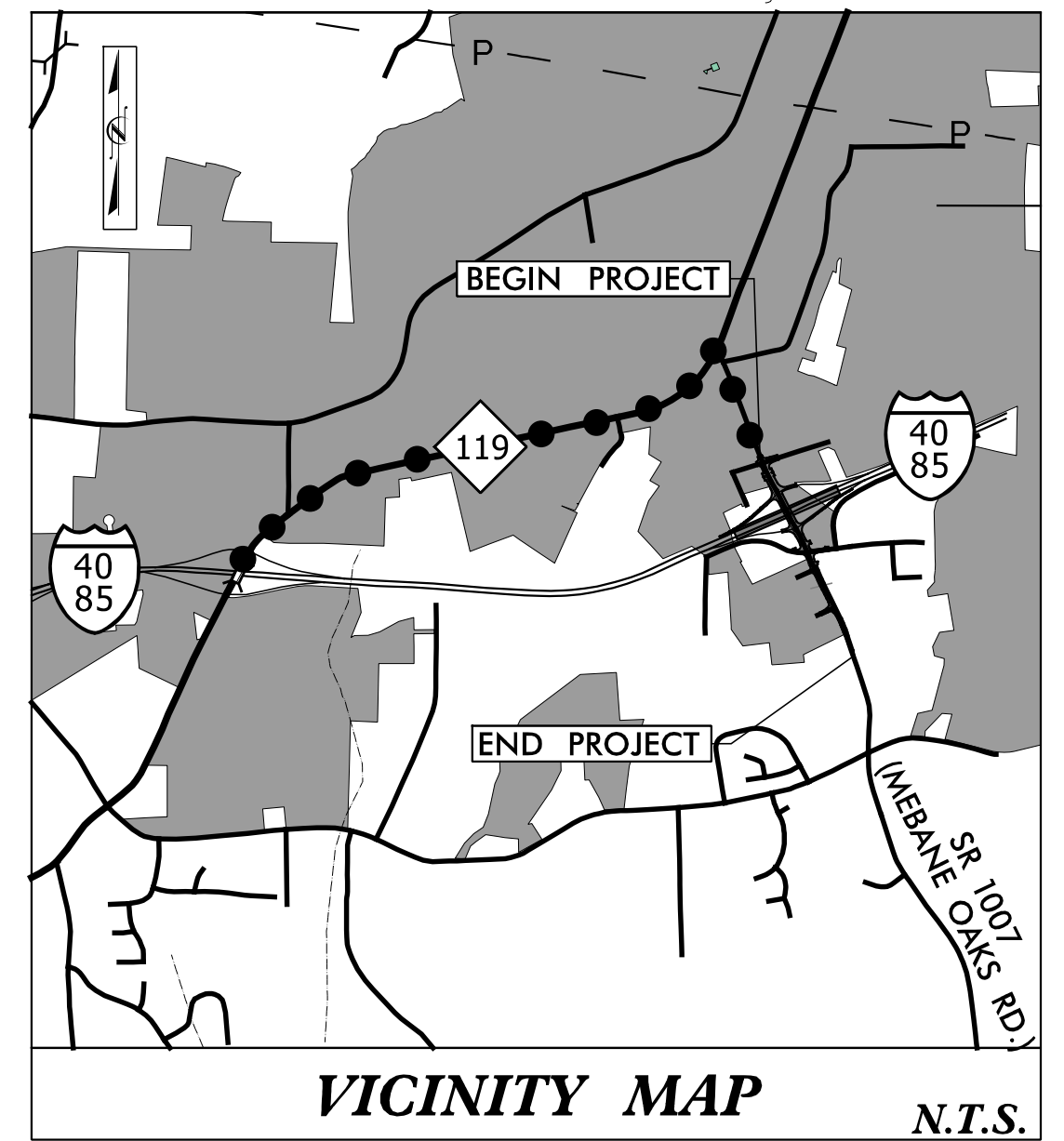


09/08/19

See Sheet 1-A for Index of Sheets
See Sheet 1-B for Conventional Symbols



MEBANE CITY LIMITS
OFF-SITE DETOUR

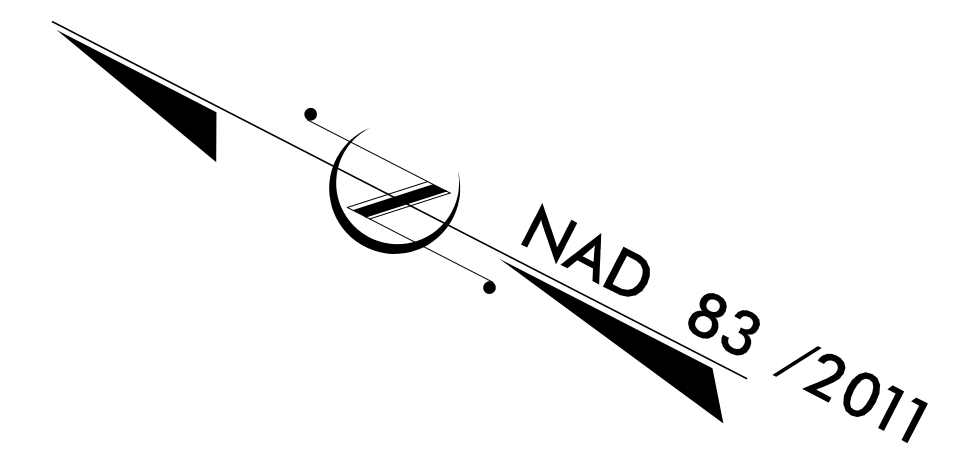
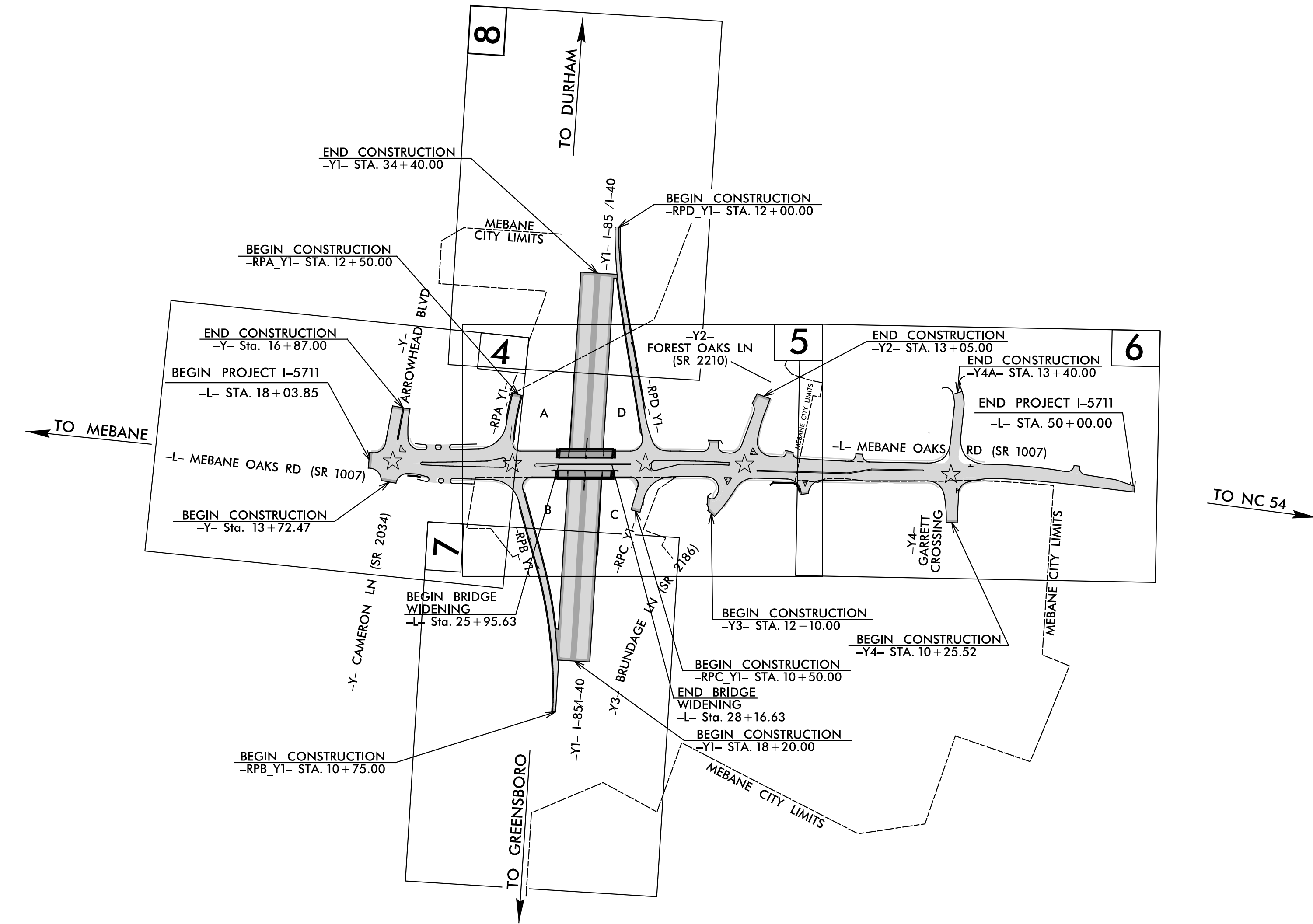
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

ALAMANCE COUNTY

**LOCATION: INTERCHANGE IMPROVEMENTS AT I-40/I-85
AND SR 1007 (MEBANE OAKS RD) IN MEBANE**

TYPE OF WORK: GRADING, DRAINAGE, PAVING, STRUCTURE, SIGNALS AND PAVEMENT MARKINGS

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	I-5711	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
50401.1.FS1	NHPP-040-4(161)220	PE	
50401.2.1	NHPP-040-4(161)220	R/W, UTIL	
50401.3.GV1	NHPP-040-4(161)220	CONST.	

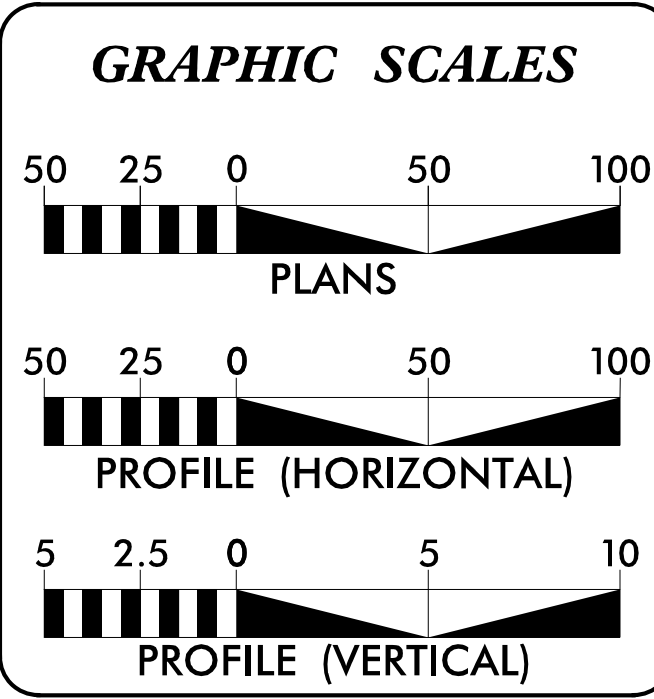


TIP PROJECT: I-5711

CONTRACT: C204603

THIS IS A CONTROLLED ACCESS PROJECT WITH ACCESS BEING LIMITED TO INTERCHANGE

★ TRAFFIC SIGNAL DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



DESIGN DATA

ADT 2020 =	26,620
ADT 2040 =	30,200
K =	8 %
D =	55 %
T =	3 % *
V =	40 MPH
* TTST =	1 DUAL 2
FUNC CLASS =	MAJOR COLLECTOR
STATEWIDE TIER	

PROJECT LENGTH

LENGTH ROADWAY PROJECT	-	0.563 mi
LENGTH BRIDGE PROJECT	-	0.042 mi
TOTAL LENGTH PROJECT	-	0.605 mi

Prepared in the Office of:

LOCHNER
H. W. LOCHNER, INC.
2840 PLAZA PLACE, SUITE 202
RALEIGH, NC 27612
(919)571-7111

vhb VHB Engineering NC, P.C. (C-3705)
940 Main Campus Drive, Suite 500
Raleigh, NC 27606

2018 STANDARD SPECIFICATIONS

BRIAN K. EASON, PE
PROJECT ENGINEER

RODNEY KNIGHT
PROJECT DESIGN ENGINEER

LAURA SUTTON, PE
NCDOT CONTACT

RIGHT OF WAY DATE:
SEPT. 28, 2018

LETTING DATE:
March 16, 2021

HYDRAULICS ENGINEER

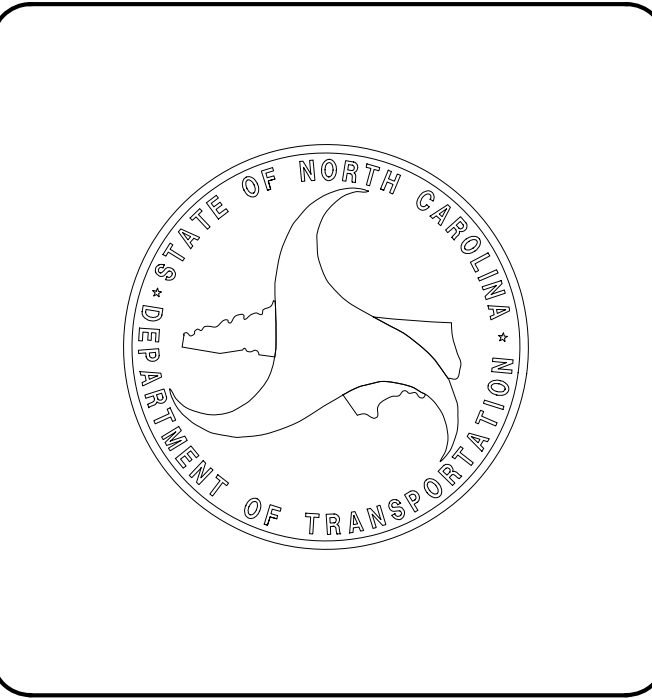
DocuSigned by:
Frank Fleming
ABD478727EC464

SIGNATURE:

ROADWAY DESIGN ENGINEER

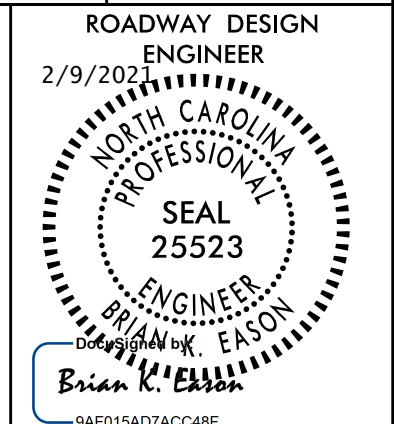
DocuSigned by:
Brian Eason
5A015AD7ACC48F...

SIGNATURE:



12/16/2020 10:57:11 AM RDY_TSH_01.dgn BEASON

8/17/99



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

SHEET NUMBER	INDEX OF SHEETS	SHEET
1	TITLE SHEET	
1-A	INDEX OF SHEETS	
1-B	CONVENTIONAL SYMBOLS	
2A-1 thru 2A-4	PAVEMENT SCHEDULE, TYPICAL SECTIONS, and WEDGING DETAILS	
2B-1 thru 2B-5	INTERSECTION DETAIL SHEETS	
2C-1 thru 2C-8	ROADWAY SPECIAL DETAILS	
2G-1	STANDARD TEMPORARY SHORING	
3B-1	EARTHWORK, PAVEMENT REMOVAL AND GUARDRAIL SUMMARIES	
3D-1 thru 3D-4	DRAINAGE SUMMARY	
3G-1	GEOTECHNICAL SUMMARY	
3P-1	PARCEL INDEX SHEET	
4 thru 8	ROADWAY PLANS	
9 thru 13	ROADWAY PROFILES	
RW-01 thru RW-08	LOCATION & SURVEYS RIGHT OF WAY SHEETS	
TMP-1 thru TMP-8A	TRAFFIC MANAGEMENT PLANS	
PMP-1 thru PMP-7	PAVEMENT MARKING PLANS	
E-1 thru E-3	ELECTRICAL PLANS	
EC-1 thru EC-13	EROSION CONTROL PLANS	
SIGN-1 thru SIGN-6A	SIGNING PLANS	
SIG-1 thru SIG-26.1	SIGNAL PLANS	
M1 thru M8	METAL POLE STANDARD DRAWINGS	
SCP-1 thru SCP-13	SIGNAL COMMUNICATION PLANS	
UC-1 thru UC-10	UTILITY CONSTRUCTION PLANS	
UO-1 thru UO-4	UTILITIES BY OTHERS PLANS	
S-1 thru S-90	STRUCTURE PLANS	
W-1 thru W-5	RETAINING WALL PLANS	
X-1A	CROSS SECTION INDEX	
X-1B	CROSS SECTION SUMMARY SHEET	
X-1 thru X-40	CROSS-SECTIONS	

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 11.

SUPERELEVATION:
ALL CURVES ON THIS PROJECT SHALL BE SUPERELEVATED IN ACCORDANCE WITH STD. NO. 225.04 USING THE RATE OF SUPERELEVATION AND RUNDFF 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. 560.02

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. 848.03 AT LOCATIONS SHOWN ON 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".

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

UTILITIES:
UTILITY OWNERS ON THIS PROJECT ARE CenturyLink, Spectrum, Duke Energy, Piedmont EMC, City of Mebane, PSNC, and Level 3 Communications
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
- 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 | |
| 200.02 | Method of Clearing - Method II |
| 225.02 | Guide for Grading Subgrade - Secondary and Local |
| 225.03 | Deceleration and Acceleration Lanes |
| 225.04 | Method of Obtaining Super-elevation - Two Lane Pavement |
| 225.06 | Method of Grading Sight Distance at Intersections |
| DIVISION 3 - PIPE CULVERTS | |
| 300.01 | Method of Pipe Installation |
| DIVISION 4 - MAJOR STRUCTURES | |
| 422.02 | Bridge Approach Fills - Type II Modified Approach Fill |
| DIVISION 5 - SUBGRADE, BASES AND SHOULDERS | |
| 560.02 | Method of Shoulder Construction - High Side of Super-elevated Curve - Method II |
| DIVISION 6 - ASPHALT BASES AND PAVEMENTS | |
| 610.01 | Guide for Paving Shoulders Under Bridges - Method I |
| 654.01 | Pavement Repairs |
| 665.01 | Asphalt Shoulders - Milled Rumble Strips |
| 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 |
| 840.14 | 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 |
| 840.22 | Frames and Wide 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 |
| 840.45 | Precast Drainage Structure |
| 840.66 | Drainage Structure Steps |
| 840.71 | Concrete and Brick Pipe Plug |
| 846.01 | Concrete Curb, Gutter and Curb & Gutter |
| 848.01 | Concrete Sidewalk |
| 848.03 | Driveway Turnout - Drop Curb Type |
| 848.04 | Street Turnout |
| 848.05 | Curb Ramp - Proposed Curb & Gutter |
| 848.06 | Curb Ramp - Existing Curb & Gutter |
| 852.01 | Concrete Islands |
| 852.06 | Method for Placement of Drop Inlets in Concrete Islands |
| 852.10 | Median Construction - with Curb and Gutter |
| 854.05 | Concrete Median Transition Barrier - Location of Overhead Assembly |
| 857.01 | Precast Reinforced Concrete Barrier - 41" Single Faced |
| 862.01 | Guardrail Placement |
| 862.02 | Guardrail Installation |
| 862.03 | Structure Anchor Units |
| 862.04 | Anchoring End of Guardrail - B-77 and B-83 Anchor Units |
| 866.02 | Woven Wire Fence - with Wood Post |
| 876.02 | Guide for Rip Rap at Pipe Outlets |

12/21/2008 12:57 PM C:\PROJ_PSH_01-A.dgn
EASON

STATE OF NORTH CAROLINA, DIVISION OF HIGHWAYS

CONVENTIONAL PLAN SHEET SYMBOLS

12/2/2016

BOUNDARIES AND PROPERTY:

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

BUILDINGS AND OTHER CULTURE:

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

HYDROLOGY:

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

RAILROADS:

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

RIGHT OF WAY & PROJECT CONTROL:

Secondary Horiz and Vert Control Point	◆
Primary Horiz Control Point	○
Primary Horiz and Vert Control Point	◆
Exist Permanent 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 R/W Marker	▲ R W
New Control of Access Line with Concrete C/A Marker	△ C/A
Existing Control of Access	△ C/A
New Control of Access	△ C/A
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	--- T ---
Proposed Guardrail	--- T ---
Existing Cable Guiderail	--- T ---
Proposed Cable Guiderail	--- T ---
Equality Symbol	⊕
Pavement Removal	⊗

VEGETATION:

Single Tree	☼
Single Shrub	☼

Note: Not to Scale *S.U.E. = *Subsurface Utility Engineering*

Hedge	_____
Woods Line	_____
Orchard	☼ ☼ ☼ ☼
Vineyard	□ Vineyard

EXISTING STRUCTURES:

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

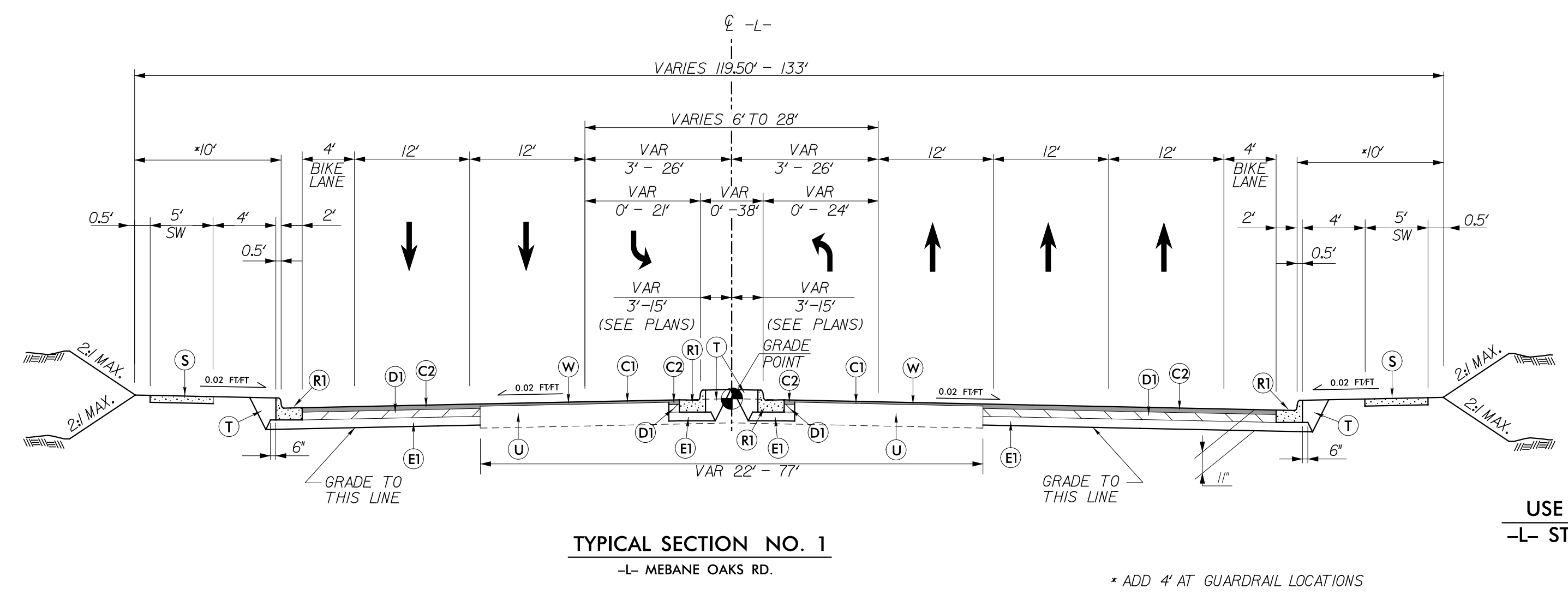
Gas Valve	◇
Gas Meter	⊕
U/G Gas Line LOS B (S.U.E.*)	--- G ---
U/G Gas Line LOS C (S.U.E.*)	--- G ---
U/G Gas Line LOS D (S.U.E.*)	--- G ---
Above Ground Gas Line	--- A/G Gas ---

SANITARY SEWER:

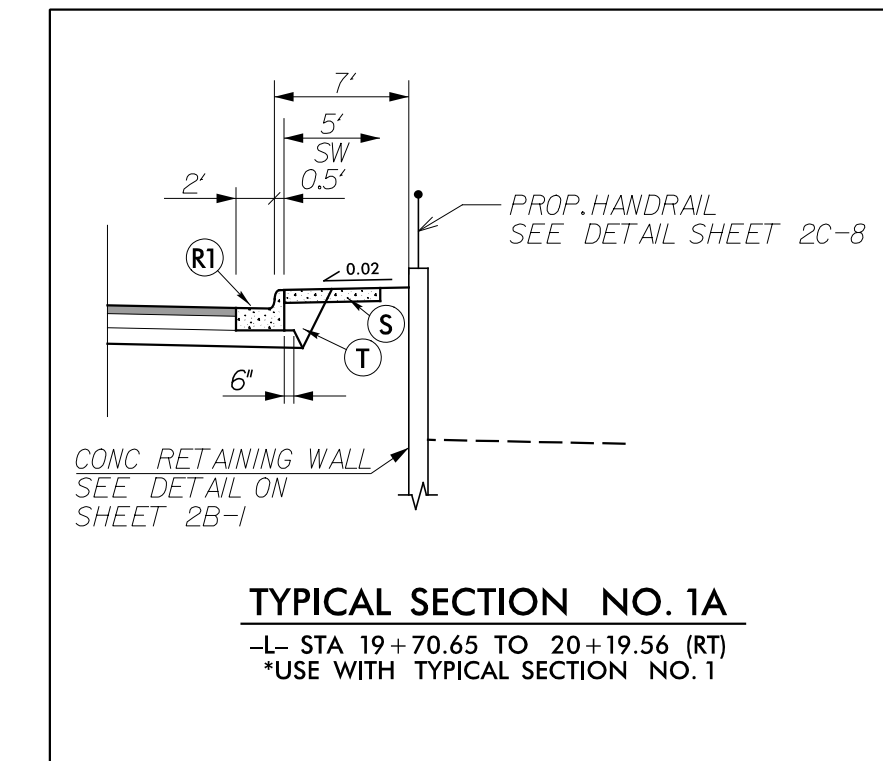
Sanitary Sewer Manhole	⊕
Sanitary Sewer Cleanout	⊕
U/G Sanitary Sewer Line	--- SS ---
Above Ground Sanitary Sewer	--- A/G Sanitary Sewer ---
SS Forced Main Line LOS B (S.U.E.*)	--- FSS ---
SS Forced Main Line LOS C (S.U.E.*)	--- FSS ---
SS Forced Main Line LOS D (S.U.E.*)	--- FSS ---

MISCELLANEOUS:

Utility Pole	●
Utility Pole with Base	□
Utility Located Object	○
Utility Traffic Signal Box	⊠
Utility Unknown U/G Line LOS B (S.U.E.*)	--- 2UTL ---
U/G Tank; Water, Gas, Oil	□
Underground Storage Tank, Approx. Loc.	⊕
A/G Tank; Water, Gas, Oil	□
Geoenvironmental Boring	⊕
U/G Test Hole LOS A (S.U.E.*)	⊕
Abandoned According to Utility Records	AATUR
End of Information	E.O.I.



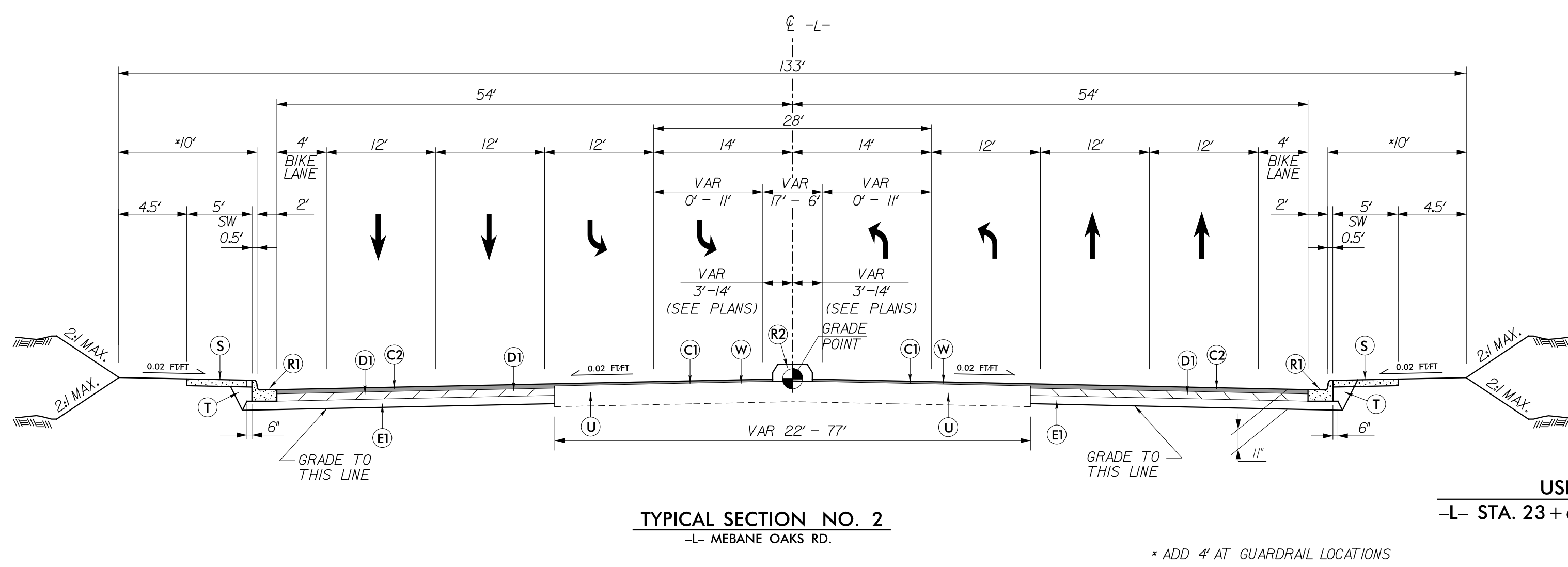
USE TYPICAL SECTION NO. 1 FOR:
 -L- STA. 19+33.61 TO STA. 23+63.85



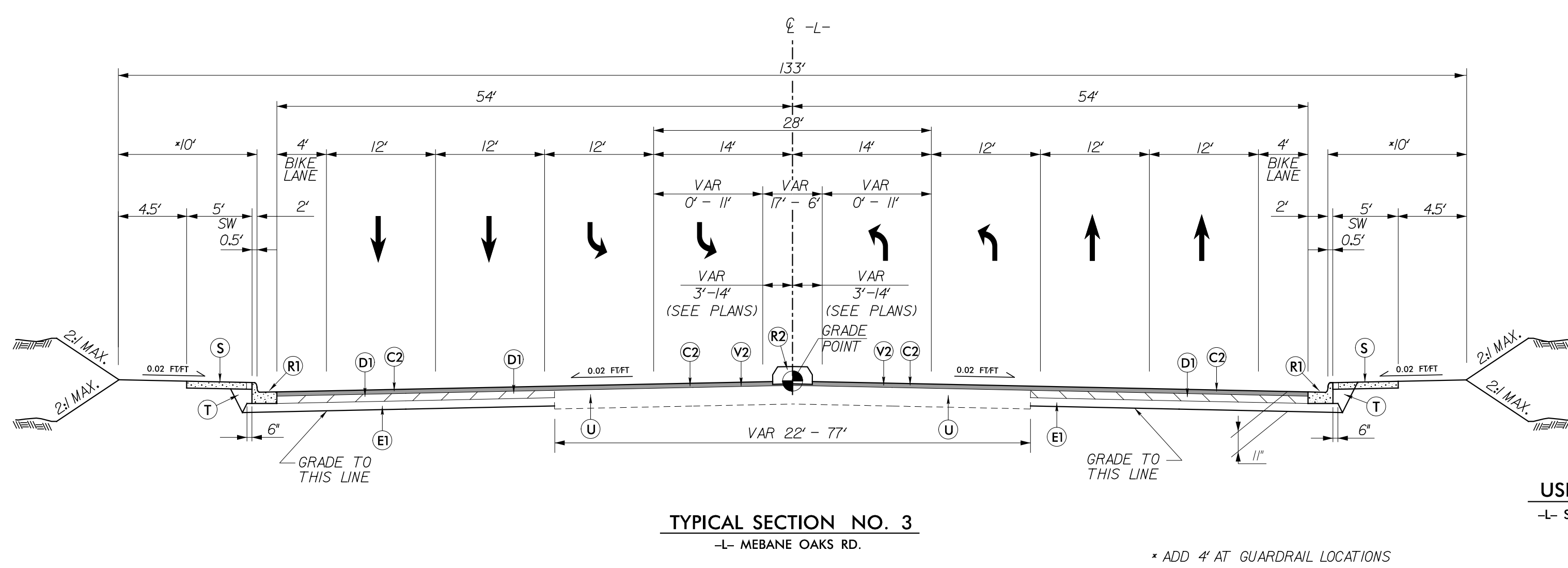
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 UNLESS ALL SIGNATURES COMPLETED**

PAVEMENT SCHEDULE
 FINAL PAVEMENT DESIGN, 10/16/19

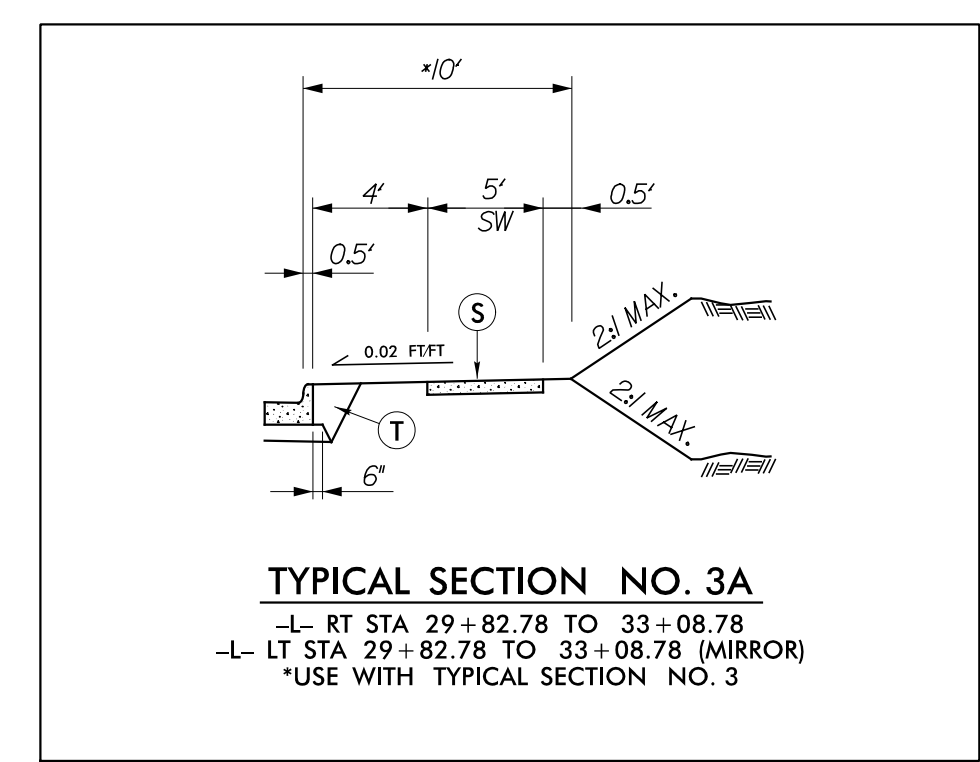
CODE	DESCRIPTION
C1	1.5" S9.5B
C2	3" S9.5B
D1	4" I19.0C
E1	4" B25.0C
R1	CONC C & G (2'-6")
R2	MONO. CONC ISLAND
S	4" SIDEWALK
T	EARTH MATERIAL
U	EXIST PAVEMENT
V2	3" MILLING
W	WEDGING



USE TYPICAL SECTION NO. 2 FOR:
 -L- STA. 23+63.85 TO STA. 25+95.63 (BEGIN BRIDGE)



USE TYPICAL SECTION NO. 3 FOR:
 -L- STA 28+16.63 (END BRIDGE) TO STA. 29+82.78



6/2/2020

ROADWAY DESIGN ENGINEER 2/9/2020
 PAVEMENT DESIGN ENGINEER 2/10/2020

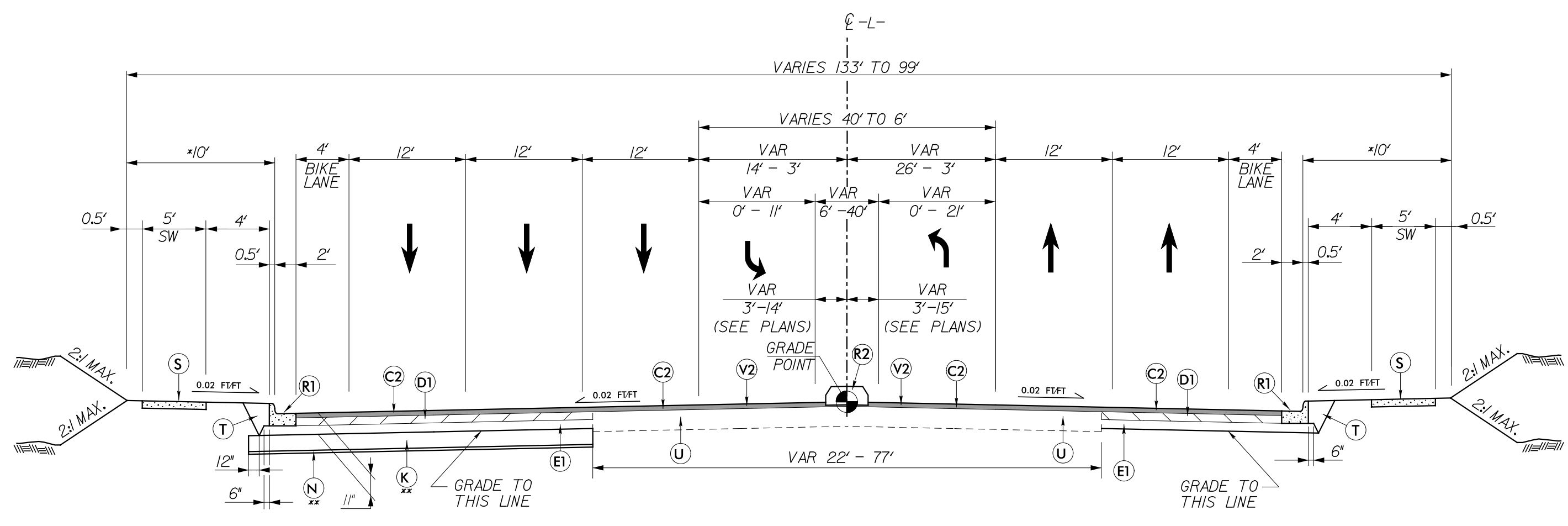
SEAL 25523
 BRAD K. EASON
 ENGINEER

SEAL 022896
 CAROL S. MORRISON
 ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

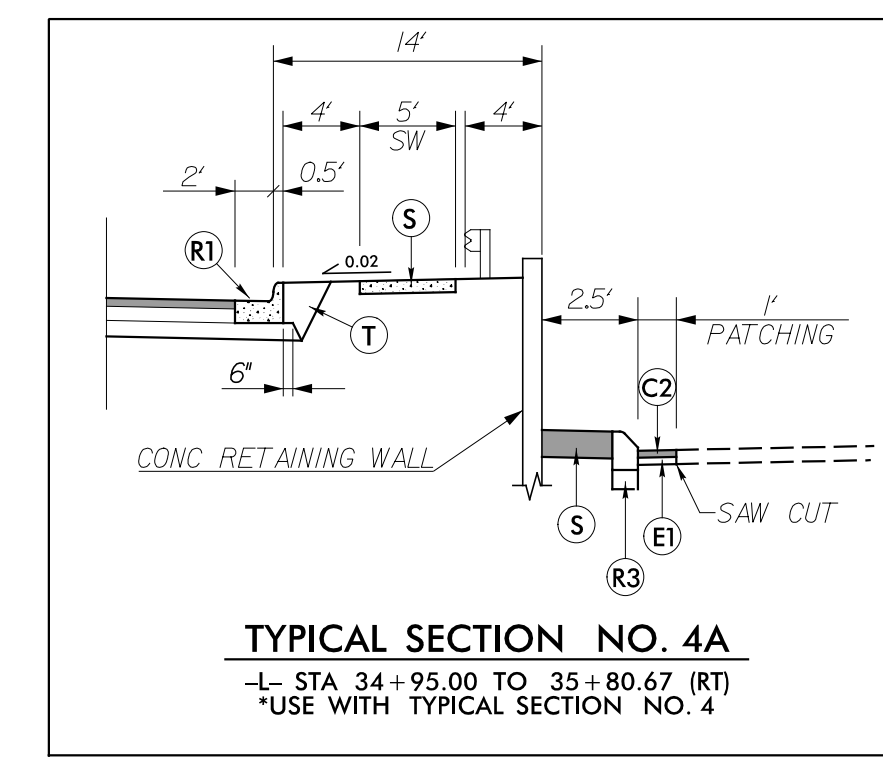
PAVEMENT SCHEDULE
 FINAL PAVEMENT DESIGN, 10/16/19

CODE	DESCRIPTION
C2	3" S9.5B
C6	1.5" S9.5D
D1	4" I19.0C
E1	4" B25.0C
K	SUBGRADE STABILIZATION
N	GEOTEXTILE FOR SOIL STAB.
R1	CONC C & G (2'-6")
R2	MONO. CONC ISLAND
R3	8"x12" CONC. CURB
S	4" SIDEWALK
T	EARTH MATERIAL
U	EXIST PAVEMENT
V1	1 1/2" MILLING
V2	3" MILLING
W	WEDGING
Y	MILLED RUMBLE STRIPS



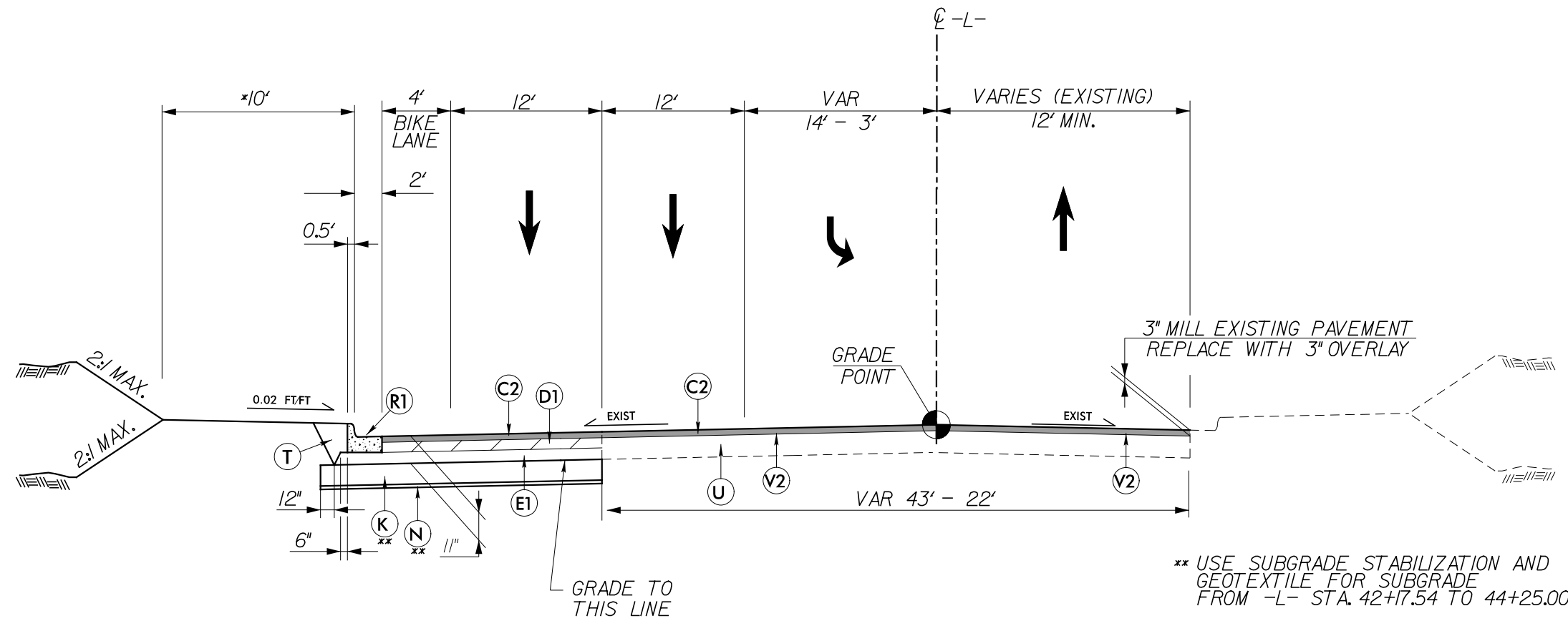
TYPICAL SECTION NO. 4
 -L- MEBANE OAKS RD.

* ADD 4' AT GUARDRAIL LOCATIONS
 ** USE SUBGRADE STABILIZATION AND GEOTEXTILE FOR SUBGRADE FROM -L- STA. 41+75.00 TO 42+17.54



TYPICAL SECTION NO. 4A
 -L- STA 34+95.00 TO 35+80.67 (RT)
 *USE WITH TYPICAL SECTION NO. 4

USE TYPICAL SECTION NO. 4 FOR:
 -L- STA 33+08.78 TO 42+17.54

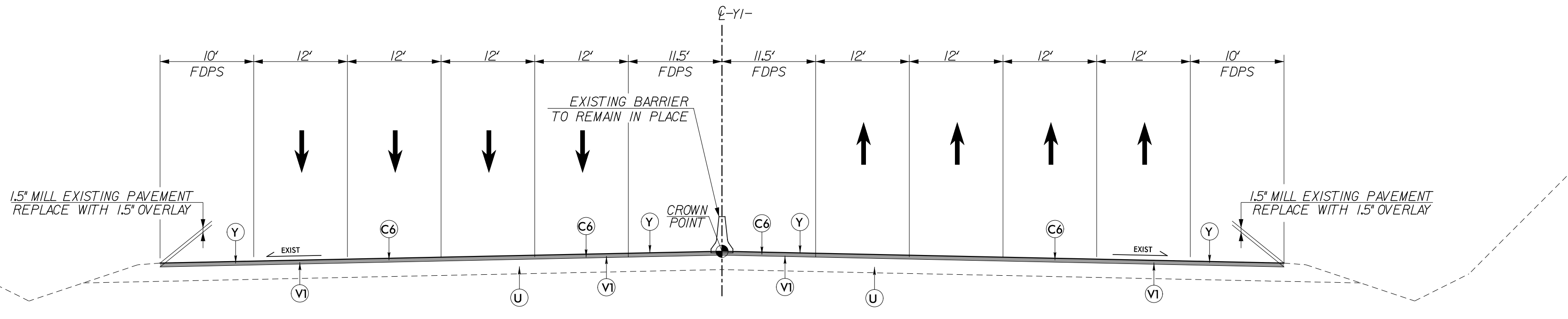
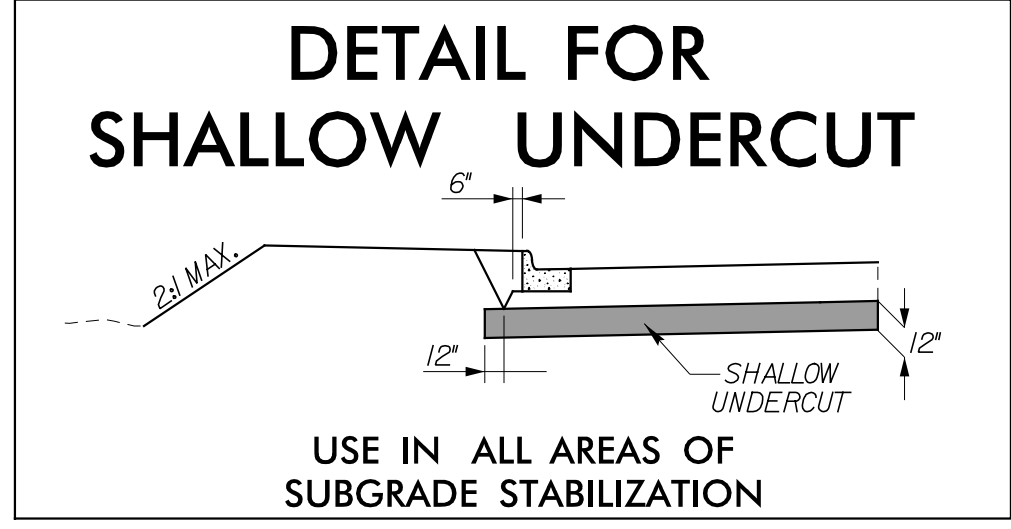


TYPICAL SECTION NO. 5
 -L- MEBANE OAKS RD.

** USE SUBGRADE STABILIZATION AND GEOTEXTILE FOR SUBGRADE FROM -L- STA. 42+17.54 TO 44+25.00

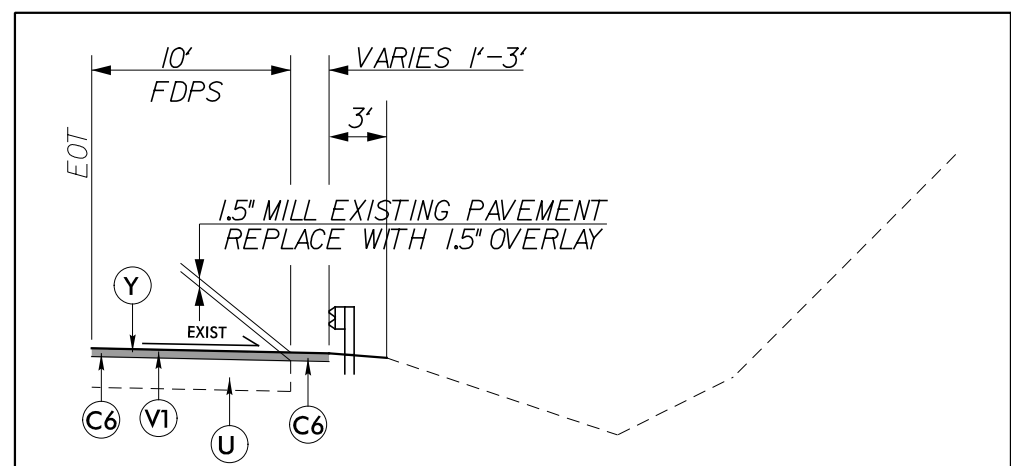
USE TYPICAL SECTION NO. 5 FOR:
 -L- STA 42+17.54 TO 49+16.50

TRANSITION FROM TYPICAL NO. 5 TO EXISTING
 -L- STA 49+16.50 TO STA 50+00.00

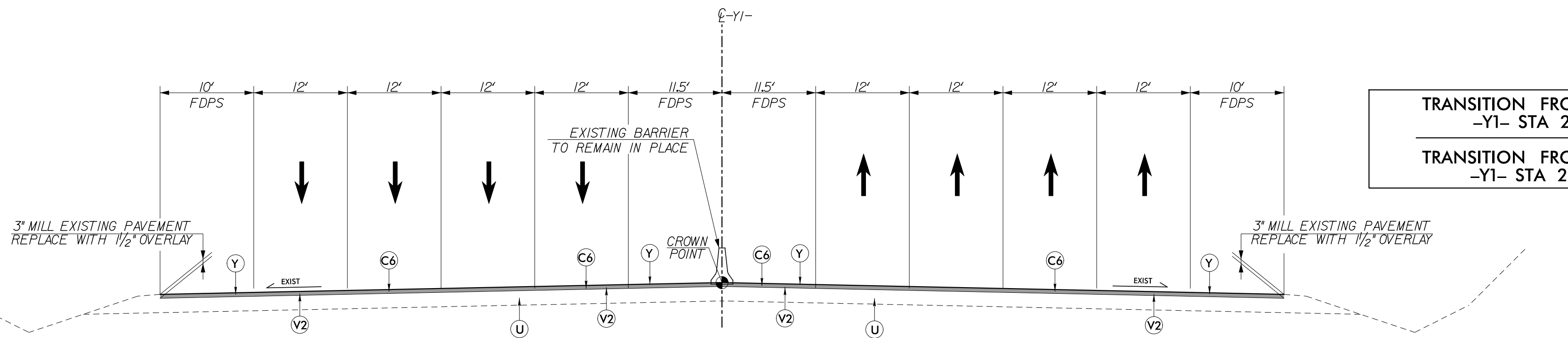


TYPICAL SECTION NO. 6
 -Y1- I-85 /I-40

USE TYPICAL SECTION NO. 6 FOR:
 -Y1- STA 18+20.00 TO 24+11.00
 -Y1- STA 28+80.23 TO 34+40.00



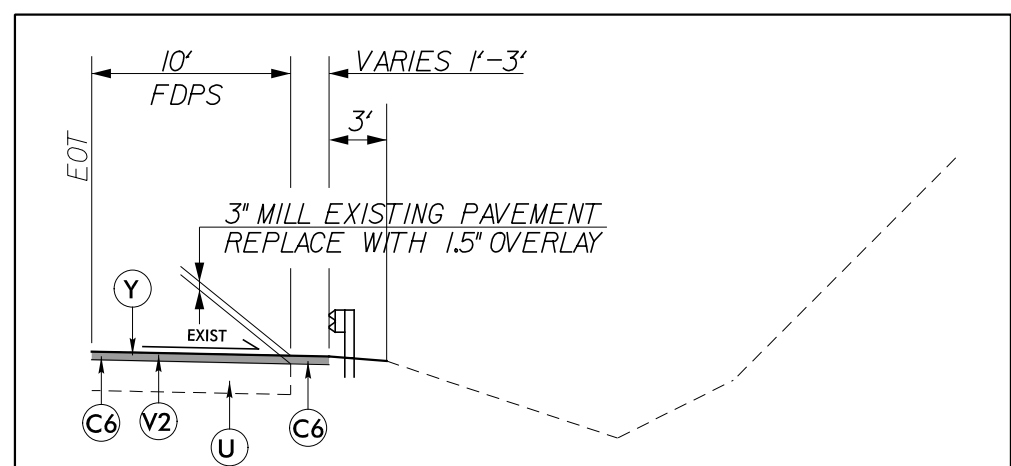
TYPICAL SECTION NO. 6A
 -Y1- STA 22+83.95 TO 24+11.00 (RT)
 -Y1- STA 28+80.23 TO 30+00.00
 *USE WITH TYPICAL SECTION NO. 6



TYPICAL SECTION NO. 7
 -Y1- I-85 /I-40

TRANSITION FROM MILLING 1.5" TO MILLING 3"
 -Y1- STA 24+11.00 TO STA 24+86.00
 TRANSITION FROM MILLING 3" TO MILLING 1.5"
 -Y1- STA 28+05.23 TO STA 28+80.23

USE TYPICAL SECTION NO. 7 FOR:
 -Y1- STA 24+86.00 TO 28+05.23



TYPICAL SECTION NO. 7A
 -Y1- STA 24+11.00 TO 25+83.98 (RT)
 -Y1- STA 27+00.55 TO 28+80.23
 *USE WITH TYPICAL SECTION NO. 7

12/15/2020
 RKNIGHT

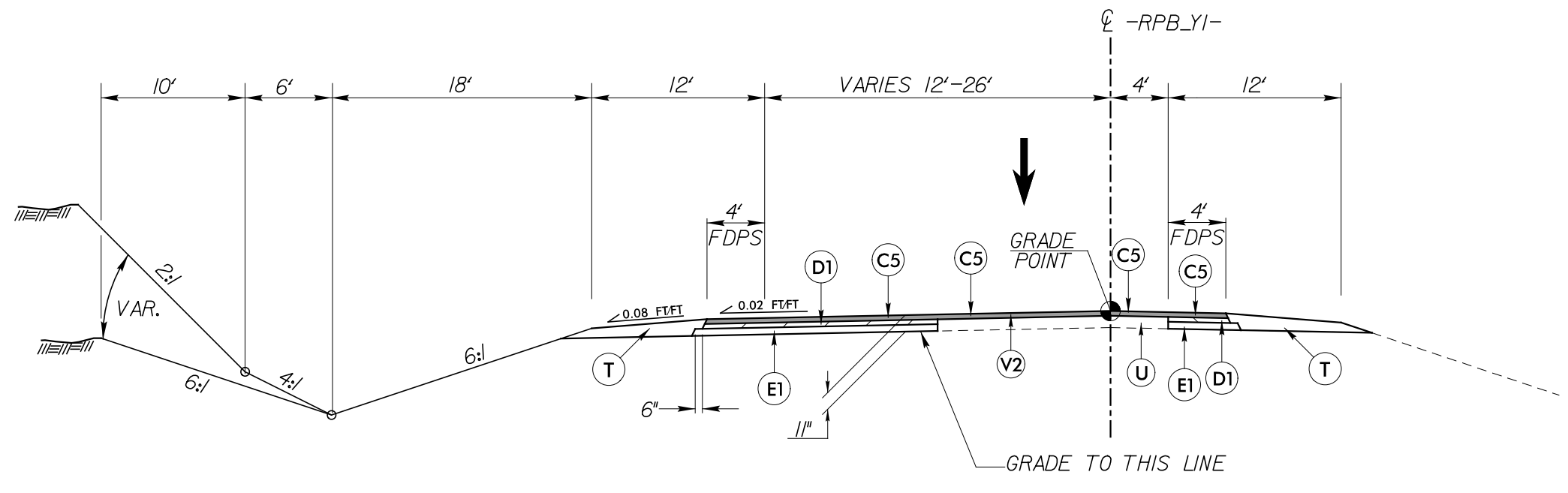
6/2/2021

PROJECT REFERENCE NO. 1-5711	SHEET NO. 2A-4
ROADWAY DESIGN ENGINEER 2/9/2021	PAVEMENT DESIGN ENGINEER 2/10/2021

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

PAVEMENT SCHEDULE
 FINAL PAVEMENT DESIGN, 10/16/19

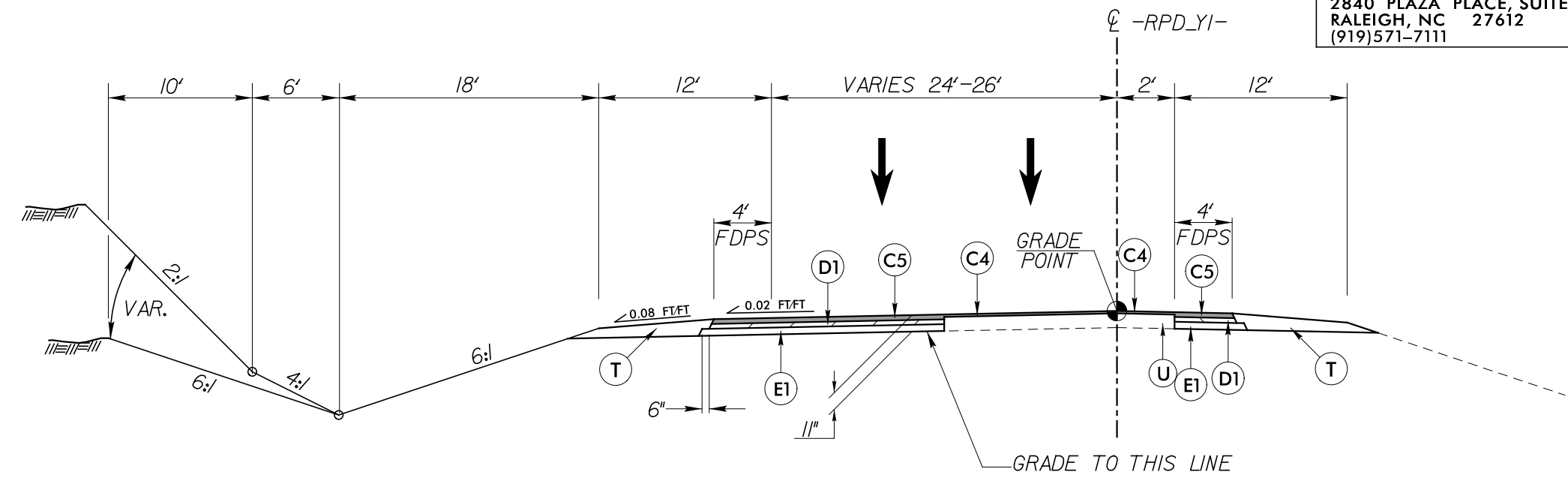
CODE	DESCRIPTION
C1	1.5" S9.5B
C2	3" S9.5B
C4	1.5" S9.5C
C5	3" S9.5C
D1	4" I19.0C
E1	4" B25.0C
R1	CONC C & G (2'-6")
R2	MONO. CONC ISLAND
S	4" SIDEWALK
T	EARTH MATERIAL
U	EXIST PAVEMENT
V1	1 1/2" MILLING
V2	3" MILLING
W	WEDGING



TYPICAL SECTION NO. 8

USE TYPICAL SECTION NO. 8 FOR:
 -RPB_Y1- STA 18+10.00 TO 20+72.91

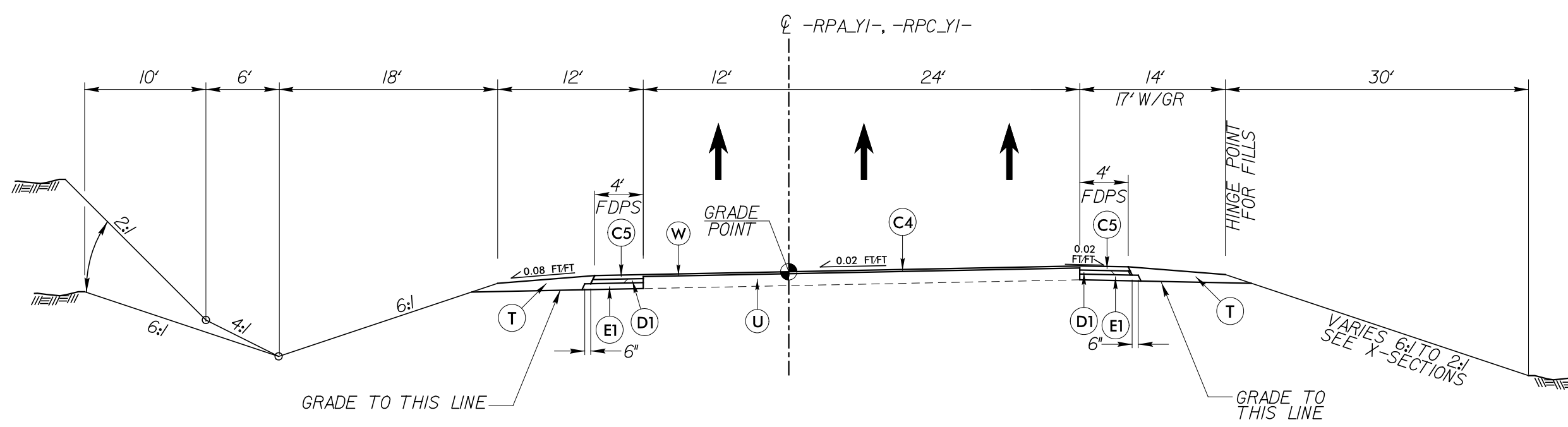
TRANSITION FROM EXISTING TO TYPICAL NO. 8
 -RPB_Y1- STA 10+75.00 TO STA 18+10.00



TYPICAL SECTION NO. 9

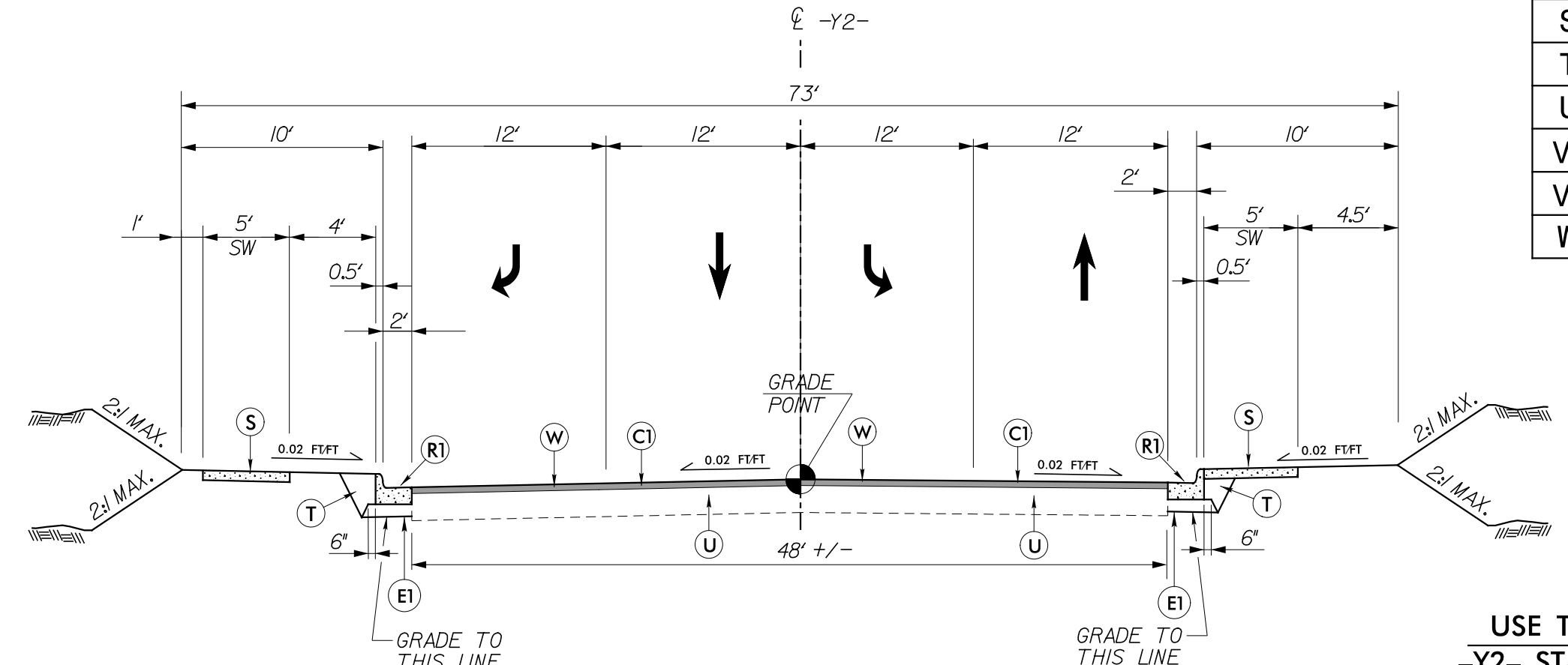
USE TYPICAL SECTION NO. 9 FOR:
 ** -RPD_Y1- STA 19+80.00 TO 21+42.67

**OVERLAY EXISTING -RPD_Y1- 1.5" (C4) AS FOLLOWS:
 -RPD_Y1- STA 12+00.00 TO STA 19+80.00



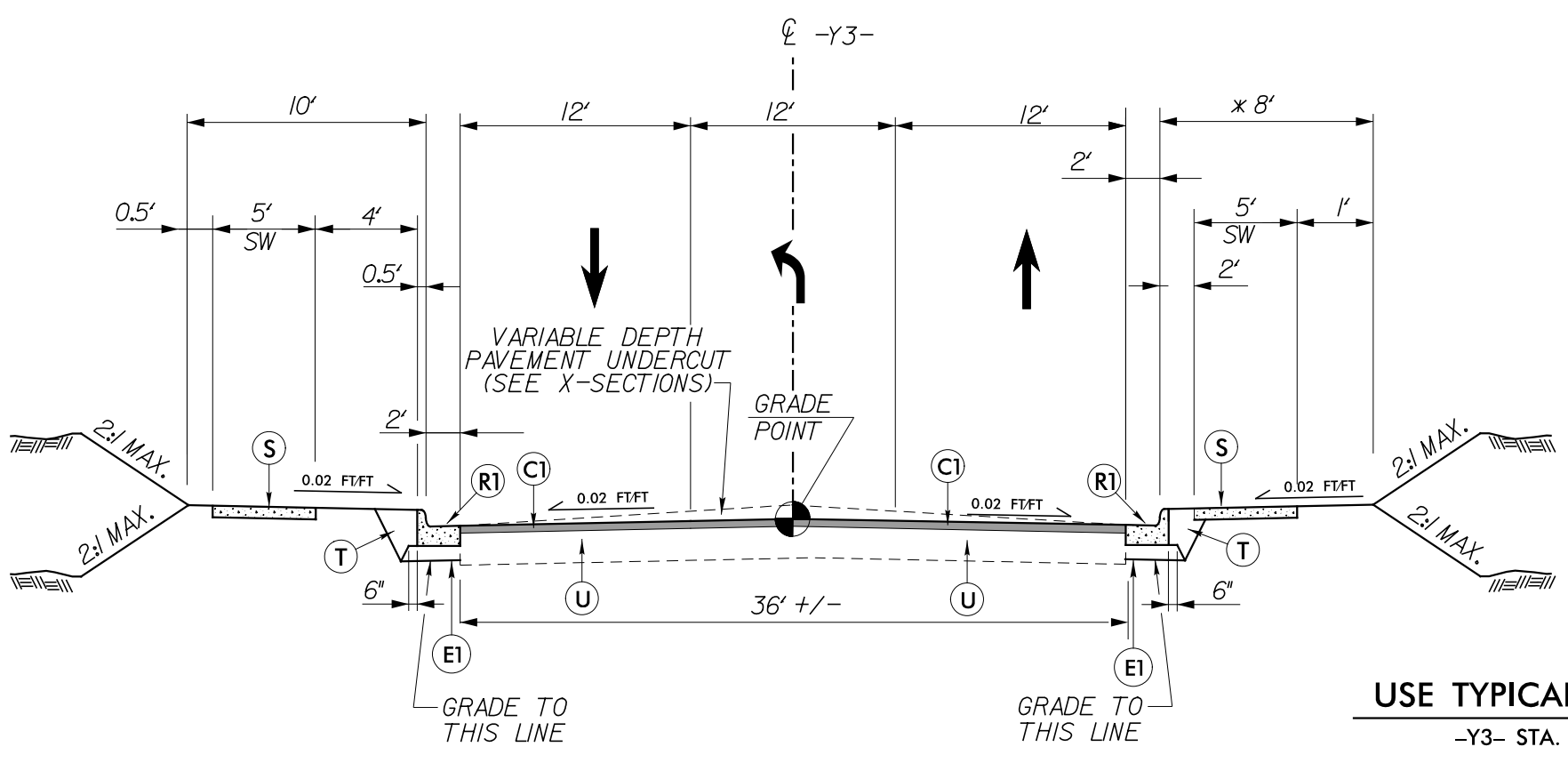
TYPICAL SECTION NO. 10

USE TYPICAL SECTION NO. 10 FOR:
 -RPA_Y1- STA 12+50.00 TO 14+89.10
 -RPC_Y1- STA 10+50.00 TO 11+95.54



TYPICAL SECTION NO. 11

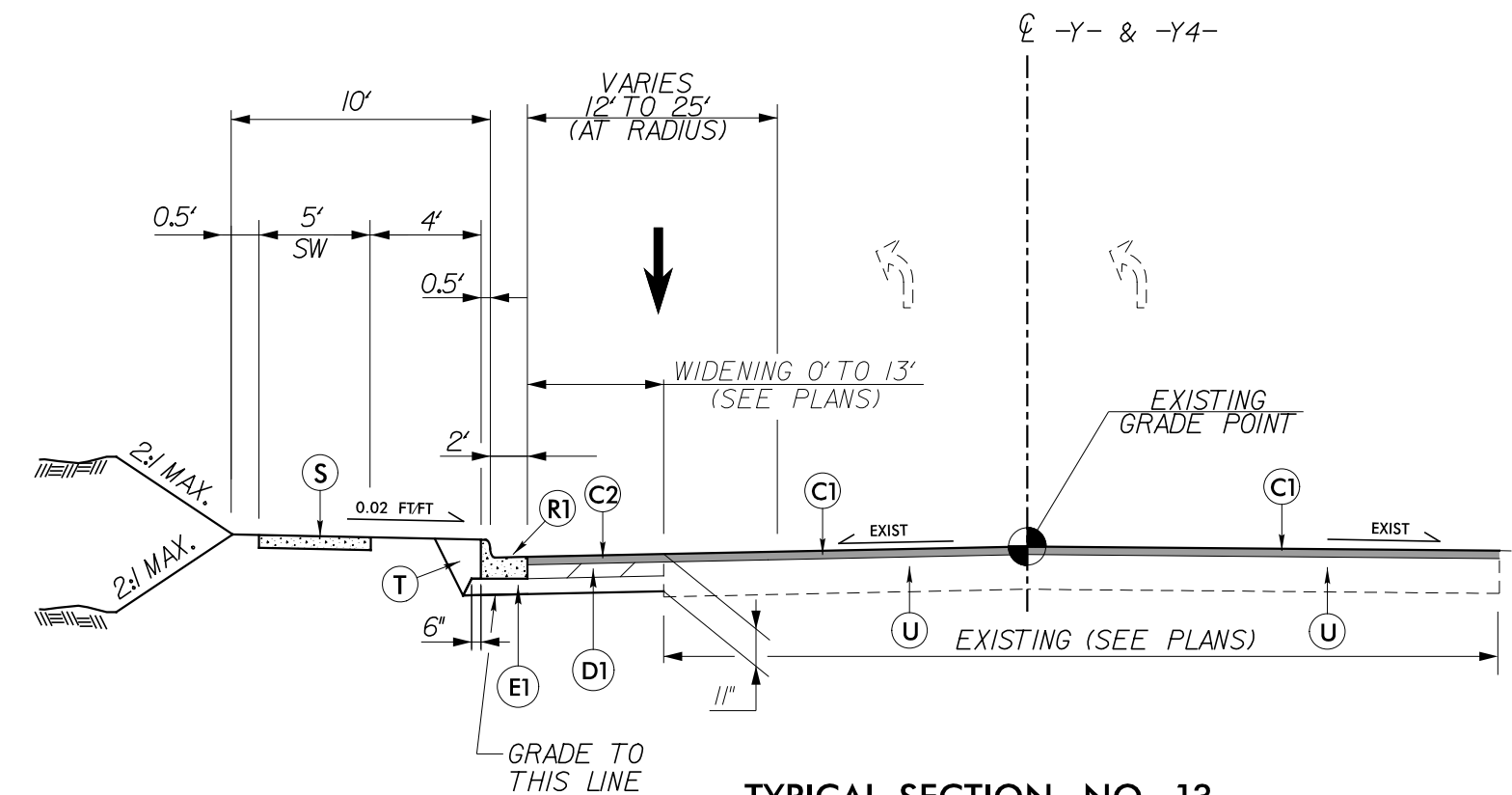
USE TYPICAL SECTION NO. 11 FOR:
 -Y2- STA. 10+50.93 TO STA. 13+05.00



TYPICAL SECTION NO. 12
 -Y3- BRUNDAGE LN.

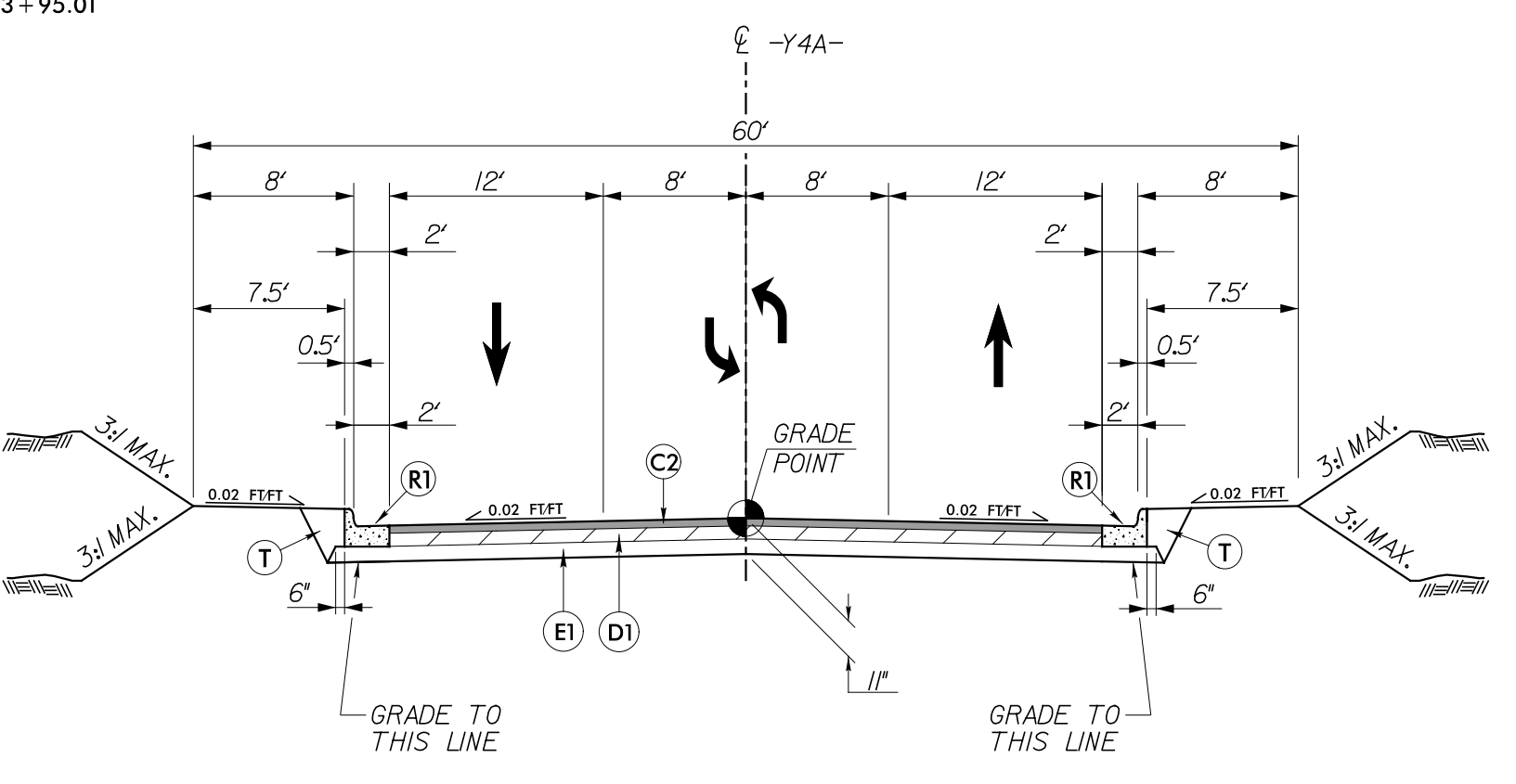
USE TYPICAL SECTION NO. 12 FOR:
 -Y3- STA. 12+50.00 TO STA. 13+95.01

TRANSITION FROM EXISTING TO TYPICAL NO. 12
 -Y3- STA 12+10.00 TO STA 12+50.00
 * USE 4' BERM WITH NO SIDEWALK FROM
 -Y3- STA. 13+16 TO 13+95.01



TYPICAL SECTION NO. 13
 (TURNING RADIUS WIDENING)
 -Y- ARROWHEAD BLVD
 -Y4- GARRETT CROSSING

USE TYPICAL SECTION NO. 13 FOR:
 -Y- STA. 15+14.75 TO STA. 16+87.00 (LEFT SIDE TURNING RADIUS WIDENING)
 -Y4- STA. 10+25.52 TO STA. 12+04.89 (RIGHT SIDE TURNING RADIUS WIDENING)



TYPICAL SECTION NO. 14
 -Y4A- WILSON ROAD CONNECTOR

USE TYPICAL SECTION NO. 14 FOR:
 -Y4A- STA. 10+43.17 TO 13+40.00

12/16/2020
 12:57:11 PM
 B.EASON

5/14/99

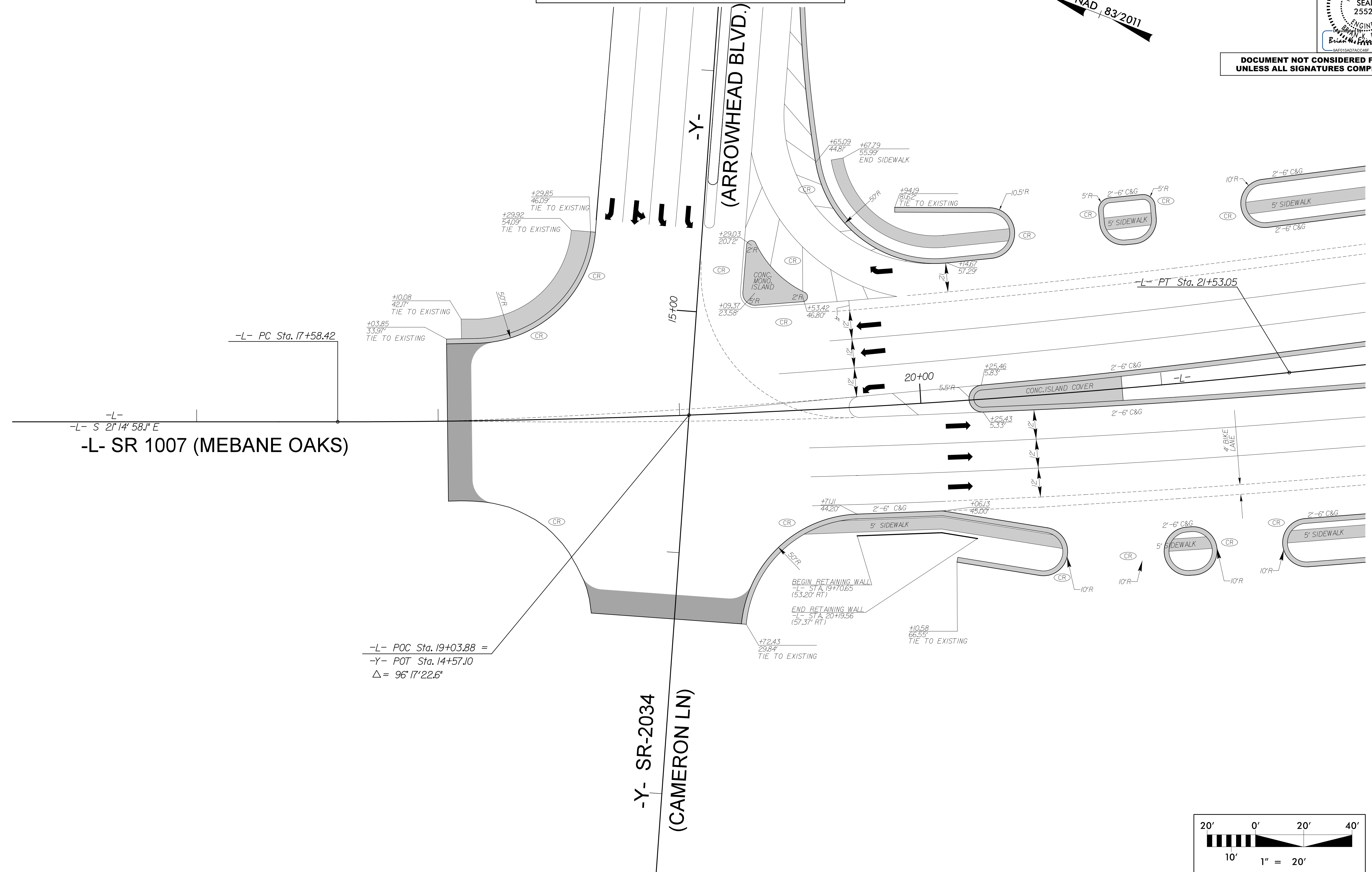
INTERSECTION DETAIL

-L- SR 1007 (MEBANE OAKS)
AND -Y- (ARROWHEAD BLVD.)

PROJECT REFERENCE NO.	SHEET NO.
1-5711	2B-1
RW SHEET NO.	

ROADWAY DESIGN ENGINEER
2/9/2021

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



12/1/2020 C:\ROY_DET_02B-1.dgn
BFA50N

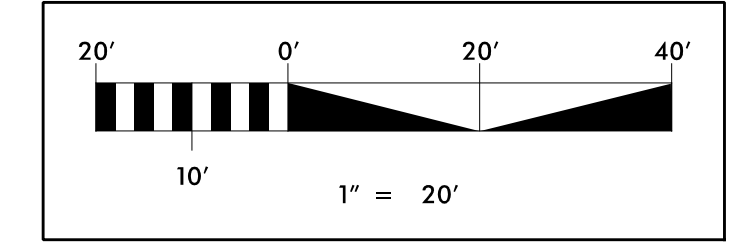
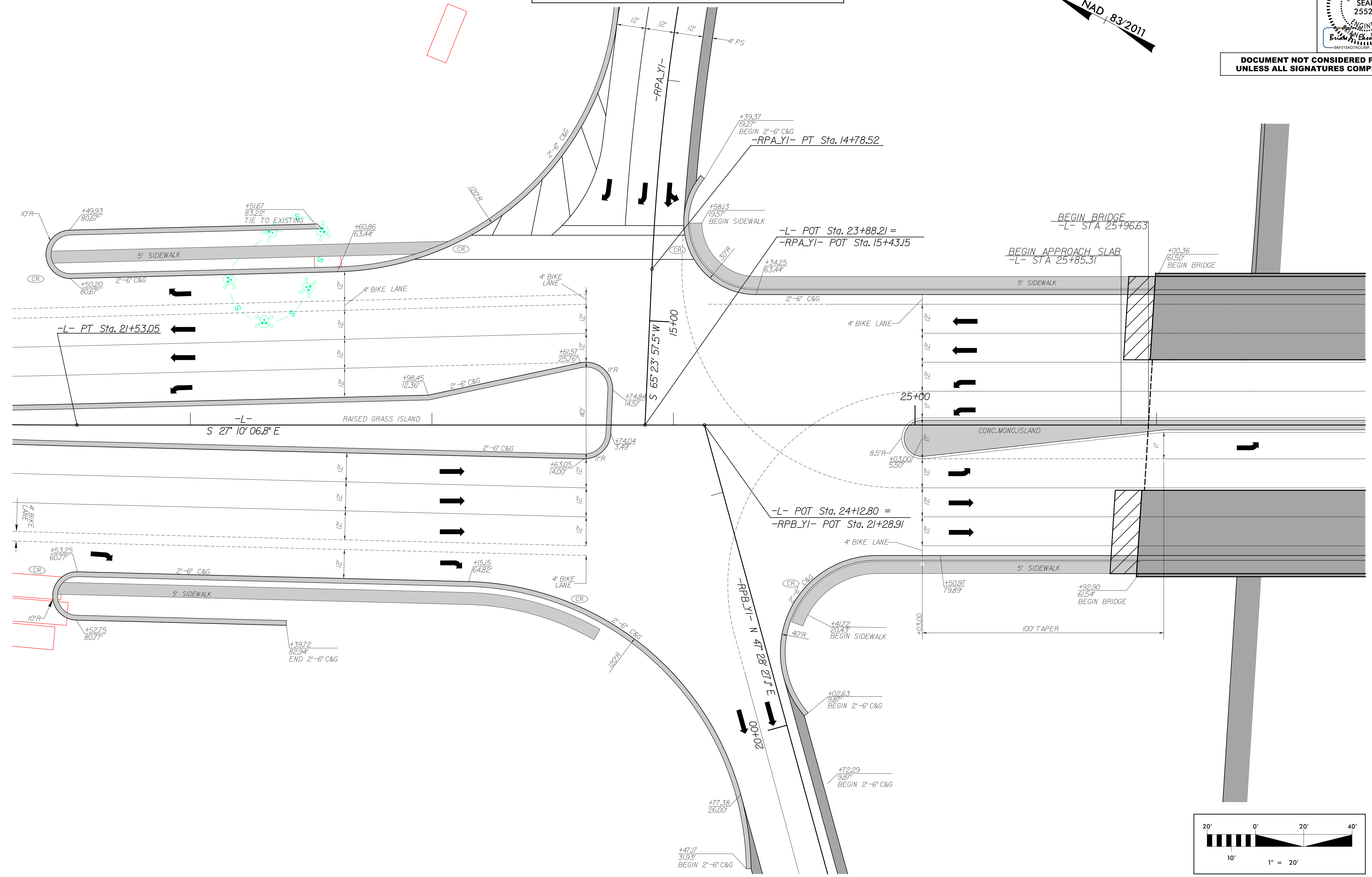
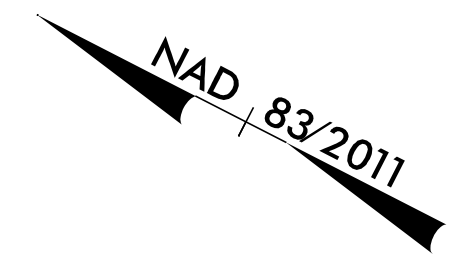
SEE SHEET 4 FOR ROADWAY PLAN VIEW

5/14/99

INTERSECTION DETAIL -L- SR 1007 (MEBANE OAKS RD) AND RPA-Y1 AND RPB-Y1

PROJECT REFERENCE NO. 1-5711	SHEET NO. 2B-2
RW SHEET NO.	
ROADWAY DESIGN ENGINEER 2/9/2021	

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



SEE SHEET 5 FOR ROADWAY PLAN VIEW

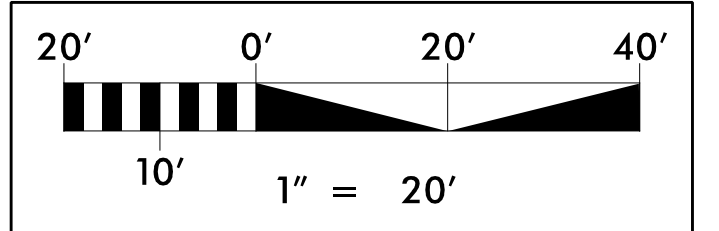
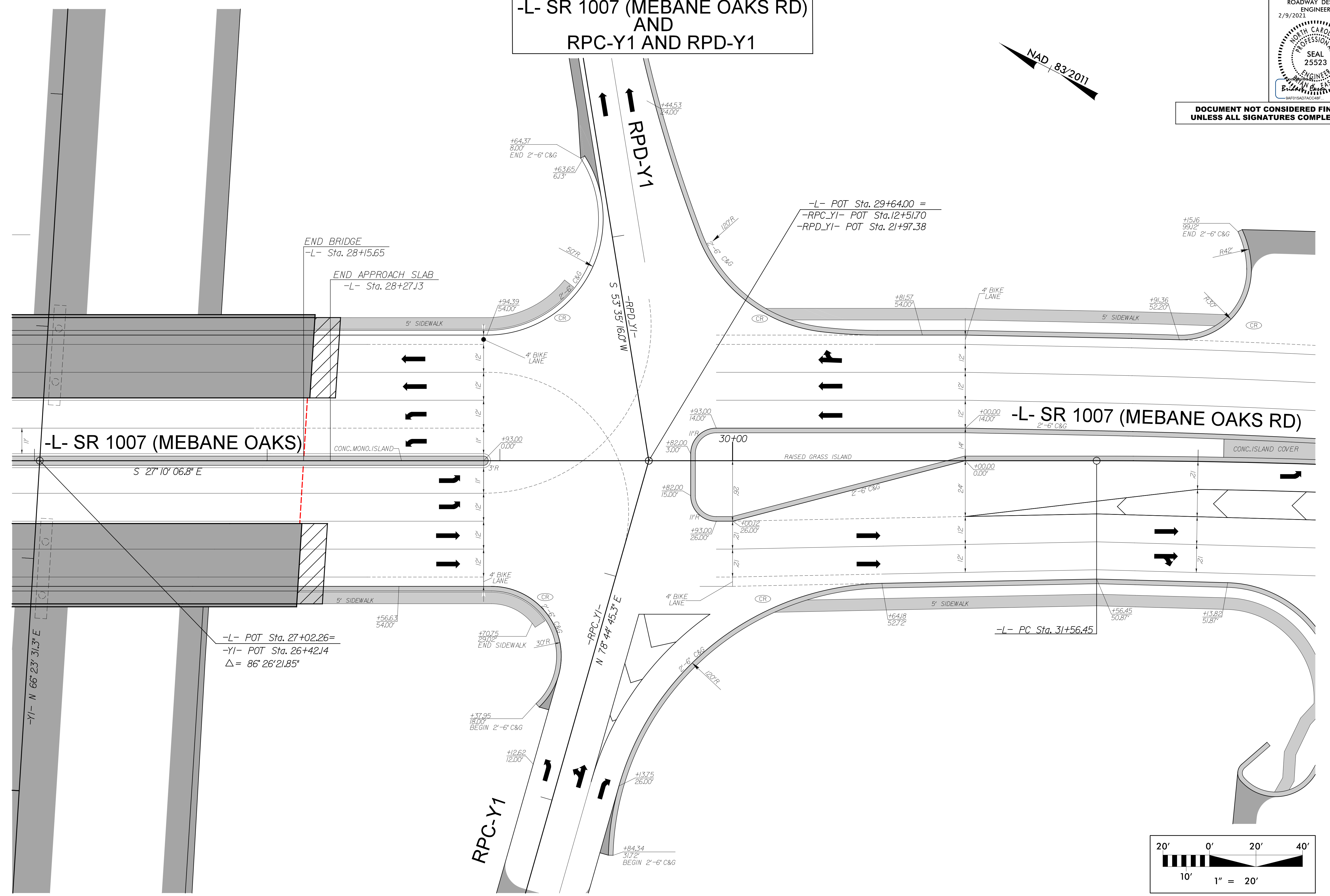
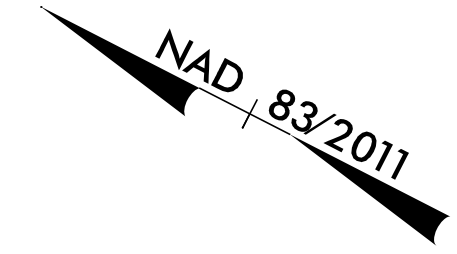
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BEASON

5/14/99

INTERSECTION DETAIL -L- SR 1007 (MEBANE OAKS RD) AND RPC-Y1 AND RPD-Y1

PROJECT REFERENCE NO. 1-5711	SHEET NO. 2B-3
RW SHEET NO.	
ROADWAY DESIGN ENGINEER 2/9/2021	

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED



SEE SHEET 5 FOR ROADWAY PLAN VIEW

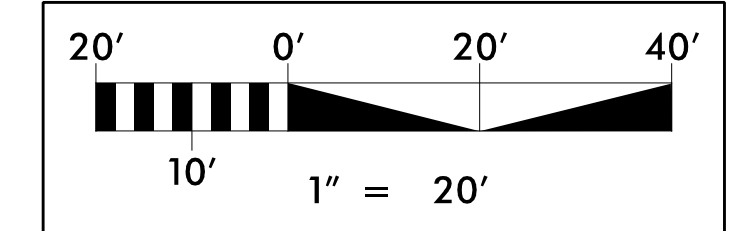
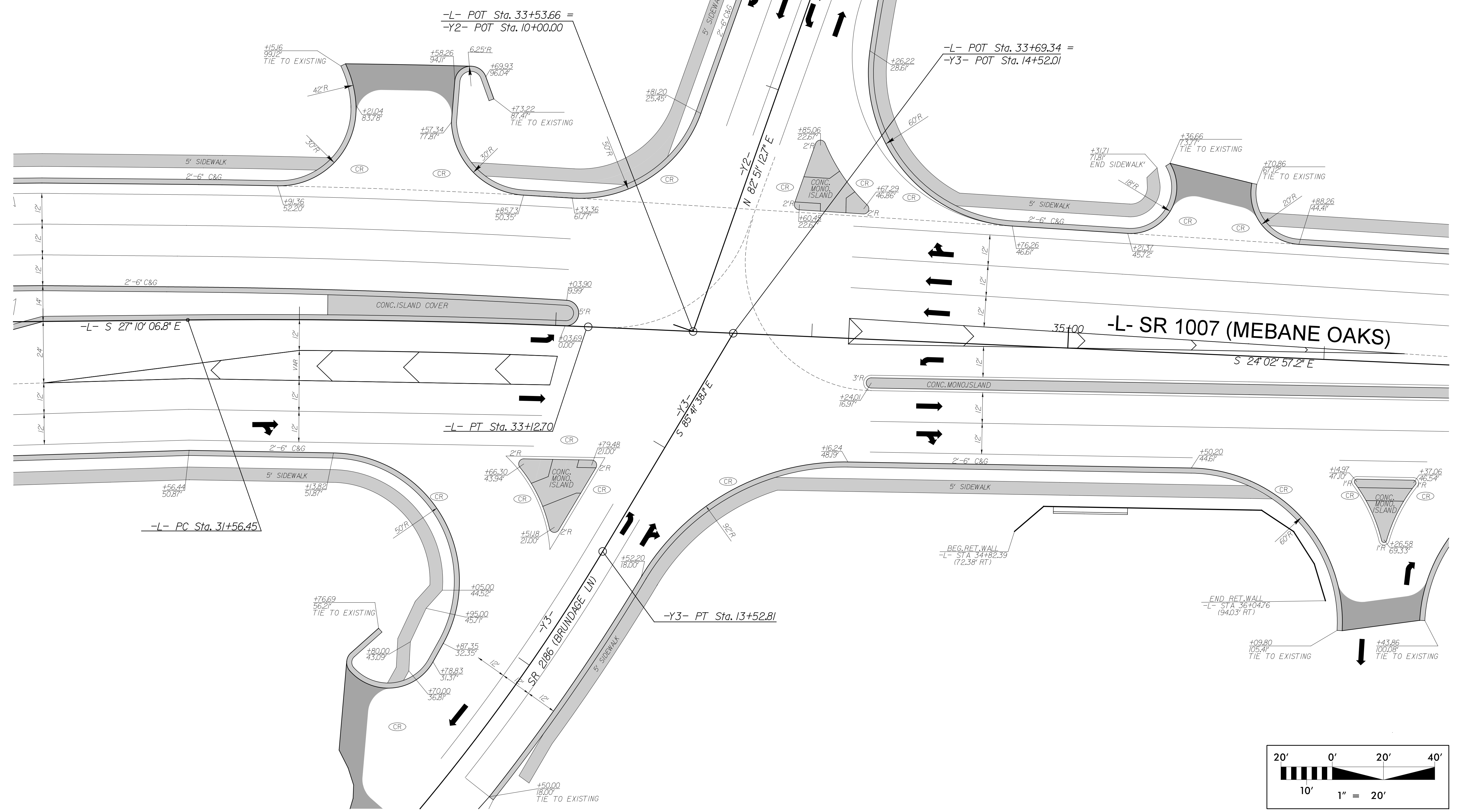
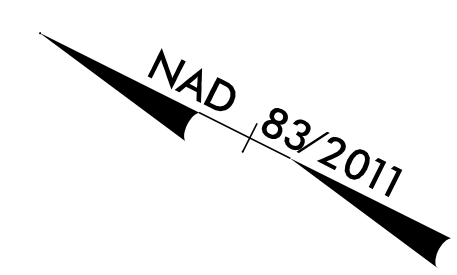
12/1/2021 10:00 AM C:\RDY_DET_02B-3.dgn
BEGAN

5/14/99

INTERSECTION DETAIL

-L- SR 1007 (MEBANE OAKS RD)
AND
Y2 SR 2210 (FOREST OAKS LN)
Y3 SR 2186 (BRUNDAGE LN)

PROJECT REFERENCE NO. 1-5711	SHEET NO. 2B-4
RW SHEET NO.	
ROADWAY DESIGN ENGINEER 2/9/2021	
<p>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</p>	



SEE SHEET 5 FOR ROADWAY PLAN VIEW

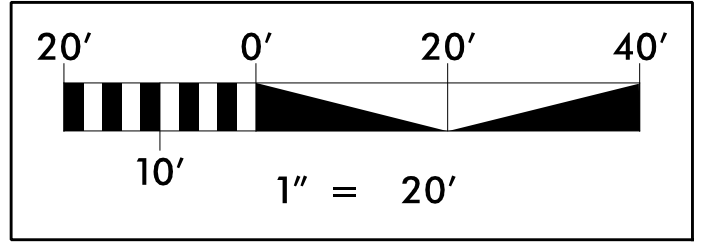
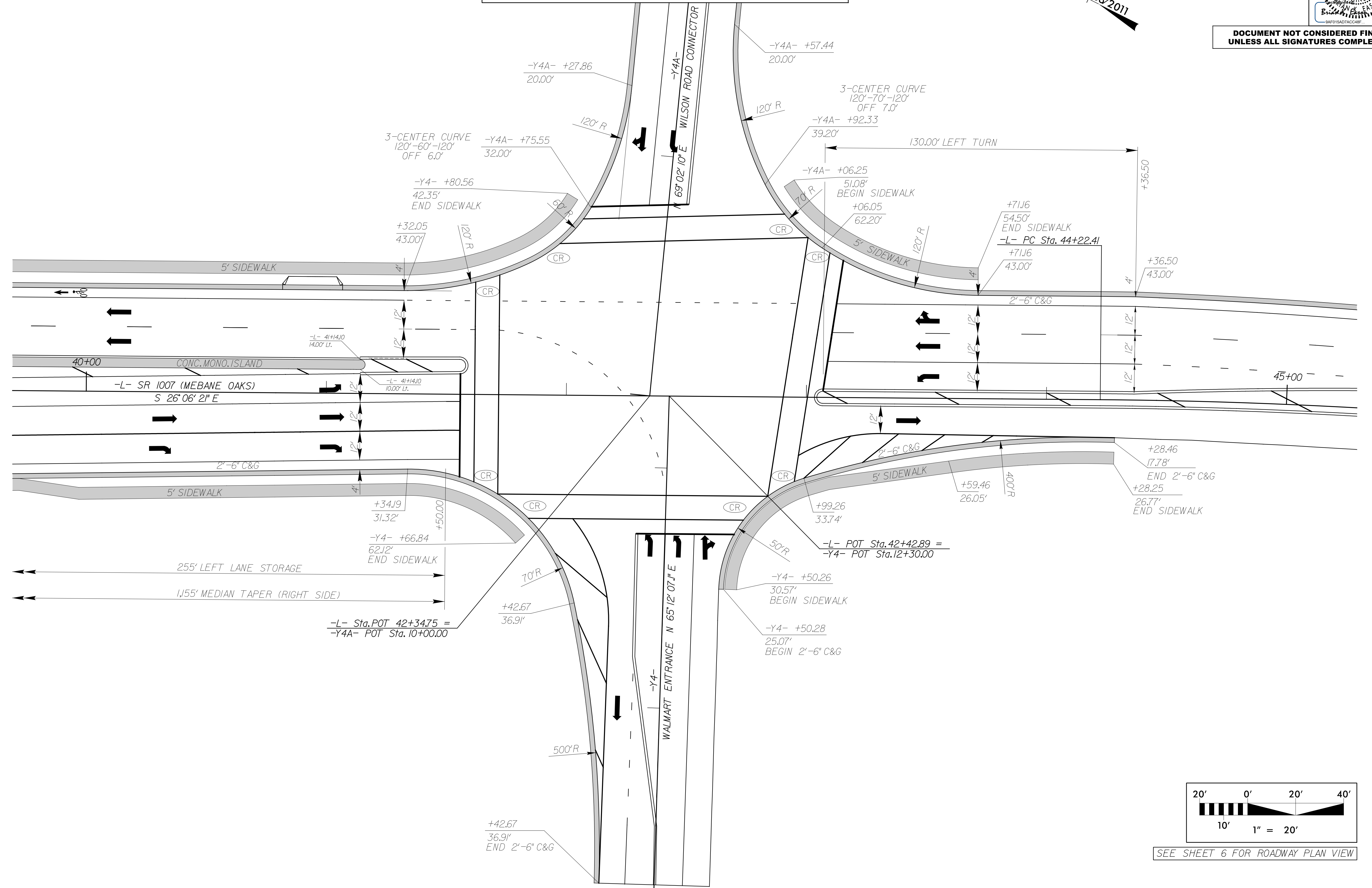
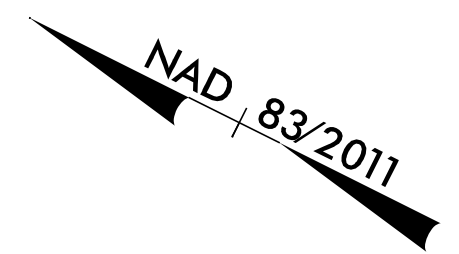
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REVISION

5/14/2021

INTERSECTION DETAIL -L- SR 1007 (MEBANE OAKS RD), -Y4- (WALMART ENTRANCE) AND WILSON ROAD CONNECTOR

PROJECT REFERENCE NO. 1-5711	SHEET NO. 2B-5
RW SHEET NO.	
ROADWAY DESIGN ENGINEER 2/9/2021	

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

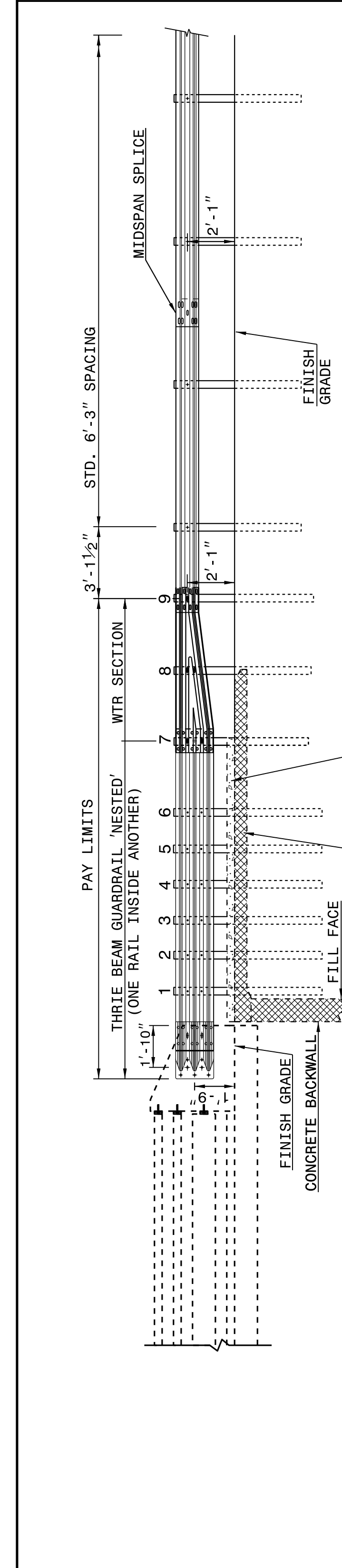


SEE SHEET 6 FOR ROADWAY PLAN VIEW

12/19/2020 RDPY_DET_02B-5.dgn
RKN/PH

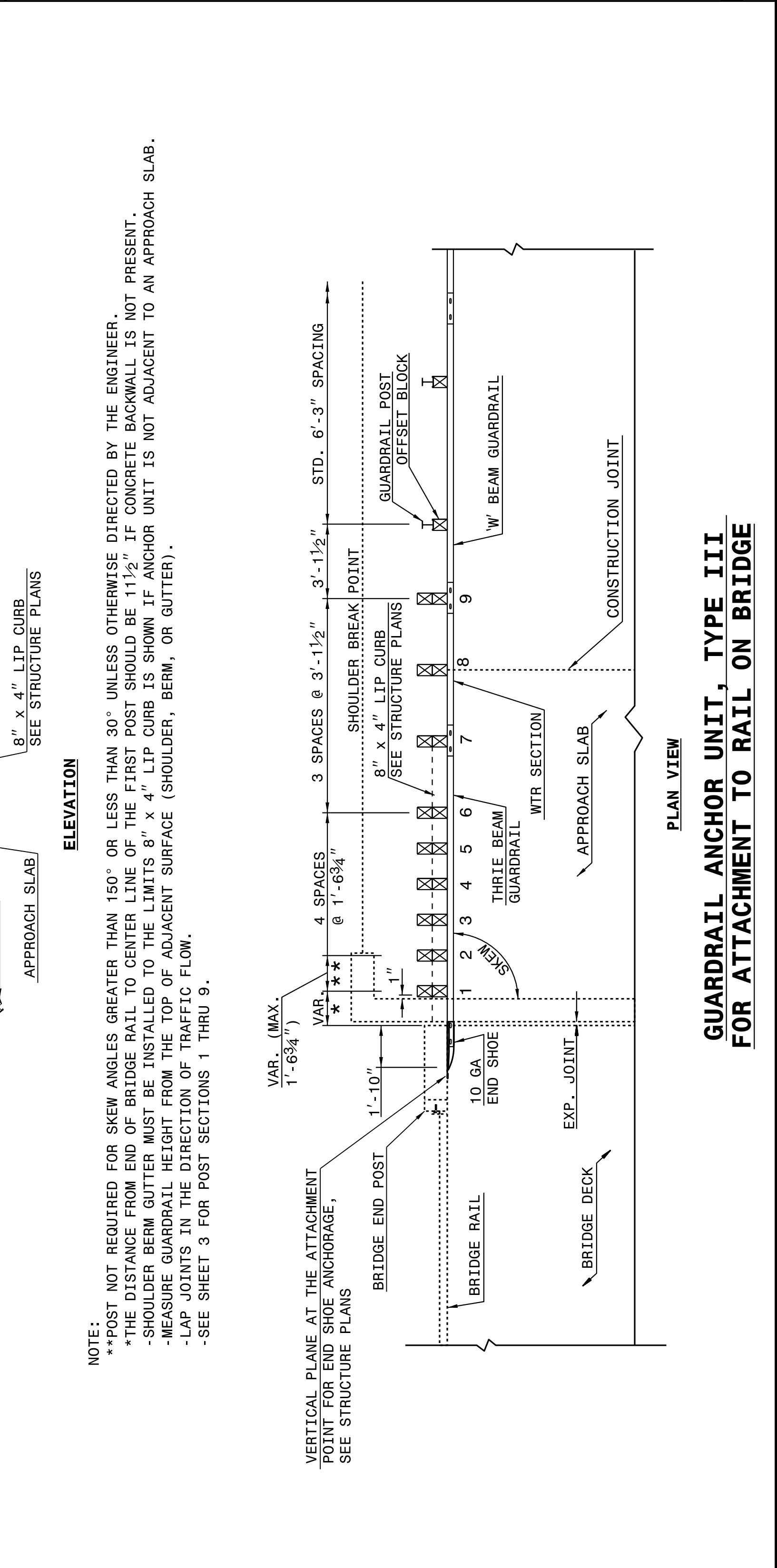
I4-DEC-2017 10:36 S:\Contracts\Projects\Special Details\Standard Drawings\Division 8\0862d0301.dgn Jhowerton AT:CSU-292595

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

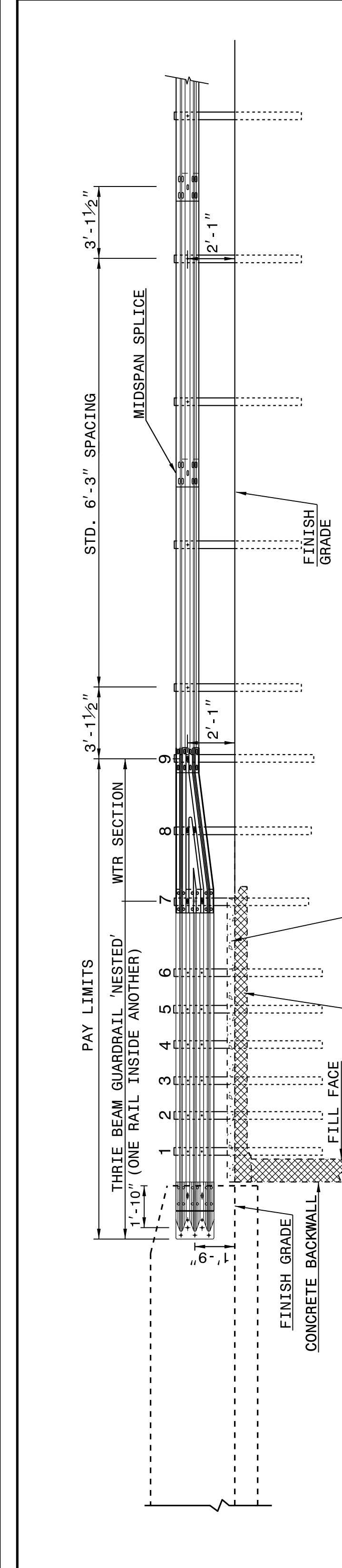


ROADWAY DETAIL DRAWING FOR STRUCTURE ANCHOR UNITS GUARDRAIL ANCHOR UNIT, TYPE III FOR ATTACHMENT TO RAIL ON BRIDGE

SHEET 1 OF 7 862D03

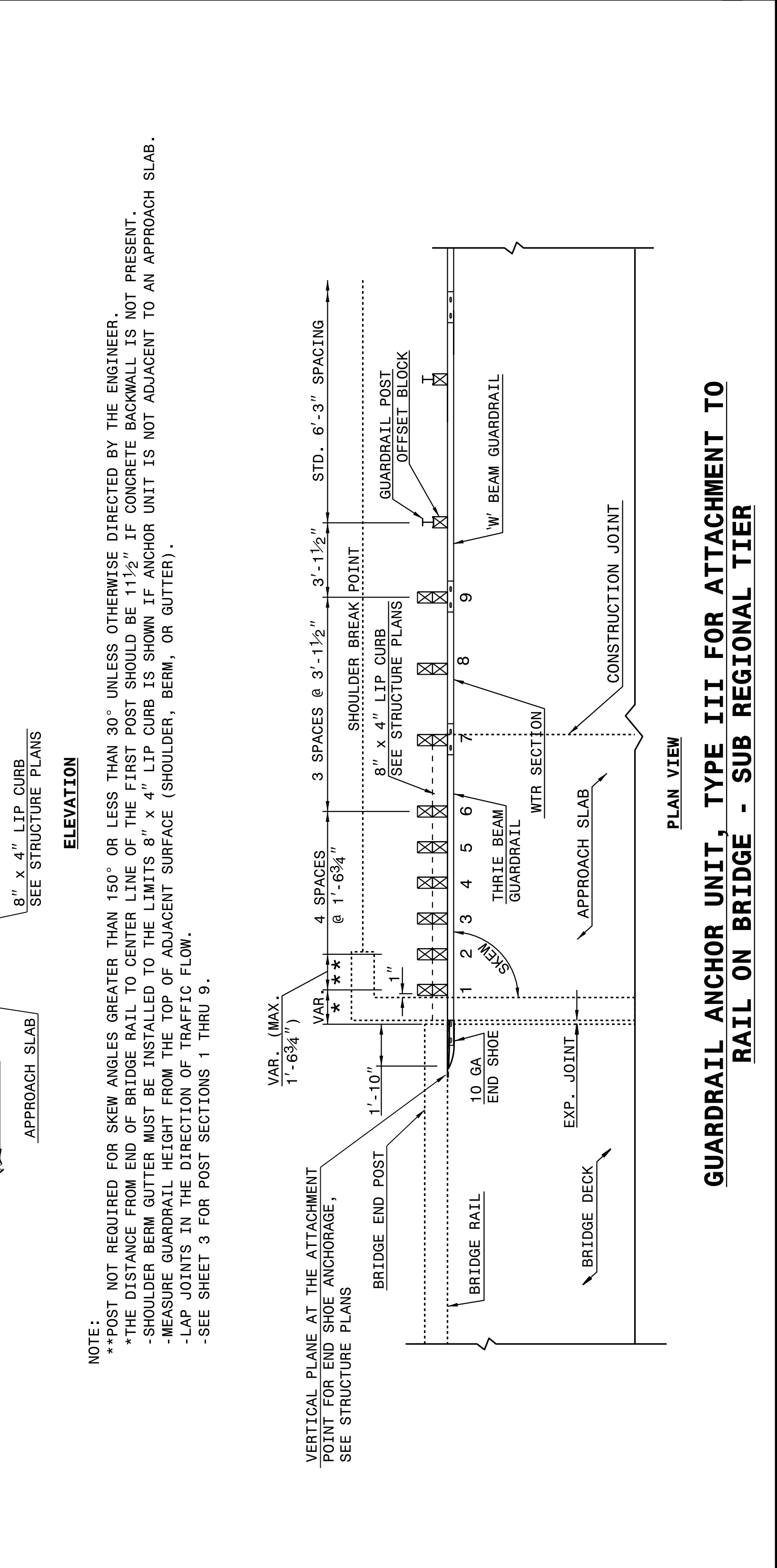


STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

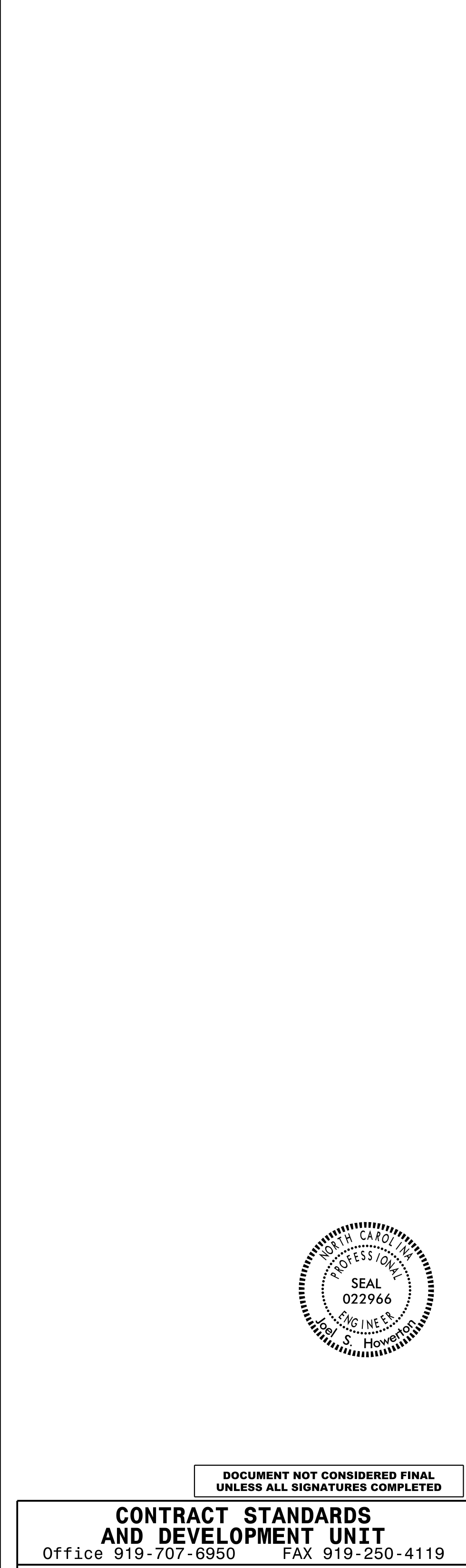


ROADWAY DETAIL DRAWING FOR STRUCTURE ANCHOR UNITS GUARDRAIL ANCHOR UNIT, TYPE III FOR ATTACHMENT TO RAIL ON BRIDGE - SUB REGIONAL TIER

SHEET 2 OF 7 862D03

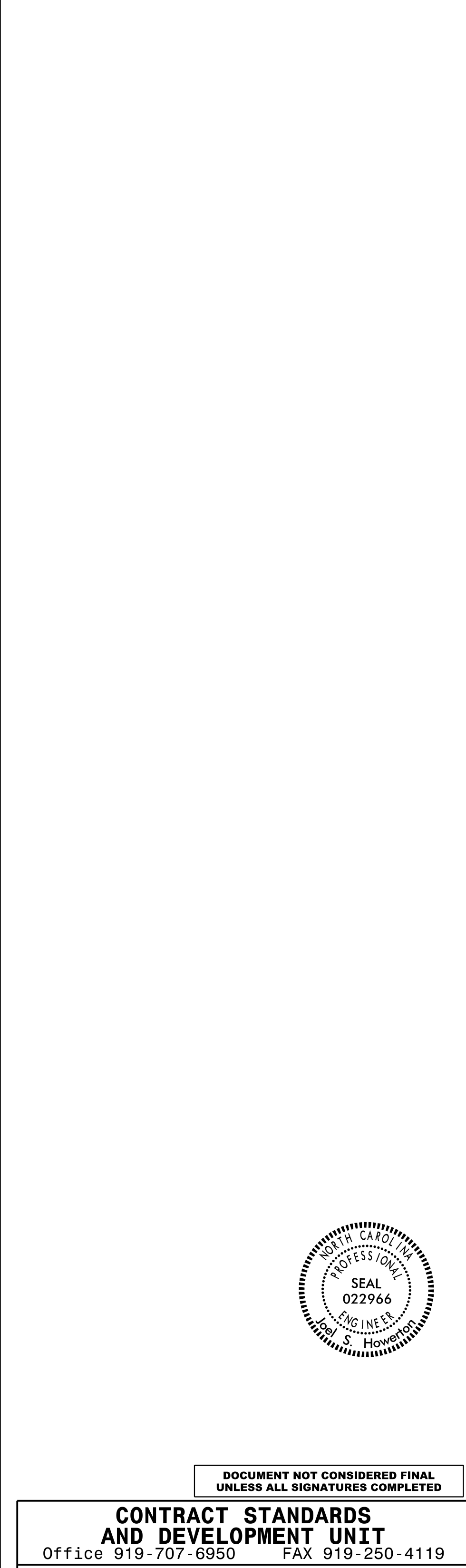


STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.



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

SHEET 1 OF 7 862D03



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

SEE TITLE BLOCK

ORIGINAL BY: J. HOWERTON DATE: 06-22-12
MODIFIED BY: DATE:
CHECKED BY: DATE:
FILE SPEC.: DATE:

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

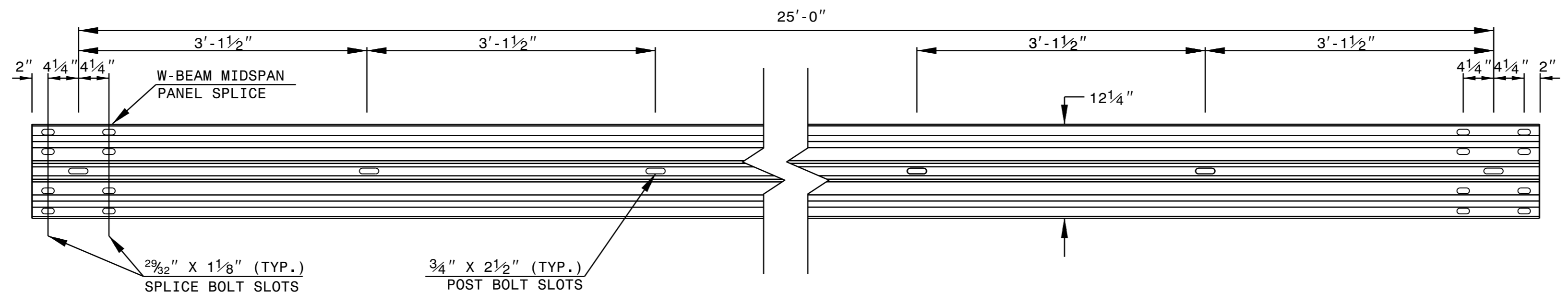
ROADWAY DETAIL DRAWING FOR
GUARDRAIL INSTALLATION

SHEET 6 OF 8
862D02

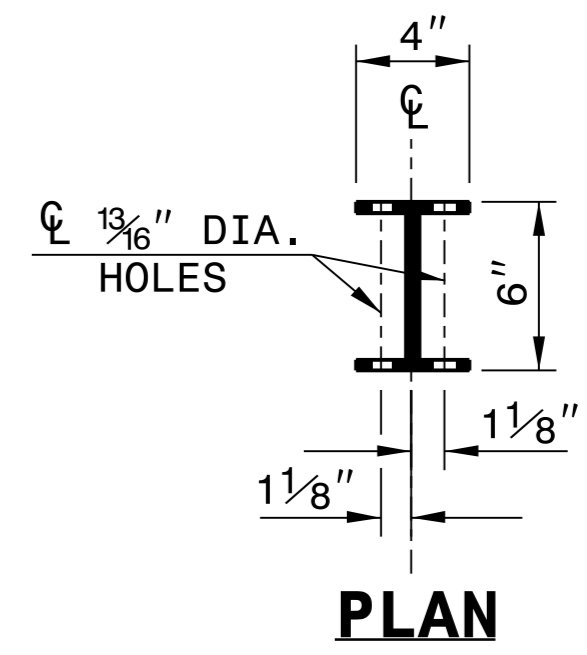
STATE OF NORTH CAROLINA
 DEPT. OF TRANSPORTATION
 DIVISION OF HIGHWAYS
 RALEIGH, N.C.

ROADWAY DETAIL DRAWING FOR
GUARDRAIL INSTALLATION

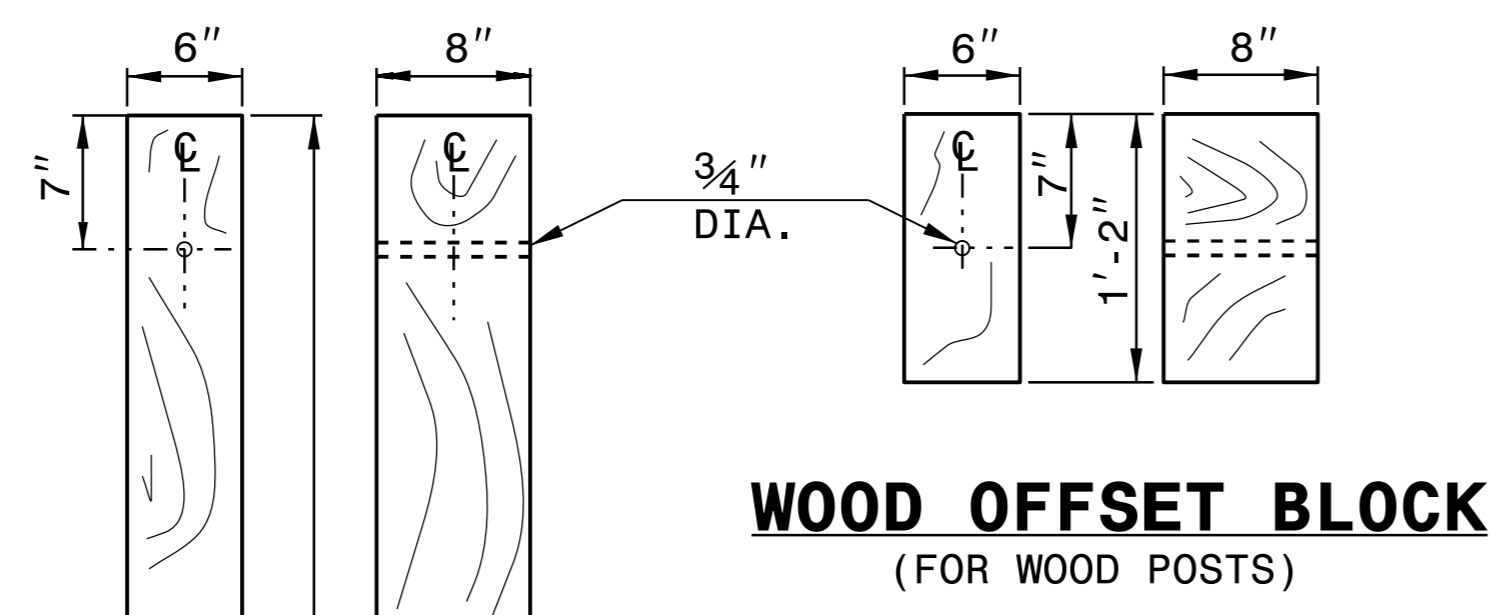
SHEET 6 OF 8
862D02



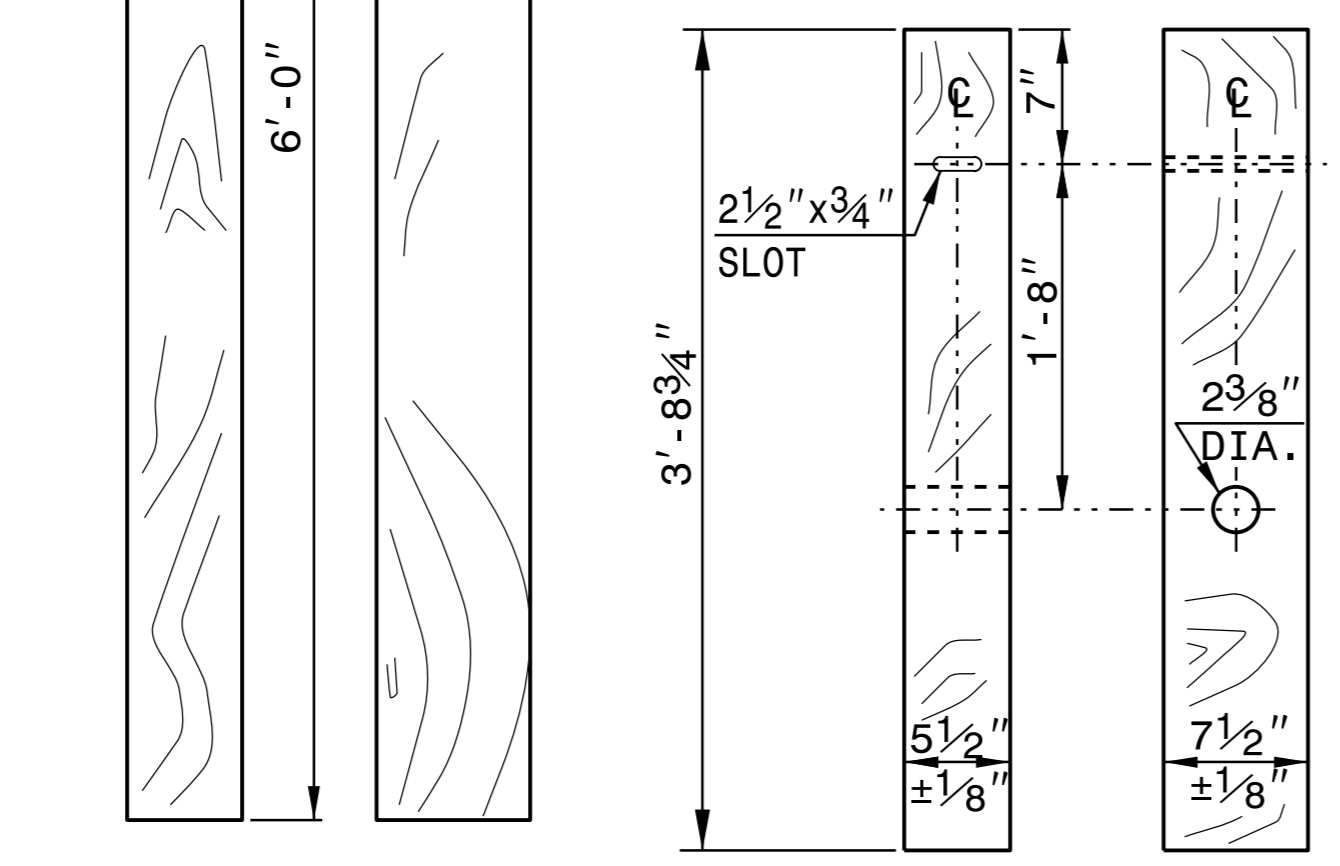
STANDARD W-BEAM GUARDRAIL



PLAN

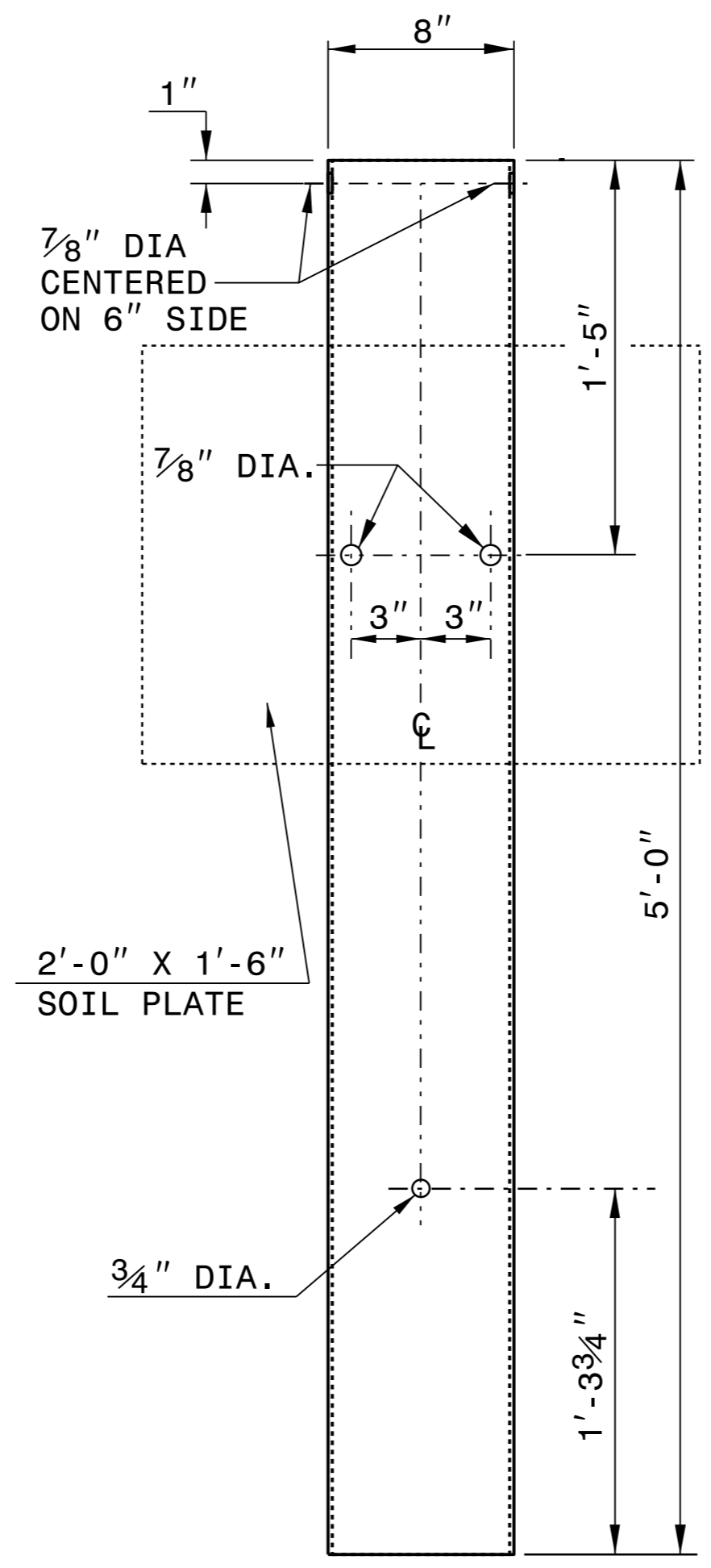


WOOD OFFSET BLOCK (FOR WOOD POSTS)

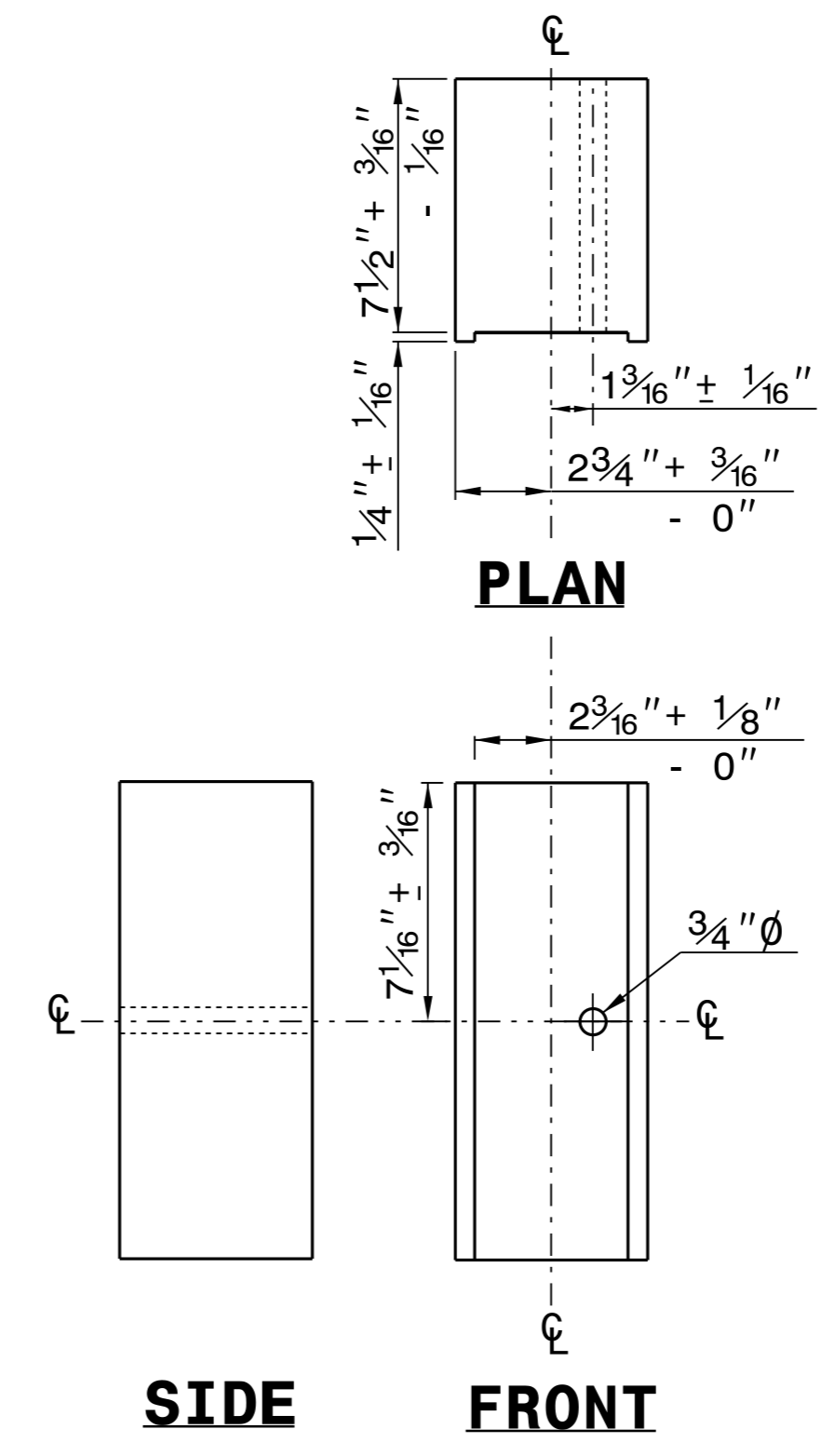


STANDARD LINE POST

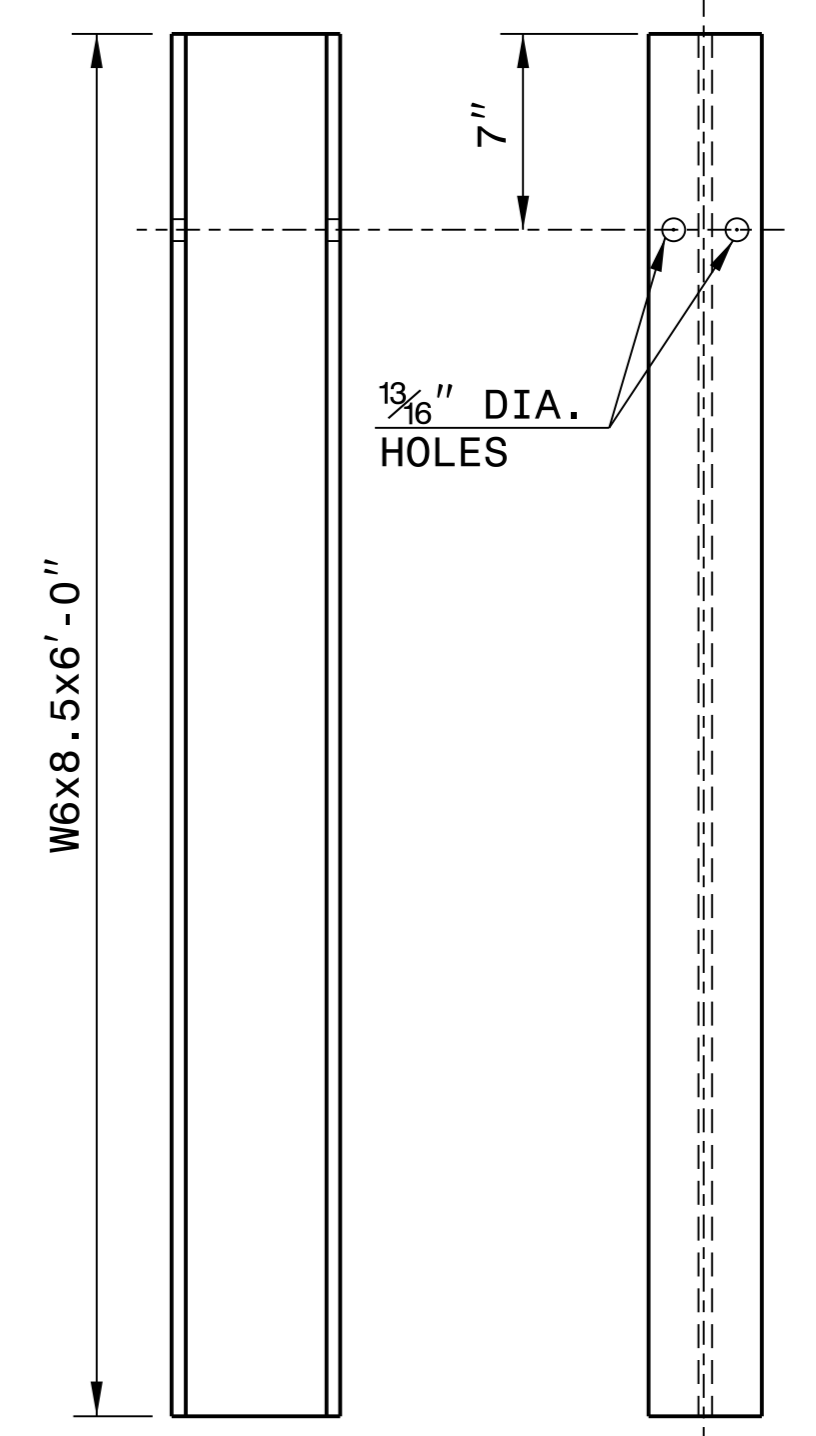
SHORT WOOD BREAKAWAY POST



STEEL TUBE
 TS 6"x8"x0.1875"



ROUTED OFFSET BLOCK



"W6" STEEL POST

SYSTEM PARTS



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.: _____

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

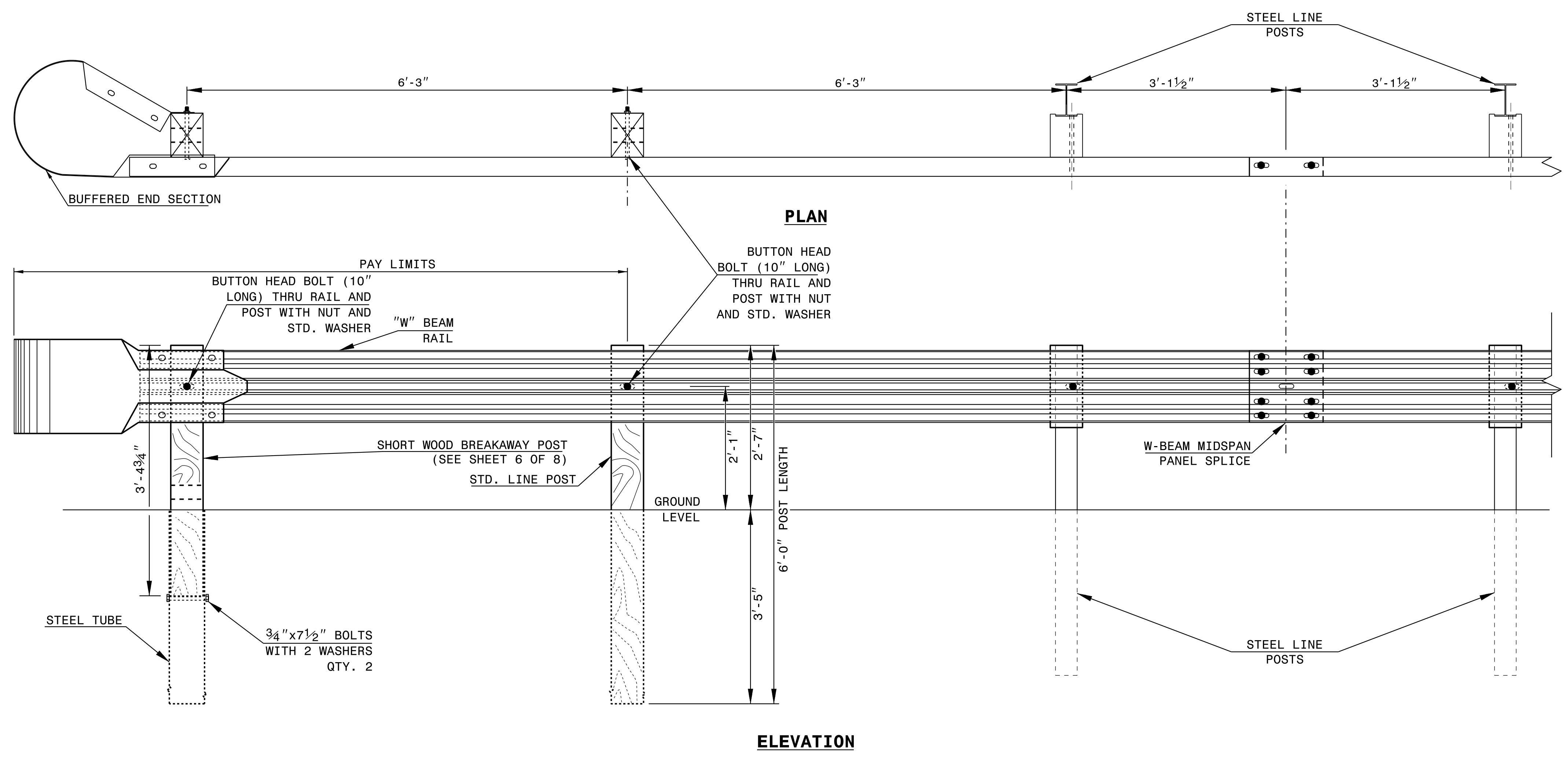
ROADWAY DETAIL DRAWING FOR
GUARDRAIL INSTALLATION

SHEET OF

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

ROADWAY DETAIL DRAWING FOR
GUARDRAIL INSTALLATION

SHEET OF



TRAILING END UNIT ASSEMBLY
A.T. - 1 SYSTEM

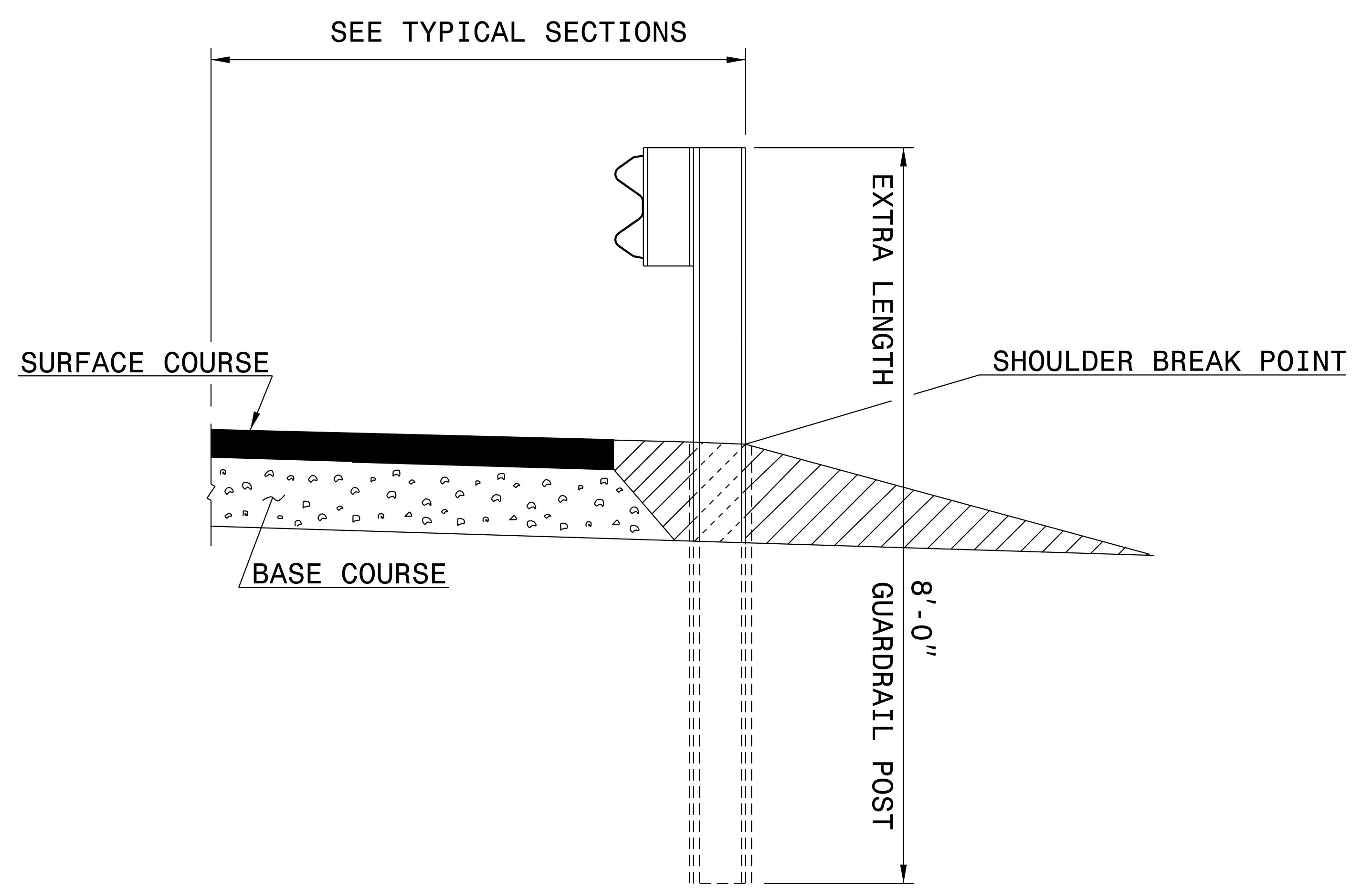


DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

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

A.T. - 1 SYSTEM

ORIGINAL BY: _____ DATE: _____
 MODIFIED BY: _____ DATE: _____
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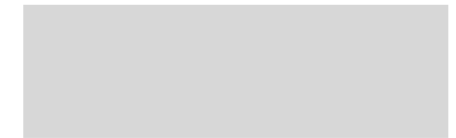


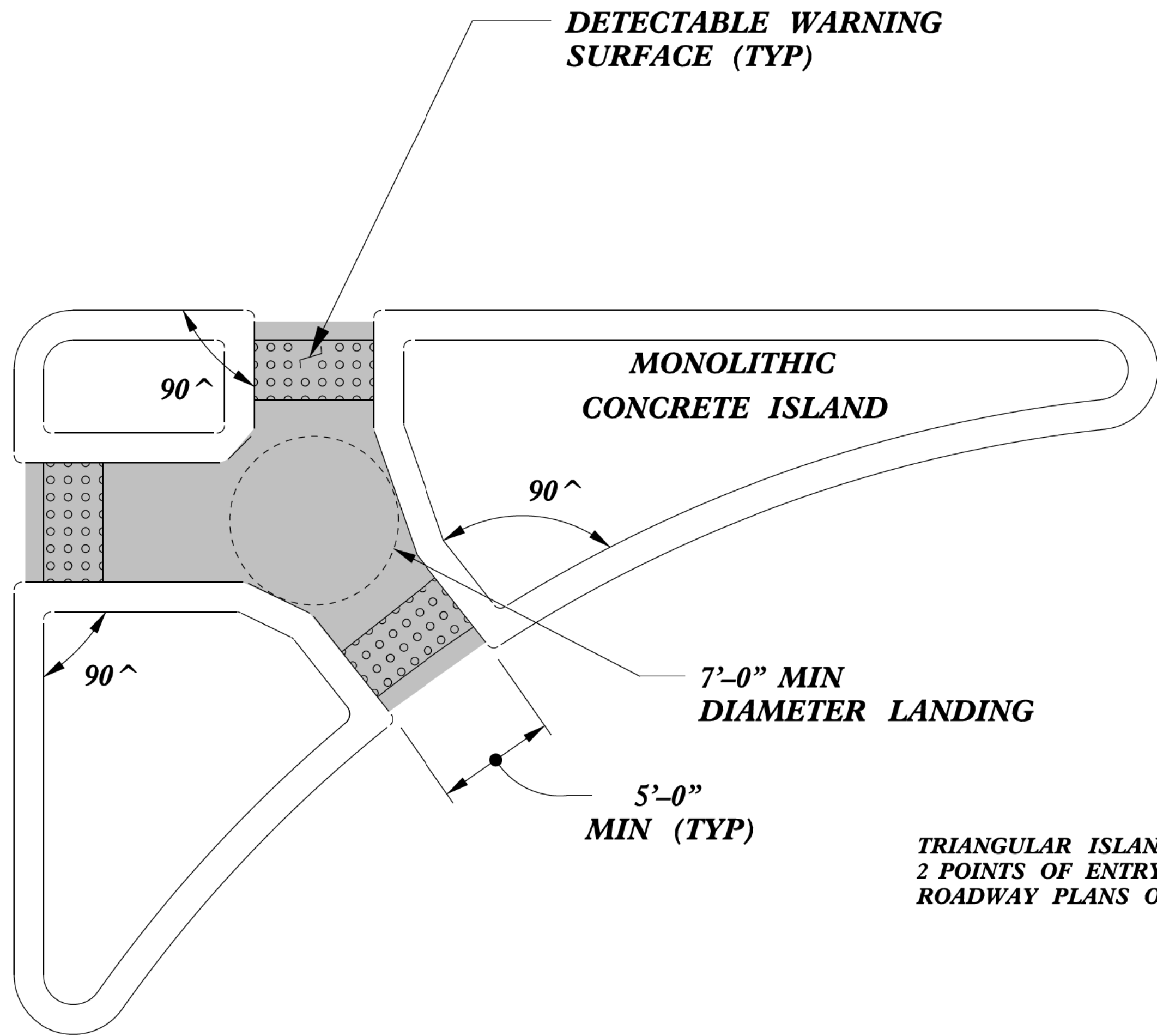
09-MAY-2018 14:21
S:\Contracts\Projects\Special Details\hoverton\7'postguardrail.dgn
hoverton AT USD-232595



DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

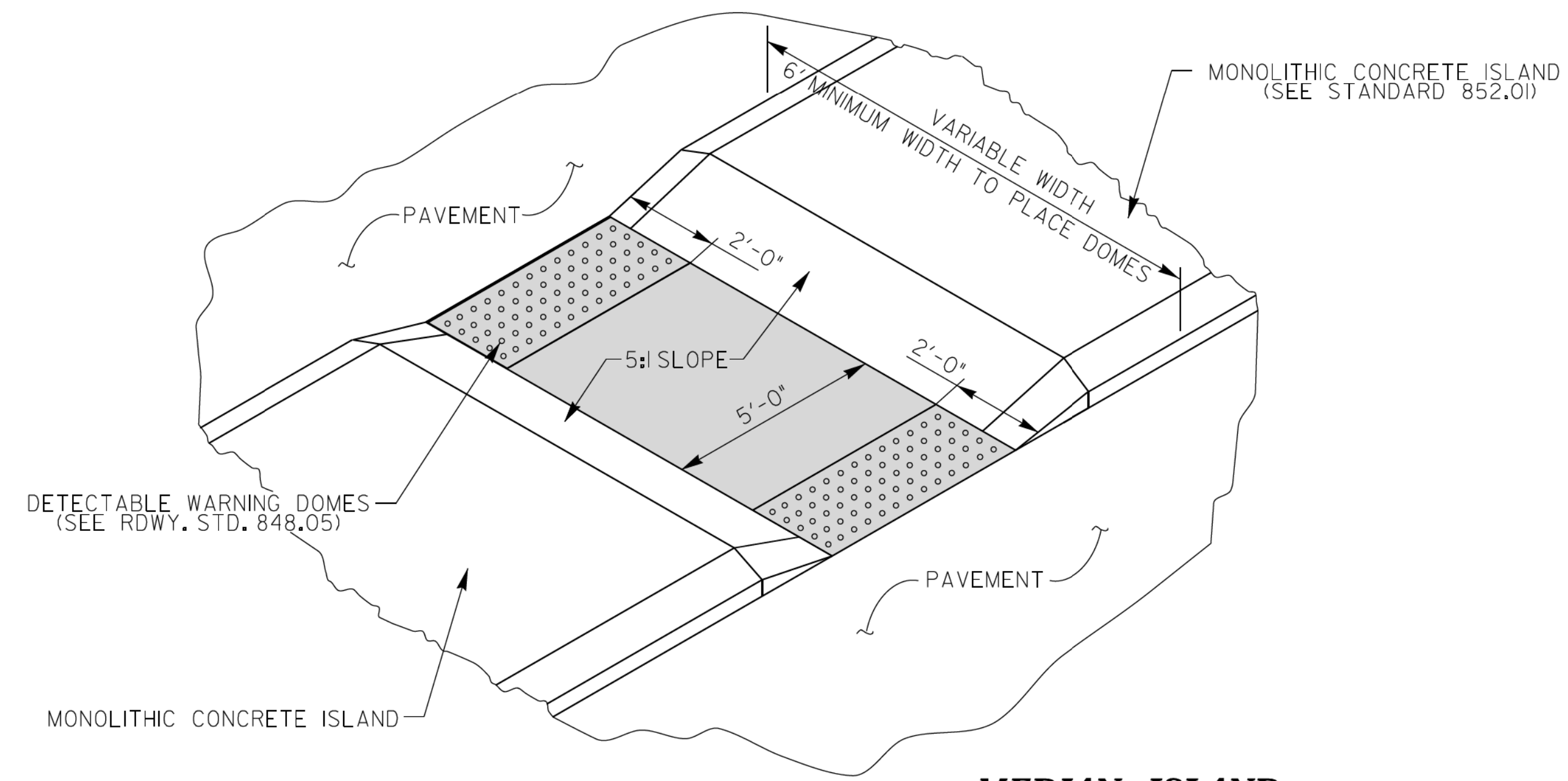
CONTRACT STANDARDS AND DEVELOPMENT UNIT	
Office 919-707-6950	FAX 919-250-4119
8' GUARDRAIL POST	
ORIGINAL BY: L. Robinson	DATE: 1995
MODIFIED BY: L. Robinson	DATE: Feb, 1996
CHECKED BY:	DATE:
FILE SPEC.: s:7'postguardrail.dgn	

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

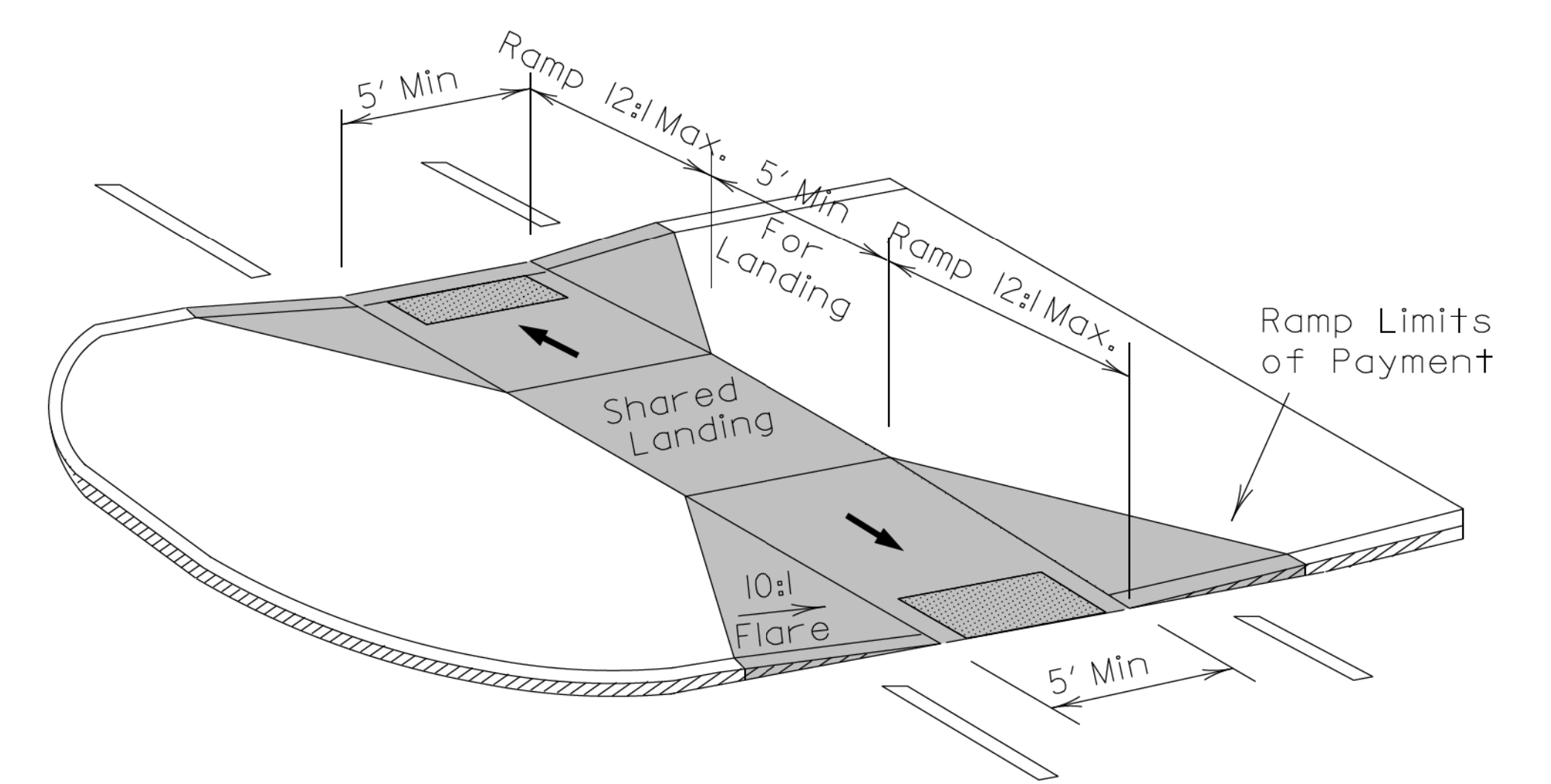


TRIANGULAR ISLANDS MAY BE CONSTRUCTED WITH ONLY 2 POINTS OF ENTRY AND EXIT AS SHOWN IN THE ROADWAY PLANS OR AS DIRECTED BY THE ENGINEER.

TRIANGULAR ISLAND WITH CUT THROUGH



MEDIAN ISLAND WITH CUT THROUGH



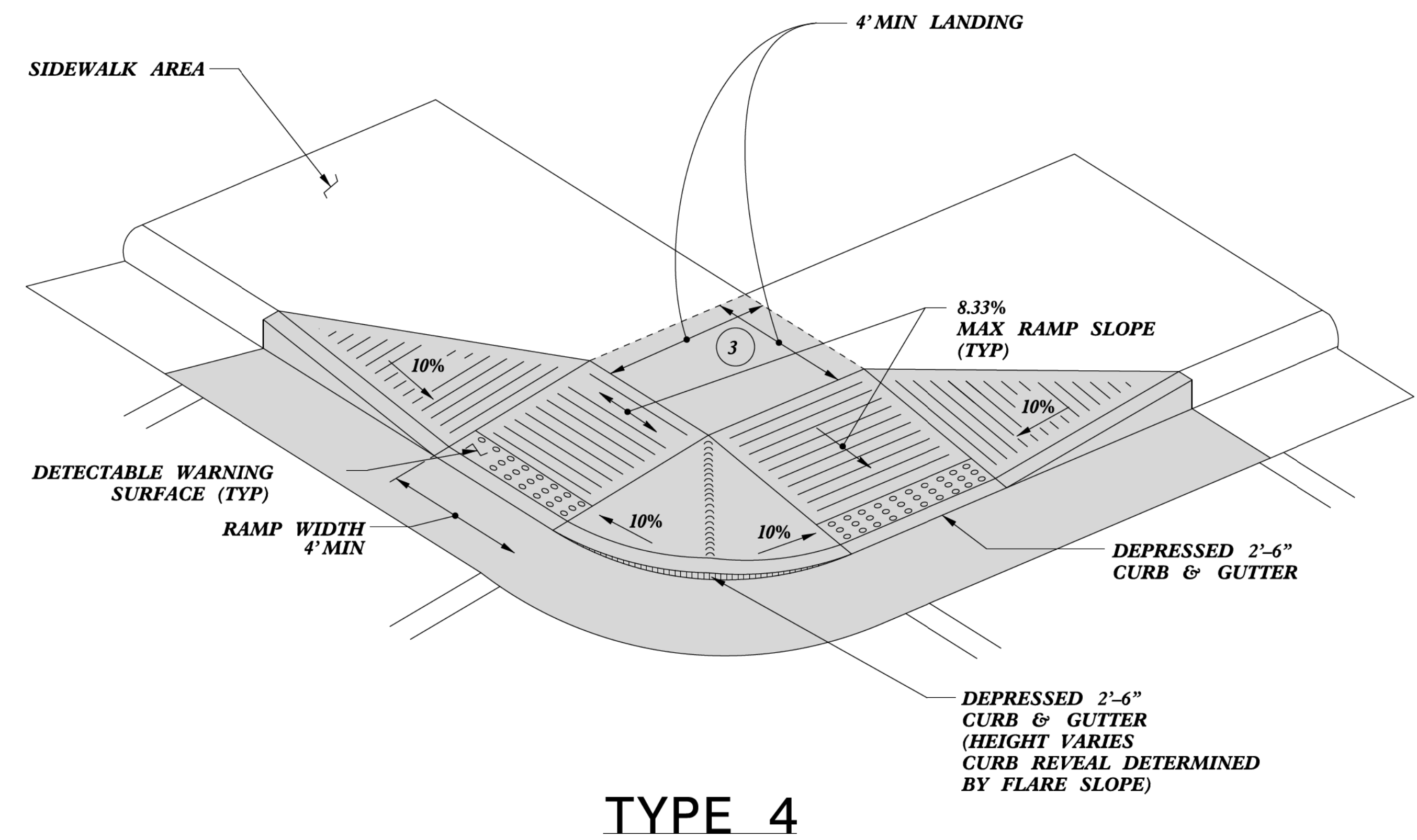
MEDIAN ISLAND CURB RAMPS

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

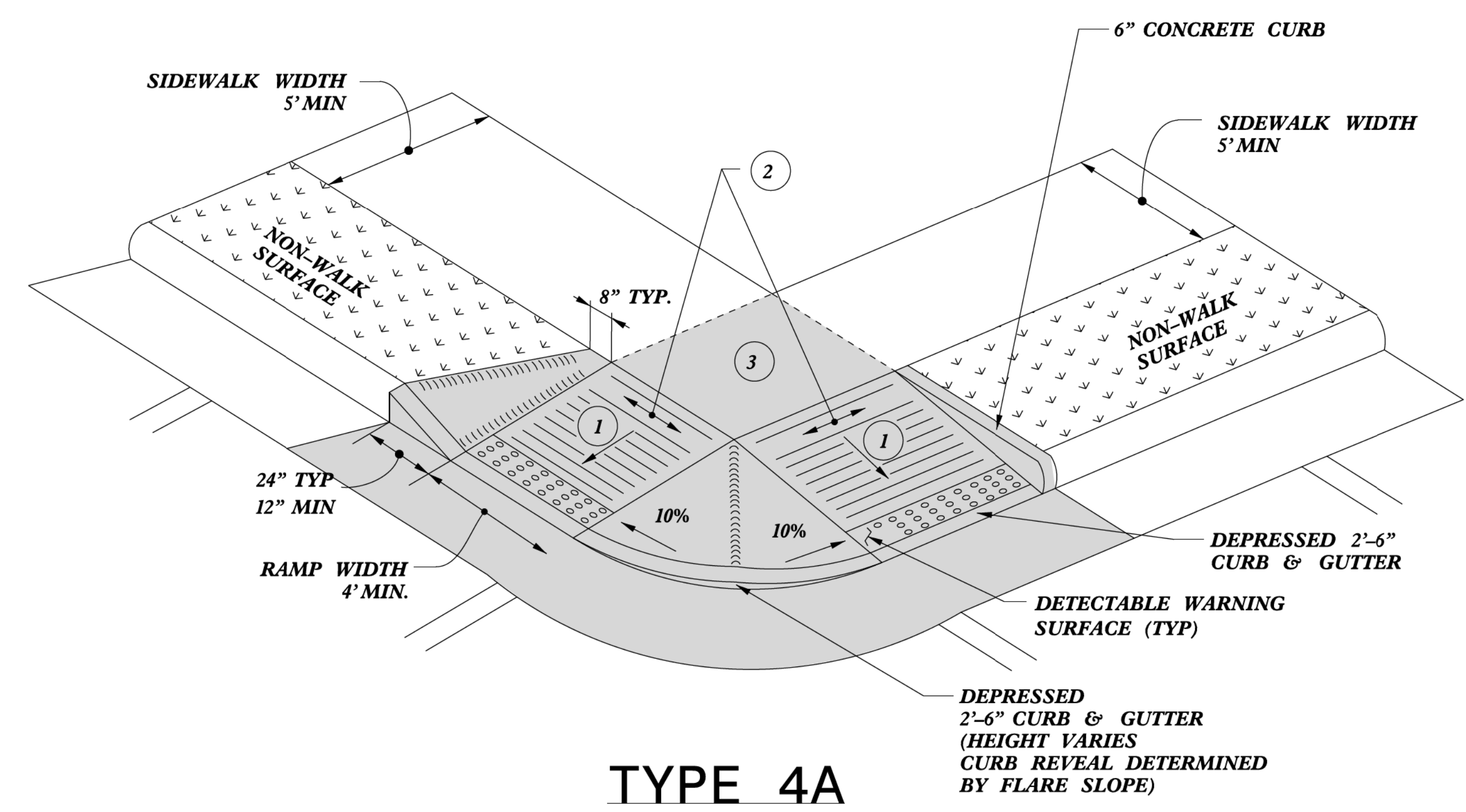
CONTRACT STANDARDS AND DEVELOPMENT UNIT	
Office 919-707-6950 FAX 919-250-4119	
CURB RAMPS	
Median or Turn Lane Islands	
ORIGINAL BY: J.S. HOWERTON	DATE: 7/7/11
MODIFIED BY:	DATE:
CHECKED BY:	DATE:
FILE SPEC: stds/2012CurbRamp/CurbRampDetails.dgn	



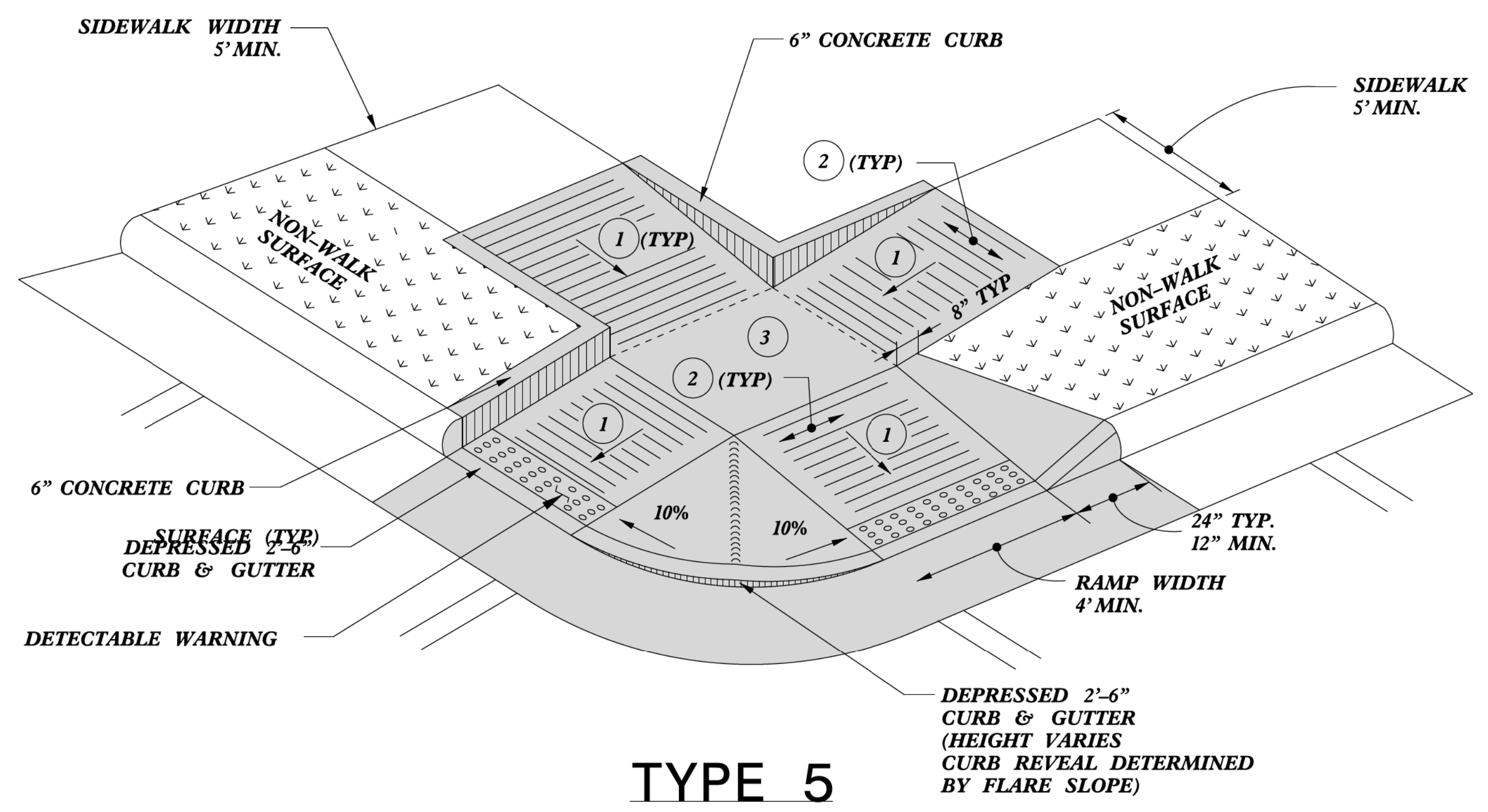
5/14/99



TYPE 4



TYPE 4A

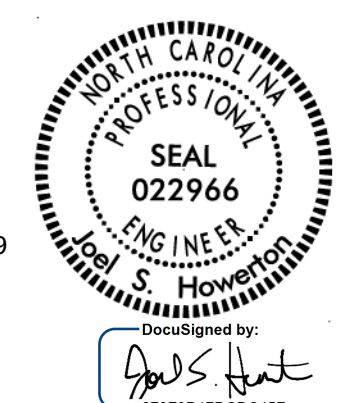


TYPE 5

- 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 2 CURB RAMPS

5/14/99



12/18/2019

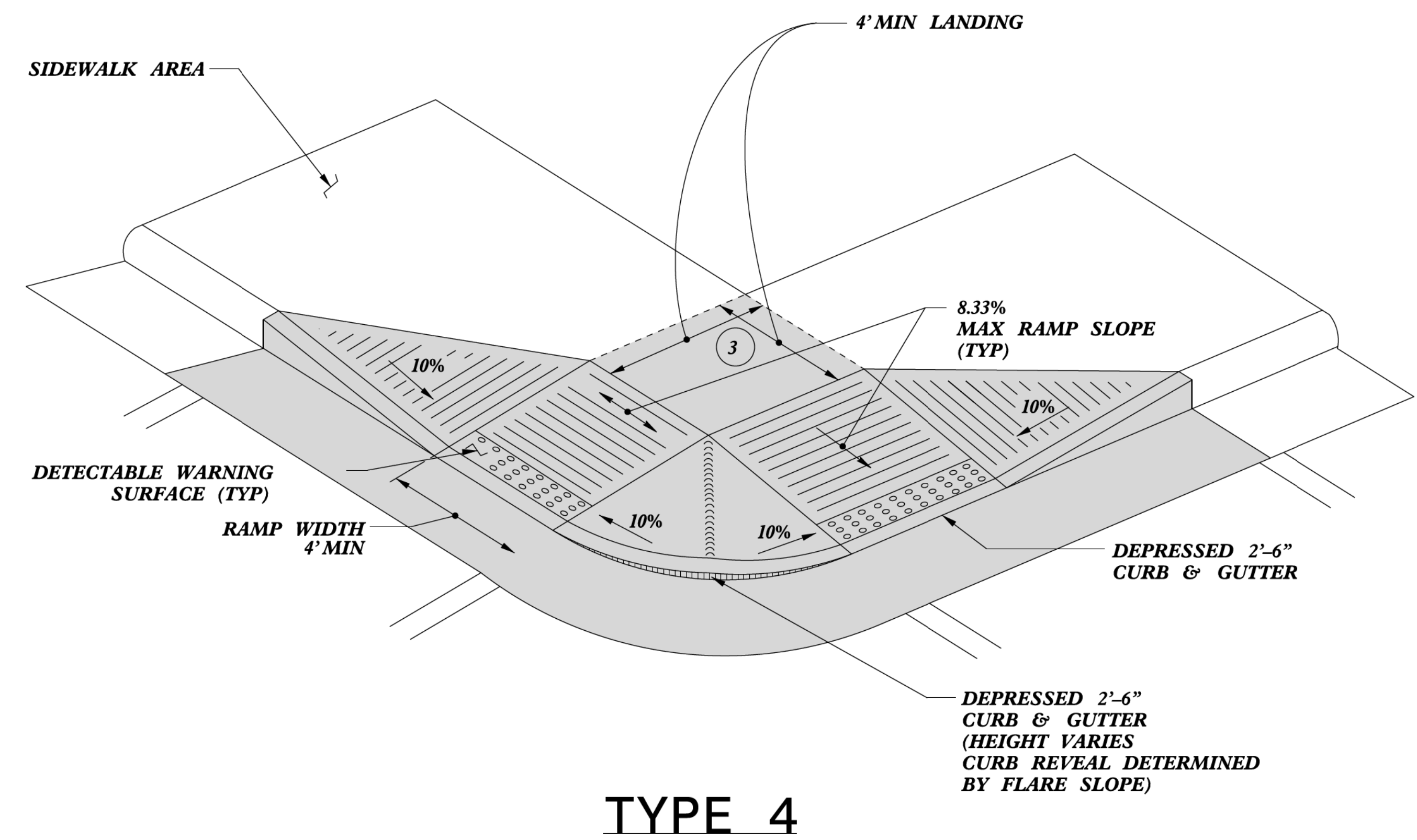
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

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

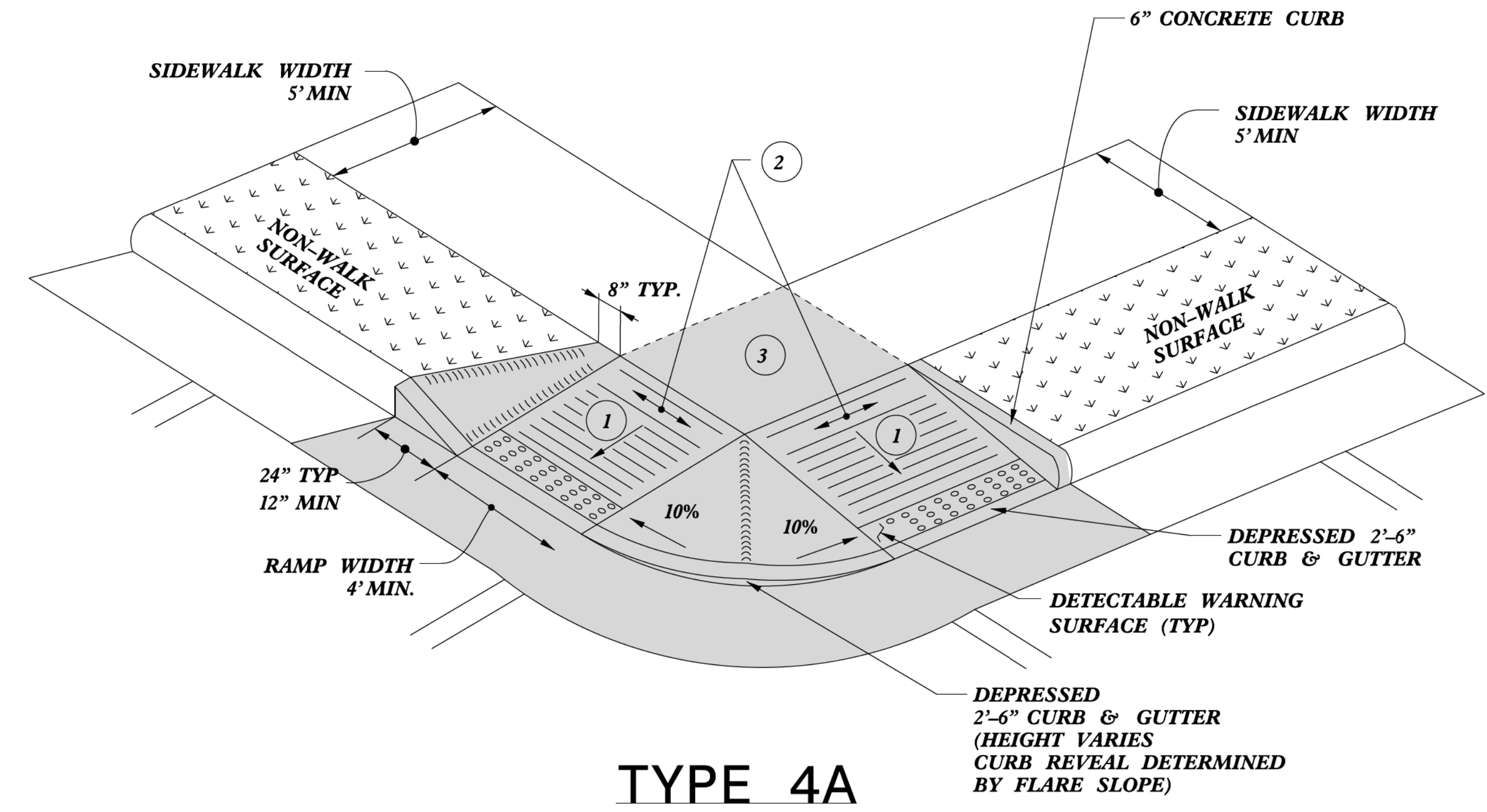
CURB RAMPS
Shared Landing

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

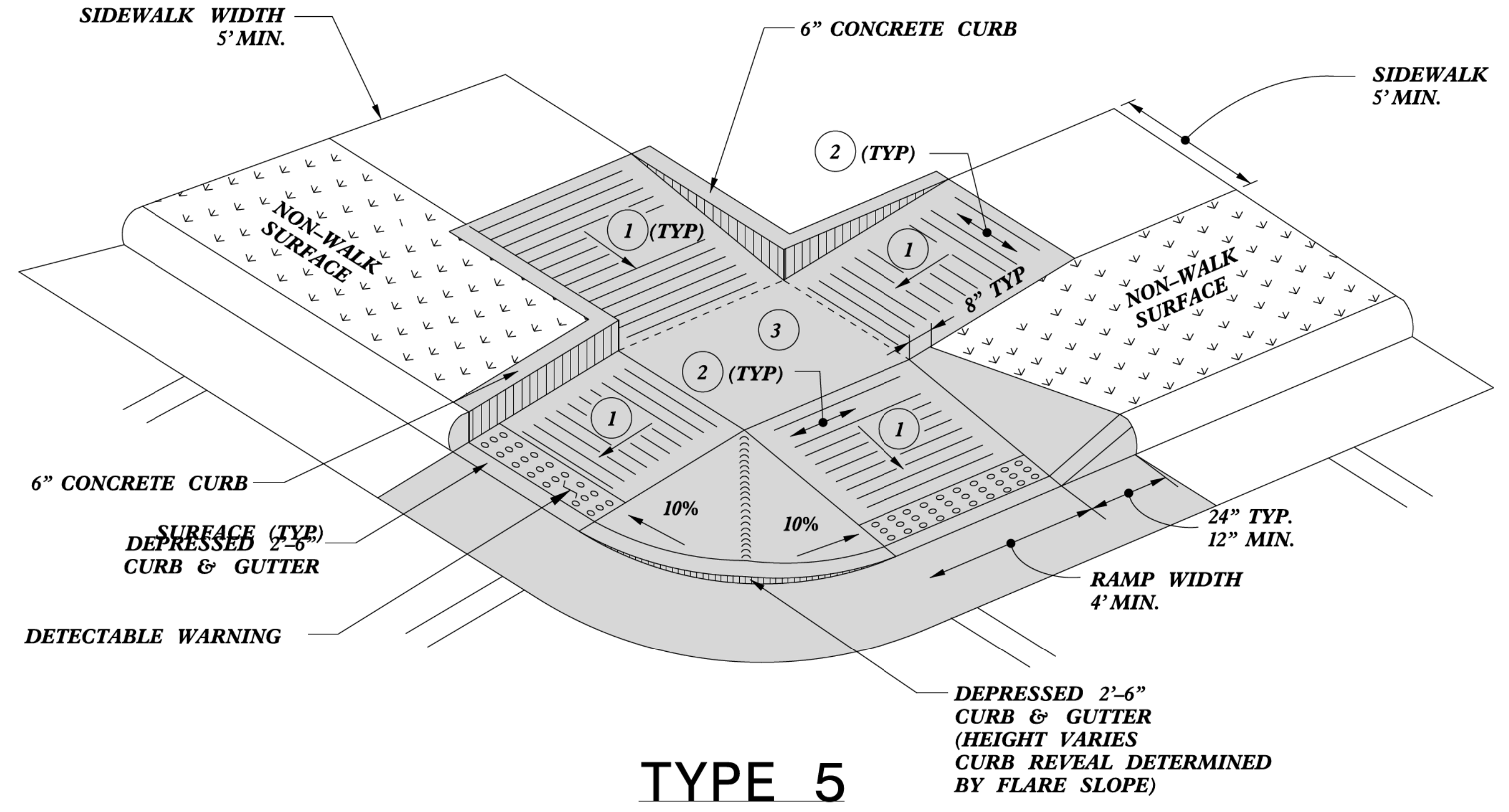
REFER TO ROADWAY STANDARD DRAWING NUMBER 848.05 SHEET 3 OF 3 FOR ALL RAMP NOTES



TYPE 4



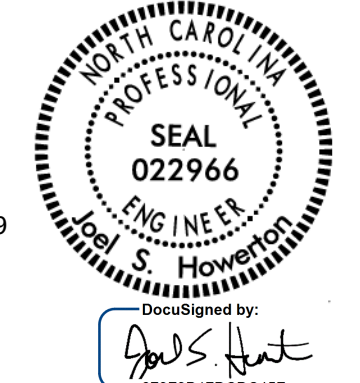
TYPE 4A



TYPE 5

PAY LIMITS FOR 2 CURB RAMPS

- 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.



12/18/2019

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

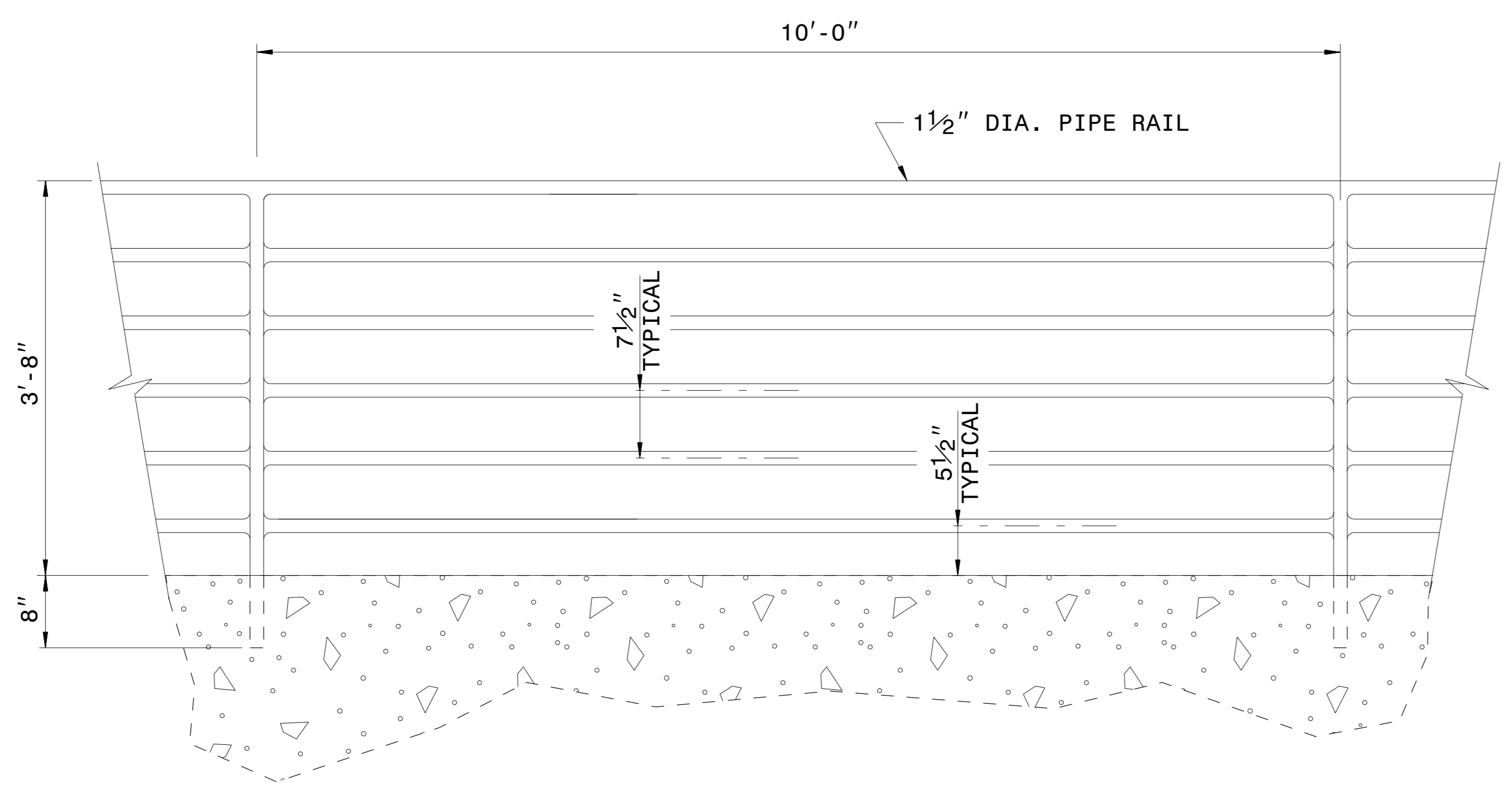
CONTRACT STANDARDS AND DEVELOPMENT UNIT
Office 919-707-6950 FAX 919-250-4119

CURB RAMPS
Shared Landing

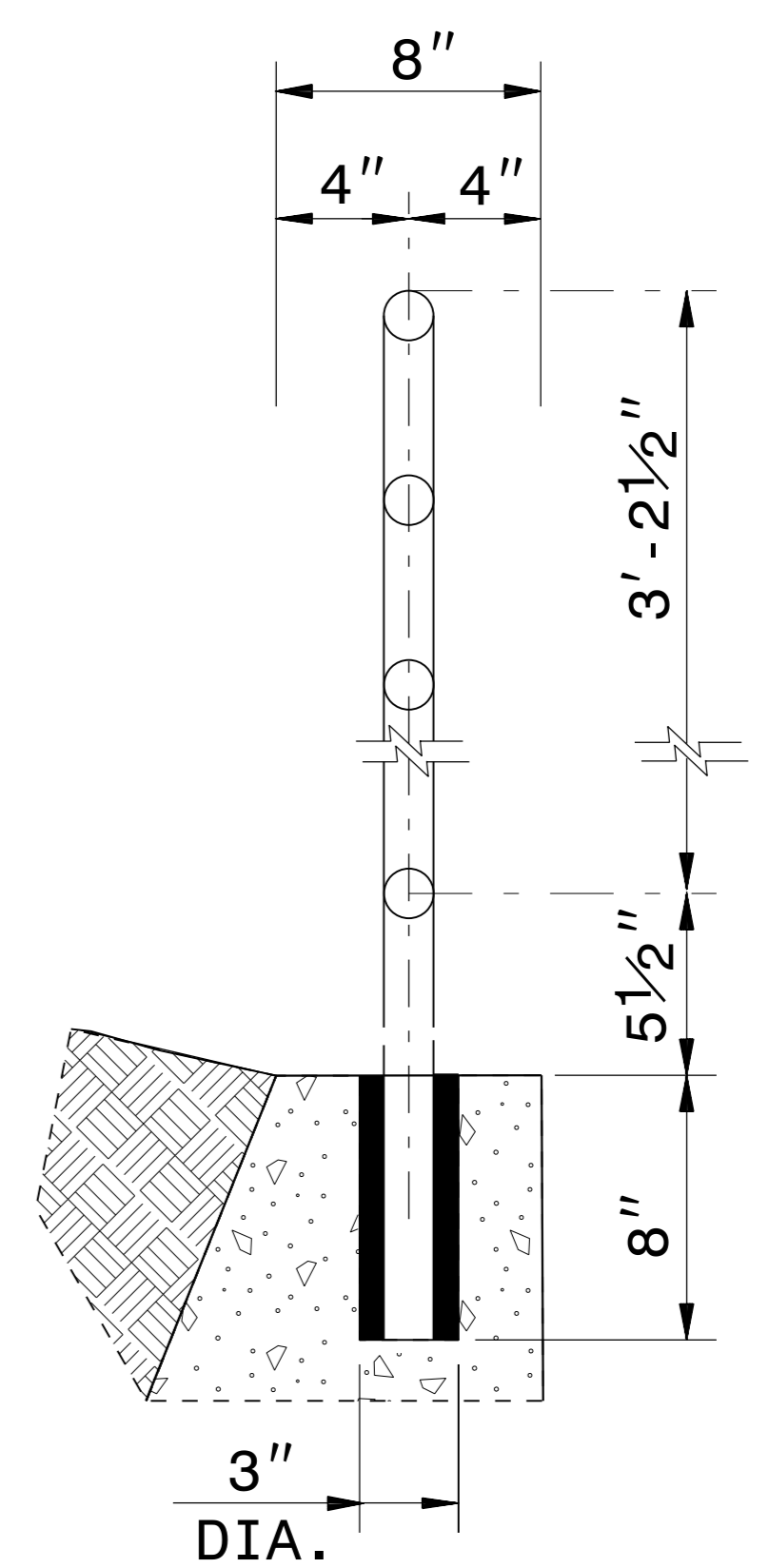
ORIGINAL BY: J.S. HOWERTON DATE: 7/7/11
 MODIFIED BY: DATE:
 CHECKED BY: DATE:
 FILE SPEC: stds/2012CurbRamp/CurbRampDetails.dgn

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

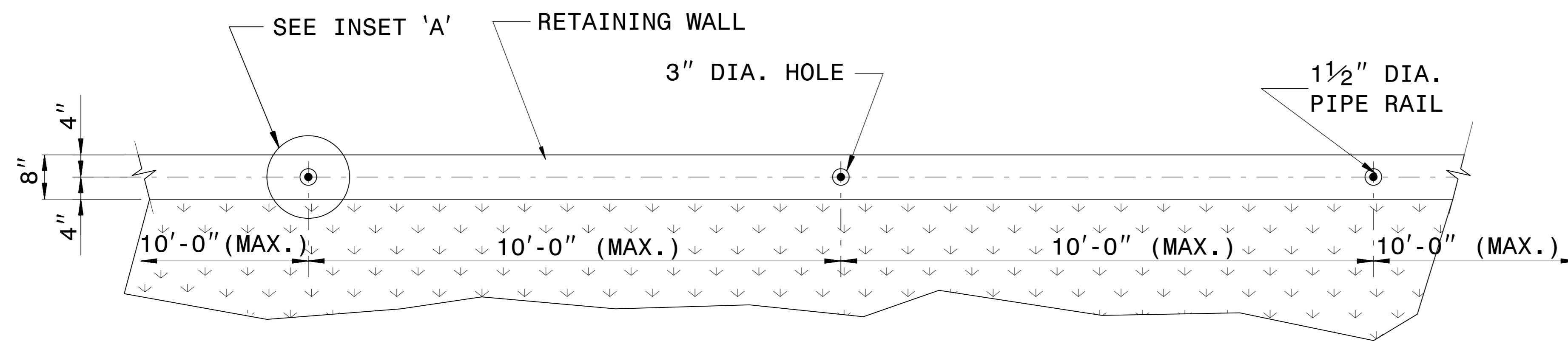
5/14/99



ELEVATION OF HANDRAIL



INSET 'A'

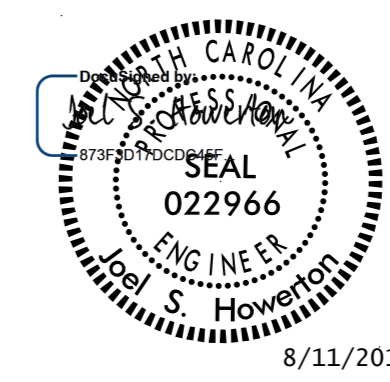


PLAN VIEW

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 8" INTO PROPOSED WALL WITH CHEMICAL OR CONCRETE GROUT ANCHORING SYSTEM AS DIRECTED BY THE ENGINEER.
- 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.
- USE A ROTARY DRILL IF NEEDED FOR EMBEDMENT HOLES OF RAIL IN WALL. ROTARY DRILL ONLY (NO ROTARY-IMPACT DRILLS).
- WELD IN ACCORDANCE WITH ARTICLE 1072-18 OF THE STANDARD SPECIFICATIONS.

SEE SHEET 2B-4 AND PLAN SHEET 28



8/11/2017

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 RETAINING WALL	
ORIGINAL BY: E.E. WARD	DATE: 12-99
MODIFIED BY:	DATE:
CHECKED BY:	DATE:
FILE SPEC.: jhowerton/handrail on retaining_wall.dgn	

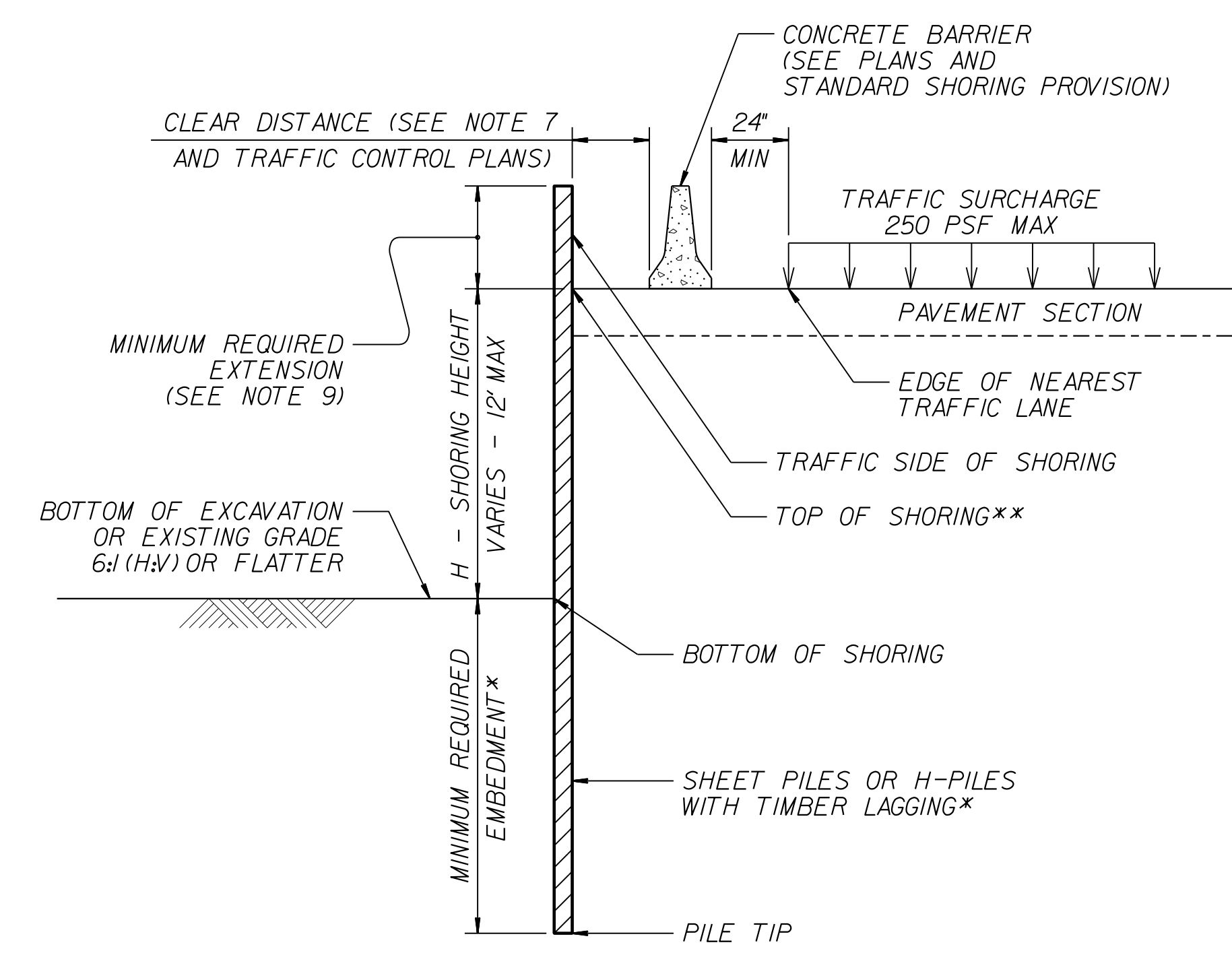
TIME \$\$\$\$\$\$
DATE \$\$\$\$\$\$
USER \$\$\$\$\$\$
NAME \$\$\$\$\$\$

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

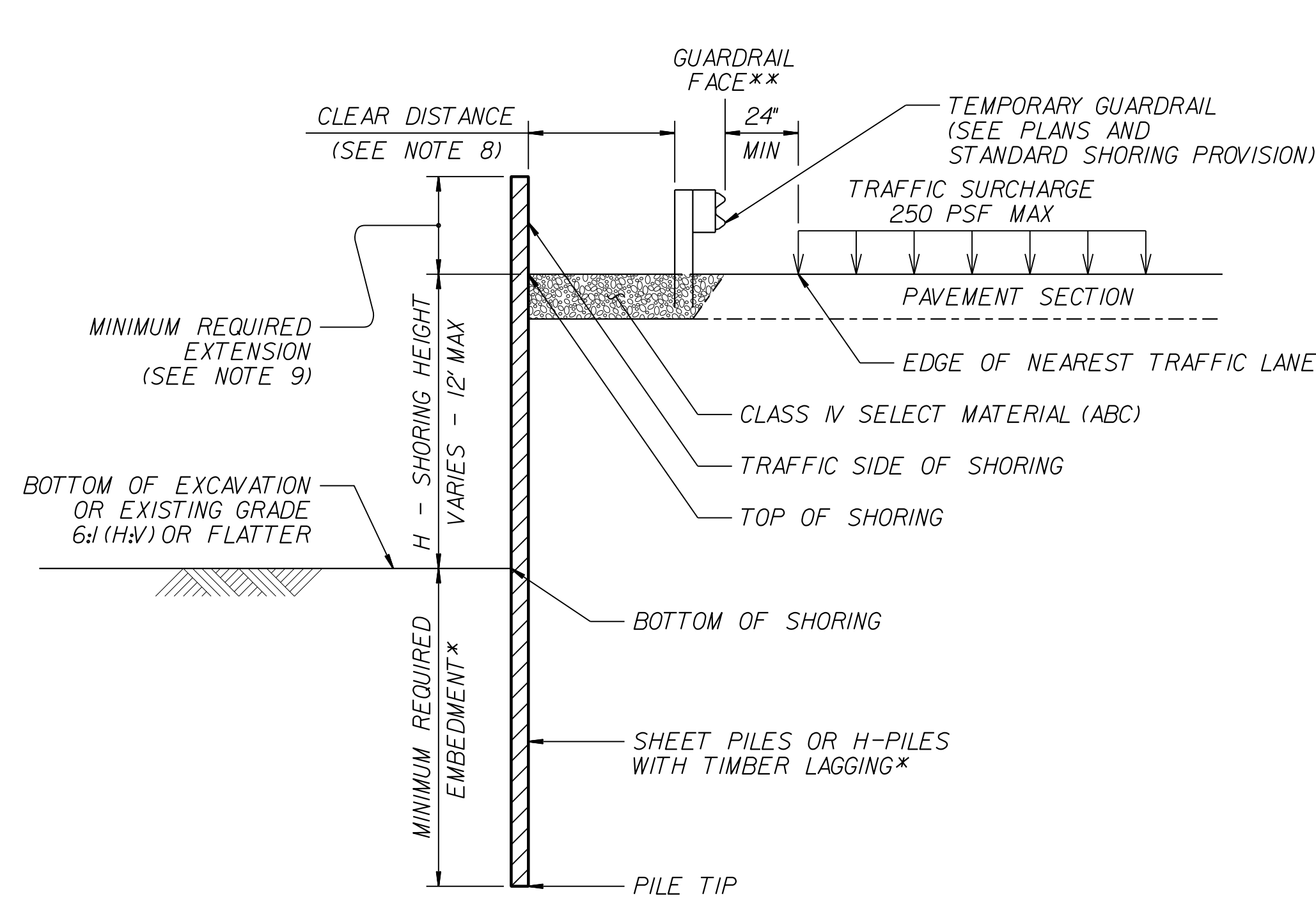
- NOTES:**
- AT THE CONTRACTOR'S OPTION, USE STANDARD TEMPORARY SHORING AS NOTED IN THE PLANS.
 - FOR STANDARD TEMPORARY SHORING, SEE STANDARD SHORING PROVISION.
 - STANDARD TEMPORARY SHORING IS BASED ON THE FOLLOWING IN-SITU ASSUMED SOIL PARAMETERS:
UNIT WEIGHT, $\gamma = 120$ PCF
FRICTION ANGLE, $\phi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

MINIMUM REQUIRED EMBEDMENT AND SECTION MODULUS

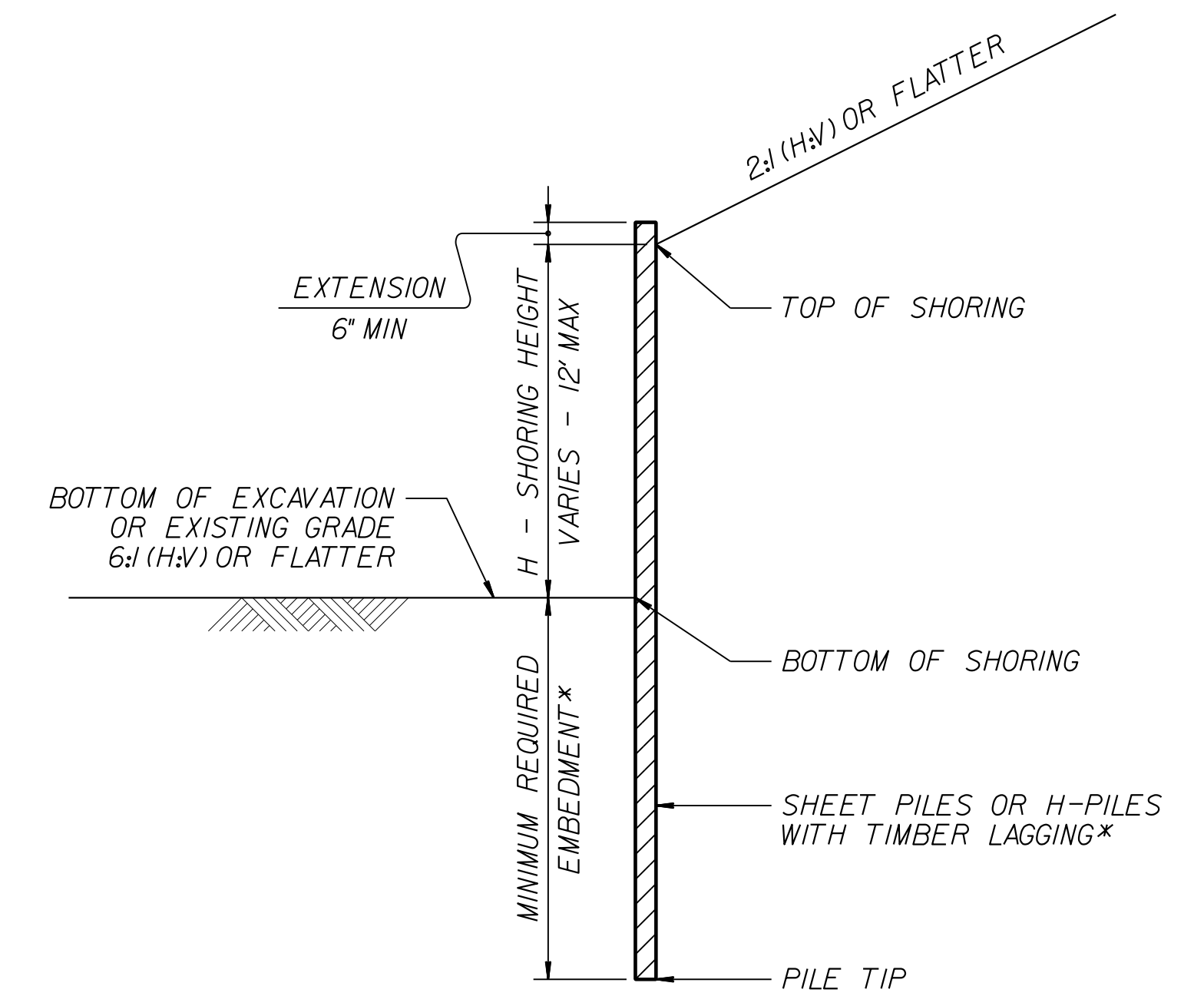
***DO NOT USE H-PILES WITH TIMBER LAGGING FOR GROUNDWATER CONDITION, SHORING HEIGHT AND H-PILE SIZE SHOWN IF MINIMUM REQUIRED EMBEDMENT IS "--".**



CONCRETE BARRIER
****TOP OF SHORING = EDGE OF PAVEMENT**

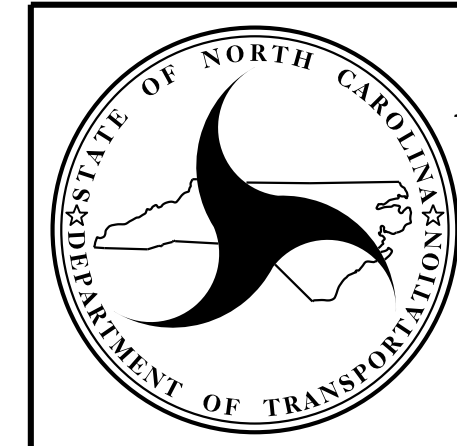


TEMPORARY GUARDRAIL
****GUARDRAIL FACE = EDGE OF PAVEMENT**



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

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



NORTH CAROLINA DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS
GEOTECHNICAL ENGINEERING UNIT

STANDARD DETAIL NO. 1801.01

STANDARD TEMPORARY SHORING

DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA SUMMARY OF EARTHWORK IN CUBIC YARDS

LOCHNER

H. W. LOCHNER, INC.
 2840 PLAZA PLACE, SUITE 202
 RALEIGH, NC 27612
 (919) 571-7111

NC License
 Number F-0159

PROJECT REFERENCE NO.	SHEET NO.
1-5711	3B-1
RW SHEET NO.	

LOCATION	UNCLASSIFIED EXCAVATION	UNDERCUT	EMBT + 20%	BORROW	SUITABLE WASTE	UNSUITABLE WASTE
SUMMARY 1 (LEFT SIDE)						
-L- 18+03.85 (LT) TO 25+96.62 (BEG. BRIDGE)	320	-	3,158	2,838	-	-
-Y- 13+72.47 TO 16+87.00	174	-	107	-	67	-
-RPA_Y1- 12+50.00 TO 14+89.10	31	-	1,368	1,337	-	-
SUMMARY 1 SUBTOTAL	525	-	4,633	4,175	67	-
SUMMARY 2 (LEFT SIDE)						
-L- 28+15.65 (LT) (END BRIDGE) TO 50+00.00 (LT)	712	-	4,261	3,649	-	100
-RPD_Y1- 19+80.09 TO 21+42.67	25	-	202	177	-	-
-Y2- 10+50.93 TO 13+05.00	12	-	522	510	-	-
-Y4A- 10+43.17 TO 13+40.00	2,309	1,375	893	-	996	1,795
SUMMARY 2 SUBTOTAL	3,058	1,375	5,878	4,335	996	1,895
SUMMARY 3 (RIGHT SIDE)						
-L- 18+03.85 (RT) TO 25+96.62 (BEG. BRIDGE)	148	-	1,100	952	-	-
-RPB_Y1- 10+75.00 TO 20+72.91	7,820	-	563	-	7,257	-
SUMMARY 3 SUBTOTAL	7,968	-	1,664	952	7,257	-

LOCATION	UNCLASSIFIED EXCAVATION	UNDERCUT	EMBT + 20%	BORROW	SUITABLE WASTE	UNSUITABLE WASTE
SUMMARY 4 (RIGHT SIDE)						
-L- 28+15.65 (RT) (END BRIDGE) TO 50+00.00 (RT)	1,094	-	1,488	394	-	-
-RPC_Y1- 10+50.00 TO 11+95.54	15	-	114	99	-	-
-Y3- 12+10.00 TO 13+95.01	63	-	37	-	26	-
-Y4- 10+25.52 TO 11+96.20	66	-	29	-	37	-
SUMMARY 4 SUBTOTAL	1,238	-	1,668	493	64	-
TOTAL:	12,789	1,375	13,843	9,955	8,384	1,895
LOSS DUE TO CLEARING AND GRUBBING:	-700	-	-	700	-	-
WASTE IN LIEU OF BORROW:	-	-	-	-1,127	-1,127	-
PROJECT TOTAL:	12,089	1,375	13,843	9,527	7,257	1,895
5% TO REPLACE TOPSOIL (EST):	-	-	-	476	-	-
PROJECT TOTAL:	12,089	1,375	13,843	10,004	7,257	1,895
SAY	12,100	1,375		10,100		

PER GEOTECH RECOMMENDATION, ESTIMATED 1,000CY OF UNDERCUT TO BE USED AT THE DISCRETION OF THE ENGINEER.
 PER GEOTECH RECOMMENDATION, ESTIMATED 150CY OF SHALLOW UNDERCUT FROM -L- STA. 41+75 TO 44+25.
 EARTHWORK QUANTITIES ARE CALCULATED BY LOCHNER. THESE EARTHWORK QUANTITIES ARE BASED IN PART ON SUBSURFACE DATA PROVIDED BY THE GEOTECHNICAL ENGINEERING UNIT.

PAVEMENT REMOVAL SUMMARY

SURVEY LINE	STATION	STATION	LOCATION LT/RT/CL	YD ²
-RPB Y1-	14+21	17+28	RT	124.48
-RPD Y1-	12+87	18+25	RT	157.63
TOTAL:				282.10
SAY:				290

NOTE: Approximate quantities only. Unclassified Excavation, Borrow Excavation, Clearing and Grubbing, Fine Grading, and Removal of Existing Asphalt Pavement will be paid for at the contract lump sum price for grading.

N = DISTANCE FROM EDGE OF LANE TO FACE OF GUARDRAIL.
 TOTAL SHOULDER WIDTH = DISTANCE FROM EDGE OF TRAVEL LANE TO SHOULDER BREAK POINT.
 FLARE LENGTH = DISTANCE FROM LAST SECTION OF PARALLEL GUARDRAIL TO END OF GUARDRAIL.
 W = TOTAL WIDTH OF FLARE FROM BEGINNING OF TAPER TO END OF GUARDRAIL.
 G = GATING IMPACT ATTENUATOR TYPE 350
 NG = NON-GATING IMPACT ATTENUATOR TYPE 350

GUARDRAIL SUMMARY

SURVEY LINE	BEG. STA.	END STA.	LOCATION	LENGTH			WARRANT POINT		"N" DIST. FROM E.O.L.	TOTAL SHOUL. WIDTH	FLARE LENGTH		W		ANCHORS										IMPACT ATTENUATOR TYPE 350			SINGLE FACED GUARDRAIL	REMOVE EXISTING GUARDRAIL	REMOVE AND STOCKPILE EXISTING GUARDRAIL	REMARKS							
				STRAIGHT	SHOP CURVED	DOUBLE FACED	APPROACH END	TRAILING END			APPROACH END	TRAILING END	XI MOD	XI	GREU TL-3	B-77	TYPE III	CAT-1	VI MOD	BIC	AT-1	EA	G	NG														
																									EA	G	NG											
L	24+60.50	25+96.62	RT	93.75'	43.75'		25+96.62 (BRIDGE)																															
L	28+15.65	29+33.87	LT	68.75'	81.25'			28+15.65 (BRIDGE)																														
L	24+48.06	25+94.81	RT																																			
L	24+82.04	25+98.38	LT																																			
L	28+14.08	29+04.40	RT																																			
L	28+17.61	29+29.63	LT																																			
L	21+67.80	22+34.00	RT																																			
L	34+00.00	36+09.80	RT	175.00'	68.75'		34+95 (WALL)																															
Y1	22+84.00	25+84.00	RT	297.875'			22+84.00 (BRIDGE)		15'		50.0'			1																								
Y1	27+00.00	30+00.00	LT	297.875'					15'		50.0'				1																							
SUB-TOTAL				933.25'	193.75'																																	
LESS ANCHORS																																						
TYPE III SAU				2	@ 18.75'																																	
AT-1				3	@ 6.25'																																	
GREU TL-3				3	@ 50.0'																																	
B-77				2	@ 22.875'																																	
TOTALS																																						
SAY				700.00'	175.00'																																	
				700.00'	175.00'																																	

ADDITIONAL POSTS = 5 EA 8' POSTS (WITH ADDITIONAL) = 41 EA

5/9/2016
 12/15/2020
 H. W. LOCHNER, INC.
 2840 PLAZA PLACE, SUITE 202
 RALEIGH, NC 27612
 (919) 571-7111

Z8022

COMPUTED BY: VHB DATE: 11/23/2020
CHECKED BY: VHB DATE: 11/23/2020

PROJECT NO. I-5711 SHEET NO. 3D-1

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)

Table with columns: LINE & STATION, OFFSET, STRUCTURE NUMBER, TOP ELEVATION, INVERT ELEVATION, MINIMUM REQUIRED SLOPE, Side Drain Pipe (RCP, CSP, CAAP, HDPE, or PVC), R. C. PIPE CLASS III, R. C. PIPE CLASS IV, R. C. PIPE CLASS V, QUANTITIES FOR DRAINAGE STRUCTURES, FRAME, GRATES, AND HOOD, CONCRETE TRANSITIONAL SECTION, GRATE TYPE, PIPE REMOVAL, and REMARKS. Includes a SHEET TOTALS row at the bottom.

ABBREVIATIONS table listing codes and their corresponding materials: C.A.A. CORRUGATED ALUMINIUM ALLOY, C.B. CATCH BASIN, C.S. CORRUGATED STEEL, D.I. DROP INLET, G.D.I. GRATED DROP INLET, H.D.P.E. HIGH DENSITY POLYETHYLENE, J.B. JUNCTION BOX, M.H. MANHOLE, N.S. NARROW SLOT, P.V.C. POLYVINYL CHLORIDE, R.C. REINFORCED CONCRETE, T.B.D.I. TRAFFIC BEARING DROP INLET, T.B.J.B. TRAFFIC BEARING JUNCTION BOX, W.S. WIDE SLOT.

COMPUTED BY: VHB DATE: 11/23/2020
CHECKED BY: VHB DATE: 11/23/2020

PROJECT NO. I-5711 SHEET NO. 3D-2

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)

Table with columns: LINE & STATION, OFFSET, STRUCTURE NUMBER, TOP ELEVATION, INVERT ELEVATION, MINIMUM REQUIRED SLOPE, Side Drain Pipe (RCP, CSP, CAAP, HDPE, or PVC), R. C. PIPE CLASS III, R. C. PIPE CLASS IV, R. C. PIPE CLASS V, QUANTITIES FOR DRAINAGE STRUCTURES, FRAME, GRATES, AND HOOD, CONCRETE TRANSITIONAL SECTION, GRATE TYPE, PIPE REMOVAL, and REMARKS. Includes a SHEET TOTALS row at the bottom.

ABBREVIATIONS table listing materials and components such as C.A.A. CORRUGATED ALUMINIUM ALLOY, C.B. CATCH BASIN, C.S. CORRUGATED STEEL, D.I. DROP INLET, G.D.I. GRATED DROP INLET, H.D.P.E. HIGH DENSITY POLYETHYLENE, J.B. JUNCTION BOX, M.H. MANHOLE, N.S. NARROW SLOT, P.V.C. POLYVINYL CHLORIDE, R.C. REINFORCED CONCRETE, T.B.D.I. TRAFFIC BEARING DROP INLET, T.B.J.B. TRAFFIC BEARING JUNCTION BOX, W.S. WIDE SLOT.

Z8022

COMPUTED BY: VHB DATE: 11/23/2020
CHECKED BY: VHB DATE: 11/23/2020

PROJECT NO. I-5711 SHEET NO. 3D-3

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)

Table with columns: LINE & STATION, OFFSET, STRUCTURE NUMBER, TOP ELEVATION, INVERT ELEVATION, MINIMUM REQUIRED SLOPE, Side Drain Pipe (RCP, CSP, CAAP, HDPE, or PVC), R. C. PIPE CLASS III, R. C. PIPE CLASS IV, R. C. PIPE CLASS V, QUANTITIES FOR DRAINAGE STRUCTURES, DRAINAGE STRUCTURE, FRAME, GRATES, AND HOOD, CONCRETE TRANSITIONAL SECTION, GRATE TYPE, FLOWABLE FILL, CONCRETE COLLARS CL. "B" STD. 840.72, CONCRETE AND BRICK PIPE PLUG STD. 840.71, PIPE REMOVAL, REMARKS. Includes a summary row at the bottom labeled 'SHEET TOTALS'.

COMPUTED BY: VHB DATE: 11/23/2020
CHECKED BY: VHB DATE: 11/23/2020

PROJECT NO. I-5711 SHEET NO. 3D-4

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 for Line & Station, Offset, Structure Number, Invert Elevation, Minimum Required Slope, R.C. Pipe Class (III, IV, V), Drainage Structure, Frame, Grates, and Hood, Grate Type, and Pipe Removal. Includes a list of abbreviations on the right side.

Summary table with rows for SHEET TOTALS and PROJECT TOTALS, showing cumulative values across various categories.

DIVISION OF HIGHWAYS
 STATE OF NORTH CAROLINA

LOCHNER
 H. W. LOCHNER, INC.
 2840 PLAZA PLACE, SUITE 202
 RALEIGH, NC 27612
 (919) 571-7111
 NC License Number F-0159

**SUMMARY OF
 SUBSURFACE DRAINAGE**

LINE	STATION	STATION	LOCATION LT/RT/CL	DRAINAGE TYPE* UD/BD/SD	LF
CONTINGENCY				SD	100
				TOTAL LF:	100

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

**SUMMARY OF AGGREGATE
 SUBGRADE /STABILIZATION**

LOCATION	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- LT	41 + 75.00	44 + 25.00	ASU		150	250	400		
CONTINGENCY			ASU		200	400	800		
TOTAL CY/TONSSY					350	650	1,200 **		

*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.

8/17/99

LOCHNER

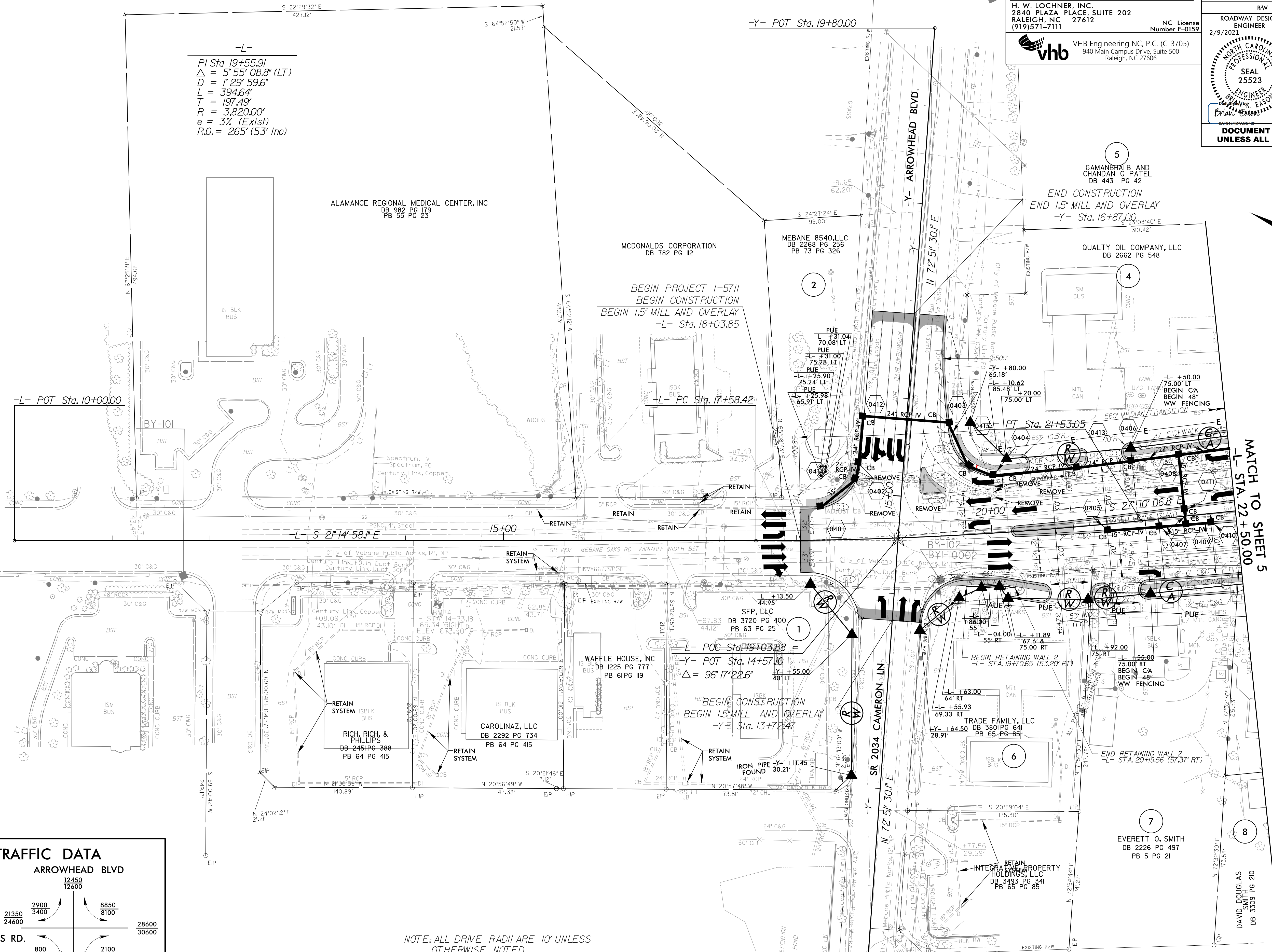
H. W. LOCHNER, INC.
2840 PLAZA PLACE, SUITE 202
RALEIGH, NC 27612
(919) 571-7111

NC License
Number F-0159



VHB Engineering NC, P.C. (C-3705)
940 Main Campus Drive, Suite 500
Raleigh, NC 27606

PROJECT REFERENCE NO. 1-5711	SHEET NO. 4
RW SHEET NO.	HYDRAULICS
ROADWAY DESIGN ENGINEER 2/9/2021	HYDRAULICS ENGINEER 2/9/2021
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	



-L-
 PI Sta. 19+55.91
 $\Delta = 5'55"08.8" (LT)$
 $D = 1'29"59.6"$
 $L = 394.64'$
 $T = 197.49'$
 $R = 3,820.00'$
 $e = 3\% (Exist)$
 $R.O. = 265' (53' Inc)$

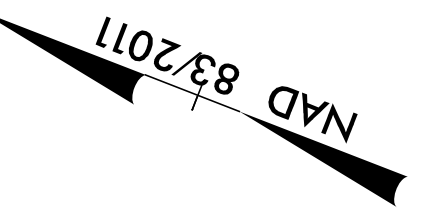
TRAFFIC DATA

ARROWHEAD BLVD			
	12450	12600	
21350	2900	8850	
24600	3400	8100	
MEBANE OAKS RD.			
800	2100	2700	28600
1400	1400	2700	30600
CAMERON LANE			
2020 ADT	3600	5200	
2040 ADT	3200	5200	

NOTE: ALL DRIVE RADII ARE 10' UNLESS OTHERWISE NOTED.



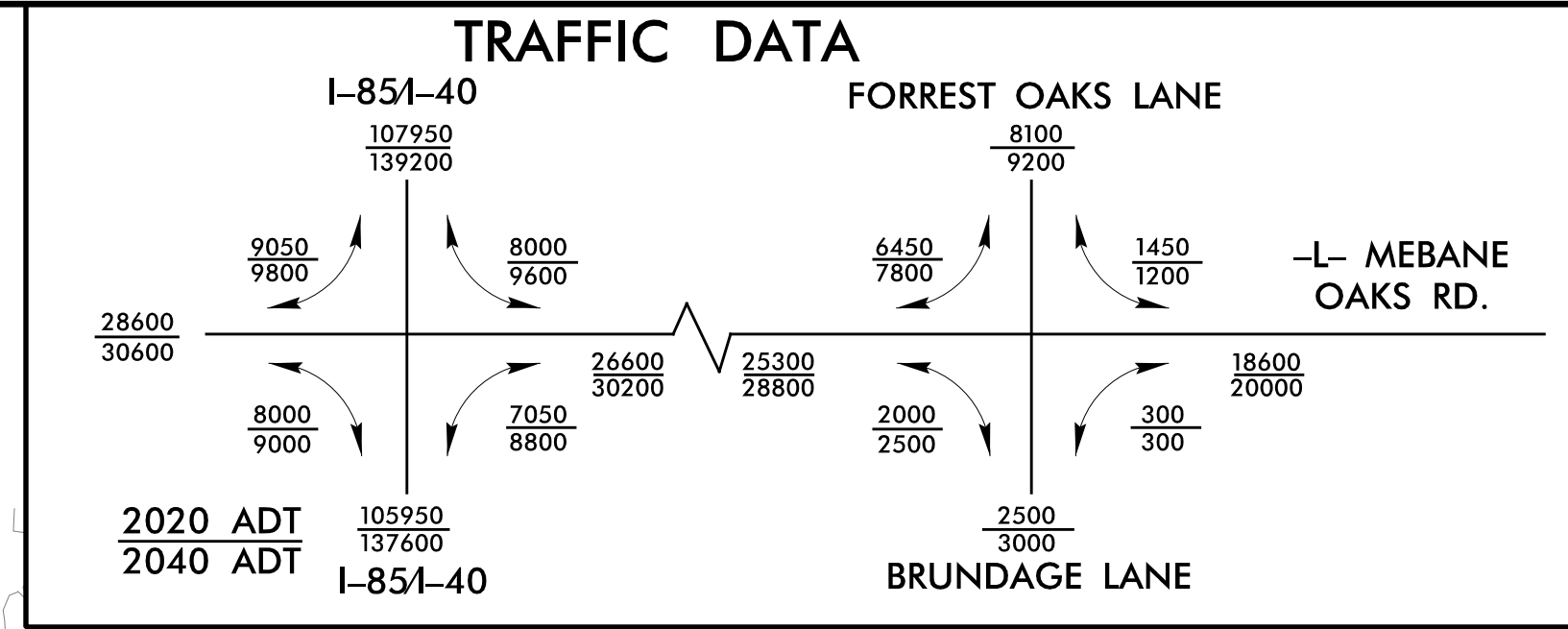
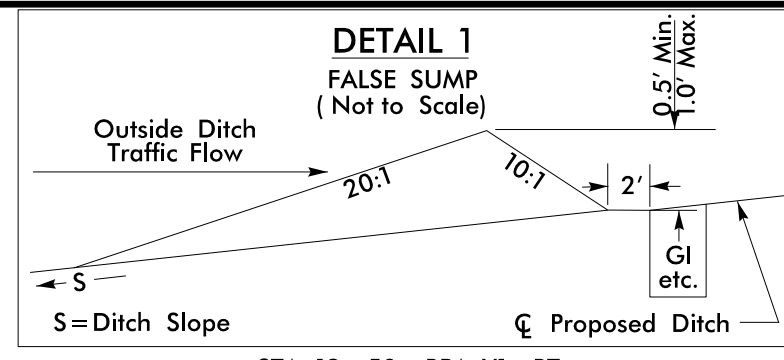
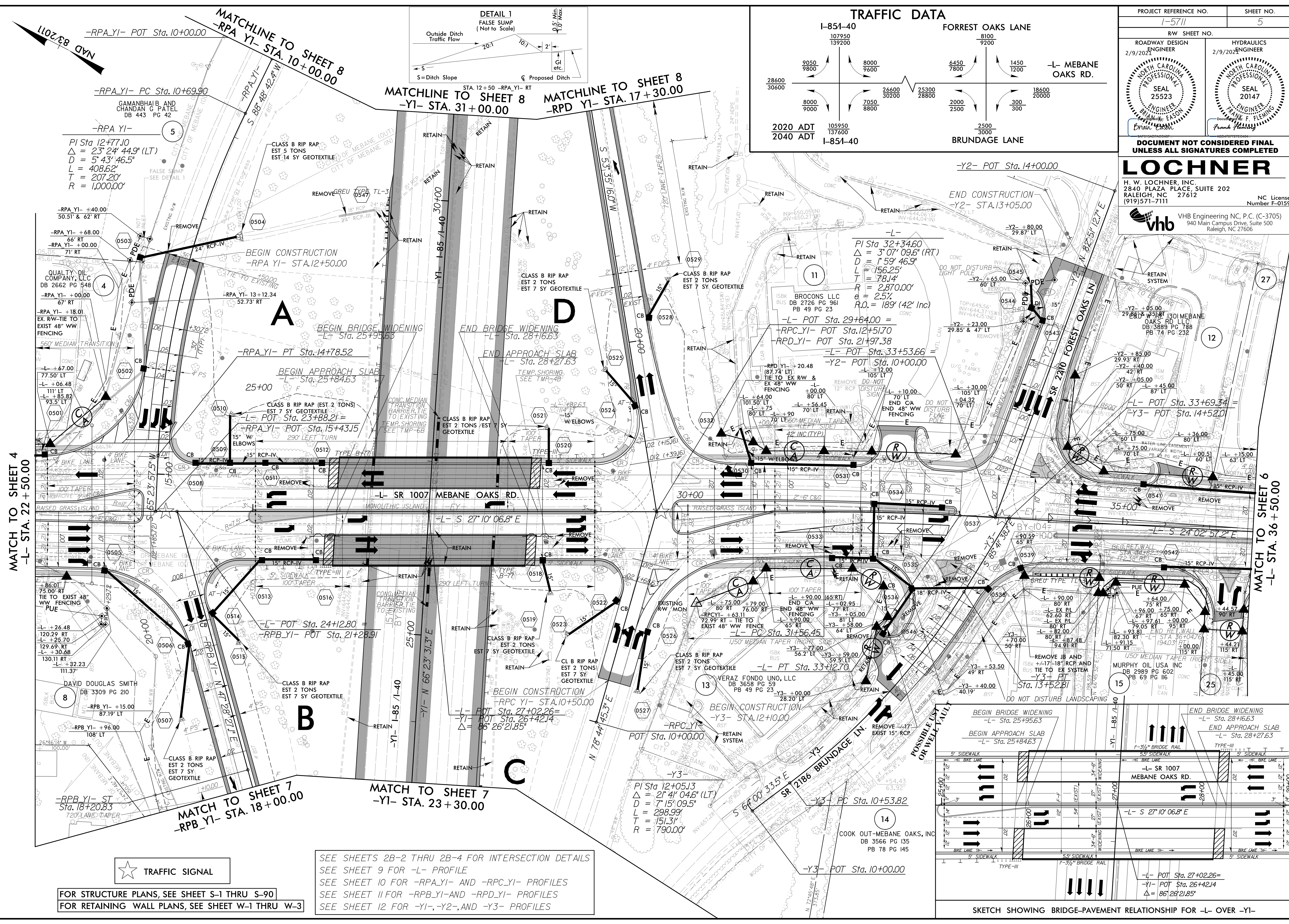
SEE SHEET 2B-1 FOR INTERSECTION DETAIL
SEE SHEET 9 FOR -L- PROFILE



REVISIONS

12/18/2020
12:45:11
C:\PROJ\1_PSH_04.dgn
REVISION

8/17/19



PROJECT REFERENCE NO. 1-5711 SHEET NO. 5

RW SHEET NO. ENGINEER 2/9/2021 SEAL 25523

HYDRAULICS ENGINEER 2/9/2021 SEAL 20147

LOCHNER H. W. LOCHNER, INC. 2840 PLAZA PLACE, SUITE 202 RALEIGH, NC 27612 (919)571-7111

VHB Engineering NC, P.C. (C-3705) 940 Main Campus Drive, Suite 500 Raleigh, NC 27606

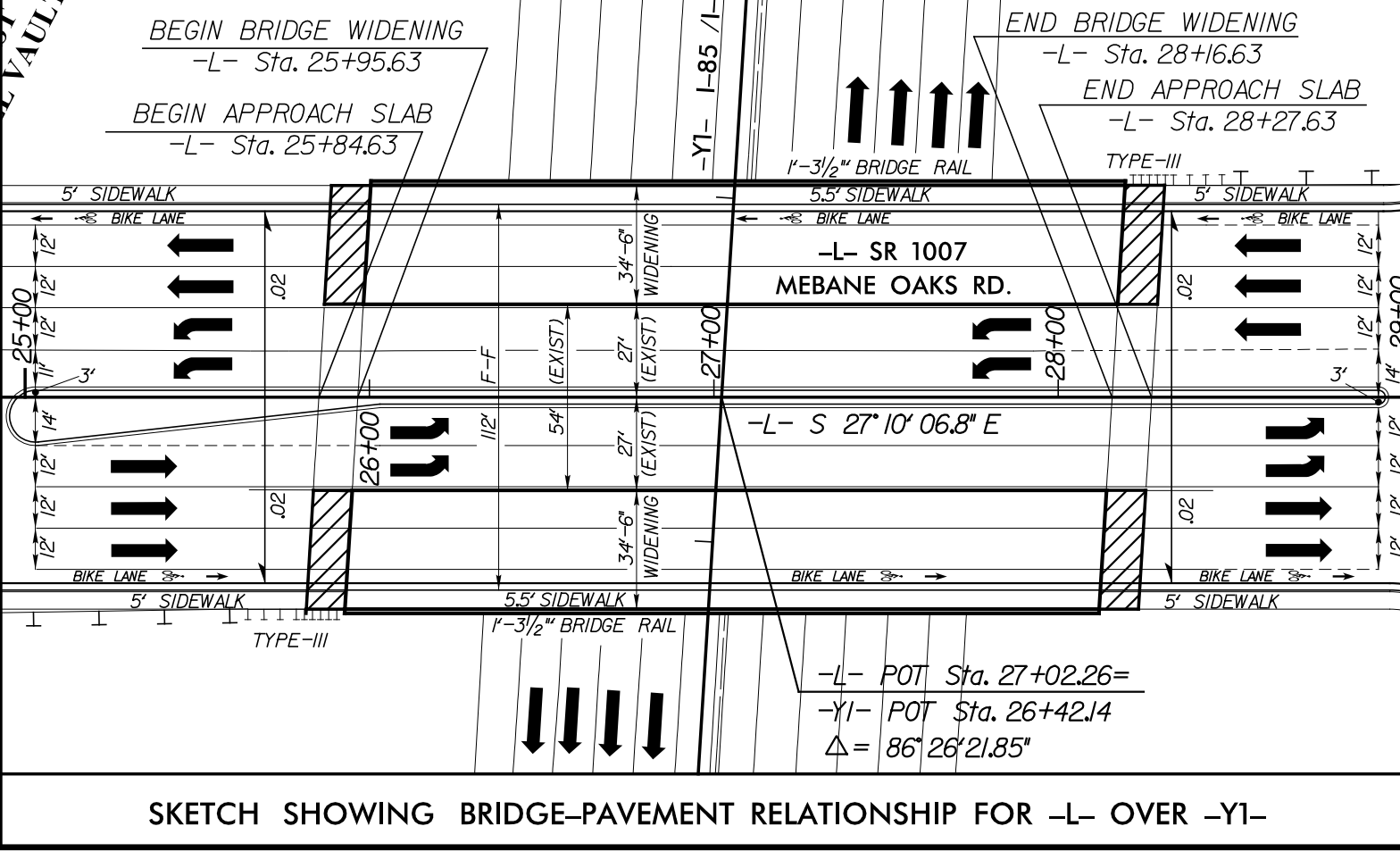
MATCH TO SHEET 4 -L- STA. 22 + 50.00

MATCH TO SHEET 6 -L- STA. 36 + 50.00

★ TRAFFIC SIGNAL

FOR STRUCTURE PLANS, SEE SHEET S-1 THRU S-90
FOR RETAINING WALL PLANS, SEE SHEET W-1 THRU W-3

SEE SHEETS 2B-2 THRU 2B-4 FOR INTERSECTION DETAILS
SEE SHEET 9 FOR -L- PROFILE
SEE SHEET 10 FOR -RPA_YI- AND -RPC_YI- PROFILES
SEE SHEET 11 FOR -RPB_YI- AND -RPD_YI- PROFILES
SEE SHEET 12 FOR -Y1-, -Y2-, AND -Y3- PROFILES



REVISIONS

12/15/2020
1-5711-RDY_PSH_05.dgn
28/11/21

8.17.19

LOCHNER

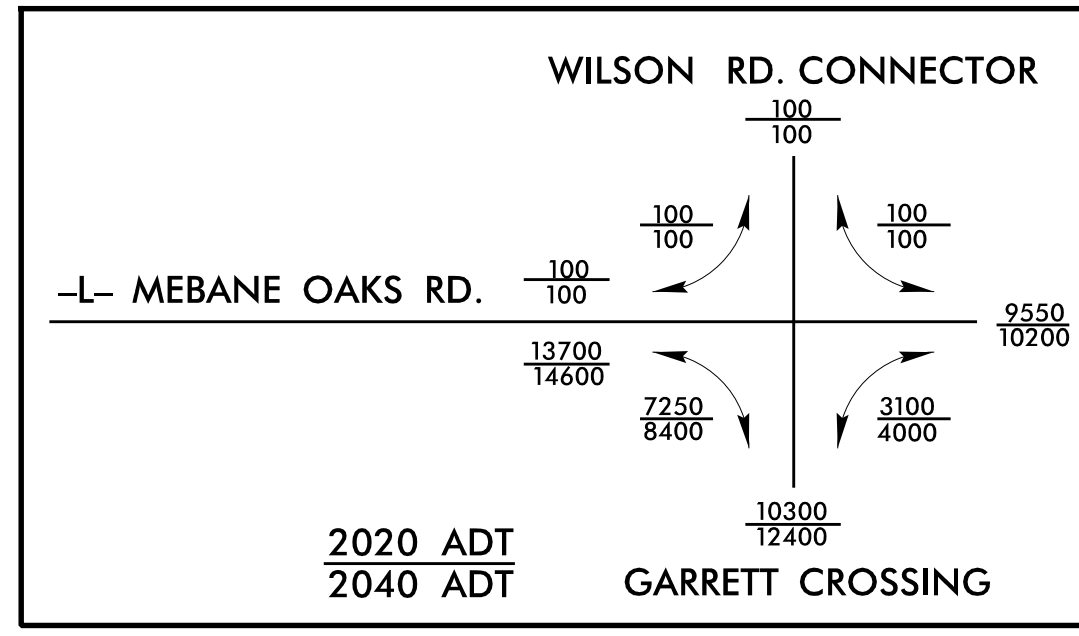
H. W. LOCHNER, INC.
2840 PLAZA PLACE, SUITE 202
RALEIGH, NC 27612
(919) 571-7111

NC License
Number F-0159

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VHB Engineering NC, P.C. (C-3705)
940 Main Campus Drive, Suite 500
Raleigh, NC 27606

PROJECT REFERENCE NO. 1-5711	SHEET NO. 6
ROADWAY DESIGN ENGINEER 2/9/2021	HYDRAULICS ENGINEER 2/9/2021
<p>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</p>	

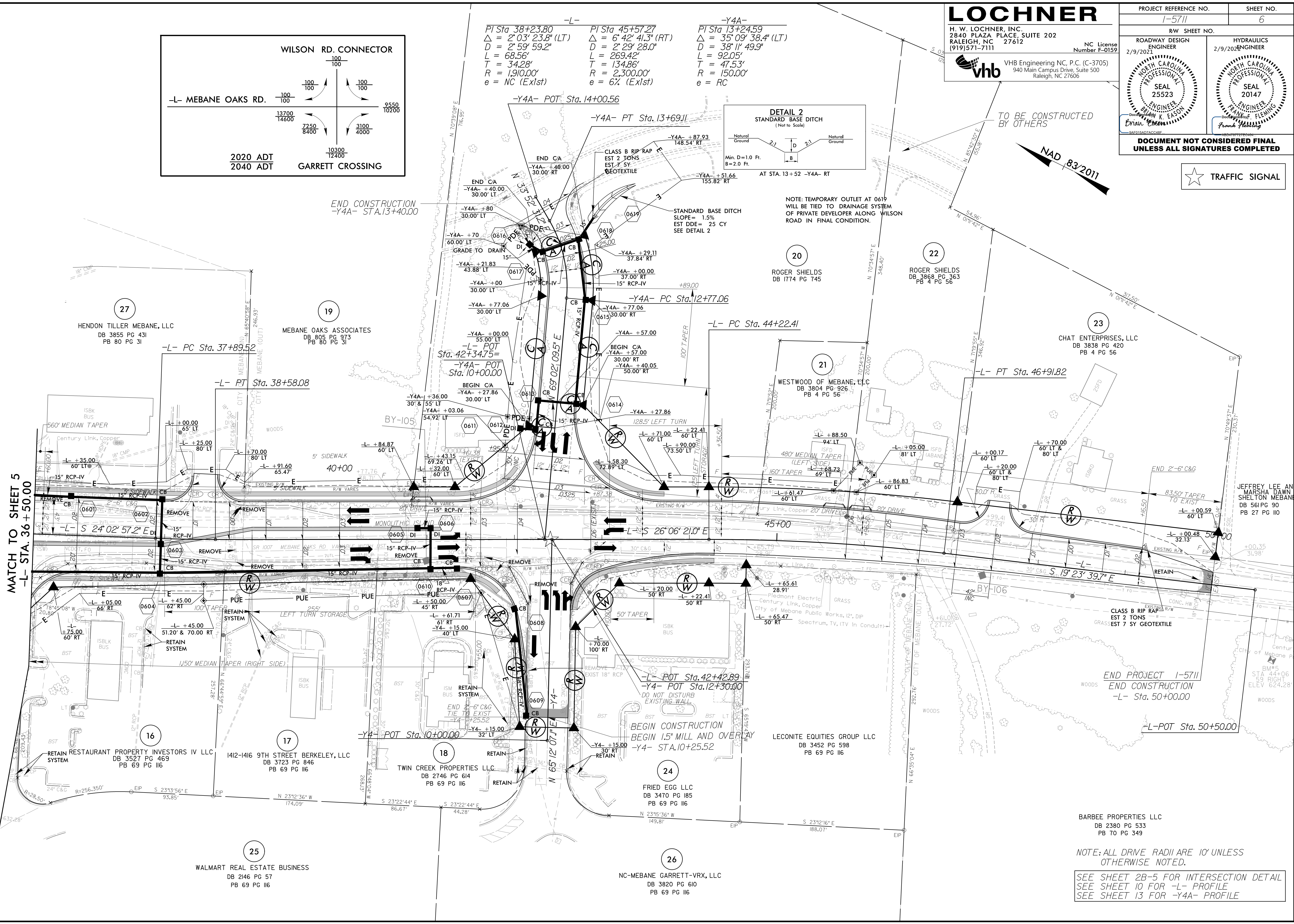
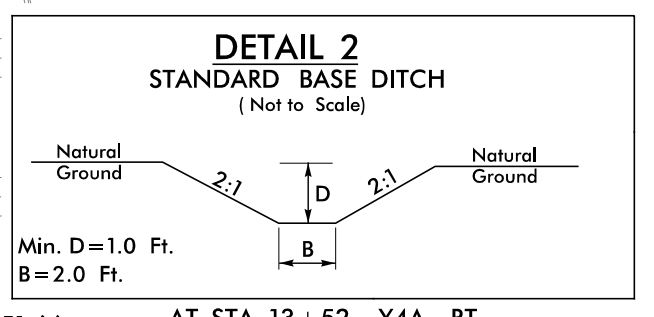
★ TRAFFIC SIGNAL



PI Sta 38+23.80 Δ = 2° 03' 23.8" (LT)
D = 2' 59' 59.2"
L = 68.56'
T = 34.28'
R = 1,910.00'
e = NC (Ex1st)

PI Sta 45+57.27 Δ = 6° 42' 41.3" (RT)
D = 2' 29' 28.0"
L = 269.42'
T = 134.86'
R = 2,300.00'
e = 6% (Ex1st)

-Y4A-
PI Sta 13+24.59 Δ = 35° 09' 38.4" (LT)
D = 38' 11" 49.9"
L = 92.05'
T = 47.53'
R = 150.00'
e = RC



MATCH TO SHEET 5
-L- STA. 36 + 50.00

END PROJECT 1-5711
END CONSTRUCTION
-L- Sta. 50+00.00

NOTE: ALL DRIVE RADII ARE 10' UNLESS OTHERWISE NOTED.

SEE SHEET 2B-5 FOR INTERSECTION DETAIL
SEE SHEET 10 FOR -L- PROFILE
SEE SHEET 13 FOR -Y4A- PROFILE

REVISIONS

1/15/2021
1-5711-01-PSH-06.dgn
REASON

27
HENDON TILLER MEABNE, LLC
DB 3855 PG 431
PB 80 PG 31

19
MEABNE OAKS ASSOCIATES
DB 805 PG 973
PB 80 PG 31

20
ROGER SHIELDS
DB 1774 PG 745

22
ROGER SHIELDS
DB 3868 PG 363
PB 4 PG 56

23
CHAT ENTERPRISES, LLC
DB 3838 PG 420
PB 4 PG 56

21
WESTWOOD OF MEABNE, LLC
DB 3804 PG 926
PB 4 PG 56

JEFFREY LEE AN
MARSHA DAWN
SHELTON MEABNE
DB 561 PG 90
PB 27 PG 110

16
RETAIN RESTAURANT PROPERTY INVESTORS IV LLC
SYSTEM
DB 3527 PG 469
PB 69 PG 116

17
1412-1416 9TH STREET BERKELEY, LLC
DB 3723 PG 846
PB 69 PG 116

18
TWIN CREEK PROPERTIES LLC
DB 2746 PG 614
PB 69 PG 116

LECONITE EQUITIES GROUP LLC
DB 3452 PG 598
PB 69 PG 116

24
FRIED EGG LLC
DB 3470 PG 185
PB 69 PG 116

25
WALMART REAL ESTATE BUSINESS
DB 2146 PG 57
PB 69 PG 116

26
NC-MEBANE GARRETT-VRX, LLC
DB 3820 PG 610
PB 69 PG 116

BARBEE PROPERTIES LLC
DB 2380 PG 533
PB 70 PG 349

8/17/19

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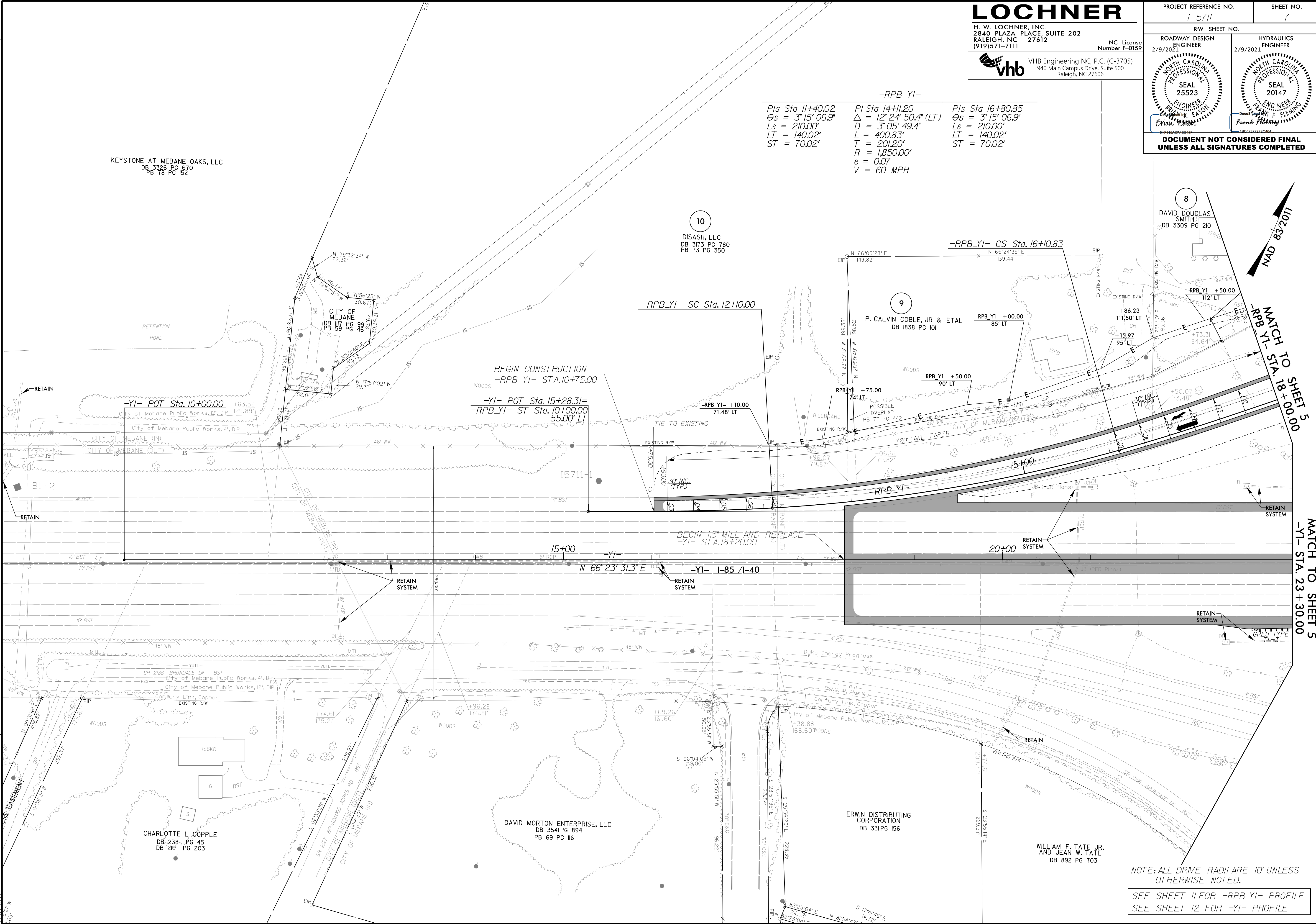
PROJECT REFERENCE NO. I-5711	SHEET NO. 7
RW SHEET NO. 2/9/2021	HYDRAULICS ENGINEER 2/9/2021
ROADWAY DESIGN ENGINEER 2/9/2021	SEAL 25523 NORTH CAROLINA PROFESSIONAL ENGINEER BRADLEY K. EASON
	SEAL 20147 NORTH CAROLINA PROFESSIONAL ENGINEER FRANK F. FLEMING
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

-RPB YI-

PI Sta 11+40.02 Os = 3' 15' 06.9" Ls = 210.00' LT = 140.02' ST = 70.02'	PI Sta 14+11.20 Δ = 12' 24' 50.4" (LT) D = 3' 05' 49.4" L = 400.83' T = 201.20' R = 1,850.00' e = 0.07' V = 60 MPH	PIs Sta 16+80.85 Os = 3' 15' 06.9" Ls = 210.00' LT = 140.02' ST = 70.02'
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REVISIONS

12/15/2020
I-5711 RDY_PSH.07.dgn
2:26 PM



NAD 83/2011

MATCH TO STA. 18+00.00 SHEET 5

MATCH TO STA. 23+30.00 SHEET 5

NOTE: ALL DRIVE RADII ARE 10' UNLESS OTHERWISE NOTED.

SEE SHEET 11 FOR -RPB_YI- PROFILE
SEE SHEET 12 FOR -YI- PROFILE

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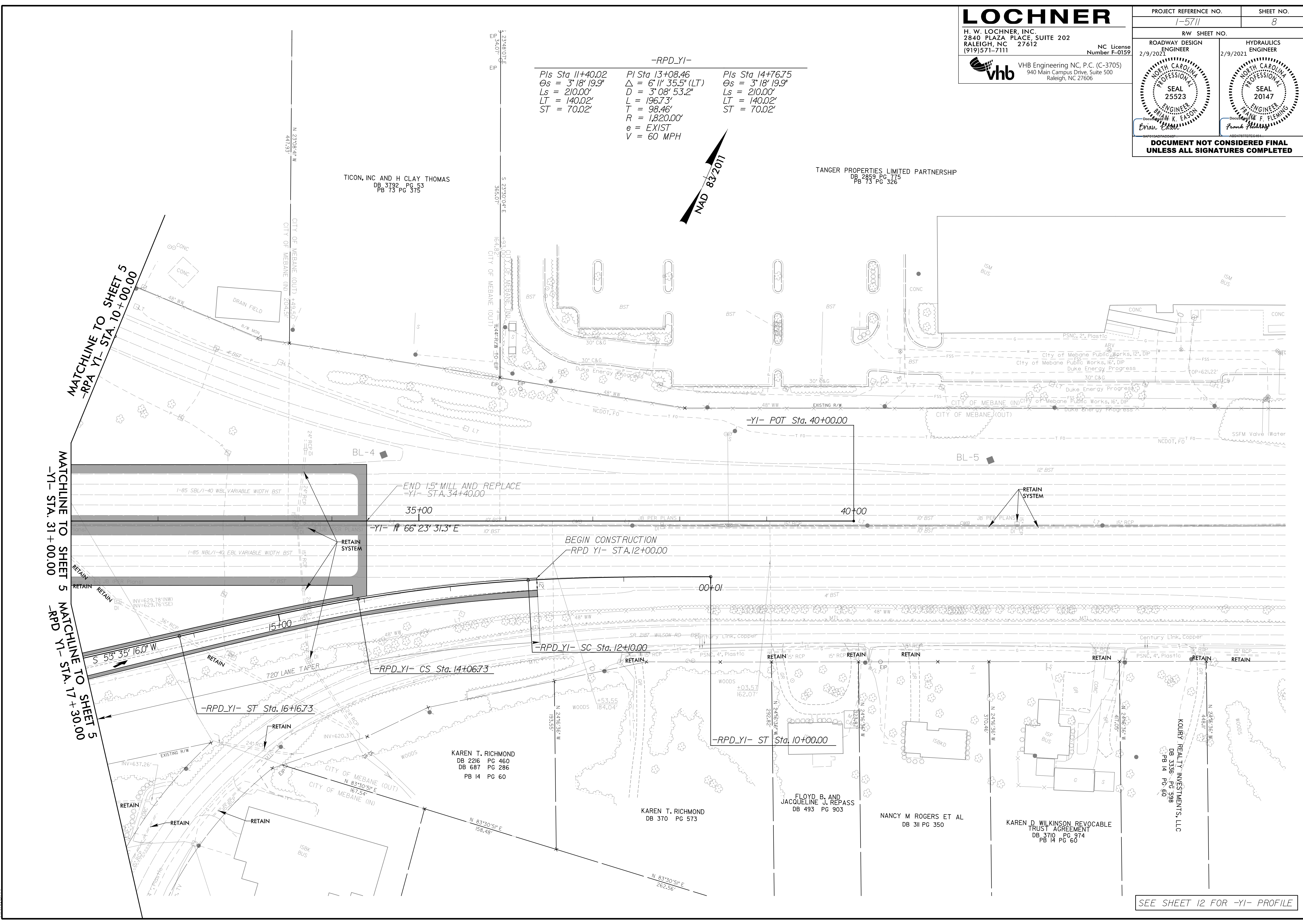
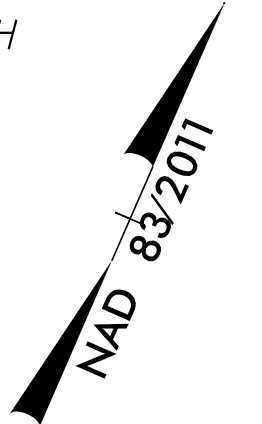
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PROJECT REFERENCE NO. 1-5711	SHEET NO. 8
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER 2/9/2021	HYDRAULICS ENGINEER 2/9/2021
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

-RPD_YI-

PIs Sta 11+40.02 Θs = 3° 18' 19.9" Ls = 210.00' LT = 140.02' ST = 70.02'	PI Sta 13+08.46 Δ = 6° 11' 35.5" (LT) D = 3° 08' 53.2" L = 196.73' T = 98.46' R = 1,820.00' e = EXIST V = 60 MPH	PIs Sta 14+76.75 Θs = 3° 18' 19.9" Ls = 210.00' LT = 140.02' ST = 70.02'
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5/28/99

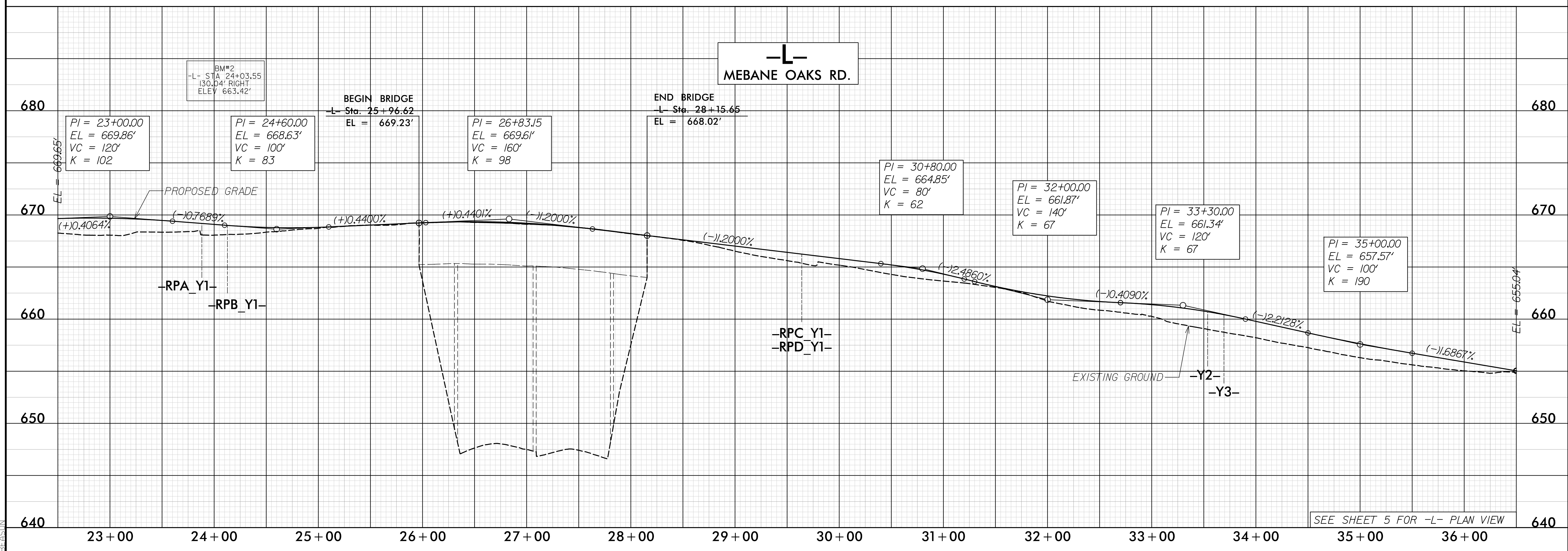
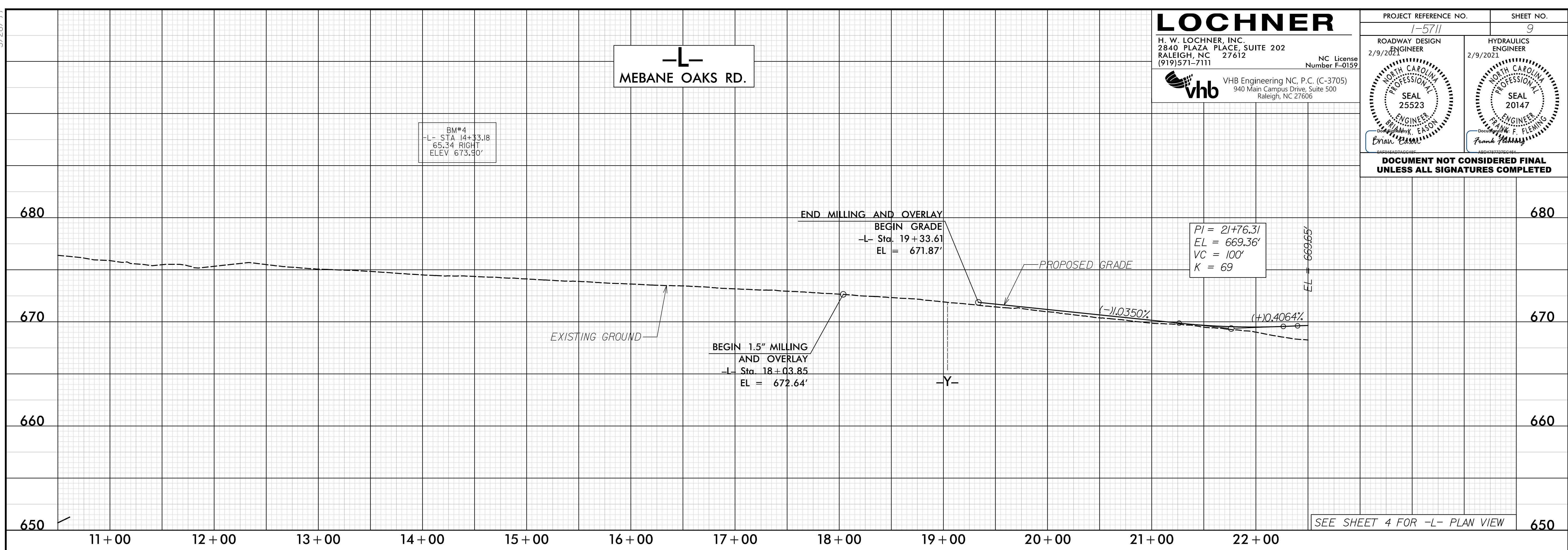
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PROJECT REFERENCE NO. 1-5711	SHEET NO. 9
ROADWAY DESIGN 2/9/2021 ENGINEER	HYDRAULICS 2/9/2021 ENGINEER

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5/28/2010

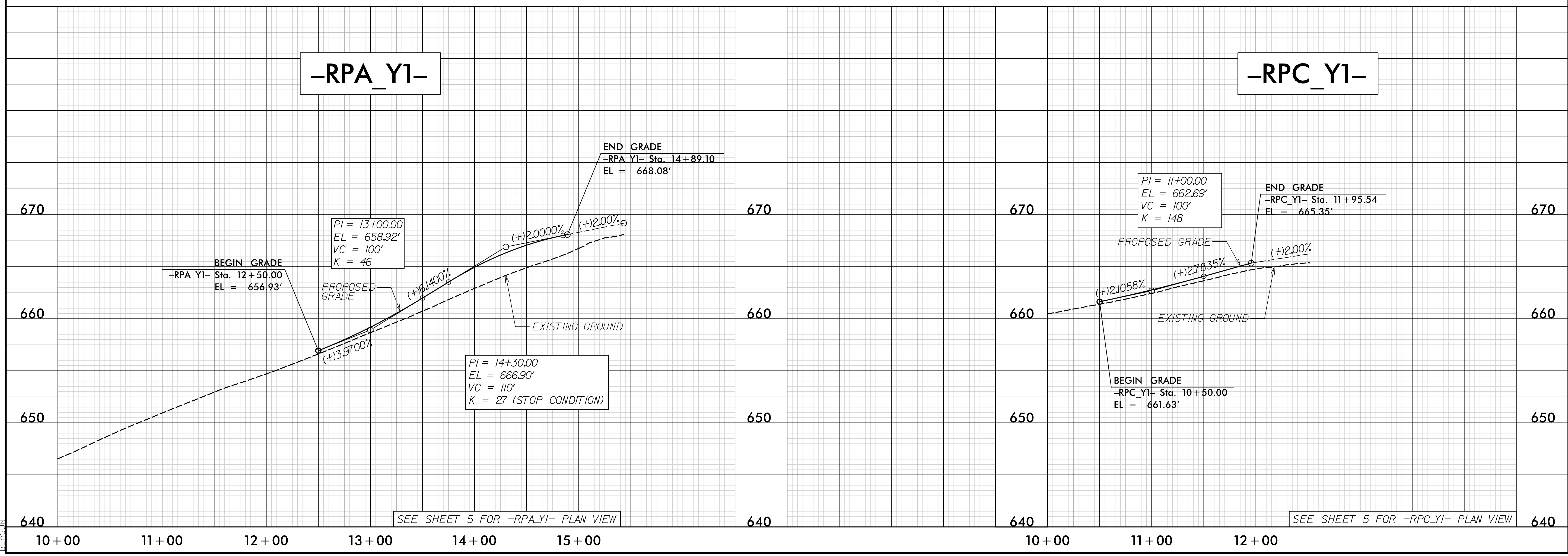
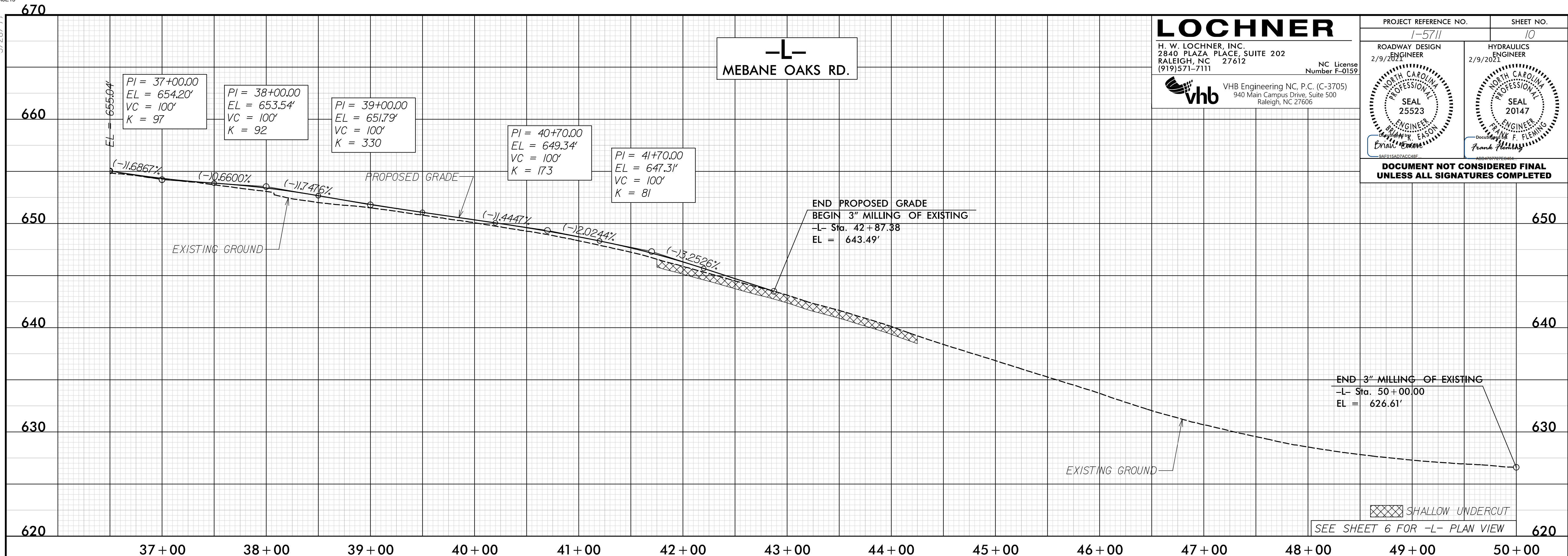
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PROJECT REFERENCE NO. 1-5711	SHEET NO. 10
ROADWAY DESIGN 2/9/2010 ENGINEER	HYDRAULICS 2/9/2010 ENGINEER

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5/28/21

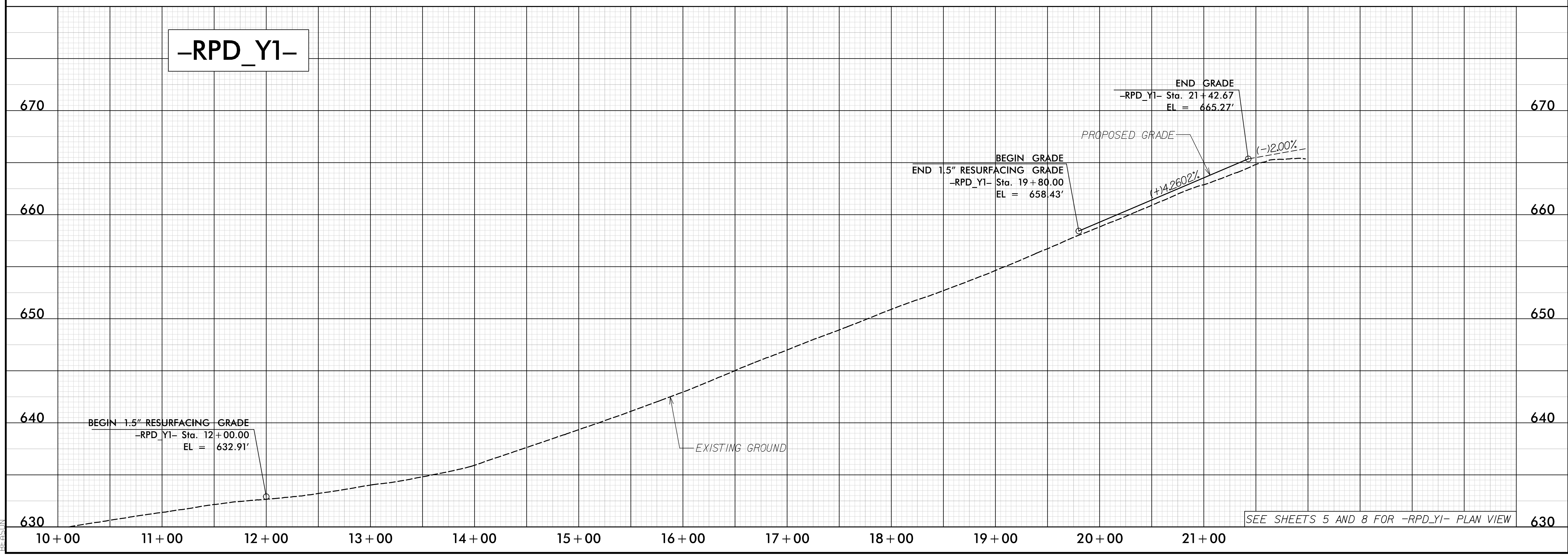
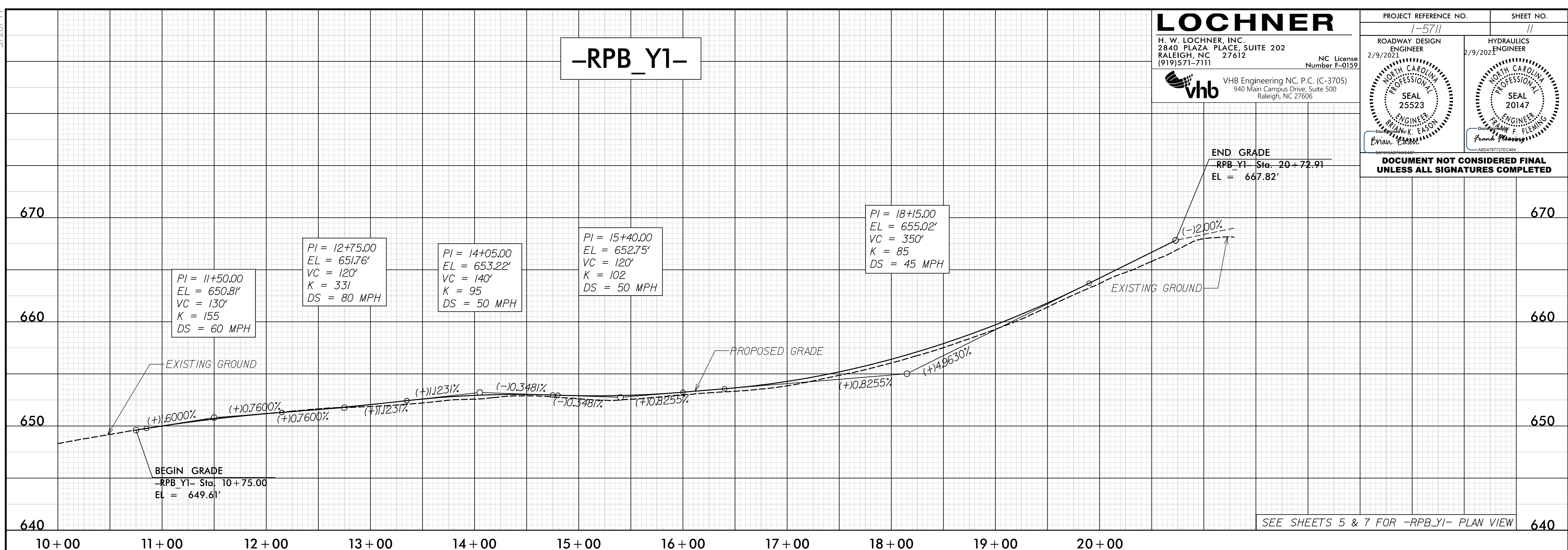
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 (919) 571-7111

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 Number F-0159

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 Raleigh, NC 27606

PROJECT REFERENCE NO. 1-5711	SHEET NO. 11
ROADWAY DESIGN ENGINEER 2/9/2021	HYDRAULICS ENGINEER 2/9/2021

DOCUMENT NOT CONSIDERED FINAL
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BEGANSON

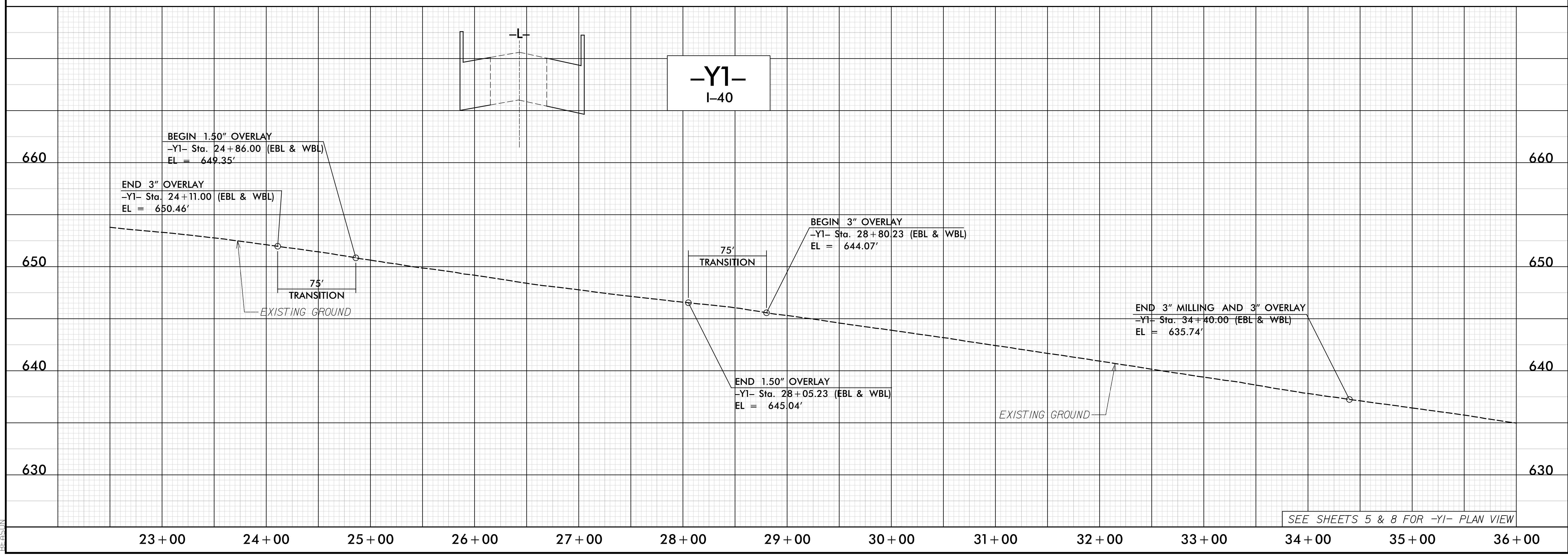
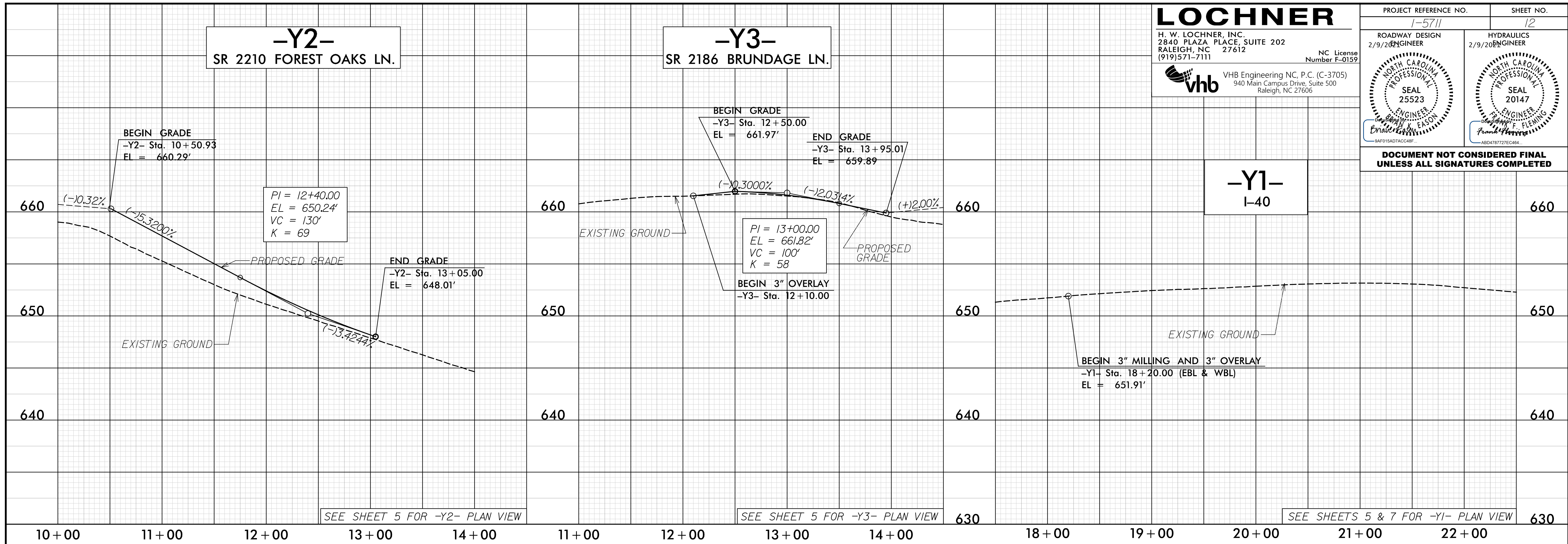
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PROJECT REFERENCE NO. 1-5711	SHEET NO. 12
ROADWAY DESIGN 2/9/20 ENGINEER	HYDRAULICS 2/9/20 ENGINEER

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12/14/2020 10:40 AM PFL-12.dgn
EASON

5/28/99

-Y4A- WILSON ROAD CONNECTOR

LOCHNER

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2840 PLAZA PLACE, SUITE 202
RALEIGH, NC 27612
(919) 571-7111

NC License
Number F-0159

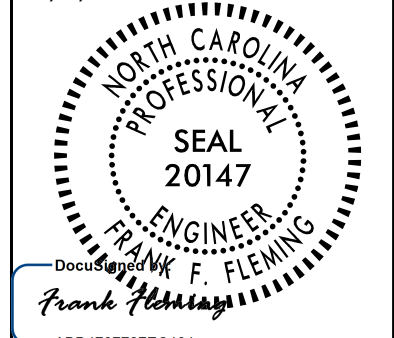


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940 Main Campus Drive, Suite 500
Raleigh, NC 27606

PROJECT REFERENCE NO. 1-5711 SHEET NO. 13

ROADWAY DESIGN
2/9/2021 ENGINEER

HYDRAULICS
2/9/2021 ENGINEER



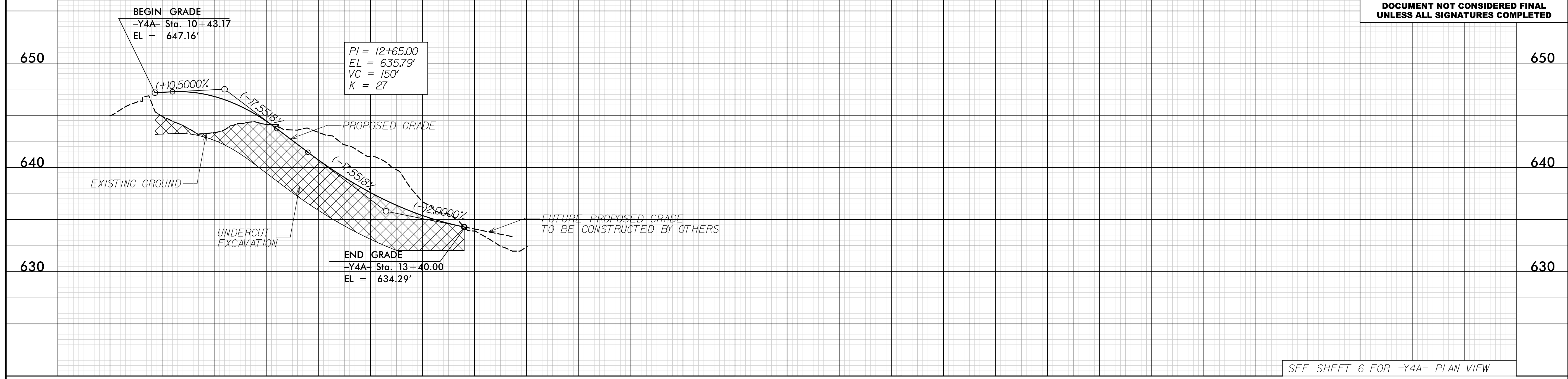
**DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED**

PI = 11+10.00
EL = 647.50'
VC = 100'
K = 12

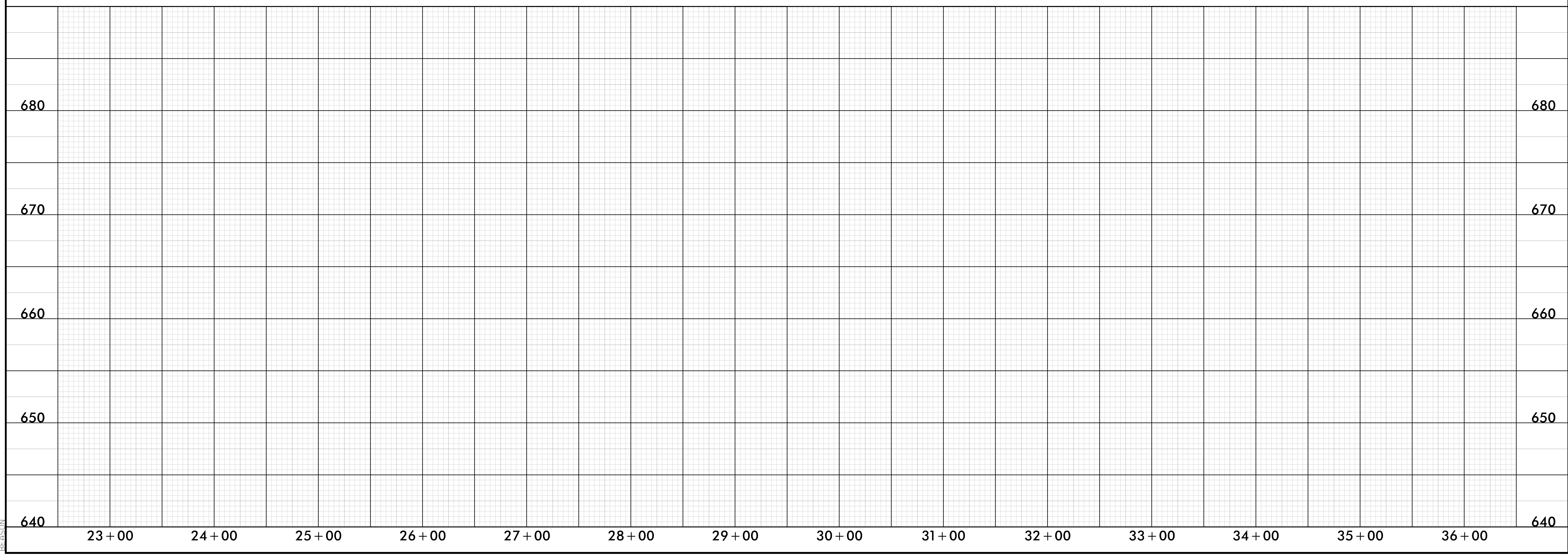
BEGIN GRADE
-Y4A- Sta. 10+48.17
EL = 647.16'

PI = 12+65.00
EL = 635.79'
VC = 150'
K = 27

END GRADE
-Y4A- Sta. 13+40.00
EL = 634.29'



SEE SHEET 6 FOR -Y4A- PLAN VIEW



12/1/2020 12:57:20 PM PFL13.dgn
B.EASON