOOD	HYDRAULICS ENGINEER <i>Wook E. Anderson</i> SEAL 032581 ENGINEER WOOK E. ANDERSON
11/28/2017	11/28/2017
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

NAD 83/NSRS 2007


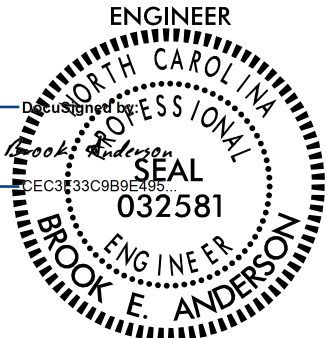
REVISIONS

MATCHLINE -Y4- 15+00 SEE SHEET 8



NOTES:
 SEE SHEET 21 FOR -Y4- PROFILE.

11/27/2017
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 02/21/2018

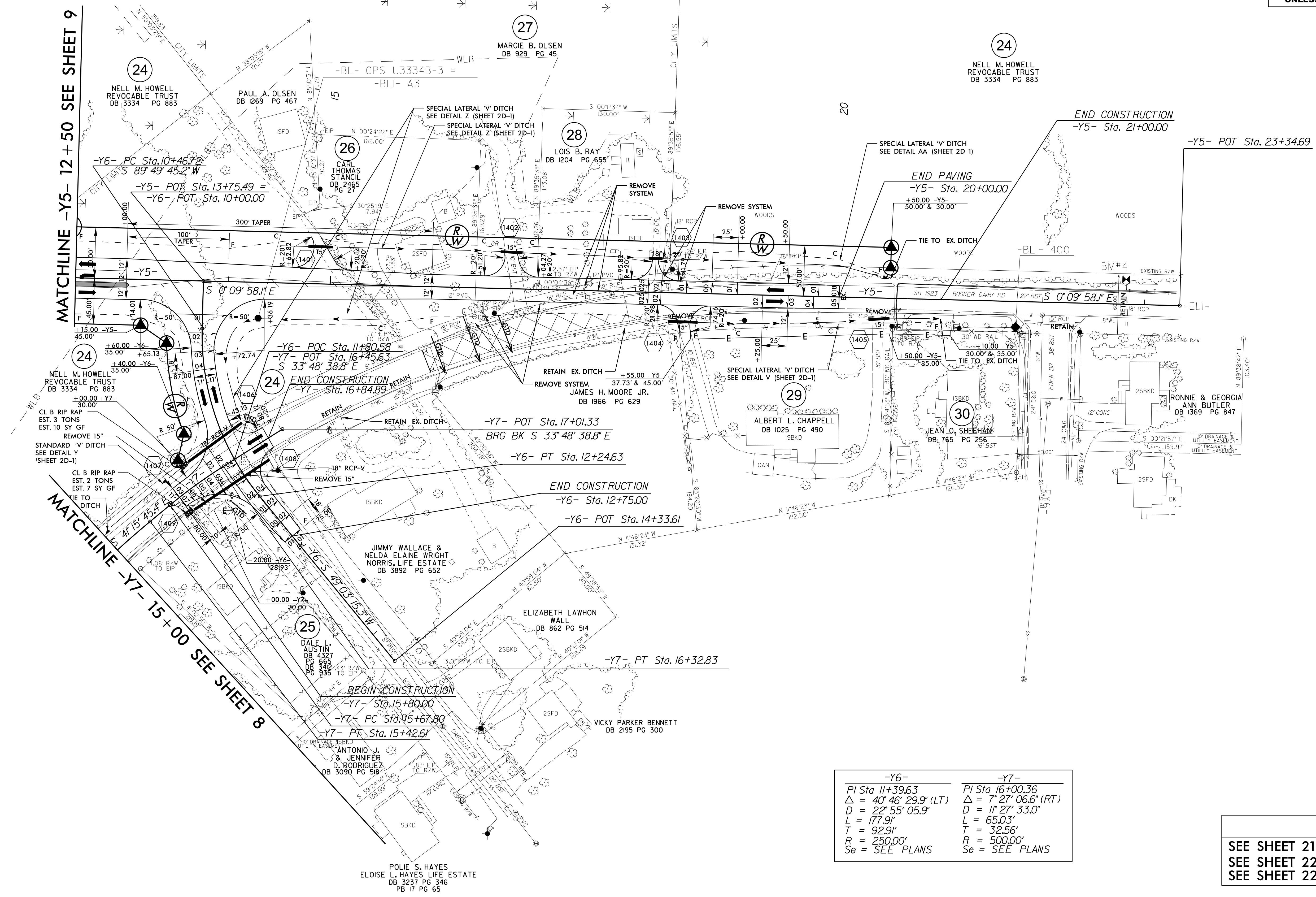
PROJECT REFERENCE NO. U-3334B	SHEET NO. 14
RW SHEET NO.	
ROADWAY DESIGN ENGINEER 	HYDRAULICS ENGINEER 
12/5/2017	12/5/2017
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

NAD 83/NSRS 2007

REVISIONS

MATCHLINE -Y5- 12 + 50 SEE SHEET 9

MATCHLINE -Y7- 15 + 00 SEE SHEET 8



-Y6-	-Y7-
PI Sta 11+39.63	PI Sta 16+00.36
$\Delta = 40^{\circ} 46' 29.9"$ (LT)	$\Delta = 7^{\circ} 27' 06.6"$ (RT)
D = 22' 55' 05.9"	D = 11' 27' 33.0"
L = 177.91'	L = 65.03'
T = 92.91'	T = 32.56'
R = 250.00'	R = 500.00'
Se = SEE PLANS	Se = SEE PLANS

NOTES:
 SEE SHEET 21 FOR -Y5- PROFILE.
 SEE SHEET 22 FOR -Y6- PROFILE.
 SEE SHEET 22 FOR -Y7- PROFILE.

5/28/19

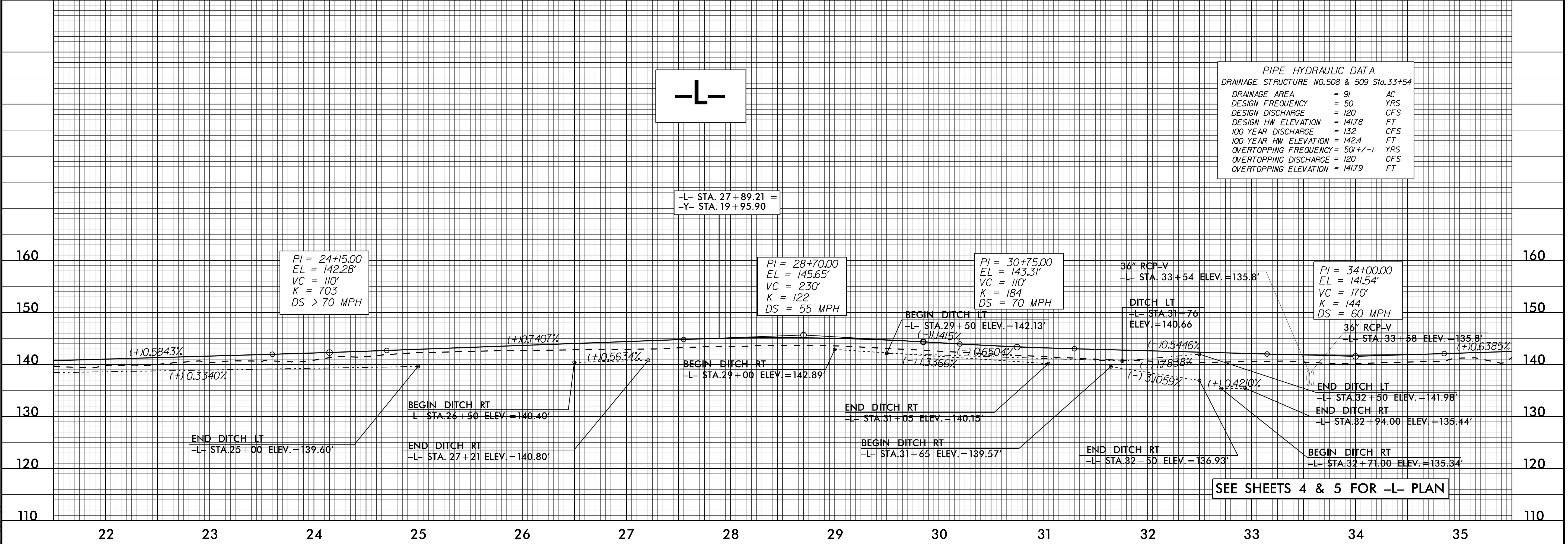
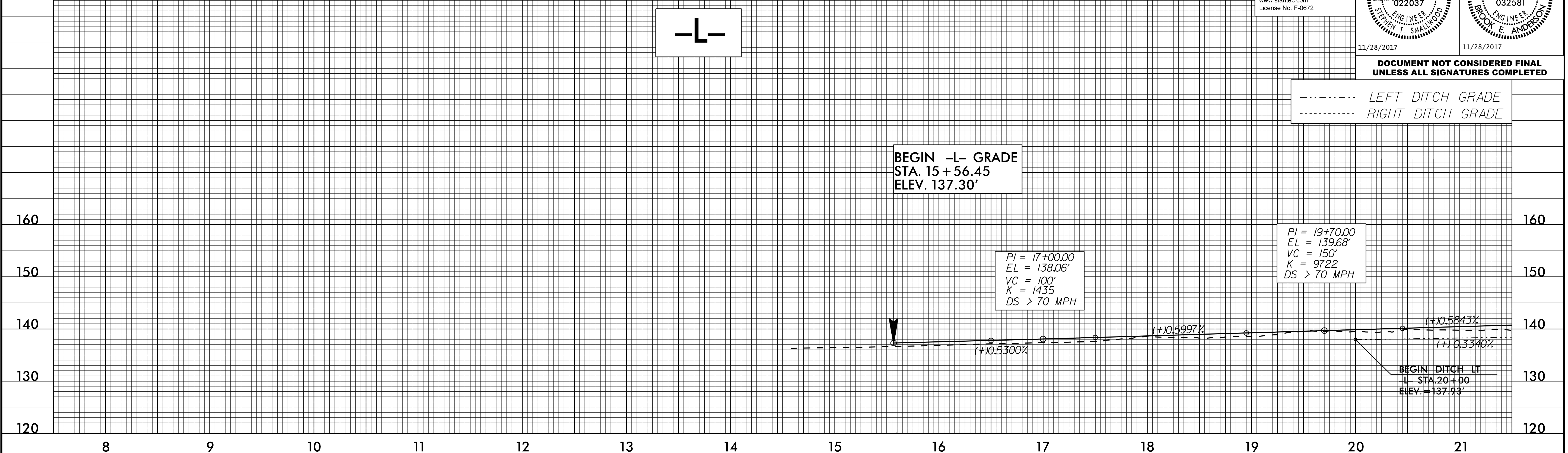


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PROJECT REFERENCE NO. U-3334B	SHEET NO. 15
ROADWAY DESIGN ENGINEER SEAL STEPHEN T. SMALLWOOD 022037	HYDRAULICS ENGINEER SEAL BROOK E. ANDERSON 032581
11/28/2017	11/28/2017

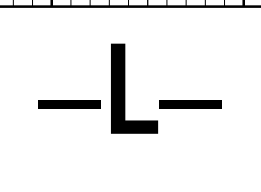
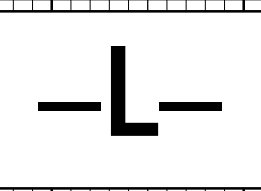
**DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED**

----- LEFT DITCH GRADE
----- RIGHT DITCH GRADE



PIPE HYDRAULIC DATA
DRAINAGE STRUCTURE NO. 508 & 509 Sta. 33+54

DRAINAGE AREA	= 91	AC
DESIGN FREQUENCY	= 50	YRS
DESIGN DISCHARGE	= 120	CFS
DESIGN HW ELEVATION	= 141.78	FT
100 YEAR DISCHARGE	= 132	CFS
100 YEAR HW ELEVATION	= 142.4	FT
OVERTOPPING FREQUENCY	= 50(+/-)	YRS
OVERTOPPING DISCHARGE	= 120	CFS
OVERTOPPING ELEVATION	= 141.79	FT



SEE SHEETS 4 & 5 FOR -L- PLAN

11/27/2017
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5/28/17

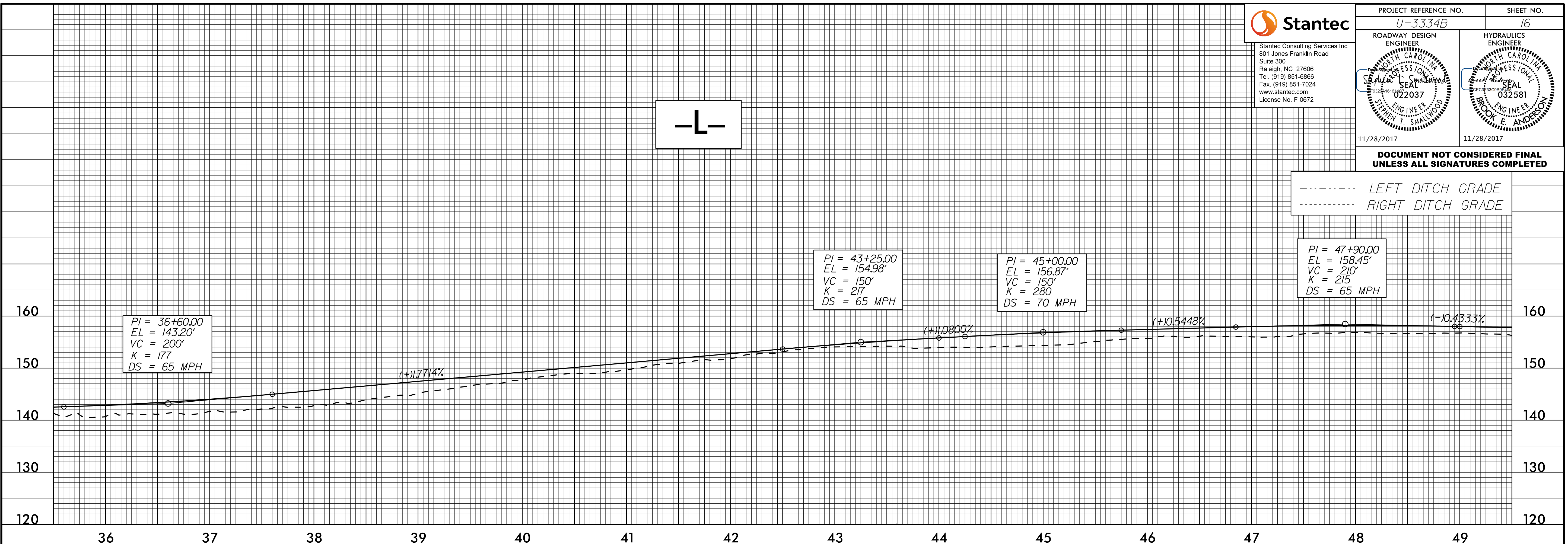


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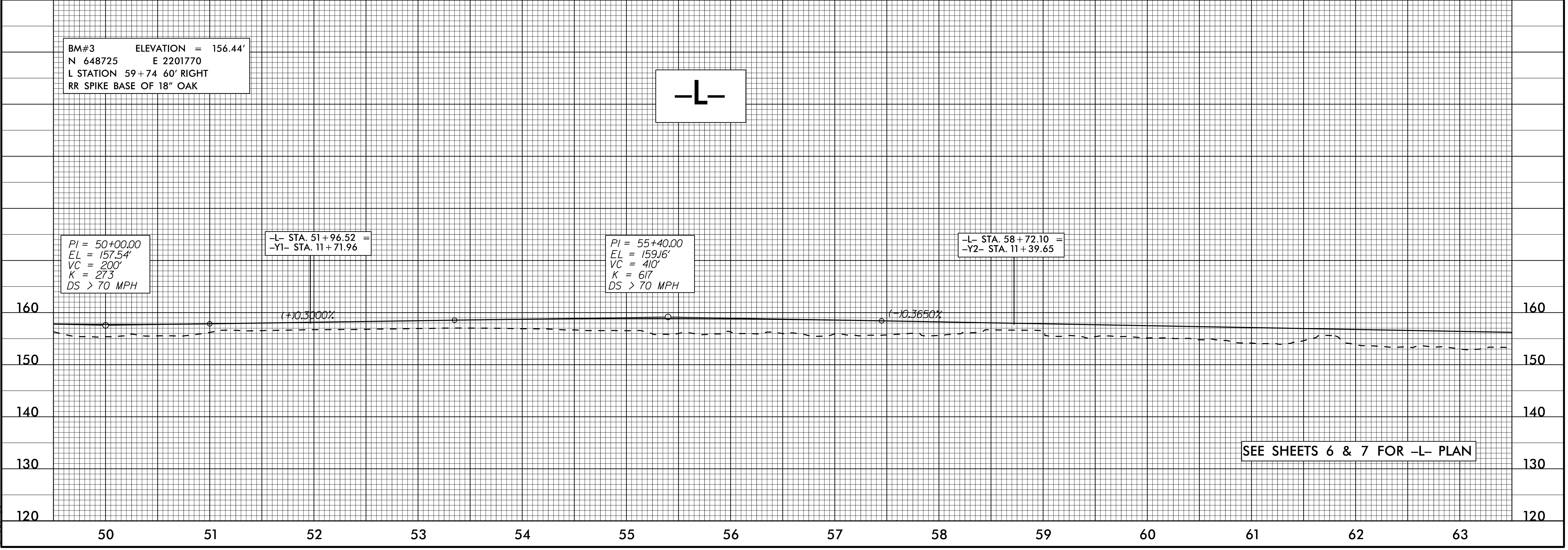
PROJECT REFERENCE NO. <i>U-3334B</i>	SHEET NO. <i>16</i>
ROADWAY DESIGN ENGINEER SEAL <i>022037</i> STEPHEN T. SMALLWOOD	HYDRAULICS ENGINEER SEAL <i>032581</i> BROOK E. ANDERSON
11/28/2017	11/28/2017

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

----- LEFT DITCH GRADE
----- RIGHT DITCH GRADE



BM#3 ELEVATION = 156.44'
N 648725 E 2201770
L STATION 59+74 60' RIGHT
RR SPIKE BASE OF 18" OAK



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Us\Roadway\Pro\U3334B_r\dj_e\16.dgn

5/28/17

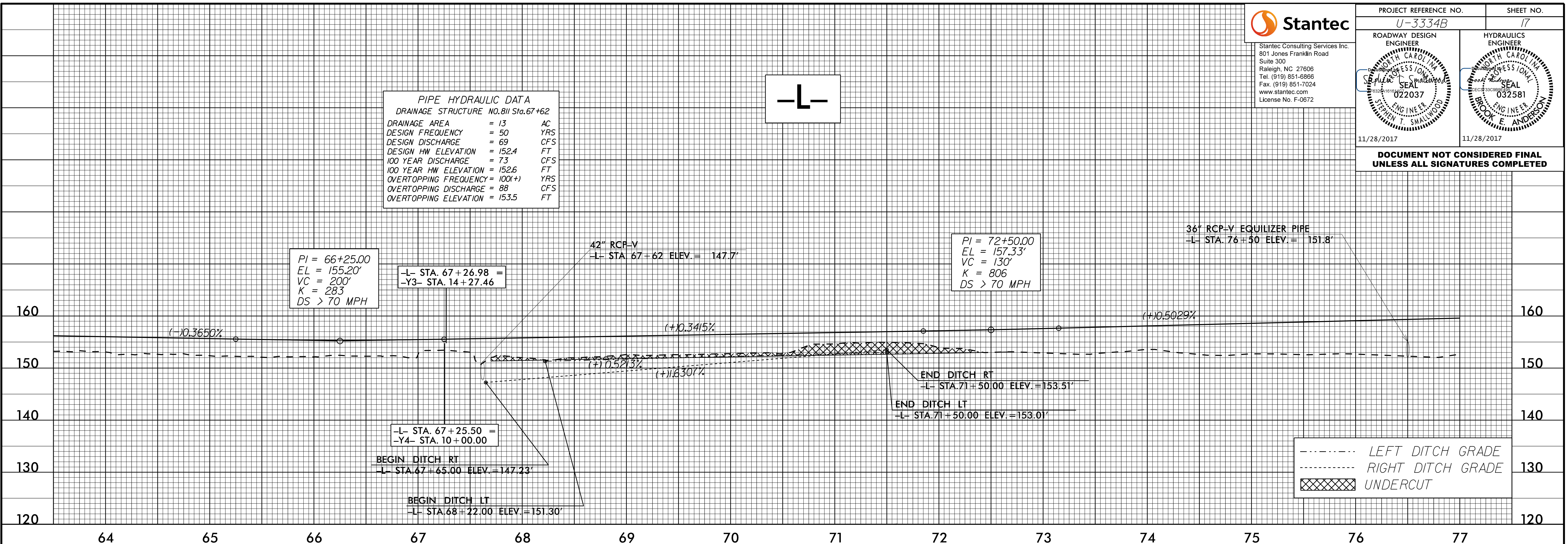
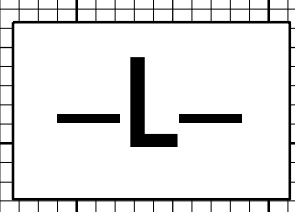


PROJECT REFERENCE NO. U-3334B	SHEET NO. 17
ROADWAY DESIGN ENGINEER SEAL 11/28/2017	HYDRAULICS ENGINEER ANDERSON 11/28/2017

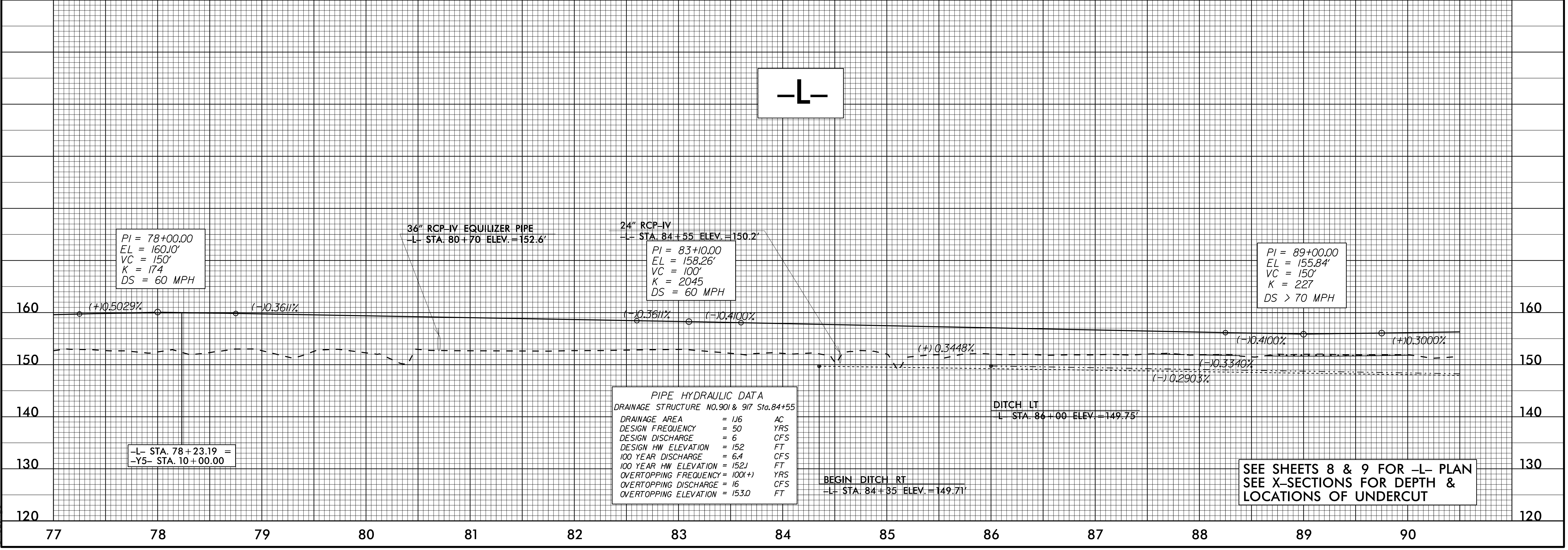
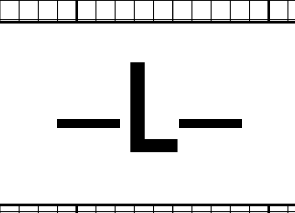
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

PIPE HYDRAULIC DATA
DRAINAGE STRUCTURE NO.811 Sta.67+62

DRAINAGE AREA	= 13	AC
DESIGN FREQUENCY	= 50	YRS
DESIGN DISCHARGE	= 69	CFS
DESIGN HW ELEVATION	= 152.4	FT
100 YEAR DISCHARGE	= 73	CFS
100 YEAR HW ELEVATION	= 152.6	FT
OVERTOPPING FREQUENCY	= 100(+)	YRS
OVERTOPPING DISCHARGE	= 88	CFS
OVERTOPPING ELEVATION	= 153.5	FT



--- LEFT DITCH GRADE
 - - - - - RIGHT DITCH GRADE
 [Hatched] UNDERCUT



PIPE HYDRAULIC DATA
DRAINAGE STRUCTURE NO.901 & 917 Sta.84+55

DRAINAGE AREA	= 116	AC
DESIGN FREQUENCY	= 50	YRS
DESIGN DISCHARGE	= 6	CFS
DESIGN HW ELEVATION	= 152	FT
100 YEAR DISCHARGE	= 6.4	CFS
100 YEAR HW ELEVATION	= 152.1	FT
OVERTOPPING FREQUENCY	= 100(+)	YRS
OVERTOPPING DISCHARGE	= 16	CFS
OVERTOPPING ELEVATION	= 153.0	FT

SEE SHEETS 8 & 9 FOR -L- PLAN
SEE X-SECTIONS FOR DEPTH &
LOCATIONS OF UNDERCUT

11/21/2017
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5/28/19



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PROJECT REFERENCE NO. U-3334B	SHEET NO. 18
ROADWAY DESIGN ENGINEER SEAL 022037 STEPHEN T. SMALLWOOD	HYDRAULICS ENGINEER SEAL 032581 BROOK E. ANDERSON
11/28/2017	11/28/2017

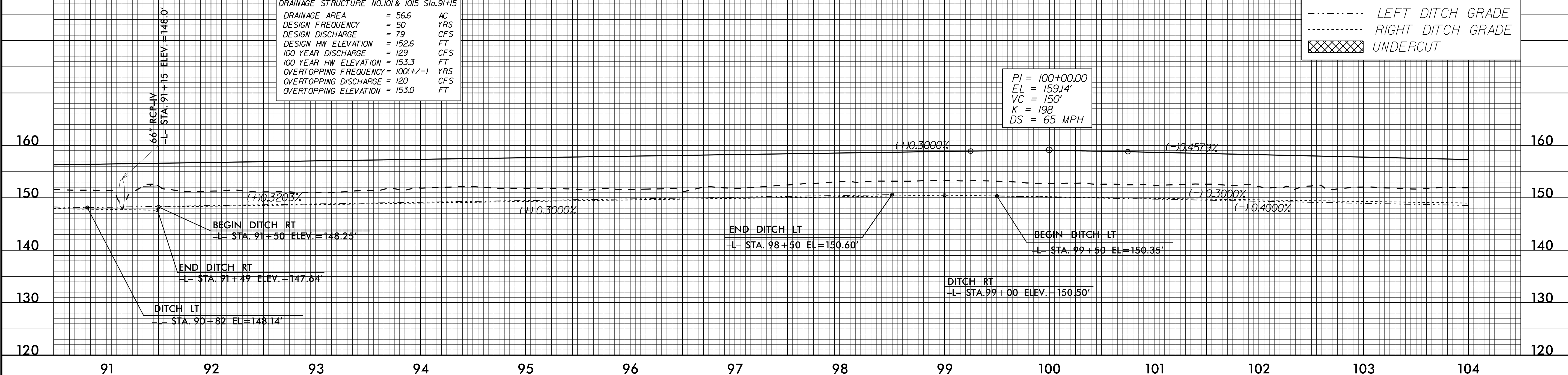
**DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED**

BM#5 ELEVATION = 153.00'
N 648186 E 2205838
L STATION 100+37' 300' LEFT
RR SPIKE IN BASE OF 15" PINE

PIPE HYDRAULIC DATA
DRAINAGE STRUCTURE NO.101 & 1015 Sta.91+15

DRAINAGE AREA	= 56.6	AC
DESIGN FREQUENCY	= 50	YRS
DESIGN DISCHARGE	= 79	CFS
DESIGN HW ELEVATION	= 152.6	FT
100 YEAR DISCHARGE	= 129	CFS
100 YEAR HW ELEVATION	= 153.3	FT
OVERTOPPING FREQUENCY	= 100(+/-)	YRS
OVERTOPPING DISCHARGE	= 120	CFS
OVERTOPPING ELEVATION	= 153.0	FT

PI = 100+00.00
EL = 159.14'
VC = 150'
K = 198
DS = 65 MPH

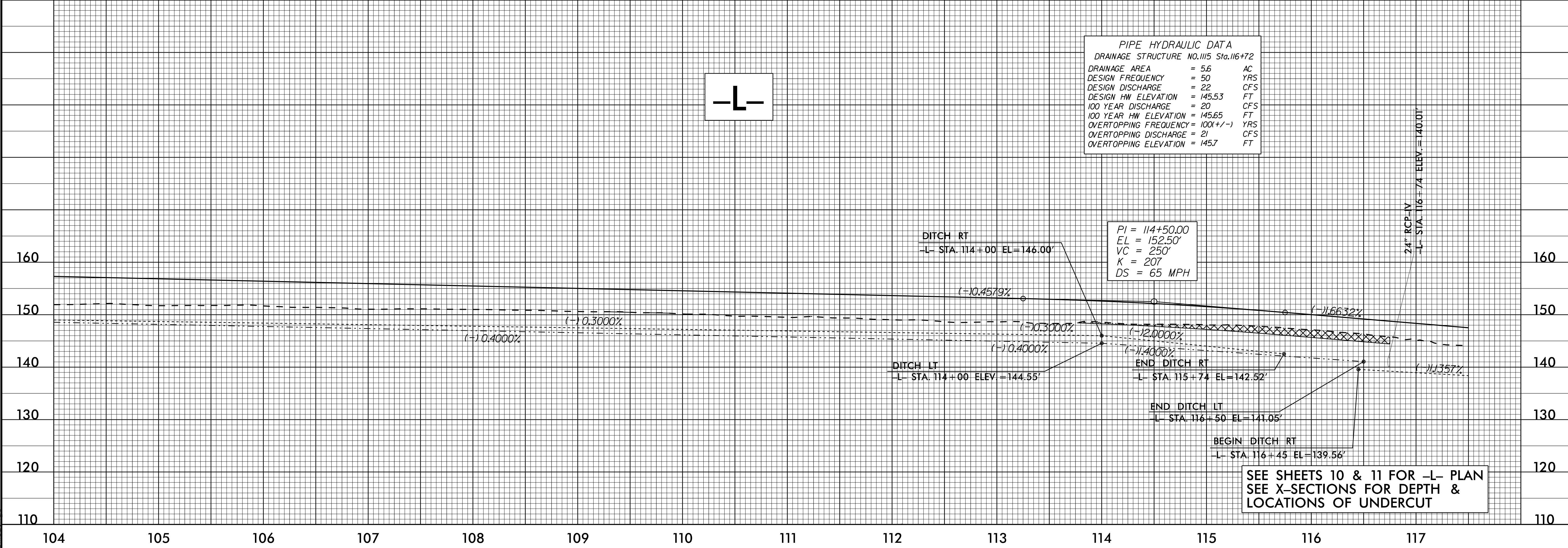


----- LEFT DITCH GRADE
----- RIGHT DITCH GRADE
XXXXXX UNDERCUT

PIPE HYDRAULIC DATA
DRAINAGE STRUCTURE NO.115 Sta.116+72

DRAINAGE AREA	= 5.6	AC
DESIGN FREQUENCY	= 50	YRS
DESIGN DISCHARGE	= 22	CFS
DESIGN HW ELEVATION	= 145.53	FT
100 YEAR DISCHARGE	= 20	CFS
100 YEAR HW ELEVATION	= 145.65	FT
OVERTOPPING FREQUENCY	= 100(+/-)	YRS
OVERTOPPING DISCHARGE	= 21	CFS
OVERTOPPING ELEVATION	= 145.7	FT

PI = 114+50.00
EL = 152.50'
VC = 250'
K = 207
DS = 65 MPH



SEE SHEETS 10 & 11 FOR -L- PLAN
SEE X-SECTIONS FOR DEPTH &
LOCATIONS OF UNDERCUT

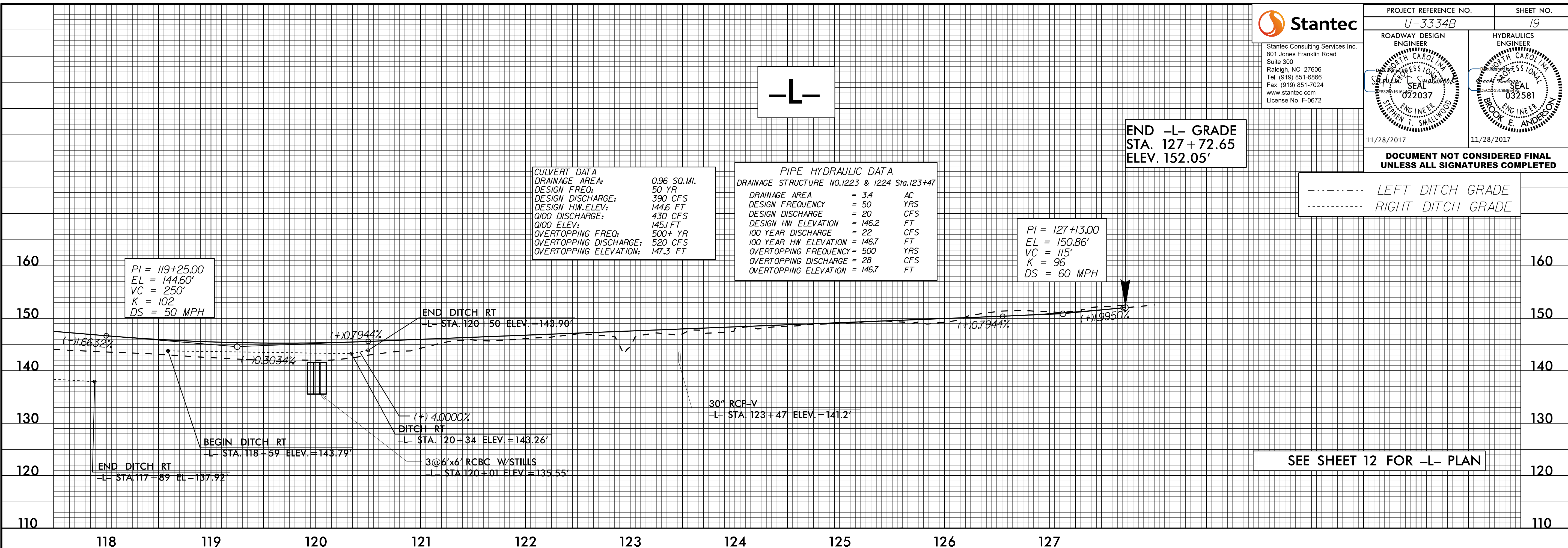
11/27/2017
U:\Roadway\Projs\U3334B_r\dj\18.dgn

5/28/19

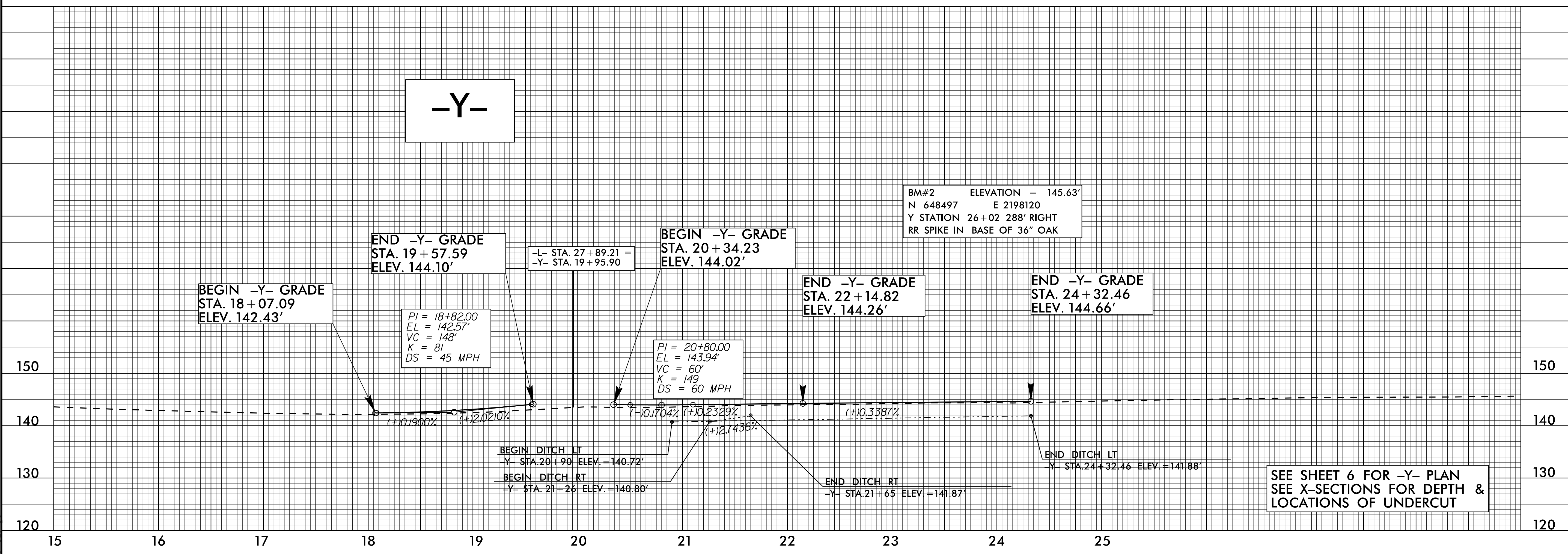


PROJECT REFERENCE NO. U-3334B	SHEET NO. 19
ROADWAY DESIGN ENGINEER SEAL 022037 STEPHEN T. SMALLWOOD	HYDRAULICS ENGINEER SEAL 032581 BROOK E. ANDERSON
11/28/2017	11/28/2017

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



SEE SHEET 12 FOR -L- PLAN



SEE SHEET 6 FOR -Y- PLAN
SEE X-SECTIONS FOR DEPTH & LOCATIONS OF UNDERCUT

11/27/2017
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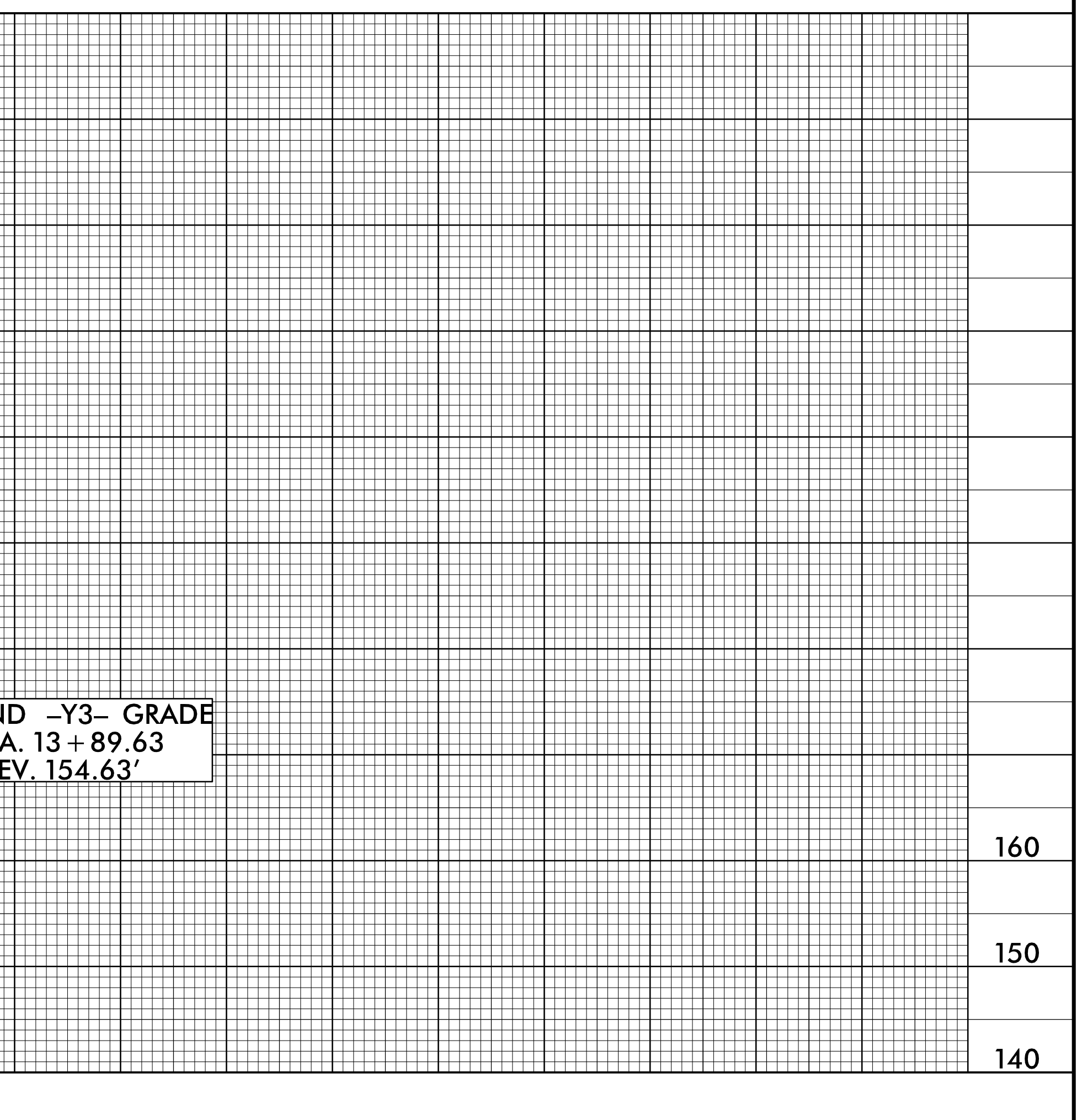
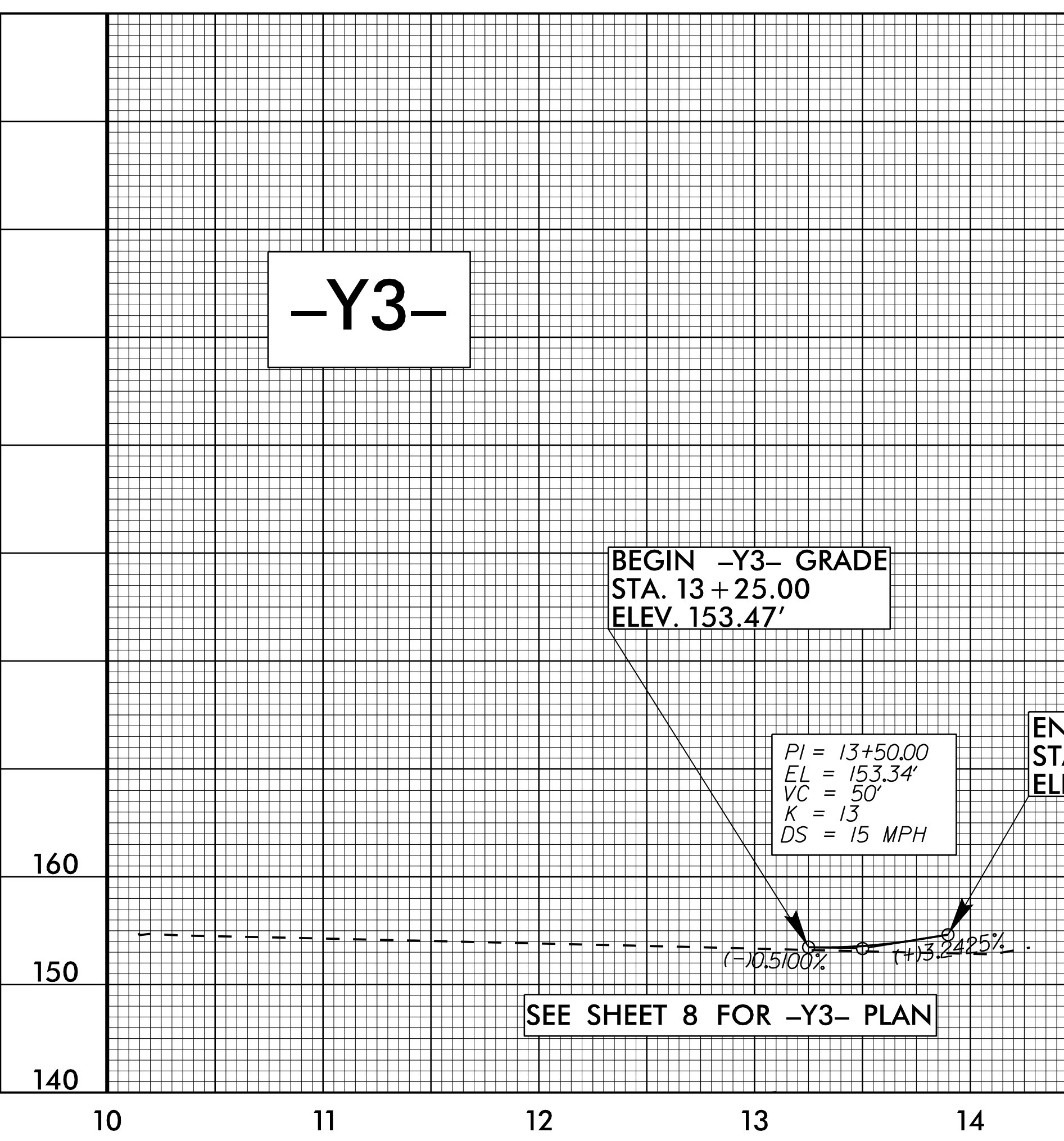
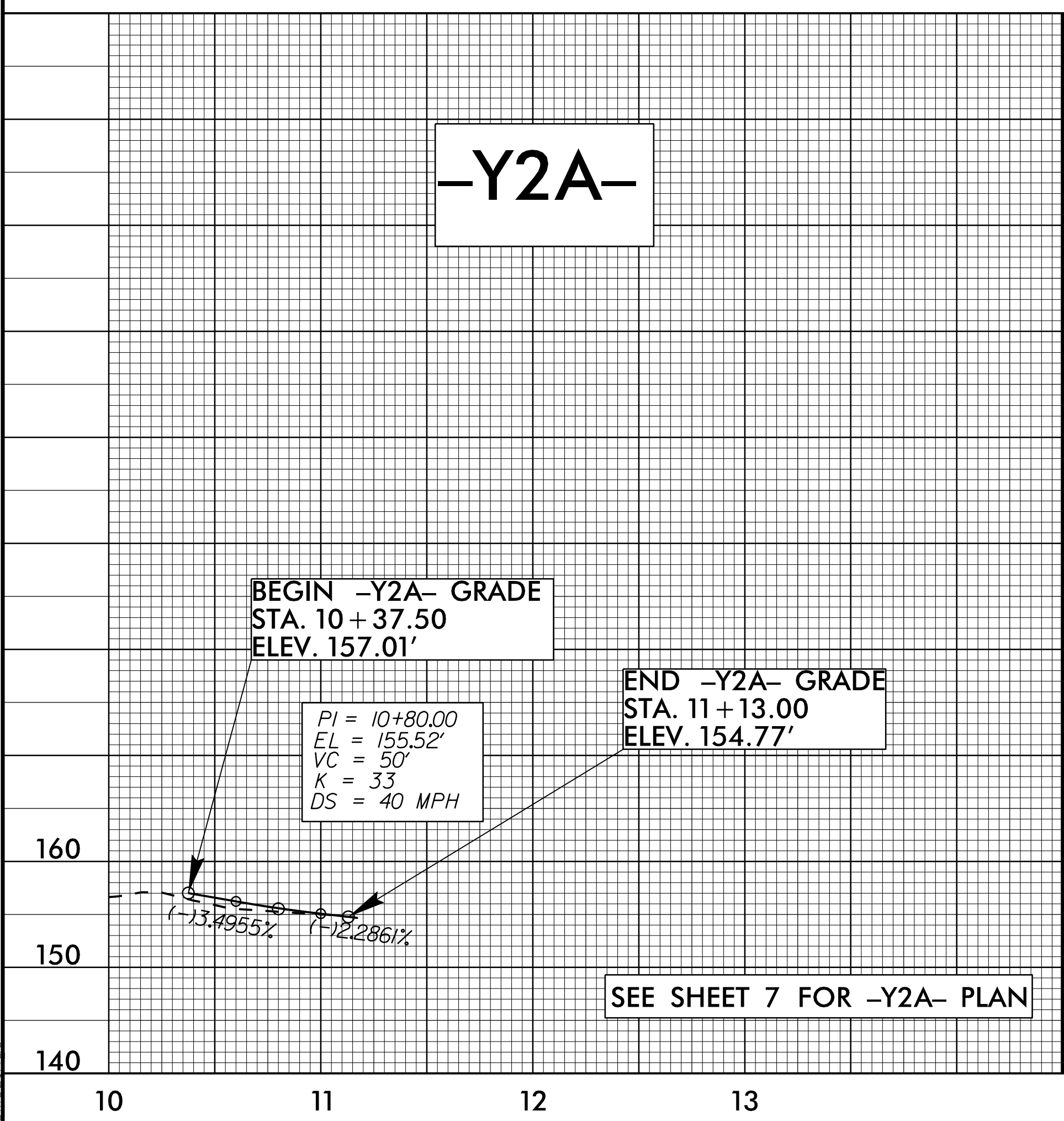
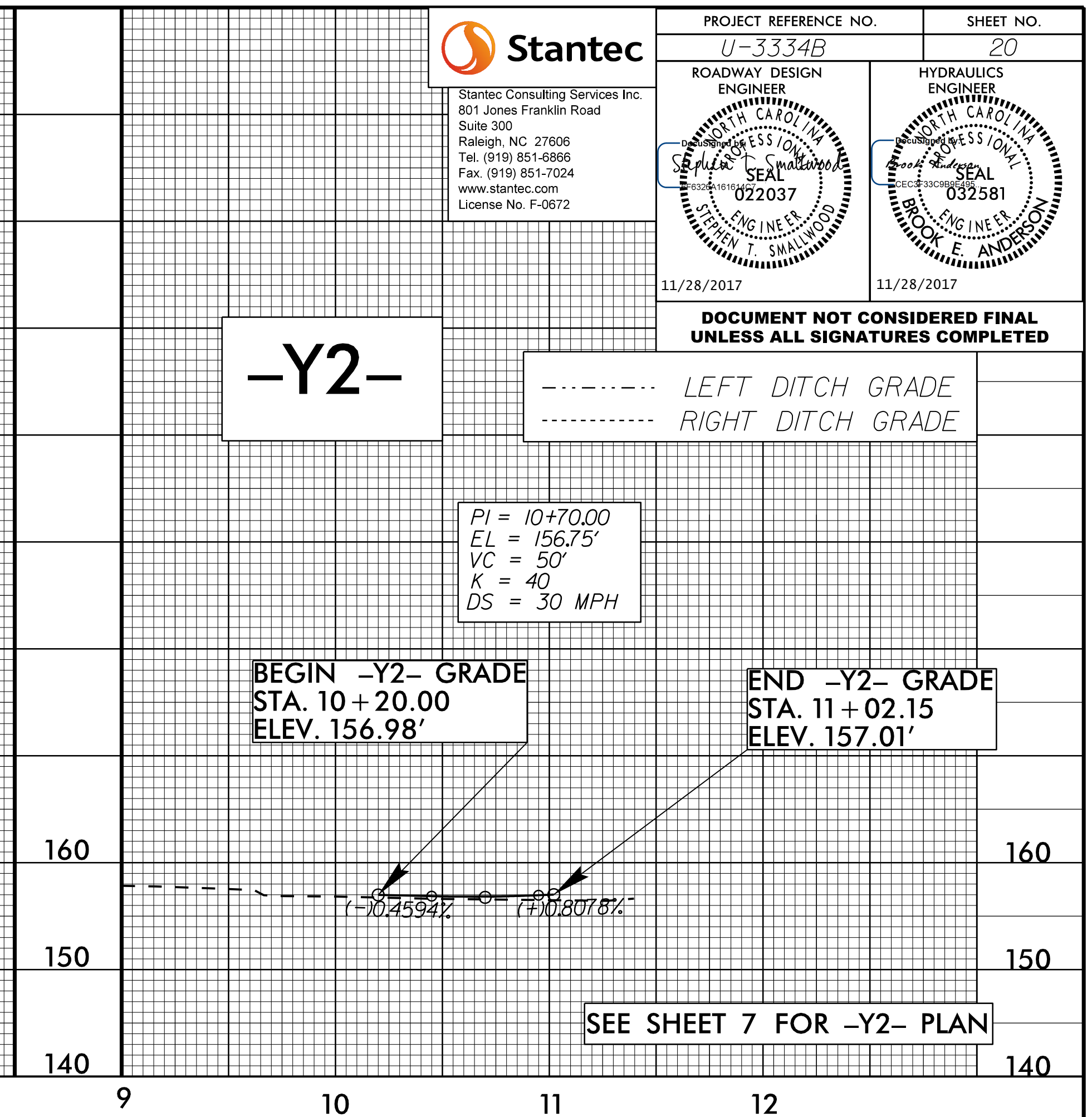
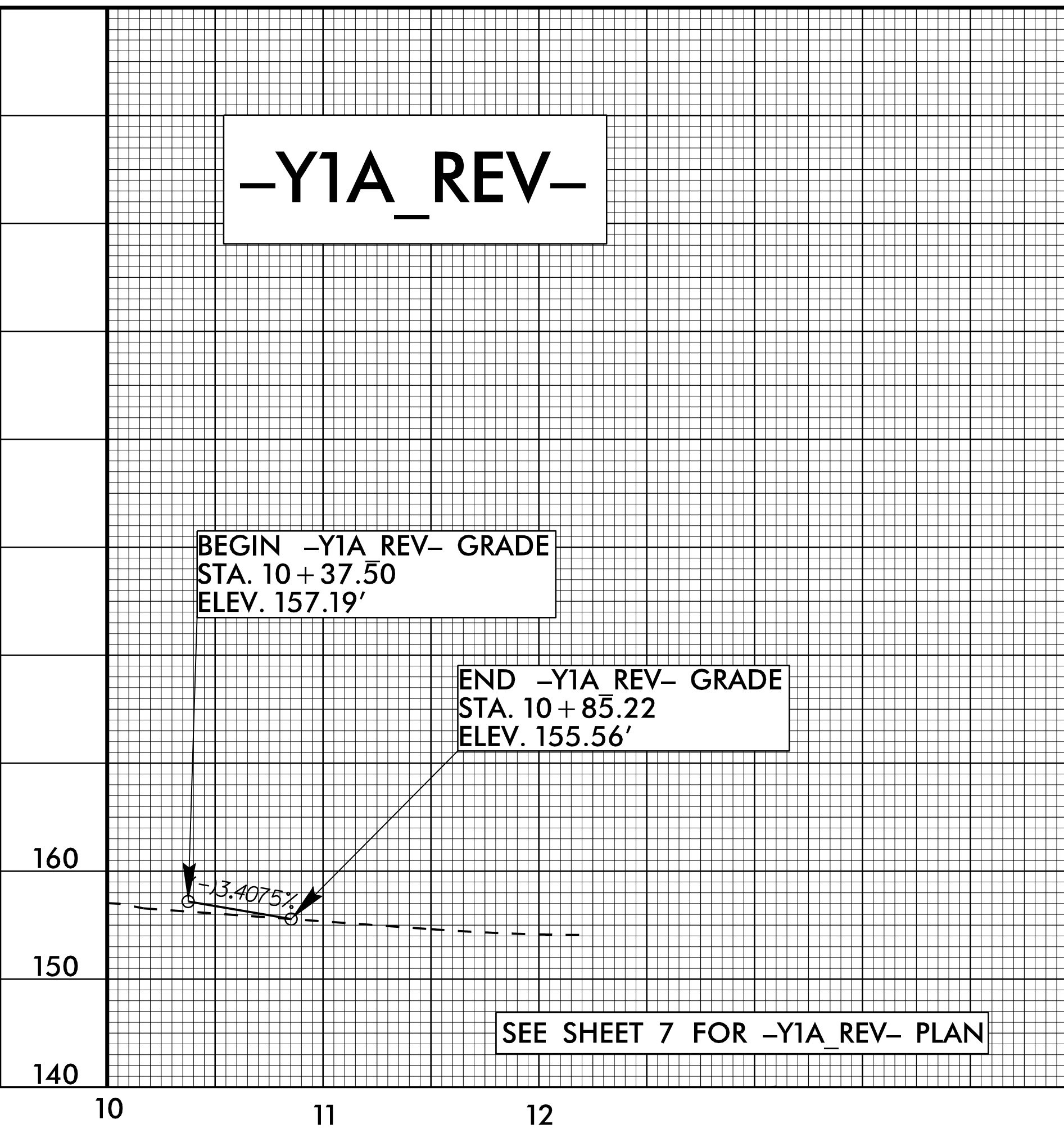
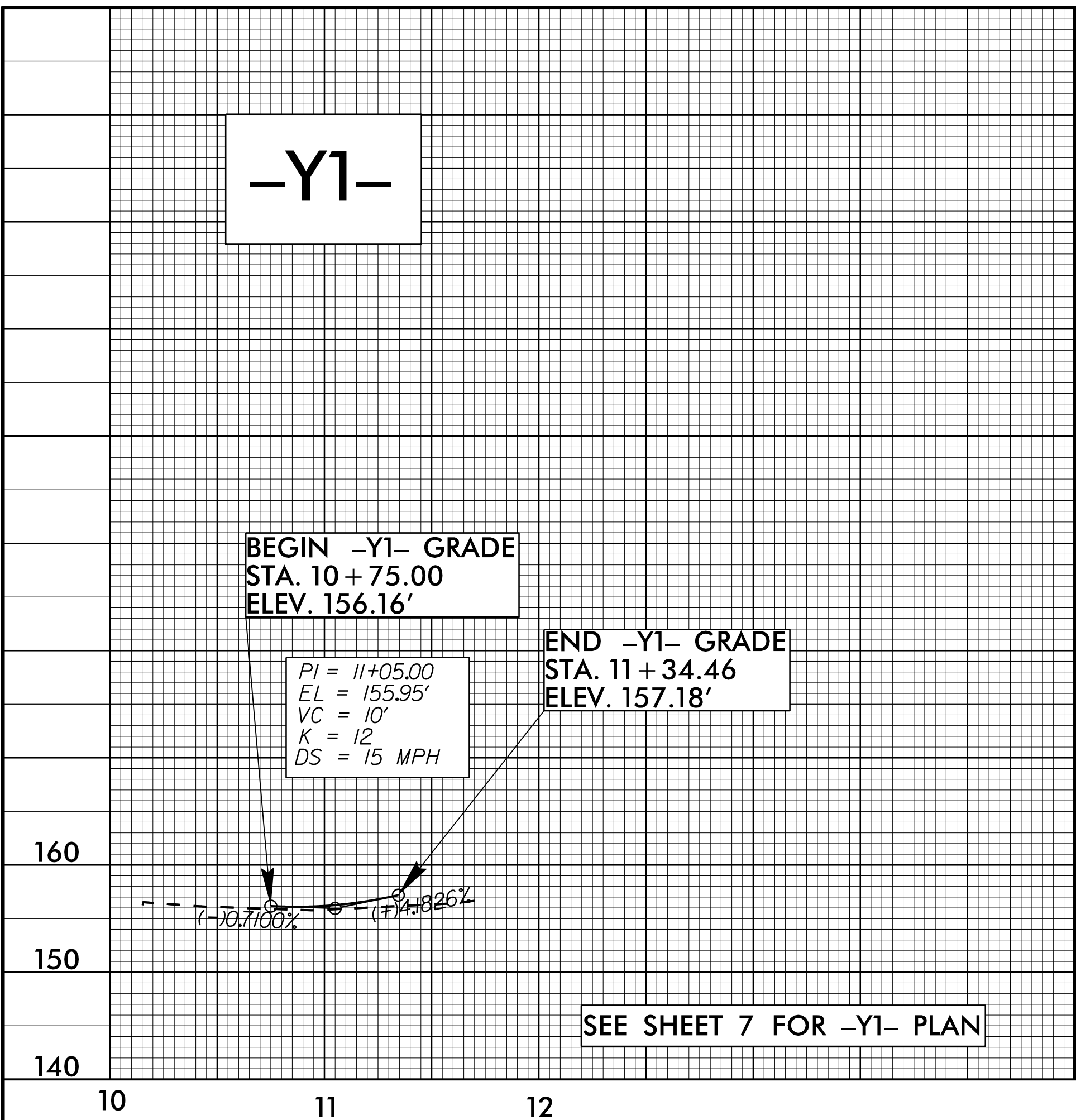
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PROJECT REFERENCE NO. U-3334B	SHEET NO. 20
ROADWAY DESIGN ENGINEER SEAL STEPHEN T. SMALLWOOD 022037 11/28/2017	HYDRAULICS ENGINEER SEAL BROOK E. ANDERSON 032581 11/28/2017

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----- LEFT DITCH GRADE
----- RIGHT DITCH GRADE



11/21/2017
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5/28/99

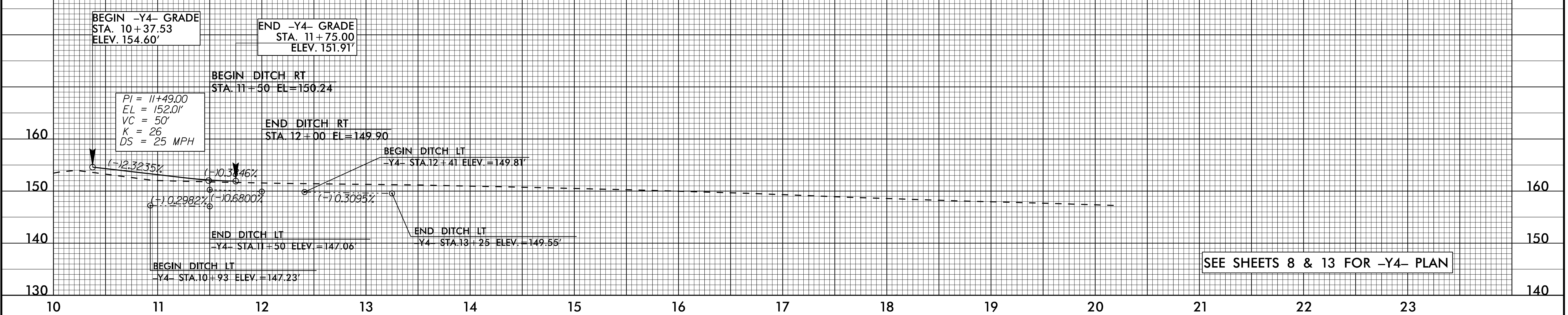


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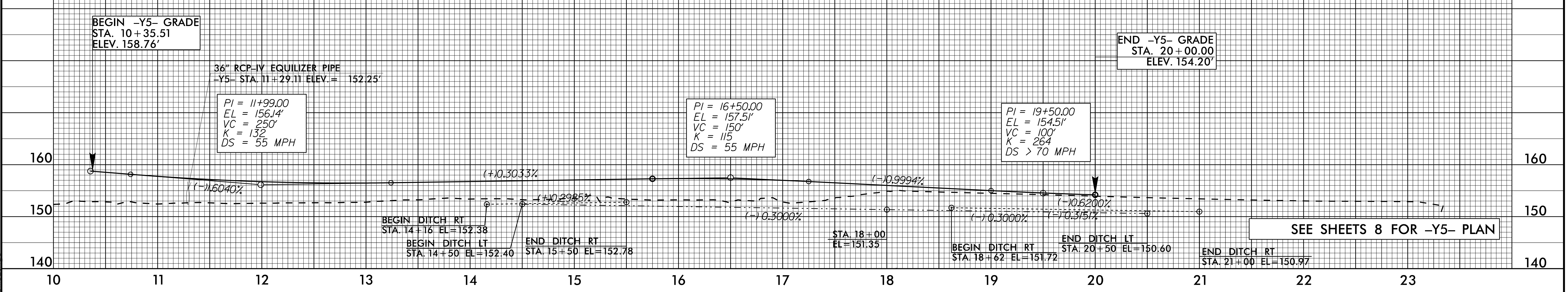
PROJECT REFERENCE NO. U-3334B	SHEET NO. 21
ROADWAY DESIGN ENGINEER SEAL STEPHEN T. SMALLWOOD 022037 11/28/2017	HYDRAULICS ENGINEER SEAL BROOK E. ANDERSON 032581 11/28/2017

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-Y4-



-Y5-



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5/28/19

SEE SHEET 14 FOR -Y6- PLAN

-Y6-

PIPE HYDRAULIC DATA	
DRAINAGE STRUCTURE NO.1406 Sta.11+55	
DRAINAGE AREA	= 0.34 AC
DESIGN FREQUENCY	= 25 YRS
DESIGN DISCHARGE	= 16184 CFS
DESIGN HW ELEVATION	= 152.8 FT
100 YEAR DISCHARGE	= 2 CFS
100 YEAR HW ELEVATION	= 152.9 FT
OVERTOPPING FREQUENCY	= 100(+)
OVERTOPPING DISCHARGE	= 7.4 CFS
OVERTOPPING ELEVATION	= 154.5 FT

PIPE HYDRAULIC DATA	
DRAINAGE STRUCTURE NO.1408 Sta.12+00	
DRAINAGE AREA	= 1 AC
DESIGN FREQUENCY	= 25 YRS
DESIGN DISCHARGE	= 476 CFS
DESIGN HW ELEVATION	= 152.3 FT
100 YEAR DISCHARGE	= 6 CFS
100 YEAR HW ELEVATION	= 152.6 FT
OVERTOPPING FREQUENCY	= 100(+)
OVERTOPPING DISCHARGE	= 5.9 CFS
OVERTOPPING ELEVATION	= 152.8 FT

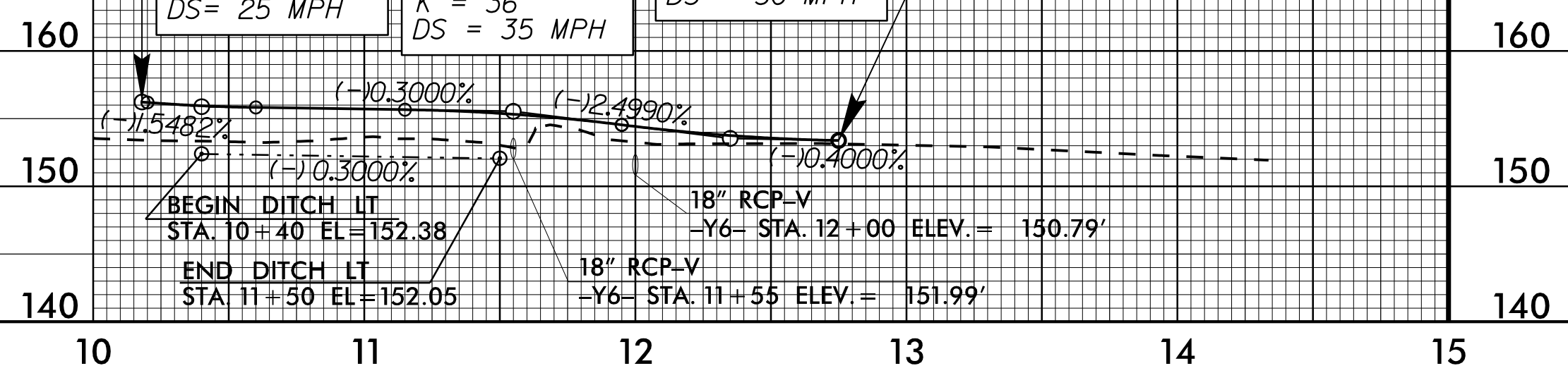
BEGIN -Y6- GRADE
STA. 10+17.99
ELEV. 156.22'

END -Y6- GRADE
STA. 12+75.00
ELEV. 153.38'

PI = 10+40.00
EL = 155.88'
VC = 40'
K = 32
DS = 25 MPH

PI = 11+55.00
EL = 155.54'
VC = 80'
K = 36
DS = 35 MPH

PI = 12+35.00
EL = 153.54'
VC = 80'
K = 38
DS = 30 MPH



PROJECT REFERENCE NO. U-3334B	SHEET NO. 22
ROADWAY DESIGN ENGINEER STEPHEN T. SMALLWOOD 022037	HYDRAULICS ENGINEER BROOK E. ANDERSON 032581
11/28/2017	11/28/2017

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

----- LEFT DITCH GRADE
----- RIGHT DITCH GRADE

-Y7-

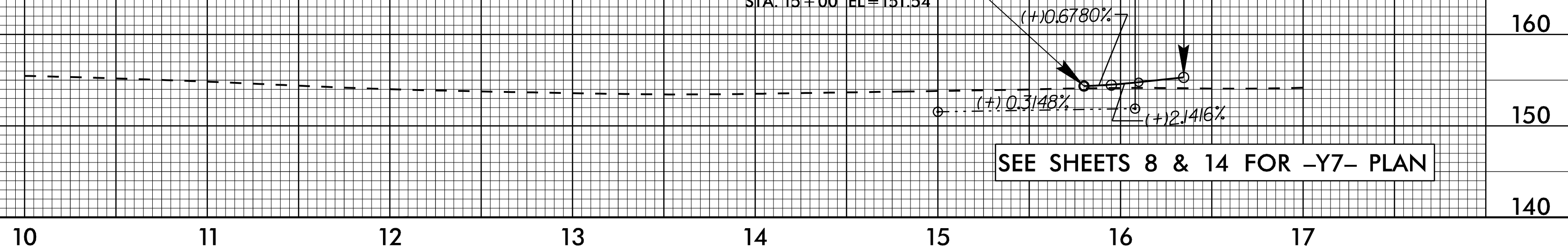
BEGIN -Y7- GRADE
STA. 15+80.00
ELEV. 154.35'

END -Y7- GRADE
STA. 16+34.61
ELEV. 155.30'

PI = 15+95.00
EL = 154.45'
VC = 30'
K = 21
DS = 20 MPH

BEGIN DITCH LT
STA. 15+00 EL=151.54

END DITCH LT
STA. 16+08 EL=151.1



SEE SHEETS 8 & 14 FOR -Y7- PLAN

-DRW1-

CULVERT DATA	
DRAINAGE AREA:	1.2 SQ. MI.
DESIGN FREQ:	10 YR
DESIGN DISCHARGE:	330 CFS
DESIGN H.W. ELEV.:	142.6 FT
1000 DISCHARGE:	500 CFS
1000 ELEV.:	143.8 FT
OVERTOPPING FREQ:	500+ YR
OVERTOPPING DISCHARGE:	600+ CFS
OVERTOPPING ELEVATION:	146.8 FT

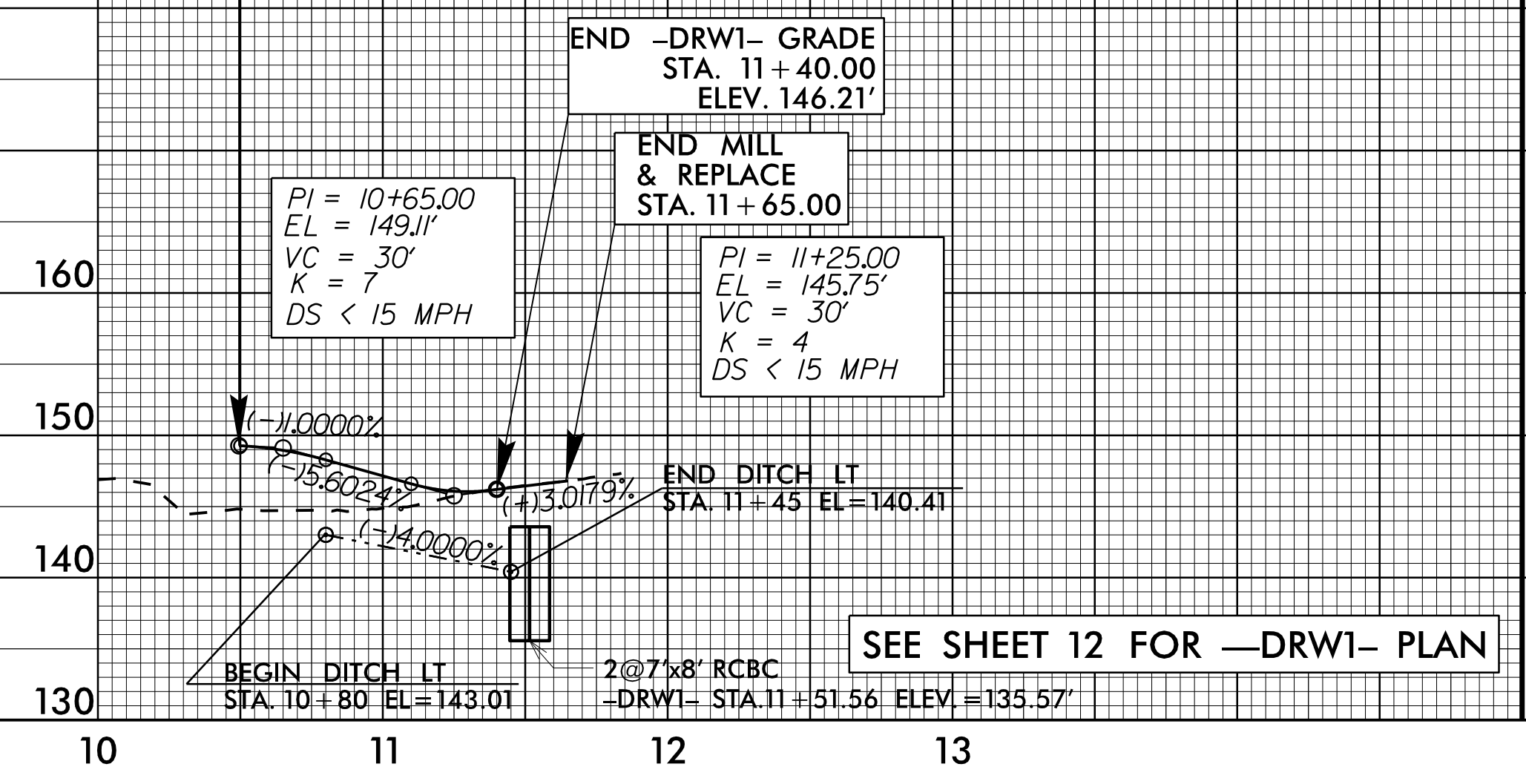
BEGIN -DRW1- GRADE
STA. 10+49.50
ELEV. 149.27

END -DRW1- GRADE
STA. 11+40.00
ELEV. 146.21'

PI = 10+65.00
EL = 149.11'
VC = 30'
K = 7
DS < 15 MPH

END MILL & REPLACE
STA. 11+65.00

PI = 11+25.00
EL = 145.75'
VC = 30'
K = 4
DS < 15 MPH



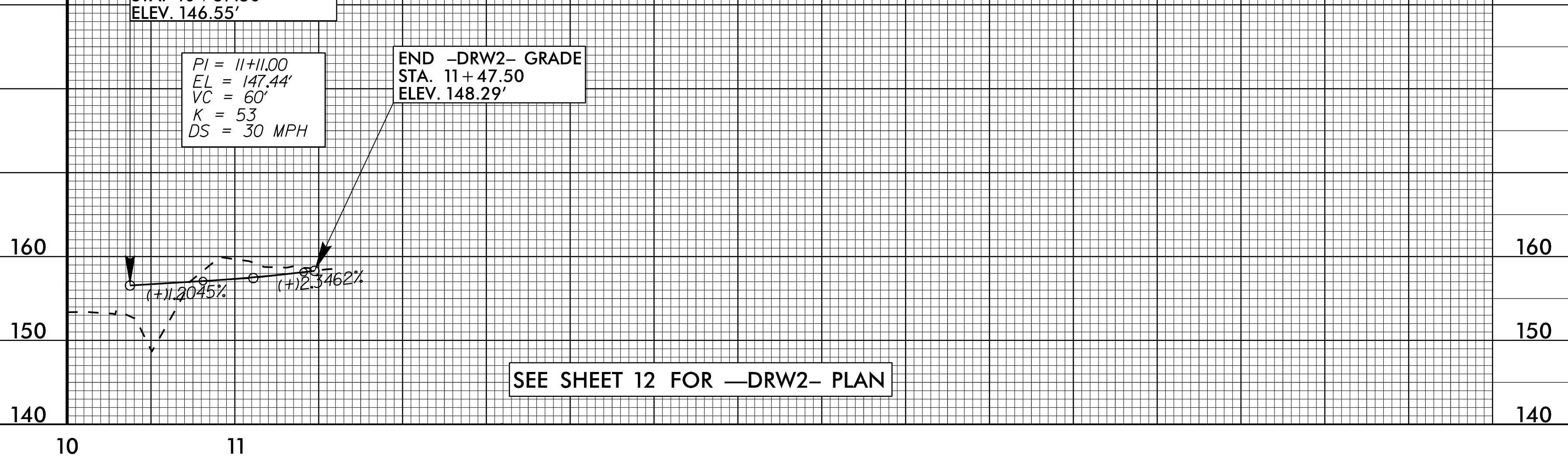
SEE SHEET 12 FOR -DRW1- PLAN

-DRW2-

BEGIN -DRW2- GRADE
STA. 10+37.50
ELEV. 146.55'

END -DRW2- GRADE
STA. 11+47.50
ELEV. 148.29'

PI = 11+11.00
EL = 147.44'
VC = 60'
K = 53
DS = 30 MPH



SEE SHEET 12 FOR -DRW2- PLAN

11/21/2017
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