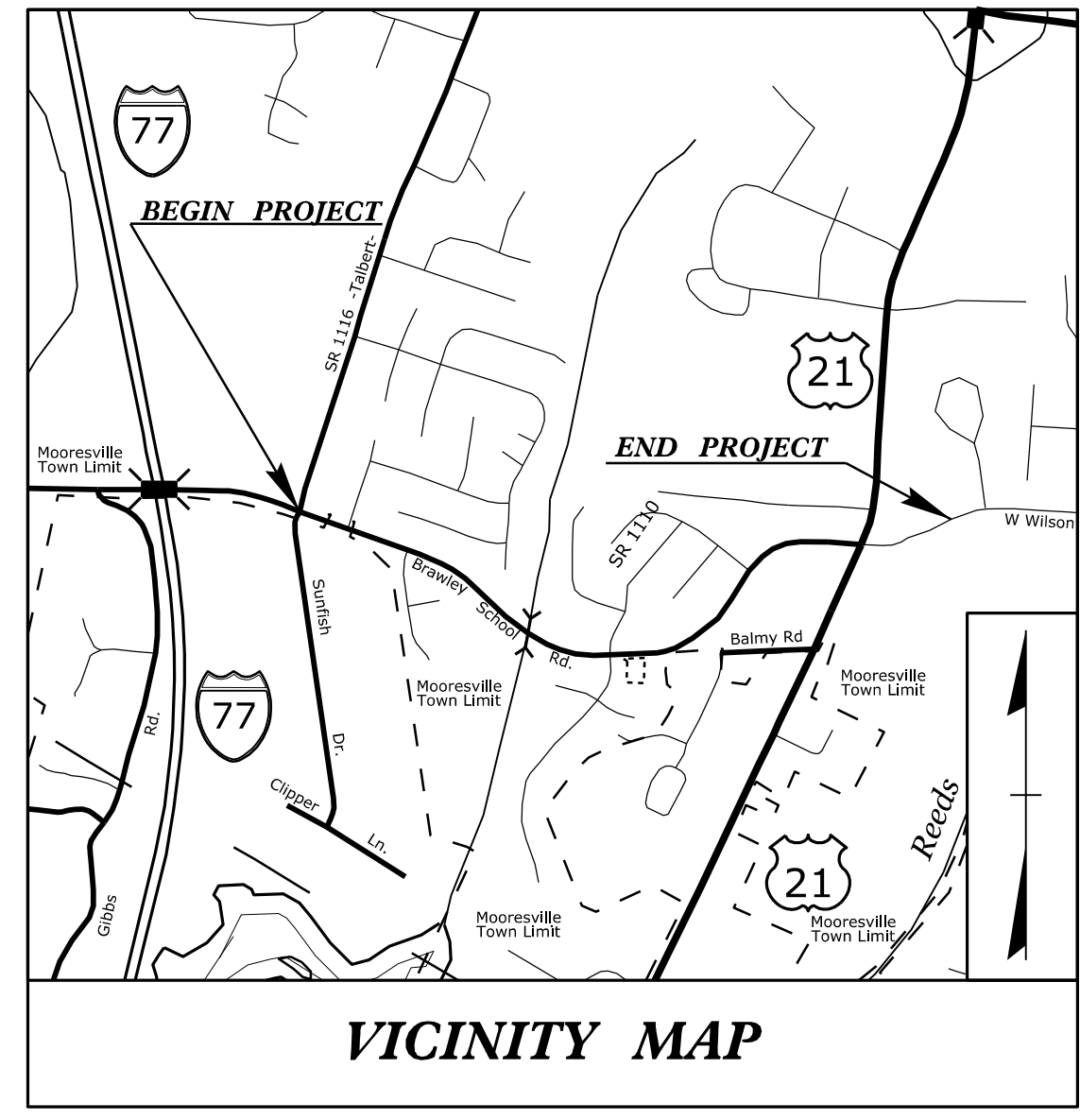


09.08/2019

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



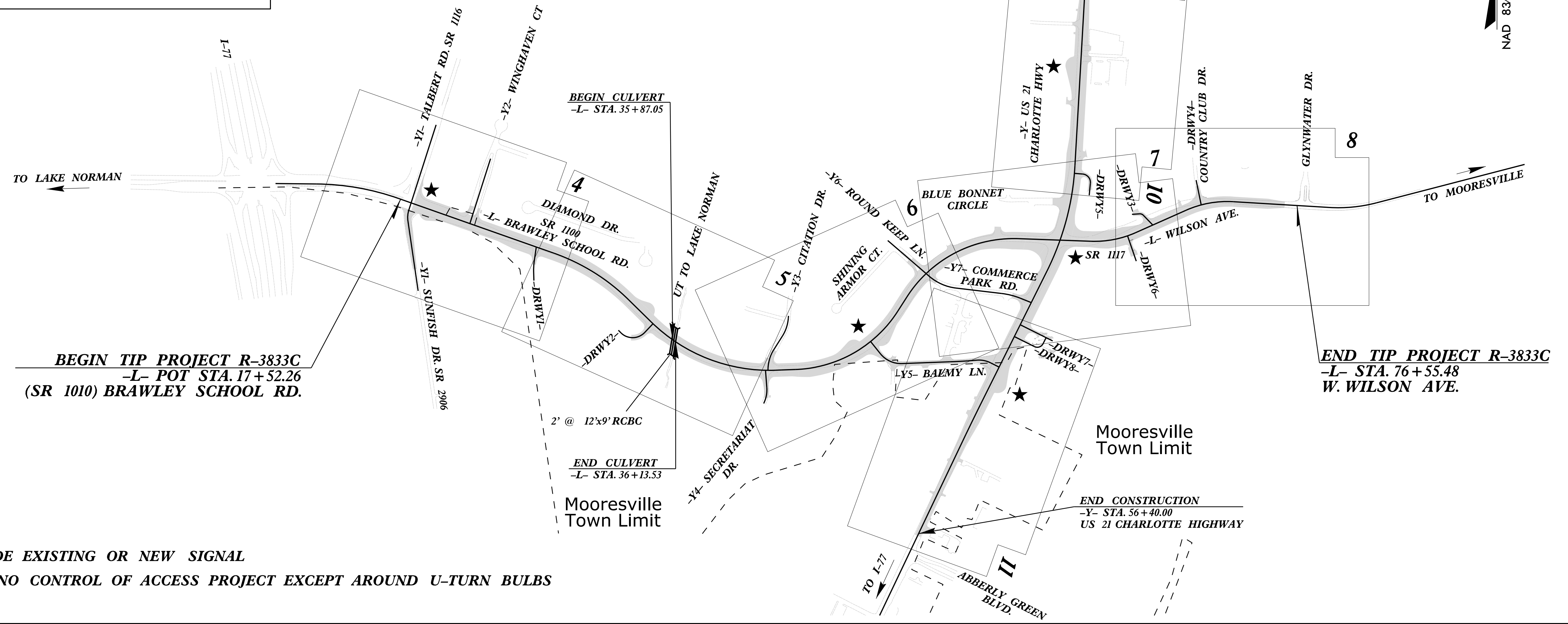
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS
IREDELL COUNTY

**LOCATION: SR 1100 BRAWLEY SCHOOL ROAD FROM
SR 1116 TALBERT ROAD TO
1000' EAST OF US 21**
**TYPE OF WORK: GRADING, PAVING, WIDENING,
DRAINAGE, CULVERT, WALLS, SIGNALS**

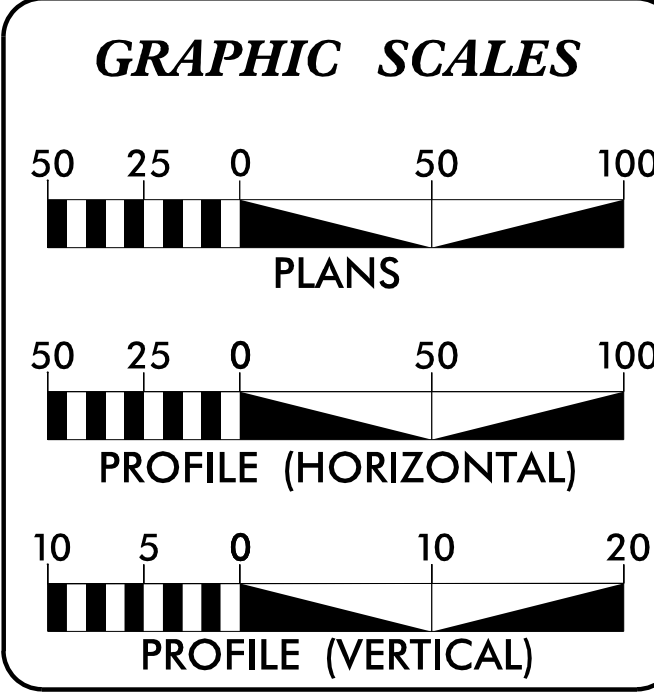
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	R-3833C	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
34554.1.3		P.E	
34554.2.4		R/W	
34554.2.5		UTIL	
34554.3.3		CONSTRUCTION	

TIP PROJECT: R-3833C

CONTRACT: C204852



★ UPGRADE EXISTING OR NEW SIGNAL
THIS IS A NO CONTROL OF ACCESS PROJECT EXCEPT AROUND U-TURN BULBS



DESIGN DATA

ADT 2023 =	21172
ADT 2040 =	28200
K =	10 %
D =	55 %
T =	4 % *
V =	45 MPH
* TTST =	1% DUAL = 3%
FUNCTIONAL CLASSIFICATION =	MAJOR RURAL COLLECTOR

PROJECT LENGTH

ROADWAY LENGTH TIP PROJECT R-3833C =	1.113 miles
STRUCTURE LENGTH TIP PROJECT R-3833C =	0.005 miles
TOTAL LENGTH TIP PROJECT R-3833C =	1.118 miles

Prepared In The Offices of:

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for the North Carolina Department of Transportation

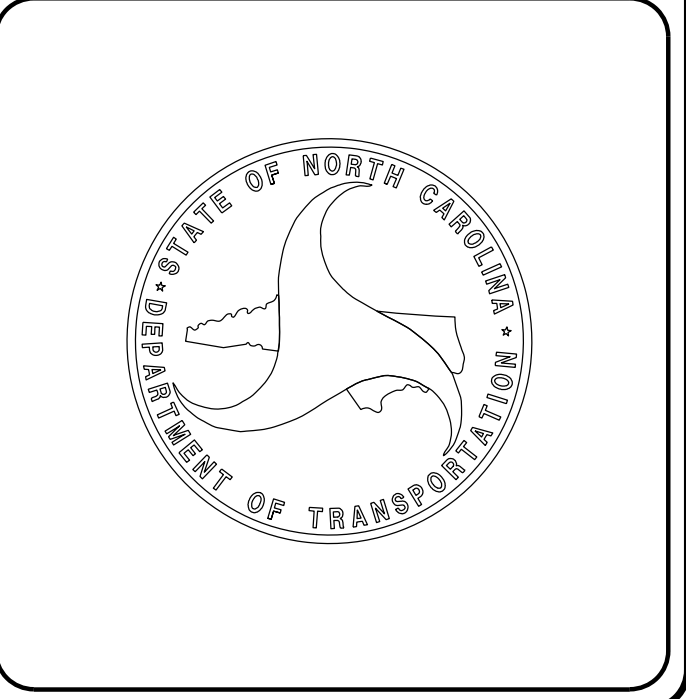
2018 STANDARD SPECIFICATIONS	STANTEC CONTACT: A. DEAN SARVIS, P.E. PROJECT ENGINEER
RIGHT OF WAY DATE: SEPTEMBER 30, 2018	NCDOT DIVISION 12 CONTACT: BRYAN SOWELL, PE PROJECT MANAGER
LETTING DATE: OCTOBER 17, 2023	

HYDRAULICS ENGINEER

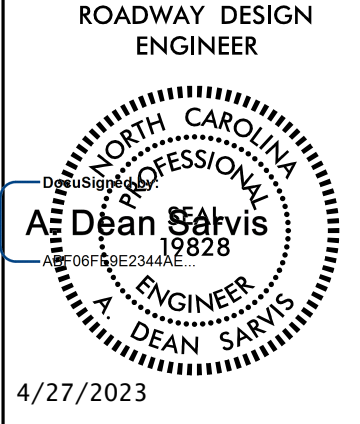
DocuSigned by:
Benjamin J. Henegar
P.E.
8/16/2023

ROADWAY DESIGN ENGINEER

DocuSigned by:
A. Dean Sarvis
P.E.
8/16/2023



8/16/2023
U:\Roadway\Proj\NR3833C.rdy_tsh.dgn
DSarvis



4/27/2023



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SHEET NUMBER	SHEET
1	TITLE SHEET
1A	INDEX OF SHEETS, GENERAL NOTES, AND LIST OF STANDARD DRAWINGS
1B	CONVENTIONAL SYMBOLS
2A-1 THRU 2A-5	PAVEMENT SCHEDULE, WEDGING DETAILS AND TYPICAL SECTIONS
2B-1 THRU 2B-4	INTERSECTION DETAIL SHEETS
2C-01	2' 9" CONCRETE CURB & GUTTER
2C-02	REINFORCED CONCRETE DRIVEWAY
2C-03	CURB RAMPS DIRECTIONAL RAMPS TYPES 1, 1 MODIFIED, 1A, 1B
2C-04	CURB RAMPS PARALLEL RAMPS TYPES 2, 2A, 2A MOD, 2B
2C-05	CURB RAMPS PARALLEL RAMPS TYPES 3, 3 MODIFIED
2C-06	CURB RAMPS MEDIAN OR TURN LANE ISLANDS TYPES 6, 7, 8
2C-07	GUARDRAIL PLACEMENT - ATTENUATORS
2C-08	GUARDRAIL INSTALLATION - SYSTEM PARTS
2C-09	CHAIN LINK FENCE ON RETAINING WALL
2C-10	DETAIL OF PIPE HANDRAIL MOUNTED ON A WALL
2C-11	8' GUARDRAIL POST
2C-12	PRECAST CONCRETE PARKING CURB
2D-1 THRU 2D-19	DRAINAGE DETAILS
2N-1	NOISE WALL ENVELOPE
3B-1	SUMMARY OF EARTHWORK
3B-2	GUARDRAIL SUMMARY
3B-3	ASPHALT PAVEMENT REMOVAL SUMMARY, ASPHALT PAVEMENT BREAKING SUMMARY, CHAIN LINK FENCE SUMMARY
3D-1 THRU 3D-11	LIST OF PIPES, ENDWALLS, ETC. (FOR PIPES 48 INCHES & UNDER)
3D-12	LIST OF PIPES, ENDWALLS, ETC. (FOR PIPES 54 INCHES & OVER)
3D-13	SUMMARY OF STORMWATER CONTROL MEASURES
3G-1	GEOTECHNICAL SUMMARIES
3P-1	PARCEL INDEX SHEET
4 THRU 11	PLAN SHEETS
12 THRU 19	PROFILE SHEETS
RW-1 THRU RW-11	R/W CONTROL SHEETS
TMP-1 THRU TMP-30	TRANSPORTATION MANAGEMENT PLANS
PMP-1 THRU PMP-9	PAVEMENT MARKING PLANS
EC-1 THRU EC-20	EROSION CONTROL PLANS
RF-1	REFORESTATION PLANS
SIGN-1 THRU SIGN-11	SIGNING PLANS
SIG-1.0 THRU SIG-14.2	SIGNAL PLANS
SIG.M1 THRU SIG.M8	STANDARD METAL POLE DRAWINGS
SCP-1 THRU SCP-10	TRAFFIC SIGNAL COMMUNICATIONS SYSTEM PLANS
UC-01 THRU UC-15	UTILITY CONSTRUCTION PLANS
UD-1 THRU UD-11	UTILITIES BY OTHERS PLANS
X-1	CROSS-SECTION INDEX
X-1A THRU X-1B	CROSS-SECTION EARTHWORK SUMMARY
X-2 THRU X-61	CROSS-SECTIONS
C-01 THRU C-16	CULVERT UNDER BRAWLEY SCHOOL ROAD @ 36+00.33
W-1 THRU W-9	RETAINING WALLS
NW2-1 THRU NW2-3	NOISE WALL 42+50.00 to 53+00 LEFT

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

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 & STD. NO. 225.05 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.

SUBSURFACE DRAINS:
 SUBSURFACE DRAINS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STD. NO. 815.02 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
 Windstream Communications Inc.-Phone/Fiber
 AT&T Distribution-Fiber
 Centerra (formerly Broadplex LLC)-Fiber
 Duke Energy-Electric
 Level 3 Communication (Century link)-Fiber
 Level 3 Communication (Century link)-Fiber
 Dominion Energy (SCANA (PSNC Energy)-Gas
 Time Warner Cable/Charter-CATV
 Town of Mooresville-Water/Sewer

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

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

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 EFF. 01-16-2018

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 Superlevation - Two Lane Pavement
225.05	Method of Obtaining Superlevation - Divided Highways
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	
815.02	Subsurface Drain
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
840.04	Concrete Open Throat Catch Basin - 12" thru 48" Pipe
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
840.24	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
840.30	Driveway Drop Inlet
840.31	Concrete Junction Box - 12" thru 66" Pipe
840.32	Brick Junction Box - 12" thru 66" Pipe
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
840.51	Brick Manhole - 12" thru 36" Pipe
840.52	Precast Manhole - 4', 5' and 6' Diameter
840.53	Precast Manhole with Masonry Base - 12" thru 42" Pipe
840.54	Manhole Frame and Cover
840.66	Drainage Structure Steps
840.71	Concrete and Brick Pipe Plug
840.72	Pipe Collar
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
848.06	Curb Ramp - Existing Curb & Gutter
850.01	Concrete Paved Ditches
852.01	Concrete Islands
852.04	Method for Placement of Drop Inlets in Grassed Median - Using 1'-6" Curb and Gutter
852.06	Method for Placement of Drop Inlets in Concrete Islands
852.10	Median Construction - with Curb and Gutter
857.01	Precast Reinforced Concrete Barrier - 41" Single Faced
862.01	Guardrail Placement
862.02	Guardrail Installation
866.01	Chain Link Fence - 4', 5' and 6' High Fence
876.01	Rip Rap in Channels
876.02	Guide for Rip Rap at Pipe Outlets
876.04	Drainage Ditches with Class 'B' Rip Rap

STATE OF NORTH CAROLINA, DIVISION OF HIGHWAYS CONVENTIONAL PLAN SHEET SYMBOLS

Note: Not to Scale

BOUNDARIES AND PROPERTY:

State Line	-----
County Line	-----
Township Line	-----
City Line	-----
Reservation Line	-----
Property Line	-----
Existing Iron Pin (EIP)	○
Computed Property Corner	×
Existing Concrete Monument (ECM)	□
Parcel/Sequence Number	(123)
Existing Fence Line	-x-x-x-
Proposed Woven Wire Fence	○
Proposed Chain Link Fence	□
Proposed Barbed Wire Fence	◇
Existing Wetland Boundary	-WLB-
Proposed Wetland Boundary	-WLB-
Existing Endangered Animal Boundary	-EAB-
Existing Endangered Plant Boundary	-EPB-
Existing Historic Property Boundary	-HPB-
Known Contamination Area: Soil	-S-S-
Potential Contamination Area: Soil	-S-S-
Known Contamination Area: Water	-W-W-
Potential Contamination Area: Water	-W-W-
Contaminated Site: Known or Potential	☠ ?

BUILDINGS AND OTHER CULTURE:

Gas Pump Vent or U/G Tank Cap	○
Sign	○
Well	○
Small Mine	×
Foundation	□
Area Outline	□
Cemetery	+
Building	□
School	□
Church	+
Dam	—

HYDROLOGY:

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

RAILROADS:

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

RIGHT OF WAY & PROJECT CONTROL:

Primary Horiz Control Point	○
Primary Horiz and Vert Control Point	●
Secondary Horiz and Vert Control Point	◆
Vertical Benchmark	⊠
Existing Right of Way Monument	△
Proposed Right of Way Monument (Rebar and Cap)	▲
Proposed Right of Way Monument (Concrete)	▲
Existing Permanent Easement Monument	◇
Proposed Permanent Easement Monument (Rebar and Cap)	◆
Existing C/A Monument	△
Proposed C/A Monument (Rebar and Cap)	▲
Proposed C/A Monument (Concrete)	▲
Existing Right of Way Line	-----
Proposed Right of Way Line	-----
Existing Control of Access Line	-----
Proposed Control of Access Line	-----
Proposed ROW and CA Line	-----
Existing Easement Line	-----
Proposed Temporary Construction Easement	-----
Proposed Temporary Drainage Easement	-----
Proposed Permanent Drainage Easement	-----
Proposed Permanent Drainage/Utility Easement	-----
Proposed Permanent Utility Easement	-----
Proposed Temporary Utility Easement	-----
Proposed Aerial Utility Easement	-----

ROADS AND RELATED FEATURES:

Existing Edge of Pavement	-----
Existing Curb	-----
Proposed Slope Stakes Cut	-C-
Proposed Slope Stakes Fill	-F-
Proposed Curb Ramp	○
Existing Metal Guardrail	-----
Proposed Guardrail	-----
Existing Cable Guiderail	-----
Proposed Cable Guiderail	-----
Equality Symbol	⊕
Pavement Removal	⊗
VEGETATION:	
Single Tree	○
Single Shrub	○
Hedge	-----

Woods Line	-----
Orchard	-----
Vineyard	-----

EXISTING STRUCTURES:

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

UTILITIES:

* SUE - Subsurface Utility Engineering
LOS - Level of Service - A,B,C or D (Accuracy)

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 Test Hole (SUE - LOS A)*	⊗
U/G Power Line (SUE - LOS B)*	-----
U/G Power Line (SUE - LOS C)*	-----
U/G Power Line (SUE - LOS D)*	-----

TELEPHONE:

Existing Telephone Pole	●
Proposed Telephone Pole	○
Telephone Manhole	○
Telephone Pedestal	⊠
Telephone Cell Tower	⊠
U/G Telephone Cable Hand Hole	□
U/G Telephone Test Hole (SUE - LOS A)*	⊗
U/G Telephone Cable (SUE - LOS B)*	-----
U/G Telephone Cable (SUE - LOS C)*	-----
U/G Telephone Cable (SUE - LOS D)*	-----
U/G Telephone Conduit (SUE - LOS B)*	-----
U/G Telephone Conduit (SUE - LOS C)*	-----
U/G Telephone Conduit (SUE - LOS D)*	-----
U/G Fiber Optics Cable (SUE - LOS B)*	-----
U/G Fiber Optics Cable (SUE - LOS C)*	-----
U/G Fiber Optics Cable (SUE - LOS D)*	-----

WATER:

Water Manhole	○
Water Meter	○
Water Valve	⊗
Water Hydrant	⊕
U/G Water Line Test Hole (SUE - LOS A)*	⊗
U/G Water Line (SUE - LOS B)*	-----
U/G Water Line (SUE - LOS C)*	-----
U/G Water Line (SUE - LOS D)*	-----
Above Ground Water Line	-----

TV:

TV Pedestal	□
TV Tower	⊗
U/G TV Cable Hand Hole	□
U/G TV Test Hole (SUE - LOS A)*	⊗
U/G TV Cable (SUE - LOS B)*	-----
U/G TV Cable (SUE - LOS C)*	-----
U/G TV Cable (SUE - LOS D)*	-----
U/G Fiber Optic Cable (SUE - LOS B)*	-----
U/G Fiber Optic Cable (SUE - LOS C)*	-----
U/G Fiber Optic Cable (SUE - LOS D)*	-----

GAS:

Gas Valve	◇
Gas Meter	⊕
U/G Gas Line Test Hole (SUE - LOS A)*	⊗
U/G Gas Line (SUE - LOS B)*	-----
U/G Gas Line (SUE - LOS C)*	-----
U/G Gas Line (SUE - LOS D)*	-----
Above Ground Gas Line	-----

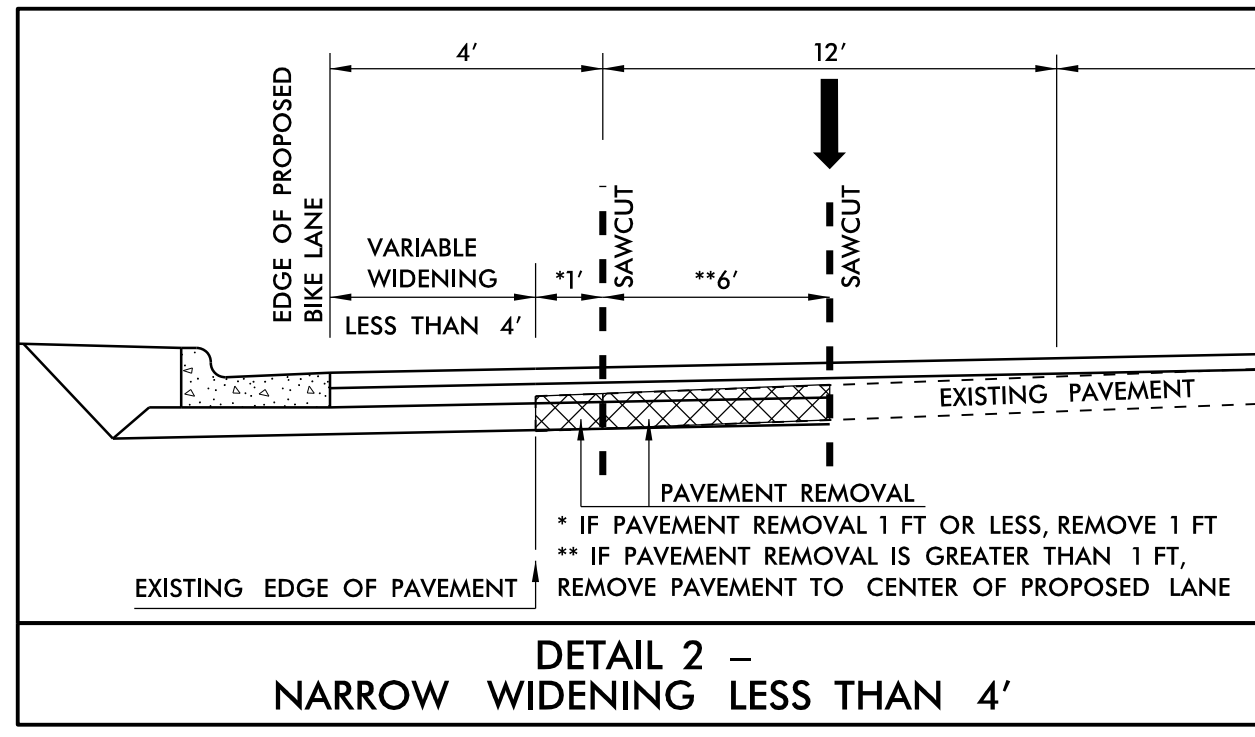
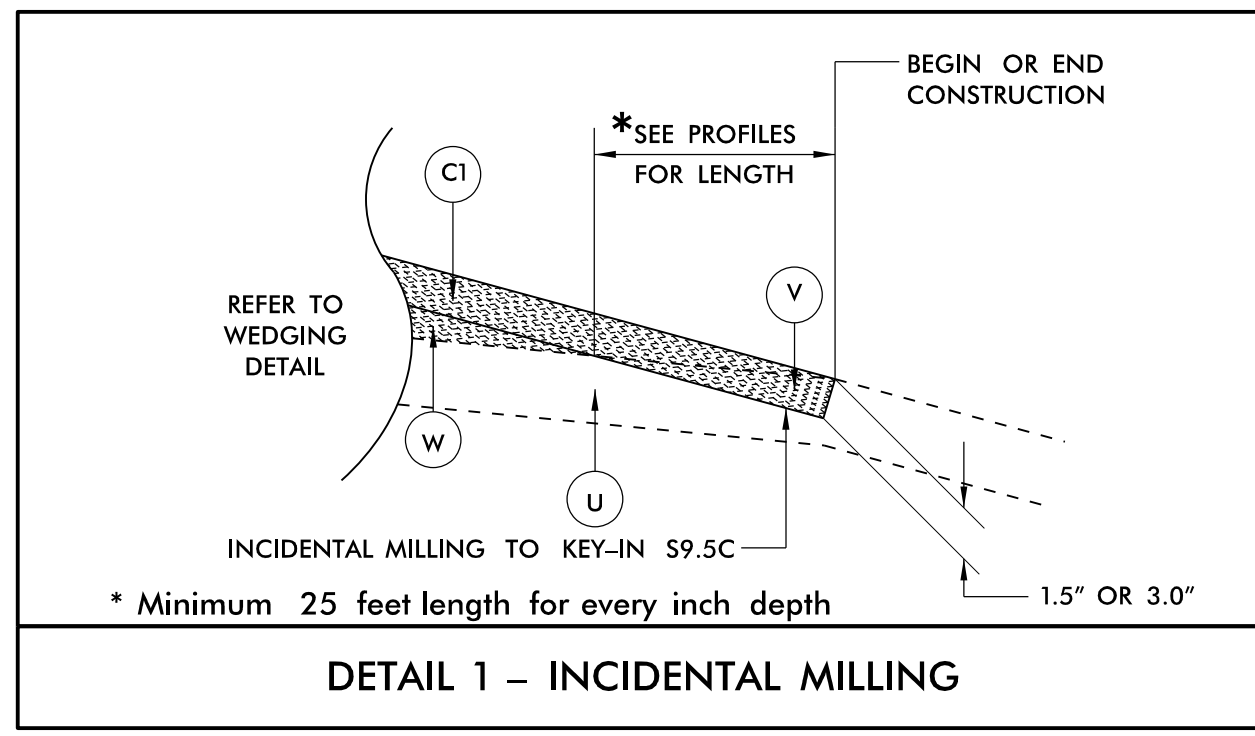
SANITARY SEWER:

Sanitary Sewer Manhole	⊕
Sanitary Sewer Cleanout	⊕
U/G Sanitary Sewer Line	-----
Above Ground Sanitary Sewer	-----
SS Force Main Line Test Hole (SUE - LOS A)*	⊗
SS Force Main Line (SUE - LOS B)*	-----
SS Force Main Line (SUE - LOS C)*	-----
SS Force Main Line (SUE - LOS D)*	-----

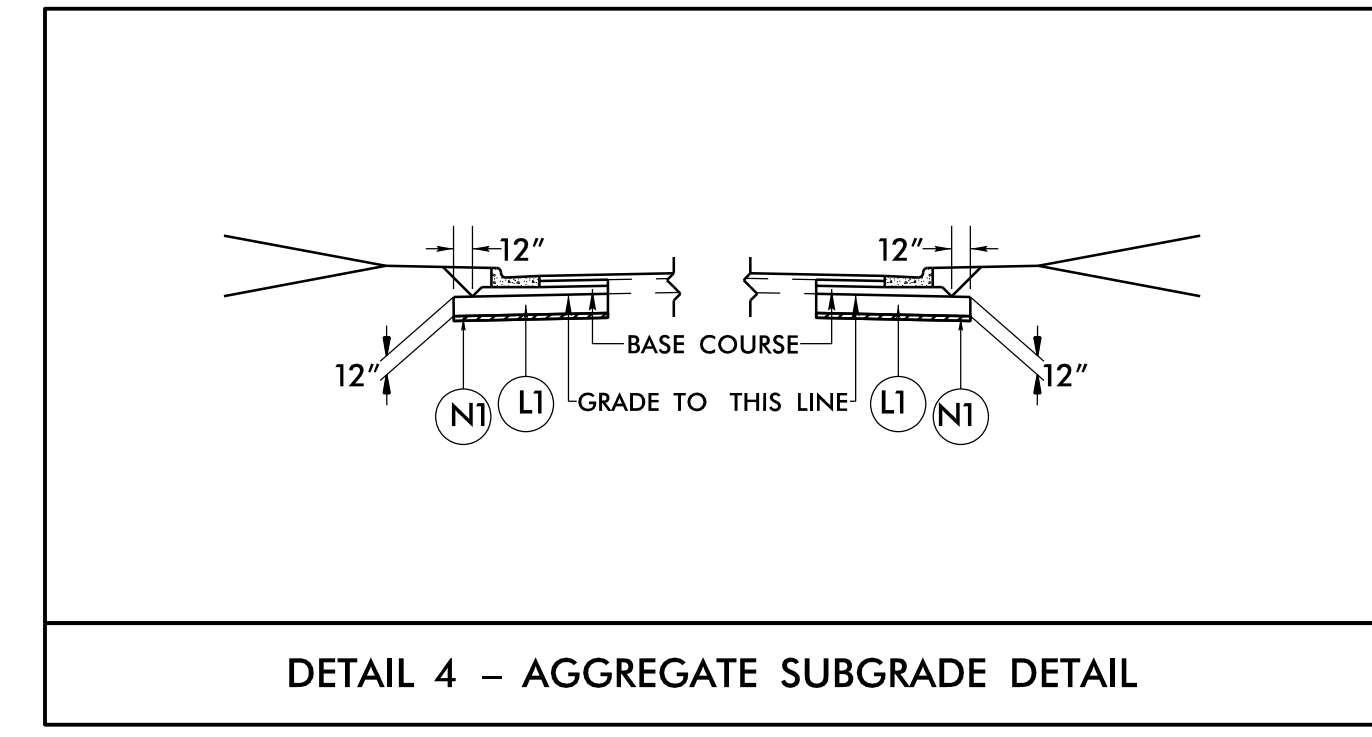
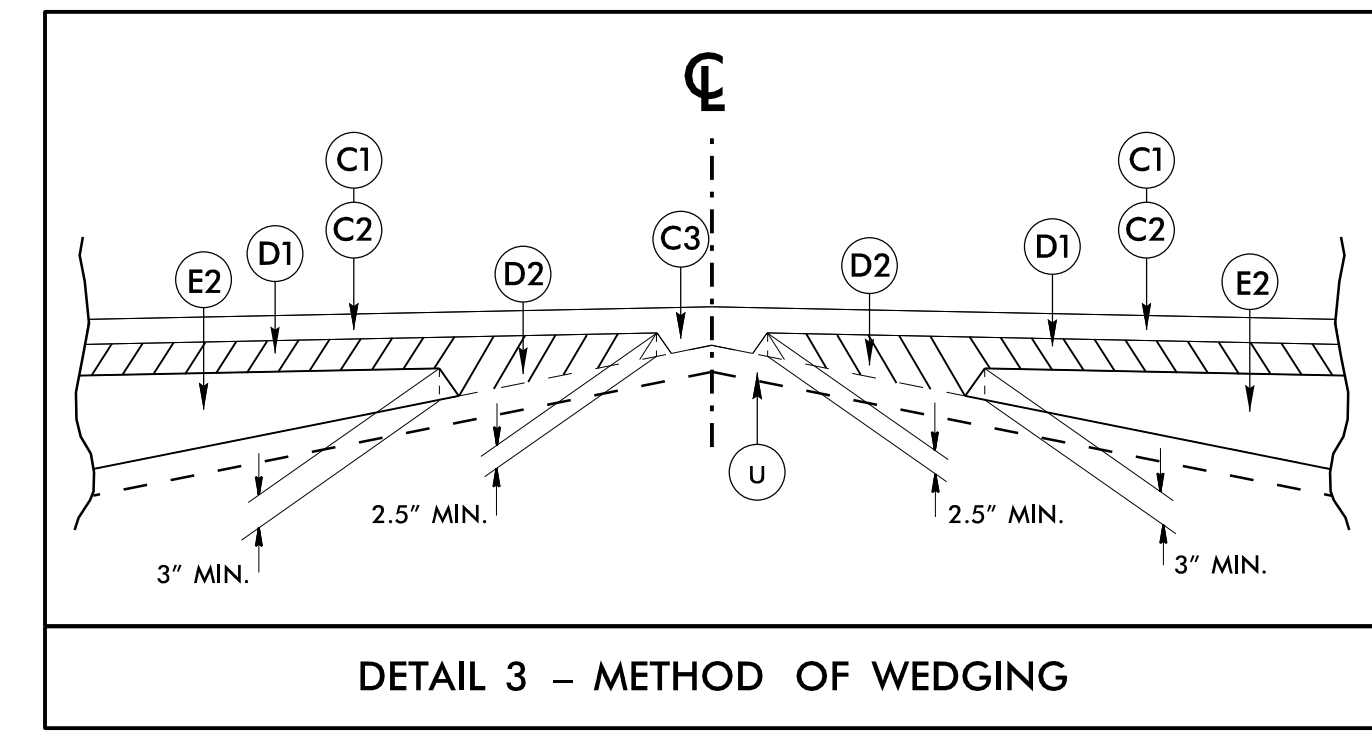
MISCELLANEOUS:

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

5/14/23



- NOTE: ASSUMING MINIMAL WIDTH TO OBTAIN COMPACTION IS 5' AND THE DESIRE TO KEEP THE SAWCUT OUT OF THE PROPOSED WHEELPATH
- L- LT 54+20.26 TO 55+34.27
 - L- LT 56+02.69 TO 57+18.12
 - Y- LT 14+21.03 TO 15+79.39
 - Y- RT 14+62.20 TO 14+62.20
 - Y- LT 52+39.33 TO 53+70.14
 - Y- RT 51+86.43 TO 53+56.60
 - Y1- LT 17+79.28 TO 18+84.36
 - Y3- ENTRANCE RADII
 - Y5- LT & RT 12+03.17 TO 16+69.62
 - Y6- ENTRANCE RADII



- L- 21+00.00 to 23+50.00
- L- 71+25.00 to 72+25.00
- L- 74+00.00 to 75+50.00
- Y- 19+25.00 to 25+00.00
- Y5- 15+00.00 to 17+50.00

PROJECT REFERENCE NO. <i>R-3833C</i>	SHEET NO. <i>2A-1</i>
ROADWAY DESIGN ENGINEER <i>A. Dean Sahvis</i> 19828	PAVEMENT DESIGN ENGINEER <i>James R. Hain</i> 39779
5/18/2023	5/18/2023
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	
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Stantec Consulting Services Inc 801 Jones Franklin Road Suite 300 Raleigh, NC 27606 Tel. (919) 851-6866 Fax. (919) 851-7024 www.stantec.com License No. F-0672	

PAVEMENT SCHEDULE

C1	PROP. APPROX. 1½" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.	L1	PROPOSED 12" CLASS IV SUBGRADE STABILIZATION	S	4" CONCRETE SIDEWALK & MULTI-USE PATH
C2	PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. IN EACH OF TWO LAYERS	N1	GEOTEXTILE FOR SUBGRADE STABILIZATION	T	EARTH MATERIAL
C3	PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 112 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT TO EXCEED 2" IN DEPTH.	R1	2'-9" CONCRETE CURB AND GUTTER	U	EXISTING PAVEMENT
D1	PROP. APPROX. 4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.	R2	2'-6" CONCRETE CURB AND GUTTER	V	INCIDENTAL MILLING
D2	PROP. VAR. DEPTH ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH, TO BE PLACED IN LAYERS NOT LESS THAN 2½" IN DEPTH OR GREATER THAN 4" IN DEPTH.	R3	1'-6" CONCRETE CURB AND GUTTER	W	WEDGING (SEE DETAIL SHEET 2A-1)
E1	PROP. APPROX. 4" ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.	R4	5" MONOLITHIC CONCRETE ISLAND (KEYED IN)		
E2	PROP. VAR. DEPTH ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT LESS THAN 3" IN DEPTH OR GREATER THAN 5½" IN DEPTH.	R5	8"X18" CONCRETE CURB AND GUTTER		

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

-L- TEMPORARY PAVEMENT SCHEDULE AT CULVERT EXTENSION	
C2	PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. IN EACH OF TWO LAYERS
E1	PROP. APPROX. 4" ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.

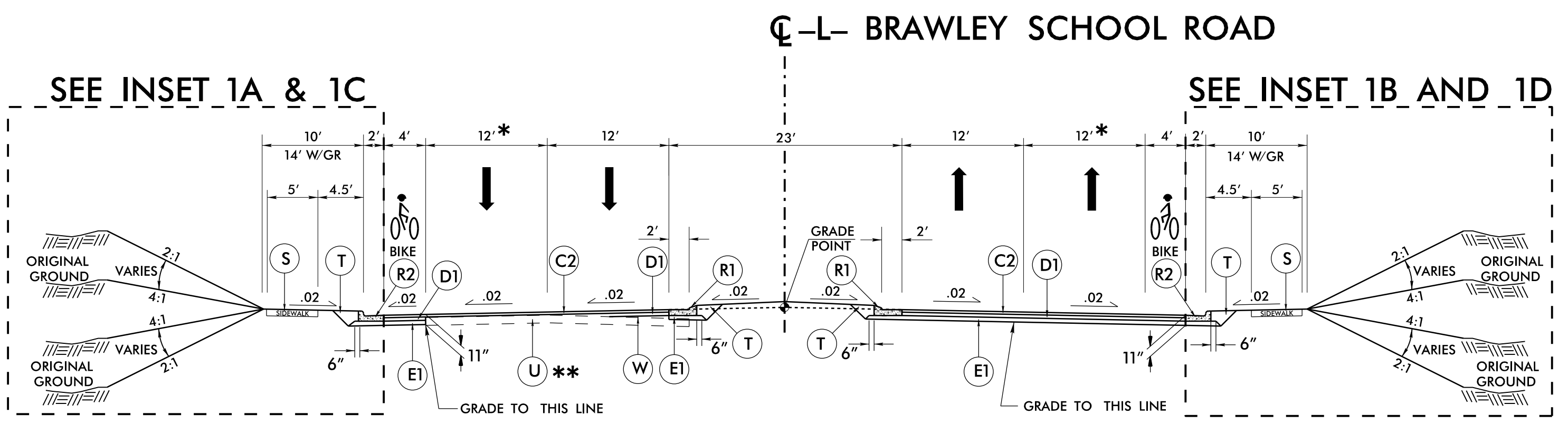
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PROJECT REFERENCE NO. R-3833C	SHEET NO. 2A-2
ROADWAY DESIGN ENGINEER A. Dean Sallis Professional Engineer No. 19828	PAVEMENT DESIGN ENGINEER Professional Engineer No. 39779
5/18/2023	5/18/2023

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

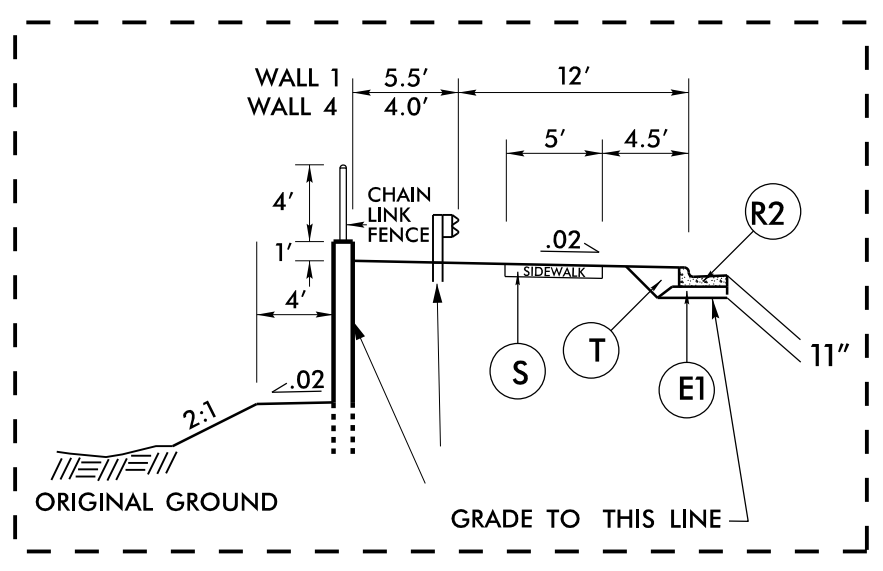
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FALCON ENGINEERING, INC.
1210 TRINITY ROAD, SUITE 110
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Suite 300
Raleigh, NC 27606
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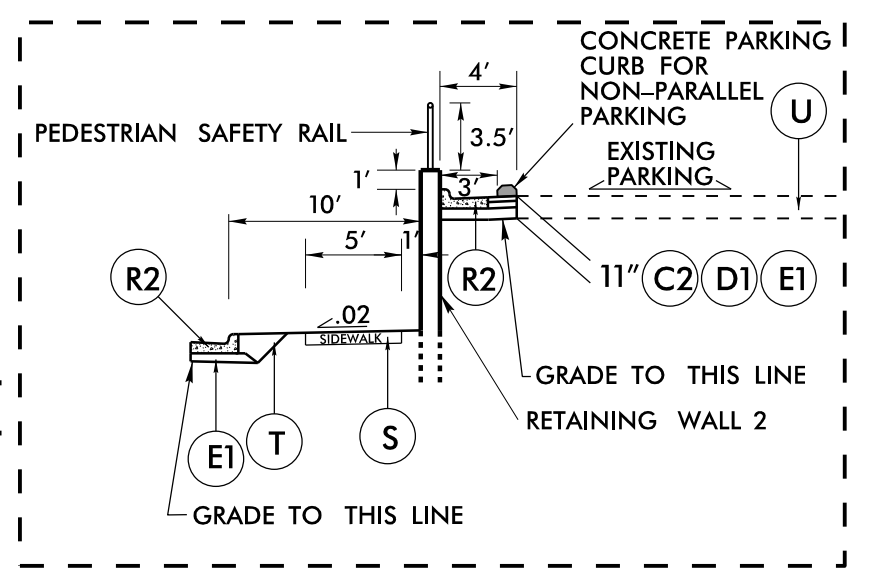
TYPICAL SECTION NO. 1

- L- STA. 18+42.13 TO 18+79.13 (3" MILL AND FILL, NO GRADE POINT)
- STA. 18+79.13 TO 20+40.00 (3" RESURFACING, NO GRADE POINT)
- L- STA. 20+40.00 TO STA. 62+08.78 (PROFILE WITH GRADE POINT)
- L- STA. 32+00 +/- TO STA. 40+50 +/- LEFT
- L- STA. 34+06 +/- TO STA. 38+00 +/- LEFT
- TEMPORARY PAVEMENT 3" S9.5C, 4" B25.0C
- SEE TMP-5



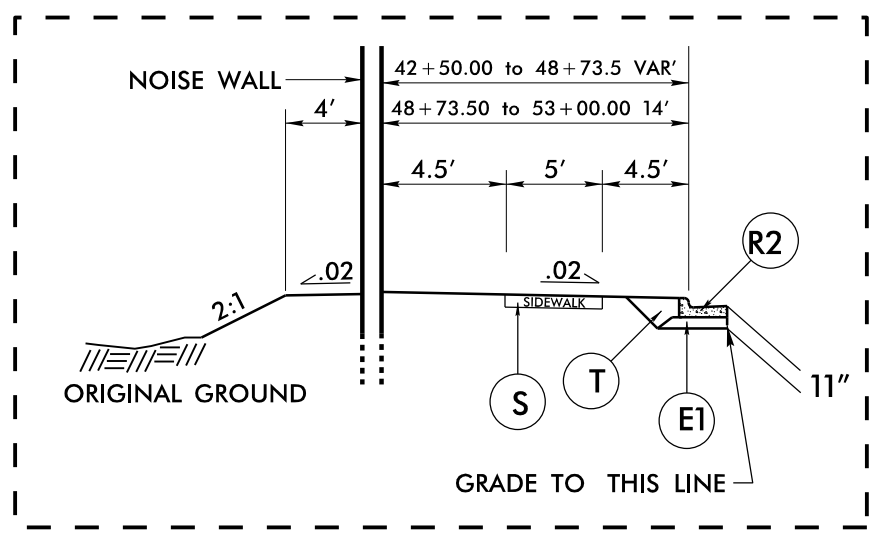
INSET 1A

USE TOGETHER WITH TYPICAL SECTION 1 AT:
-L- STA. 25+20.00 TO STA. 32+41.17 LEFT RETAINING WALL 1
-L- STA. 61+17.78 LEFT TO -Y- STA. 36+40.48 RIGHT RETAINING WALL 4



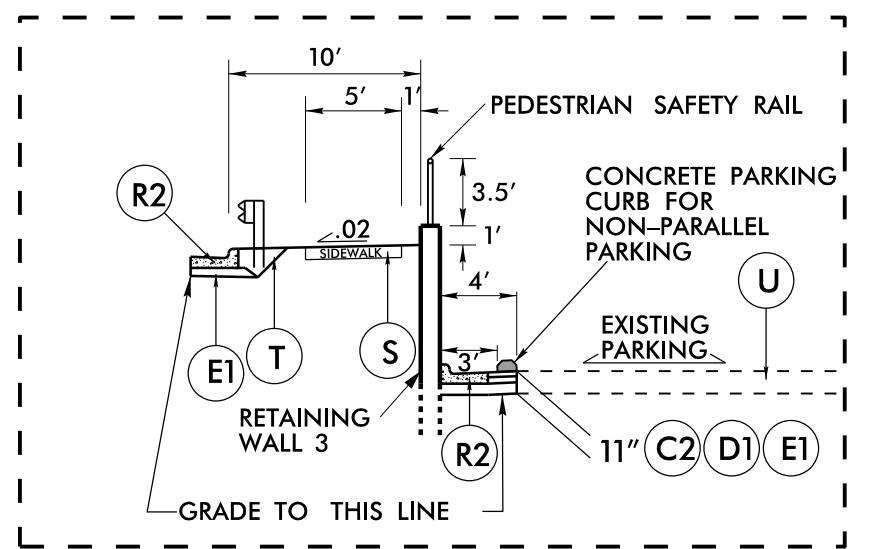
INSET 1B

USE TOGETHER WITH TYPICAL SECTION 1 AT:
-L- STA. 56+00.00 TO STA. 57+10.00 RIGHT RETAINING WALL 2



INSET 1C

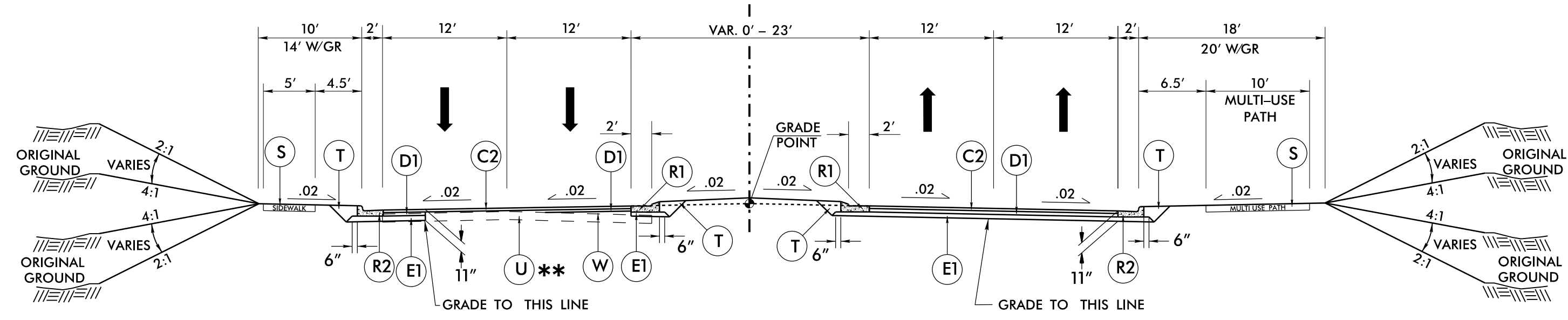
USE TOGETHER WITH TYPICAL SECTION 1 AT:
-L- STA. 42+50.00 TO STA. 53+00.00 LEFT NOISE WALL 2



INSET 1D

USE TOGETHER WITH TYPICAL SECTION 1 AT:
-L- STA. 57+10.00 TO STA. 59+80.00 RIGHT RETAINING WALL 3

-L- WEST WILSON AVE



TYPICAL SECTION NO. 2

- L- STA. 62+08.78 TO STA. 75+82.64
- L- LEFT SIDEWALK TO STA. 76+55.48
- ** LOCATION VARIES LEFT TO RIGHT

C1	1.5" S9.5C
C2	3" S9.5C
C3	VAR S9.5C
D1	4" I19.0C
D2	VAR. I19.0C
E1	4" B25.0C
E2	VAR. B25.0C
L1	12" CLASS IV SUB-GRADE STABILIZATION
N1	GEOTEXTILE FOR SUB-GRADE STABILIZATION
R1	2'-9" C&G
R2	2'-6" C&G
R3	1'-6" C&G
R4	5" ISLAND (KEYED)
R5	8" x 18" CURB
S	4" CONCRETE SIDEWALK
T	EARTH MATERIAL
U	EXISTING PAVEMENT
V	INCIDENTAL MILLING
W	WEDGING (SH 2A-1)

NOTE: PAVEMENT EDGE SLOPES 1:1 UNLESS SHOWN OTHERWISE

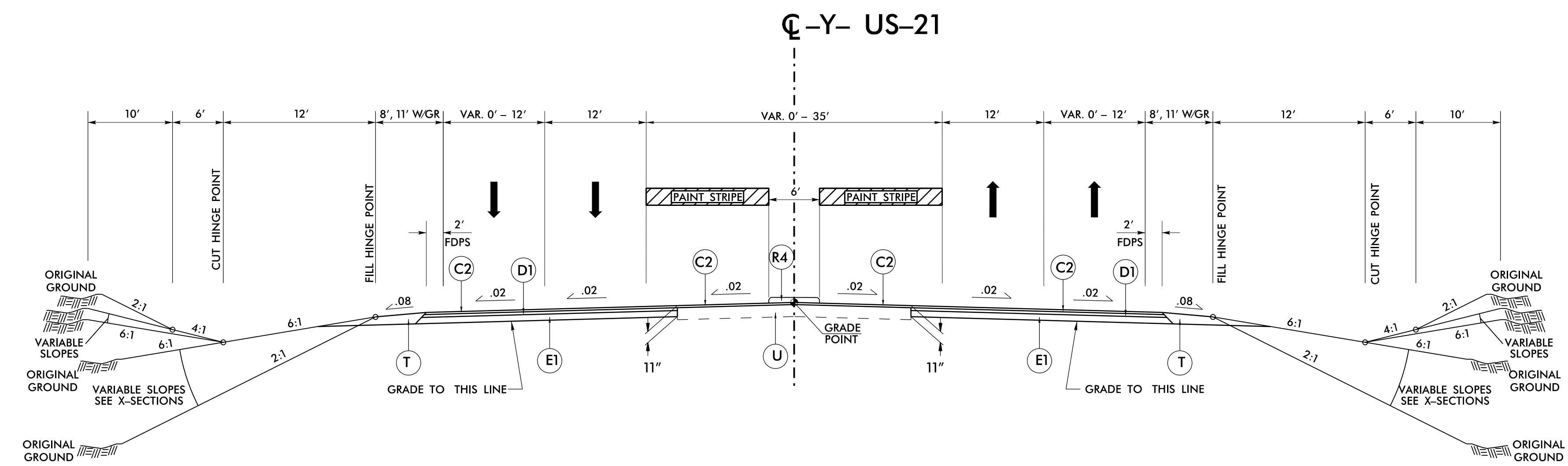
5/14/23

PROJECT REFERENCE NO. <i>R-3833C</i>	SHEET NO. <i>2A-3</i>
ROADWAY DESIGN ENGINEER <i>A. Dean Salvis</i> 19828	PAVEMENT DESIGN ENGINEER <i>James R. Hain</i> 39779
5/18/2023	5/18/2023

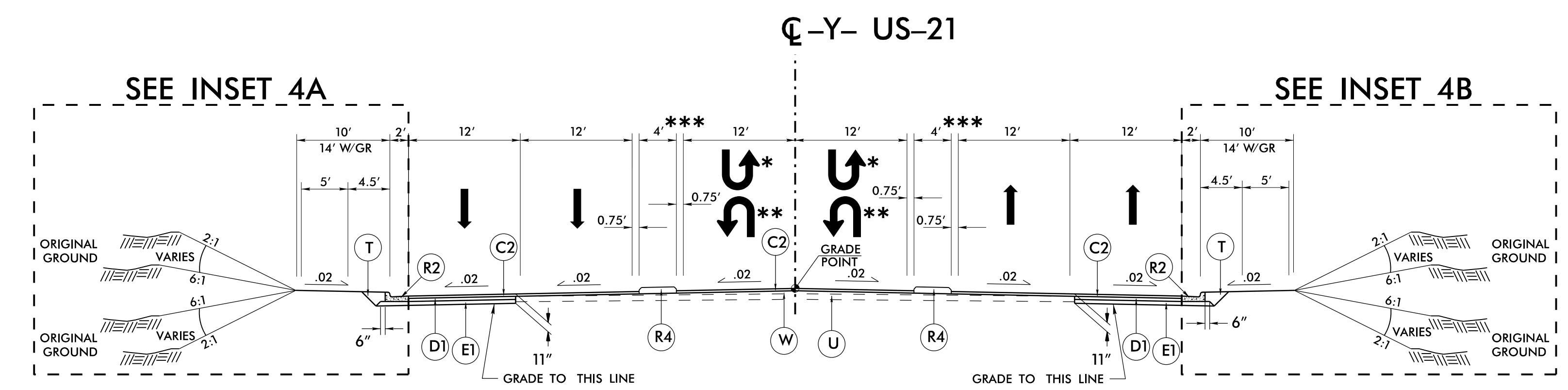
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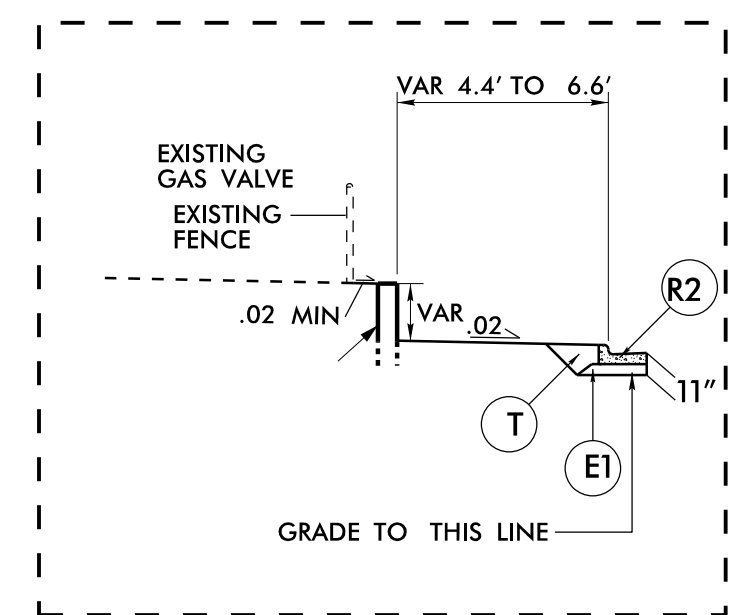
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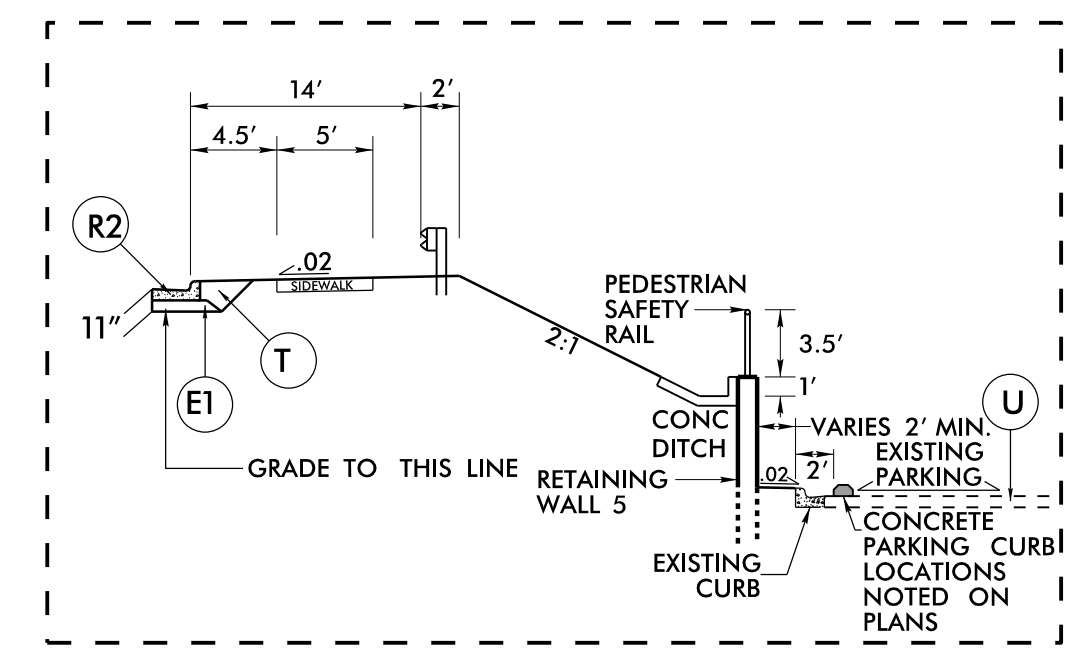
TYPICAL SECTION NO. 3
-Y- STA. 13+75.00 TO STA. 25+88.00
-Y- STA. 46+89.00 TO STA. 56+40.00



TYPICAL SECTION NO. 4
* -Y- STA. 25+88.00 TO STA. 30+66.00
** -Y- STA. 42+11.00 TO STA. 46+89.00
*** CONCRETE ISLAND VARIES IN WIDTH, SEE INTERSECTION DETAIL SHEETS 2B-1 THRU 2B-3 AND PLAN SHEETS 7,9,10,11 FOR DIMENSIONS



INSET 4A
USE TOGETHER WITH TYPICAL SECTION 4 AT:
-Y- STA. 42+90.76 TO STA. 43+16.00 LEFT
RETAINING WALL 6



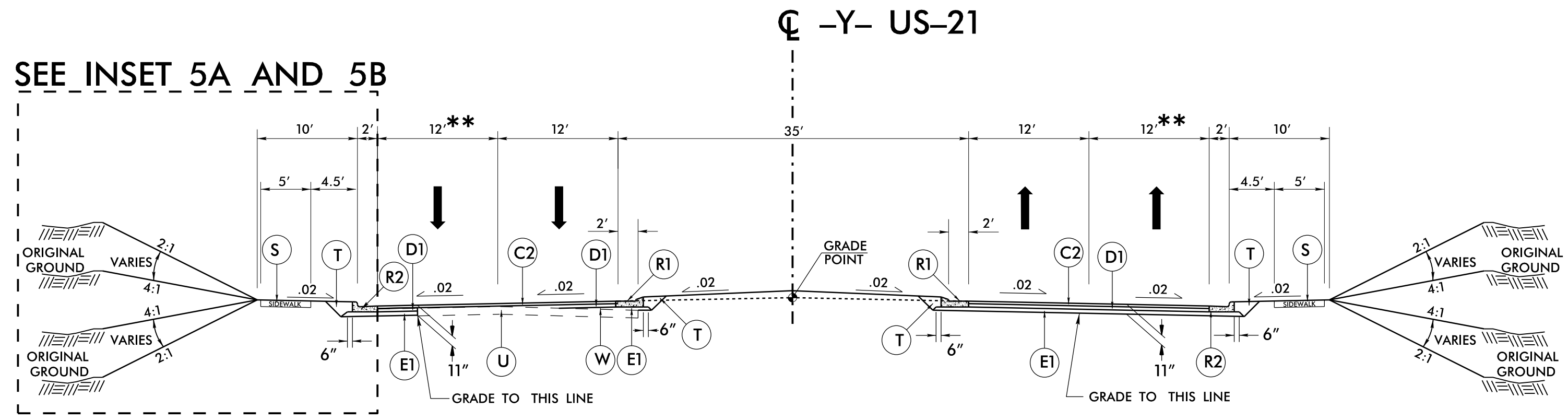
INSET 4B
USE TOGETHER WITH TYPICAL SECTION 4 AT:
-Y- STA. 42+20.35 TO STA. 43+60.00 RIGHT
RETAINING WALL 5

C1	1.5" S9.5C
C2	3" S9.5C
C3	VAR S9.5C
D1	4" I19.0C
D2	VAR. I19.0C
E1	4" B25.0C
E2	VAR. B25.0C
L1	12" CLASS IV SUB-GRADE STABILIZATION
N1	GEOTEXTILE FOR SUB-GRADE STABILIZATION
R1	2'-9" C&G
R2	2'-6" C&G
R3	1'-6" C&G
R4	5" ISLAND (KEYED)
R5	8" x 18" CURB
S	4" CONCRETE SIDEWALK
T	EARTH MATERIAL
U	EXISTING PAVEMENT
V	INCIDENTAL MILLING
W	WEDGING (SH 2A-1)

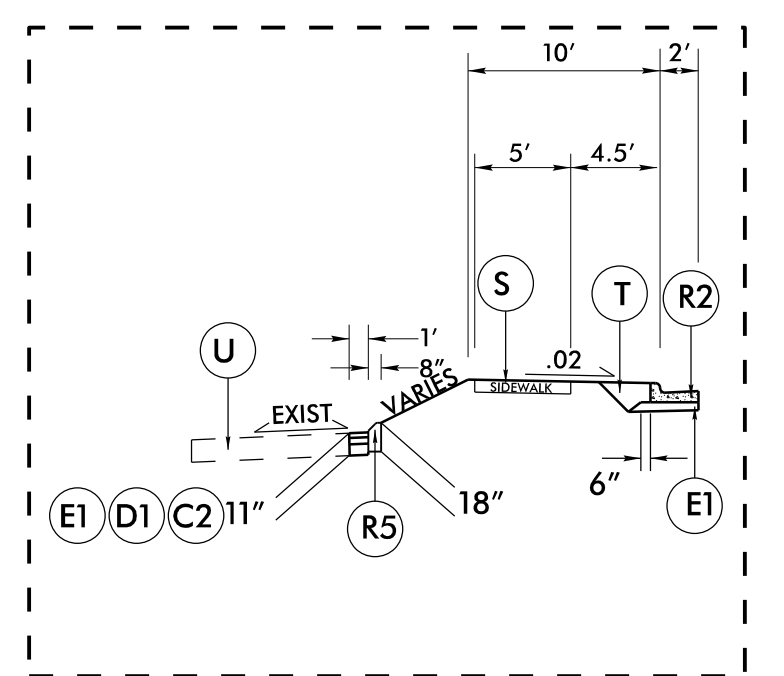
NOTE: PAVEMENT EDGE SLOPES 1:1 UNLESS SHOWN OTHERWISE

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5/14/23

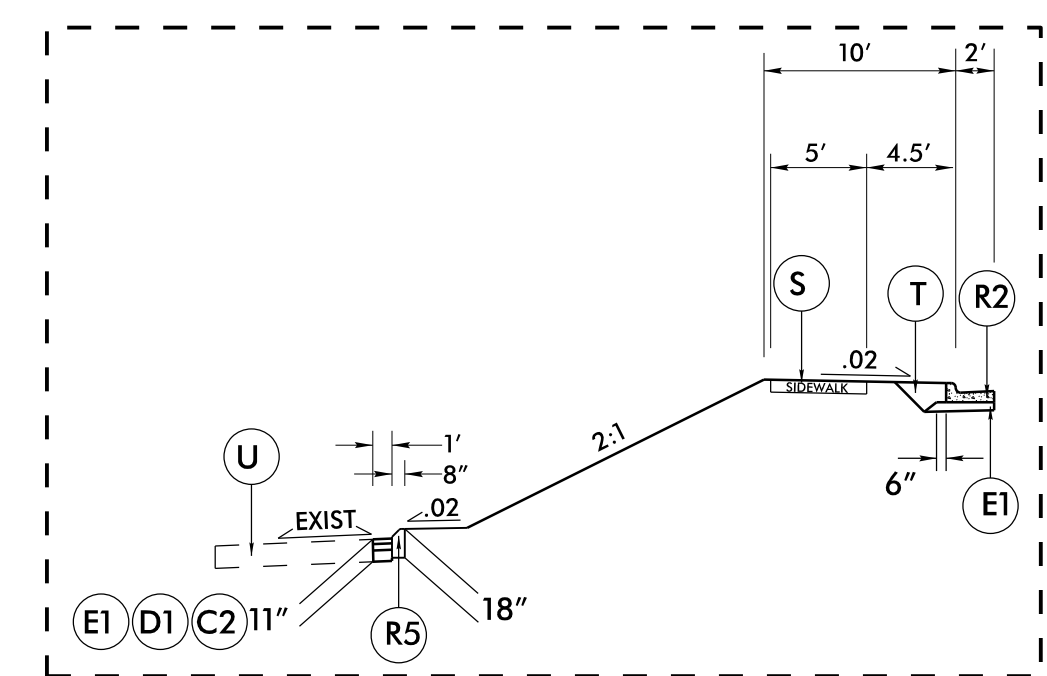


TYPICAL SECTION NO. 5
 -Y- STA. 30+66.00 TO STA. 42+11.00
 ** VARIES AT BULB LOCATIONS



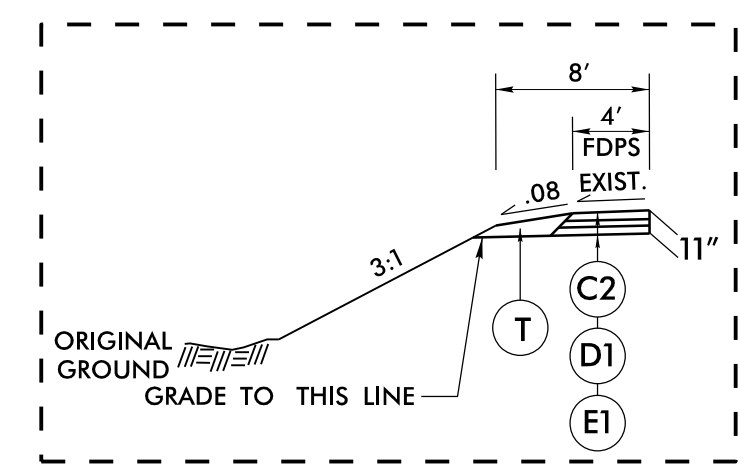
INSET 5A

USE TOGETHER WITH TYPICAL SECTION 5 AT:
 -Y- STA. 24+33.67 TO STA. 25+28.79 LEFT



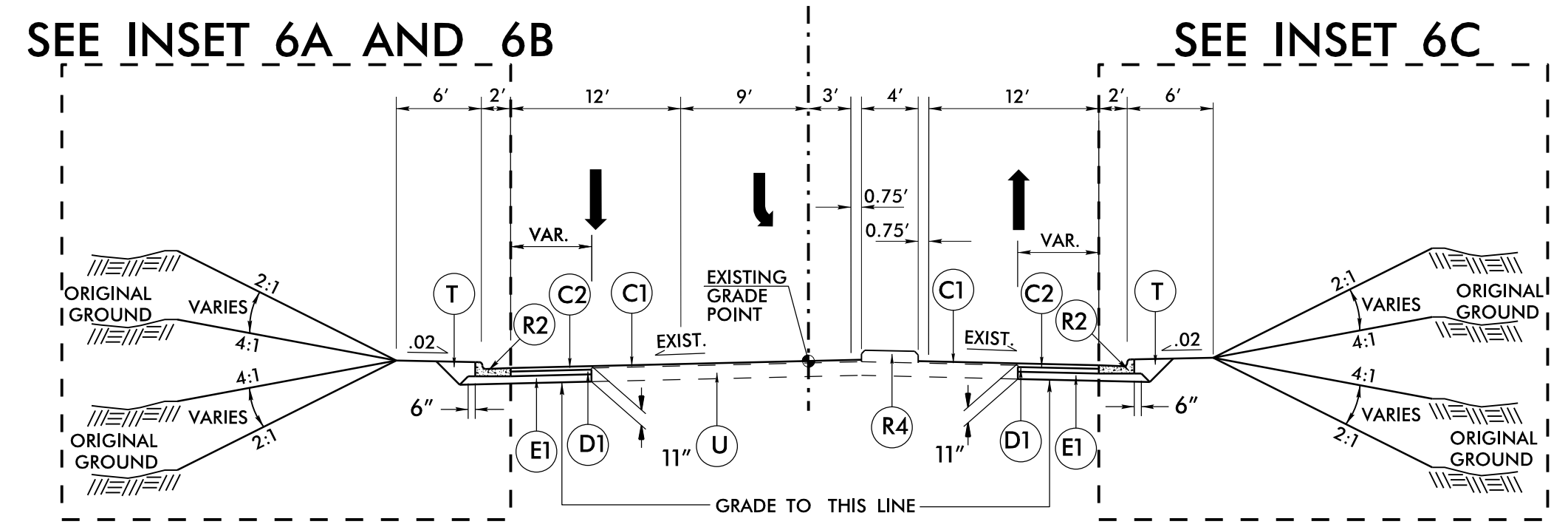
INSET 5B

USE TOGETHER WITH TYPICAL SECTION 5 AT:
 -Y- STA. 33+91.65 TO STA. 35+61.25 LEFT



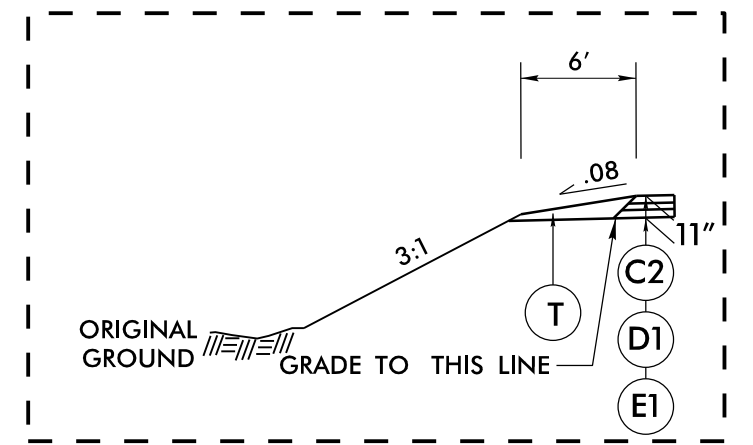
INSET 6A

USE TOGETHER WITH TYPICAL SECTION 6 AT:
 -Y1- STA. 13+00.00 TO STA. 14+47.82 LEFT



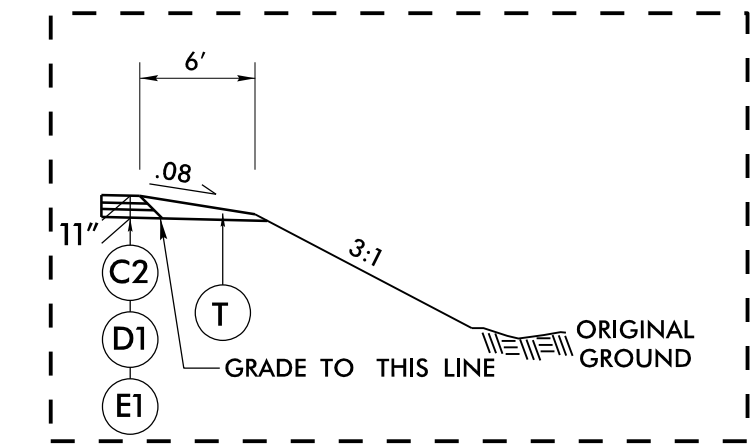
TYPICAL SECTION NO. 6

-Y1- STA. 15+23.71 TO STA. 18+84.36 (Widening Only)



INSET 6B

USE TOGETHER WITH TYPICAL SECTION 6 AT:
 -Y1- STA. 16+59.36 TO STA. 18+84.36 LEFT



INSET 6C

USE TOGETHER WITH TYPICAL SECTION 6 AT:
 -Y1- STA. 16+59.36 TO STA. 18+84.36 RIGHT

PROJECT REFERENCE NO. R-3833C	SHEET NO. 2A-4
ROADWAY DESIGN ENGINEER A. Dean Salvis 19828	PAVEMENT DESIGN ENGINEER J. R. Hain 39779
5/18/2023	5/18/2023

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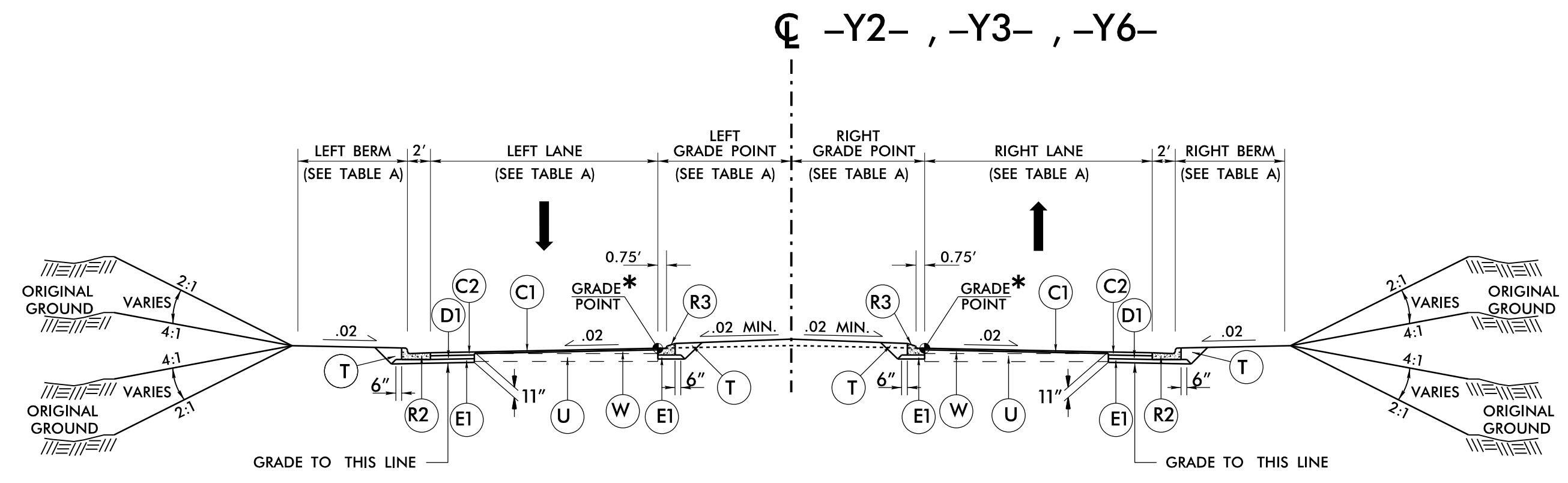
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 Suite 300
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 Fax. (919) 851-7024
 www.stantec.com
 License No. F-0672

C1	1.5" S9.5C
C2	3" S9.5C
C3	VAR S9.5C
D1	4" I19.0C
D2	VAR. I19.0C
E1	4" B25.0C
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N1	GEOTEXTILE FOR SUB-GRADE STABILIZATION
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S	4" CONCRETE SIDEWALK
T	EARTH MATERIAL
U	EXISTING PAVEMENT
V	INCIDENTAL MILLING
W	WEDGING (SH 2A-1)

NOTE: PAVEMENT EDGE SLOPES 1:1 UNLESS SHOWN OTHERWISE

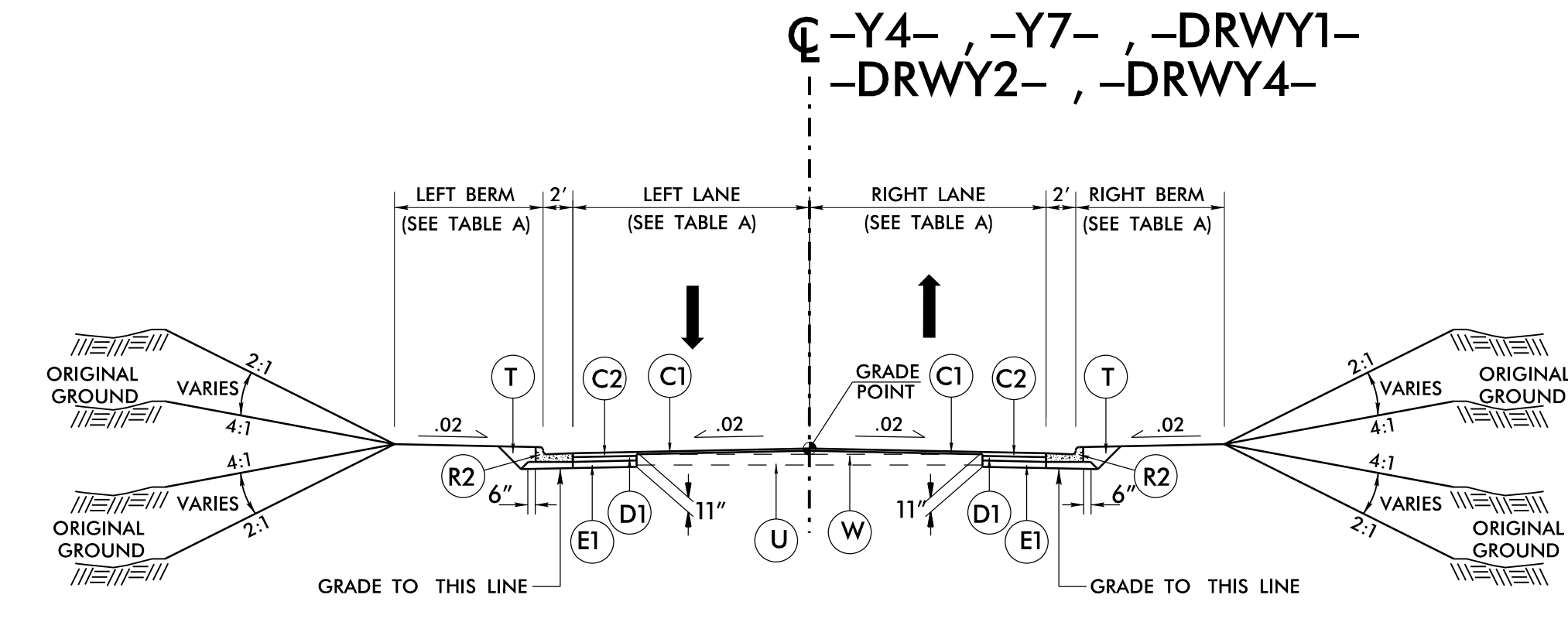
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5/14/23



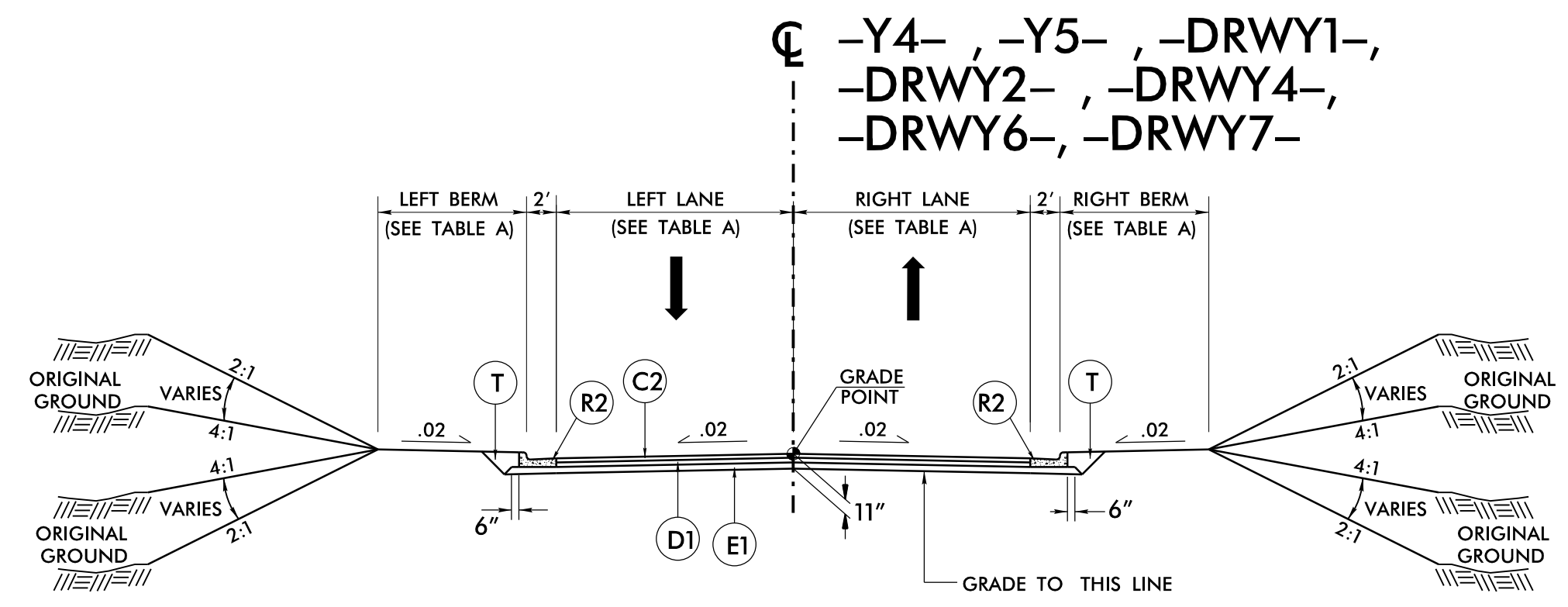
TYPICAL SECTION NO. 7

-Y2- STA. 13+00.00 TO STA. 13+60.48
 -Y3- STA. 12+22.00 TO STA. 13+10.45
 -Y6- STA. 11+70.00 TO STA. 12+60.32
 * Separate Grade Points



TYPICAL SECTION NO. 8

-Y4- STA. 11+25.00 TO STA. 11+65.00
 -Y7- STA. 15+35.00 TO STA. 16+14.73
 -DRWY1- STA. 10+75.00 TO STA. 11+05.00
 -DRWY2- STA. 11+30.00 TO STA. 11+60.00
 -DRWY4- STA. 10+35.00 TO STA. 10+75.00

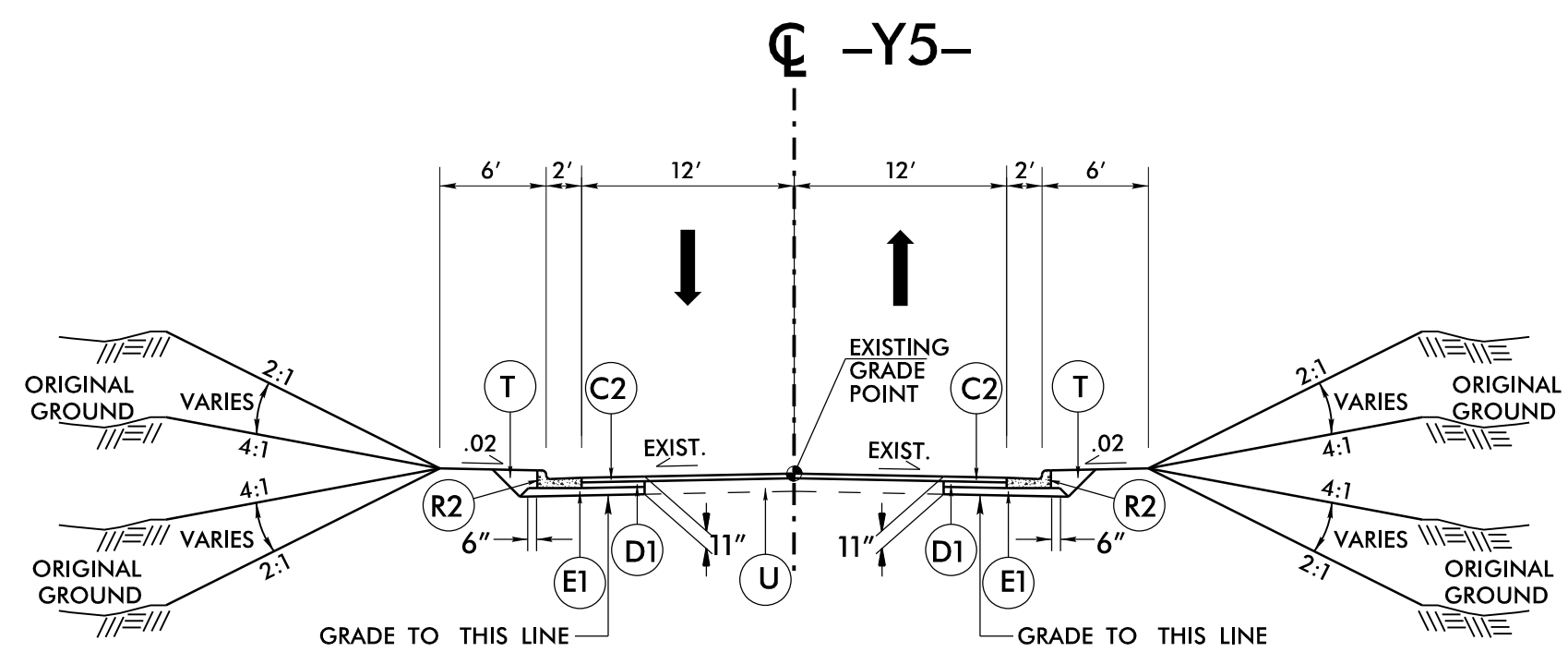


TYPICAL SECTION NO. 9

-Y4- STA. 10+39.68 TO STA. 11+25.00
 -Y5- STA. 10+39.50 TO STA. 13+04.00
 -Y5- STA. 16+88.00 TO STA. 17+81.27
 -DRWY1- STA. 10+43.61 TO STA. 10+75.00
 -DRWY2- STA. 10+39.50 TO STA. 11+30.00
 -DRWY4- STA. 10+75.00 TO STA. 11+16.30
 -DRWY6- STA. 10+35.50 TO STA. 11+24.06
 -DRWY7- STA. 10+84.67 TO STA. 11+61.36

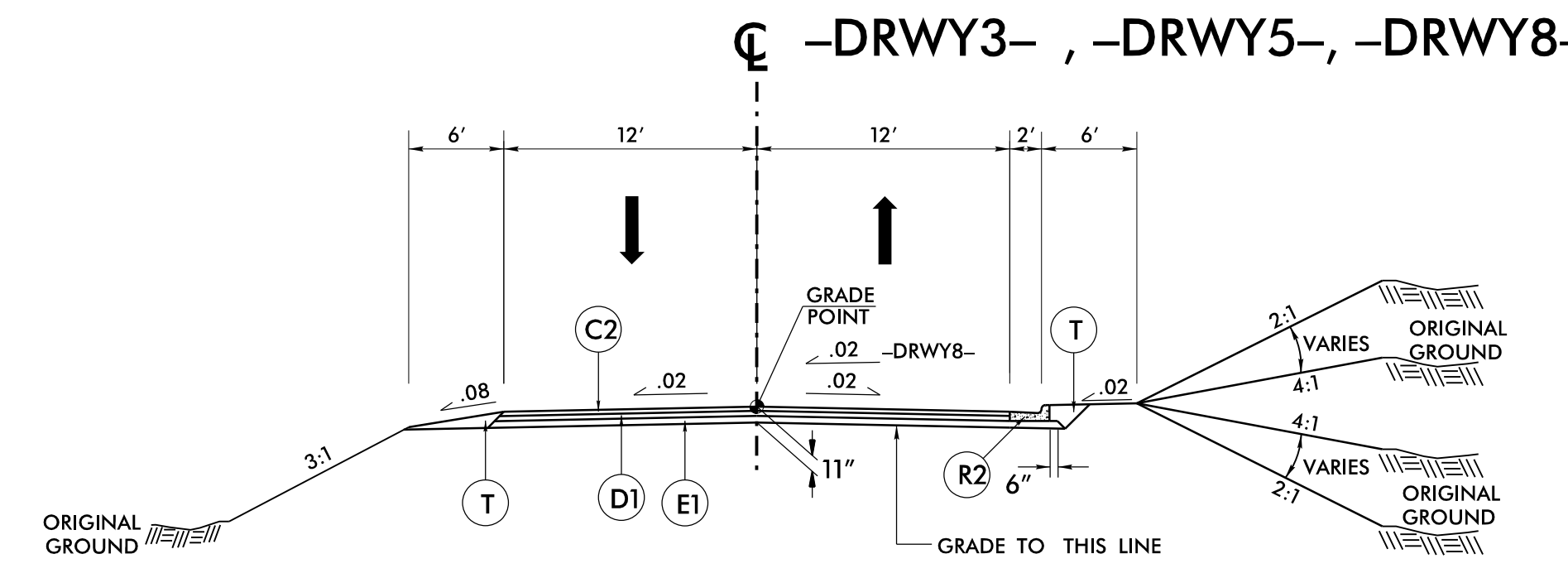
NOTE: TRANSITION ALL PROPOSED CURB & GUTTER TO EXISTING CURB & GUTTER AT ALL ROAD AND DRIVE TURNOUTS

TABLE A						
	LEFT BERM	LEFT LANE	LEFT GRADE POINT	RIGHT GRADE POINT	RIGHT LANE	RIGHT BERM
-Y2-	6'	12'	19'	7'	SEE PLANS	6'
-Y3-	6'	SEE PLANS	6.8'	6.4'	18'	6'
-Y4-	6'	14'	6.3'	6.5'	19'	6'
-Y5-	6'	12'	-	-	12'	6'
-Y6-	6'	14'	6.3'	6.5'	17'	6'
-Y7-	8'	15'	-	-	15'	6'
-DRWY1-	6'	12'-15'	-	-	12'-15'	6'
-DRWY2-	6'	17'	-	-	17'	6'
-DRWY4-	6'	10'-12'	-	-	10'-12'	6'
-DRWY6-	6'	11'-22'	-	-	11'-21'	6'
-DRWY7-	12'	21.5'-11'	-	-	11'	6'-14'
-DRWY8-	4'	12'	-	-	12'	4'



TYPICAL SECTION NO. 10

-Y5- STA. 13+04.00 TO STA. 16+88.00



TYPICAL SECTION NO. 11

-DRWY3- STA. 10+05.00 TO STA. 11+12.22
 -DRWY5- STA. 10+14.00 TO STA. 11+58.50 (MIRROR)
 -DRWY8- STA. 10+24.00 TO STA. 11+74.35 (ALL SHOULDER)

PROJECT REFERENCE NO. R-3833C	SHEET NO. 2A-5
ROADWAY DESIGN ENGINEER A. Dean Salvis 19828	PAVEMENT DESIGN ENGINEER J. [Name] 39779
5/18/2023	5/18/2023
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C1	1.5" S9.5C
C2	3" S9.5C
C3	VAR S9.5C
D1	4" I19.0C
D2	VAR. I19.0C
E1	4" B25.0C
E2	VAR. B25.0C
L1	12" CLASS IV SUB-GRADE STABILIZATION
N1	GEOTEXTILE FOR SUB-GRADE STABILIZATION
R1	2'-9" C&G
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R4	5" ISLAND (KEYED)
R5	8" x 18" CURB
S	4" CONCRETE SIDEWALK
T	EARTH MATERIAL
U	EXISTING PAVEMENT
V	INCIDENTAL MILLING
W	WEDGING (SH 2A-1)

NOTE: PAVEMENT EDGE SLOPES 1:1 UNLESS SHOWN OTHERWISE

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 5/18/2023 10:00 AM



PROJECT REFERENCE NO. <i>R-3833C</i>	SHEET NO. <i>2B-1</i>
ROADWAY DESIGN ENGINEER	

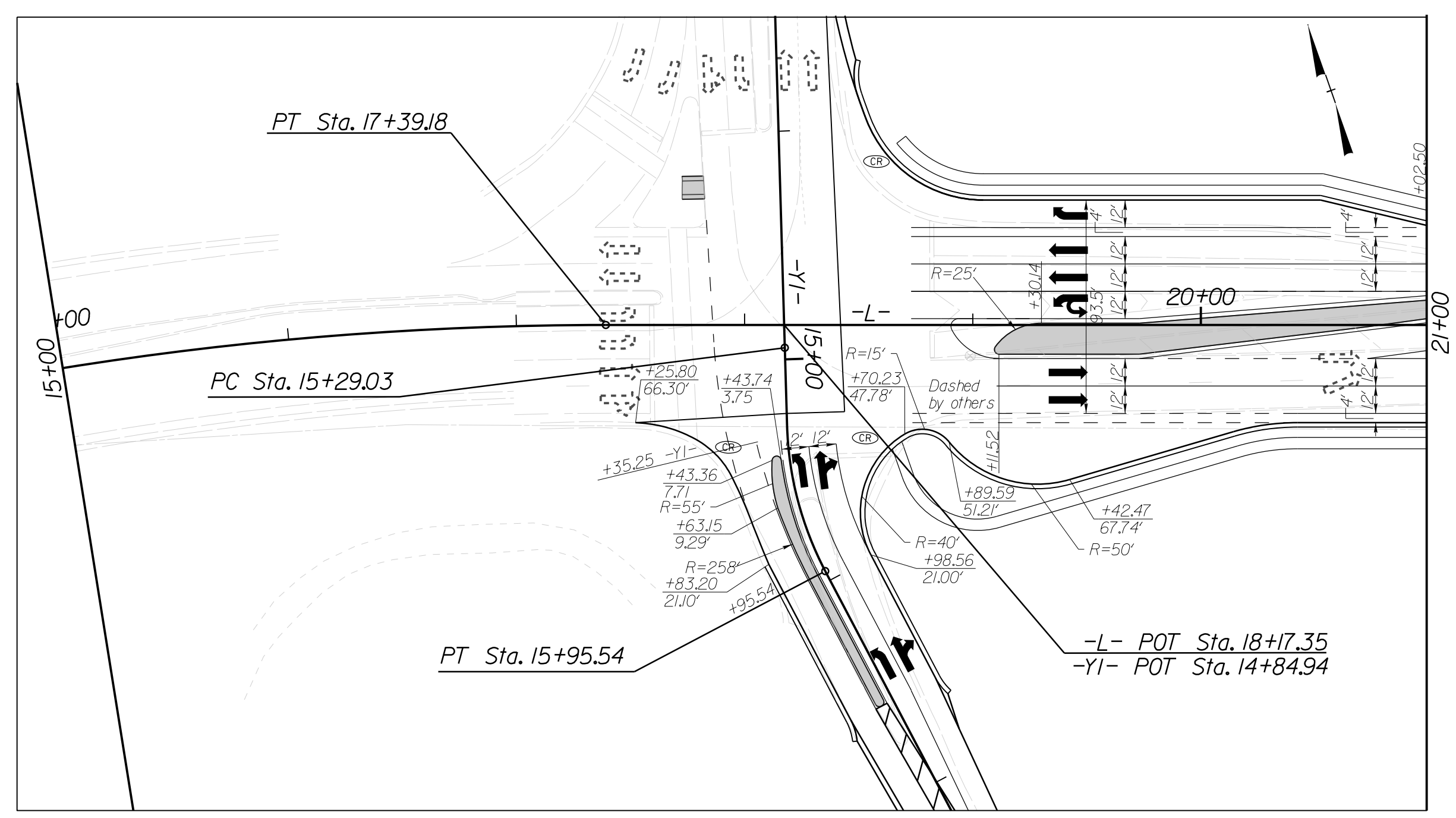
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TGS ENGINEERS
706 HILLSBOROUGH ST. SUITE 200
RALEIGH, NC 27603
PH (919) 773-8887
CORP. LICENSE NO.: C-0275

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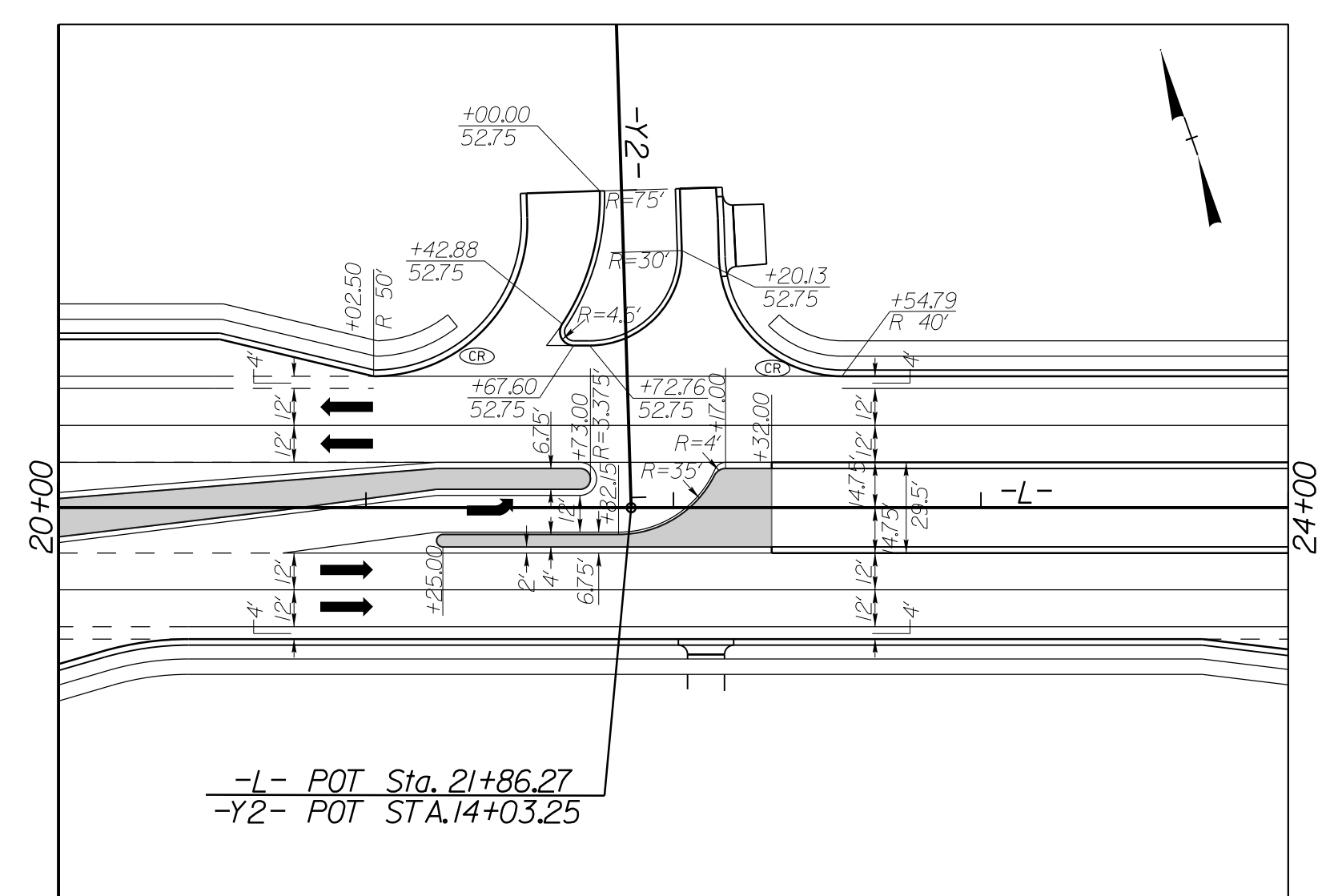
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Suite 300
Raleigh, NC 27606
Tel. (919) 851-8868
Fax. (919) 851-7024
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License No. F-0672

INTERSECTION DETAIL @
-L- (SR 1100-BRAWLEY SCHOOL RD.) &
-Y1- (TALBERT /SUNFISH)



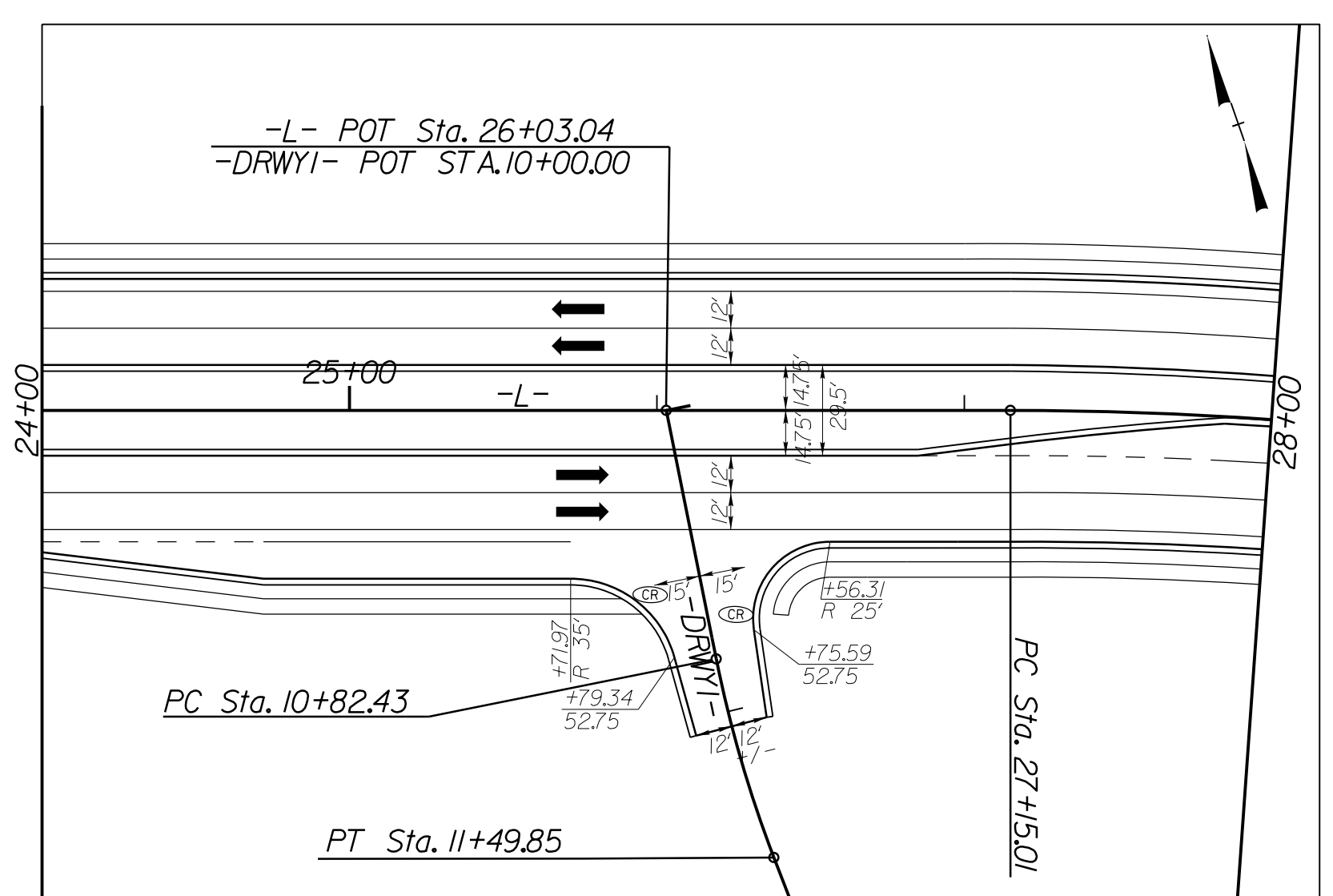
-L- STA. 15+00 TO STA. 21+00
INTERSECTION DETAIL SHOWN FROM PLAN SHEET 4

INTERSECTION DETAIL @
-L- (SR 1100-BRAWLEY SCHOOL RD.) &
-Y2- (WINGHAVEN CT.)



-L- STA. 20+00 TO STA. 24+00
INTERSECTION DETAIL SHOWN FROM PLAN SHEET 4

INTERSECTION DETAIL @
-L- (SR 1100-BRAWLEY SCHOOL RD.) &
-DRWY1-



-L- STA. 24+00 TO STA. 28+00
INTERSECTION DETAIL SHOWN FROM PLAN SHEET 4

MONOLITHIC ISLANDS

ALL MONOLITHIC ISLAND RADII
ARE 2' UNLESS OTHERWISE LABELED

8/17/99



PROJECT REFERENCE NO. R-3833C	SHEET NO. 2B-2
ROADWAY DESIGN ENGINEER	
4/27/2023	

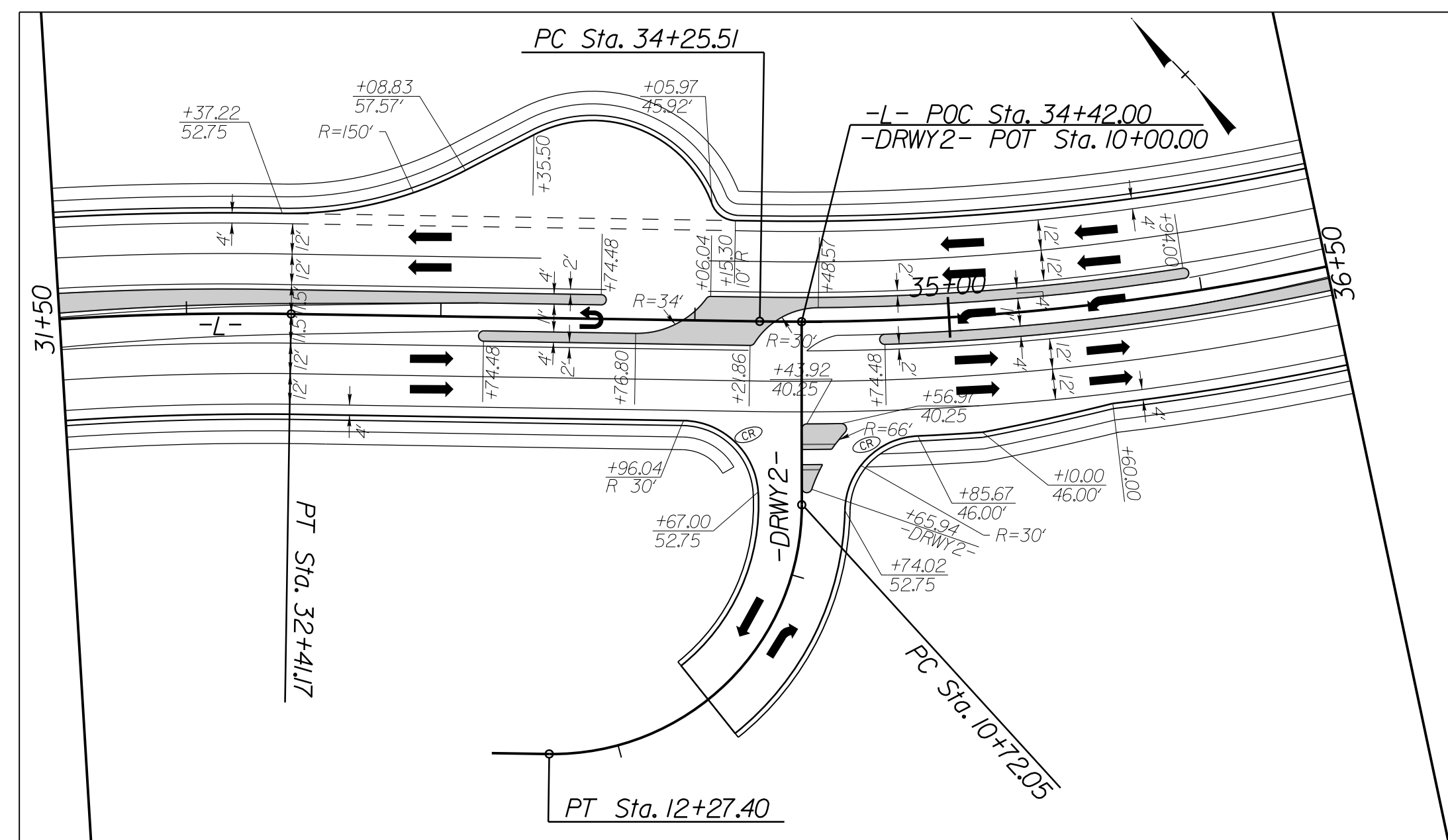
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706 HILLSBOROUGH ST. SUITE 200
RALEIGH, NC 27603
PH (919) 773-8887
CORP. LICENSE NO.: C-0275

Stantec

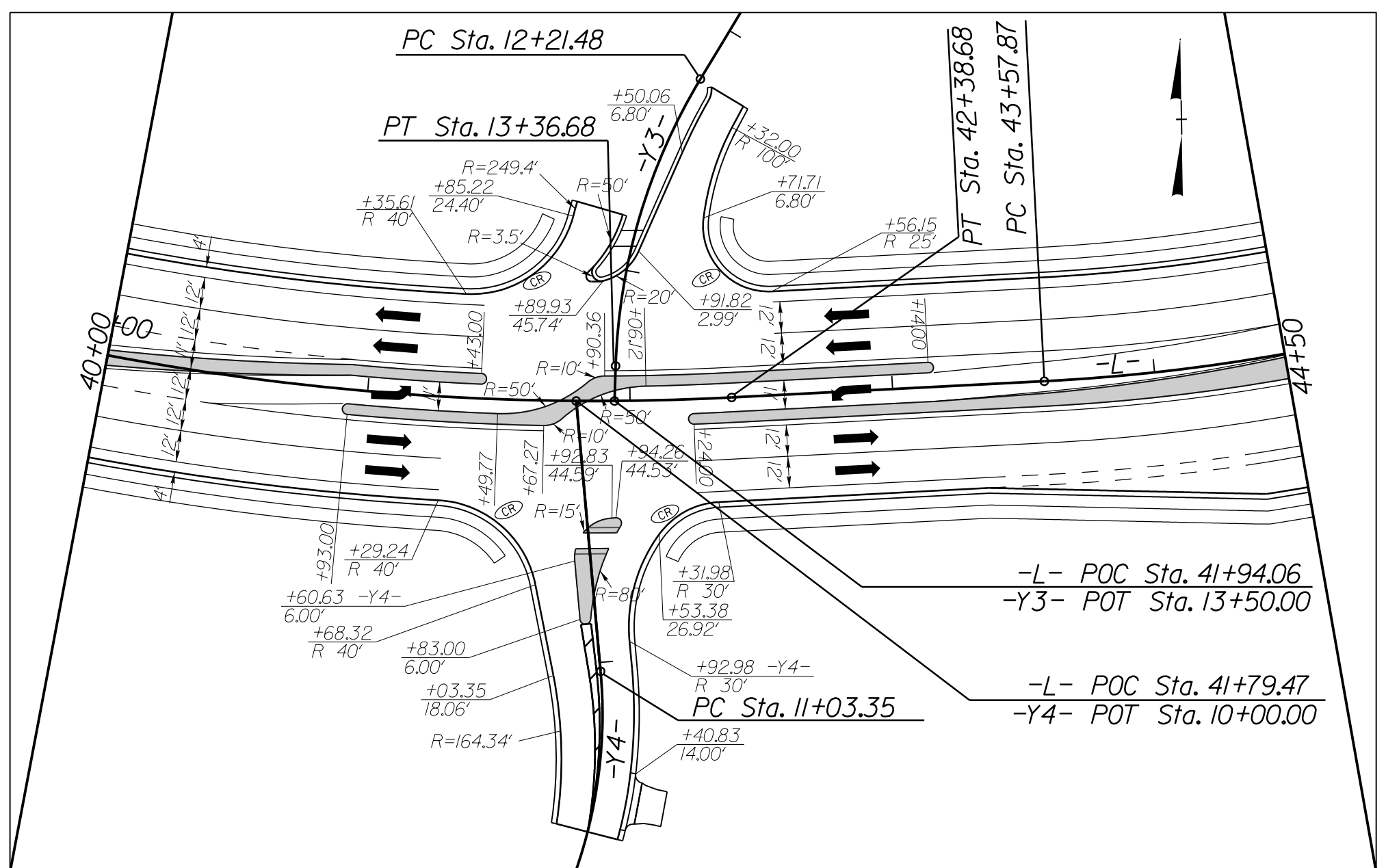
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INTERSECTION DETAIL @
-L- (SR 1100-BRAWLEY SCHOOL RD.) &
-DRWY2-



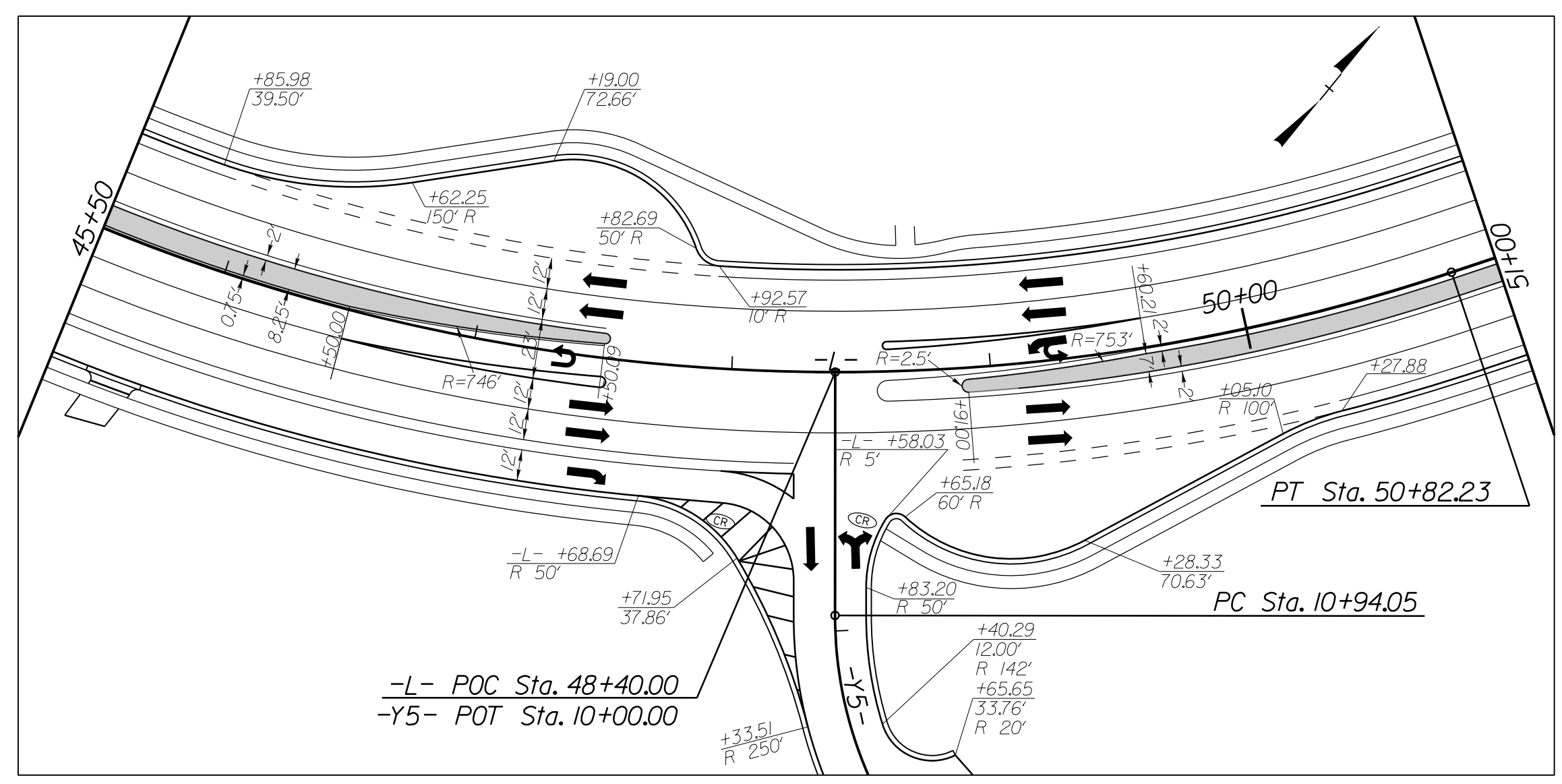
-L- STA. 31+50 TO STA. 36+50
DRIVEWAY /U-TURN DETAIL SHOWN FROM PLAN SHEET 5

INTERSECTION DETAIL @
-L- (SR 1100-BRAWLEY SCHOOL RD.),
-Y3- (CITATION DR.) &
-Y4- (SECRETARIAT DR.)



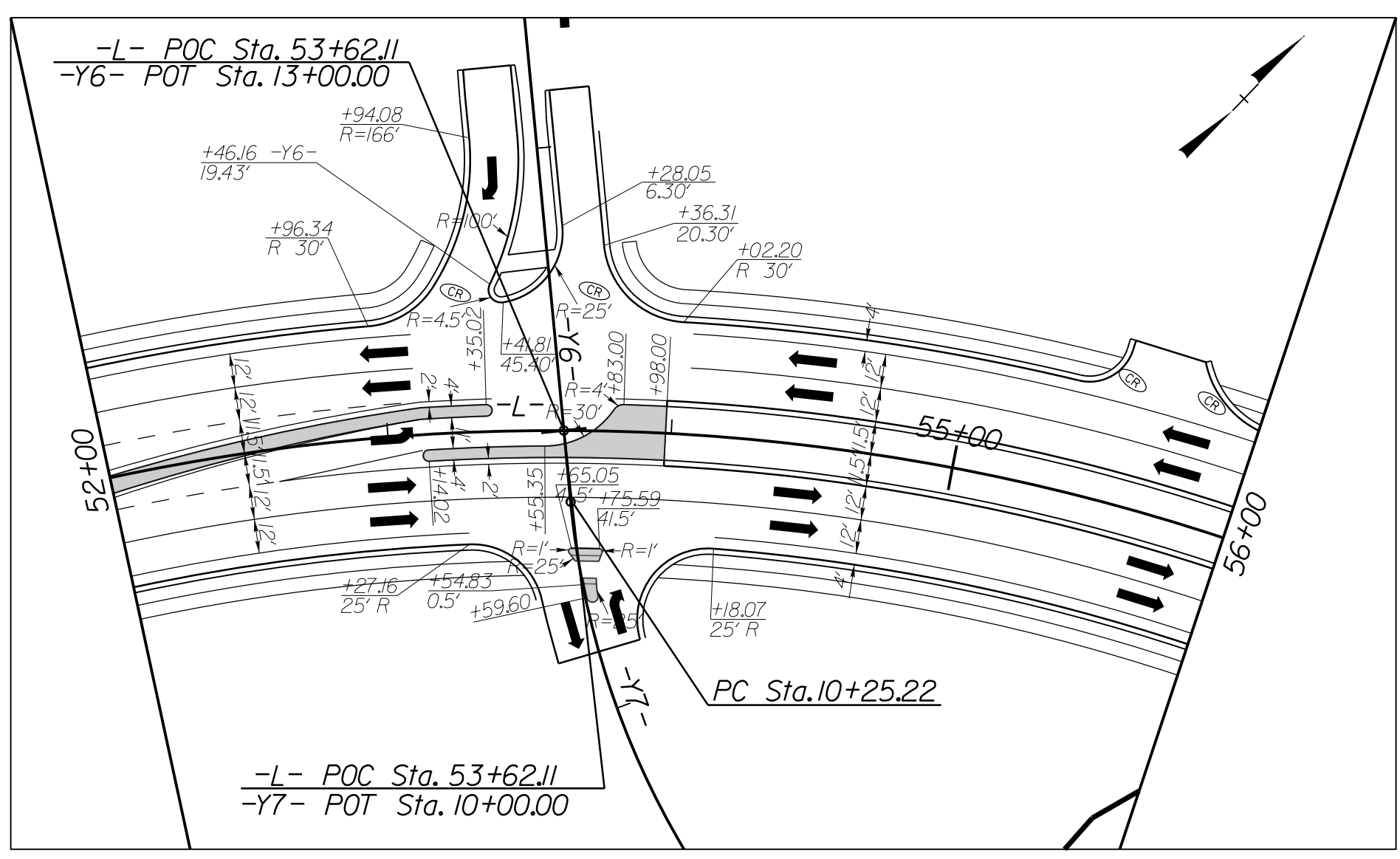
-L- STA. 40+00 TO STA. 44+50
INTERSECTION DETAIL SHOWN FROM PLAN SHEETS 5 & 6

INTERSECTION DETAIL @
-L- (SR 1100-BRAWLEY SCHOOL RD.) &
-Y5- (SR 2993-BALMY LN)



-L- STA. 45+50 TO STA. 51+00
U-TURN /INTERSECTION DETAIL SHOWN FROM PLAN SHEET 6

INTERSECTION DETAIL @
-L- (SR 1100-BRAWLEY SCHOOL RD.),
-Y6- (ROUND KEEP LN), &
-Y7- (COMMERCE PARK RD.)



-L- STA. 52+00 TO STA. 56+00
INTERSECTION DETAIL SHOWN FROM PLAN SHEETS 6 & 7

MONOLITHIC ISLANDS

ALL MONOLITHIC ISLAND RADII
ARE 2' UNLESS OTHERWISE LABELED

3/30/2023
I:\Roadway\Proj\R3833C_rndj_2B-2.dgn
D. SARVIS

8/17/99

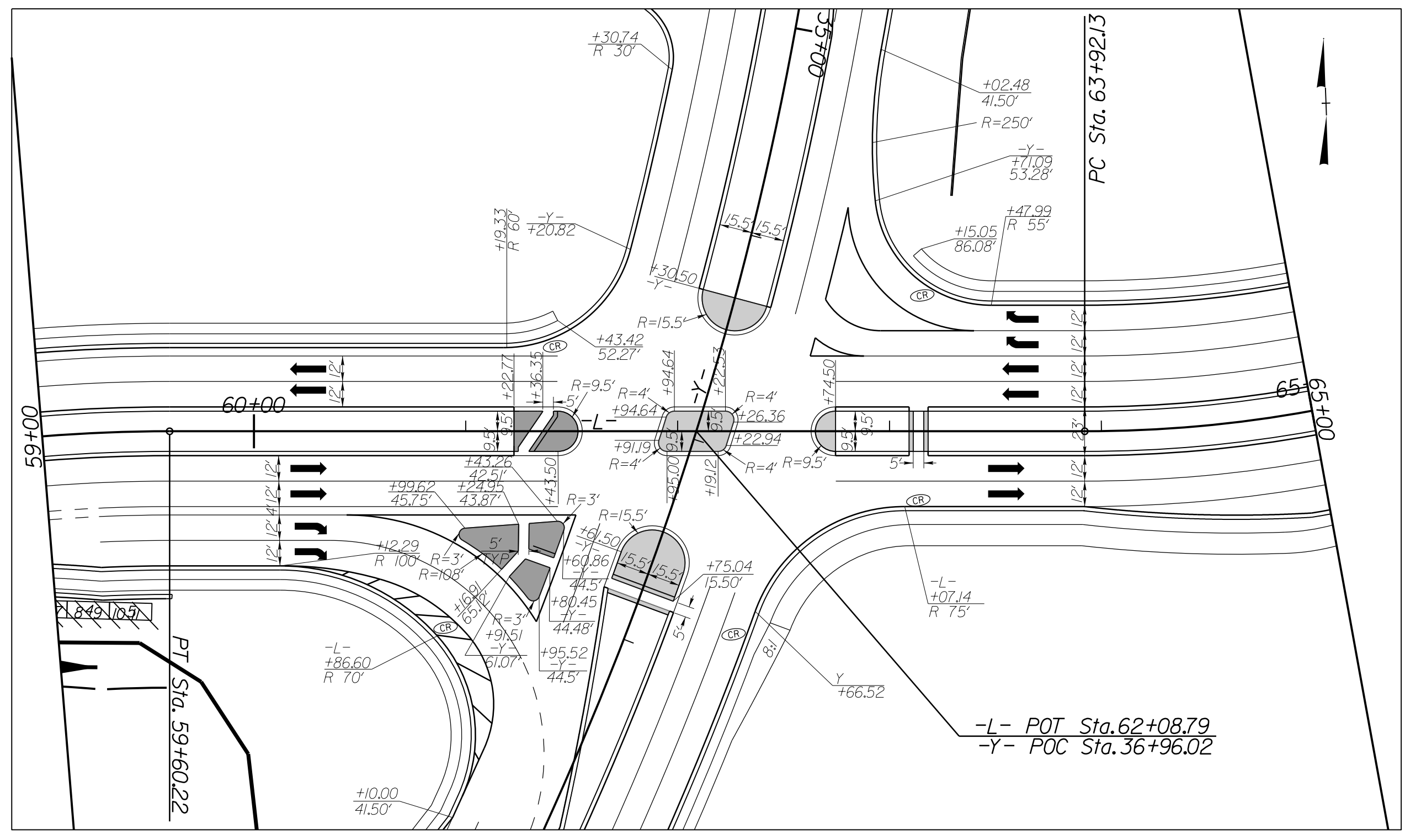
INTERSECTION DETAIL @
-L- (SR 1100-BRAWLEY SCHOOL RD) &
-Y- (US 21-CHARLOTTE HWY)



PROJECT REFERENCE NO. R-3833C	SHEET NO. 2B-3
ROADWAY DESIGN ENGINEER	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	
TGS ENGINEERS 706 HILLSBOROUGH ST., SUITE 200 RALEIGH, NC 27603 PH (919) 773-8887 CORP. LICENSE NO.: C-0275	

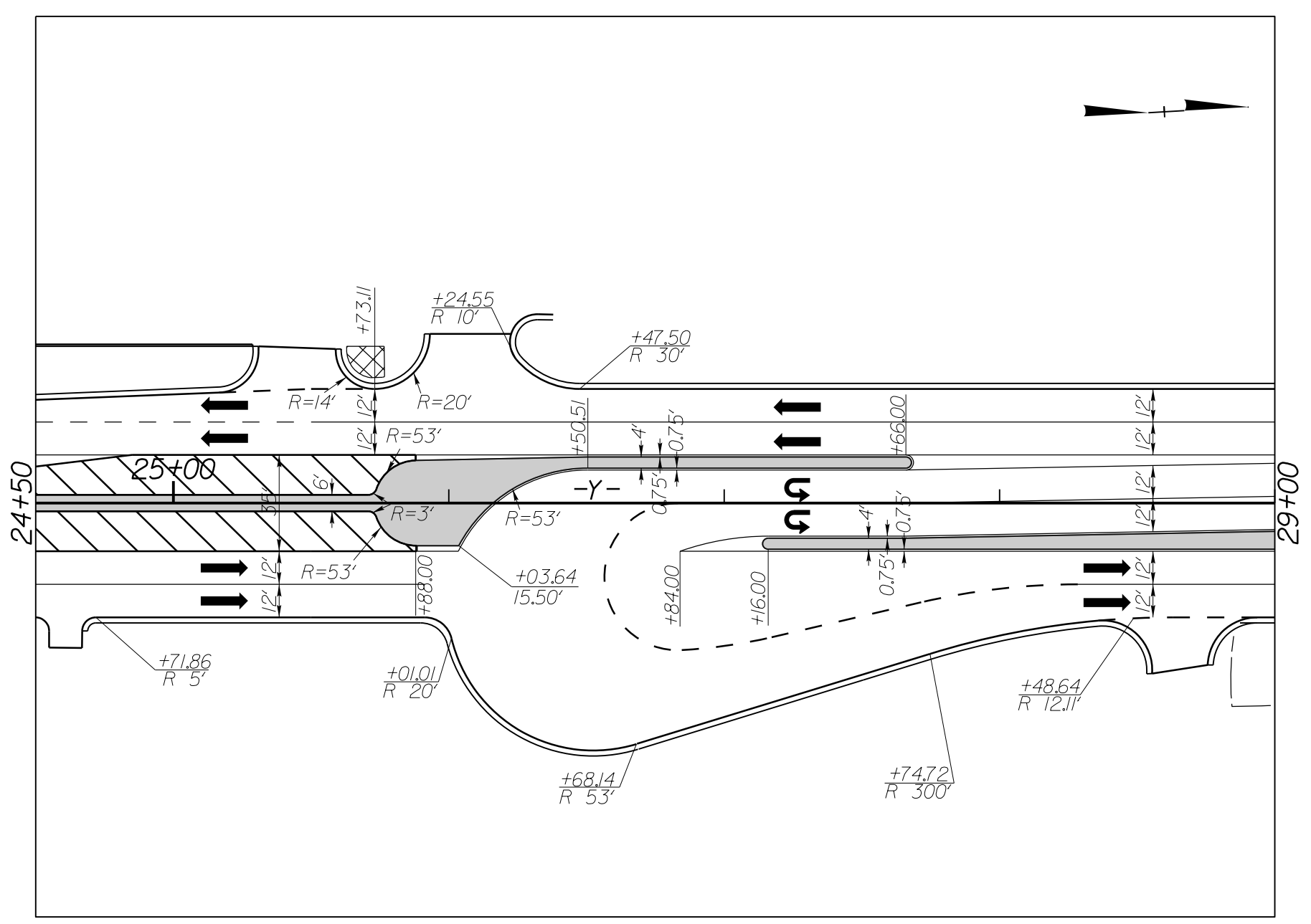
Stantec

Stantec Consulting Services Inc.
801 Jones Franklin Road
Suite 300
Raleigh, NC 27606
Tel. (919) 851-5866
Fax. (919) 851-7024
www.stantec.com
License No. F-0672



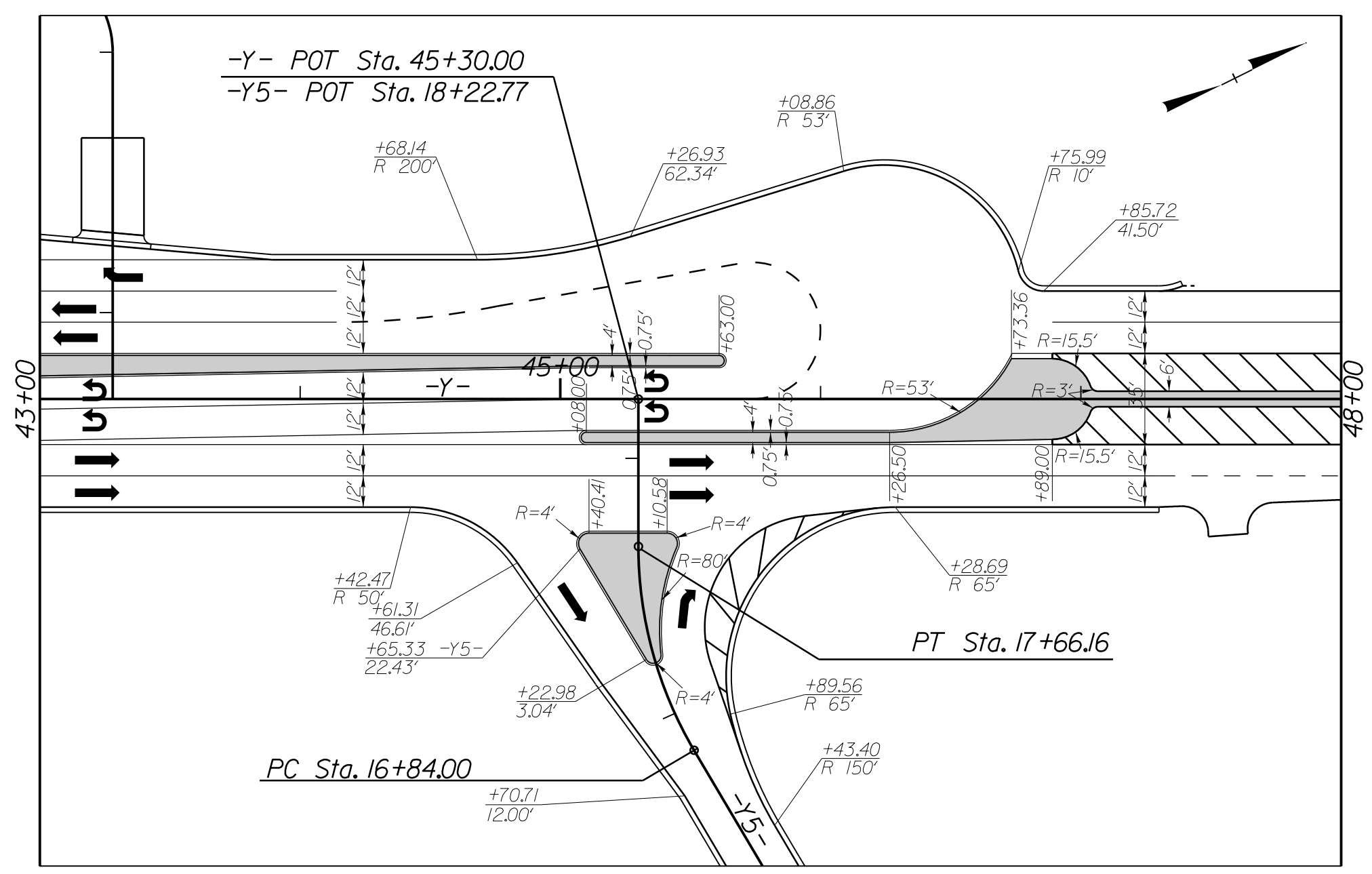
-L- STA. 59+00 TO STA. 65+00
INTERSECTION DETAIL SHOWN FROM PLAN SHEET 7

U-TURN BULB ON
-Y- (US 21-CHARLOTTE HWY)



-Y- STA. 24+50 TO STA. 29+00
U-TURN DETAIL SHOWN FROM PLAN SHEET 10

INTERSECTION DETAIL @
-Y- (US 21-CHARLOTTE HWY) &
-Y5- (SR 2993-BALMY LN)



-Y- STA. 43+00 TO STA. 48+00
U-TURN /INTERSECTION DETAIL SHOWN FROM PLAN SHEET 11

MONOLITHIC ISLANDS

ALL MONOLITHIC ISLAND RADII
ARE 2' UNLESS OTHERWISE LABELED

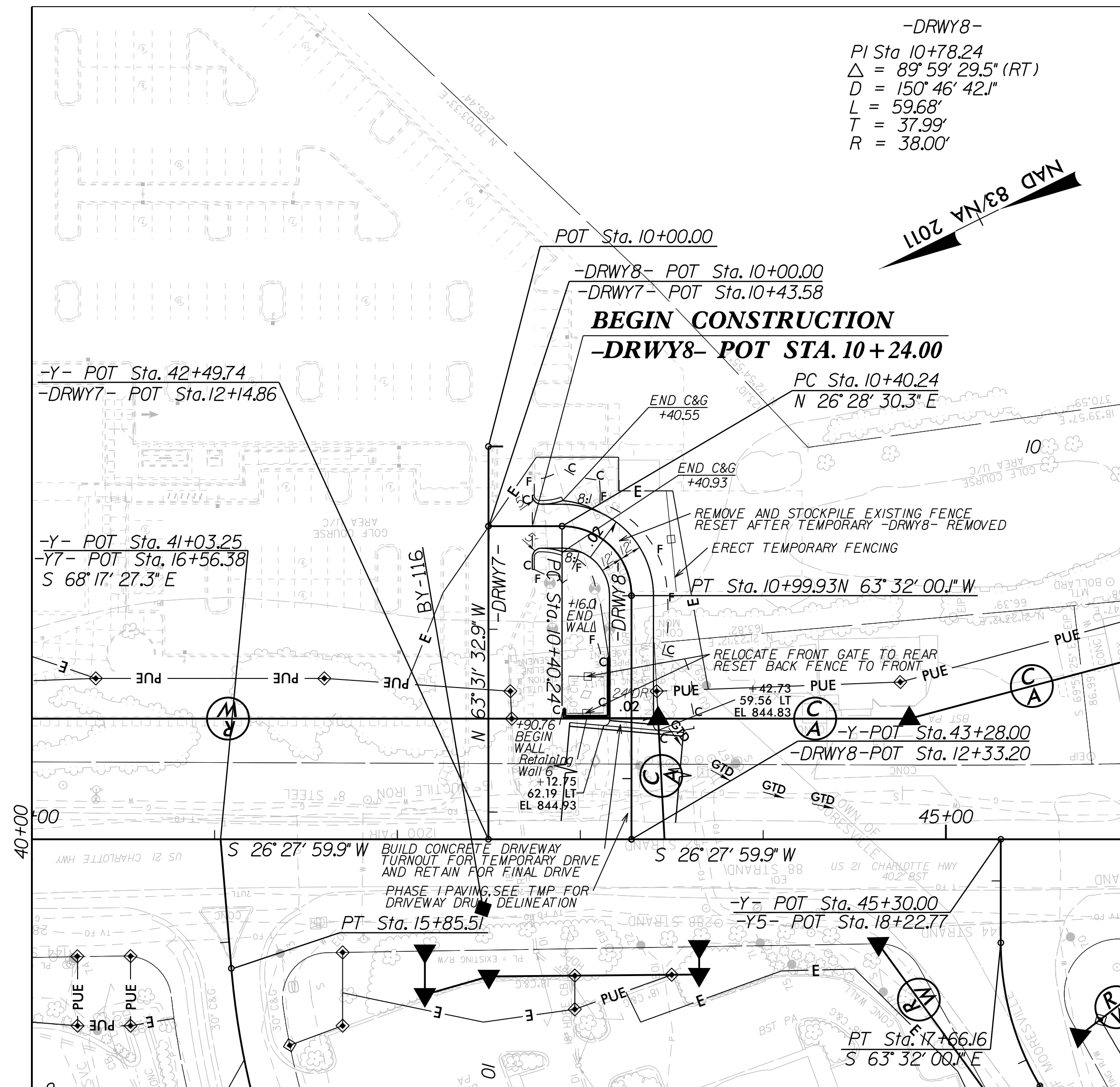
3/30/2023
I:\Roadway\Proj\R3833C_rndj_2B-3.dgn
Dean Sarris



PROJECT REFERENCE NO. <i>R-3833C</i>	SHEET NO. <i>2B-4</i>
ROADWAY DESIGN ENGINEER	
5/15/2023	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	
	TGS ENGINEERS 706 HILLSBOROUGH ST., SUITE 200 RALEIGH, NC 27603 PH (919) 773-8887 CORP. LICENSE NO.: C-0275

TEMPORARY -DRWY8- DESIGN

DETAIL @ TEMPORARY -DRWY8- & -Y- (US 21-CHARLOTTE HWY)
FOR PERMANENT -DRWY8- DESIGN
SEE SHEET 11



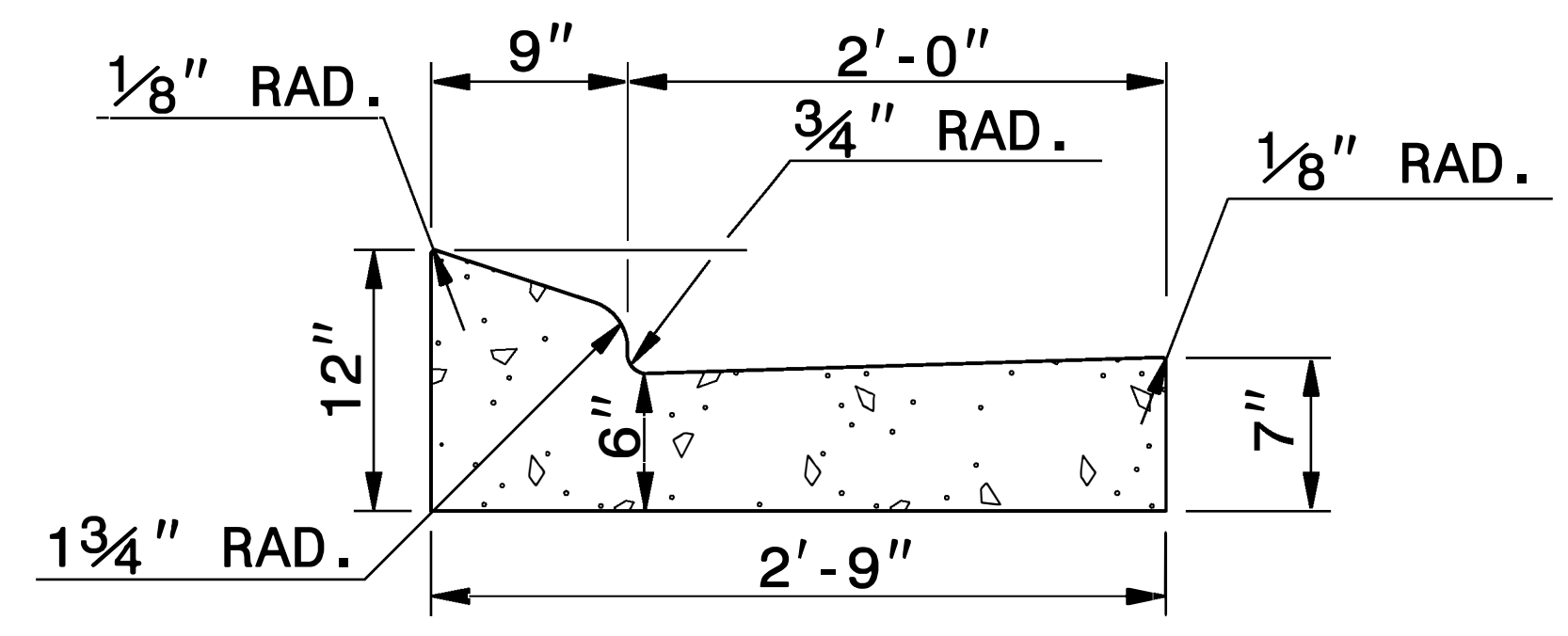
Stantec

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 801 Jones Franklin Road
 Suite 300
 Raleigh, NC 27606
 Tel. (919) 851-6866
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DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

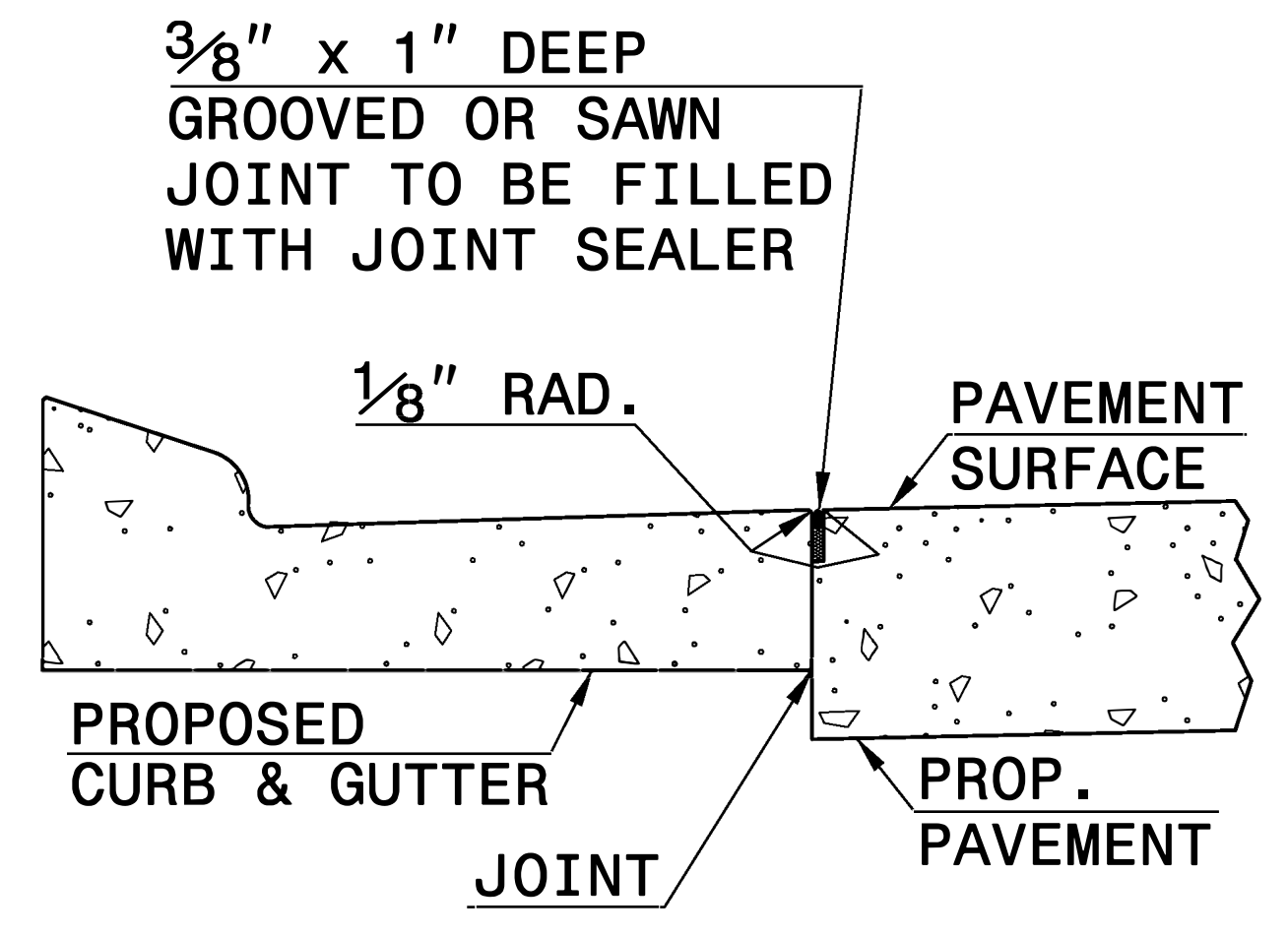
ENGLISH DETAIL DRAWING FOR
2'-9" CONCRETE CURB & GUTTER

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

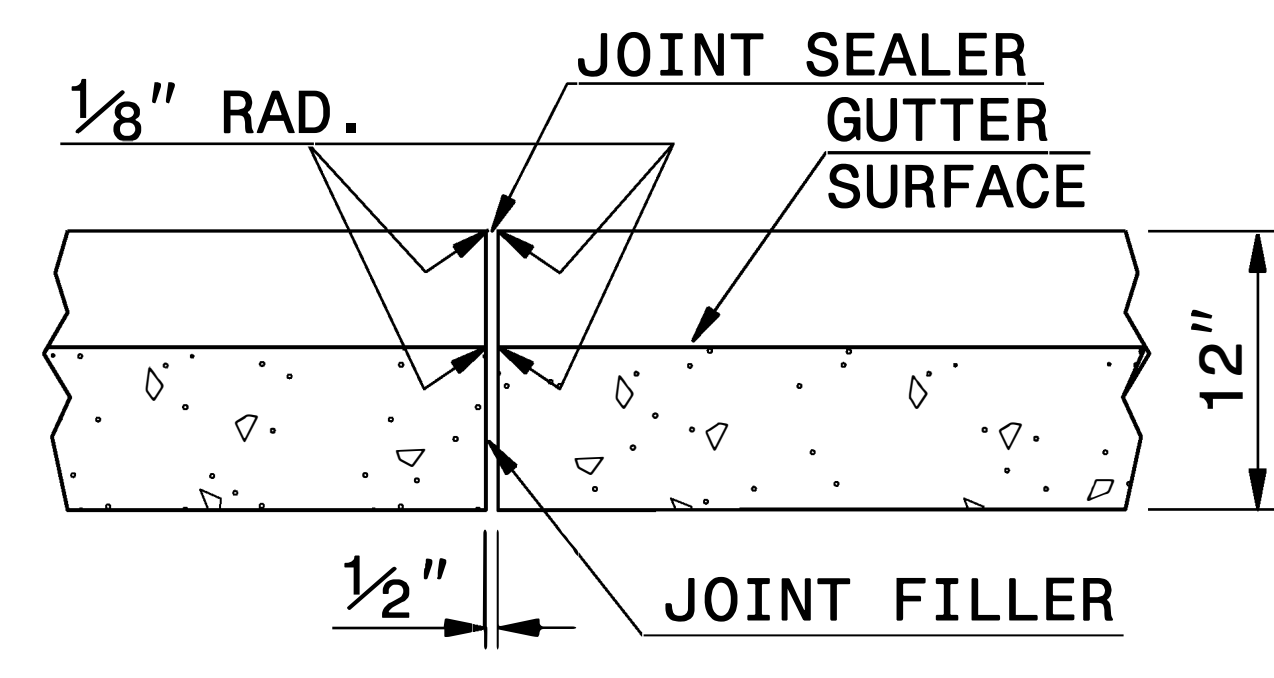


2'-9" CURB AND GUTTER

SECTION VIEW OF CURB AND GUTTER



LONGITUDINAL JOINT



TRANSVERSE EXPANSION JOINT IN CURB AND GUTTER

SECTION VIEW OF JOINTS

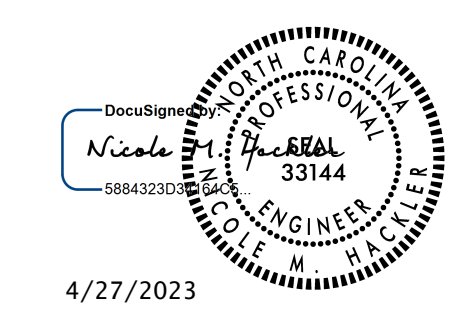
STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

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

SHEET 1 OF 1
846D01

SHEET 1 OF 1
846D01

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S:\Contracts\Standards\Stand\stand\c&g2'-9.dgn
J:\power\ton AT CSU-212515



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

SEE PLATE FOR TITLE

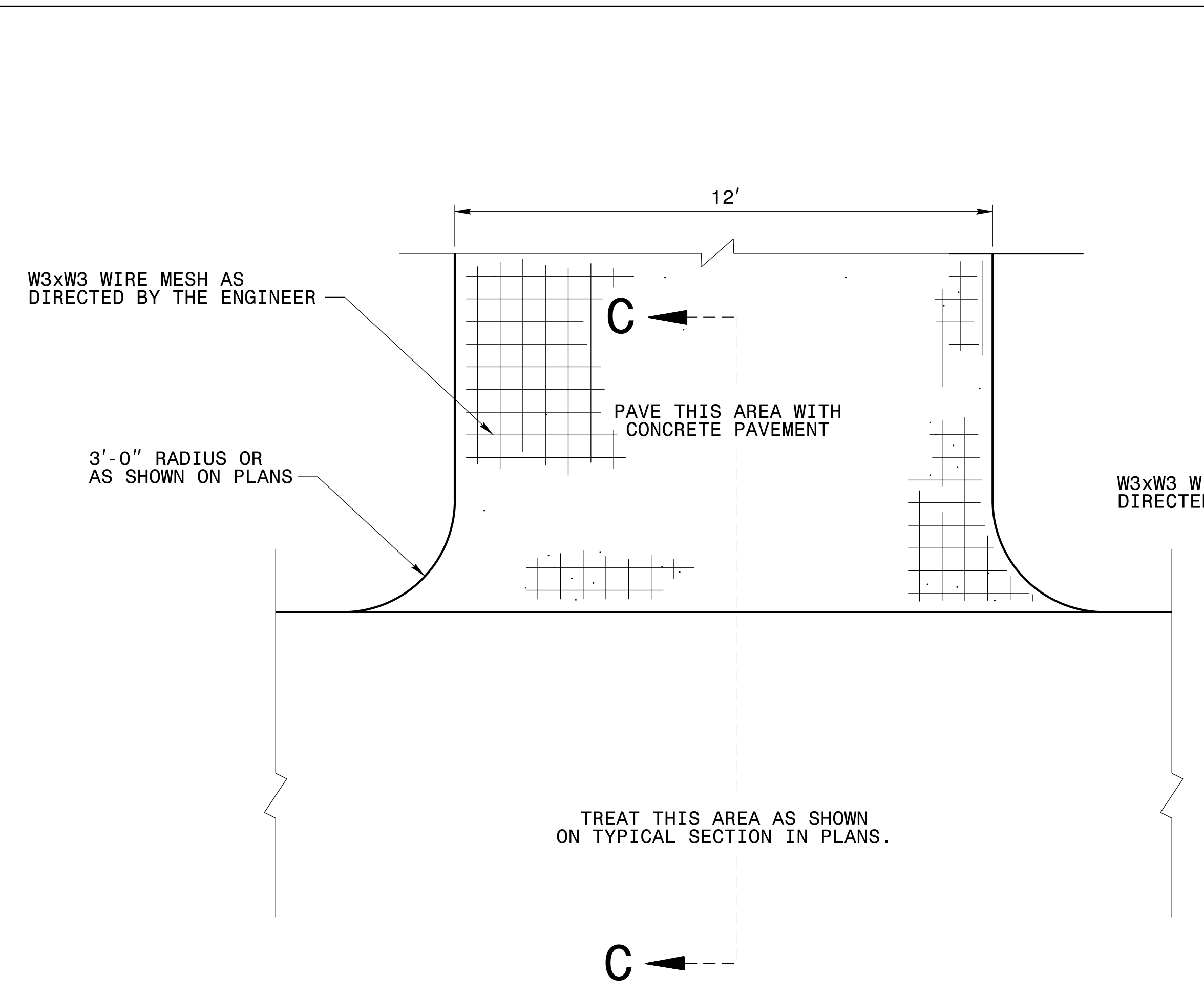
ORIGINAL BY: STD. 846.01 DATE: _____
 MODIFIED BY: E.E. WARD DATE: 8-15-00
 CHECKED BY: _____ DATE: _____
 FILE SPEC.: /usr/details/stand/c&g2'-9.dgn

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

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

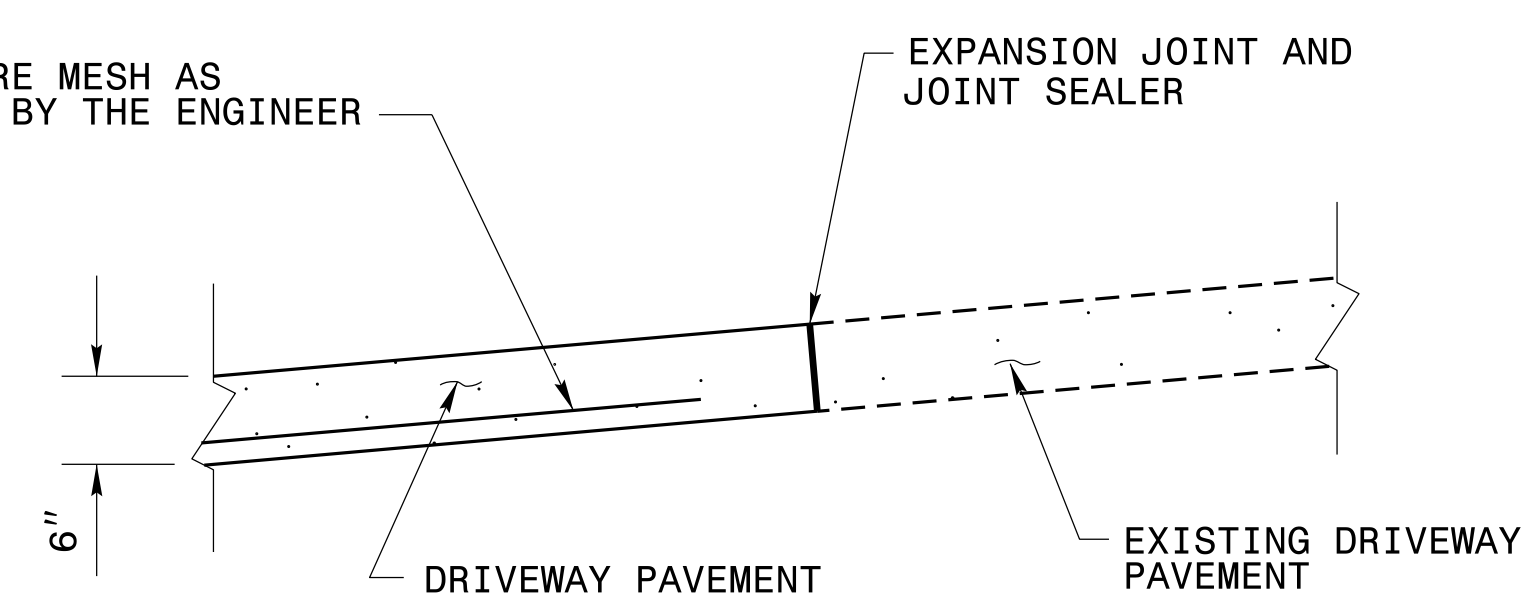
ENGLISH DETAIL DRAWING FOR
DRIVEWAY TURNOUT
RADIUS TYPE

SHEET 1 OF 1
848D02



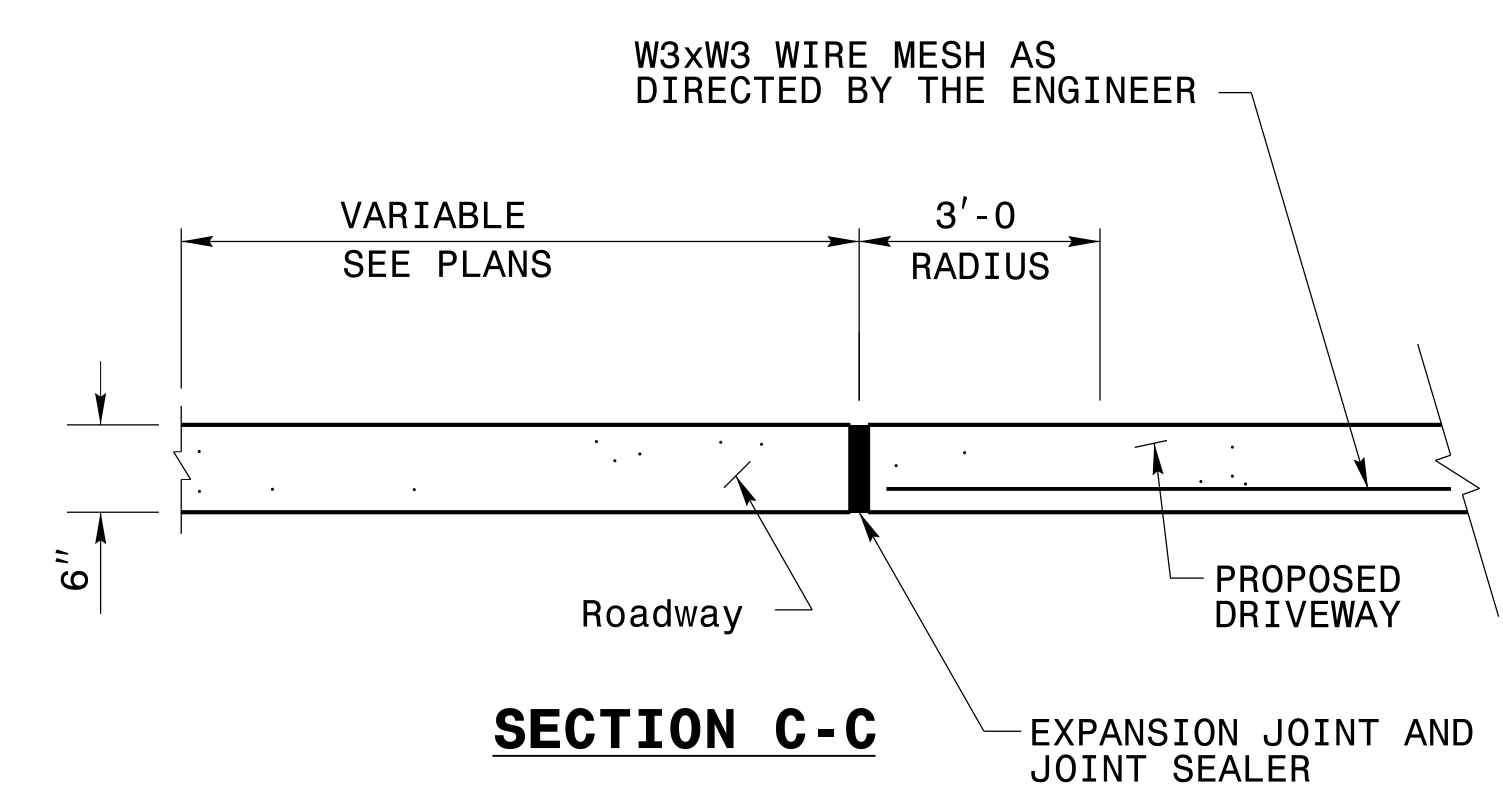
PARTIAL PLAN OF PAVED DRIVEWAY TURNOUT

- NOTES:
- CONSTRUCT STANDARD DRIVEWAY THE WIDTH OF EXISTING DRIVE. CONSTRUCT DRIVE 6" THICK UNLESS OTHERWISE NOTED ON PLANS.
 - PLACE 1/2" EXPANSION JOINT BETWEEN DRIVEWAY AND ROADWAY AND AT LOCATIONS AS DIRECTED BY THE ENGINEER. SEAL JOINT WITH JOINT SEALER (SEE STD. SECTION 1028)
 - PLACE WIRE MESH IN BOTTOM THIRD OF CONCRETE DRIVEWAY.
 - SAW CUT OR FORM CONTRACTION JOINTS IN DRIVEWAY @ 10' INTERVALS. AT EVERY THIRD JOINT, PLACE EXPANSION MATERIAL AS SHOWN IN SECTION C-C.



METHOD OF TIE IN

WHEN EXISTING DRIVEWAY PAVEMENT IS CONCRETE, SAW CUT A 2" DEEP JOINT AT THE POINT OF TIE IN WITH EXISTING DRIVEWAY GRADE.
SAW JOINT PERPENDICULAR TO EDGE OF EXISTING DRIVEWAY PAVEMENT.



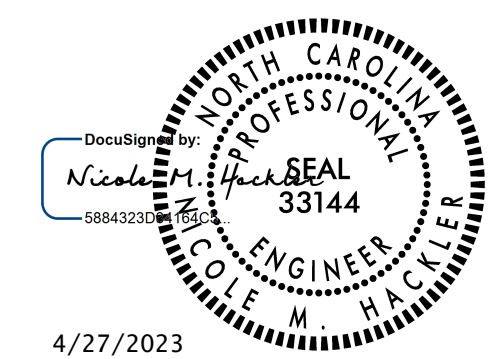
SECTION C-C

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

ENGLISH DETAIL DRAWING FOR
DRIVEWAY TURNOUT
RADIUS TYPE

SHEET 1 OF 1
848D02

30-JAN-2018 12:40 S:\Contracts\Special Details\english\misc\conc drive.dgn Jhoverton AT CSD-292595



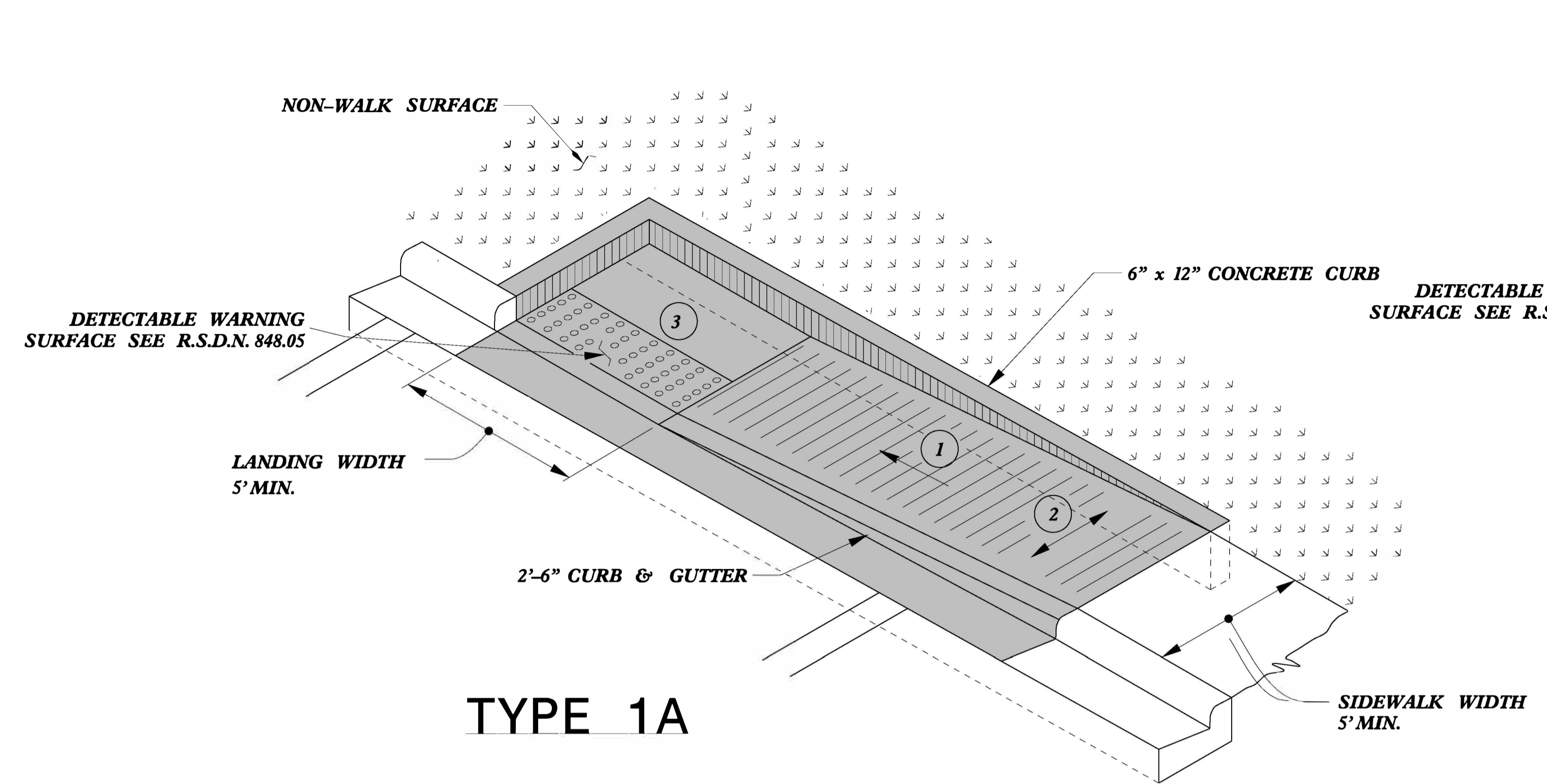
4/27/2023

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

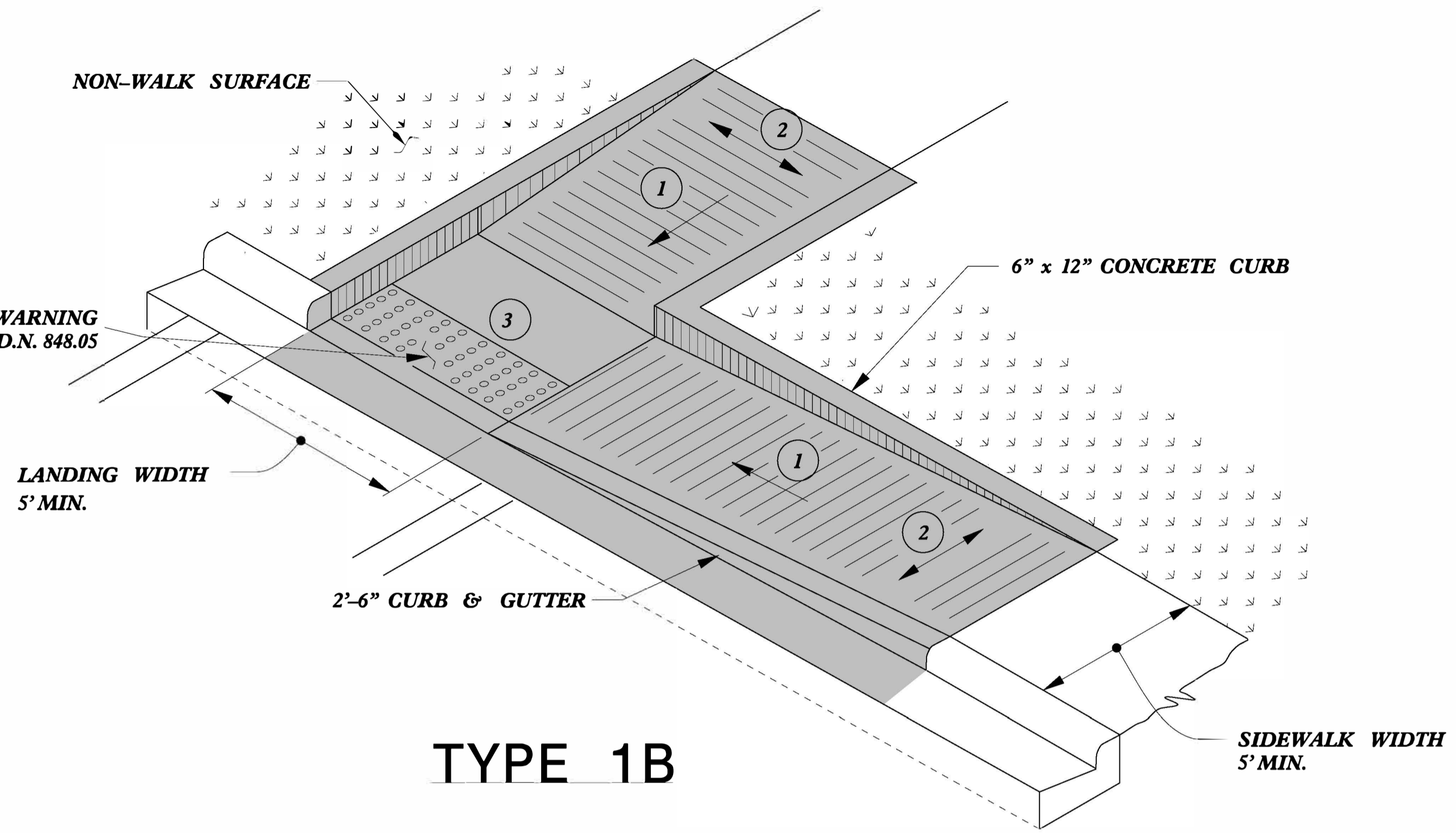
CONTRACT STANDARDS & DEVELOPMENT UNIT
STANDARDS AND SPECIAL DESIGN
Office 919-707-6950 FAX 919-250-4119

REINFORCED CONCRETE DRIVEWAY

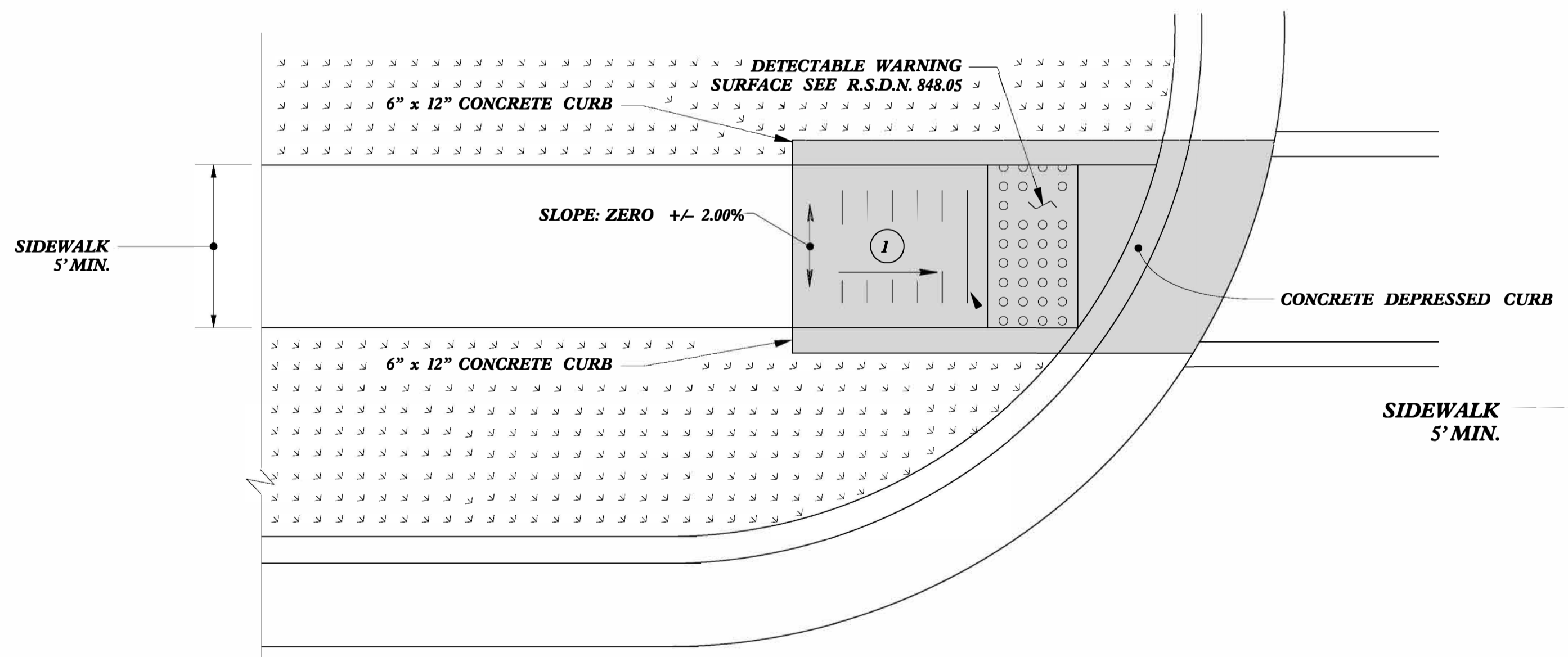
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MODIFIED BY: rnbritt DATE: 03-20-08
CHECKED BY: _____ DATE: _____
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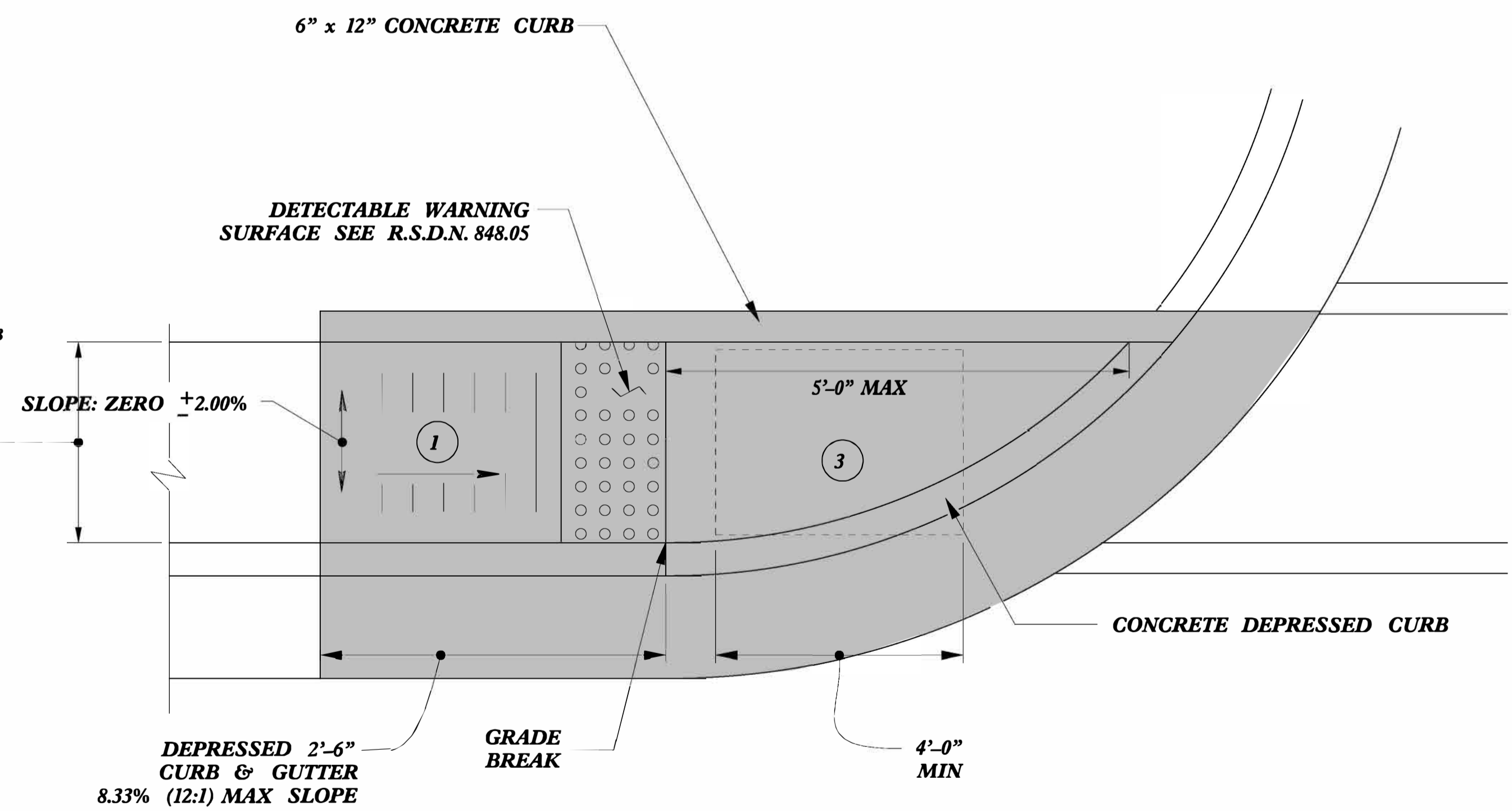
TYPE 1A



TYPE 1B



TYPE 1 Modified

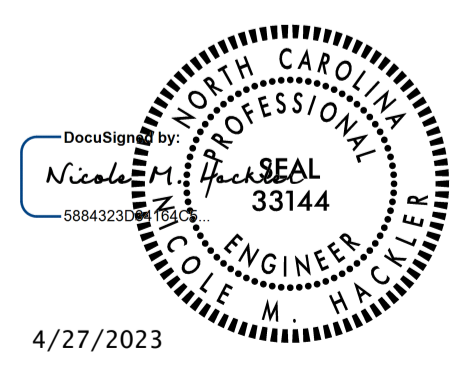


TYPE 1

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

PAY LIMITS FOR 1 CURB RAMP

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

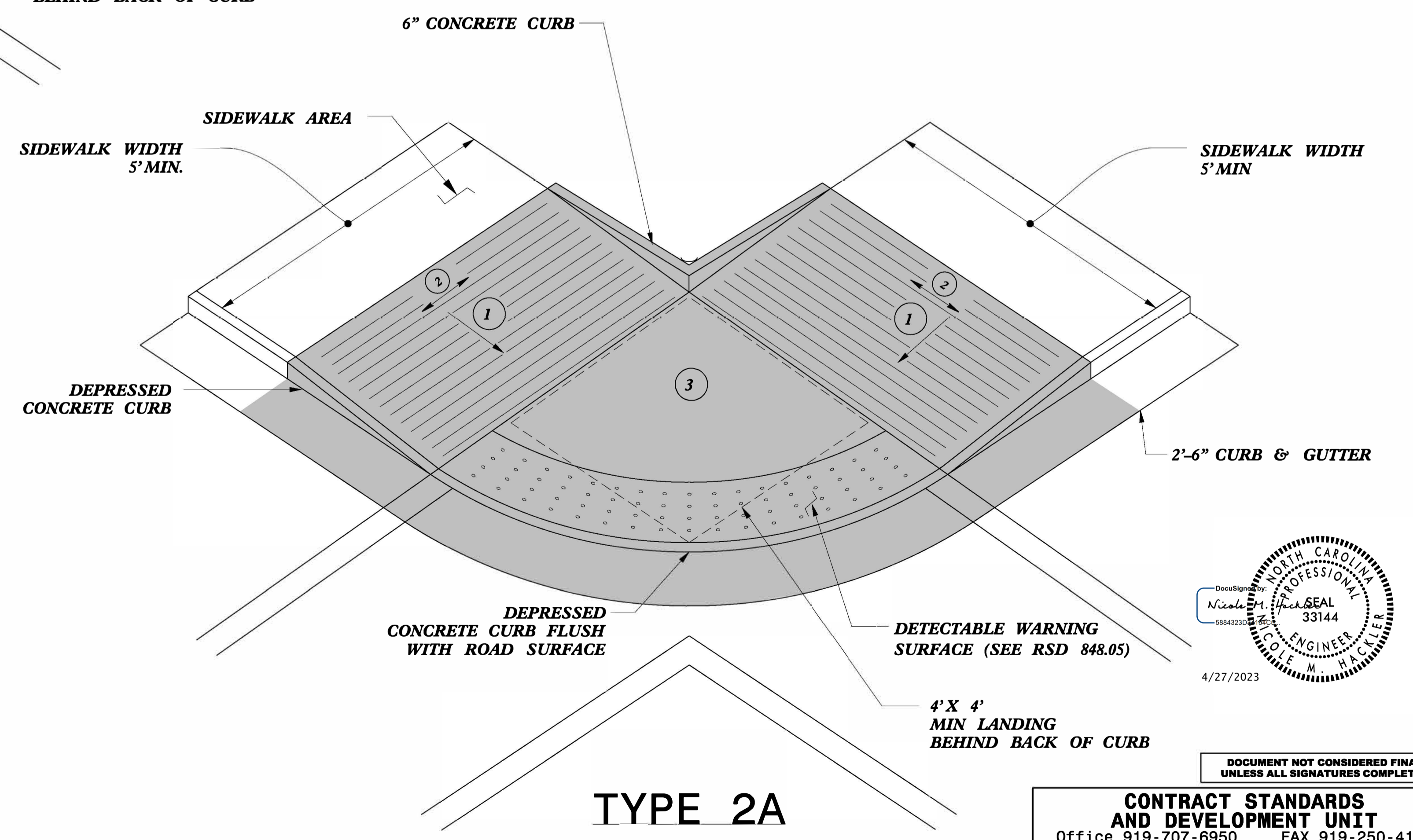
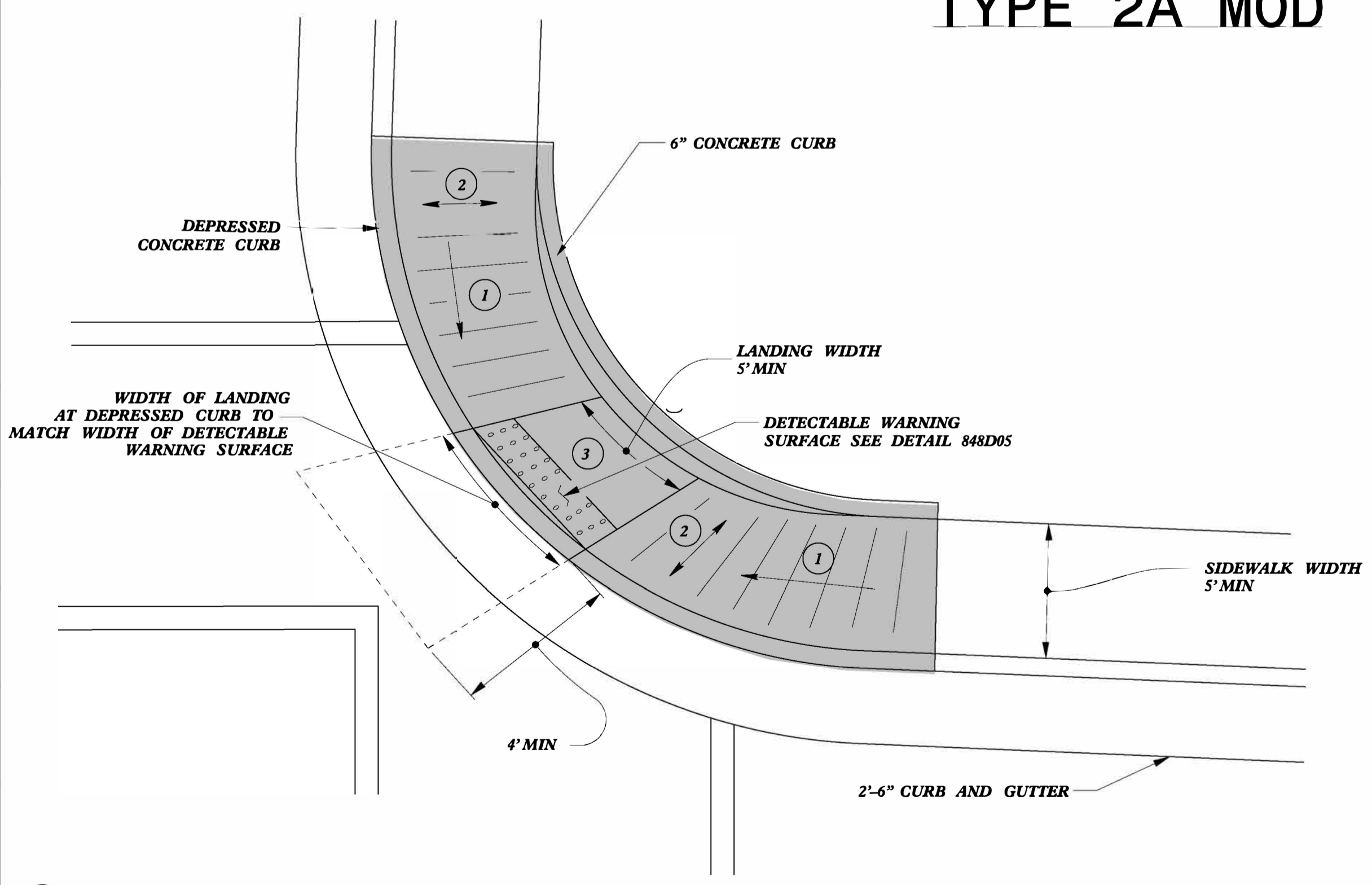
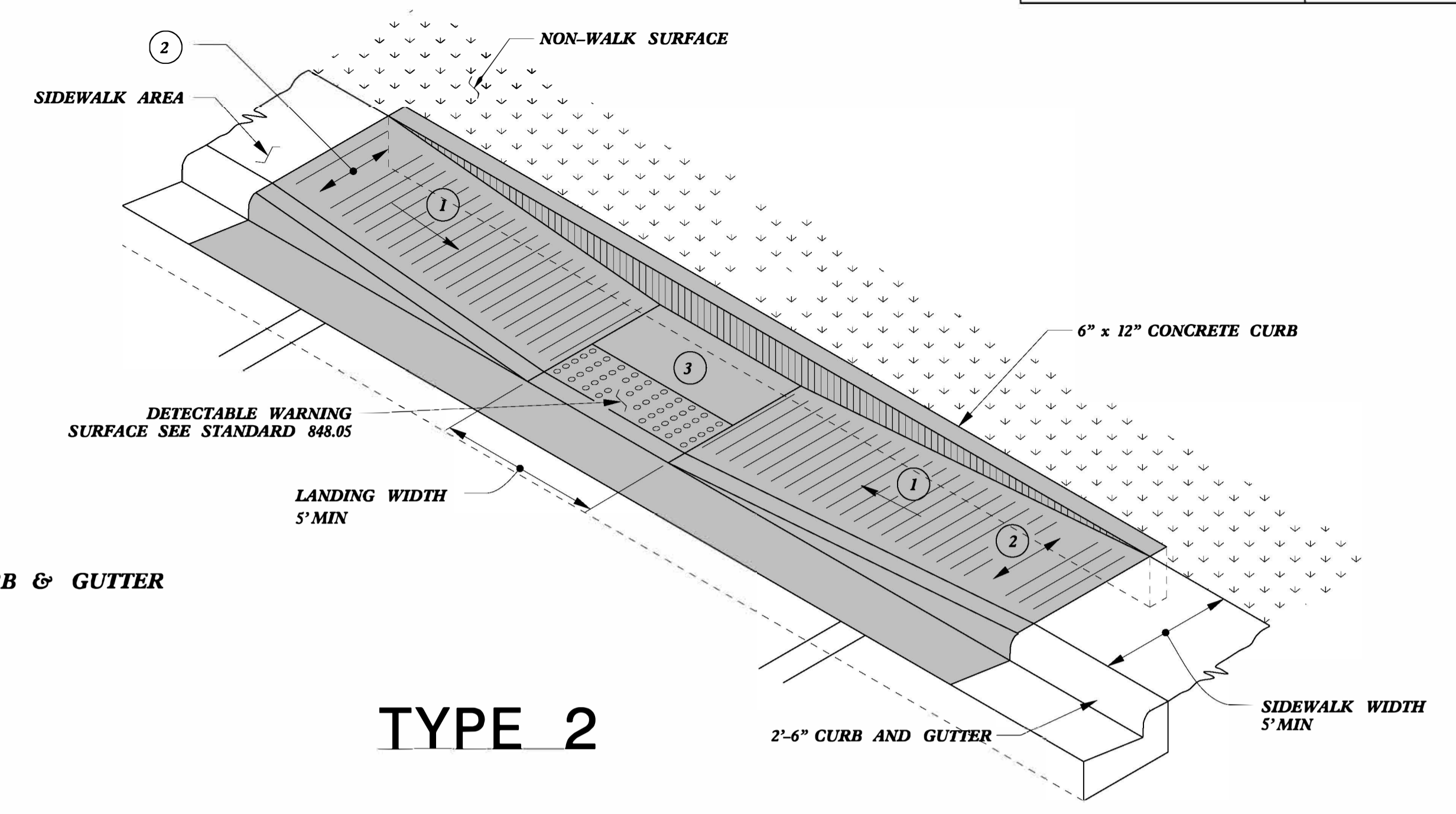
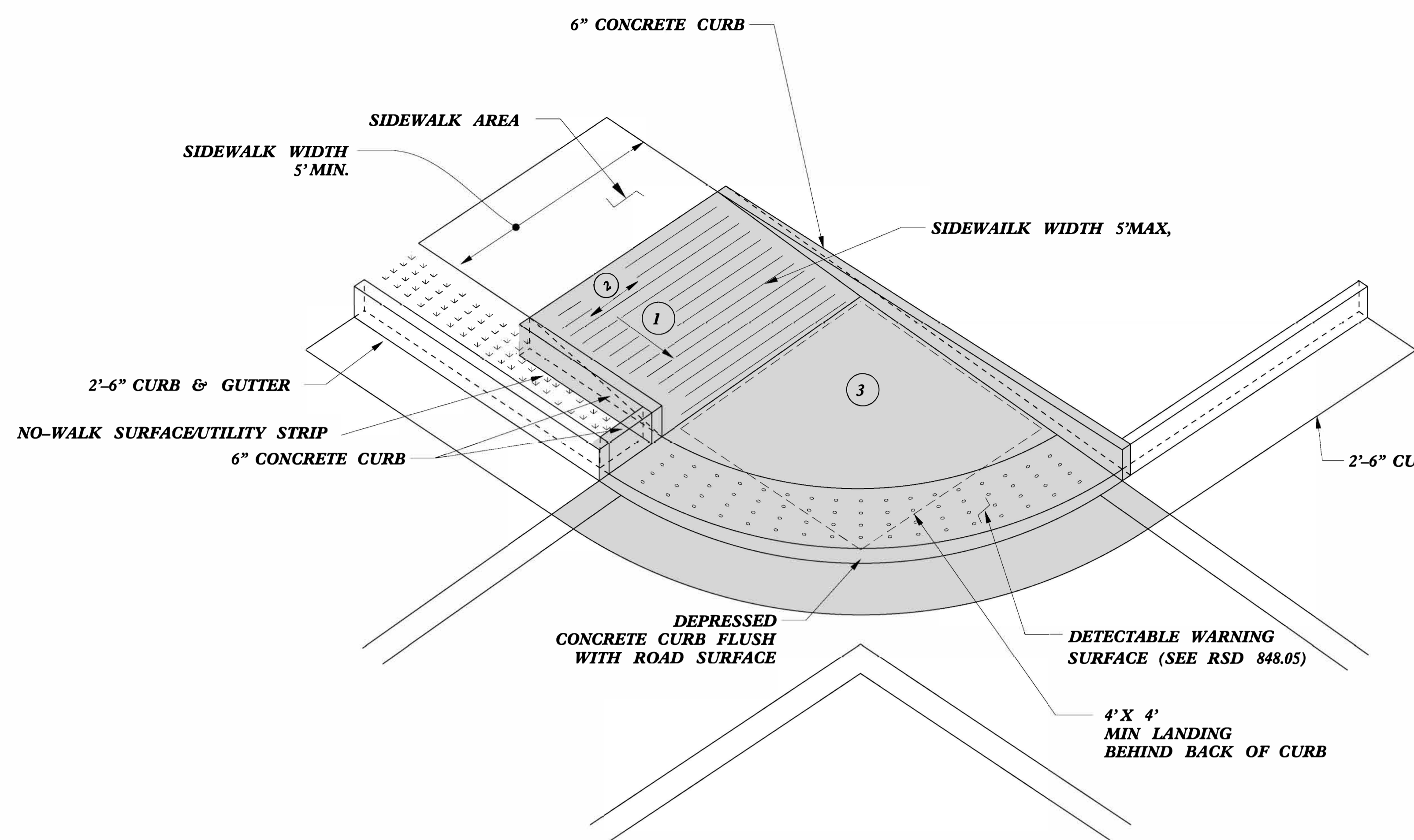


DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

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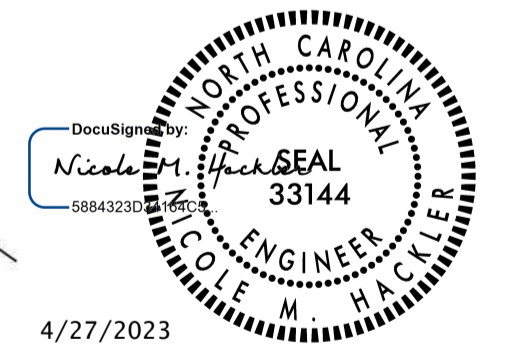
CURB RAMPS
Directional Ramps

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



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

PAY LIMITS FOR 1 CURB RAMP



4/27/2023

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

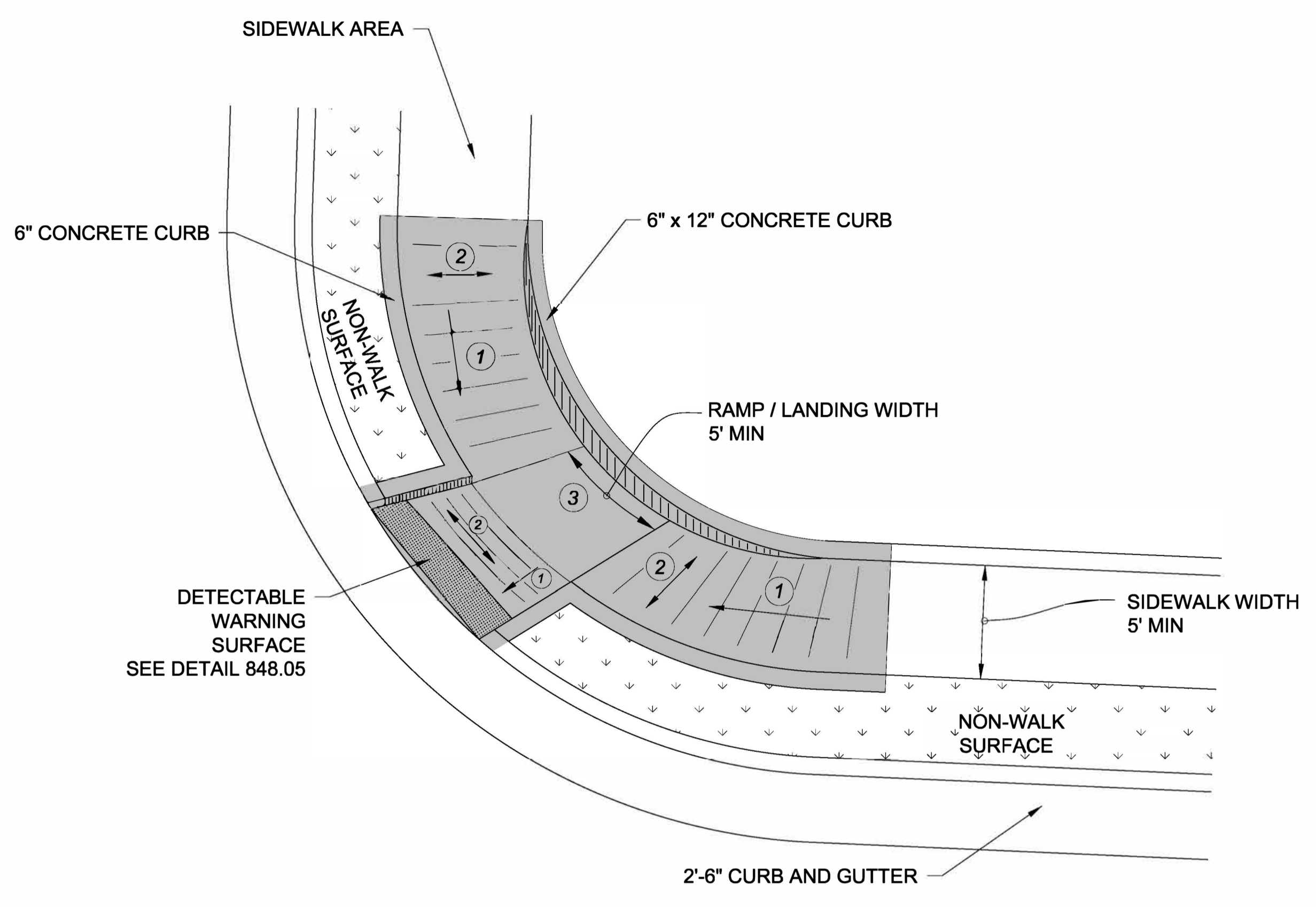
CONTRACT STANDARDS AND DEVELOPMENT UNIT
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CURB RAMPS

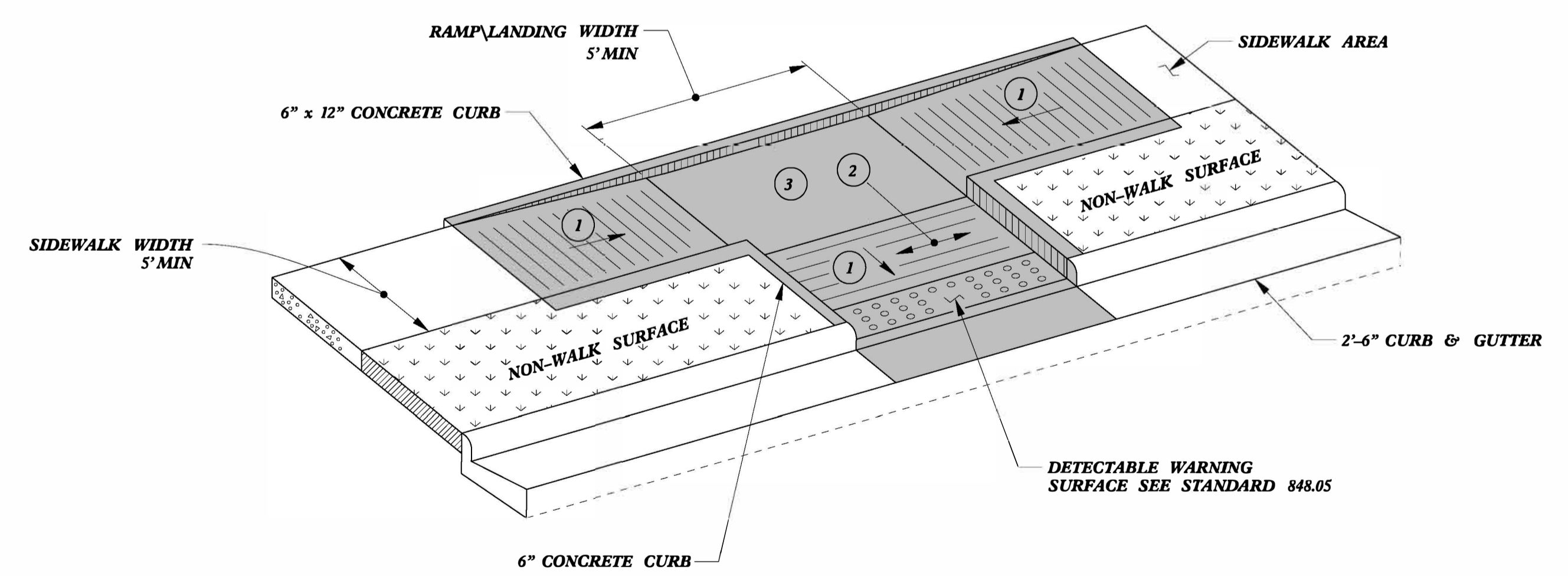
ORIGINAL BY: J.S. HOWERTON DATE: 7/7/11
 MODIFIED BY: _____ DATE: _____
 CHECKED BY: _____ DATE: _____
 FILE SPEC: stds/2012CurbRamp/CurbRampDetails.dgn

5/14/99
C:\TEMP\6655\DWG\CON\6655\6655.DWG
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C:\TEMP\6655\DWG\CON\6655\6655.DWG

PAY LIMITS FOR 1 CURB RAMP

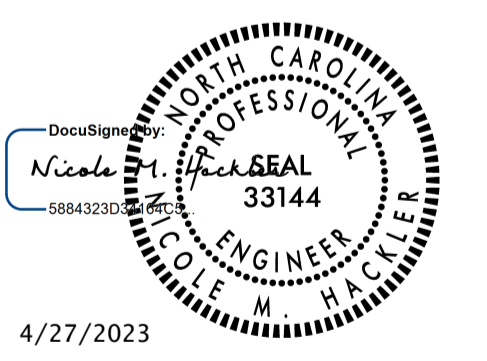


TYPE 3 MODIFIED
INSTALLATION IN A RADIUS



TYPE 3

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



4/27/2023

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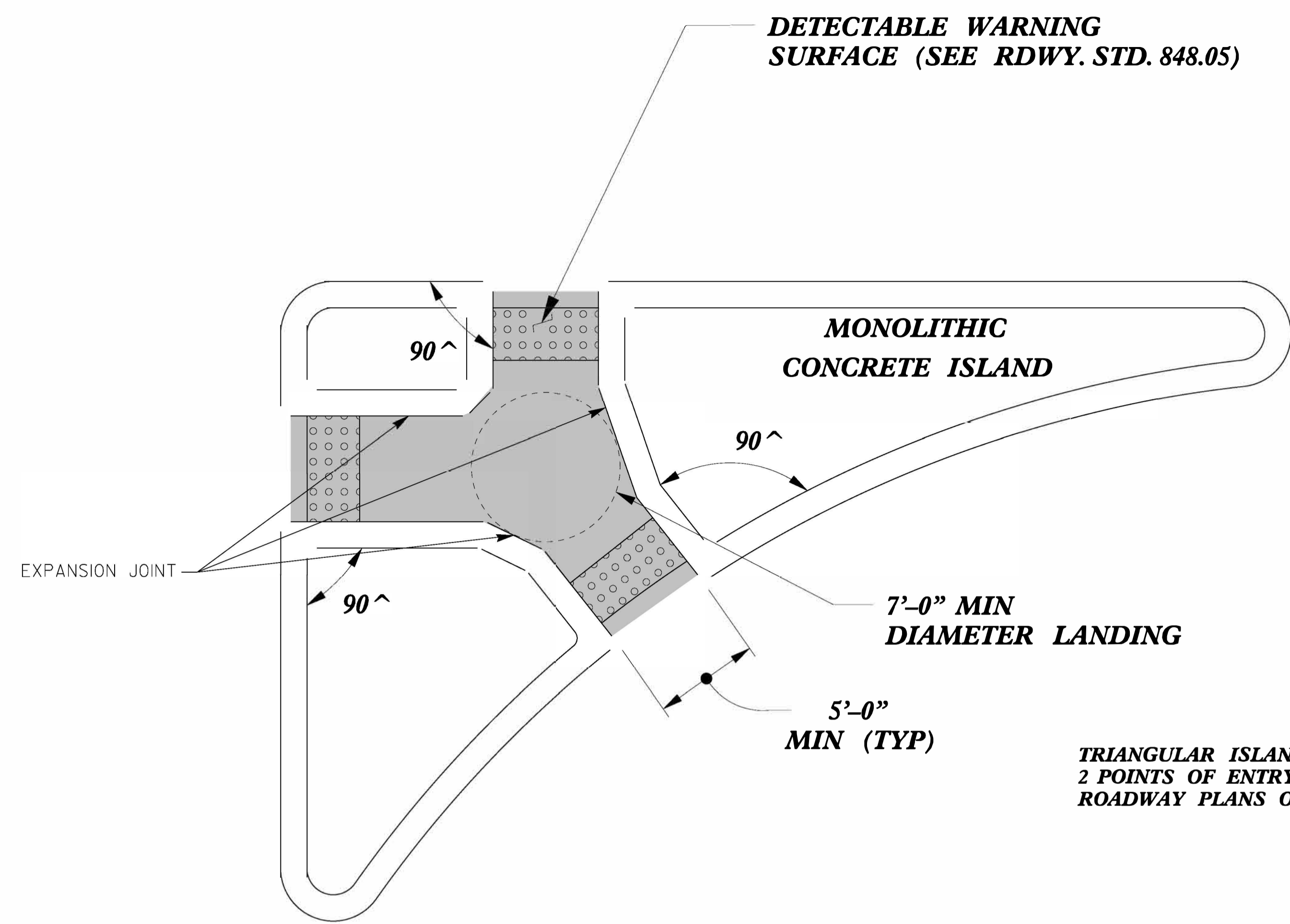
**CONTRACT STANDARDS
AND DEVELOPMENT UNIT**
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CURB RAMPS

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

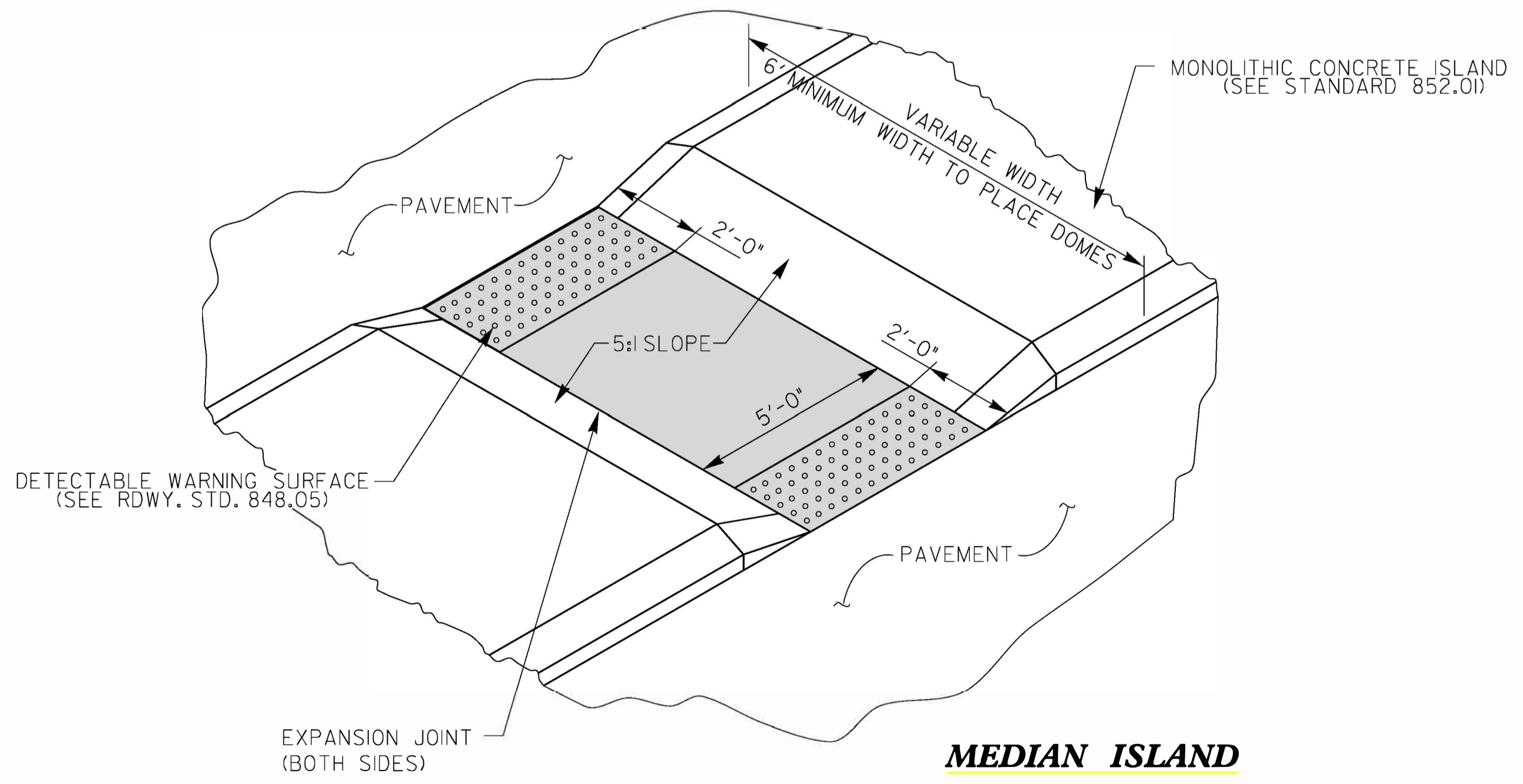
5/14/99

**PAY LIMITS FOR 2 OR 3 CURB RAMPS
(CALCULATE BASED ON NUMBER OF
SETS OF TRUNCATED DOMES)**

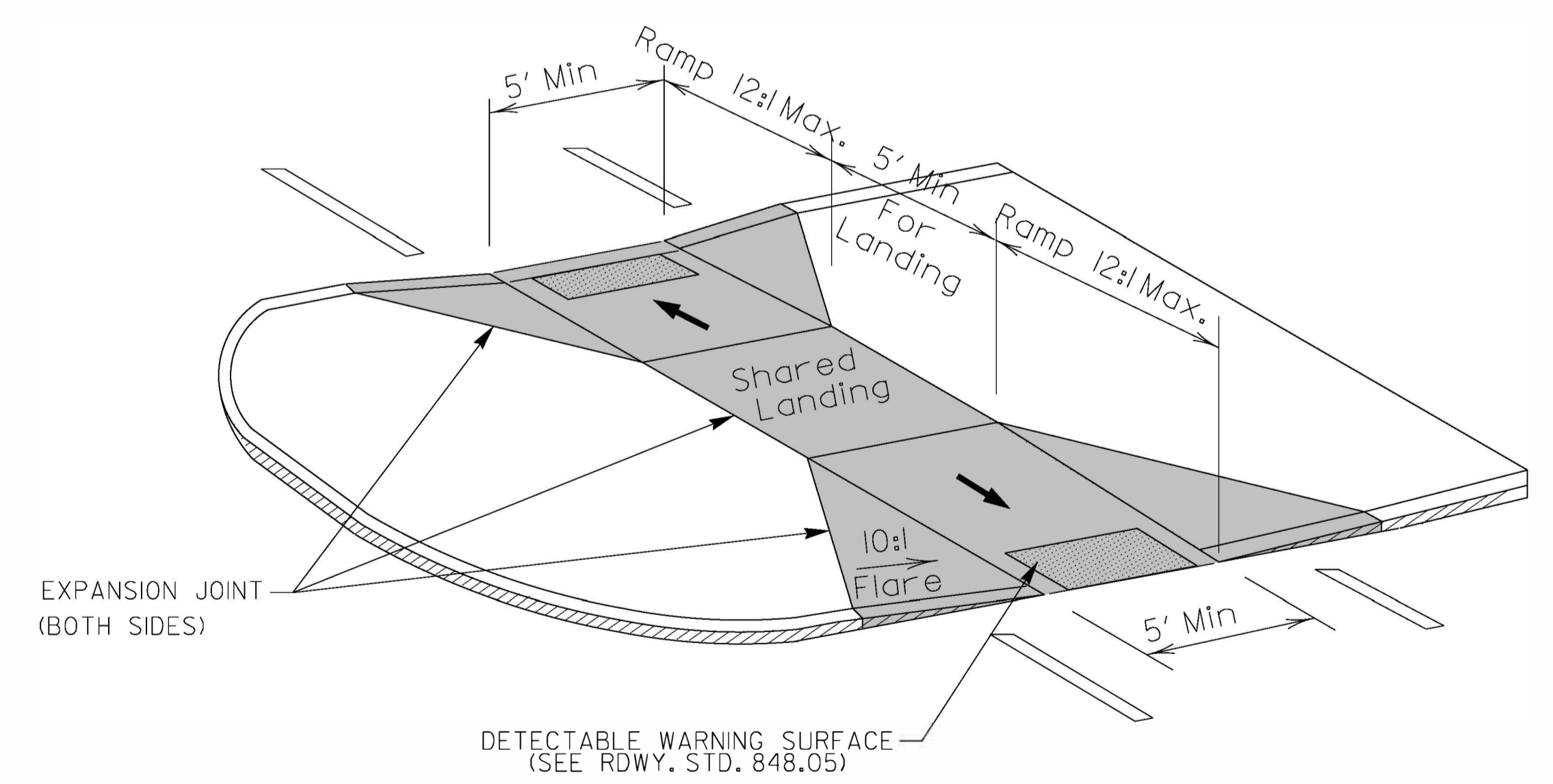


TRIANGULAR ISLANDS MAY BE CONSTRUCTED WITH ONLY 2 POINTS OF ENTRY AND EXIT AS SHOWN IN THE ROADWAY PLANS OR AS DIRECTED BY THE ENGINEER.

**TRIANGULAR ISLAND WITH CUT THROUGH
TYPE 6**



**MEDIAN ISLAND WITH CUT THROUGH
TYPE 7**



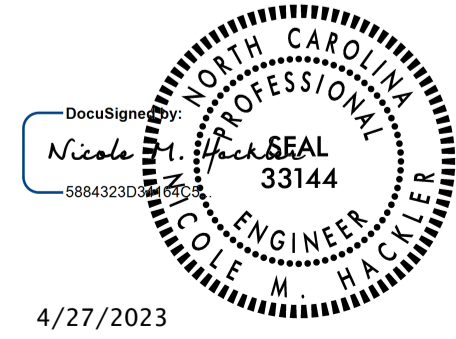
**MEDIAN ISLAND CURB RAMPS
TYPE 8**

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

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CURB RAMPS
Median or Turn Lane Islands

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



4/27/2023

5/14/99

04-SEP-2018 08:31 S:\Contracts\Special Details\howerton\Standard Drawings\Division 8\862D01 Impact Attenuator Sheets 1 and 2.dgn
Jhowerton AT CSU-212515

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

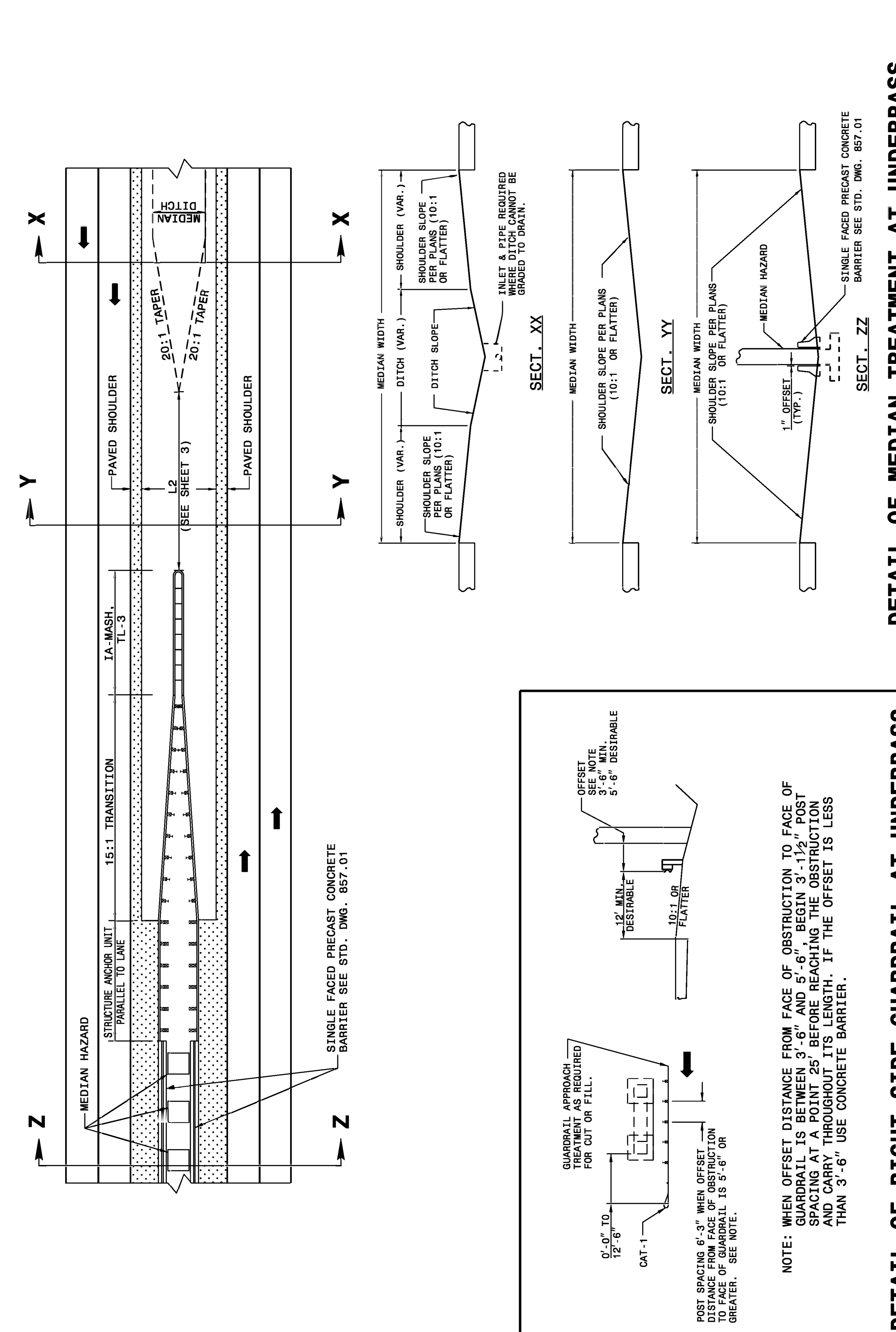
ROADWAY DETAIL DRAWING FOR
GUARDRAIL PLACEMENT

SHEET 1 OF 11
862D01

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

ROADWAY DETAIL DRAWING FOR
GUARDRAIL PLACEMENT

SHEET 1 OF 11
862D01



SHEET 1 OF 11
862D01

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

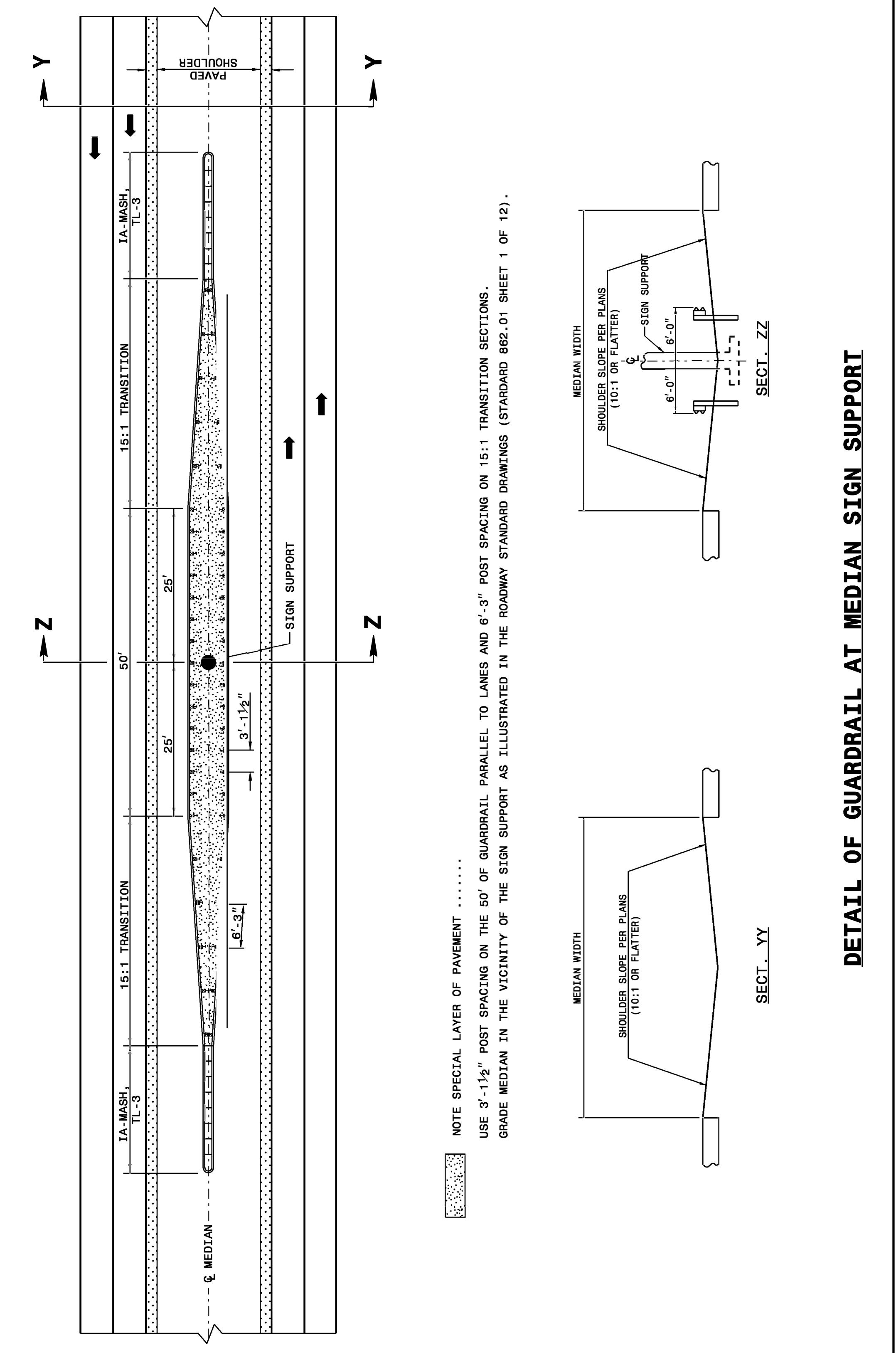
ROADWAY DETAIL DRAWING FOR
GUARDRAIL PLACEMENT

SHEET 2 OF 11
862D01

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

ROADWAY DETAIL DRAWING FOR
GUARDRAIL PLACEMENT

SHEET 2 OF 11
862D01

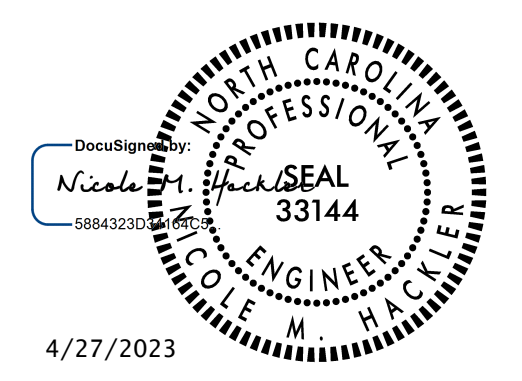


DOCUMENT NOT CONSIDERED FINAL
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SEE TITLE BLOCK

ORIGINAL BY: J HOWERTON DATE: 08-23-18
 MODIFIED BY: DATE:
 CHECKED BY: DATE:
 FILE SPEC.: DATE:



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

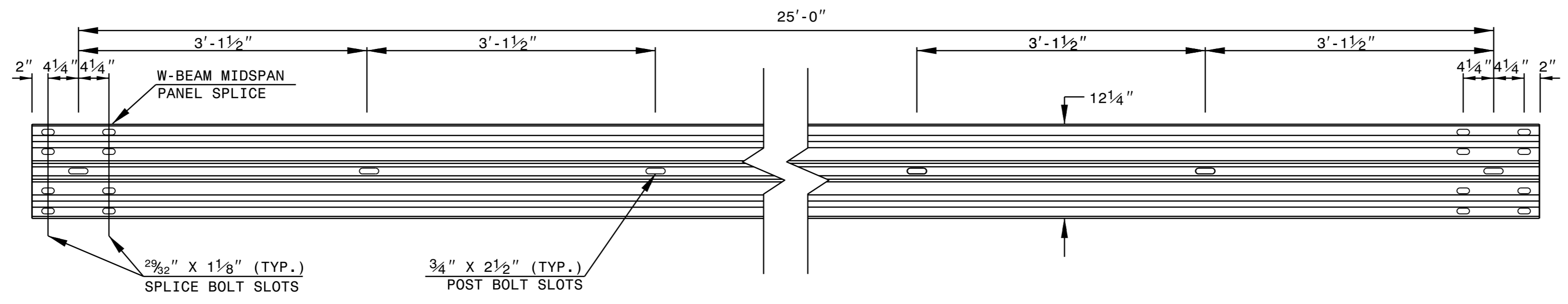
ROADWAY DETAIL DRAWING FOR
GUARDRAIL INSTALLATION

SHEET 6 OF 8
862D02

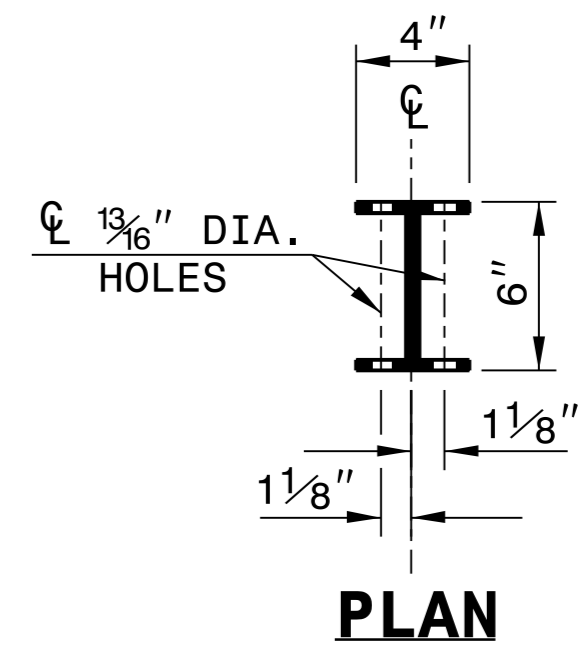
STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

ROADWAY DETAIL DRAWING FOR
GUARDRAIL INSTALLATION

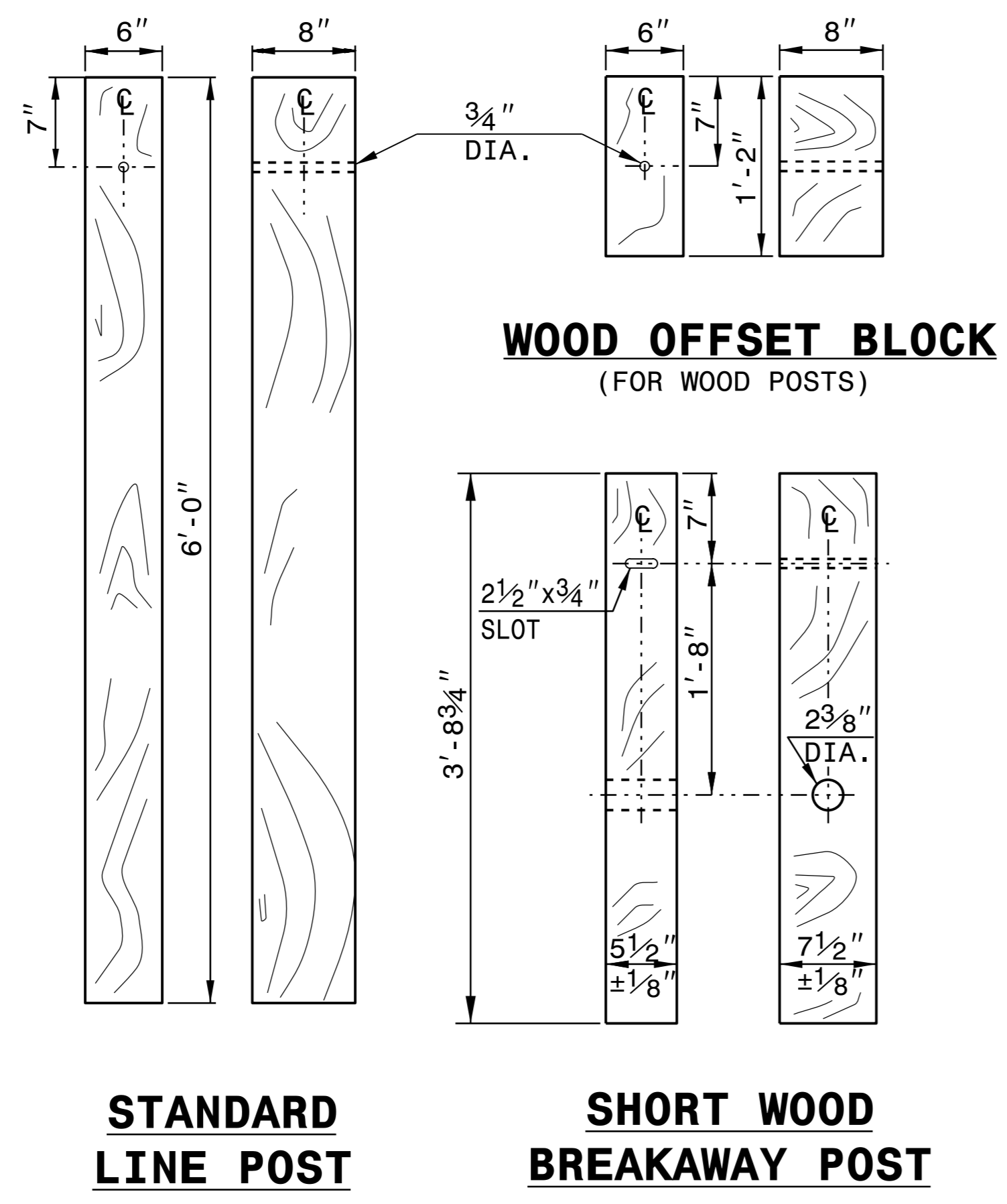
SHEET 6 OF 8
862D02



STANDARD W-BEAM GUARDRAIL



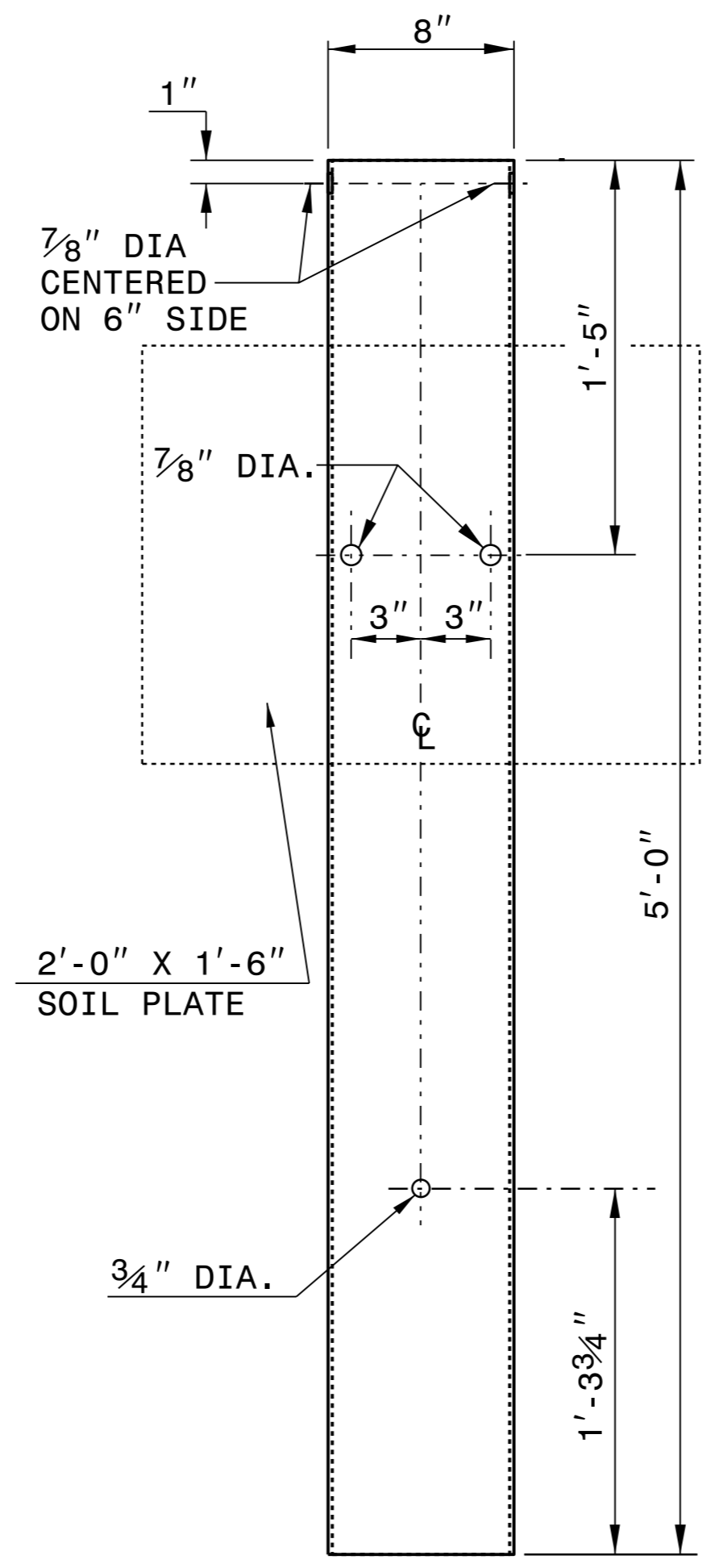
PLAN



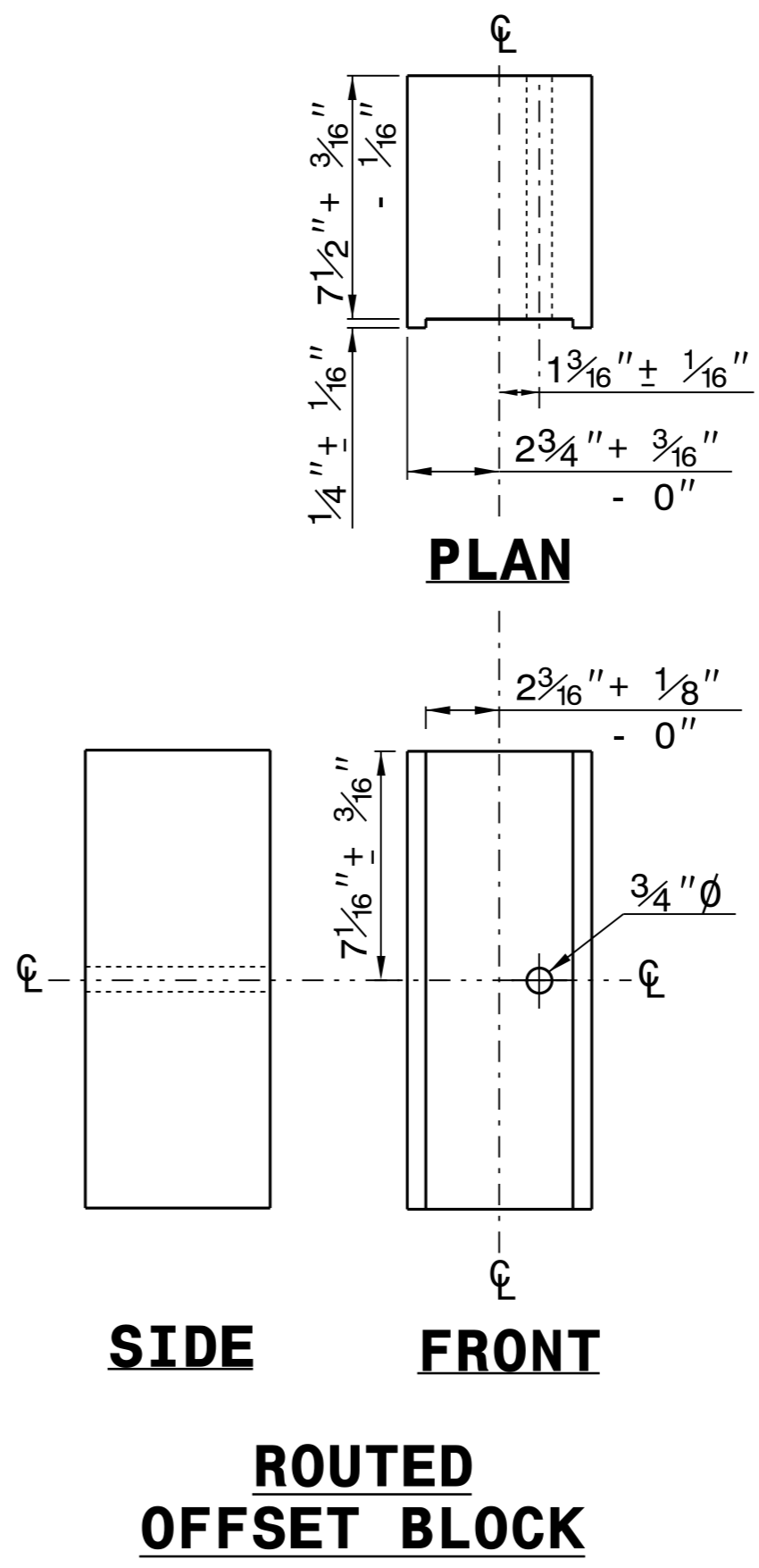
**WOOD OFFSET BLOCK
(FOR WOOD POSTS)**

**STANDARD
LINE POST**

**SHORT WOOD
BREAKAWAY POST**



**STEEL TUBE
TS 6"x8"x0.1875"**

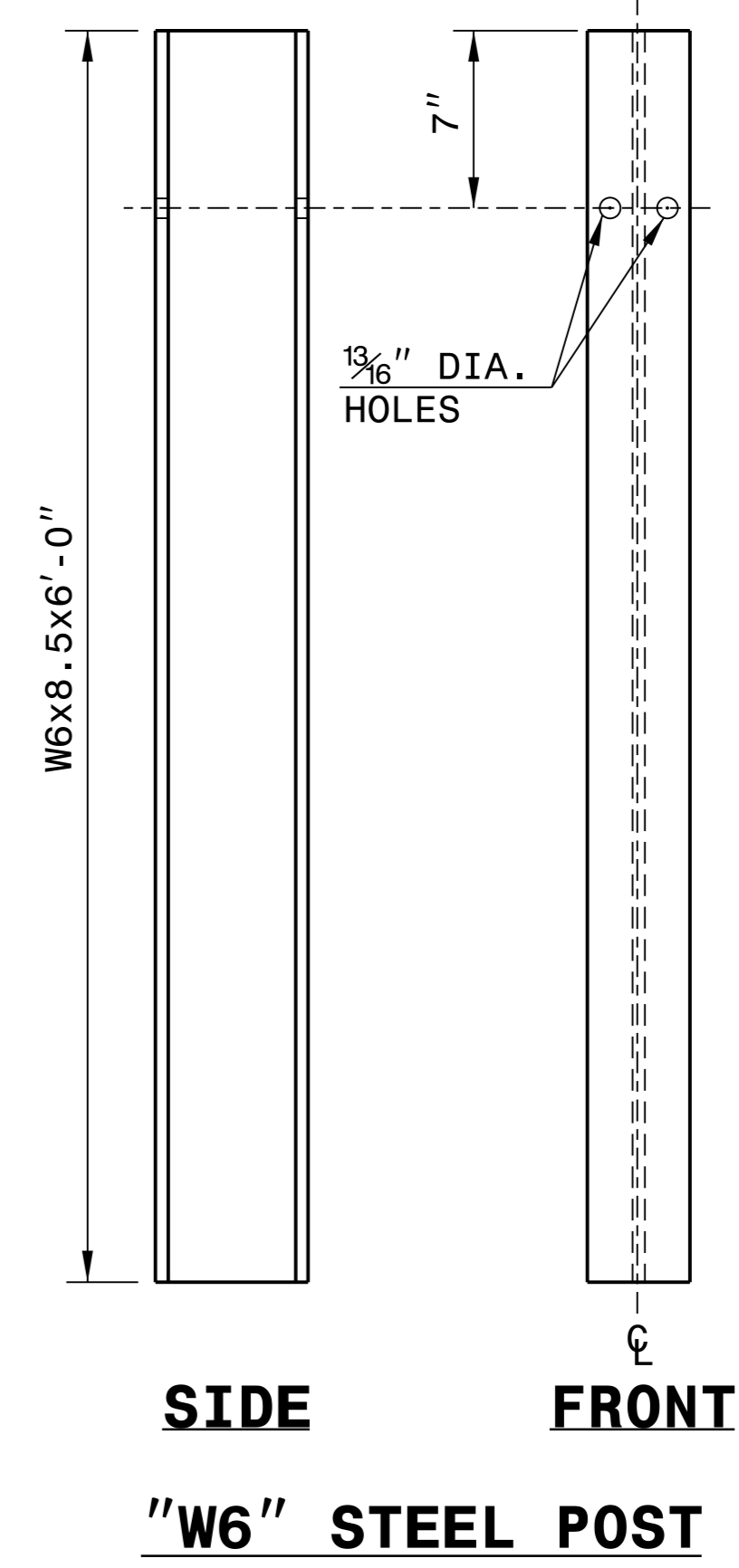


PLAN

SIDE

FRONT

**ROUTED
OFFSET BLOCK**

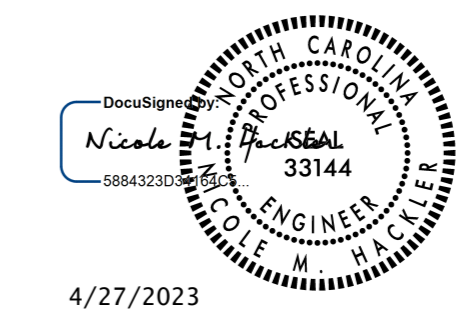


SIDE

FRONT

"W6" STEEL POST

SYSTEM PARTS

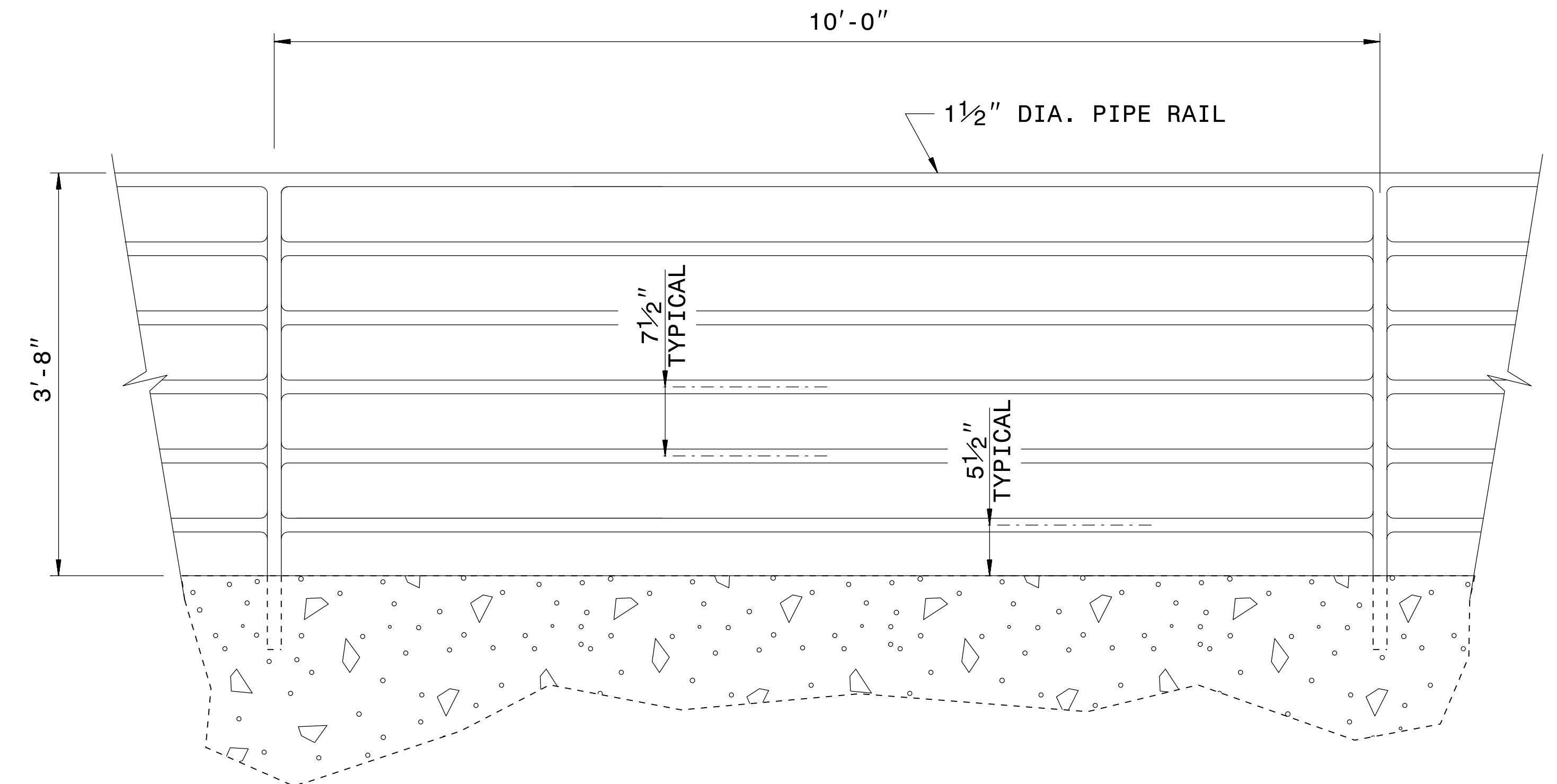


4/27/2023

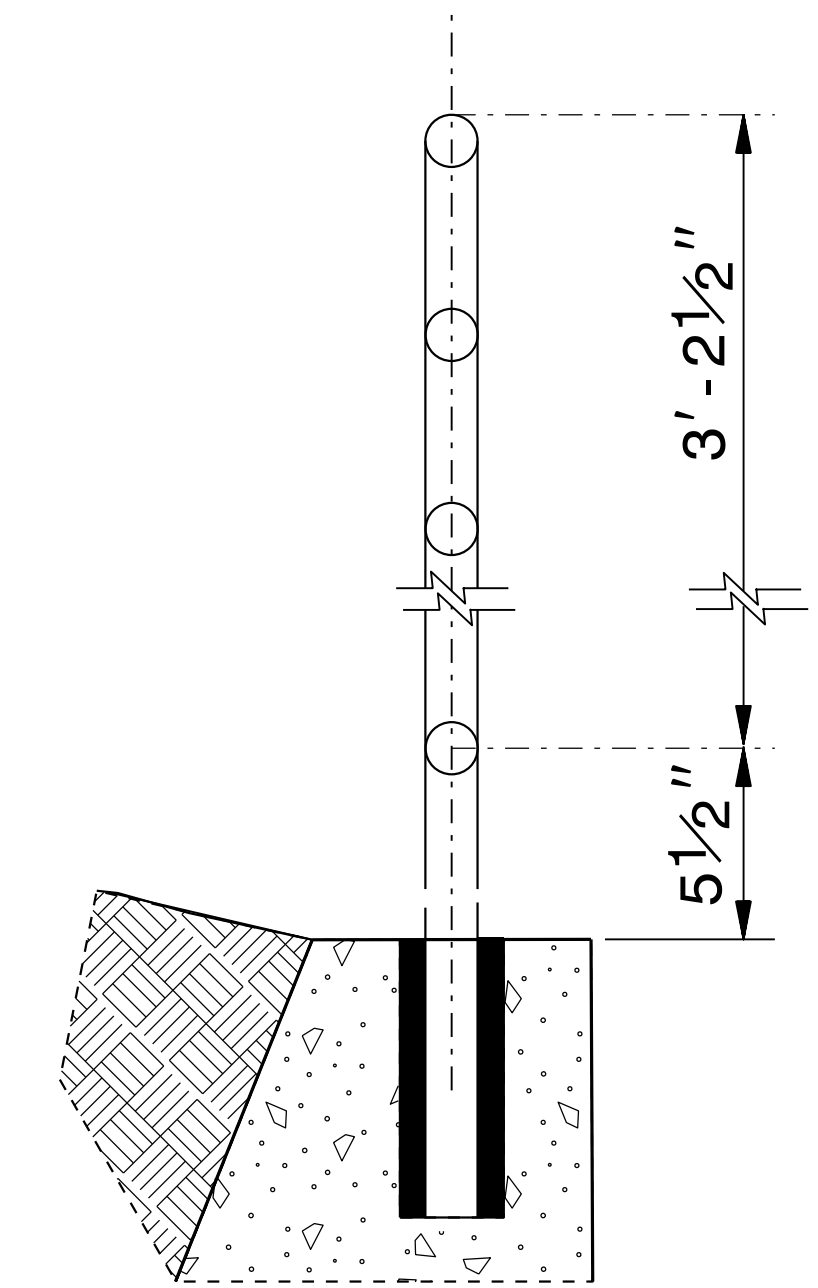
**CONTRACTS STANDARDS
AND DEVELOPMENT UNIT**
Office 919-707-6950 FAX 919-250-4119

SEE TITLE BLOCK

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



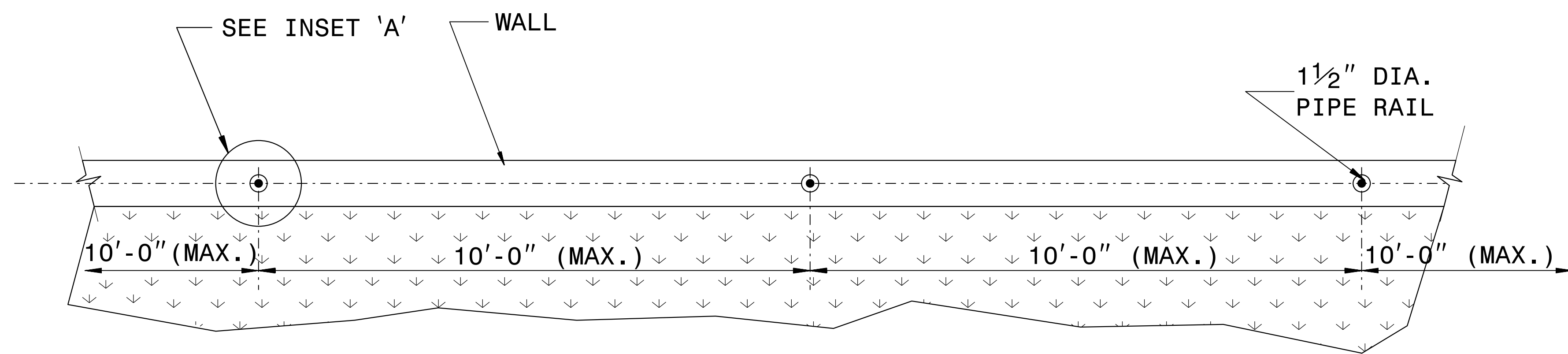
ELEVATION OF HANDRAIL



INSET 'A'

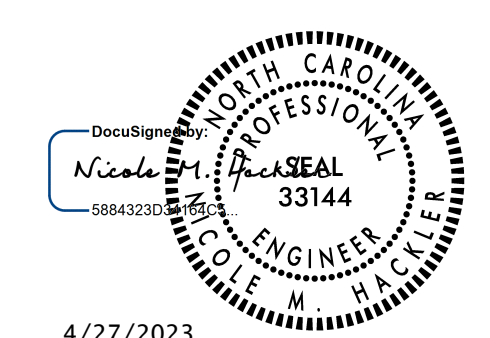
NOTES:

- CONSTRUCT PROPOSED STEEL PIPE RAIL 1 1/2" DIAMETER SCHEDULE 40 PLAIN END GALVANIZED STEEL PIPE MEETING THE REQUIREMENTS OF ASTM A53.
- EMBED PIPE RAIL INTO PROPOSED WALL WITH CHEMICAL OR CONCRETE GROUT ANCHORING SYSTEM PER THE WALL MANUFACTURER'S RECOMMENDATIONS.
- REPAIR GALVANIZING IN ACCORDANCE WITH SECTION 1076 OF THE NCDOT STANDARD SPECIFICATIONS.
- PAINT, IF REQUIRED BY THE ENGINEER, IN ACCORDANCE WITH SECTION 1080 OF THE STANDARD SPECIFICATIONS.
- CENTER THE PROPOSED RAILING ON TOP OF THE WALL WITH POST SPACING SYMMETRICAL ABOUT THE CENTER-LINE OF THE WALL.
- WELD IN ACCORDANCE WITH ARTICLE 1072-18 OF THE STANDARD SPECIFICATIONS.
- SUBMIT THE ATTACHMENT OF THE HANDRAIL TO THE RETAINING WALL TO THE CONTRACTS AND STANDARDS OFFICE FOR APPROVAL.



PLAN VIEW

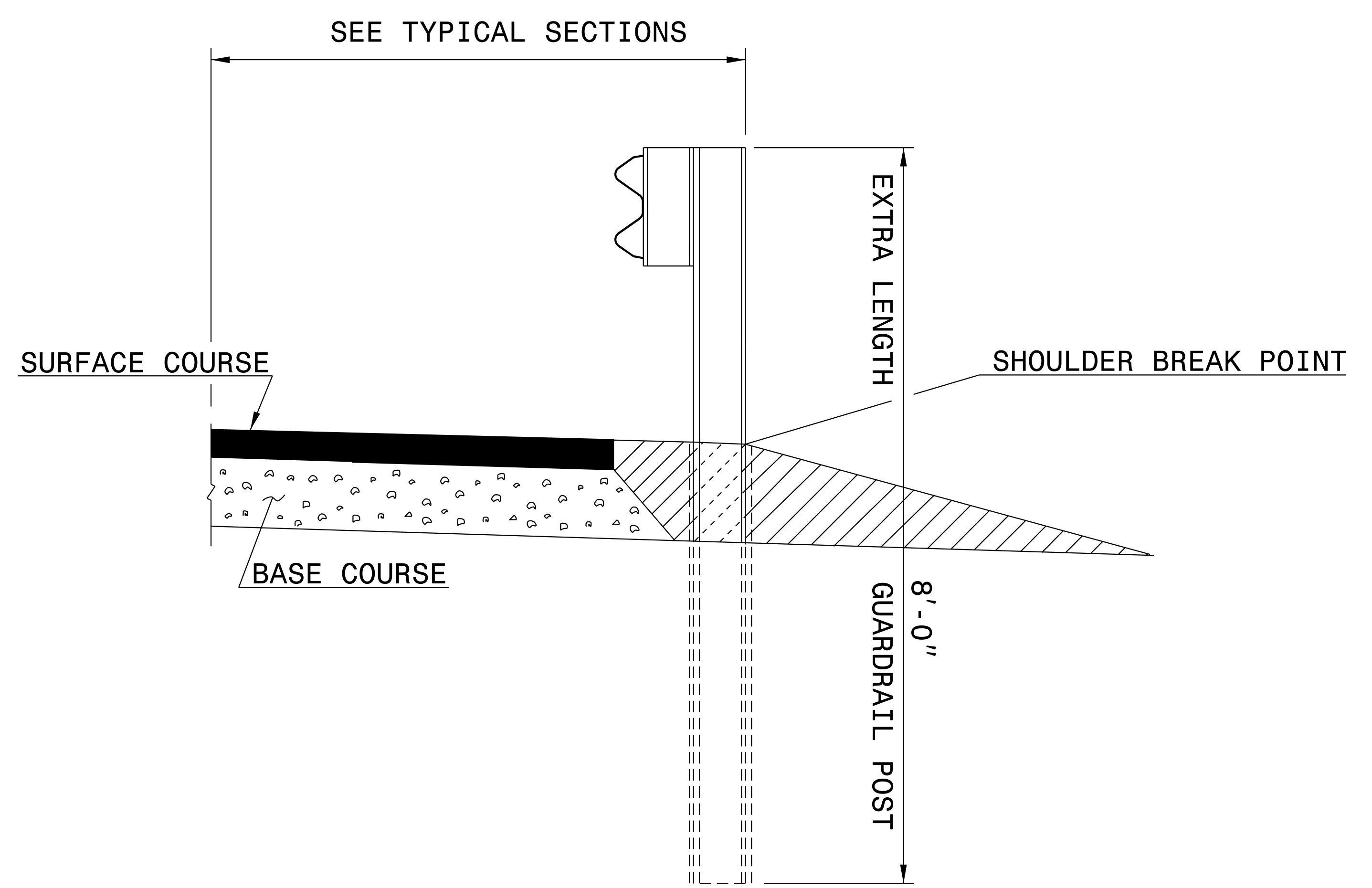
24-MAY-2018 14:10 S:\Contracts\Special Details\Howerton\Handrail on Retaining Wall.dgn jhowerton AT USD-292595



4/27/2023

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

CONTRACT STANDARDS AND DEVELOPMENT UNIT	
Office 919-707-6950 FAX 919-250-4119	
DETAIL OF PIPE HANDRAIL MOUNTED ON A WALL	
ORIGINAL BY: E.E. WARD	DATE: 12-99
MODIFIED BY:	DATE:
CHECKED BY:	DATE:
FILE SPEC.: jhowerton/handrail_on_retaining_wall.dgn	



09-MAY-2018 14:21
 S:\Contracts\Projects\Special Details\hoverton\7'postguardrail.dgn
 Jhoverton AT_CSD-232595



DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

CONTRACT STANDARDS AND DEVELOPMENT UNIT	
Office 919-707-6950 FAX 919-250-4119	
8' GUARDRAIL POST	
ORIGINAL BY: L. Robinson	DATE: 1995
MODIFIED BY: L. Robinson	DATE: Feb, 1996
CHECKED BY:	DATE:
FILE SPEC.: s:7'postguardrail.dgn	