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**Please note - plan sheet 2C-2 has been replaced with
sheets W-1 and W-2.**

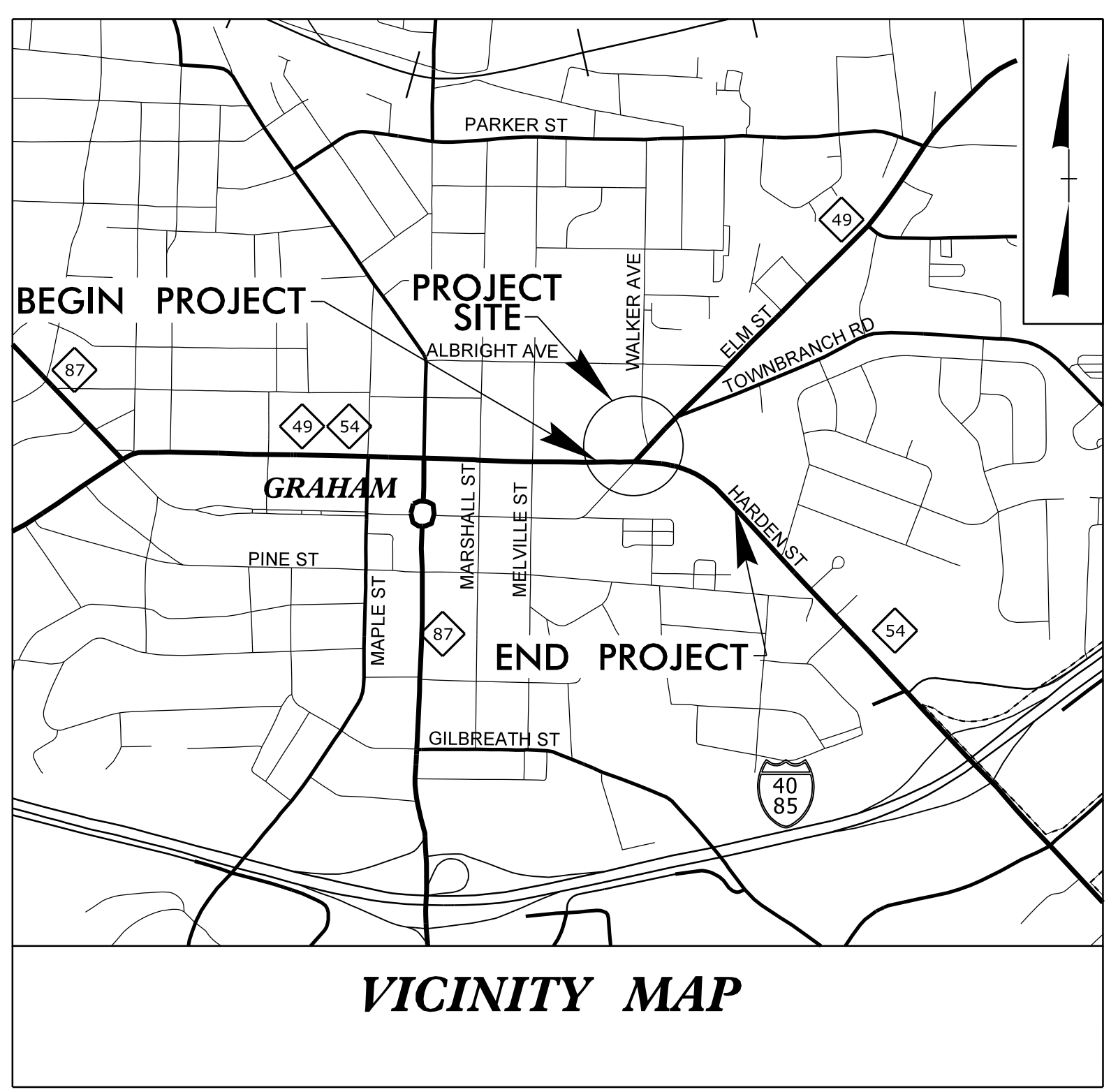
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See Sheet 1A For Index of Sheets
See Sheet 1B For Conventional Symbols

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS
ALAMANCE COUNTY

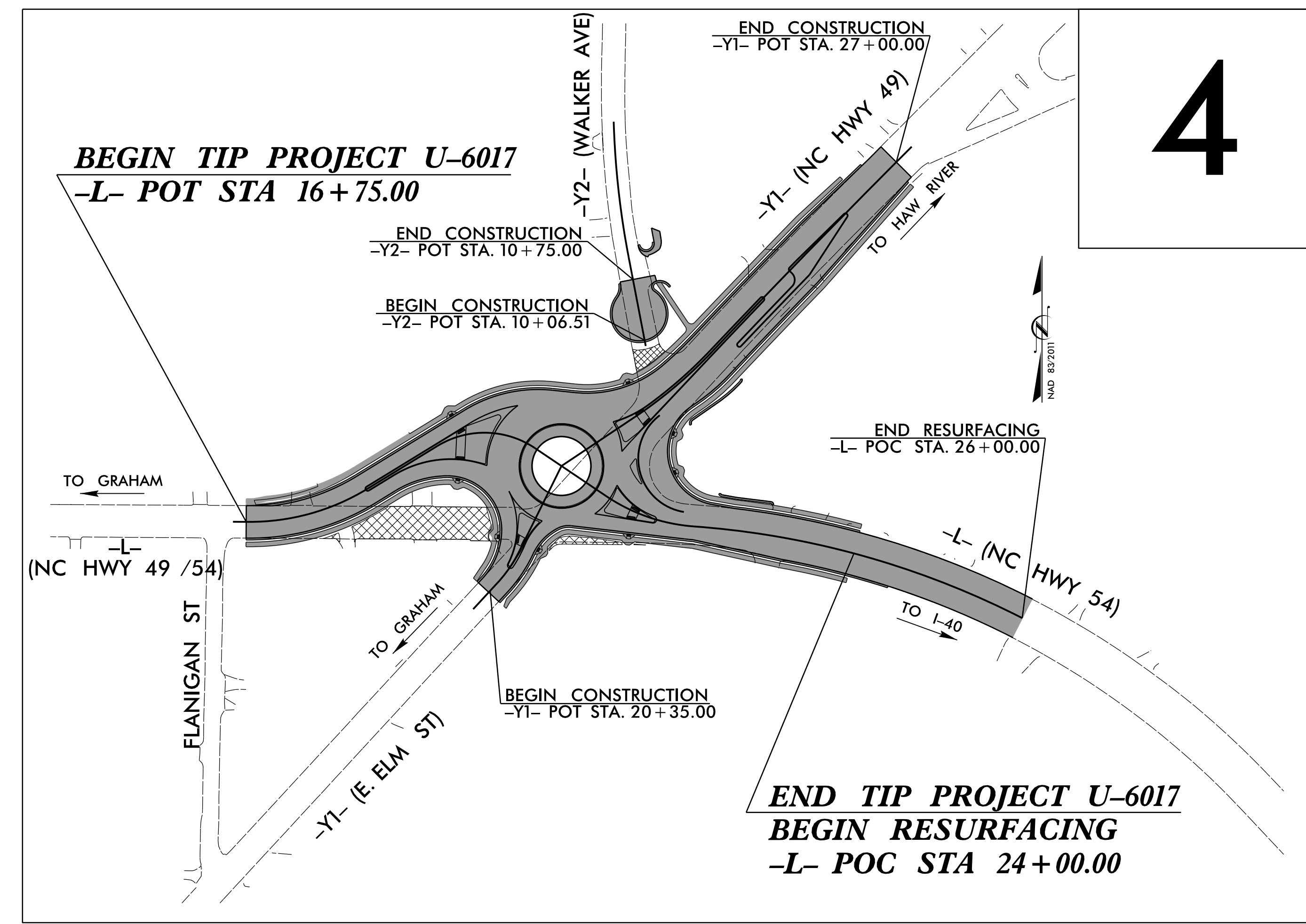
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	U-6017	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
47162.1.1	N/A	PE	
47162.2.1	N/A	ROW	
47162.2.2	N/A	UTIL	
47162.3.1	N/A	CONST	

TIP PROJECT: U-6017



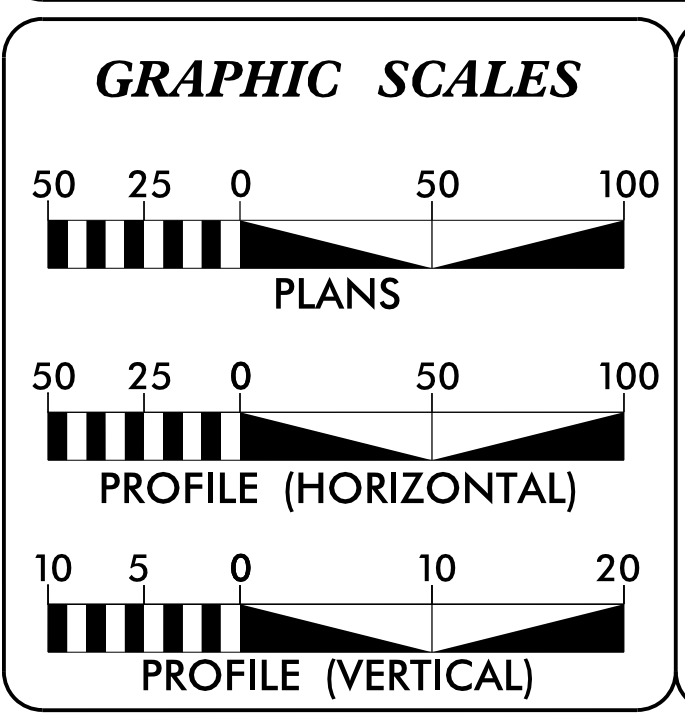
**LOCATION: INTERSECTION IMPROVEMENTS AT
NC 54 (EAST HARDEN ST.) AND NC 49
(EAST ELM ST.) IN GRAHAM**

TYPE OF WORK: GRADING, DRAINAGE AND PAVING



CONTRACT: DG00613

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DESIGN DATA

ADT 2023	= 14,300
ADT 2043	= 18,300
K	= 8 %
D	= 55 %
T	= 3 % *
V	= 40 MPH
* TTST = 1% DUAL 2%	
FUNC CLASS = URBAN ARTERIAL STATEWIDE TIER	

PROJECT LENGTH

LENGTH OF ROADWAY TIP PROJECT U-6017	= 0.137 MILES
TOTAL LENGTH OF TIP PROJECT U-6017	= 0.137 MILES
LENGTH DETERMINED BY USING -L- ALIGNMENT	

Prepared for the North Carolina Department of Transportation in the office of:

PLANS PREPARED BY: **PARSONS** and **SUNGATE DESIGN GROUP, P.A.**

2024 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE: FEBRUARY 3, 2022

LETTING DATE: APRIL 18, 2024

DAVID L. WILVER, PE
PROJECT ENGINEER

DAVID GARRETT
PROJECT DESIGN ENGINEER

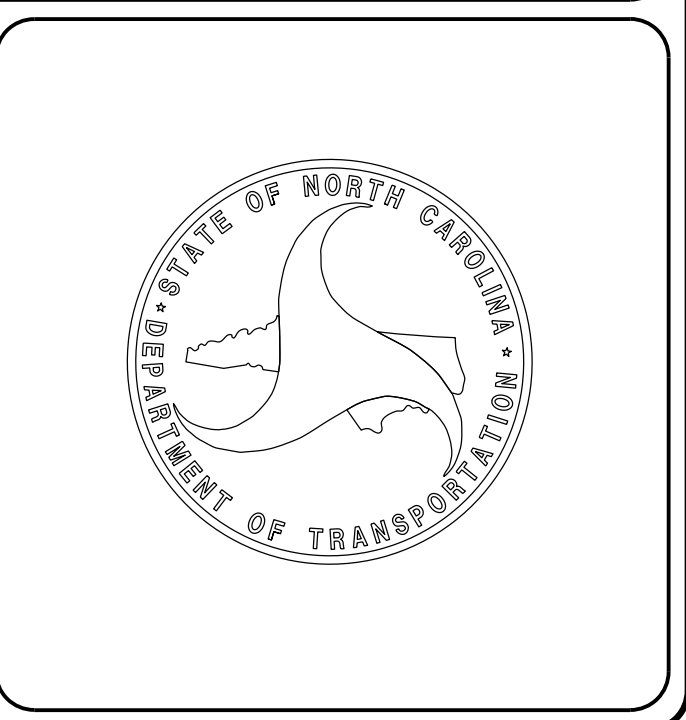
CHRIS SMITHERMAN, PE
NCDOT CONTACT

HYDRAULICS ENGINEER

DocuSigned by: **Joshua G. Dalton**
SEAL 026971
2/10/2024
P.E.

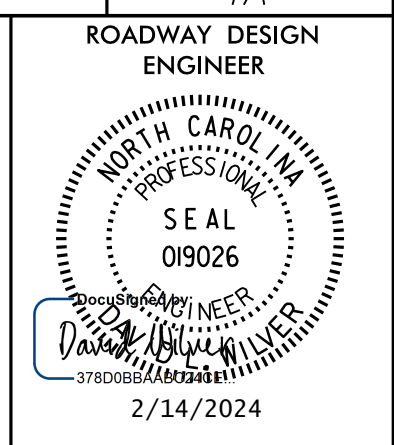
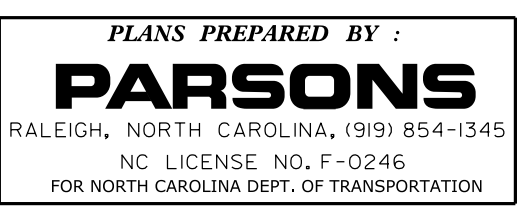
ROADWAY DESIGN ENGINEER

DocuSigned by: **David Wilver**
SEAL 019026
2/14/2024
P.E.



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8/17/99



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SHEET NUMBER	SHEET
	INDEX OF SHEETS
1	TITLE SHEET
1A	INDEX OF SHEETS, GENERAL NOTES, AND STANDARD DRAWINGS
1B	CONVENTIONAL SYMBOLS
2A-1 & 2A-2	PAVEMENT SCHEDULE AND TYPICAL SECTIONS
2B-1	ROUNDBOUT DETAIL SHEET
2B-2	RETAINING WALL ENVELOPE
2C-1	CURB RAMP DETAILS
2C-2	RETAINING WALL DETAIL
2C-3	MINIMUM DEPTH CONCRETE CATCH BASIN DETAIL SHEET
2C-4	DETAIL OF HANDRAIL MOUNTED ON RETAINING WALL
3B-1	ROADWAY SUMMARIES
3D-1 & 3D-2	DRAINAGE SUMMARIES
3G-1	GEOTECHNICAL SUMMARIES
4	PLAN SHEET
5	PROFILE SHEET
RW2C-1 THRU RW-04	SURVEY CONTROL SHEETS
TMP-1 THRU TMP-7	TRAFFIC MANAGEMENT PLANS
PMP-1 THRU PMP-3	PAVEMENT MARKING PLANS
EC-1 THRU EC-5	EROSION CONTROL PLANS
SIGN-1 THRU SIGN-4	SIGNING PLANS
SIG.1 THRU SIG.3	SIGNAL PLANS
SCP-1 THRU SCP-6	SIGNAL COMMUNICATION PLANS
UC-1 THRU UC-8	UTILITIES CONSTRUCTION PLANS
UO-1 THRU UO-2	UTILITIES BY OTHERS PLANS
X-1A THRU X-1B	CROSS-SECTION TITLE & SUMMARY SHEETS
X-1 THRU X-13	CROSS-SECTIONS

GENERAL NOTES:

2024 SPECIFICATIONS
EFFECTIVE: 01-16-2024
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 II.

SUPERELEVATION:

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

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.

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.

TEMPORARY SHORING:

SHORING REQUIRED FOR THE MAINTENANCE OF TRAFFIC WILL BE PAID FOR AS "EXTRA WORK" IN ACCORDANCE WITH SECTION 104-7.

UTILITIES:

UTILITY OWNERS ON THIS PROJECT ARE POWER - DUKE ENERGY, GAS - PIEDMONT NATURAL GAS, TELECOM - AT&T, TELECOM - CHARTER/SPECTRUM, T&FO - CITY OF BURLINGTON, W&S - CITY OF GRAHAM

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 STATE FORCES.

CURB RAMPS

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

EFF. 01-16-2024
REV.

2024 ROADWAY ENGLISH STANDARD DRAWINGS

The following Roadway Standards as appear in "Roadway Standard Drawings" Contracts Standards and Development Unit - N. C. Department of Transportation - Raleigh, N. C., Dated January 16, 2024 are applicable to this project and by reference hereby are considered a part of these plans:

STD.NO.	TITLE
DIVISION 2 - EARTHWORK	
200.02	Method of Clearing - Method II
225.02	Guide for Grading Subgrade - Secondary and Local
225.04	Method of Obtaining Superelevation - Two Lane Pavement
DIVISION 3 - PIPE CULVERTS	
300.01	Method of Pipe Installation
DIVISION 8 - INCIDENTALS	
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
840.18	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
840.27	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
840.31	Concrete Junction Box - 12" thru 66" Pipe
840.32	Brick Junction Box - 12" thru 66" Pipe
840.54	Manhole Frame and Cover
840.66	Drainage Structure Steps
840.72	Pipe Collar
846.01	Concrete Curb, Gutter and Curb & Gutter
848.01	Concrete Sidewalk
848.02	Driveway Turnout - Radius Type
848.06	Curb Ramp (Use Details in Lieu of Standards for Sheets 9 and 10 of 13)
850.01	Concrete Paved Ditches
852.01	Concrete Islands
852.06	Method for Placement of Drop Inlets in Concrete Islands

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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	-----
Proposed Slope Stakes Fill	-----
Proposed Curb Ramp	-----
Existing Metal Guardrail	-----
Proposed Guardrail	-----
Existing Cable Guiderail	-----
Proposed Cable Guiderail	-----
Equality Symbol	⊕
Pavement Removal	-----
VEGETATION:	
Single Tree	⊕
Single Shrub	⊕
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:

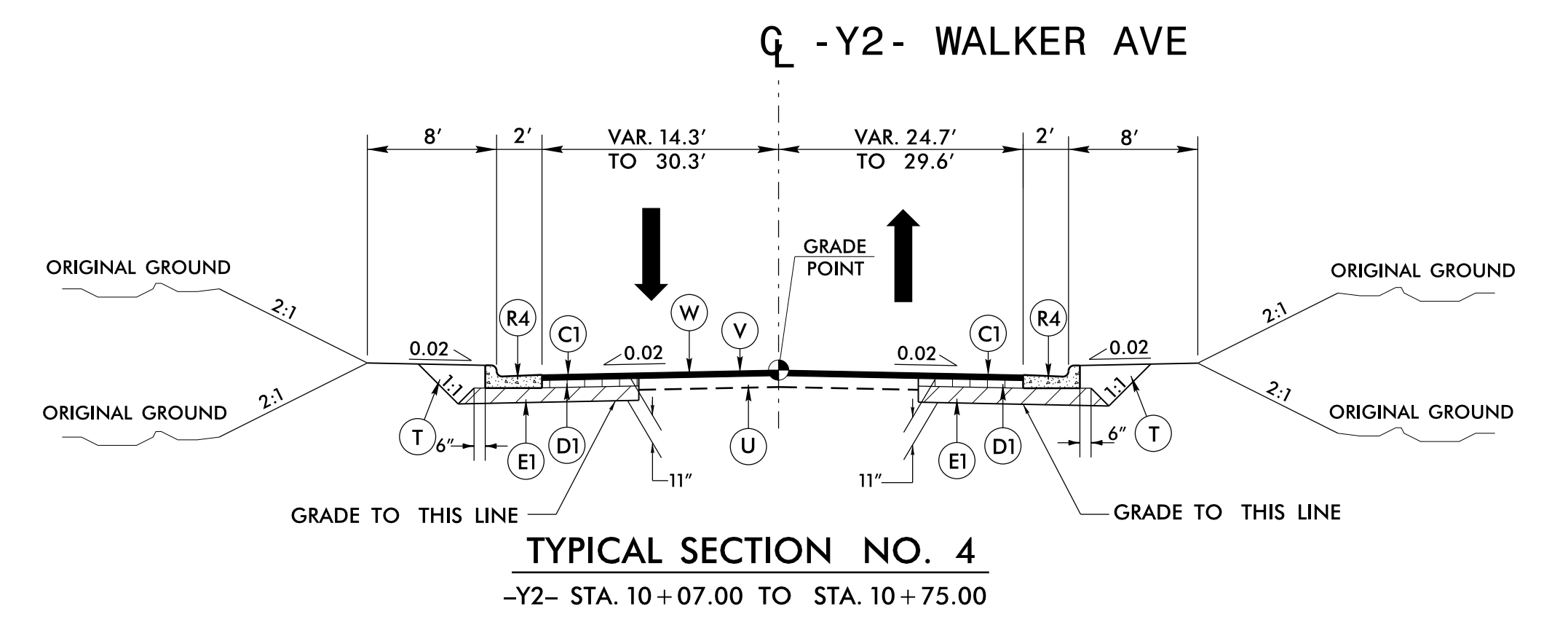
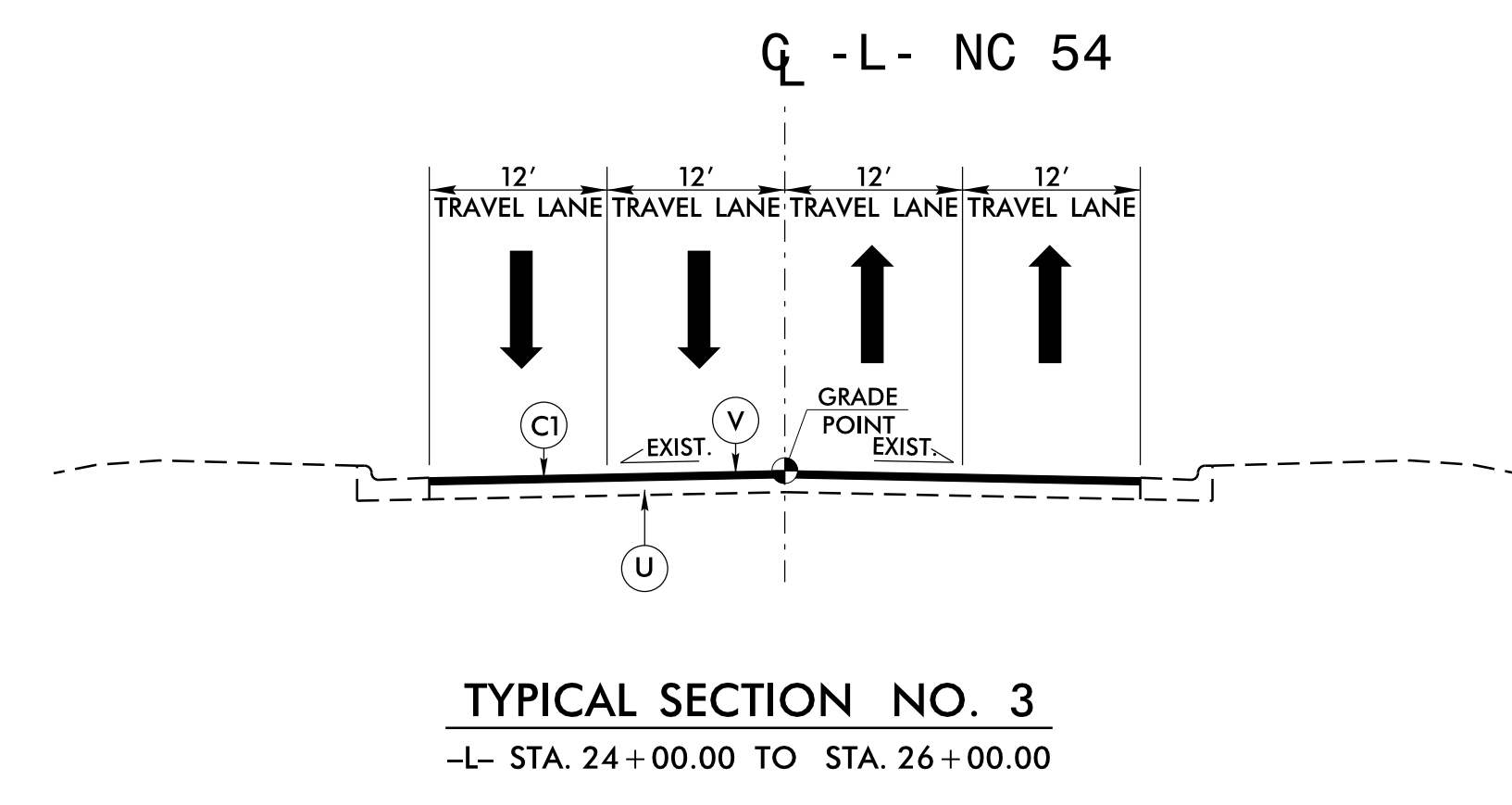
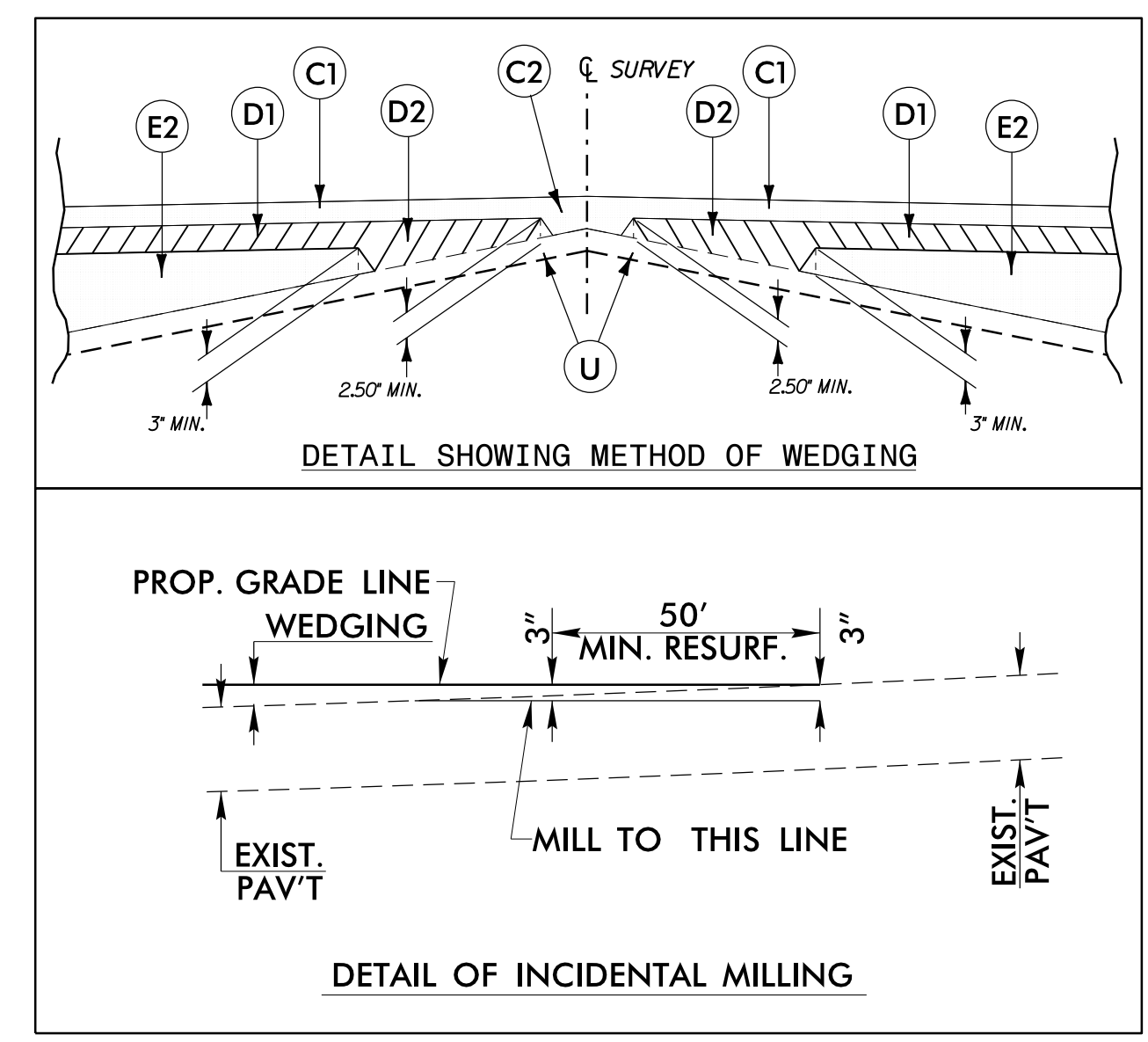
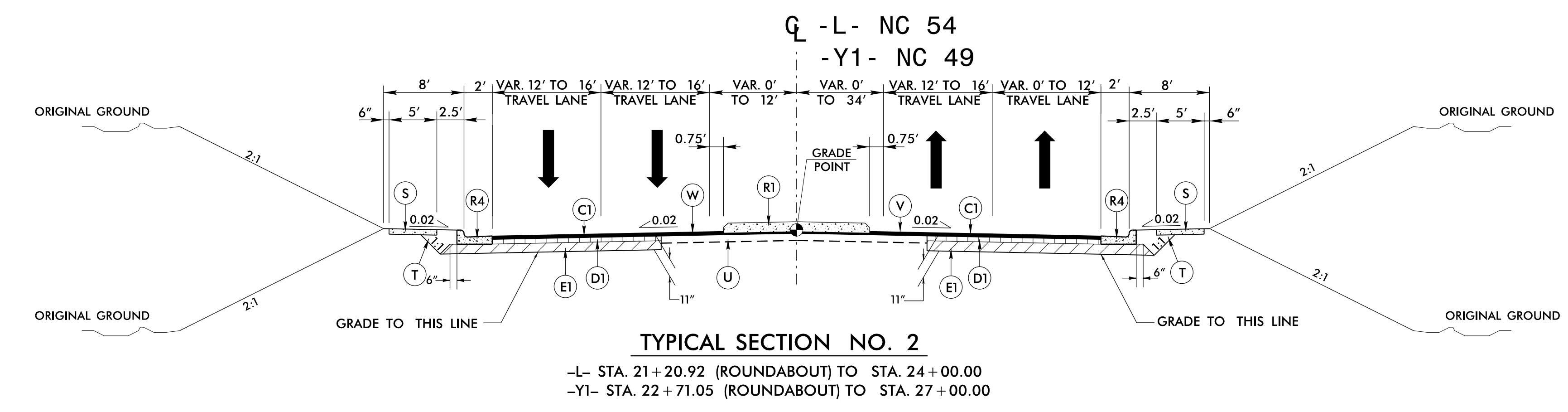
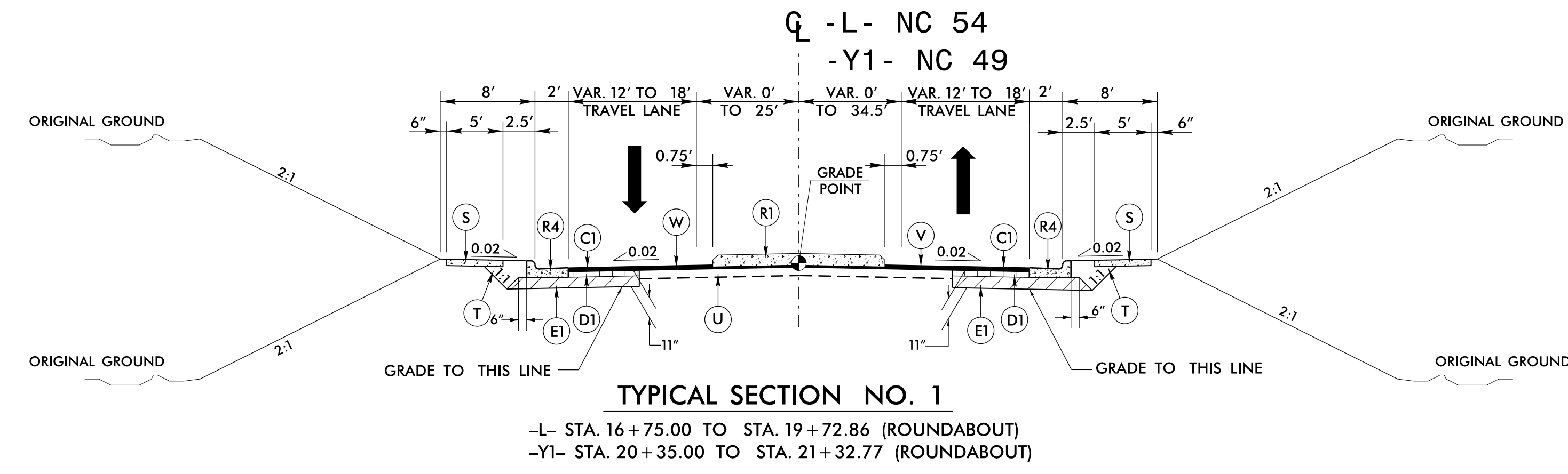
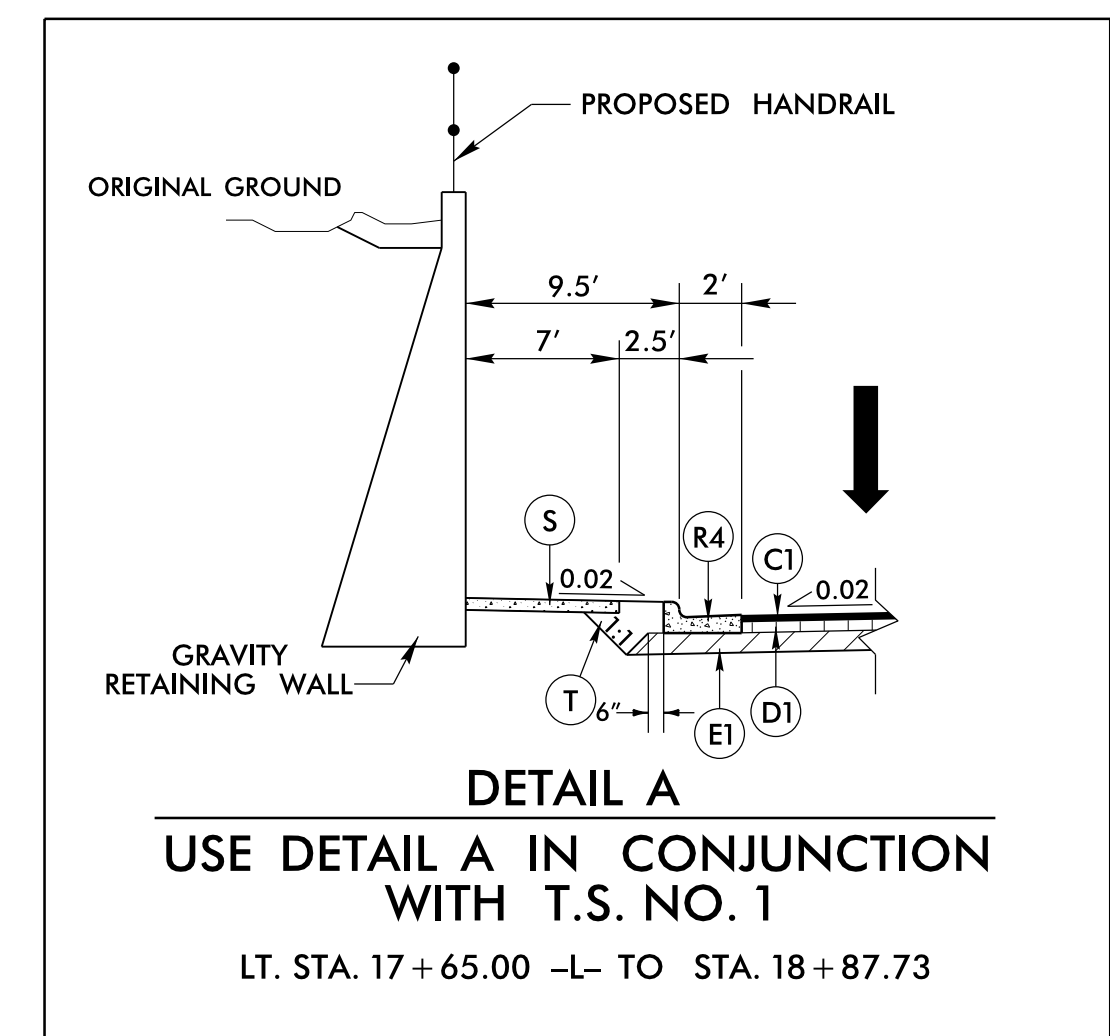
Utility Pole	●
Utility Pole with Base	⊕
Utility Located Object	○
Utility Traffic Signal Box	⊕
Utility Unknown U/G Line (SUE - LOS B)*	-----
U/G Tank; Water, Gas, Oil	-----
Underground Storage Tank, Approx. Loc.	⊕
A/G Tank; Water, Gas, Oil	-----
Geoenvironmental Boring	⊕
Abandoned According to Utility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

9/10/2021

FINAL PAVEMENT SCHEDULE

CODE	DESCRIPTION	CODE	DESCRIPTION
A1	12" JOINTED CONCRETE PAVEMENT (NON-DOWELED), 15' RADIAL JOINT SPACING, WITH 4X4 W5.5 X W5.5 OR 6X6 W8.5 X W8.5 OR HEAVIER WIRE MESH.	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 5 1/2" IN DEPTH.
C1	PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.	R1	5" MONOLITHIC CONCRETE ISLAND (KEYED IN)
C2	PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 110 LBS. PER SQ. YD. PER 1" DEPTH, TO BE PLACED IN LAYERS NOT LESS THAN 1" IN DEPTH OR GREATER THAN 1 1/2" IN DEPTH.	R2	1'-6" CURB AND GUTTER
D1	PROP. APPROX. 4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.	R3	9"x18" CONCRETE CURB
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 2 1/2" IN DEPTH OR GREATER THAN 4" IN DEPTH.	R4	2'-6" CURB AND GUTTER
E1	PROP. APPROX. 4" ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.	S	4" CONCRETE SIDEWALK

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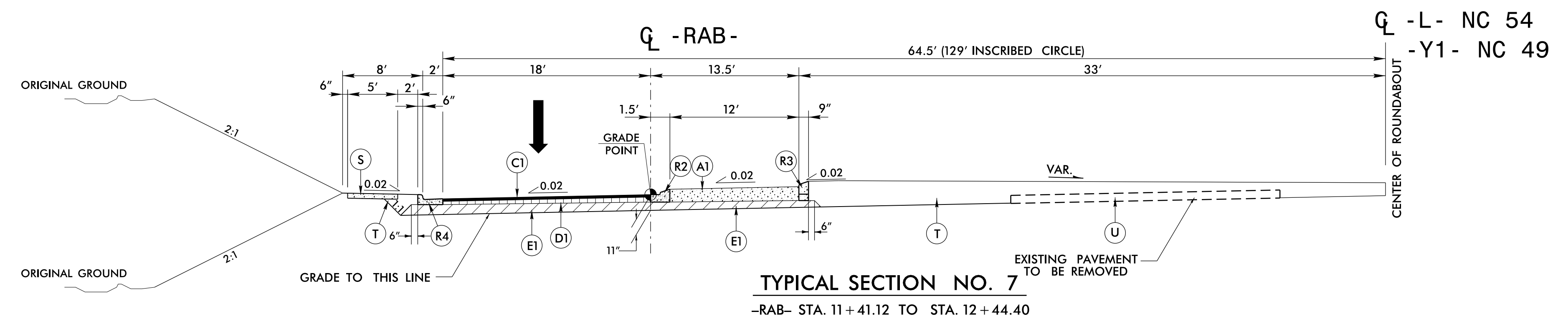
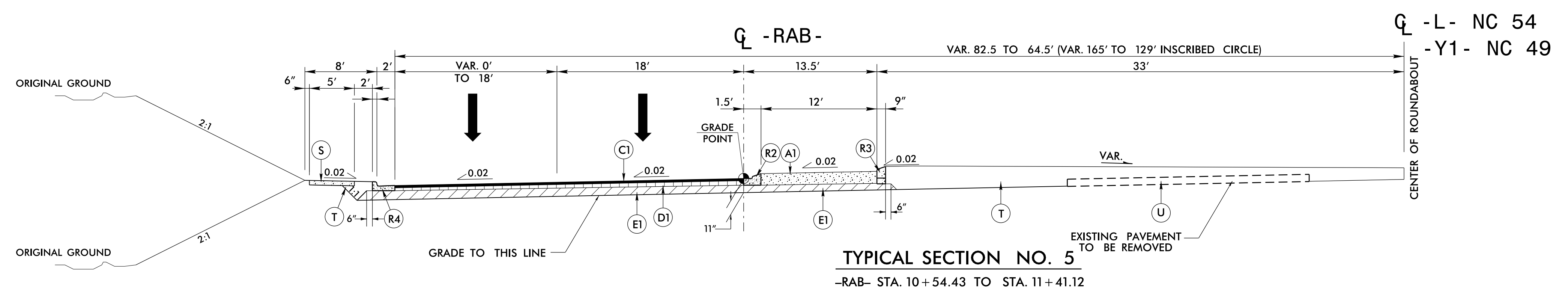
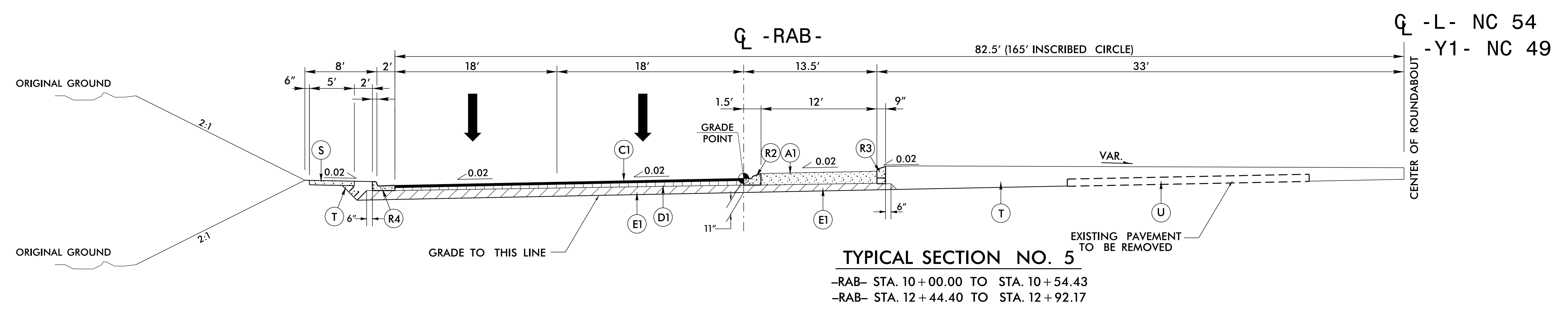
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PAVEMENT SCHEDULE	
A1	12" JOINTED CONCRETE PAVEMENT
C1	3" A.C.S.C. TYPE S9.5B
D1	4" A.C.I.C. TYPE 119.5C
E1	4" A.C.B.C. TYPE B25.0C
R2	1'-6" CURB AND GUTTER
R3	9"x18" CONCRETE CURB
R4	2'-6" CURB AND GUTTER
S	4" CONCRETE SIDEWALK
T	EARTH MATERIAL
U	EXISTING PAVEMENT

PLANS PREPARED BY:
PARSONS
 RALEIGH, NORTH CAROLINA, (919) 854-1345
 NC LICENSE NO. F-0246
 FOR NORTH CAROLINA DEPT. OF TRANSPORTATION

PROJECT REFERENCE NO. U-6017	SHEET NO. 2A-2
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER

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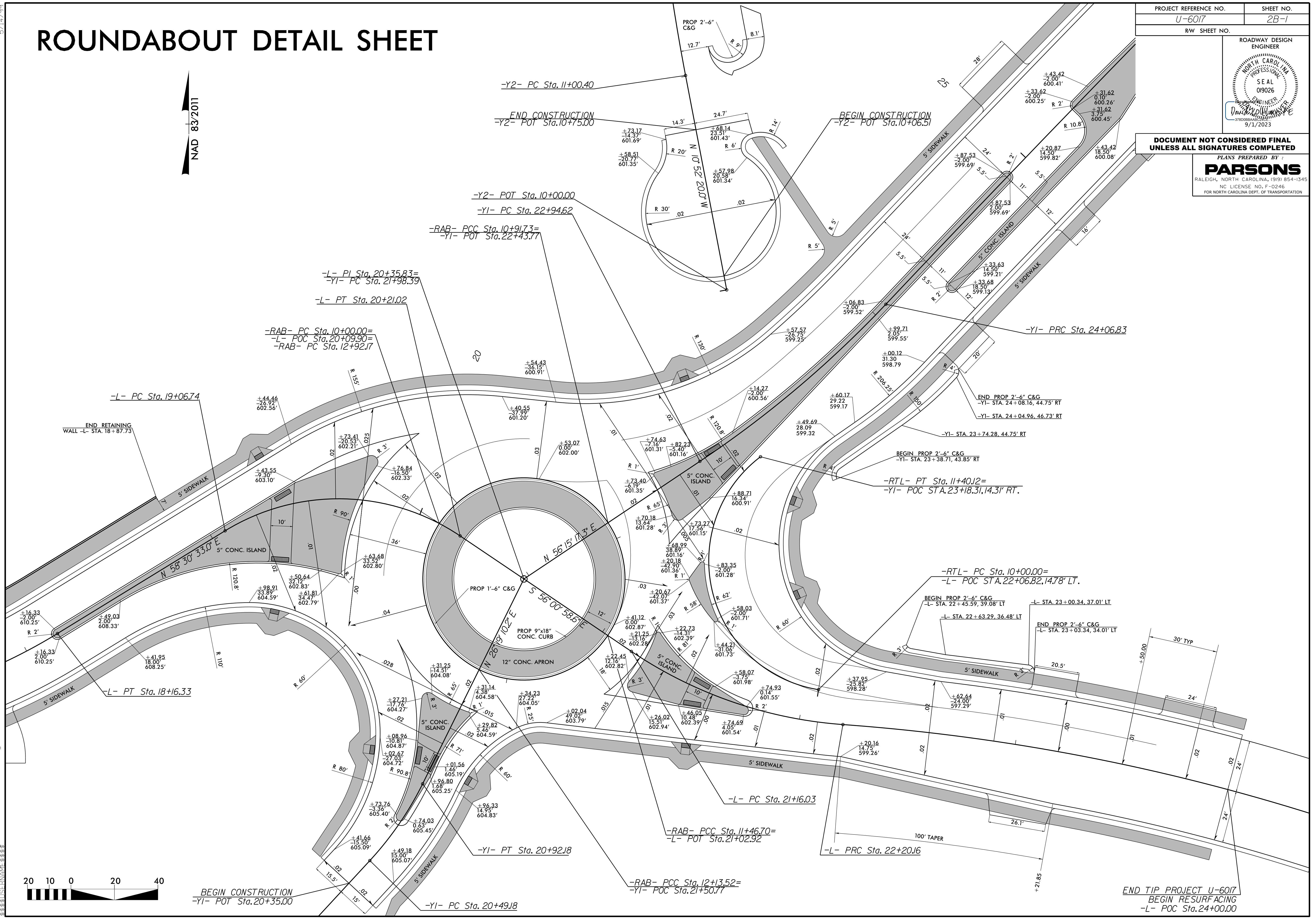
ROUNDBABOUT DETAIL SHEET

NAD 83/2011

PROJECT REFERENCE NO. <i>U-6017</i>	SHEET NO. <i>2B-1</i>
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	

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PLANS PREPARED BY:
PARSONS
 RALEIGH, NORTH CAROLINA, 1919 854-1345
 NC LICENSE NO. F-0246
 FOR NORTH CAROLINA DEPT. OF TRANSPORTATION



BEGIN CONSTRUCTION
 -YI- POT Sta. 20+35.00

END TIP PROJECT U-6017
 BEGIN RESURFACING
 -L- POC Sta. 24+00.00

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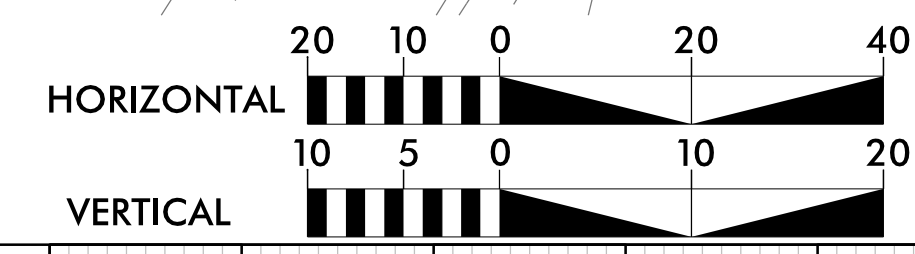
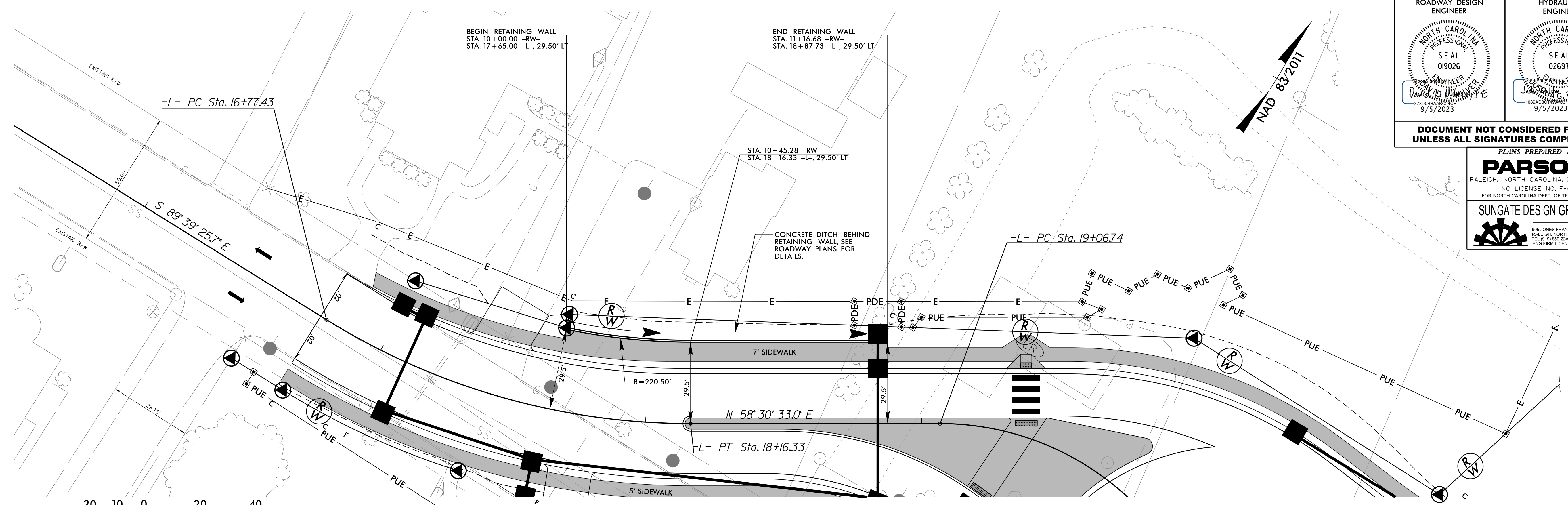
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PROJECT REFERENCE NO. U-6017	SHEET NO. 2B-2
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

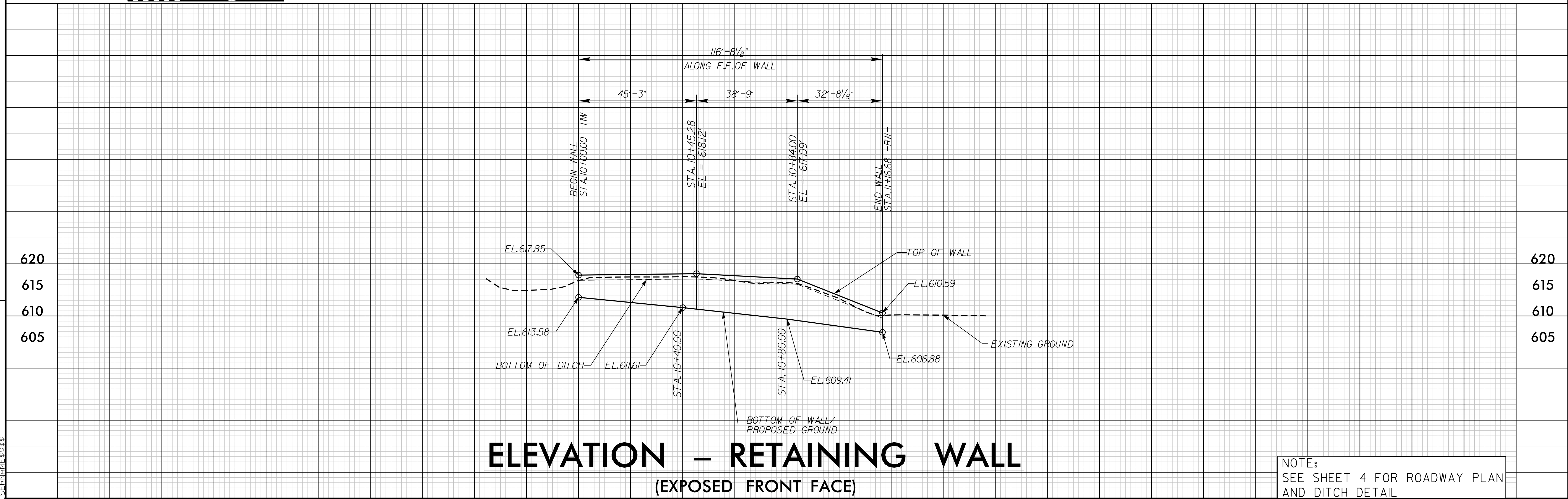
PLANS PREPARED BY:

PARSONS
RALEIGH, NORTH CAROLINA, 19191 854-1345
NC LICENSE NO. F-02246
FOR NORTH CAROLINA DEPT. OF TRANSPORTATION

SUNGATE DESIGN GROUP, P.A.
902 JONES FRANKLIN ROAD
RALEIGH, NORTH CAROLINA 27609
TEL (919) 859-2243 FAX (919) 859-4288
ENG FROM LICENSE NO. C-890



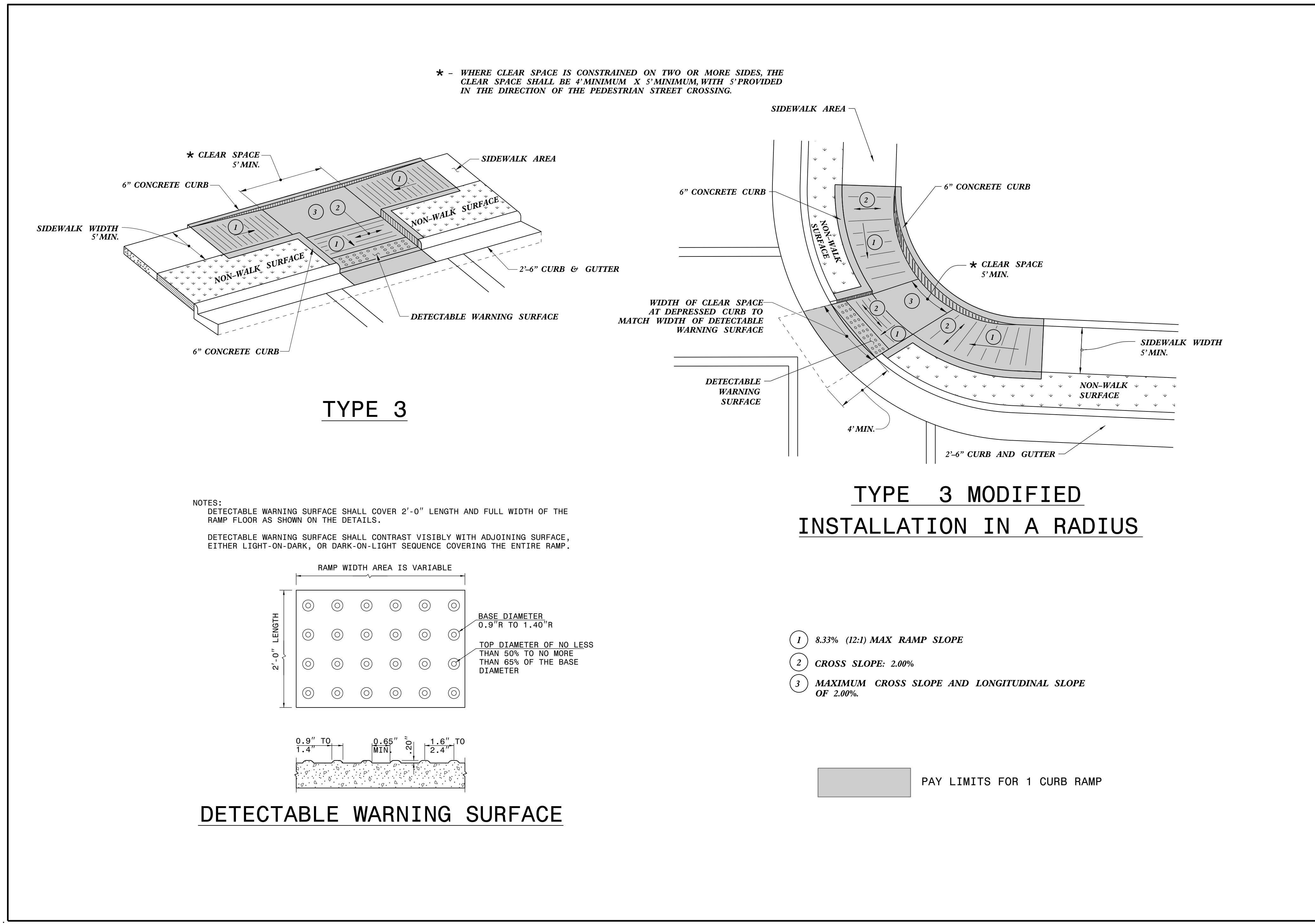
PLAN - RETAINING WALL



NOTE:
SEE SHEET 4 FOR ROADWAY PLAN
AND DITCH DETAIL

REVISIONS

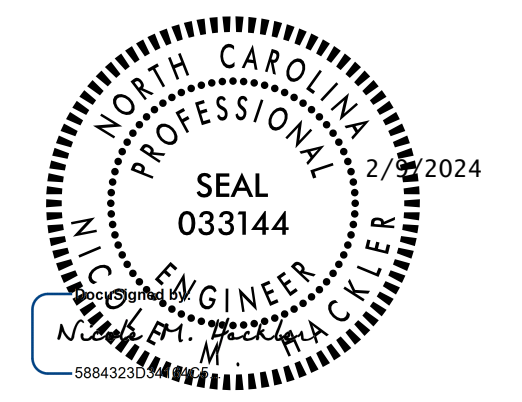
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STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

ROADWAY DETAIL DRAWING FOR
CURB RAMP
PARALLEL RAMP

SHEET 9 OF 13
848D06



DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

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

SEE TITLE BLOCK

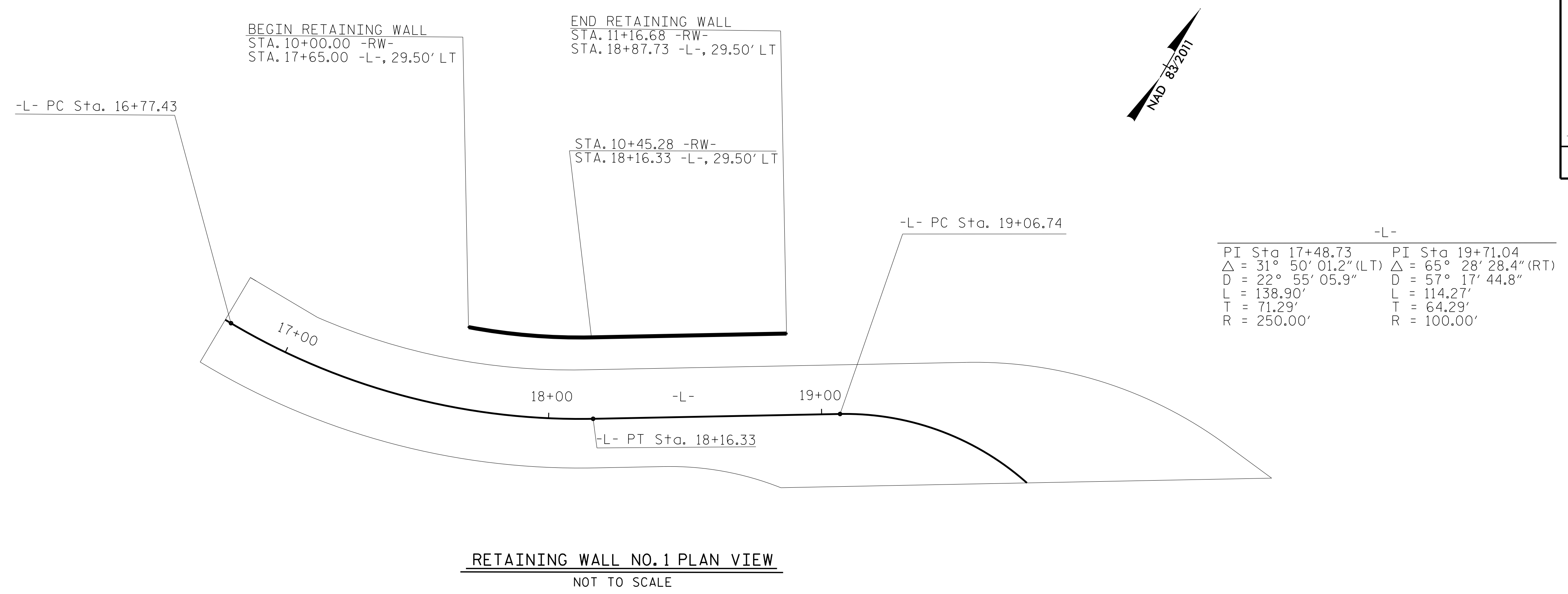
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GEOTECHNICAL ENGINEER

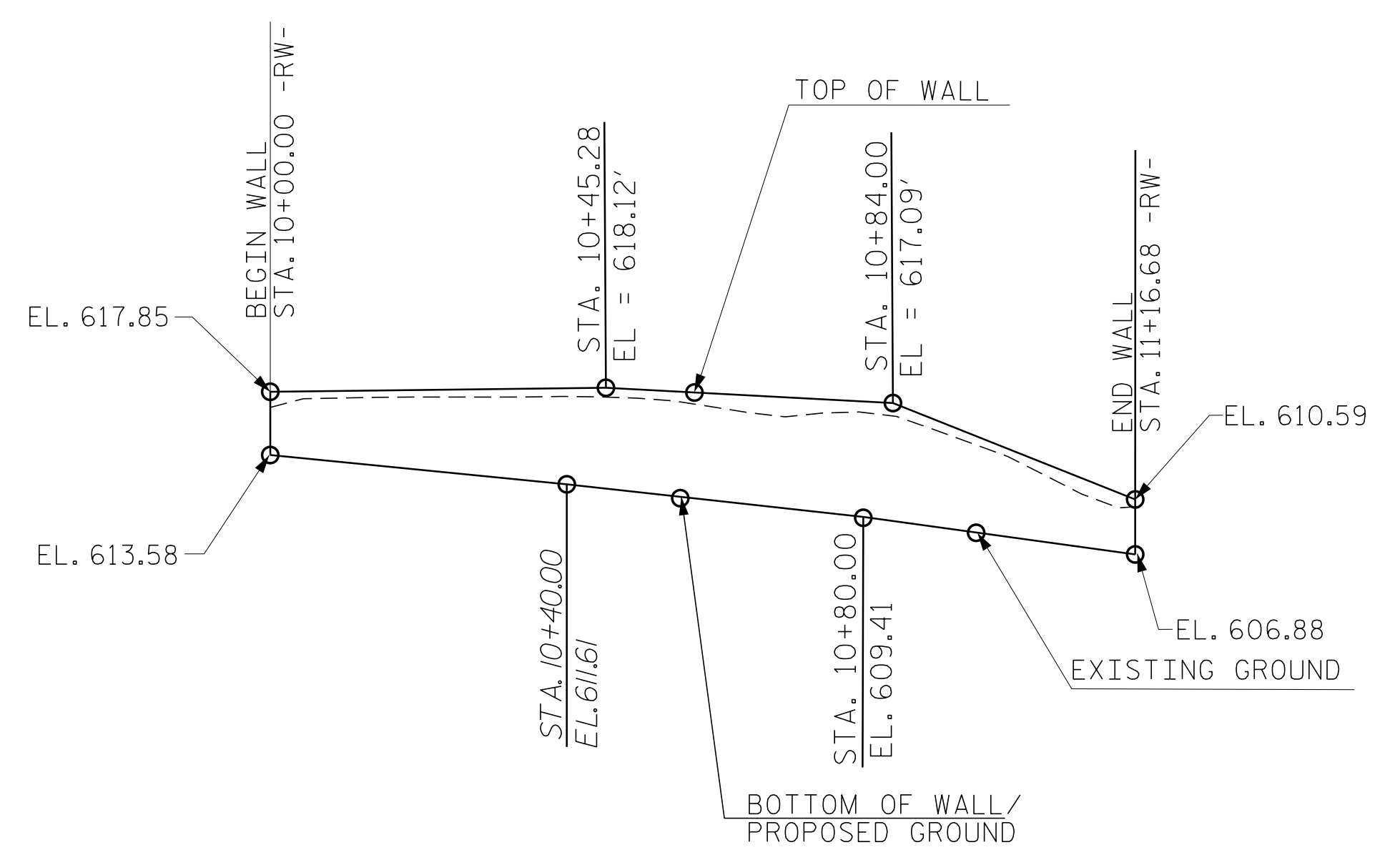
ENGINEER

DocuSigned by: J. Park 03/08/2024

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



RETAINING WALL NO. 1 PLAN VIEW
NOT TO SCALE



RETAINING WALL NO. 1 ELEVATION
EXPOSED WALL FACE VIEW, N.T.S.
THE WALL ENVELOPE DOES NOT ACCURATELY DEPICT THE ACTUAL FACE OF THE WALL

ESTIMATED STANDARD CIP GRAVITY WALL QUANTITIES	
RETAINING WALL NO.	STANDARD CIP GRAVITY RETAINING WALLS (SQUARE FEET)*
1	950

* WALL QUANTITY IS MEASURED FROM TOP OF WALL TO TOP OF FOOTING

PROJECT NO.: 47162.1.1 (U-6017)
ALAMANCE COUNTY
STATION: -L- 17+65 to 18+87.13
SHEET 1 OF 2

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

GEOTECHNICAL
ENGINEERING UNIT

REVISIONS						SHEET NO.
NO.	BY	DATE	NO.	BY	DATE	
1			3			W-1
2			4			

PREPARED BY: A.DRDA	DATE: 03 / 2024
REVIEWED BY: J.PARK	DATE: 03 / 2024

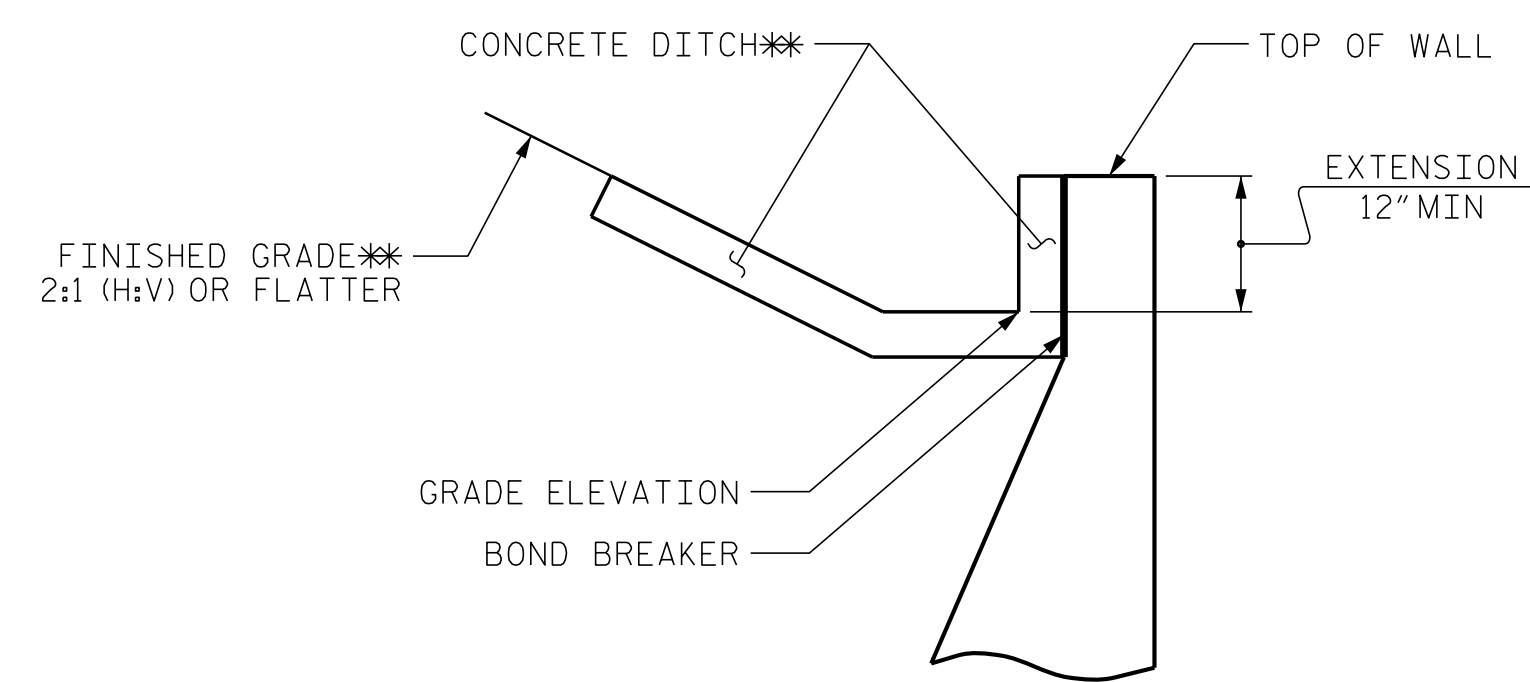
GEOTECHNICAL ENGINEER

ENGINEER

DocuSigned by: *J. Young Park* 03/08/2024

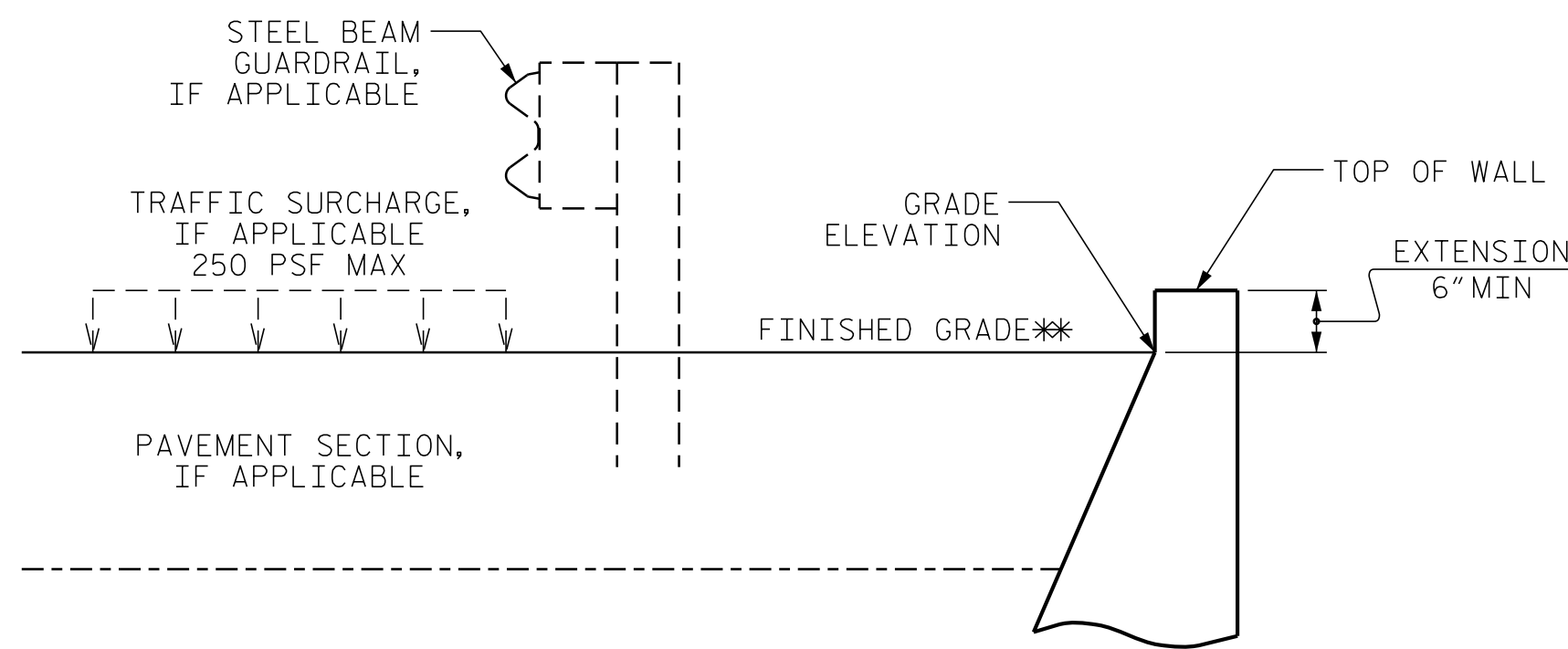
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DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



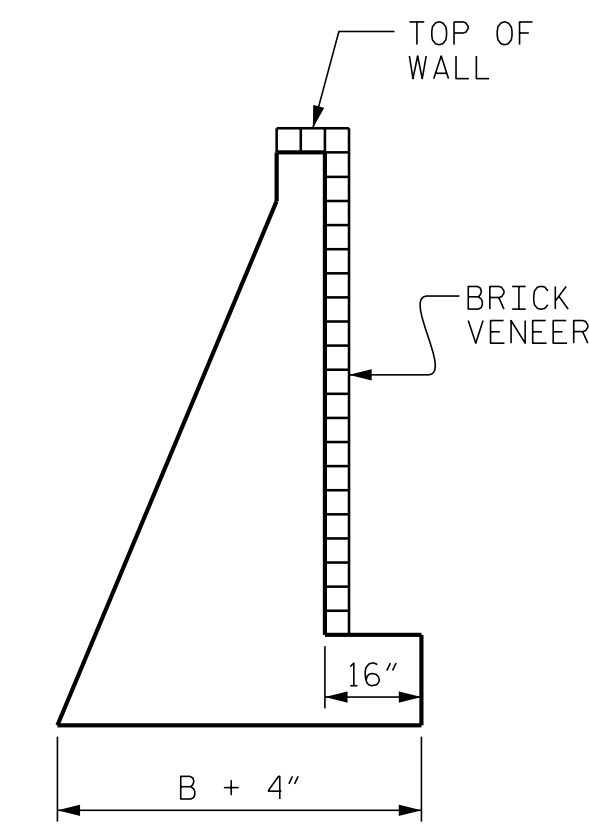
SLOPE CASE

**SEE ROADWAY PLANS FOR CONCRETE DITCH AND FINISHED GRADE DETAILS.



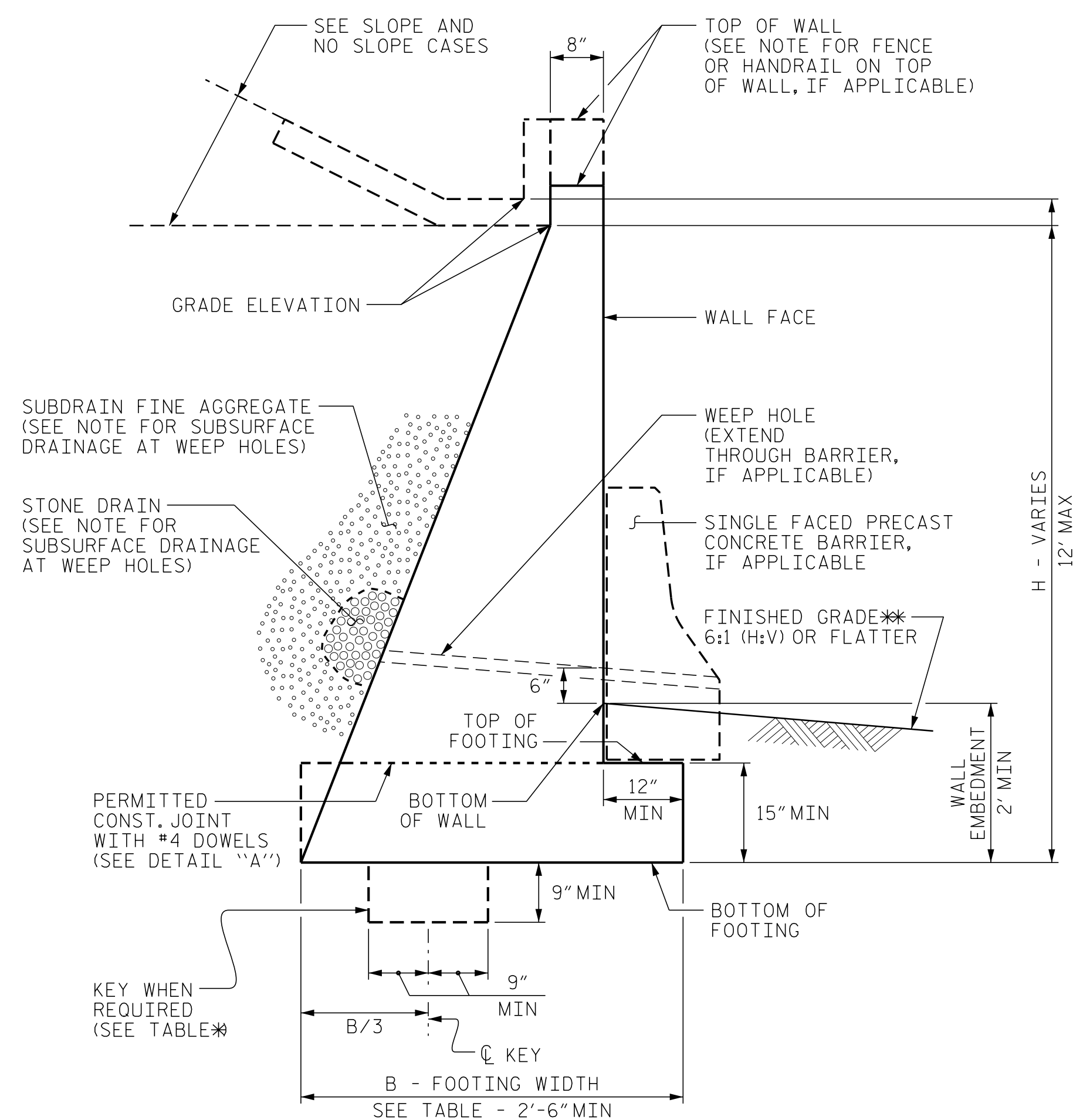
NO SLOPE CASE

**SEE ROADWAY PLANS FOR FINISHED GRADE DETAILS.



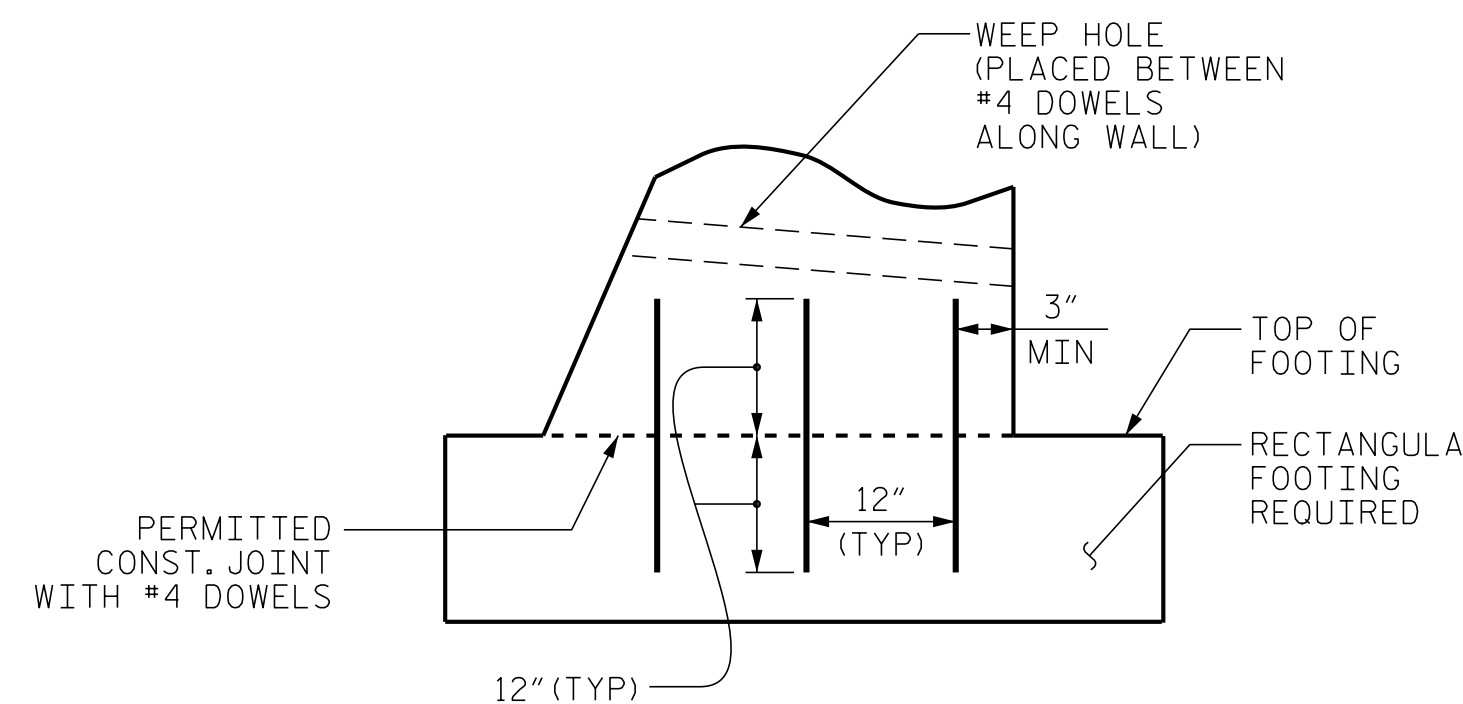
BRICK VENEER DETAIL

(WHEN APPLICABLE)



STANDARD CIP GRAVITY WALL

**SEE ROADWAY PLANS FOR FINISHED GRADE DETAILS.



DETAIL "A"

H (FT)	3 - < 6	6 - 9	> 9 - 12
SLOPE CASE	.66	.70*	.75*
NO SLOPE CASE WITH TRAFFIC SURCHARGE	.80	.75*	.70*
NO SLOPE CASE WITHOUT TRAFFIC SURCHARGE	.60	.60	.60

B/H RATIO (B = 2'-6" MIN)

**KEY IS REQUIRED FOR "SLOPE CASE" OR "NO SLOPE CASE WITH TRAFFIC SURCHARGE" WHEN H IS 6' OR GREATER.

NOTES:

FOR STANDARD CIP GRAVITY RETAINING WALLS, SEE SECTION 453 OF THE STANDARD SPECIFICATIONS.

FOR STEEL BEAM GUARDRAIL, SEE ROADWAY PLANS AND SECTION 862 OF THE STANDARD SPECIFICATIONS.

FOR SINGLE FACED PRECAST CONCRETE BARRIER, SEE ROADWAY PLANS AND SECTION 857 OF THE STANDARD SPECIFICATIONS.

FOR FENCES OR HANDRAILS ON TOP OF WALLS, SEE ROADWAY PLANS FOR FENCE OR HANDRAIL ATTACHMENT DETAILS.

FOR SUBSURFACE DRAINAGE AT WEEP HOLES, SEE ARTICLE 414-8 OF THE STANDARD SPECIFICATIONS.

STANDARD CIP GRAVITY WALLS ARE BASED ON THE FOLLOWING IN-SITU ASSUMED SOIL PARAMETERS:

- UNIT WEIGHT, $\gamma = 120$ PCF
- FRICTION ANGLE, $\phi = 35$ DEGREES (GROUNDWATER WITHIN 7' OF BOTTOM OF FOOTING)
- FRICTION ANGLE, $\phi = 30$ DEGREES (GROUNDWATER MORE THAN 7' BELOW BOTTOM OF FOOTING)
- COHESION, $c = 0$ PSF

DO NOT USE STANDARD CIP GRAVITY WALLS IF ASSUMED SOIL PARAMETERS ARE NOT APPLICABLE OR GROUNDWATER IS ABOVE BOTTOM OF FOOTING.

DO NOT USE STANDARD CIP GRAVITY WALLS WHEN VERY LOOSE OR SOFT SOIL OR MUCK IS BELOW WALLS.

BEFORE BEGINNING STANDARD CIP GRAVITY WALL CONSTRUCTION, SURVEY WALL LOCATIONS AND SUBMIT WALL PROFILE VIEWS (WALL ENVELOPES) FOR REVIEW. FOR WALL ENVELOPES, INCLUDE BOTTOM OF WALL, EXISTING GROUND AND GRADE ELEVATIONS AND OTHER ELEVATIONS AS NEEDED AT INTERVALS OF 25' OR LESS ALONG WALLS. DO NOT START WALL CONSTRUCTION UNTIL WALL ENVELOPES ARE ACCEPTED.

FOR BRICK VENEERS, SUBMIT BRICK SAMPLES FOR APPROVAL BEFORE BEGINNING STANDARD CIP GRAVITY WALL CONSTRUCTION.

DO NOT PLACE CONCRETE FOR FOOTINGS UNTIL EXCAVATION DIMENSIONS AND FOUNDATION MATERIAL ARE APPROVED.

WHEN CONSTRUCTING STANDARD CIP GRAVITY WALLS WITH A CONSTRUCTION JOINT AS SHOWN IN DETAIL "A", PROVIDE A MINIMUM OF 3 EQUALLY SPACED #4 DOWELS AT INTERVALS OF 1'-6" ALONG WALLS.

PROJECT NO.: 47162.1.1 (U-6017)

ALAMANCE COUNTY

STATION: -L- 17+65 to 18+87.13

SHEET 2 OF 2

STANDARD DETAIL NO. 453.01

STANDARD CIP GRAVITY RETAINING WALL

SHEET NO. W-2

DATE: 10-19-21

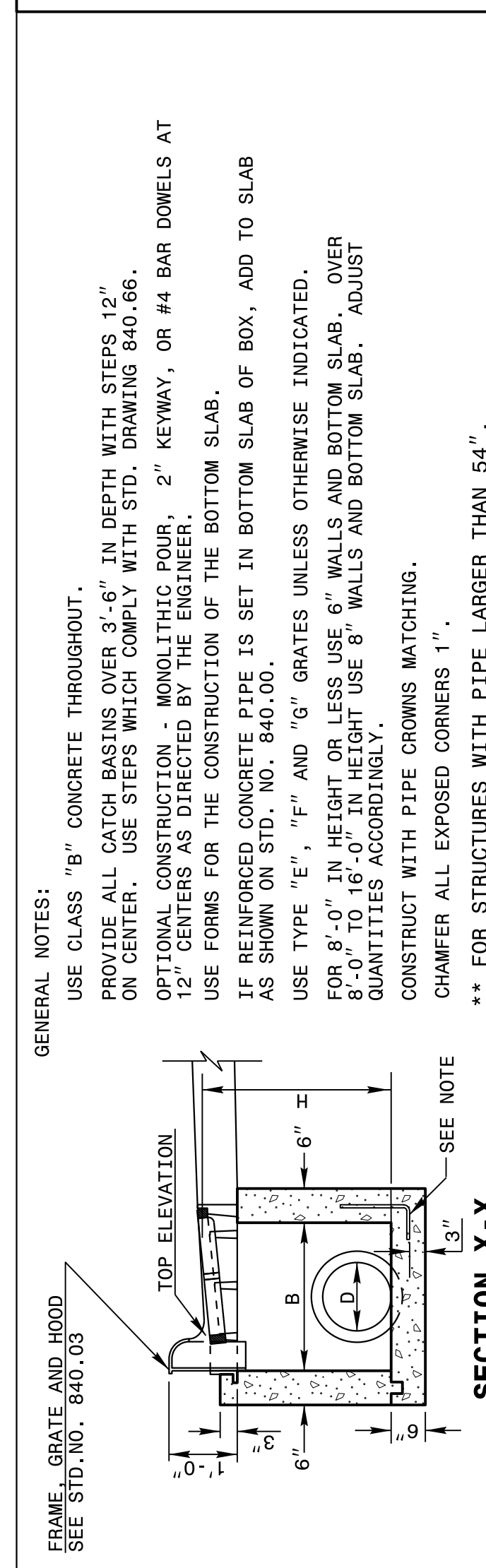
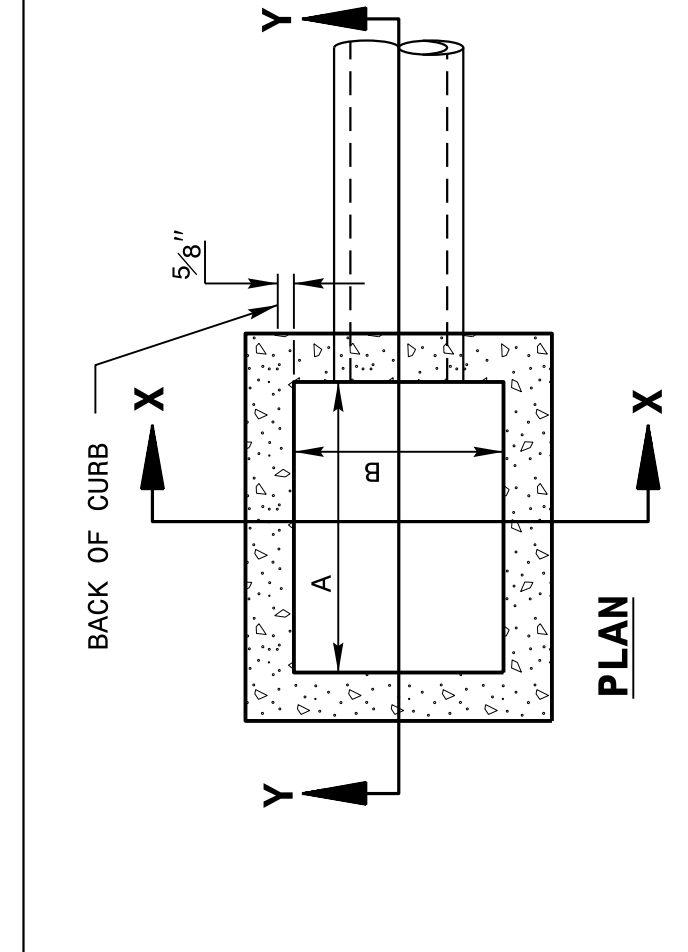
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS

GEOTECHNICAL ENGINEERING UNIT

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 jhowerton AT CSD-292595

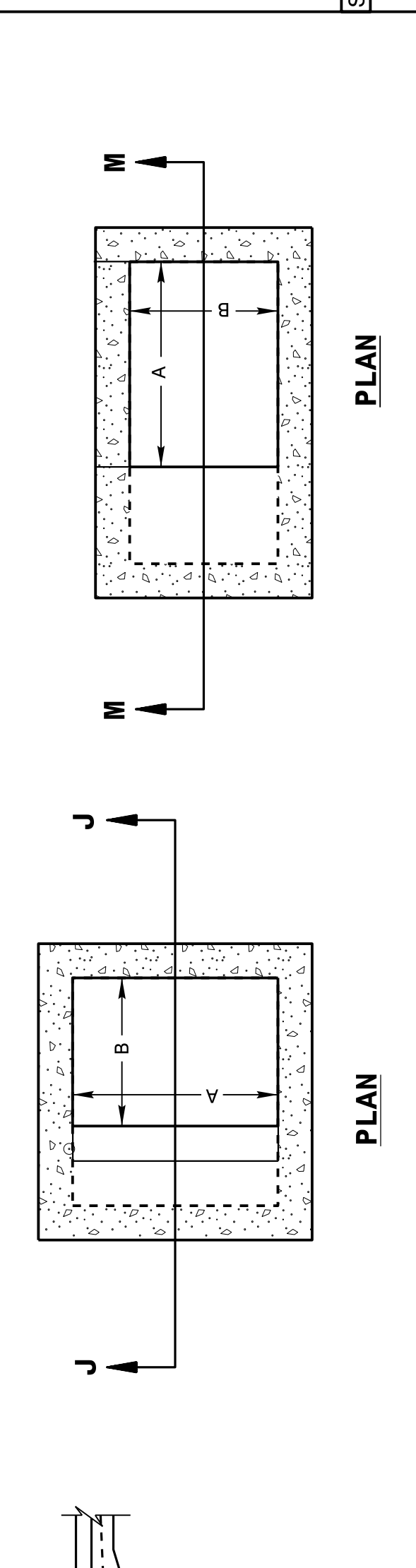
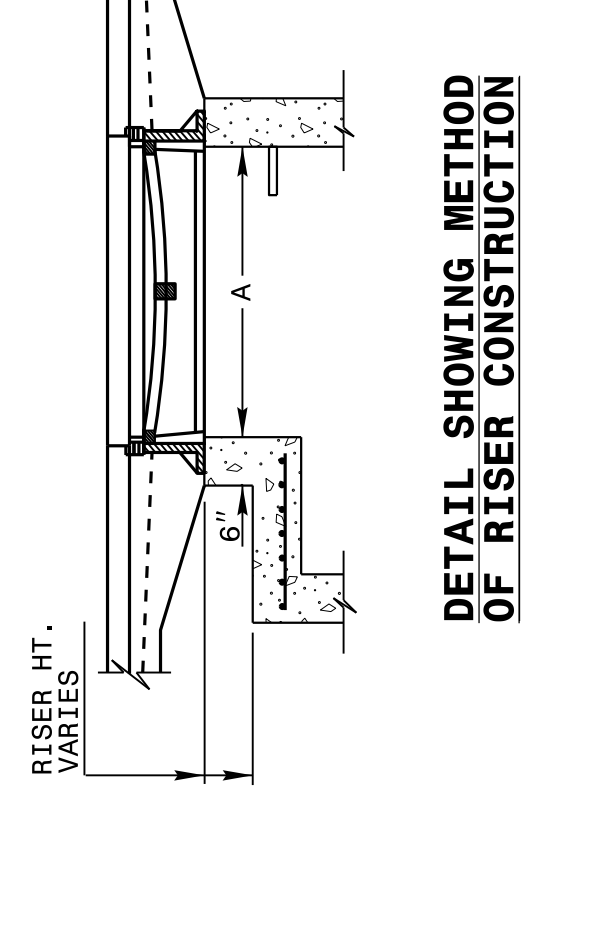
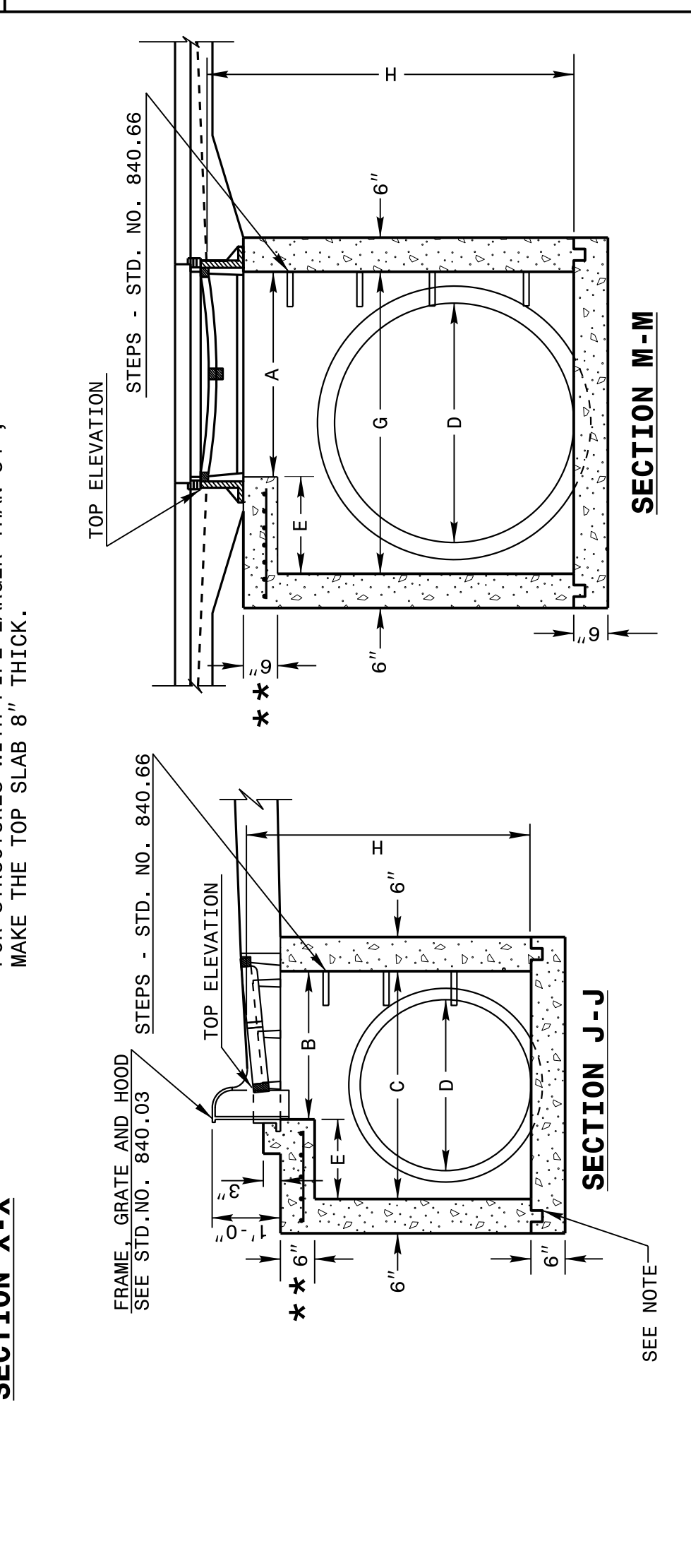
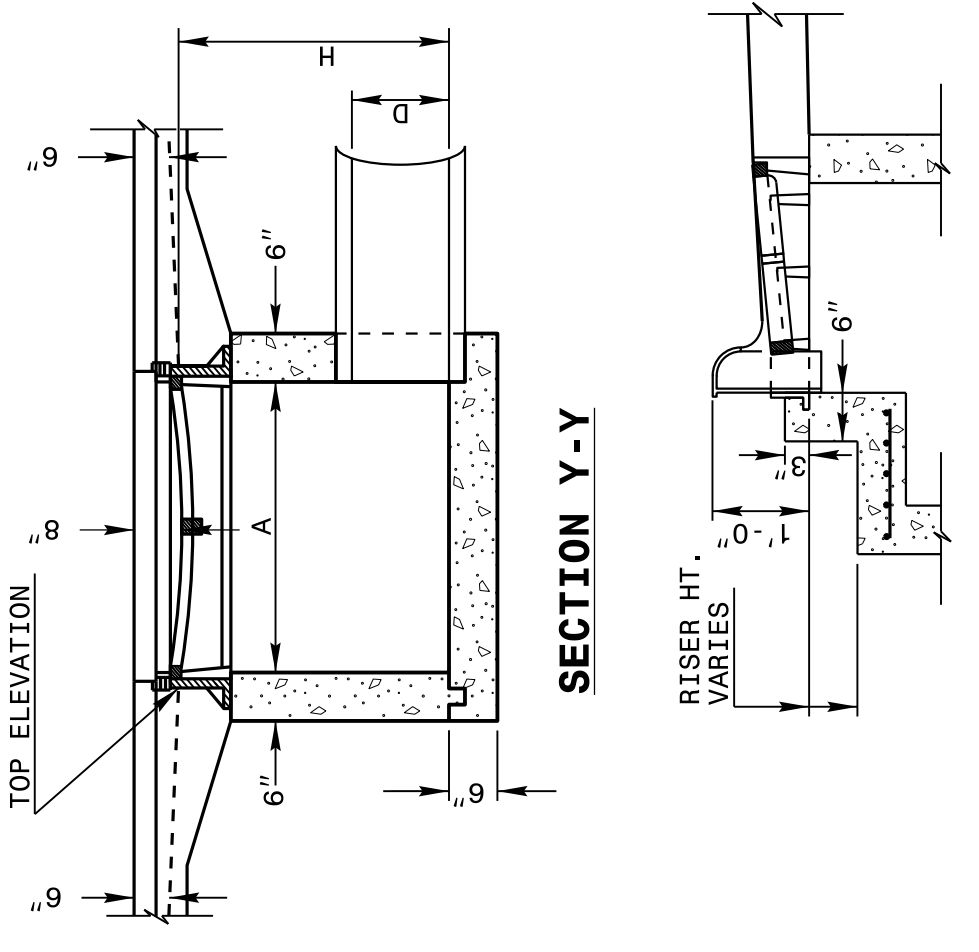
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STATE OF NORTH CAROLINA
 DEPT. OF TRANSPORTATION
 DIVISION OF HIGHWAYS
 RALEIGH, N.C.



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

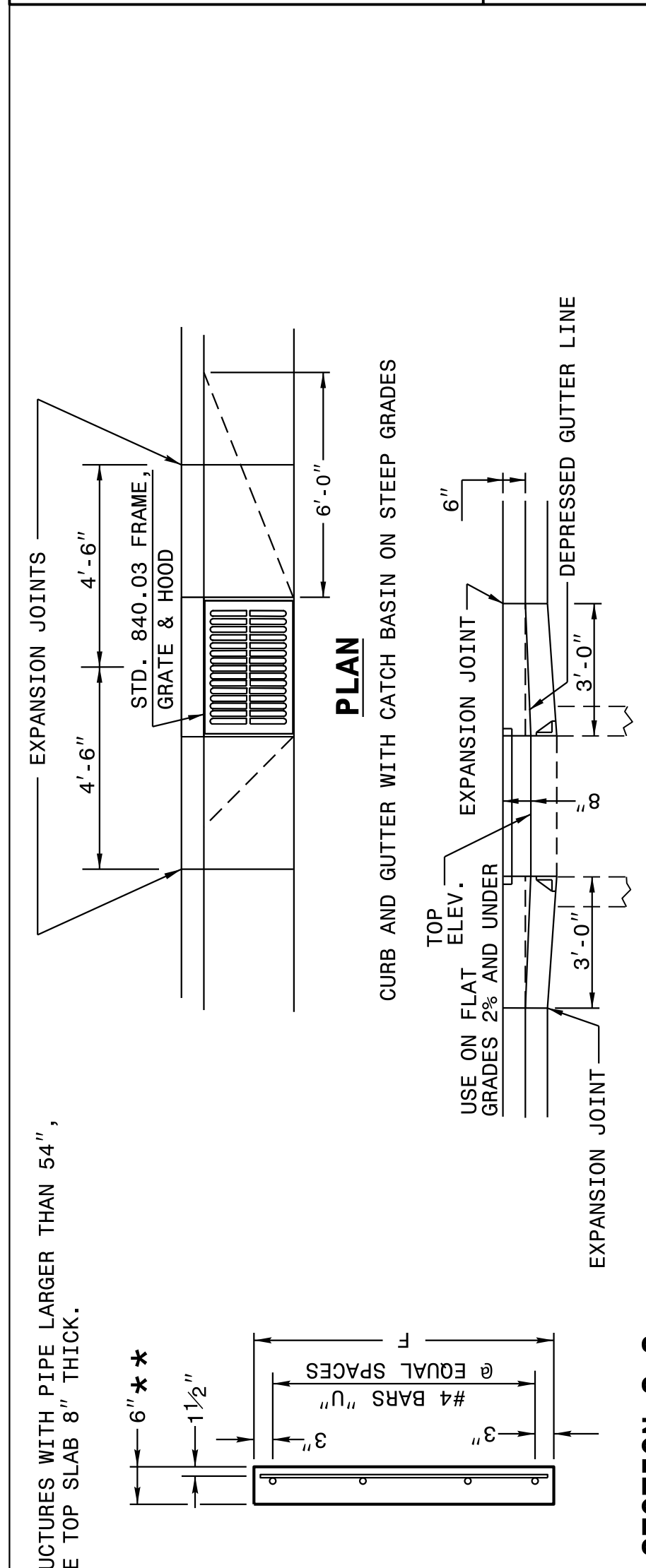
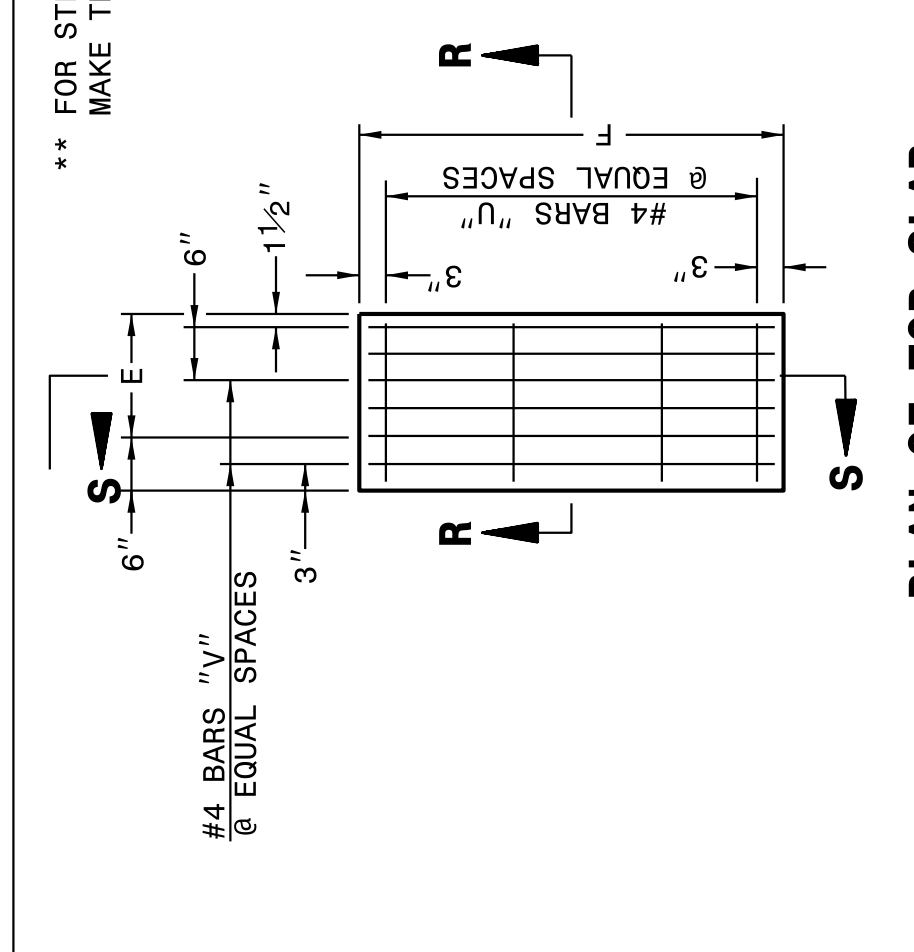
ENGLISH DETAIL DRAWING FOR
MINIMUM DEPTH
CONCRETE CATCH BASIN
 12" THRU 84" PIPE



DETAIL SHOWING METHOD OF RISER CONSTRUCTION

SHEET 1 OF 2
840D02

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

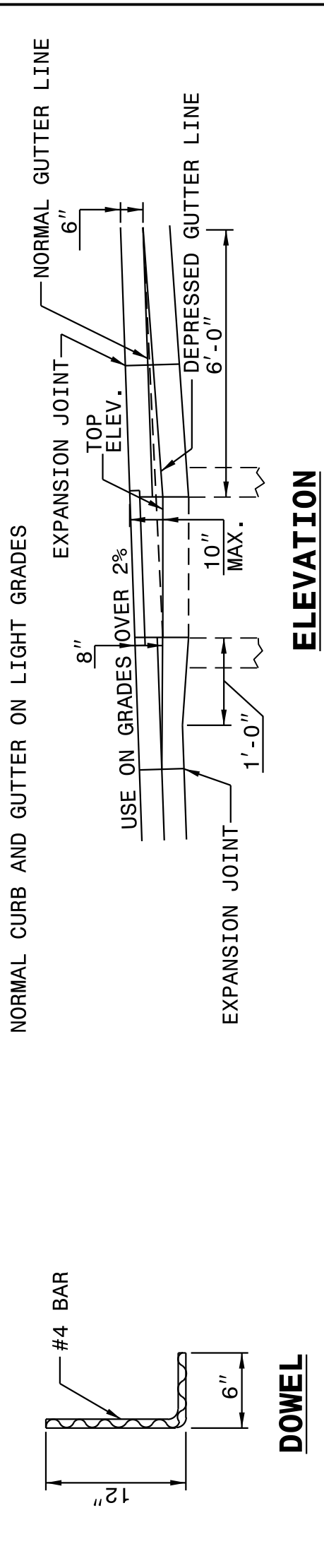
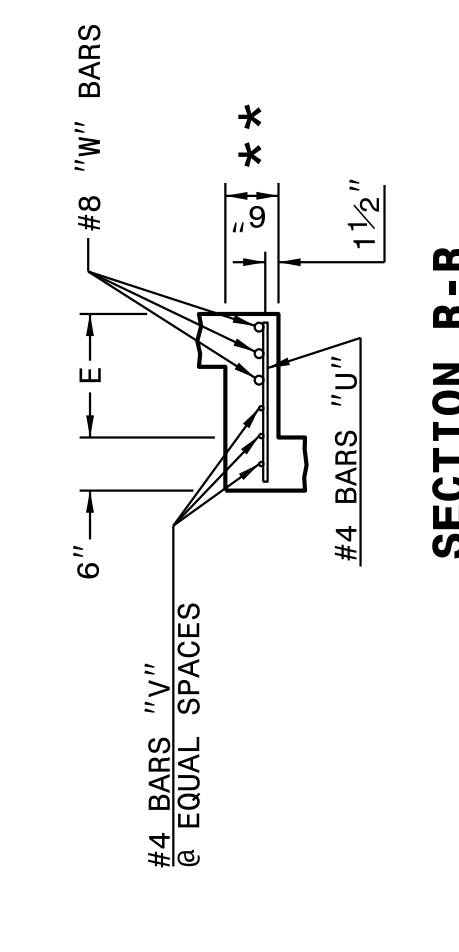


PLAN OF TOP SLAB

SECTION S-S

ELEVATION

ELEVATION



DOWEL

SECTION R-R

ELEVATION

NORMAL CURB AND GUTTER ON STEEP GRADES

* RISER HAS .228 CUBIC YARDS OF CONCRETE PER FOOT HEIGHT

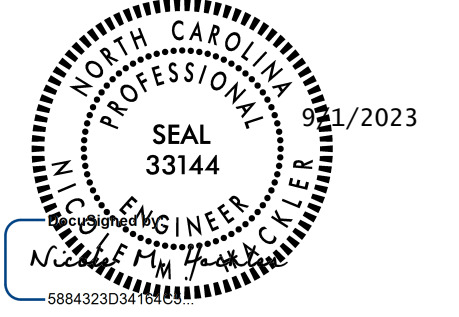
PIPE D.	DIMENSIONS OF BOX AND PIPE		COVER DIMENSION		BARS-U		BARS-V		BARS-W		TOTAL LBS.	DEDUCTIONS				
	SPAN	WIDTH	MIN.	HEIGHT	NO.	LENGTH	NO.	LENGTH	NO.	LENGTH		CU. YDS. CONC. IN BOX	TOP SLAB	CONC. ONE PIPE		
12"	3'-0"	2'-2"	2'-0"	2'-3"	..	..	..	..	..	..	..	0.235	0.772	0.015	0.026	
15"	3'-0"	2'-2"	..	..	..	..	..	..	..	..	..	0.235	0.829	0.023	0.036	
18"	3'-0"	2'-2"	..	..	..	..	..	..	..	..	..	0.235	0.887	0.033	0.049	
24"	3'-0"	2'-2"	3'-10"	3'-11"	..	..	..	..	..	..	..	0.235	1.001	0.059	0.085	
30"	3'-0"	2'-2"	3'-4"	3'-10"	1'-2"	4'-4"	4	1'-5"	2	4'-1"	39	0.123	0.347	1.433	0.092	0.127
36"	3'-0"	2'-2"	3'-10"	4'-6"	1'-8"	4'-10"	4	1'-11"	3	4'-7"	43	0.161	0.432	1.714	0.132	0.178
42"	3'-0"	2'-2"	4'-5"	4'-5"	2'-2"	5'-5"	5	2'-5"	4	5'-2"	3	0.200	0.543	1.738	0.180	0.243
48"	3'-0"	2'-2"	5'-0"	5'-0"	2'-10"	6'-0"	5	3'-1"	4	5'-9"	3	0.235	0.667	2.052	0.235	0.317
54"	3'-0"	2'-2"	5'-7"	6'-0"	3'-5"	6'-7"	6	3'-8"	5	6'-4"	3	0.289	0.802	2.387	0.297	0.401
60"	3'-0"	2'-2"	6'-3"	6'-3"	4'-1"	7'-3"	6	4'-4"	5	7'-0"	3	0.340	0.973	2.722	0.363	0.546
66"	3'-0"	2'-2"	6'-11"	6'-11"	4'-9"	7'-11"	7	5'-0"	6	7'-8"	3	0.391	1.160	3.057	0.440	0.655
72"	3'-0"	2'-2"	7'-6"	7'-6"	5'-3"	8'-6"	7	5'-6"	6	8'-3"	3	0.442	1.340	3.392	0.524	0.774
78"	3'-0"	2'-2"	8'-1"	8'-1"	5'-11"	9'-1"	8	6'-2"	7	8'-10"	3	0.493	1.530	3.727	0.615	0.893
84"	3'-0"	2'-2"	8'-9"	8'-9"	6'-7"	9'-9"	8	6'-10"	7	9'-6"	3	0.544	1.760	4.062	0.713	1.010

SHEET 2 OF 2
840D02

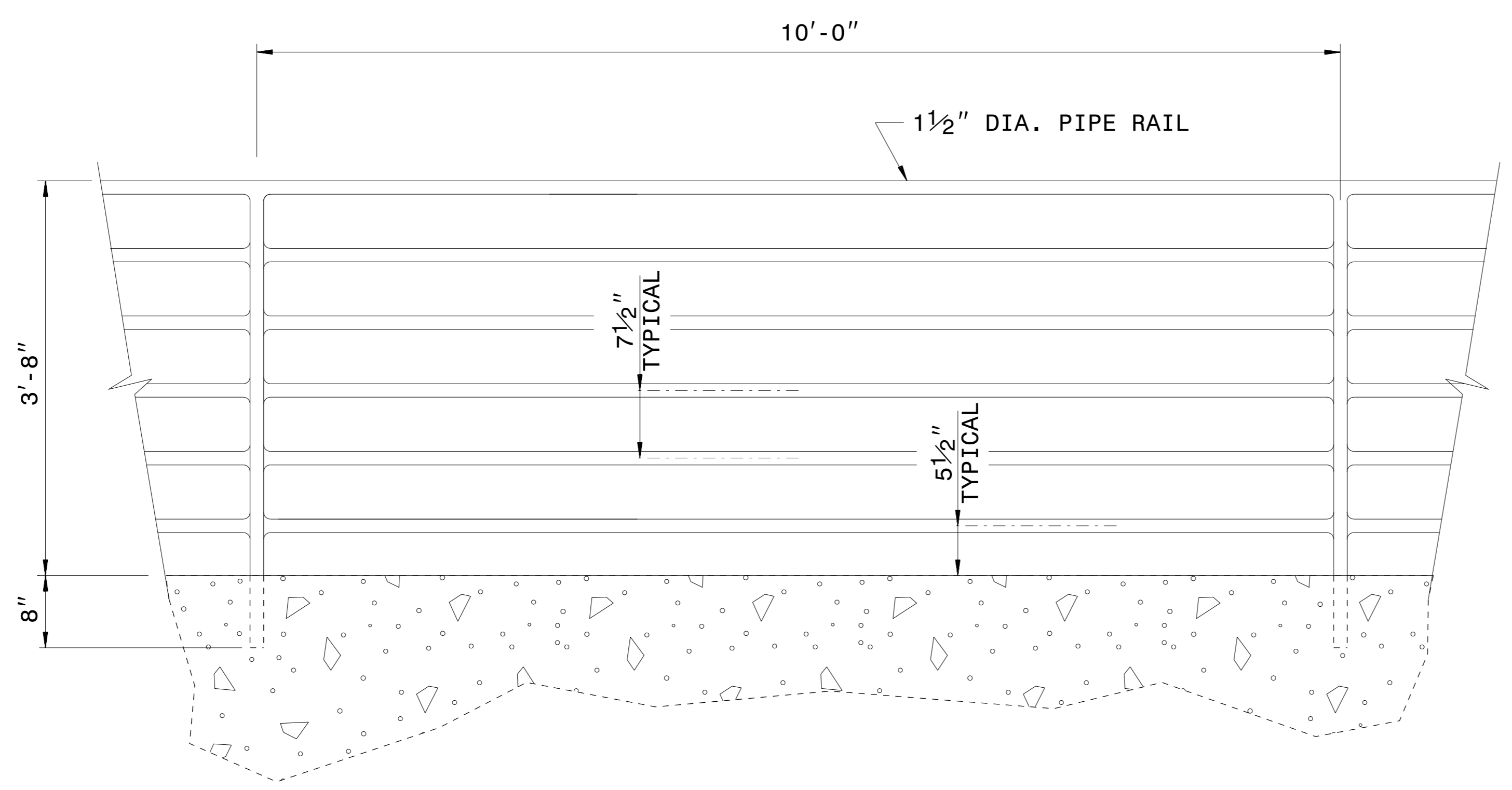
CONTRACT STANDARDS AND DEVELOPMENT UNIT
 Office 919-707-6950 FAX 919-250-4119

SEE PLATE FOR TITLE

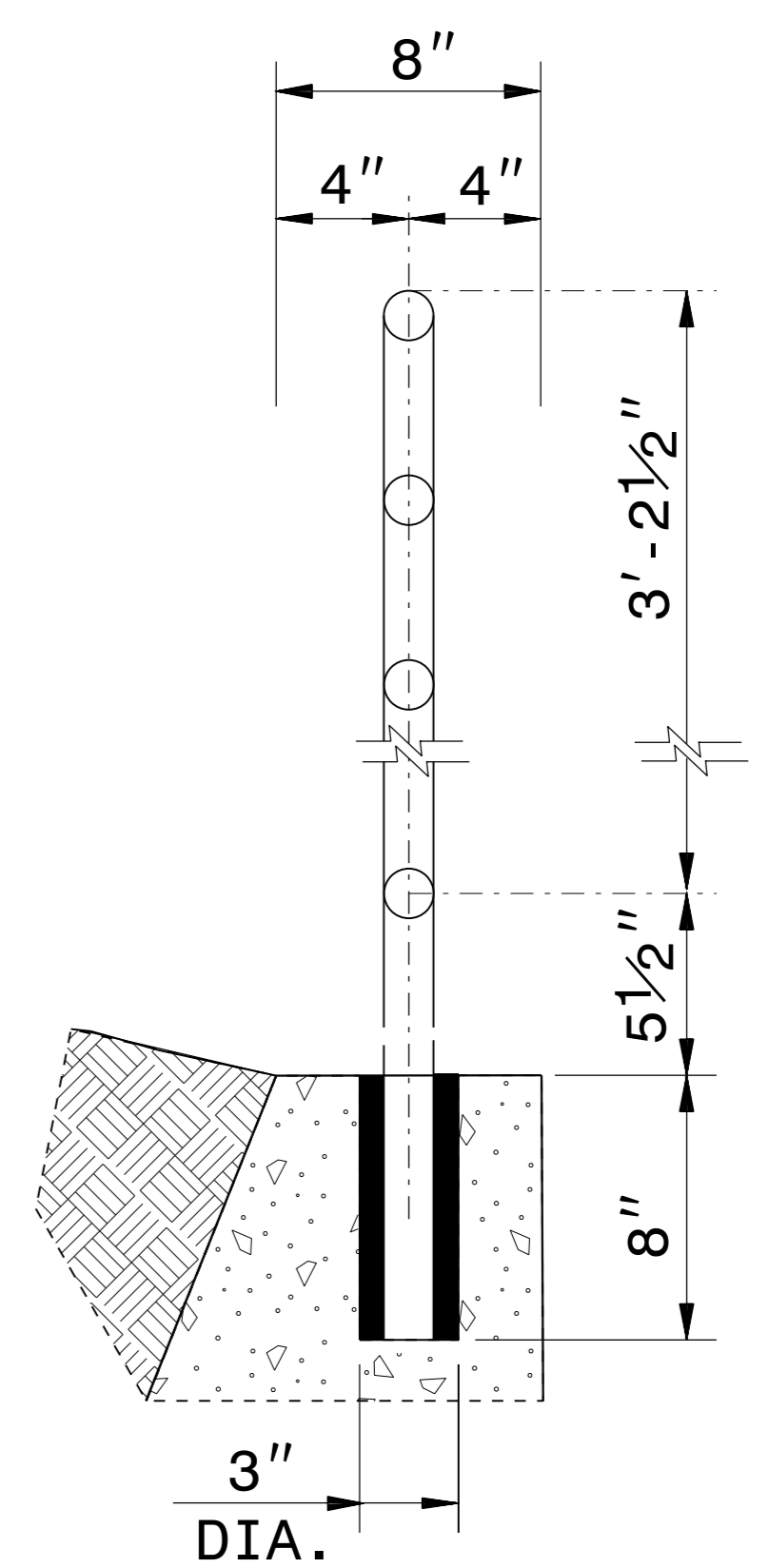
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 MODIFIED BY: E.E. WARD DATE: 3-1-02
 CHECKED BY: _____ DATE: _____
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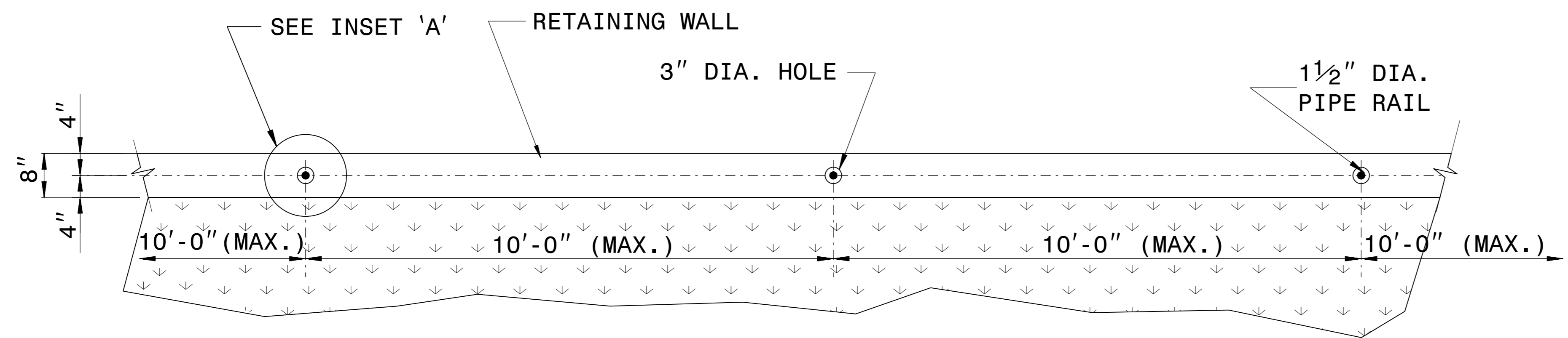
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



ELEVATION OF HANDRAIL



INSET 'A'

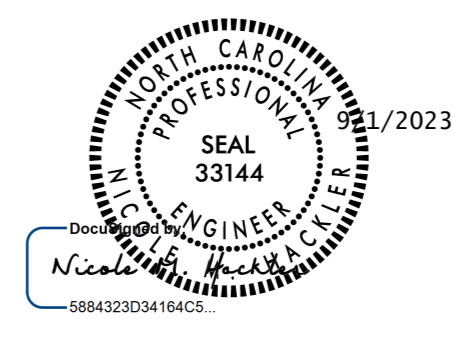


PLAN VIEW

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.

TIME \$\$\$\$\$\$
DATE \$\$\$\$\$\$
DRAWN \$\$\$\$\$\$
CHECKED \$\$\$\$\$\$
BY \$\$\$\$\$\$
USER \$\$\$\$\$\$



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

STATE OF NORTH CAROLINA
 DIVISION OF HIGHWAYS

SUMMARY OF EARTHWORK

STATION	STATION	UNCL. EXCAV.	UNDERCUT	EMBANK.	BORROW	WASTE
-L- 16+75.00	-L- 19+72.86	3,736		22		3,714
-L- 21+20.92	-L- 24+00.00	152		103	103	152
-Y1- 20+35.00	-Y1- 21+32.77	181		25		156
-Y1- 22+71.05	-Y1- 27+00.00	376		97	97	376
-Y2- 10+25.00	-Y2- 10+75.00	81		10		71
-Y2- 11+00.00	-Y2- 11+11.65	5		0		5
-RAB- 10+00.00	-RAB- 12+92.12	1,970		209		1,761
SUBTOTALS:		6,501		466	200	6,236
PROJECT TOTALS:		6,501		466	200	6,236
UNSUITABLE WASTE						
LOSS DUE TO CLEARING AND GRUBBING		-425				-425
WASTE IN LIEU OF BORROW					-200	-200
PROJECT TOTAL		6,076		466	0	5,611
GRAND TOTALS:		6,076		466	0	5,611
SAY:		6,100				

REMOVAL OF EXISTING ASPHALT PAVEMENT SUMMARY

SURVEY LINE	STATION	STATION	LOCATION LY/RV/CL	YD ²
-L-	17+52	20+37	RT	565.42
-L-	20+98	21+75	RT	55.99
-Y1-	23+27	23+70	LT	60.96
TOTAL:				682.37
SAY:				690

EST. UNDERCUT CONTINGENCY = 600 CY
EST. SHALLOW UNDERCUT BY STATIONS = 305 CY
EST. SHALLOW UNDERCUT CONTINGENCY = 150 CY
TOTAL SHALLOW UNDERCUT = 455 CY
CLASS IV SUBGRADE STABILIZATION BY STATIONS = 585 TONS
CLASS IV SUBGRADE STABILIZATION CONTINGENCY = 285 TONS
SELECT GRANULAR MATERIAL CONTINGENCY = 200 CY
GEOTEXTILE FOR SOIL STABILIZATION BY STATIONS = 930 SY
GEOTEXTILE FOR SOIL STABILIZATION CONTINGENCY = 650 SY
EST. SHOULDER BORROW = 210 CY
HAULING AND DISPOSAL OF PETROLEUM CONTAMINATED SOIL = 50 TONS

Note: Approximate quantities only. Shoulder Borrow, Fine Grading, Removal of Existing Asphalt Pavement, and Clearing and Grubbing will be paid for at the contract lump sum price for "Grading."

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

UNCLASSIFIED EXCAVATION - UNSUITABLE
 -L- 16+75 TO 18+75
 -L- 21+25 TO 23+80
 -Y1- 23+75 TO 27+00
 (975 CY) PER GEOTECH

5/28/99

04 SEP 2023 09:05
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COMPUTED BY: C. Driscoll DATE: 8/13/2021
 CHECKED BY: T. Wells DATE: 8/16/2021

(5-15-18)

PROJECT NO.
U-6017

SHEET NO.
3G-1

**STATE OF NORTH CAROLINA
 DIVISION OF HIGHWAYS**

SUMMARY OF SUBSURFACE DRAINAGE

LINE	Station	Station	Location LT/RT/CL	Drain Type* UD/BD/SD	LF
-L-	18+60	19+90	LT/RT	SD	260
-L-	22+25	23+80	LT/RT	SD	310
CONTINGENCY				SD	275
				TOTAL LF:	845

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

SUMMARY OF AGGREGATE SUBGRADE/STABILIZATION

LINE	Station	Station	Aggregate Type* ASU(1/2)/ AST	Aggregate Thickness INCHES [8" for ASU(2)]	Shallow Undercut CY	Class IV Subgrade Stabilization TONS	Geotextile for Soil Stabilization SY	Stabilizer Aggregate TONS	Class IV Aggregate Stabilization TONS
-L-	20+75	23+80	ASU 1	12	80	155	245		
-Y1-	20+35	21+00	ASU 1	12	20	40	65		
-Y1-	23+75	27+00	ASU 1	12	205	390	620		
CONTINGENCY					150	285	450		
					TOTAL CY/TONS/SY:	455	870	1380	

*ASU(1/2) = Aggregate Subgrade (Type 1 or 2)
 *AST = Aggregate Stabilization
 **Total tons of "Class IV Subgrade Stabilization" and total square yards of "Geotextile for Soil Stabilization" are only the estimated quantities for ASU(1/2)/AST and may only represent a portion of the subgrade stabilization and geotextile quantities shown in the Item Sheets of the Proposal.

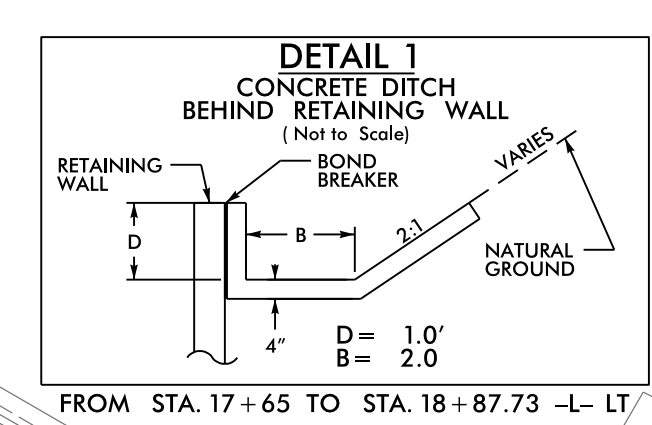
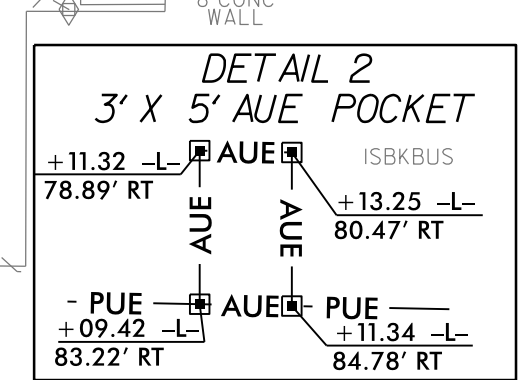
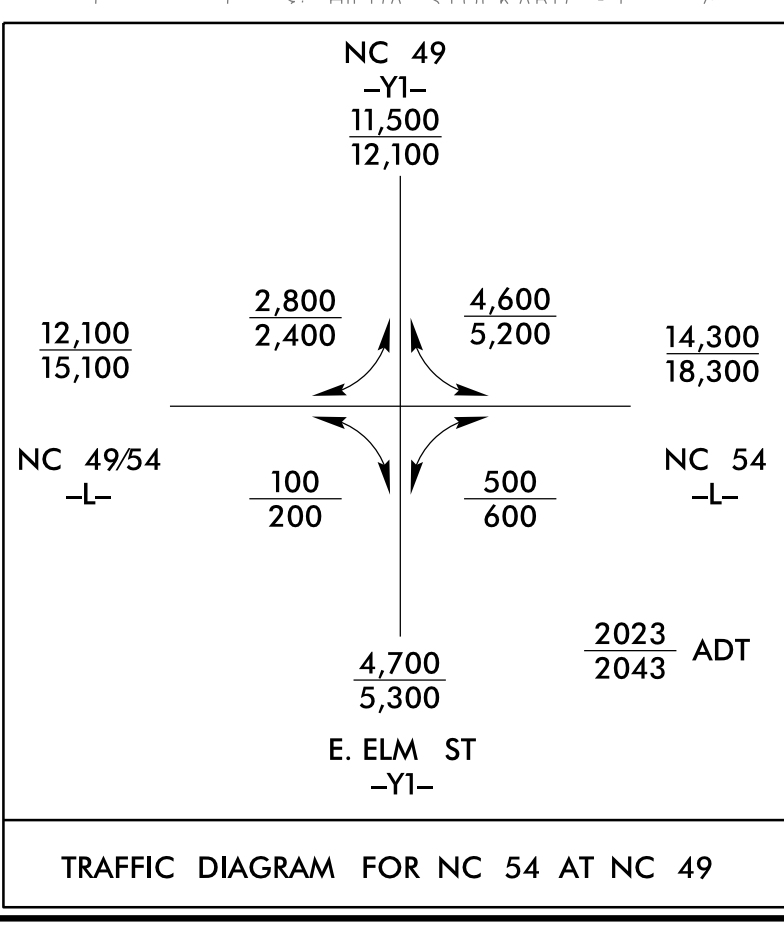
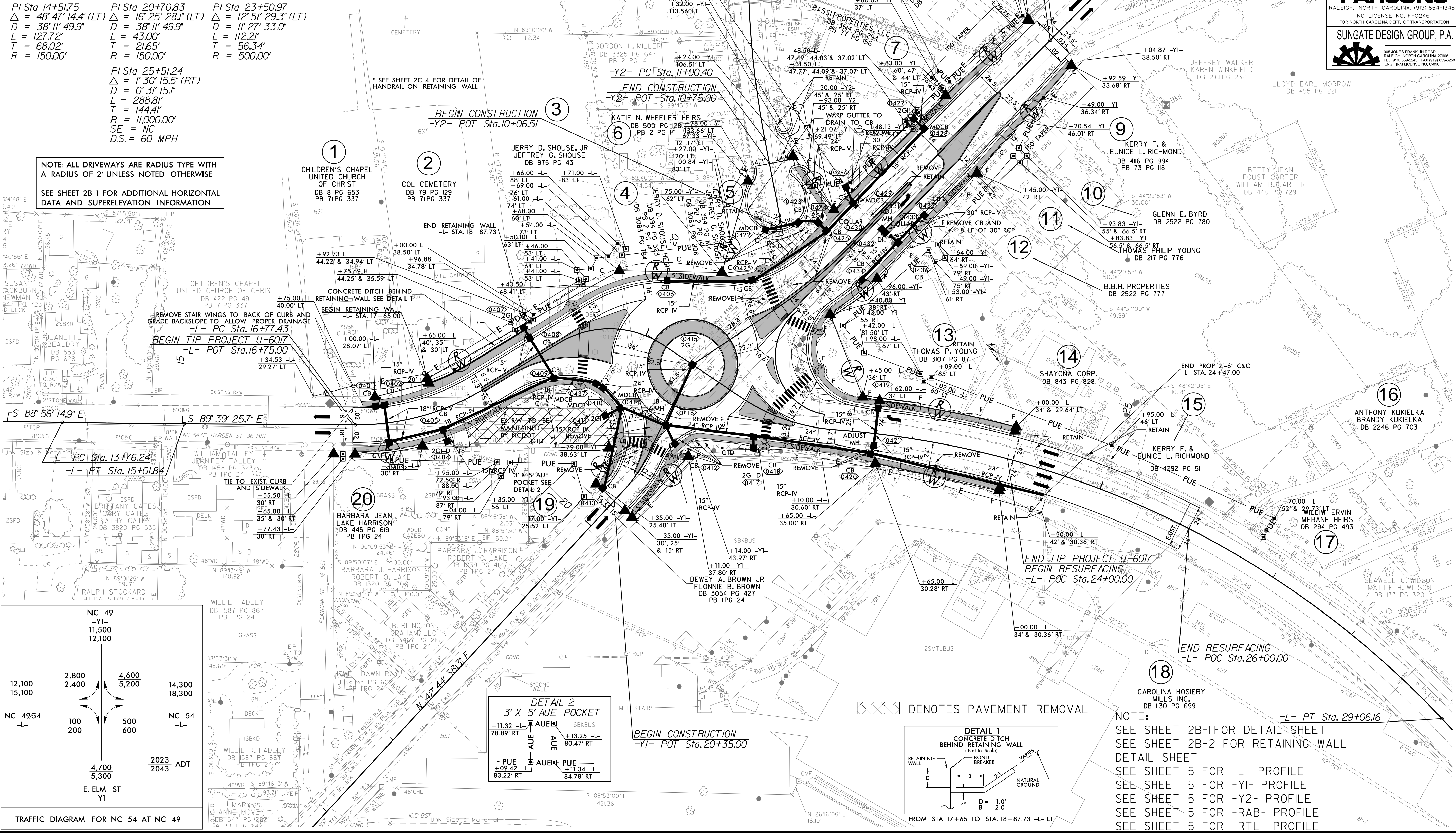
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RDW SHEET NO.	
ROADWAY DESIGN ENGINEER 	HYDRAULICS ENGINEER
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PLANS PREPARED BY: PARSONS RALEIGH, NORTH CAROLINA, 1919 854-1345 NC LICENSE NO. F-02146 FOR NORTH CAROLINA DEPT. OF TRANSPORTATION	
SUNGATE DESIGN GROUP, P.A. 905 JONES FRANKLIN ROAD RALEIGH, NORTH CAROLINA 27609 TEL (919) 808-2243 FAX (919) 859-2258 ENG FIRM LICENSE NO. 5489	

-L-		-RTL-	
PI Sta 14+39.04 $\Delta = 0' 43'' 10.8''$ (LT) D = 0' 34' 22.6" L = 125.6' T = 62.80' R = 10,000.00'	PI Sta 17+48.73 $\Delta = 3' 50'' 01.2''$ (LT) D = 22' 55' 05.9" L = 138.90' T = 71.29' R = 250.00'	PI Sta 19+71.04 $\Delta = 65' 28'' 28.4''$ (RT) D = 57' 17' 44.8" L = 114.27' T = 64.29' R = 100.00'	PI Sta 11+40.68 $\Delta = 133' 48'' 15.2''$ (RT) D = 95' 29' 34.7" L = 140.12' T = 140.68' R = 60.00'
-Y1-		-Y2-	
PI Sta 21+69.30 $\Delta = 29' 49'' 52.8''$ (LT) D = 28' 38' 52.4" L = 104.13' T = 53.27' R = 200.00'	PI Sta 25+90.69 $\Delta = 42' 36'' 54.7''$ (RT) D = 6' 01' 52.1" L = 706.59' T = 370.53' R = 950.00'	PI Sta 11+76.03 $\Delta = 9' 09'' 08.4''$ (RT) D = 6' 03' 47.0" L = 150.95' T = 75.64' R = 945.00'	PI Sta 20+70.83 $\Delta = 16' 25'' 28.1''$ (LT) D = 38' 11' 49.9" L = 43.00' T = 21.65' R = 150.00'
PI Sta 14+51.75 $\Delta = 48' 47'' 14.4''$ (LT) D = 38' 11' 49.9" L = 127.72' T = 68.02' R = 150.00'	PI Sta 20+70.83 $\Delta = 16' 25'' 28.1''$ (LT) D = 38' 11' 49.9" L = 43.00' T = 21.65' R = 150.00'	PI Sta 23+50.97 $\Delta = 12' 51'' 29.3''$ (LT) D = 11' 27' 33.0" L = 112.21' T = 56.34' R = 500.00'	PI Sta 25+51.24 $\Delta = 1' 30'' 15.5''$ (RT) D = 0' 31' 15.1" L = 288.81' T = 144.41' R = 11,000.00'

NOTE: ALL DRIVEWAYS ARE RADIUS TYPE WITH A RADIUS OF 2' UNLESS NOTED OTHERWISE

SEE SHEET 2B-1 FOR ADDITIONAL HORIZONTAL DATA AND SUPERELEVATION INFORMATION

SEE SHEET 2C-4 FOR DETAIL OF HANDRAIL ON RETAINING WALL



NOTE:
SEE SHEET 2B-1 FOR DETAIL SHEET
SEE SHEET 2B-2 FOR RETAINING WALL DETAIL SHEET
SEE SHEET 5 FOR -L- PROFILE
SEE SHEET 5 FOR -Y1- PROFILE
SEE SHEET 5 FOR -Y2- PROFILE
SEE SHEET 5 FOR -RAB- PROFILE
SEE SHEET 5 FOR -RTL- PROFILE

5/14/23
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DATEPLOT: 2023 0914 -Rdwy-Redy-psh_04.dgn

5/28/19

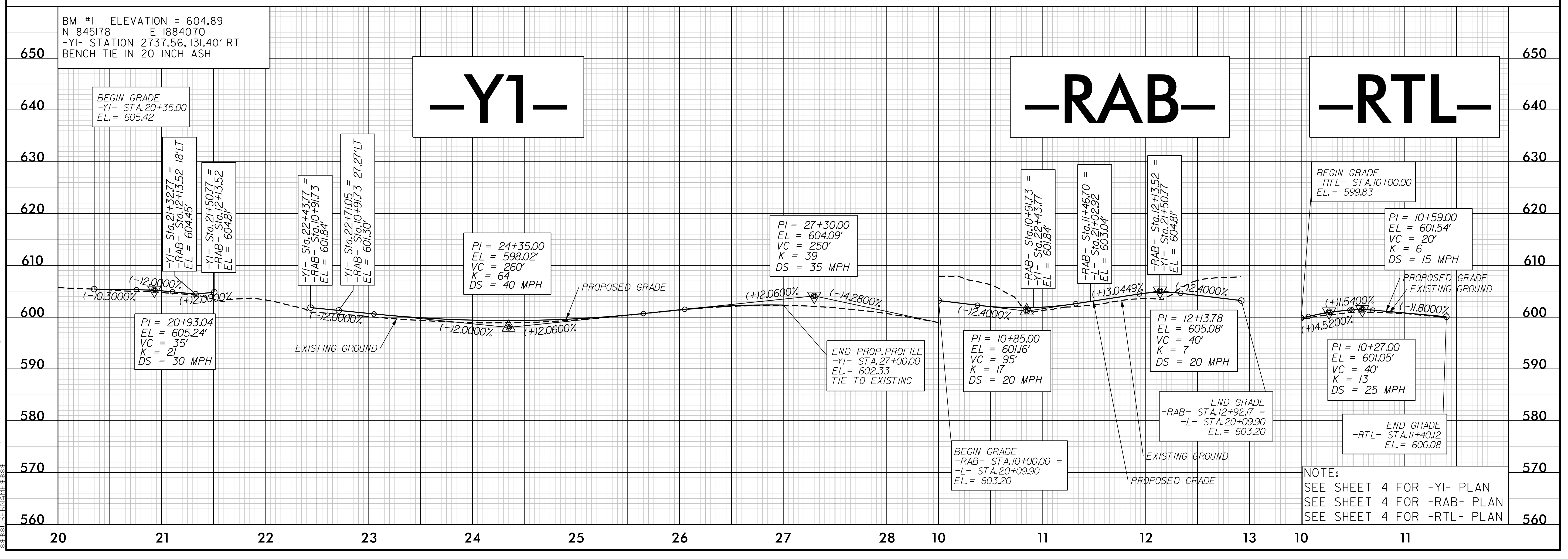
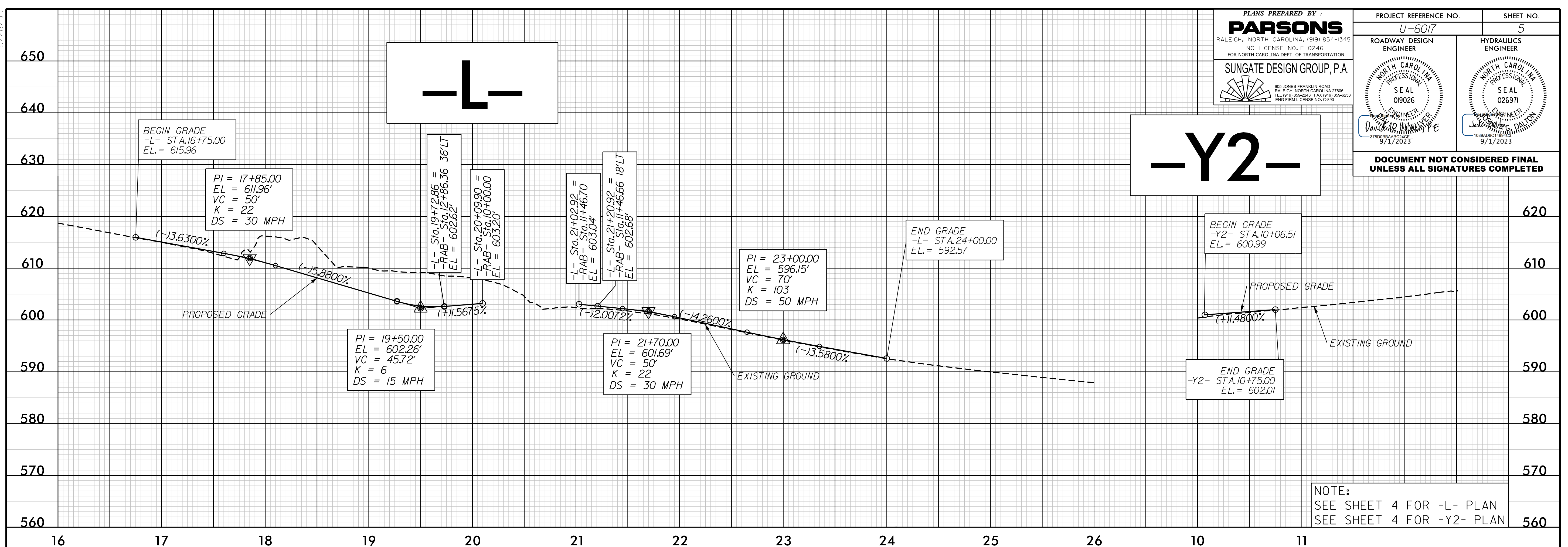
PLANS PREPARED BY:

PARSONS
 RALEIGH, NORTH CAROLINA, (919) 854-1345
 NC LICENSE NO. F-0246
 FOR NORTH CAROLINA DEPT. OF TRANSPORTATION

SUNGATE DESIGN GROUP, P.A.
 905 JONES FRANKLIN ROAD
 RALEIGH, NORTH CAROLINA 27606
 TEL (919) 859-2243 FAX (919) 859-8258
 SONG FIRM LICENSE NO. C480

PROJECT REFERENCE NO. U-6017	SHEET NO. 5
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



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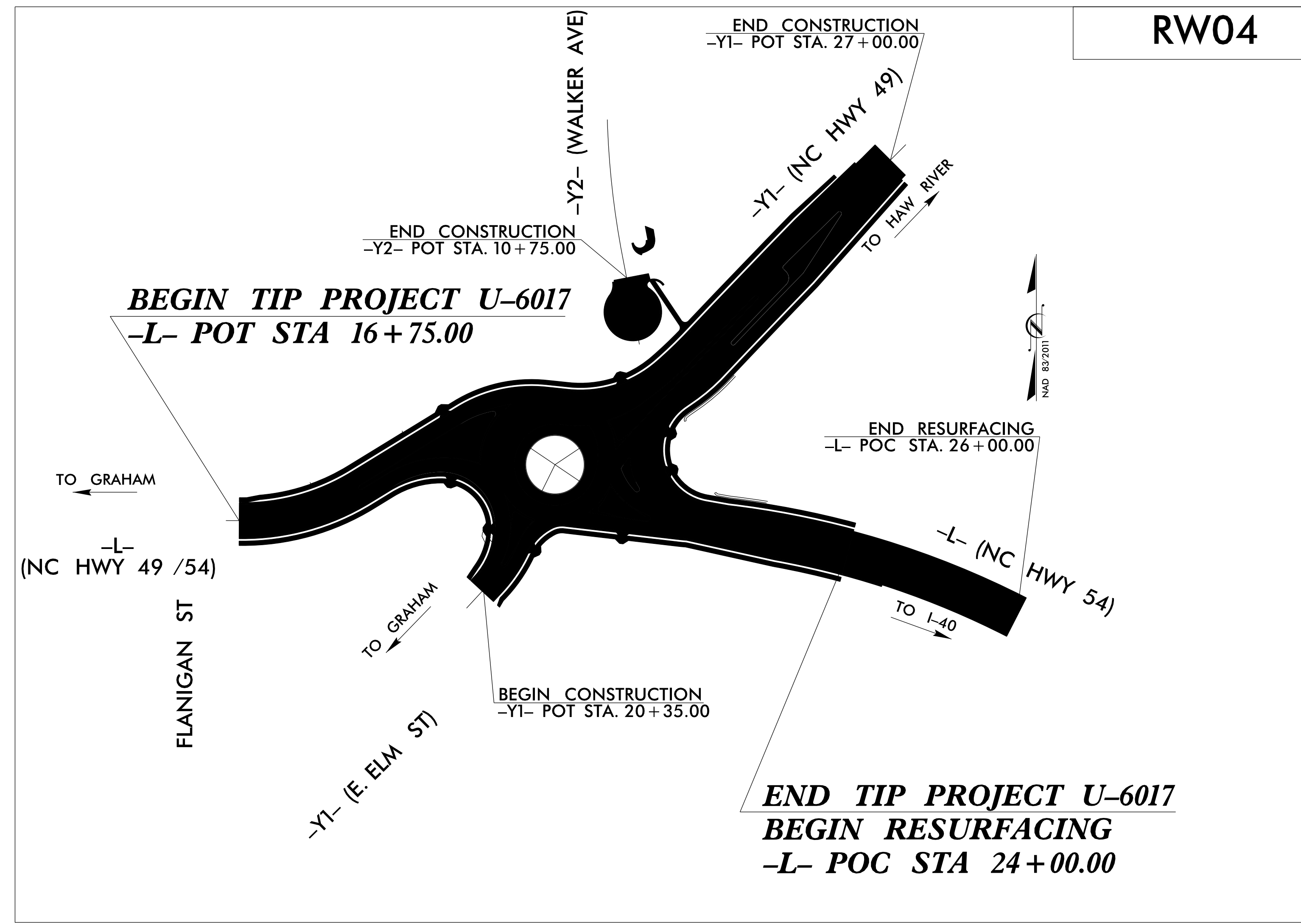
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N.C.	U-6017	RW01	5

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

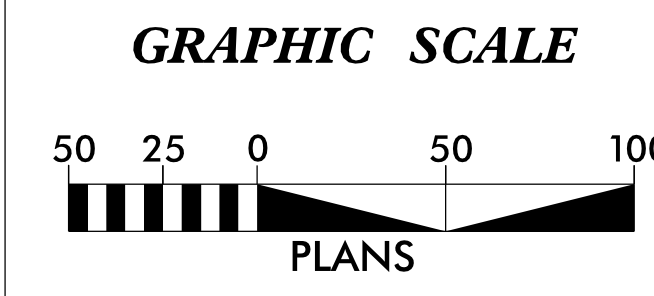
SURVEY CONTROL, EXISTING CENTERLINES,
RIGHT OF WAY, EASEMENTS AND PROPERTY TIES

ALAMANCE COUNTY

TIP PROJECT: U-6017



26-OCT-2022 16:46:46 E:\Projects\NCDOT\2022\JM01.069 U-6017 RW STAKING\04_Working_Files\01_MicroStation\01.DGN\221025 Revisions\U6017_Is_rw01_221026.dgn pdrtrucci AT ESPSZC061517



DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCGS FOR MONUMENT "U6017-1" WITH NAD 83/NSRS 2011 STATE PLANE GRID COORDINATES OF NORTHING: 844883.8804(ft) EASTING: 1883565.6660(ft) ELEVATION: 603.78'(ft)

THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.99993862

THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "U6017-1" TO -L- STATION 16+75.00 IS S 84-04'03.2" W 332.92(ft)

ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES VERTICAL DATUM USED IS NAVD88/GEOID G12BNC

Prepared in the Office of:

ESP ASSOCIATES, INC
7011 ALBERT PICK ROAD
SUITE E
GREENSBORO, NC 27409

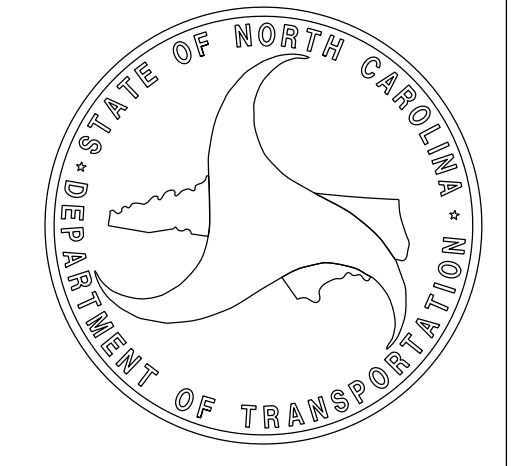
2018 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE: 01/18/2022	LETTING DATE: 06/15/2023
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PROFESSIONAL LAND SURVEYOR

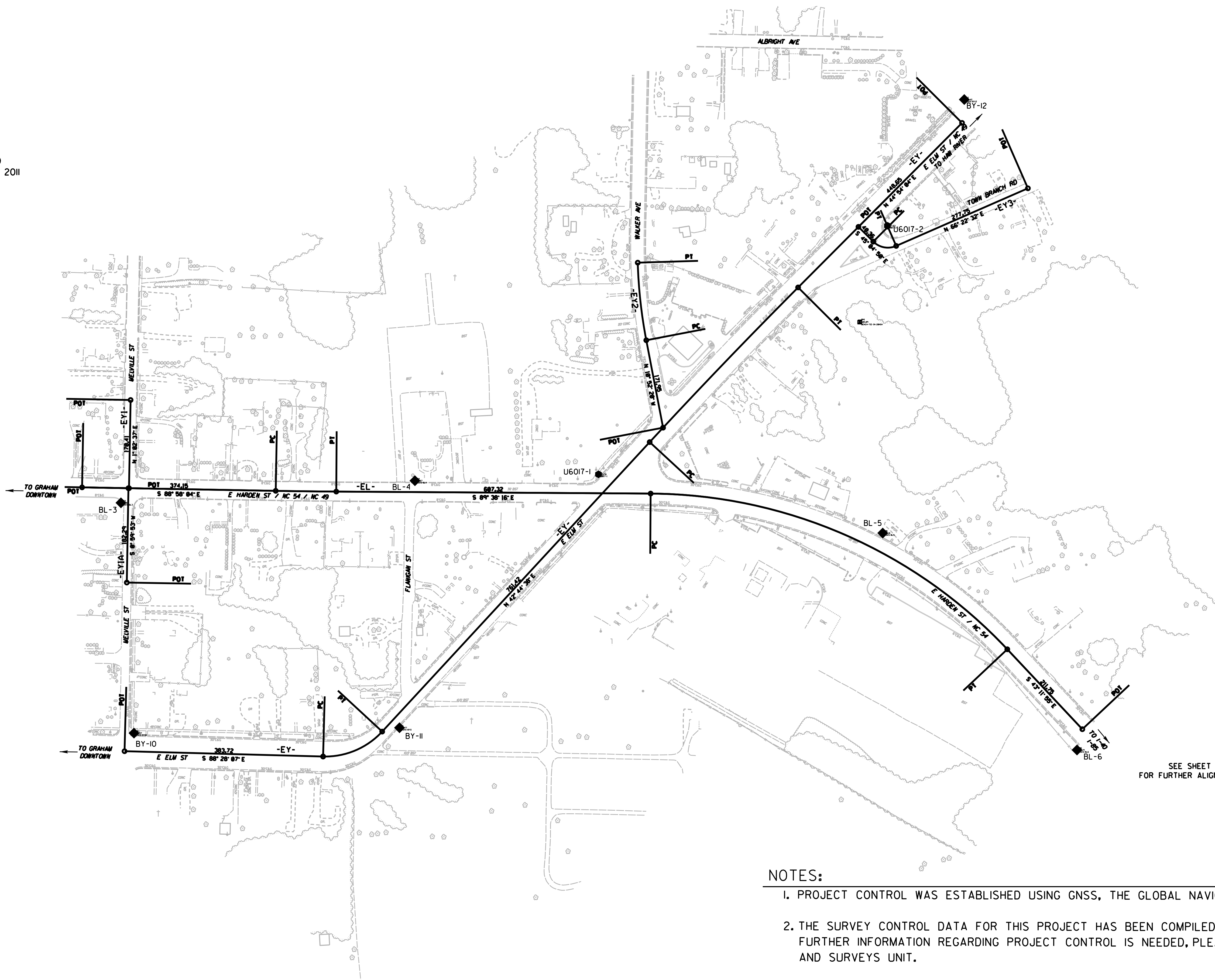
DocuSigned by:
John Scoville
30CFDF856DCB49D

Date: **10/26/2022**



SURVEY CONTROL SHEET

W/ EXISTING CENTERLINE ALIGNMENTS PRIOR TO CONSTRUCTION



SEE SHEET RW2C-2 FOR FURTHER ALIGNMENT DETAILS

- NOTES:**
- PROJECT CONTROL WAS ESTABLISHED USING GNSS, THE GLOBAL NAVIGATION SATELLITE SYSTEM.
 - THE SURVEY CONTROL DATA FOR THIS PROJECT HAS BEEN COMPILED FROM VARIOUS SOURCES. IF FURTHER INFORMATION REGARDING PROJECT CONTROL IS NEEDED, PLEASE CONTACT THE LOCATION AND SURVEYS UNIT.

6/2/09
18-SEP-2018 10:08 NCDOT\06359\6011.00 - U6017_Graham.dgn\U6017.LS.rw2c-1.dgn

SURVEY CONTROL SHEET

W/ EXISTING CENTERLINE ALIGNMENTS PRIOR TO CONSTRUCTION

6/2/99

EL

POINT	N	E	BEARING	DIST	DELTA	D	L	T	R
POT	844858.724	1882568.000							
LINE			S 88°58'03.5" E	374.15					
PC	844851.983	1882942.086							
CURVE			S 89°18'09.9" E	116.98	00°40'12.8"(L.T)	00°34'22.6"	116.98	58.49	10000.00
PT	844850.560	1883059.054							
LINE			S 89°38'16.3" E	607.32					
PC	844846.721	1883666.363							
CURVE			S 66°25'05.6" E	751.84	46°26'21.5"(RT)	06°00'32.5"	772.82	409.05	953.49
PT	844545.941	1884355.419							
LINE			S 43°11'54.9" E	211.75					
POT	844391.576	1884500.370							

EY

POINT	N	E	BEARING	DIST	DELTA	D	L	T	R
POT	844349.070	1882650.016							
LINE			S 88°28'07.3" E	383.72					
PC	844338.816	1883033.602							
CURVE			N 67°08'15.5" E	123.90	48°47'14.4"(L.T)	38°11'49.9"	127.72	68.02	150.00
PT	844386.954	1883147.769							
LINE			N 42°44'38.3" E	761.42					
PC	844946.134	1883664.561							
CURVE			N 43°49'20.9" E	414.09	02°09'25.3"(RT)	00°31'15.1"	414.12	207.08	11000.00
PT	845244.898	1883951.291							
LINE			N 44°54'03.8" E	448.65					
POT	845562.691	1884267.988							

EY1

POINT	N	E	BEARING	DIST
POT	844857.091	1882658.643		
LINE			N 01°02'37.1" E	170.41
POT	845027.469	1882661.747		

EY1A

POINT	N	E	BEARING	DIST
POT	844857.110	1882657.552		
LINE			S 00°59'53.1" W	182.29
POT	844674.846	1882654.377		

EY2

POINT	N	E	BEARING	DIST	DELTA	D	L	T	R
POT	844974.008	1883690.412							
LINE			N 10°52'20.0" W	171.95					
PC	845142.873	1883657.978							
CURVE			N 06°17'36.2" W	150.79	09°09'27.6"(RT)	06°03'59.7"	150.95	75.64	944.45
PT	845142.873	1883657.978							

EY3

POINT	N	E	BEARING	DIST	DELTA	D	L	T	R
POT	845361.915	1884067.904							
LINE			S 45°04'49.9" E	40.36					
PC	845333.417	1884096.483							
CURVE			S 79°21'08.8" E	45.05	68°32'37.9"(L.T)	143°14'22.0"	47.85	27.26	40.00
PT	845325.093	1884140.757							
LINE			N 66°22'32.2" E	277.75					
POT	845436.396	1884395.225							

REVISIONS

6/2/99 11:58 AM

NOTES:

- 1. PROJECT CONTROL WAS ESTABLISHED USING GNSS, THE GLOBAL NAVIGATION SATELLITE SYSTEM.
- 2. THE SURVEY CONTROL DATA FOR THIS PROJECT HAS BEEN COMPILED FROM VARIOUS SOURCES. IF FURTHER INFORMATION REGARDING PROJECT CONTROL IS NEEDED, PLEASE CONTACT THE LOCATION AND SURVEYS UNIT.

PROPOSED ALIGNMENT CONTROL SHEET

PROJECT REFERENCE NO. U-6017	SHEET NO. RW02D-1
Location and Surveys	
<div style="font-size: 8px; margin-top: 5px;"> ESP ASSOCIATES, INC. 7011 ALBERT PICK ROAD GREENSBORO, NC </div>	
PROJECT SURVEYOR 	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

L

TYPE	STATION	NORTH	EAST
POT	10+00.00	844859.0244	1882559.6095
PC	13+76.24	844852.0477	1882935.7826
PT	15+01.84	844850.5072	1883061.3787
PC	16+77.43	844849.4565	1883236.9643
PT	18+16.33	844886.2711	1883369.0508
PC	19+06.74	844933.4985	1883446.1466
PT	20+21.02	844931.1457	1883554.2786
PC	21+16.03	844878.0406	1883633.0585
PRC	22+20.16	844844.4048	1883730.3681
PT	29+26.74	844547.6100	1884353.7315
POT	31+47.94	844386.4493	1884505.2432

RAB

TYPE	STATION	NORTH	EAST
PC	10+00.00	844936.8379	1883544.7289
PCC	10+91.73	844937.1918	1883622.2940
PCC	11+46.70	844885.3696	1883622.1862
PCC	12+13.52	844869.6815	1883563.0115
PT	12+92.17	844936.8379	1883544.7289

Y1

TYPE	STATION	NORTH	EAST
POT	10+00.00	844349.0699	1882650.0160
PC	13+83.72	844338.8156	1883033.6018
PT	15+11.45	844386.9536	1883147.7693
PC	20+49.18	844781.8632	1883512.7430
PT	20+92.18	844817.1653	1883537.0342
POT	21+97.27	844911.3611	1883583.6285
PC	22+94.62	844965.4403	1883664.5786
PRC	24+06.83	845037.6757	1883750.1356
PRC	24+06.83	845037.6757	1883750.1356
PT	26+95.64	845244.8982	1883951.2910
POT	31+44.29	845562.6914	1884267.9878

Y2

TYPE	STATION	NORTH	EAST
POT	10+00.00	845044.2782	1883676.9149
PC	11+00.40	845142.8733	1883657.9780
PT	12+51.35	845292.7561	1883641.4413

RTL

TYPE	STATION	NORTH	EAST
PC	10+00.00	844860.4539	1883719.1604
PT	11+40.12	844967.5558	1883692.4584

I, John P. Scoville, III, PLS, CFS certify that the data compiled came from available surveys/mapping performed by others and provided to me by NCDOT and do not certify to the accuracy or quality of the individual data sources.

This 26th day of October, 2022.

DocuSigned by:

 John Scoville
 Professional Land Surveyor L-3343


REVISIONS

25-OCT-2022 16:46
 E:\Projects\2022\J01\069 U-6017 RW STAKING\04_Working_Files\01_MicroStation\01_DGN\221025_Revisions\06017_1s_rw02d-1_221026.dgn
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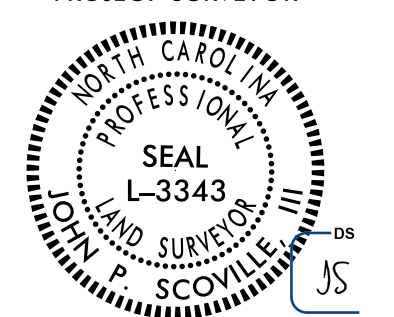
NOTES:

1. PROJECT CONTROL WAS ESTABLISHED USING GNSS, THE GLOBAL NAVIGATION SATELLITE SYSTEM.
2. THE PROPOSED ALIGNMENT CONTROL DATA FOR THIS PROJECT HAS BEEN COMPILED FROM VARIOUS SOURCES. IF FURTHER INFORMATION REGARDING PROJECT CONTROL IS NEEDED, PLEASE CONTACT THE LOCATION AND SURVEYS UNIT.

RIGHT OF WAY CONTROL SHEET

PROJECT REFERENCE NO. U-6017	SHEET NO. RW03E-1
Location and Surveys	
	
<small>ESP ASSOCIATES, INC. 7011 ALBERT PICK ROAD GREENSBORO, NC</small>	

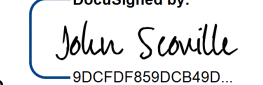
PROJECT SURVEYOR



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

I, John P. Scoville, III, PLS, CFS, certify that the right of way and permanent easement monumentation for this project shown herein was completed under my direct and responsible charge from an actual survey made under my supervision; that all horizontal closures had a minimum ratio of precision of 1:10,000 (Class A). Field work was performed from 03/2022 to 10/26/2022, and all coordinates are based on NAD83/2011. That this survey was performed to meet the requirements of 21NCAC 56.1600 as applicable.

This 26th day of October, 2022.

DocuSigned by:

Professional Land Surveyor L-3343

ROW MARKER IRON PIN AND CAP-E

ALIGN	STATION	OFFSET	NORTH	EAST
** L	16+55.50	30.00	844819.5883	1883214.8556
L	16+77.43	30.00	844819.4571	1883236.7848
L	17+00.00	-28.07	844878.3061	1883257.1437
* L	17+40.04	30.00	844827.7767	1883306.2283
L	17+65.00	-35.00	844897.0688	1883311.0278
L	17+65.00	-30.00	844892.3622	1883312.7154
** L	19+68.00	-60.00	845007.9094	1883508.4455
L	22+45.00	-36.00	844878.1074	1883758.6631
* L	22+62.00	-34.00	844874.2267	1883775.9726
L	22+65.00	30.28	844810.0394	1883771.3839
* L	24+00.00	-34.00	844847.3745	1883916.2388
* L	24+00.00	-29.64	844843.1673	1883915.1116
L	24+00.00	30.36	844785.2114	1883899.5836
L	24+00.00	34.00	844781.6913	1883898.6404

* =MAG NAIL SET
 ** =12" SPIKE WITH CAP

ROW MARKER IRON PIN AND CAP-E

ALIGN	STATION	OFFSET	NORTH	EAST
* Y1	20+35.00	15.00	844761.2663	1883514.1324
* Y1	20+35.00	25.00	844754.4791	1883521.4763
* Y1	20+35.00	-25.48	844788.7389	1883484.4065
* Y1	20+79.00	-38.63	844825.7227	1883497.6882
* Y1	21+11.00	37.80	844817.2711	1883579.2619
Y1	22+75.00	-62.00	845006.0929	1883613.8194
Y1	23+40.00	38.00	844962.7681	1883725.0000
Y1	23+67.33	-121.17	845100.0140	1883640.6920
* Y1	23+96.00	43.00	844999.6727	1883773.2053
Y1	24+16.00	-38.00	845070.4648	1883728.8470
* Y1	24+27.00	-106.51	845125.6376	1883686.7454
* Y1	25+45.00	42.00	845108.2342	1883875.8437
Y1	25+80.00	-37.00	845188.4006	1883843.6135
Y1	26+92.59	33.68	845218.9712	1883972.9966
* Y1	26+94.40	-31.08	845265.9611	1883928.3972
* Y1	26+94.55	-30.00	845265.3015	1883929.2705

* =MAG NAIL SET

RIGHT OF WAY MARKER NOTES:


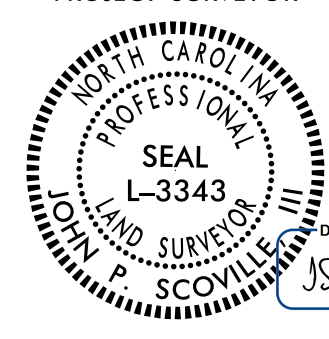
1. ALL RW MARKERS SET WITH IRON PIN AND CAPS UNLESS DENOTED WITH * AND DESCRIBED BELOW TABLE.

NOTES:

1. IF FURTHER INFORMATION REGARDING PROJECT CONTROL IS NEEDED PLEASE CONTACT THE LOCATION AND SURVEYS UNIT.
2. PROJECT CONTROL WAS ESTABLISHED USING GNSS, THE GLOBAL NAVIGATION SATELLITE SYSTEM.
3. RIGHT OF WAY MONUMENTATION ESTABLISHED MARCH AND REVISED ON OCT 2022.

REVISIONS
 25-OCT-2022 16:46
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 ppetr.usca

RIGHT OF WAY CONTROL SHEET

PROJECT REFERENCE NO.	SHEET NO.
U-6017	RW03E-2
Location and Surveys	
	
<small>ESP ASSOCIATES, INC. 7011 ALBERT PICK ROAD GREENSBORO, NC</small>	
<small>PROJECT SURVEYOR</small> 	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

ROW MARKER PERMANENT EASEMENT-E

ALIGN	STATION	OFFSET	NORTH	EAST
* * L	16+65.00	30.00	844819.5314	1883224.3521
L	16+65.00	35.00	844814.5315	1883224.3222
L	17+88.00	79.00	844801.2701	1883377.4874
L	17+93.00	87.00	844796.9285	1883386.9478
L	17+95.00	72.50	844811.0912	1883382.8703
L	18+04.00	79.00	844810.7722	1883396.2734
L	18+09.42	83.22	844810.6055	1883404.5985
L	18+11.32	78.89	844815.6055	1883404.5985
L	18+11.34	84.78	844810.5454	1883407.5985
L	18+13.25	80.47	844815.5454	1883407.5985
L	18+75.69	-44.25	844955.0053	1883396.5532
L	18+75.69	-35.59	844947.6254	1883401.0740
L	18+92.73	-34.94	844955.9735	1883415.9427
L	18+92.73	-44.22	844963.8825	1883411.0979
L	18+96.88	-34.78	844958.0071	1883419.5645
L	19+00.00	-38.50	844962.8051	1883420.2842
L	19+41.00	-53.00	844997.9577	1883466.9275
L	19+41.00	-64.00	845008.7228	1883464.6660
L	19+43.50	-48.41	844994.1867	1883471.5107
L	19+46.00	-53.00	844999.3427	1883474.4503
L	19+50.00	-63.00	845010.1105	1883479.3445
L	19+54.00	-73.00	845020.7126	1883485.0635
L	19+61.00	-74.00	845022.2218	1883497.1532
L	19+66.00	-88.00	845036.0529	1883506.4518
L	19+69.00	-76.00	845023.7582	1883511.2077
L	19+71.00	-83.00	845030.4364	1883515.3651
L	22+42.00	-81.50	844923.7019	1883759.9011
L	22+98.00	-67.00	844901.7985	1883817.9926
L	23+02.00	-60.00	844894.2189	1883821.1166
* L	23+09.00	-65.00	844897.9476	1883829.2871
* L	24+95.00	-46.00	844828.4258	1884014.1031
* * * L	26+70.00	-29.73	844734.1861	1884170.3170
L	26+70.00	-52.00	844753.2212	1884181.8827

* =MAG NAIL SET
 ** =12" SPIKE WITH CAP
 *** =12" SPIKE ON EDGE OF FIRE HYDRANT

ROW MARKER PERMANENT EASEMENT-E

ALIGN	STATION	OFFSET	NORTH	EAST
*Y1	20+17.00	-25.52	844775.5489	1883472.1579
*Y1	20+35.00	-56.00	844809.4557	1883461.9904
Y1	23+00.84	-83.00	845037.3640	1883622.7667
*Y1	23+43.00	55.00	844951.6473	1883738.2694
Y1	24+21.07	-69.49	845095.8259	1883709.4943
*Y1	24+48.13	-44.75	845098.4966	1883746.1645
Y1	24+49.00	75.00	845016.5224	1883833.4632
Y1	24+53.00	61.00	845029.0593	1883826.0720
Y1	24+59.00	79.00	845020.9478	1883843.2110
Y1	24+64.00	64.00	845034.9000	1883835.7940
*Y1	25+31.50	-47.77	845160.9855	1883801.9622
*Y1	25+31.50	-44.09	845158.4266	1883804.6077
*Y1	25+31.50	-37.04	845153.5251	1883809.6752
Y1	25+48.50	-37.00	845165.7495	1883821.5712
Y1	25+48.50	-44.03	845170.6463	1883816.5242
Y1	25+48.50	-47.49	845173.0528	1883814.0439
Y1	25+83.00	-44.00	845195.4448	1883840.7074
* * * Y1	25+83.00	-60.00	845206.6223	1883829.2591
Y1	25+83.83	56.50	845125.8269	1883913.1939
Y1	25+83.83	66.50	845118.8404	1883920.3486
Y1	25+93.00	-44.00	845202.6254	1883847.7246
Y1	25+93.00	-60.00	845213.8133	1883836.2865
Y1	25+93.83	55.00	845133.9906	1883919.0755
* * Y1	25+93.83	66.50	845125.9487	1883927.2961
Y1	26+49.00	36.34	845186.2492	1883944.2886
Y1	26+93.42	-38.24	845270.3162	1883922.6319

* = MAG NAIL SET
 ** = 12" SPIKE WITH CAP
 *** = PAINT MARK ON PLASTIC DROP INLET

PERMANENT EASEMENT MARKER NOTES:

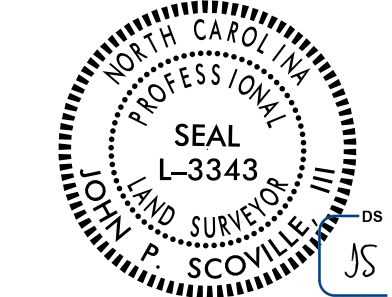
1. PERMANENT EASEMENT MARKERS SET WITH IRON PIN AND CAPS UNLESS DENOTED WITH * AND DESCRIBED BELOW TABLE.

NOTES:

1. IF FURTHER INFORMATION REGARDING PROJECT CONTROL IS NEEDED PLEASE CONTACT THE LOCATION AND SURVEYS UNIT.
2. PROJECT CONTROL WAS ESTABLISHED USING GNSS, THE GLOBAL NAVIGATION SATELLITE SYSTEM.
3. RIGHT OF WAY MONUMENTATION ESTABLISHED MARCH AND REVISED ON OCT 2022.



PROJECT SURVEYOR



DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

-L-

PI Sta 14+39.04 Δ = 0° 43' 10.8" (LT) D = 0' 34' 22.6" L = 125.61' T = 62.80' R = 10,000.00'	PI Sta 17+48.73 Δ = 31° 50' 01.2" (LT) D = 22° 55' 05.9" L = 138.90' T = 71.29' R = 250.00'	PI Sta 19+71.04 Δ = 65° 28' 28.4" (RT) D = 57° 17' 44.8" L = 114.27' T = 64.29' R = 100.00'
---	--	--

-RTL-

PI Sta 11+40.68 Δ = 133° 48' 15.2" (RT) D = 95° 29' 34.7" L = 140.12' T = 140.68' R = 60.00'

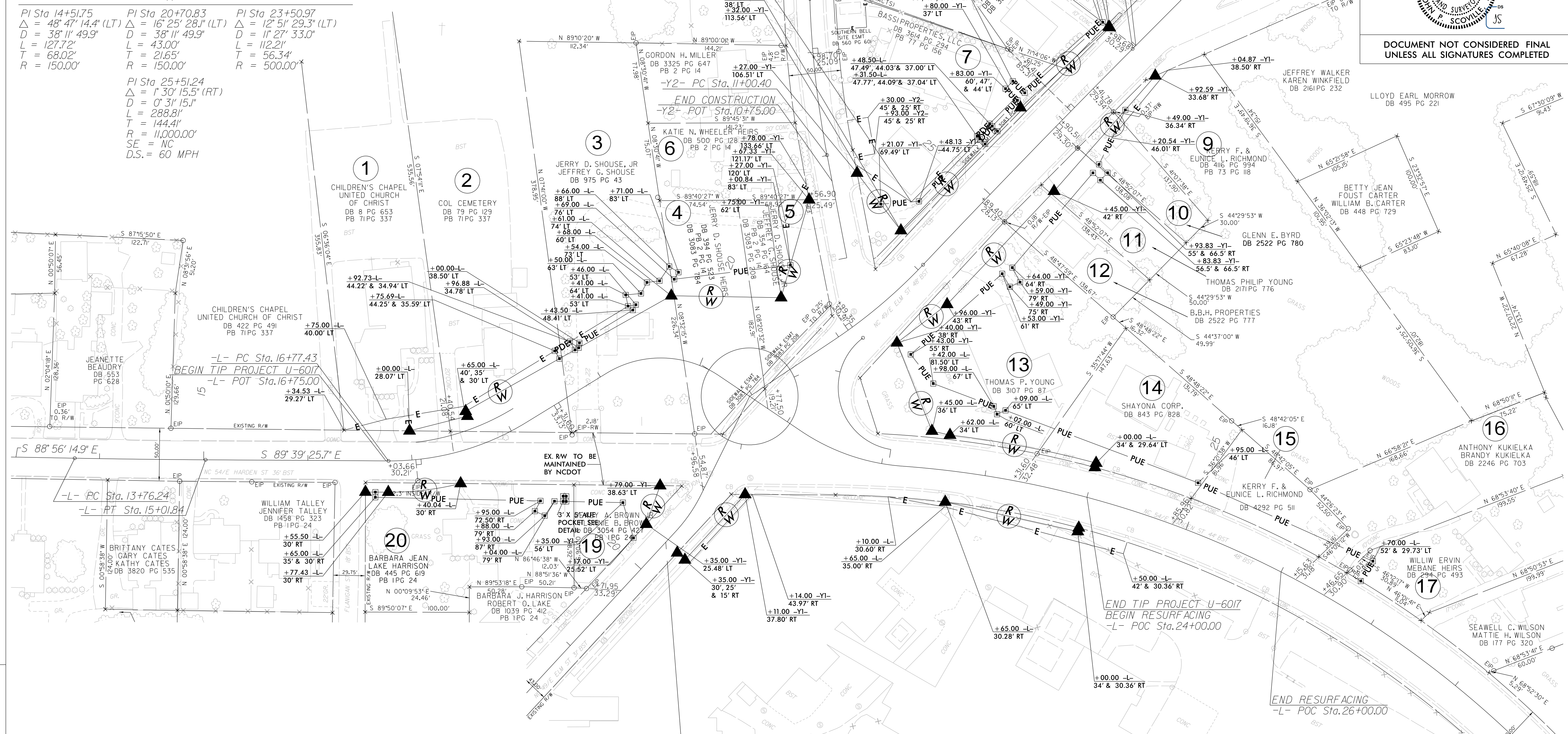
-Y2-

PI Sta 11+76.03 Δ = 9° 09' 08.4" (RT) D = 6° 03' 47.0" L = 150.95' T = 75.64' R = 945.00'
--

-Y1-

PI Sta 14+51.75 Δ = 48° 47' 14.4" (LT) D = 38° 11' 49.9" L = 127.72' T = 68.02' R = 150.00'	PI Sta 20+70.83 Δ = 16° 25' 28.1" (LT) D = 38° 11' 49.9" L = 43.00' T = 21.65' R = 150.00'	PI Sta 23+50.97 Δ = 12° 51' 29.3" (LT) D = 11° 27' 33.0" L = 112.21' T = 56.34' R = 500.00'
--	---	--

PI Sta 25+51.24
Δ = 1° 30' 15.5" (RT)
D = 0° 31' 15.1"
L = 288.81'
T = 144.41'
R = 11,000.00'
SE = NC
D.S. = 60 MPH

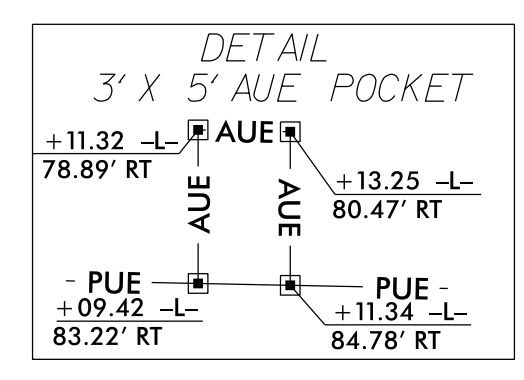


I, John P. Scoville, III, PLS, CFS certify that the right of way and permanent easement monumentation for this project shown herein was completed under my direct and responsible charge from an actual survey made under my supervision; that all horizontal closures had a minimum ratio of precision of 1:10,000 (Class A). Field work was performed from 03/2022 to 10/26/2022, and all coordinates are based on NAD83/2011; That this survey was performed to meet the requirements of 21NCAC 56.1600 as applicable.

This 26th day of October, 2022.

DocuSigned by:
John Scoville
93023F89028400

Professional Land Surveyor L-3343



NOTES:

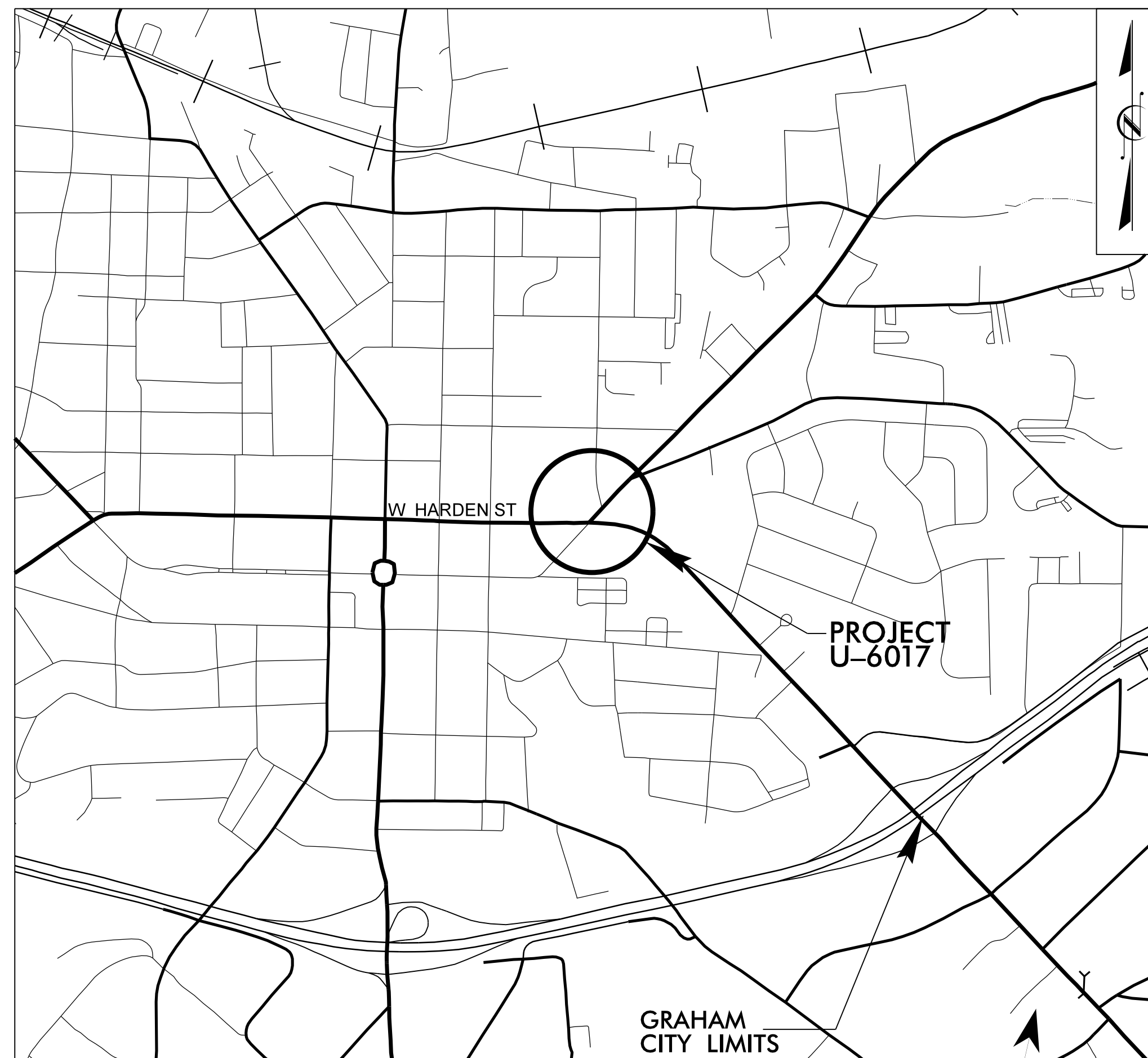
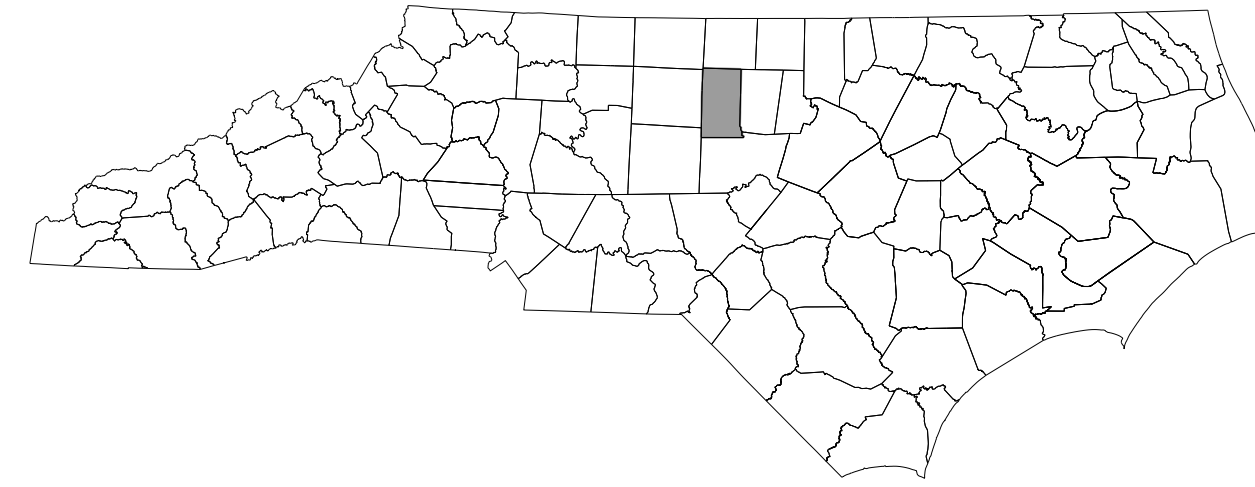
1. IF FURTHER INFORMATION REGARDING PROJECT CONTROL IS NEEDED PLEASE CONTACT THE LOCATION AND SURVEYS UNIT.
2. PROJECT CONTROL WAS ESTABLISHED USING GNSS, THE GLOBAL NAVIGATION SATELLITE SYSTEM.
3. RIGHT OF WAY MONUMENTATION ESTABLISHED MARCH 2022 AND REVISED ON OCT 2022.

REVISIONS
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 6/2/09

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

TRANSPORTATION MANAGEMENT PLAN

ALAMANCE COUNTY



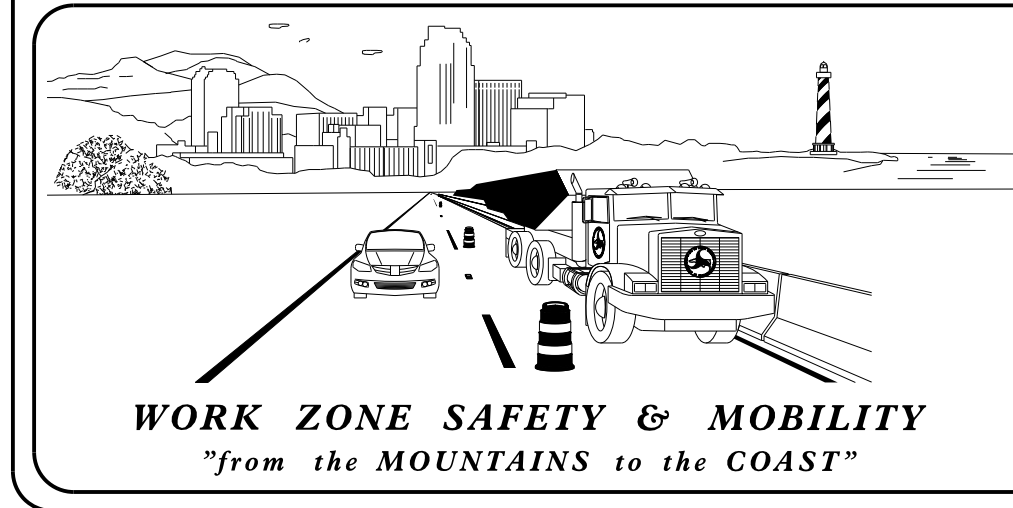
INDEX OF SHEETS

SHEET NO.	TITLE
TMP-1	TITLE SHEET, VICINITY MAP AND INDEX OF SHEETS
TMP-1A	LIST OF APPLICABLE ROADWAY STANDARD DRAWINGS AND LEGEND
TMP-1B	GENERAL NOTES
TMP-2	PHASING
TMP-3	PHASE I DETAIL SHEET
TMP-4	PHASE II DETAIL SHEET
TMP-5	PHASE III DETAIL SHEET
TMP-6	PHASE IV DETAIL SHEET
TMP-7	PAVING SEQUENCE DETAIL

SHEET NO.
TMP-1

CONTRACT: DG00613 TIP PROJECT: U-6017

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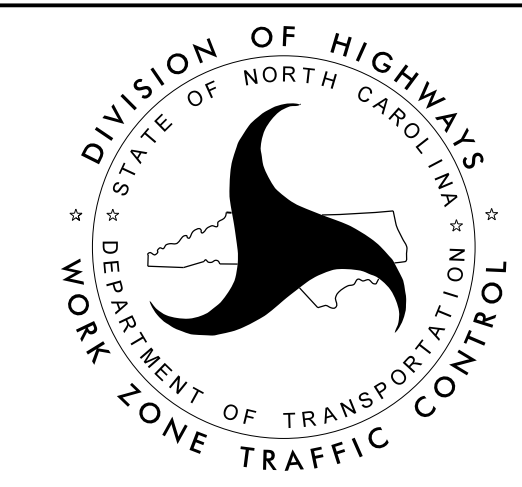
PLANS PREPARED BY:

DAVID GARRETT
PROJECT ENGINEER

DAVID L. WILVER, P.E.
PROJECT DESIGN ENGINEER

NGDOT CONTACT:

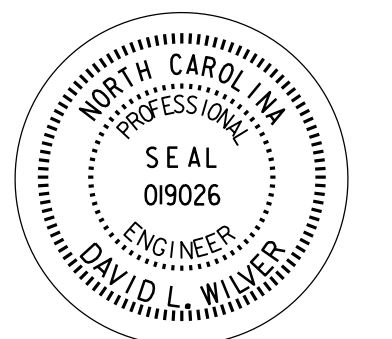
CHRIS SMITHERMAN, P.E.
NGDOT PROJECT ENGINEER



PLANS PREPARED BY:
PARSONS
5540 CENTERVIEW DR., SUITE 217
RALEIGH, NORTH CAROLINA 27606
NC LICENSE NO: F-0246
FOR NORTH CAROLINA DEPT. OF TRANSPORTATION

APPROVED: *David L. Wilver, P.E.*
DATE: 7/3/2023

SEAL



ROADWAY STANDARD DRAWINGS

THE FOLLOWING ROADWAY STANDARDS AS APPEAR IN "ROADWAY STANDARD DRAWINGS" CONTRACTS STANDARDS AND DEVELOPMENT UNIT - N. C. DEPARTMENT OF TRANSPORTATION- RALEIGH, N. C., DATED JANUARY 16, 2024 ARE APPLICABLE TO THIS PROJECT AND BY REFERENCE HEREBY ARE CONSIDERED A PART OF THESE PLANS:

STD. NO.	TITLE
1101.01	WORK ZONE ADVANCE WARNING SIGNS
1101.02	TEMPORARY LANE CLOSURES
1101.04	TEMPORARY SHOULDER CLOSURES
1101.11	TRAFFIC CONTROL DESIGN TABLES
1110.01	STATIONARY WORK ZONE SIGNS
1110.02	PORTABLE WORK ZONE SIGNS
1115.01	FLASHING ARROW BOARDS
1130.01	DRUM
1145.01	BARRICADES - TYPE III
1150.01	FLAGGERS
1165.01	TRUCK MOUNTED ATTENUATOR
1205.01	PAVEMENT MARKINGS - LINE TYPES AND OFFSETS
1205.02	PAVEMENT MARKINGS - TWO-LANE AND MULTI-LANE ROADWAYS
1205.04	PAVEMENT MARKINGS - INTERSECTIONS
1205.05	PAVEMENT MARKINGS - TURN LANES
1205.06	PAVEMENT MARKINGS - LANE DROPS
1205.07	PAVEMENT MARKINGS - PEDESTRIAN CROSSWALKS
1205.08	PAVEMENT MARKINGS - SYMBOLS AND WORD MESSAGES
1205.09	PAVEMENT MARKINGS - PAINTED ISLANDS
1205.14	PAVEMENT MARKINGS - ROUNDABOUTS

LEGEND

PROJ. REFERENCE NO.	SHEET NO.
U-6017	TMP-1A

GENERAL

- DIRECTION OF TRAFFIC FLOW
- DIRECTION OF PEDESTRIAN TRAFFIC FLOW
- EXIST. PVMT.
- NORTH ARROW
- PROPOSED PVMT.
- TEMP. SHORING (LOCATION PURPOSES ONLY)

- WORK AREA
- REMOVAL
- ONGOING CONSTRUCTION
- TEMPORARY PAVEMENT
- WEDGING

TRAFFIC CONTROL DEVICES

- BARRICADE (TYPE III)
- CONE
- DRUM SKINNY DRUM TUBULAR MARKER
- TEMPORARY CRASH CUSHION
- FLASHING ARROW BOARD
- FLAGGER
- LAW ENFORCEMENT
- TRUCK MOUNTED ATTENUATOR (TMA)
- CHANGEABLE MESSAGE SIGN

TEMPORARY SIGNING

- PORTABLE SIGN
- STATIONARY SIGN
- STATIONARY OR PORTABLE SIGN

PAVEMENT MARKERS

- CRYSTAL/CRYSTAL
- CRYSTAL/RED
- YELLOW/YELLOW

PAVEMENT MARKING SYMBOLS

- PAVEMENT MARKING SYMBOLS

SIGNALS

- EXISTING
- TEMPORARY

PAVEMENT MARKINGS

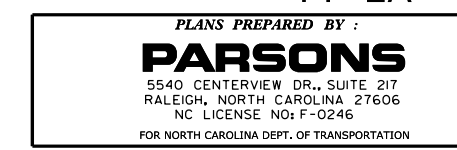
- EXISTING LINES
- TEMPORARY LINES

TEMPORARY PAVEMENT MARKING

SYMBOL	DESCRIPTION	PAY ITEM	QTY.
<u>PAVEMENT MARKING LINES</u>			
		PAINT (4")	
P1	WHITE EDGELINE		
P2	WHITE SOLID LANE LINE		
P3	10 FT WHITE SKIP		
P10	YELLOW EDGELINE		
P13	YELLOW DOUBLE CENTER		
TOTAL	4"		7146 LF
		PAINT (6")	
P22	10 FT WHITE SKIP		
P23	3 FT - 9 FT/SP WHITE MINISKIP		
TOTAL	6"		178 LF
		PAINT (8")	
P40	WHITE GORELINE		
P41	WHITE DIAGONAL		
P44	3 FT - 9 FT/SP WHITE MINISKIP		
TOTAL	8"		314 LF
		PAINT (24")	
P62	WHITE CROSSWALK LINE		
TOTAL	24"		264 LF
<u>PAVEMENT MARKING CHARACTER</u>			
		PAINT CHARACTER	
P100	ALPHANUMERIC CHARACTER		
TOTAL			4 EA
<u>PAVEMENT MARKING SYMBOLS</u>			
		PAINT SYMBOL	
P71	RIGHT TURN ARROW		
P103	24" YIELD LINE TRIANGLE		
TOTAL			58 EA
<u>PAVEMENT MARKING REMOVAL</u>			
	4" PAVEMENT MARKING REMOVAL		2526 LF
	24" REMOVAL OF PAVEMENT MARKING		264 LF
	REMOVAL OF PAVEMENT MARKING SYMBOLS & CHARACTERS		11 EA

NOTE: FOR EACH PAINT PAVEMENT MARKING ITEM, REFER TO GENERAL NOTE (R) FOR NUMBER OF APPLICATIONS.

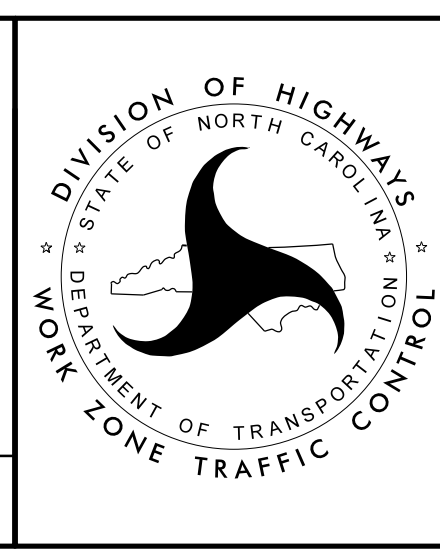
09-FEB-2024 13:37 U:\U-6017\TrafficControl\TCP\U-6017_TC_TMP_01A.dgn \$\$\$USERNAME\$\$\$



APPROVED: DATE: 2/14/2024

SEAL

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ROADWAY STANDARD DRAWINGS & LEGEND

GENERAL NOTES

PROJ. REFERENCE NO.	SHEET NO.
U-6017	TMP-1B

CHANGES MAY BE REQUIRED WHEN PHYSICAL DIMENSIONS IN THE DETAIL DRAWINGS, STANDARD DETAILS, AND ROADWAY DETAILS ARE NOT ATTAINABLE TO MEET FIELD CONDITIONS OR RESULT IN DUPLICATE OR UNDESIRE OVERLAPPING OF DEVICES. MODIFICATION MAY INCLUDE: MOVING, SUPPLEMENTING, COVERING, OR REMOVAL OF DEVICES AS DIRECTED BY THE ENGINEER.

THE FOLLOWING GENERAL NOTES APPLY AT ALL TIMES FOR THE DURATION OF THE CONSTRUCTION PROJECT EXCEPT WHEN OTHERWISE NOTED IN THE PLAN OR DIRECTED BY THE ENGINEER.

TIME RESTRICTIONS

A) DO NOT CLOSE OR NARROW TRAVEL LANES AS FOLLOWS:

ROAD NAME	DAY AND TIME RESTRICTIONS
NC 54 (-L-) & NC 49 (-Y1-)	MONDAY - FRIDAY 6:00 AM TO 9:00 AM 4:00 PM TO 6:00 PM SATURDAY - SUNDAY 7:00 AM TO 9:00 PM

B) DO NOT CLOSE OR NARROW TRAVEL LANES DURING HOLIDAYS AND SPECIAL EVENTS AS FOLLOWS:

ROAD NAME

NC 54 (-L-)
NC 49 (-Y1-)

HOLIDAY

- FOR ANY UNEXPECTED OCCURRENCE THAT CREATES UNUSUALLY HIGH TRAFFIC VOLUMES, AS DIRECTED BY THE ENGINEER.
- FOR NEW YEAR'S, BETWEEN THE HOURS OF 6:00 A.M. DECEMBER 31st TO 6:00 P.M. JANUARY 2ND. IF NEW YEAR'S DAY IS ON A FRIDAY, SATURDAY, SUNDAY, OR MONDAY THEN UNTIL 6:00 P.M. THE FOLLOWING TUESDAY.
- FOR EASTER, BETWEEN THE HOURS OF 6:00 A.M. THURSDAY AND 6:00 P.M. MONDAY.
- FOR MEMORIAL DAY, BETWEEN THE HOURS OF 6:00 A.M. FRIDAY TO 6:00 P.M. TUESDAY.
- FOR INDEPENDENCE DAY, BETWEEN THE HOURS OF 6:00 A.M. THE DAY BEFORE INDEPENDENCE DAY AND 6:00 P.M. THE DAY AFTER INDEPENDENCE DAY.

IF INDEPENDENCE DAY IS ON A FRIDAY, SATURDAY, SUNDAY OR MONDAY THEN BETWEEN THE HOURS OF 6:00 A.M. THE THURSDAY BEFORE INDEPENDENCE DAY AND 6:00 P.M. THE TUESDAY AFTER INDEPENDENCE DAY.

- FOR LABOR DAY, BETWEEN THE HOURS OF 6:00 A.M. FRIDAY AND 6:00 P.M. TUESDAY.
- FOR THANKSGIVING DAY, BETWEEN THE HOURS OF 6:00 A.M. TUESDAY TO 6:00 P.M. MONDAY.
- FOR CHRISTMAS, BETWEEN THE HOURS OF 6:00 A.M. THE FRIDAY BEFORE THE WEEK OF CHRISTMAS DAY AND 6:00 P.M. THE FOLLOWING TUESDAY AFTER THE WEEK OF CHRISTMAS.

C) DO NOT CONDUCT ANY HAULING OPERATIONS AGAINST THE FLOW OF TRAFFIC OF AN OPEN TRAVELWAY UNLESS THE HAULING OPERATION IS PROTECTED BY BARRIER OR GUARDRAIL OR AS DIRECTED BY THE ENGINEER.

LANE AND SHOULDER CLOSURE REQUIREMENTS

- REMOVE LANE CLOSURE DEVICES FROM THE LANE WHEN WORK IS NOT BEING PERFORMED BEHIND THE LANE CLOSURE OR WHEN A LANE CLOSURE IS NO LONGER NEEDED OR AS DIRECTED BY THE ENGINEER.
- WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING WITHIN 15 FT OF AN OPEN TRAVEL LANE, CLOSE THE NEAREST OPEN SHOULDER USING ROADWAY STANDARD DRAWING NO. 1101.04 UNLESS THE WORK AREA IS PROTECTED BY BARRIER OR GUARDRAIL OR A LANE CLOSURE IS INSTALLED.
- WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING ON THE SHOULDER ADJACENT TO AN UNDIVIDED FACILITY AND WITHIN 5 FT OF AN OPEN TRAVEL LANE, CLOSE THE NEAREST OPEN TRAVEL LANE USING ROADWAY STANDARD DRAWING NO. 1101.02 UNLESS THE WORK AREA IS PROTECTED BY BARRIER OR GUARDRAIL.

WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING ON THE SHOULDER ADJACENT TO A DIVIDED FACILITY AND WITHIN 10 FT OF AN OPEN TRAVEL LANE, CLOSE THE NEAREST OPEN TRAVEL LANE USING ROADWAY STANDARD DRAWING NO. 1101.02 UNLESS THE WORK AREA IS PROTECTED BY BARRIER OR GUARDRAIL.

G) WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING WITHIN A LANE OF TRAVEL OF AN UNDIVIDED OR DIVIDED FACILITY, CLOSE THE LANE ACCORDING TO THE TRAFFIC CONTROL PLANS, ROADWAY STANDARD DRAWINGS, OR AS DIRECTED BY THE ENGINEER. CONDUCT THE WORK SO THAT ALL PERSONNEL AND/OR EQUIPMENT REMAIN WITHIN THE CLOSED TRAVEL LANE.

H) DO NOT WORK SIMULTANEOUSLY WITHIN 15 FT ON BOTH SIDES OF AN OPEN TRAVELWAY, RAMP, OR LOOP WITHIN THE SAME LOCATION UNLESS PROTECTED WITH GUARDRAIL OR BARRIER.

PAVEMENT EDGE DROP OFF REQUIREMENTS

I) BACKFILL AT A 6:1 SLOPE UP TO THE EDGE AND ELEVATION OF EXISTING PAVEMENT IN AREAS ADJACENT TO AN OPENED TRAVEL LANE THAT HAS AN EDGE OF PAVEMENT DROP-OFF AS FOLLOWS:

BACKFILL DROP-OFFS THAT EXCEED 2 INCHES ON ROADWAYS WITH POSTED SPEED LIMITS OF 45 MPH OR GREATER.

BACKFILL DROP-OFFS THAT EXCEED 3 INCHES ON ROADWAYS WITH POSTED SPEED LIMITS LESS THAN 45 MPH.

BACKFILL WITH SUITABLE COMPACTED MATERIAL, AS APPROVED BY THE ENGINEER, AT NO EXPENSE TO THE DEPARTMENT.

J) DO NOT EXCEED A DIFFERENCE OF 2 INCHES IN ELEVATION BETWEEN OPEN LANES OF TRAFFIC FOR NOMINAL LIFTS OF 1.5 INCHES. INSTALL ADVANCE WARNING "UNEVEN LANES" SIGNS (W8-11) IN ADVANCE AND A MINIMUM OF EVERY HALF MILE THROUGHOUT THE UNEVEN AREA.

TRAFFIC PATTERN ALTERATIONS

K) NOTIFY THE ENGINEER THIRTY (30) CALENDAR DAYS PRIOR TO ANY TRAFFIC PATTERN ALTERATION.

SIGNING

L) INSTALL ADVANCE WORK ZONE WARNING SIGNS WHEN WORK IS WITHIN 40 FT FROM THE EDGE OF TRAVEL LANE AND NO MORE THAN THREE (3) DAYS PRIOR TO THE BEGINNING OF CONSTRUCTION.

M) ENSURE ALL NECESSARY SIGNING IS IN PLACE PRIOR TO ALTERING ANY TRAFFIC PATTERN.

N) INSTALL BLACK ON ORANGE "DIP" SIGNS (W8-2) AND/OR "BUMP" SIGNS (W8-1) 350 FT IN ADVANCE OF THE UNEVEN AREA, OR AS DIRECTED BY THE ENGINEER.

TRAFFIC CONTROL DEVICES

O) WHEN LANE CLOSURES ARE NOT IN EFFECT SPACE CHANNELIZING DEVICES IN WORK AREAS NO GREATER IN FEET THAN TWICE THE POSTED SPEED LIMIT (MPH) EXCEPT, 10 FT ON-CENTER IN RADII, AND 3 FT OFF THE EDGE OF AN OPEN TRAVELWAY. REFER TO STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES SECTIONS 1130 (DRUMS), 1135 (CONES) AND 1180 (SKINNY DRUMS) FOR ADDITIONAL REQUIREMENTS.

P) PLACE ADDITIONAL SETS OF THREE CHANNELIZING DEVICES DRUMS PERPENDICULAR TO THE EDGE OF TRAVELWAY ON 500 FT CENTERS WHEN UNOPENED LANES ARE CLOSED TO TRAFFIC.

PAVEMENT MARKINGS AND MARKERS

Q) INSTALL TEMPORARY PAVEMENT MARKINGS AND TEMPORARY PAVEMENT MARKERS ON INTERIM LAYERS OF PAVEMENT AS FOLLOWS:

ROAD NAME	MARKING	MARKER
ALL ROADS	PAINT	TEMPORARY RAISED

R) PLACE ONE APPLICATION OF PAINT FOR TEMPORARY TRAFFIC PATTERNS. PLACE A SECOND APPLICATION OF PAINT SIX (6) MONTHS AFTER THE INITIAL APPLICATION AND EVERY SIX MONTHS AS DIRECTED BY THE ENGINEER.

S) TIE PROPOSED PAVEMENT MARKING LINES TO EXISTING PAVEMENT MARKING LINES.

T) REMOVE/REPLACE ANY CONFLICTING/DAMAGED PAVEMENT MARKINGS AND MARKERS BY THE END OF EACH DAY'S OPERATION.

U) ALL CURB RAMP LOCATIONS SHALL BE DERIVED FROM STATIONING SHOWN ON PAVEMENT MARKING PLANS OR AS DIRECTED BY THE ENGINEER IN COORDINATION WITH THE SIGNING AND DELINEATION UNIT.

V) CONTRACTOR SHALL MAINTAIN SIDEWALK ACCESS AT ALL TIMES AS STATED IN THE PHASING. CONTRACTOR SHALL BE RESPONSIBLE TO PROVIDE TEMPORARY SIDEWALKS (CONCRETE, ASPHALT, OR OTHER SUITABLE MATERIAL AS APPROVED BY THE ENGINEER) AT ALL LOCATIONS WHERE THE OPEN PEDESTRIAN TRAVELWAY HAS BEEN REMOVED FOR CONSTRUCTION OPERATIONS (UTILITIES, DRAINAGE, ETC.).

MISCELLANEOUS

W) REPLACE MARKINGS AND RETURN TRAFFIC TO THE CURRENT TRAFFIC PATTERN AT THE END OF EACH WORK PERIOD UNLESS OTHERWISE NOTED IN THE PHASING OR DIRECTED BY THE ENGINEER.

X) COMPLETE ANY PROPOSED WIDENING IN SUCH A MANNER THAT PONDING OF WATER WILL NOT OCCUR IN THE TRAVEL LANE.

Y) MAINTAIN VEHICULAR ACCESS TO ALL RESIDENCES AND BUSINESSES DURING THE LIFE OF THE CONTRACT UNLESS OTHERWISE NOTED IN THE PHASING OR DIRECTED BY THE ENGINEER.

Z) WEDGING OPERATIONS SHOULD BE DONE IN SUCH A MANNER THAT SMOOTH TRANSITIONS ARE PROVIDED AT THE END OF EACH DAY BETWEEN TRAVEL LANES AND AT TIE-INS WITH EXISTING PAVEMENT.

AA) FLAGGERS SHALL CONTROL TRAFFIC FLOW ON ALL APPROACHES OF THE ONE LANE ROUNDABOUT.

BB) A LEAD FLAGGER SHALL BE DESIGNATED AND RADIO COMMUNICATION SHALL BE USED BY THE FLAGGERS.

CC) ONLY ONE QUADRANT OF TRAFFIC SHALL BE REASELED AT A TIME.

DD) AT NIGHT, FLAGGER STATIONS SHALL BE ILLUMINATED. STREET LIGHTS AND VEHICLE HEADLIGHTS SHALL NOT BE USED TO ILLUMINATE THE FLAGGER STATION.

EE) REFER TO RSD 1101.11, SHEET 1 OF 4, FOR "L" DISTANCE AND SIGN SPACING.

FF) EXTEND LANE CLOSURES AT THE BUFFER SPACE SUCH THAT STOPPING SIGHT DISTANCE IS PROVIDED TO THE FLAGGER (REFER TO RSD 1101.11, SHEET 2 OF 4).

GG) PERIODIC ADJUSTMENTS TO THE CHANNELIZING DEVICES MAY BE ALLOWED IN AN ACTIVE WORK ZONE TO ACCOMMODATE THE TURNING MOVEMENTS OF TRACTOR TRAILER VEHICLES AND OTHER LARGE VEHICLES.

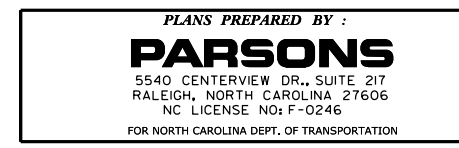
HH) DO NOT INSTALL ADVANCE WARNING SIGNS MORE THAN 3 DAYS PRIOR TO BEGINNING OF WORK UNLESS COVERED.

II) COVER EXISTING SIGNS THAT CONFLICT WITH WORK ZONE TRAFFIC PATTERN DURING ACTIVE WORK HOURS. UNCOVER SIGNS WHENEVER WORK IS NOT TAKING PLACE.

JJ) PROVIDE PEDESTRIAN ACCOMODATIONS WHEN CLOSING OFF EXISTING CROSSWALKS.

KK) INSTALL SINGLE LANE ROUNDABOUT CLOSURE SO THAT VEHICLES AVOID TRAVERSING CONCRETE MEDIANS ALONG ROUNDABOUT.

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DocuSigned by:
David Wilmer
438988A8B6A6C

APPROVED: _____
DATE: 2/14/2024

SEAL

SEAL

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED



GENERAL NOTES

PHASING

PHASE I

STEP 1: INSTALL ADVANCE WORK ZONE WARNING SIGNS ACCORDING TO ROADWAY STANDARD DRAWING 1101.01 (SHEET 3 OF 3).

STEP 2: INSTALL TEMPORARY SIGNAL

STEP 3: USING ROADWAY STANDARD DRAWING 1101.02 (SHEETS 1, 2 AND 18 OF 19) AS NEEDED, CONSTRUCT THE FOLLOWING UP TO THE EXISTING AND ELEVATION OF EDGE OF TRAVEL AS SHOWN ON TMP-3:

- * -L- FROM STA. 16+75 +/- TO STA. 20+69 +/- LT. & RT. (PROP. PAVEMENT, C&G AND SIDEWALK)
- * -L- FROM STA. 21+45 +/- TO STA. 24+00 +/- LT. (PROP. SIDEWALK AND TEMPORARY RAMP)
- * -Y1- FROM STA. 21+40 +/- TO STA. 26+79 +/- LT. (PROP. PAVEMENT, C&G AND SIDEWALK)
- * -Y1- FROM STA. 22+78 +/- TO STA. 26+94 +/- RT. (PROP. SIDEWALK, TEMPORARY SIDEWALK AND TEMPORARY RAMPS)
- * -Y1- FROM STA. 23+27 +/- TO STA. 23+75 +/- LT. (EXIST. PAVEMENT REMOVAL)
- * -Y2- FROM STA. 10+05 +/- TO STA. 10+75 +/- LT. & RT. (PROP. PAVEMENT, C&G AND SIDEWALK)

PHASE II

STEP 1: USING ROADWAY STANDARD DRAWING 1101.02 (SHEETS 1, 2 AND 18 OF 19) AS NEEDED, CONSTRUCT THE FOLLOWING UP TO THE EXISTING EDGE OF TRAVEL AS SHOWN ON TMP-4:

- * -L- FROM STA. 16+75 +/- TO STA. 18+12 +/- LT. & RT. (WEDGING, C&G AND SIDEWALK)
- * -L- FROM STA. 21+64 +/- TO STA. 24+00 +/- LT. (PROP. PAVEMENT, WEDGING AND C&G)
- * -Y1- FROM STA. 20+35 +/- TO STA. 21+35 +/- LT. (PROP. PAVEMENT, C&G AND SIDEWALK)
- * -Y1- FROM STA. 22+71 +/- TO STA. 26+93 +/- RT. (PROP. PAVEMENT, C&G AND SIDEWALK)

STEP 2: SHIFT TRAFFIC TO NEW PATTERN AS SHOWN ON TMP-4, DEACTIVATE AND REMOVE SIGNAL

PHASE III

STEP 1: USING ROADWAY STANDARD DRAWING 1101.02 (SHEETS 1, 2 AND 18 OF 19) AS NEEDED, CONSTRUCT THE FOLLOWING UP TO BUT NOT INCLUDING THE FINAL LAYER OF SURFACE COURSE AS SHOWN ON TMP-5:

- * -L- FROM STA. 20+92 +/- TO STA. 24+47 +/- RT. (PROP. PAVEMENT, C&G AND SIDEWALK)
- * -Y1- FROM STA. 20+35 +/- TO STA. 21+35 +/- RT. (PROP. PAVEMENT, C&G AND SIDEWALK)

STEP 2: * SPLITTER ISLAND CONSTRUCTION FOR -L- FROM STA. 21+21 +/- TO STA. 21+76 +/- LT. & RT. * SPLITTER ISLAND CONSTRUCTION FOR -Y1- FROM STA. 20+72 +/- TO STA. 21+31 +/- LT. & RT. * SPLITTER ISLAND CONSTRUCTION FOR -Y1- FROM STA. 22+70 +/- TO STA. 24+90 +/- LT. & RT. * MEDIAN ISLAND CONSTRUCTION FOR -Y1- FROM STA. 24+31 +/- TO STA. 26+20 +/- LT. & RT. * MEDIAN ISLAND CONSTRUCTION FOR -RAB- FROM STA. 10+93 +/- TO STA. 12+15 +/- LT. & RT.

STEP 3: * MEDIAN ISLAND CONSTRUCTION FOR -Y1- FROM STA. 24+32 +/- TO STA. 25+44 +/- RT. (TO BE CONSTRUCTED DURING OVERNIGHT HOURS)

STEP 4: SHIFT TRAFFIC TO NEW PATTERN AS SHOWN ON TMP-5

PHASE IV

STEP 1: WORKING IN A CONTINUOUS MANNER, USING ROADWAY STANDARD DRAWING 1101.02 (SHEETS 1, 2 AND 18 OF 19) AS NEEDED, PLACE 1.5" OF SURFACE COURSE FOR THE FOLLOWING AS SHOWN ON TMP-6 & TMP-7:

- * -L- FROM STA. 16+75 +/- TO STA. 20+36 +/- & FROM STA. 20+36 +/- TO STA. 24+00 +/-
- * -Y1- FROM STA. 20+35 +/- TO STA. 21+33 +/- & FROM STA. 21+65 +/- TO STA. 27+00 +/-
- * -L- OVERLAY FROM STA. 24+00 +/- TO STA. 26+00 +/-

STEP 2: WORKING IN A CONTINUOUS MANNER, USING ROADWAY STANDARD DRAWING 1101.02 (SHEETS 1, 2 AND 18 OF 19) AS NEEDED, PLACE 1.5" OF SURFACE COURSE FOR THE FOLLOWING AS SHOWN ON TMP-6 & TMP-7:

- * -L- FROM STA. 16+75 +/- TO STA. 20+24 +/- & FROM STA. 20+90 +/- TO STA. 24+00 +/-
- * -Y1- FROM STA. 20+35 +/- TO STA. 21+63 +/- & FROM STA. 22+53 +/- TO STA. 27+00 +/-
- * -L- OVERLAY FROM STA. 24+00 +/- TO STA. 26+00 +/-

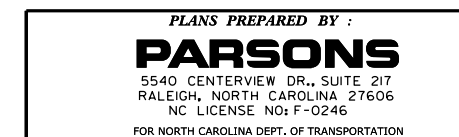
STEP 3: WORKING IN A CONTINUOUS MANNER, USING ROADWAY STANDARD DRAWING 1101.02 (SHEETS 1, 2 AND 18 OF 19) AS NEEDED, PLACE 1.5" OF SURFACE COURSE FOR THE FOLLOWING AS SHOWN ON TMP-6 & TMP-7:

- * -L- FROM STA. 19+77 +/- TO STA. 20+74 +/-
- * -Y1- FROM STA. 21+30 +/- TO STA. 21+68 +/-*

STEP 4: USING ROADWAY STANDARD DRAWING 1101.02 (SHEETS 1, 2 AND 18 OF 19) AS NEEDED, COMPLETE THE FOLLOWING:

* PLACE THE FINAL PAVEMENT MARKINGS AND MARKERS AS SHOWN IN THE PAVEMENT MARKING PLANS.

STEP 5: UPON APPROVAL OF ENGINEER, REMOVE ALL TEMPORARY TRAFFIC CONTROL DEVICES AND SIGNING.

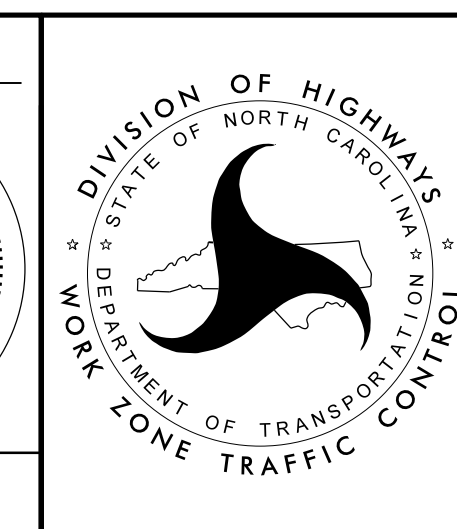


APPROVED: David Wilber
SYMBOLIC SIGNATURE

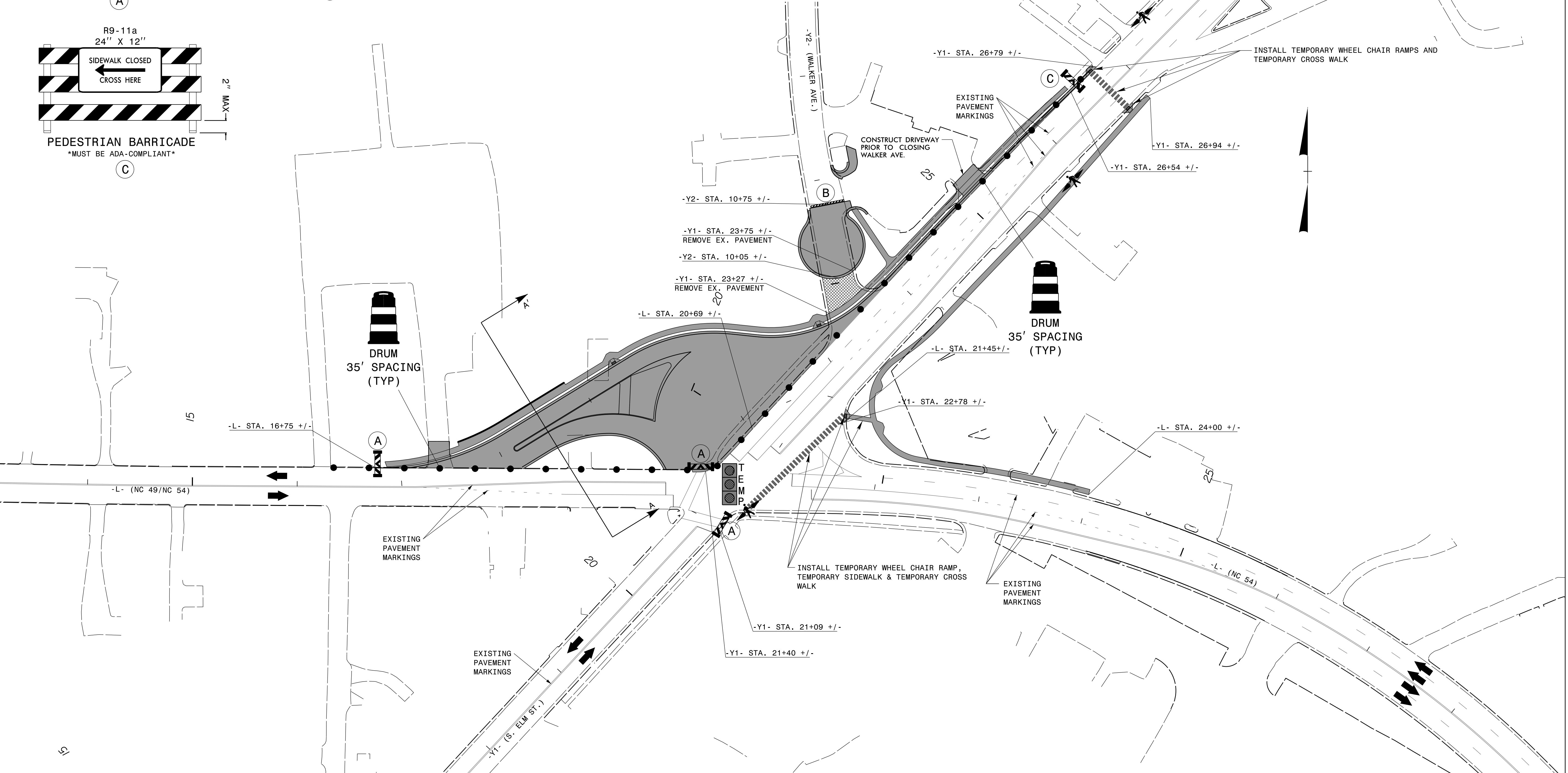
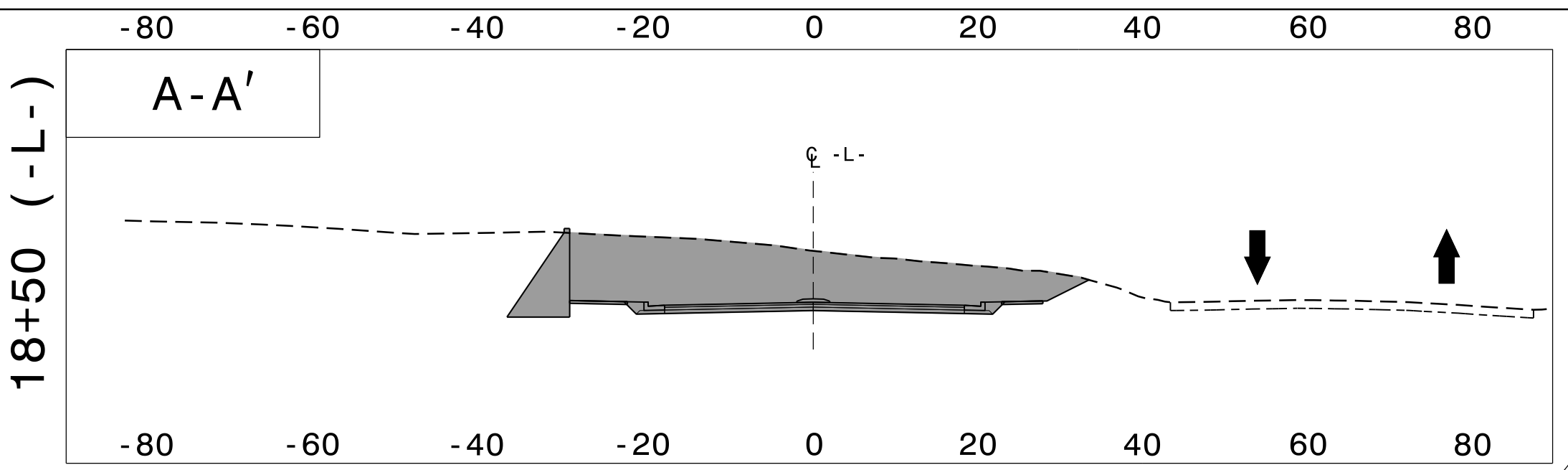
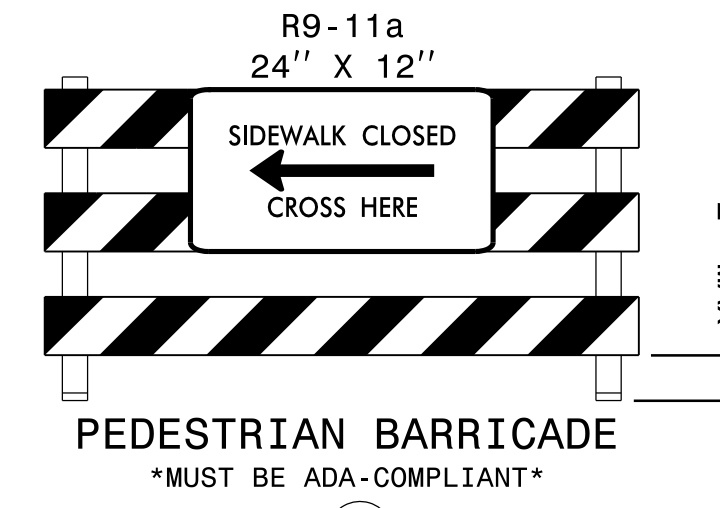
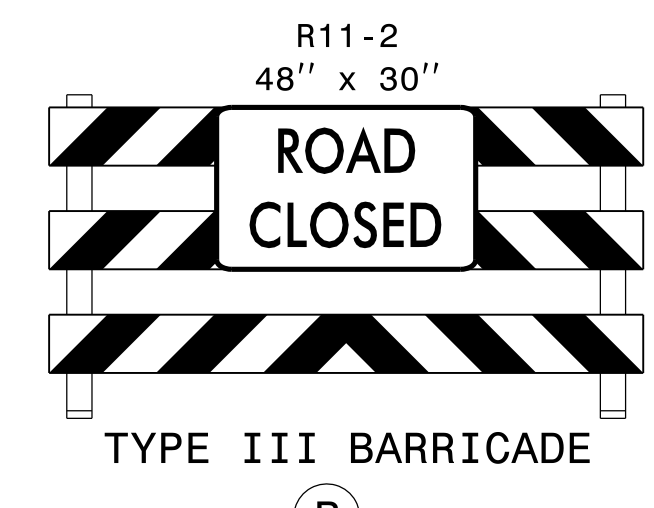
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SEAL

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PHASING



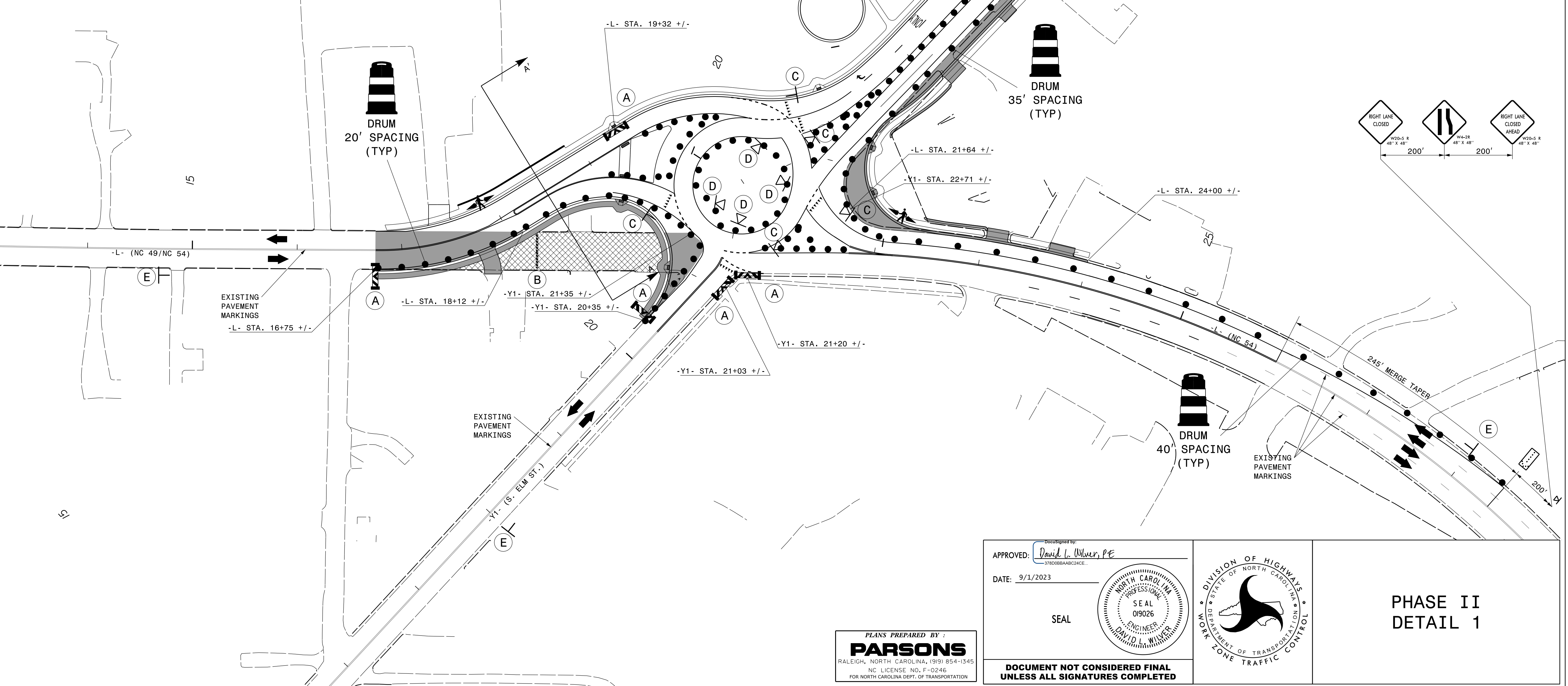
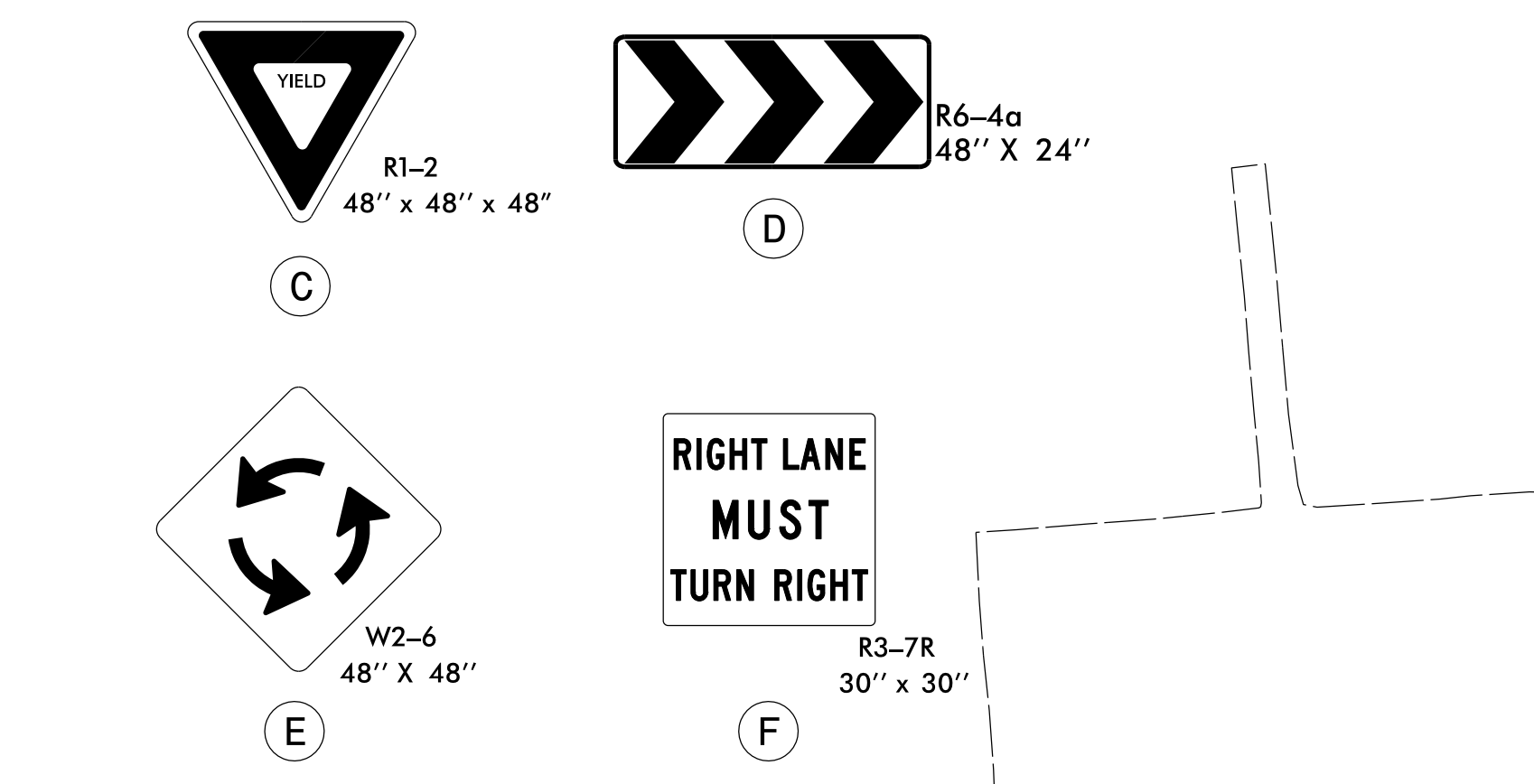
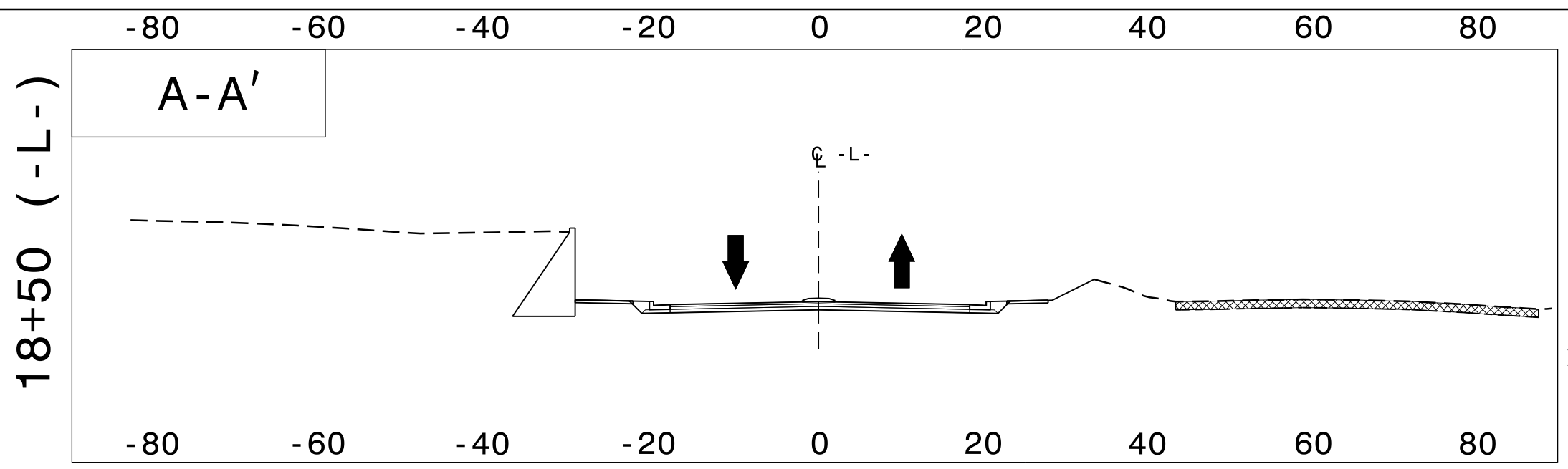
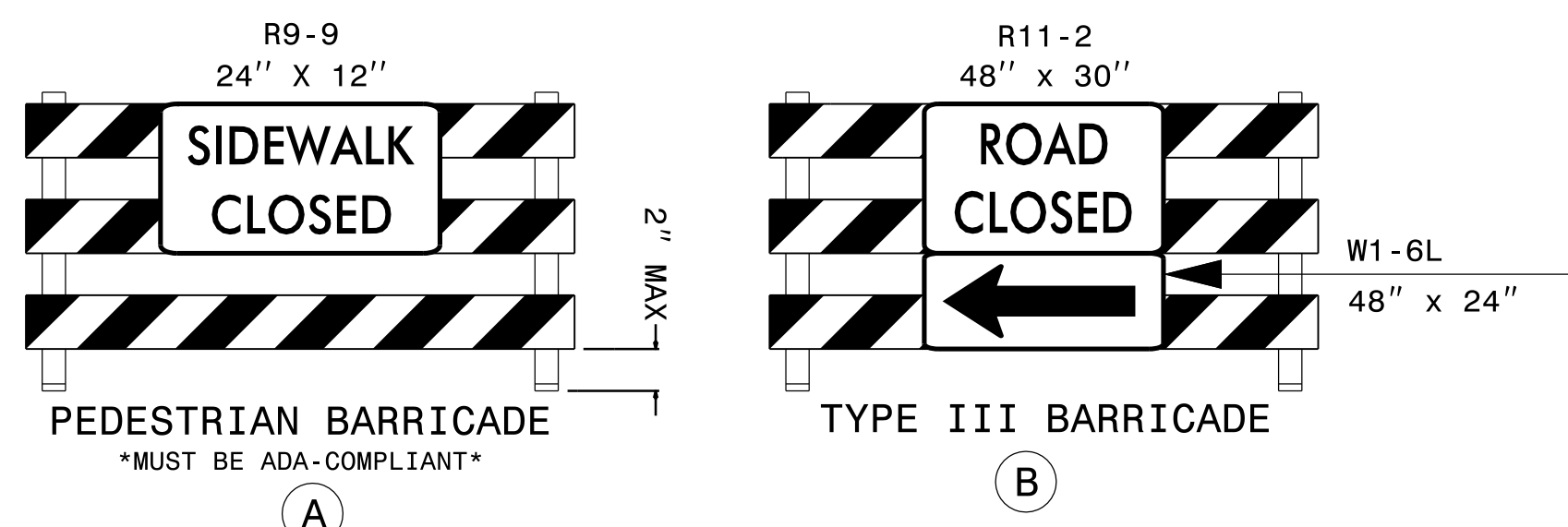
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 \$\$\$USERNAME\$\$\$

PLANS PREPARED BY:
PARSONS
 RALEIGH, NORTH CAROLINA, (919) 854-1345
 NC LICENSE NO. F-0246
 FOR NORTH CAROLINA DEPT. OF TRANSPORTATION

Approved by: *David L. Wilmer, PE*
 37800BAABC24CE...
 DATE: 9/1/2023
 SEAL
**DOCUMENT NOT CONSIDERED FINAL
 UNLESS ALL SIGNATURES COMPLETED**



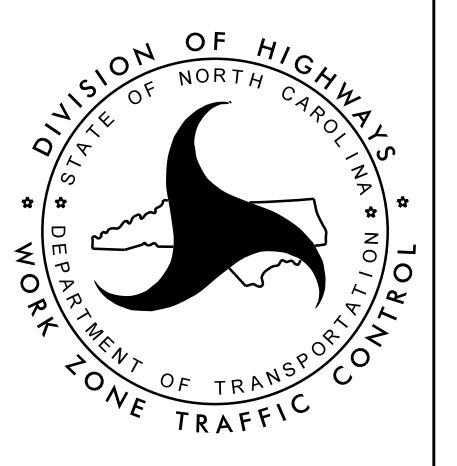
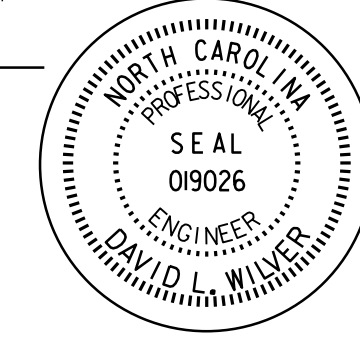
DIVISION OF HIGHWAYS
 STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 WORK ZONE TRAFFIC CONTROL
**PHASE I
 DETAIL 1**



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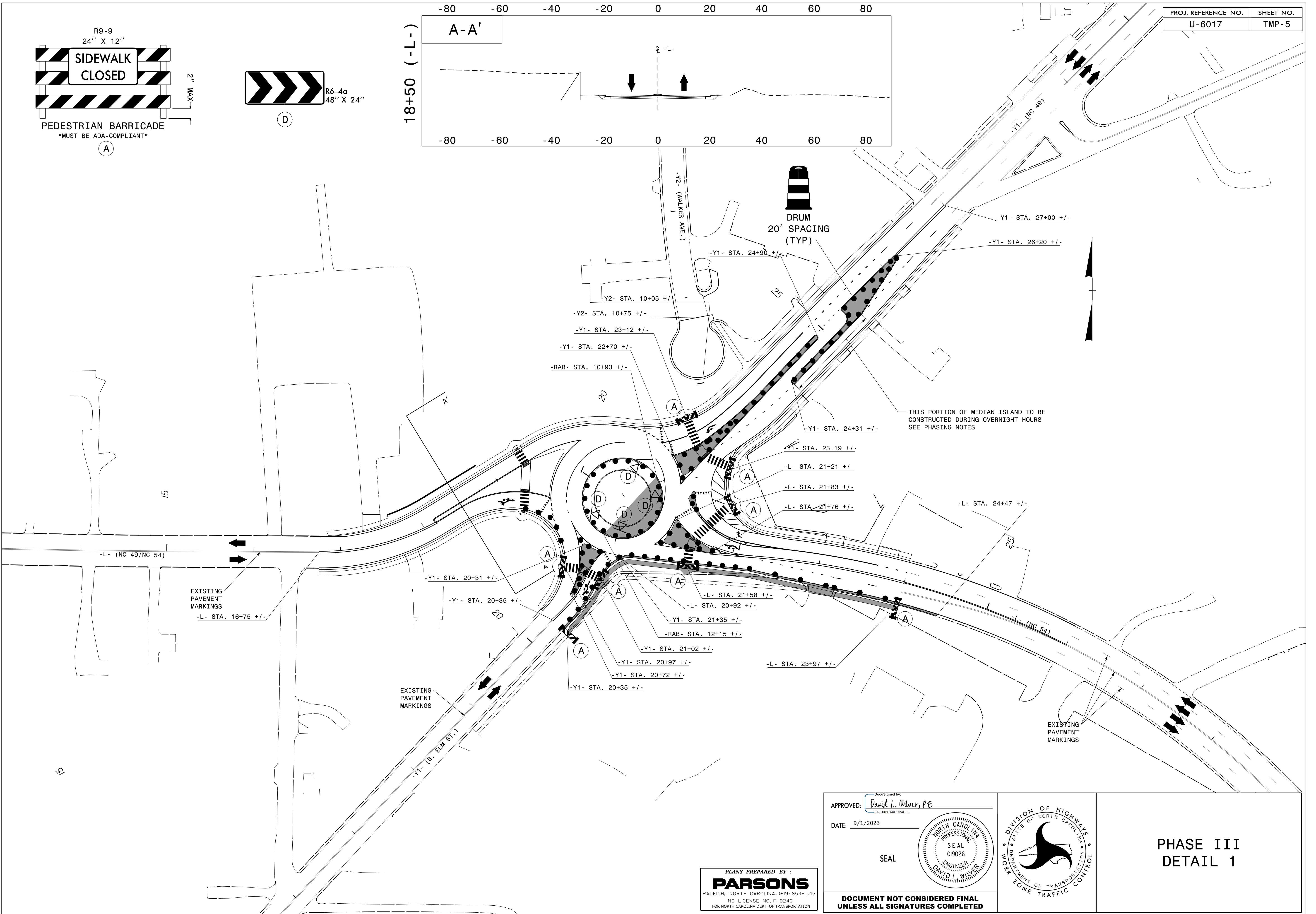
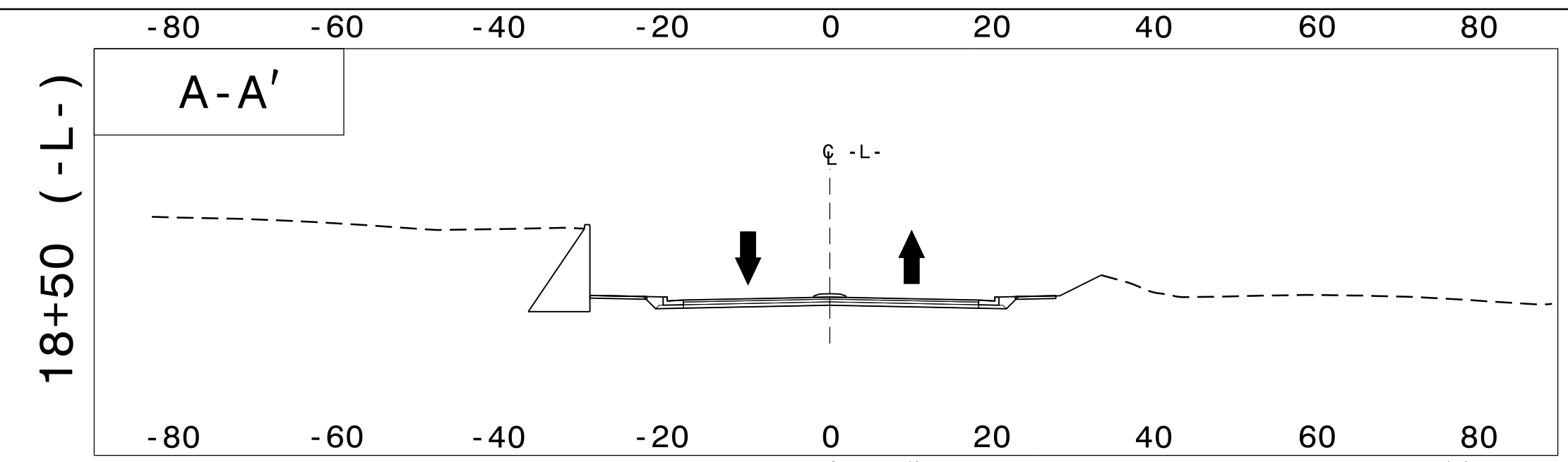
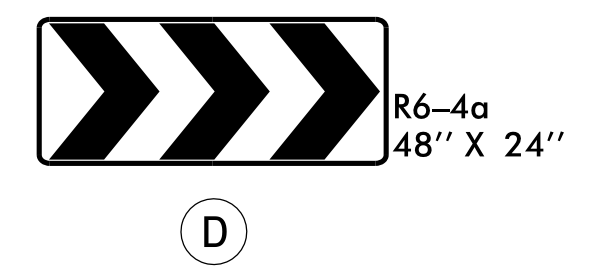
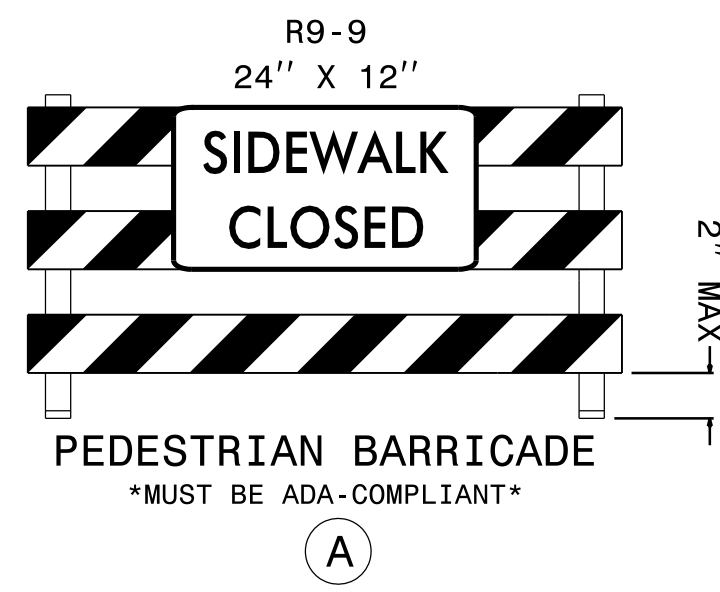
PLANS PREPARED BY:
PARSONS
RALEIGH, NORTH CAROLINA, (919) 854-1345
NC LICENSE NO. F-0246
FOR NORTH CAROLINA DEPT. OF TRANSPORTATION

APPROVED: *David L. Wilmer, PE*
 DATE: 9/1/2023
 SEAL



PHASE II
DETAIL 1

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THIS PORTION OF MEDIAN ISLAND TO BE CONSTRUCTED DURING OVERNIGHT HOURS SEE PHASING NOTES

30-AUG-2023 2:14 PM TrafficControl\TCP\U-6017_TC_TMP_05.dgn

APPROVED: *David L. Wilmer, PE*
37800BBA8C24CE

DATE: 9/1/2023

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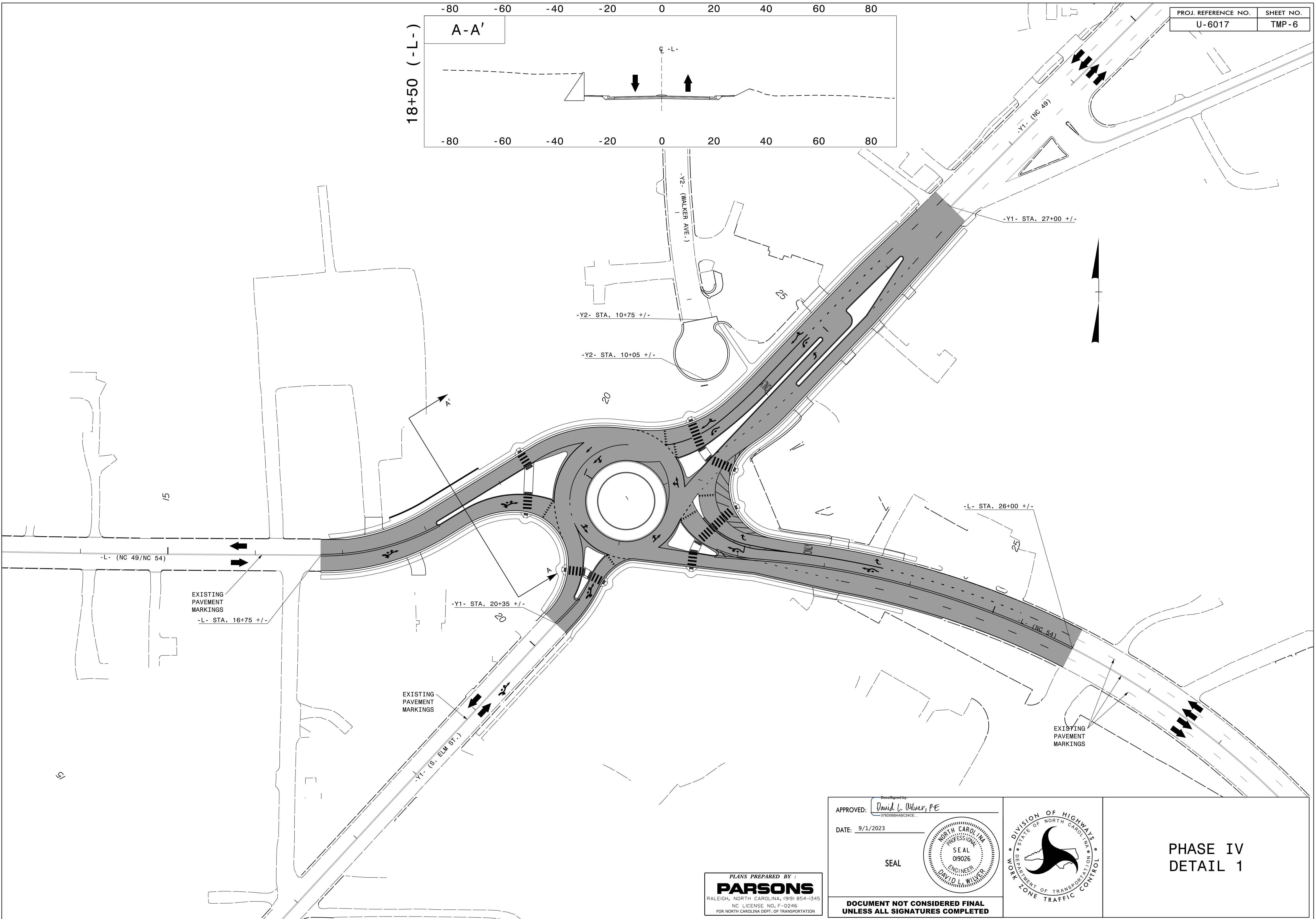
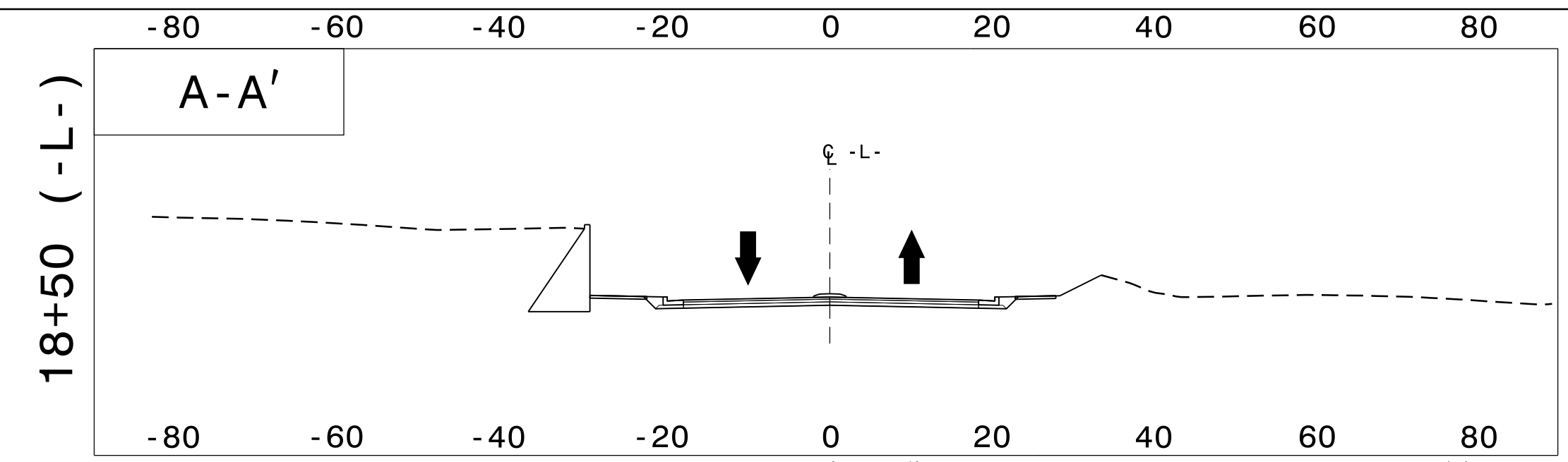


PLANS PREPARED BY:

PARSONS
RALEIGH, NORTH CAROLINA, (919) 854-1345
 NC LICENSE NO. F-0246
 FOR NORTH CAROLINA DEPT. OF TRANSPORTATION

PHASE III
DETAIL 1

PROJ. REFERENCE NO.	SHEET NO.
U-6017	TMP-6



30-AUG-2023 2:34 PM TrafficControl\TCP\U-6017_TC_TMP_06.dgn
 \$\$\$USERNAME\$\$\$

APPROVED: *David L. Wilmer PE*
378008BA4BC24CE

DATE: 9/1/2023

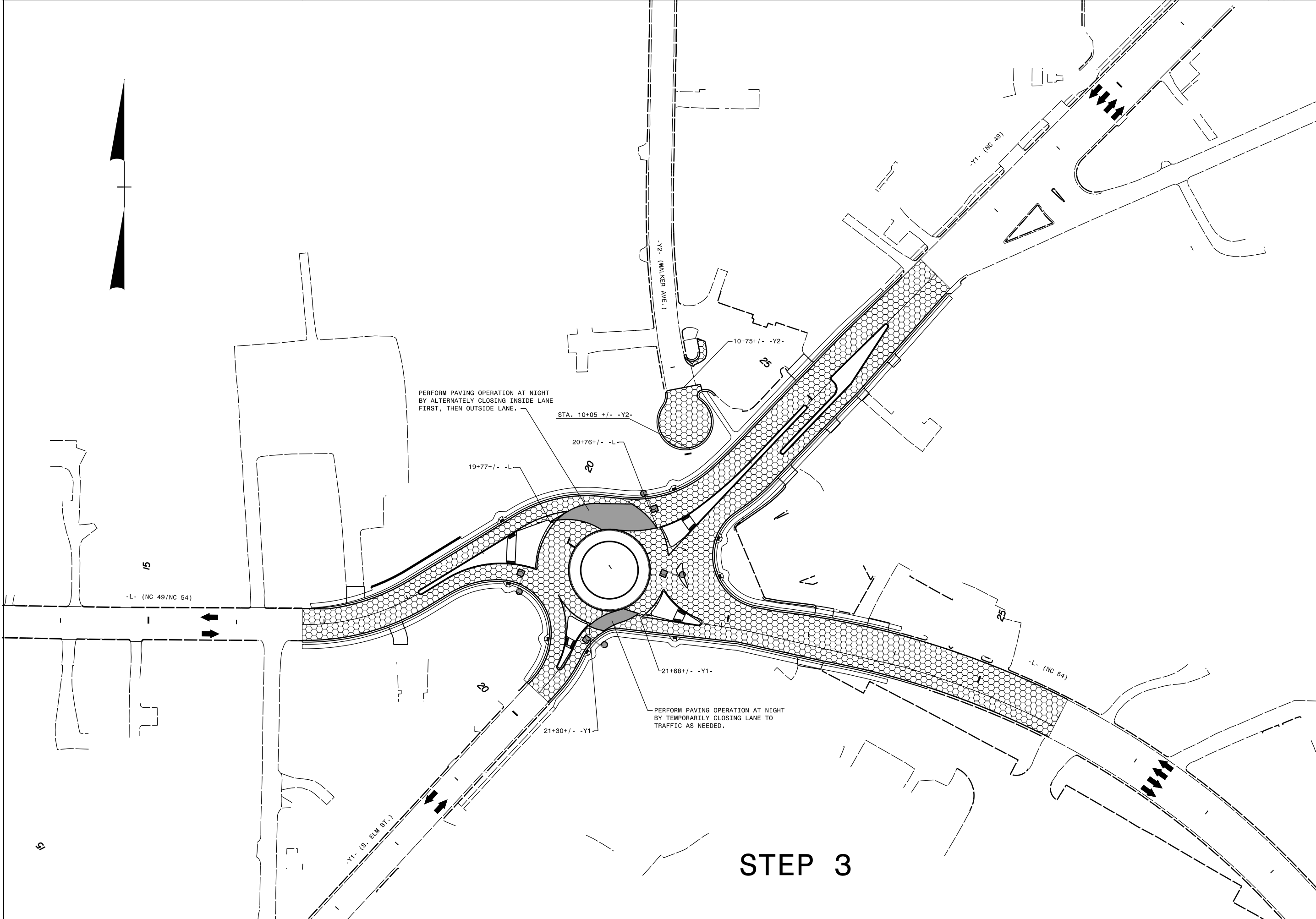
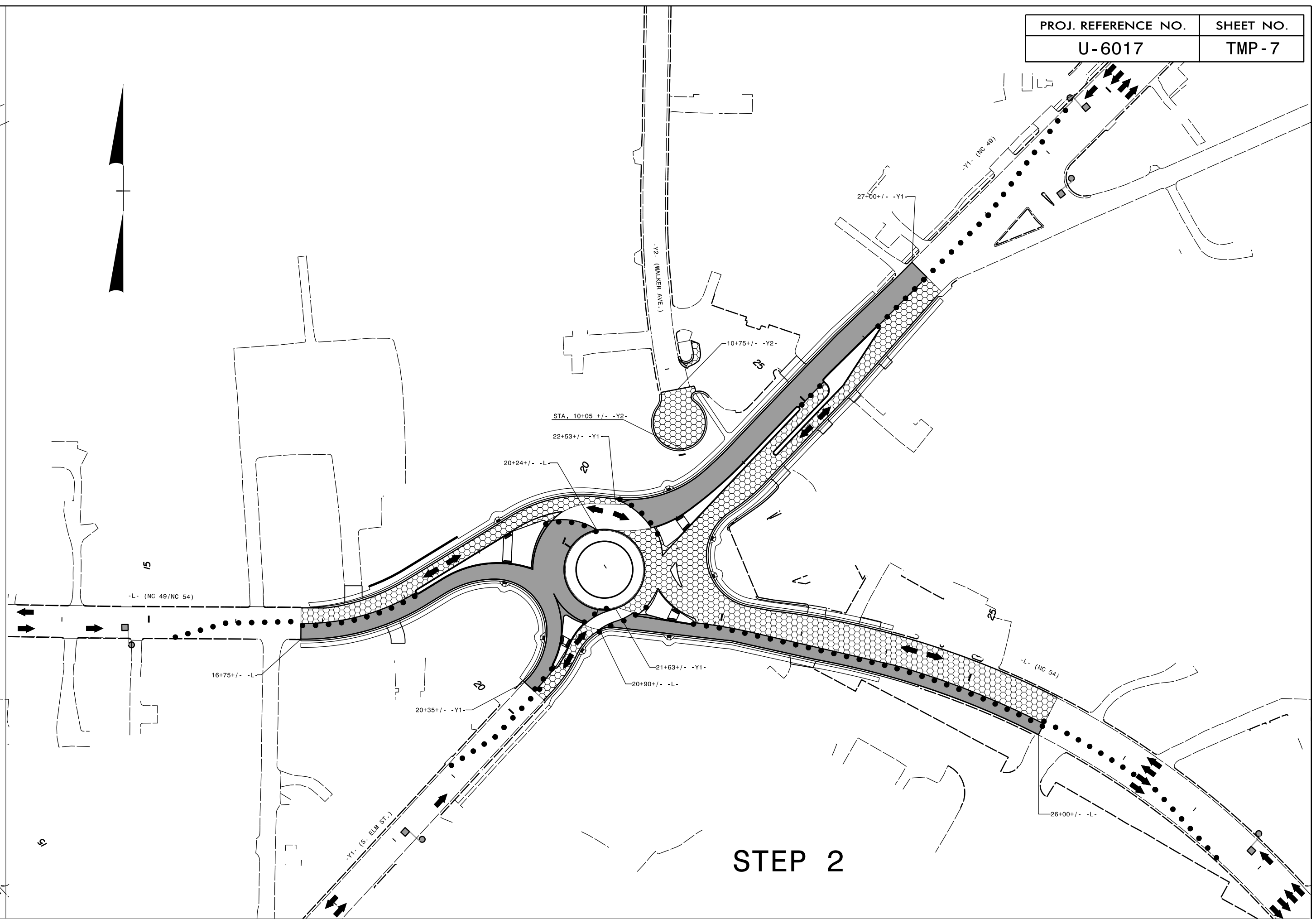
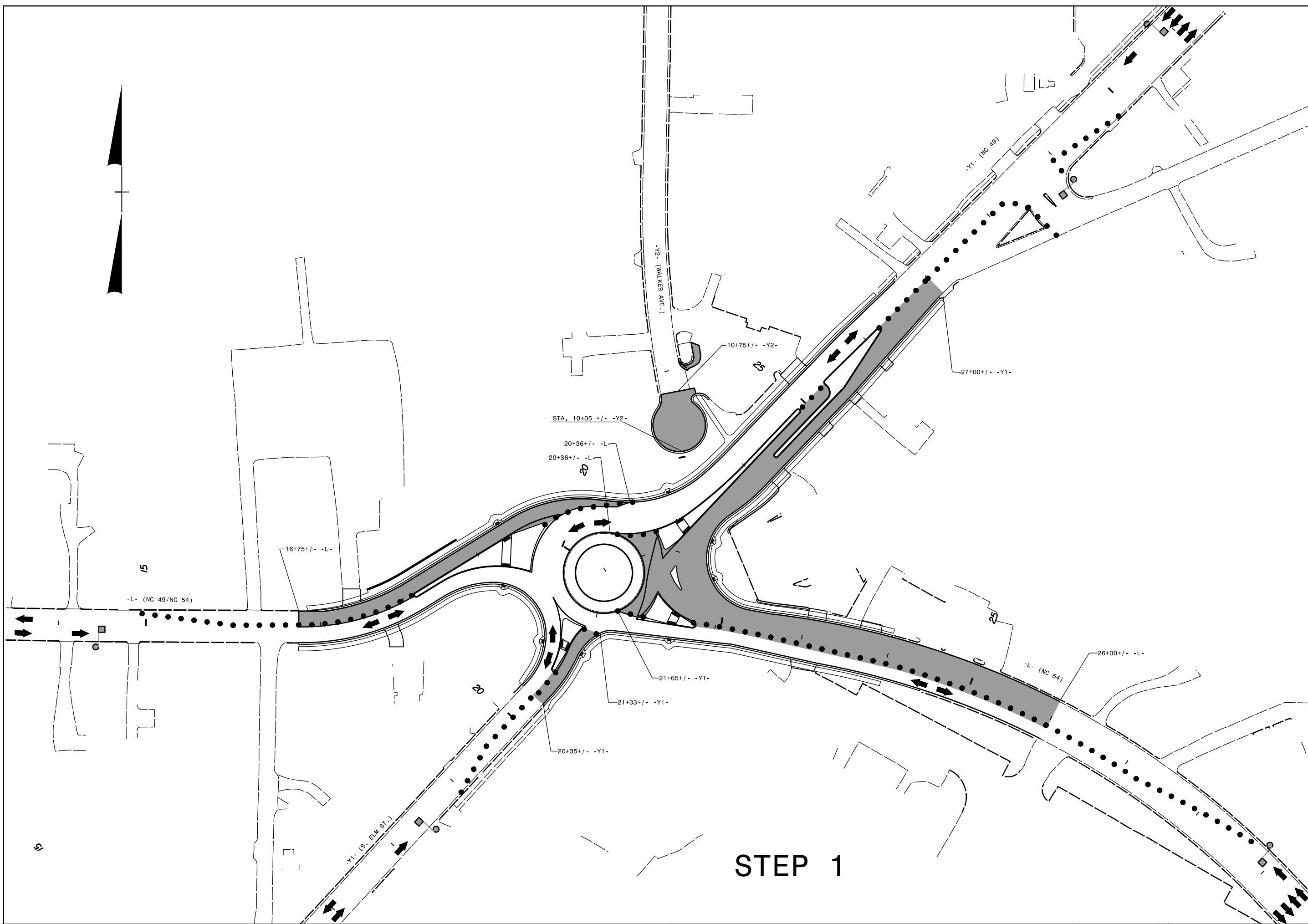
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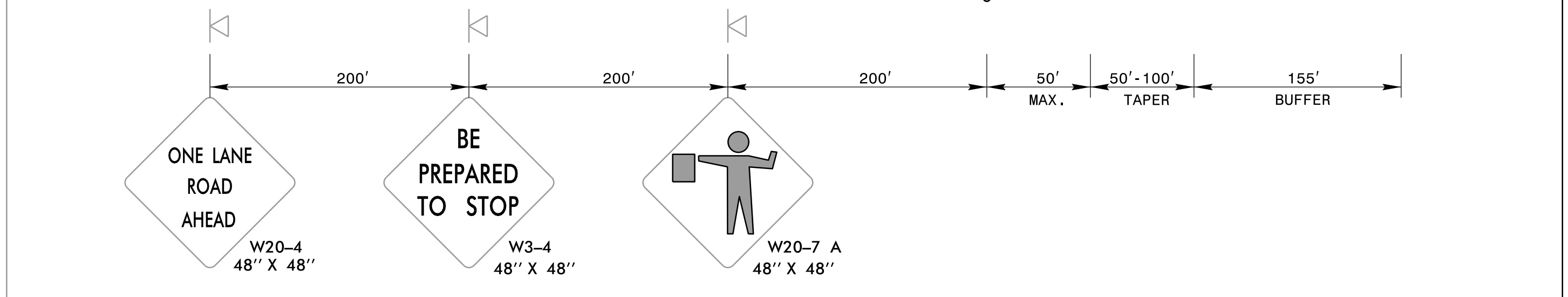
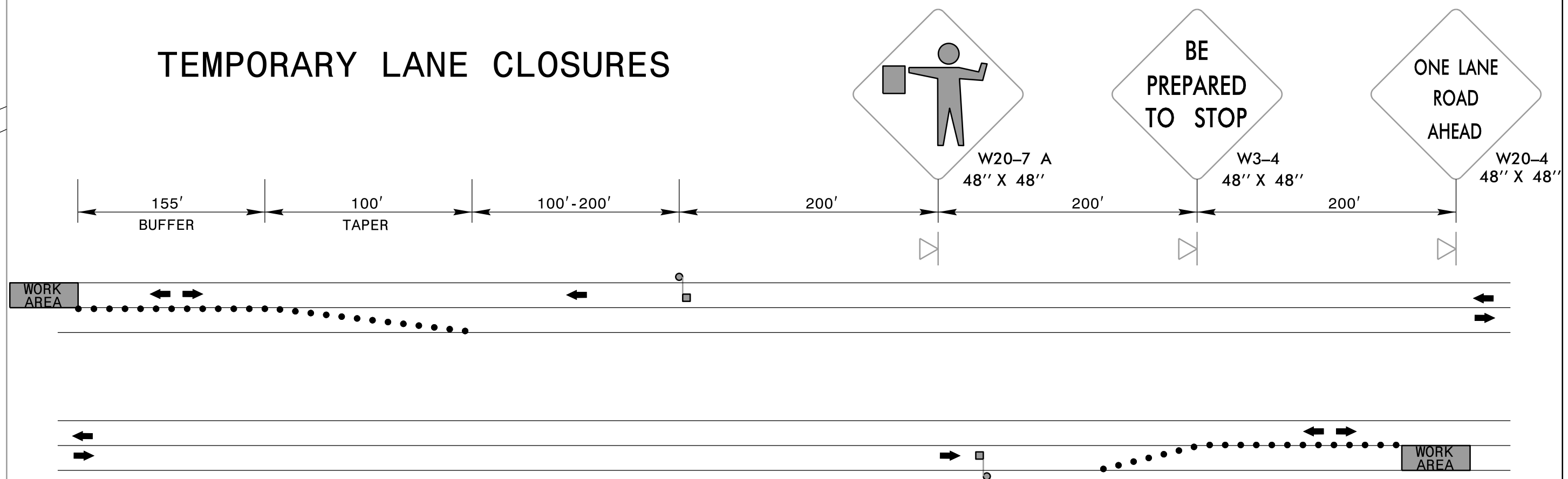
**PHASE IV
DETAIL 1**

PLANS PREPARED BY:
PARSONS
 RALEIGH, NORTH CAROLINA, (919) 854-1345
 NC LICENSE NO. F-0246
 FOR NORTH CAROLINA DEPT. OF TRANSPORTATION

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TEMPORARY LANE CLOSURES



LEGEND

- WORK AREA
- PREVIOUSLY CONSTRUCTED

PLANS PREPARED BY:

PARSONS

RALEIGH, NORTH CAROLINA, (919) 854-1345
 NC LICENSE NO. F-10246
 FOR NORTH CAROLINA DEPT. OF TRANSPORTATION

APPROVED: *David L. Wilmer PE*

DATE: 9/1/2023

SEAL

Seal of David L. Wilmer, PE, North Carolina Professional Engineer, License No. 019026.

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



FLAGGING DETAILS FOR FINAL PAVING AND STRIPING

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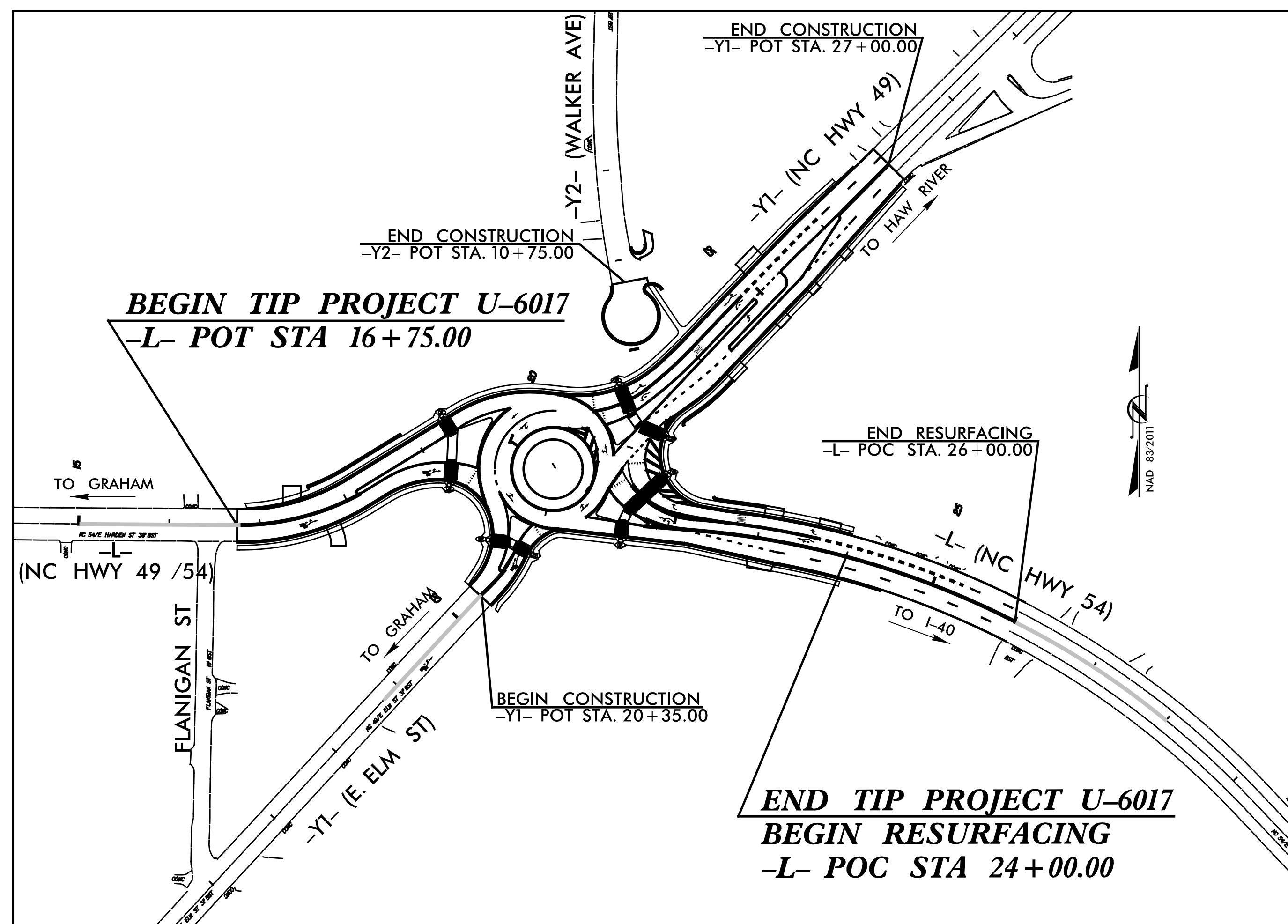
TIP PROJECT: U-6017

**STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION**

**PAVEMENT MARKING PLAN
ALAMANCE COUNTY**

**LOCATION: INTERSECTION IMPROVEMENTS AT
NC 54 (EAST HARDEN ST.) AND NC 49
(EAST ELM ST.) IN GRAHAM**

<small>TIP NO.</small> U-6017	<small>SHEET NO.</small> PMP-1
<small>APPROVED:</small> <small>DocuSigned by: Steve Miller #F5C5C15CE2E486</small>	
<small>DATE:</small> 8/17/2023	
<small>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</small>	



INDEX

<small>SHEET NO.</small>	<small>DESCRIPTION</small>
PMP-1	TITLE SHEET
PMP-2	PAVEMENT MARKING SCHEDULE, SUMMARY OF QUANTITIES, GENERAL NOTES, & ROADWAY STANDARD DRAWINGS
PMP-3	PAVEMENT MARKING DETAIL

PLAN PREPARED BY:
SEPI, INC.

Steve Miller, PE PROJECT MANAGER

John Bauman, PE DESIGN ENGINEER

TRANSYSTEMS

1 Glenwood Avenue
Raleigh, NC 27603
Tel: 919.789.9977
Fax: 919.789.9591
License: F-0453

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GENERAL NOTES

THE FOLLOWING GENERAL NOTES APPLY AT ALL TIMES FOR THE DURATION OF THE CONSTRUCTION PROJECT, EXCEPT WHEN OTHERWISE NOTED IN THE PLAN, OR DIRECTED BY THE ENGINEER.

- A) INSTALL PAVEMENT MARKINGS AND PAVEMENT MARKERS ON THE FINAL SURFACE AS FOLLOWS:
- | ROAD NAME | MARKING | MARKER |
|---------------------|---------------|--------------|
| NC 54 E. HARDEN ST. | THERMOPLASTIC | SNOWPLOWABLE |
| NC 49 E. ELM ST. | THERMOPLASTIC | SNOWPLOWABLE |
- B) TIE PROPOSED PAVEMENT MARKING LINES TO EXISTING PAVEMENT MARKING LINES.
- C) REMOVE/REPLACE ANY CONFLICTING/DAMAGED PAVEMENT MARKINGS AND MARKERS.
- D) UNLESS OTHERWISE SPECIFIED, HEATED-IN-PLACE THERMOPLASTIC MAY BE USED IN LIEU OF EXTRUDED THERMOPLASTIC FOR STOP BARS, SYMBOLS, CHARACTERS AND DIAGONALS. IF HEATED-IN-PLACE IS USED, IT SHALL BE PAID FOR USING THE EXTRUDED THERMOPLASTIC PAY ITEM.
- E) SEE ROADWAY PLANS FOR ALTERNATE CURB RAMP DESIGNS WHEN INDICATED ON PAVEMENT MARKING DETAIL SHEETS.

ROADWAY STANDARD DRAWINGS

THE FOLLOWING ROADWAY STANDARDS AS APPEAR IN "ROADWAY STANDARD DRAWINGS" - PROJECT SERVICES UNIT - N.C. DEPARTMENT OF TRANSPORTATION - RALEIGH, N.C., DATED JANUARY 2024 ARE APPLICABLE TO THIS PROJECT AND BY REFERENCE HEREBY ARE CONSIDERED A PART OF THESE PLANS:

STD. NO.	TITLE
1205.01	PAVEMENT MARKINGS - LINE TYPES AND OFFSETS
1205.02	PAVEMENT MARKINGS - TWO-LANE AND MULTILANE ROADWAYS
1205.05	PAVEMENT MARKINGS - TURN LANES
1205.06	PAVEMENT MARKINGS - LANE DROPS
1205.07	PAVEMENT MARKINGS - PEDESTRIAN CROSSWALKS
1205.08	PAVEMENT MARKINGS - SYMBOLS AND WORD MESSAGES
1205.09	PAVEMENT MARKINGS - PAINTED ISLANDS
1205.14	PAVEMENT MARKINGS - ROUNDABOUTS
1250.01	RAISED PAVEMENT MARKERS - INSTALLATION SPACING

PAVEMENT MARKING SCHEDULE

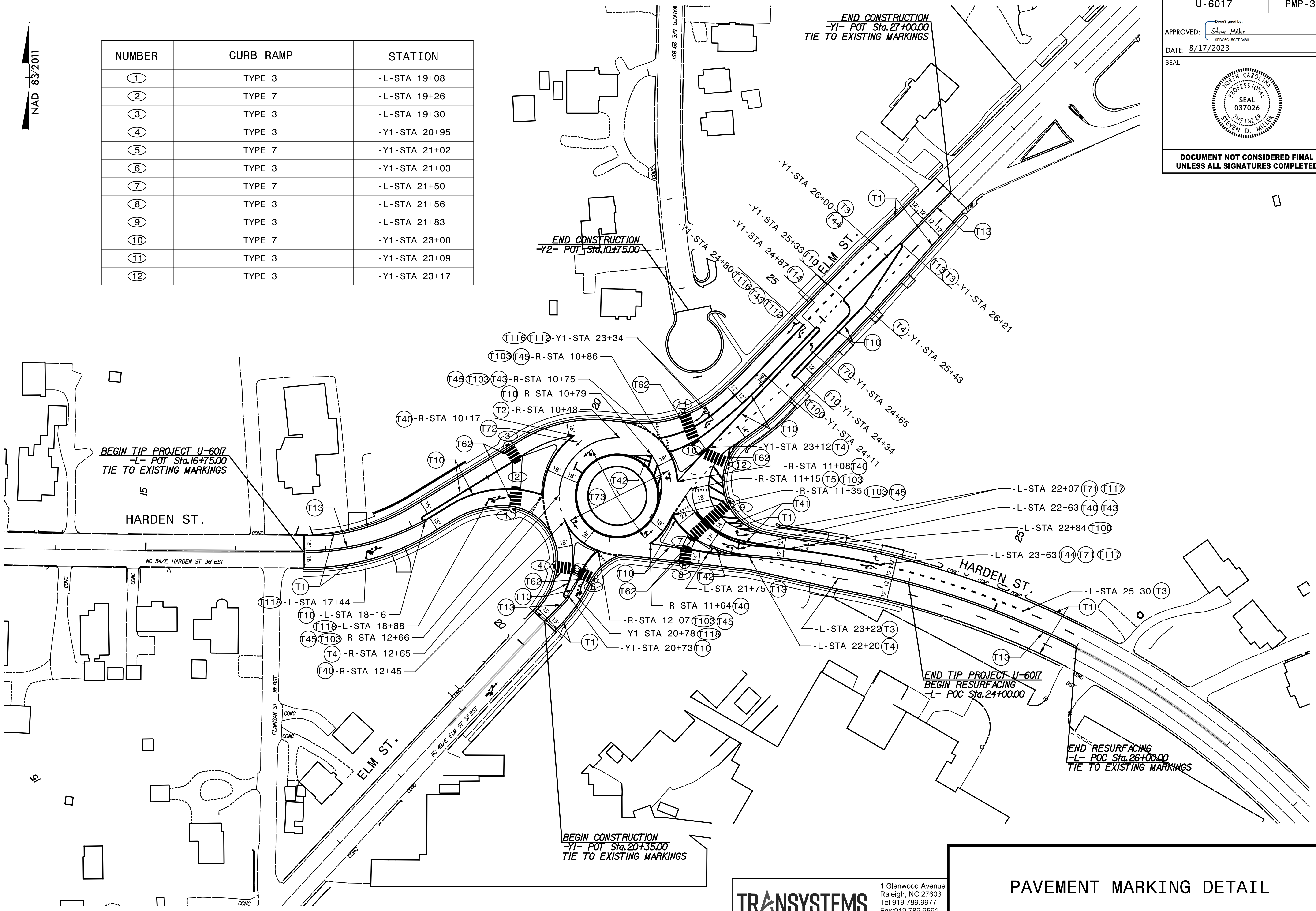
SYMBOL	DESCRIPTION		
T62	WHITE CROSSWALK LINE	<u>THERMOPLASTIC (24", 90 MILS)</u>	
T1	WHITE EDGE LINE	<u>THERMOPLASTIC (4", 90 MILS)</u>	
T2	WHITE SOLID LANE LINE		
T3	10 FT. WHITE SKIP		
T4	3 FT. - 9 FT./SP WHITE MINISKIP		
T5	2 FT. - 6 FT./SP WHITE MINISKIP		
T10	YELLOW EDGE LINE		
T13	YELLOW DOUBLE CENTER		
T14	2 FT. - 6 FT./SP YELLOW MINISKIP		
T40	WHITE GORELINE		<u>THERMOPLASTIC (8", 90 MILS)</u>
T41	WHITE DIAGONAL		
T42	YELLOW DIAGONAL		
T43	WHITE SOLID LANE LINE		
T44	3 FT. - 9 FT./SP WHITE MINISKIP		
T45	3 FT. - 3 FT./SP WHITE MINISKIP		
T100	ALPHANUMERIC CHARACTER	<u>THERMOPLASTIC PAVEMENT MARKING CHARACTERS (90 MILS)</u>	
T103	24" YIELD LINE TRIANGLE		
T70	LEFT TURN ARROW	<u>THERMOPLASTIC PAVEMENT MARKING SYMBOLS (90 MILS)</u>	
T71	RIGHT TURN ARROW		
T72	STRAIGHT ARROW		
T73	COMBO. LEFT/STRAIGHT ARROW		
T112	FISH-HOOK RIGHT/STRAIGHT ARROW		
T116	FISH-HOOK W/CIRCLE LEFT ARROW		
T117	FISH-HOOK W/CIRCLE LEFT/STRAIGHT ARROW		
T118	FISH-HOOK W/CIRCLE LEFT/RIGHT/STRAIGHT ARROW		
MA	YELLOW & YELLOW	<u>PERMANENT PAVEMENT MARKERS</u>	
MB	CRYSTAL & RED		
ME	YELLOW & YELLOW	<u>NON-CAST IRON SNOWPLOWABLE PAVEMENT MARKERS</u>	
MF	CRYSTAL & RED		

SUMMARY OF QUANTITIES

ITEM NO.	ITEM DESCRIPTION	QUANTITY	UNIT
DESC. NO.	SECT. NO.		
4685000000-E	1205	6850	LF
4695000000-E	1205	1375	LF
4709000000-E	1205	500	LF
4720000000-E	1205	49	EA
4725000000-E	1205	18	EA
4905100000-N	1253	97	EA

2/8/2024 10:04:34 AM SEI:9:015:03.U-6017 Roundabout NC54_NC49_TP\Traffic\PMU-U-6017_PMP-2.dgn

NUMBER	CURB RAMP	STATION
①	TYPE 3	-L-STA 19+08
②	TYPE 7	-L-STA 19+26
③	TYPE 3	-L-STA 19+30
④	TYPE 3	-Y1-STA 20+95
⑤	TYPE 7	-Y1-STA 21+02
⑥	TYPE 3	-Y1-STA 21+03
⑦	TYPE 7	-L-STA 21+50
⑧	TYPE 3	-L-STA 21+56
⑨	TYPE 3	-L-STA 21+83
⑩	TYPE 7	-Y1-STA 23+00
⑪	TYPE 3	-Y1-STA 23+09
⑫	TYPE 3	-Y1-STA 23+17



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TRANSYSTEMS
 1 Glenwood Avenue
 Raleigh, NC 27603
 Tel: 919.789.9977
 Fax: 919.789.9591
 License: F-0453

PAVEMENT MARKING DETAIL