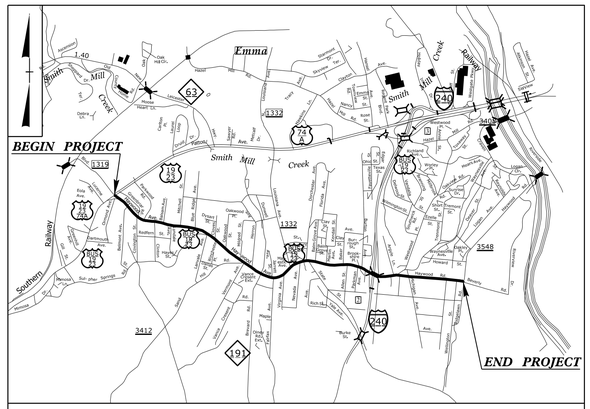
09/08/99

TIP PROJECT: HL–0003

CONTRACT: C204673

See Sheet 1A For Index of Sheets



VICINITY MAP N.T.S

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

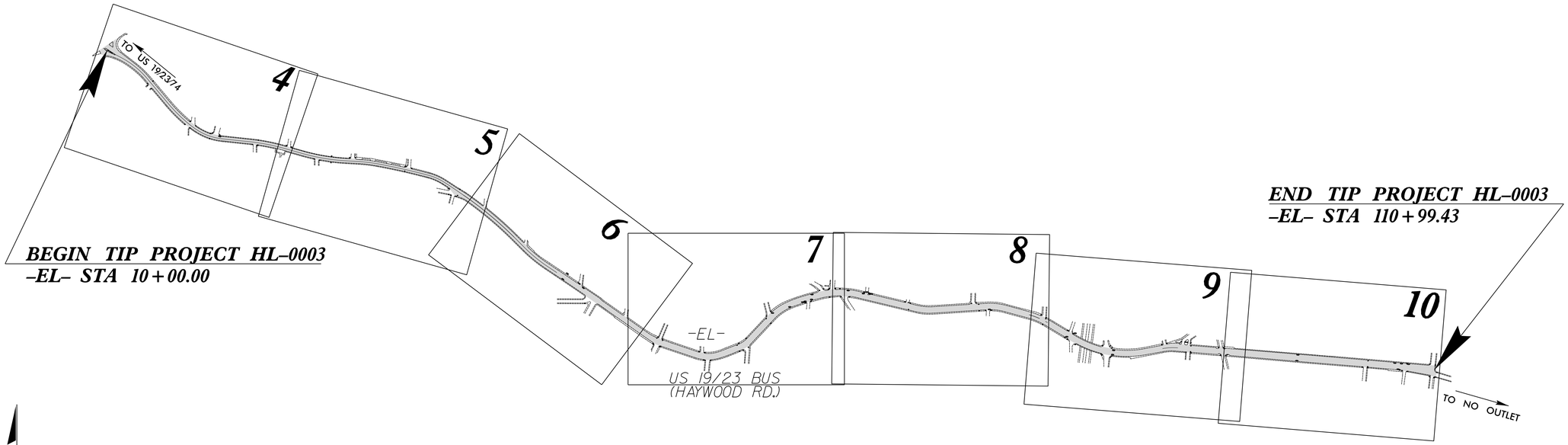
BUNCOMBE

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	HL–0003	1	

STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
49467.1.1	0019064	P.E.
49467.2.1	0019064	R/W
49467.3.1	0019064	CONST.

LOCATION: US 19 /23 BUSINESS (HAYWOOD ROAD)
FROM US 19/23/74 (PATTON AVE.) TO RIDGELAWN RD.

TYPE OF WORK: DRAINAGE, PAVING, AND SIGNALS



BEGIN TIP PROJECT HL–0003
–EL– STA 10+00.00

END TIP PROJECT HL–0003
–EL– STA 110+99.43

N

GRAPHIC SCALES

50 25 0 50 100
PLANS

DESIGN DATA

ADT 2020 = 11,400
V = 20 MPH

FUNC CLASS =
MINOR ARTERIAL
REGIONAL TIER

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT HL–0003 = 1.91 MILES

Prepared in the Office of:
DIVISION OF HIGHWAYS
1000 Birch Ridge Dr., Raleigh NC, 27610

2024 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:

LETTING DATE:
NOVEMBER 19, 2024

BRENDAN W. MERITHEW, P.E.
PROJECT ENGINEER

WILLIAM C. CARVER, P.E.
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

SIGNATURE: *P.E.*

ROADWAY DESIGN ENGINEER

DocuSigned by:
William C Carver
163525A8519349F...
10/14/2024
P.E.
SIGNATURE:

NORTH CAROLINA PROFESSIONAL SEAL 041993 ENGINEER WILLIAM C CARVER

STATE OF NORTH CAROLINA • DEPARTMENT OF TRANSPORTATION •

14-OCT-2024 14:31
S:\DDC\Projects\Buncombe\SR 3548 Haywood Road\Roadway\Proj\Haywood Rd_DDC_tsh.dgn
$$$$USERNAME$$$$

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 041993 ENGINEER WILLIAM C. CARVER

DocuSigned by: William C Carver 07/30/2024

INDEX OF SHEETS

GENERAL NOTES:

2024 SPECIFICATIONS
EFFECTIVE: 01-16-2024
REVISED:

SIDE ROADS:

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

DRIVEWAYS:

DRIVEWAYS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STD. 848.02 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 RADII 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".

SUBSURFACE PLANS:

NO SUBSURFACE PLANS ARE AVAILABLE ON THIS PROJECT. THE CONTRACTOR SHOULD MAKE HIS OWN INVESTIGATION AS TO THE SUBSURFACE CONDITIONS.

CURB RAMPS:

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

UTILITIES:

UTILITY OWNERS ON THIS PROJECT ARE
- AT&T
- Duke Energy
- Charter Communications
- City of Asheville
- Traffic Services
- Metropolitan Sewer District

ANY RELOCATION OF EXISTING UTILITIES WILL BE ACCOMPLISHED BY OTHERS.

2024 ROADWAY ENGLISH STANDARD DRAWINGS

EFF. 01-16-2024
REV.

The following Roadway Standards as appear in "Roadway Standard Drawings" Highway Design Branch - 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
DIVISION 3 - PIPE CULVERTS	
300.01	Method of Pipe Installation
DIVISION 6 - ASPHALT BASES AND PAVEMENT	
654.01	Pavement Repairs for Superpave Mix Types
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
840.14	Concrete Drop Inlet - for 12" thru 30" Pipe
840.15	Brick Drop Inlet - for 12" thru 30" Pipe
840.16	Drop Inlet Frame and Grates - for use with Std. Dwg 840.14 and 840.15
840.25	Anchorage for Frames - Brick or Concrete or Precast
840.31	Concrete Junction Box - 12" thru 66" Pipe
840.32	Brick Junction Box - 12" thru 66" Pipe
840.34	Traffic Bearing Junction Box - for Use with Pipes 42" and Under
840.54	Manhole Frame and Cover
840.66	Drainage Structure Steps
846.01	Concrete Curb, Gutter and Curb & Gutter
848.01	Concrete Sidewalk
848.03	Driveway Turnout - Drop Curb Type
848.04	Street Turnout
848.06	Curb Ramp - Proposed Curb & Gutter
852.01	Concrete Islands
862.01	Guardrail Placement
862.02	Guardrail Installation

9/10/2021

PROJECT REFERENCE NO.	SHEET NO.
HL-0003	1B

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
- Existing Fence Line
- Proposed Woven Wire Fence
- Proposed Chain Link Fence
- Proposed Barbed Wire Fence
- Existing Wetland Boundary
- Proposed Wetland Boundary
- Existing Endangered Animal Boundary
- Existing Endangered Plant Boundary
- Existing Historic Property Boundary
- Known Contamination Area: Soil
- Potential Contamination Area: Soil
- Known Contamination Area: Water
- Potential Contamination Area: Water
- 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
- Buffer Zone 1
- Buffer Zone 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:

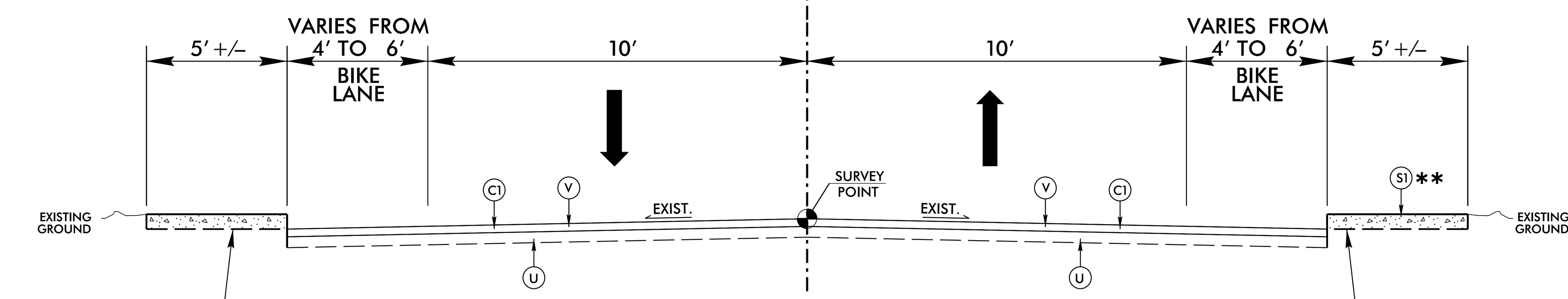
- Utility Pole
- Utility Pole with Base
- Utility Located Object
- Utility Traffic Signal Box
- Utility Unknown U/G Line (SUE – LOS B)*
- U/G Tank; Water, Gas, Oil
- Underground Storage Tank, Approx. Loc.
- A/G Tank; Water, Gas, Oil
- Geoenvironmental Boring
- Abandoned According to Utility Records —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

PROJECT REFERENCE NO.	SHEET NO.
HL-0003	2A-1
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 041993 ENGINEER WILLIAM C. CARVER

DocuSigned by: William C Carver 07/30/2024

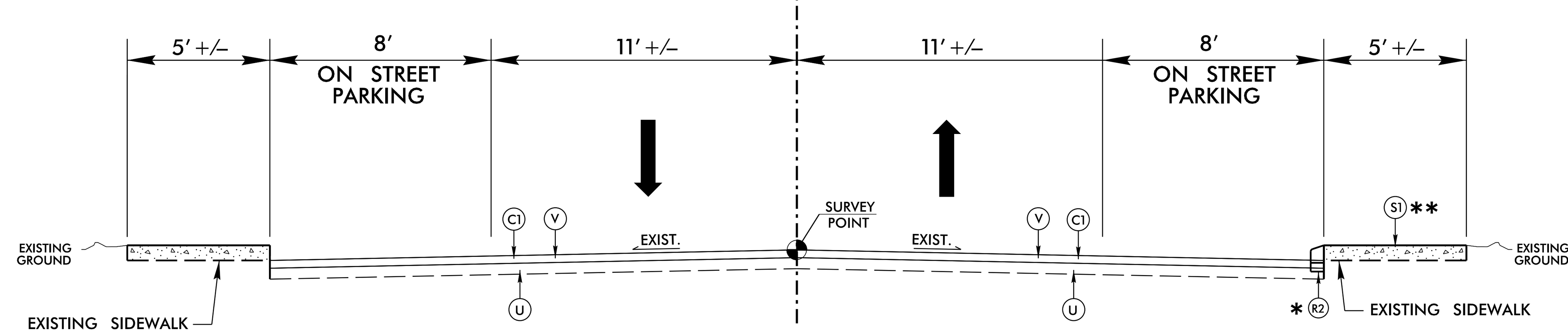
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



TYPICAL SECTION NO. 1

USE TYPICAL SECTION NO. 1
-L- STA. 10+00 TO STA. 36+92

** INSTALL 4" CONCRETE SIDEWALK
-EL- STA. 36+79 +/- TO STA. 36+92 +/- RT

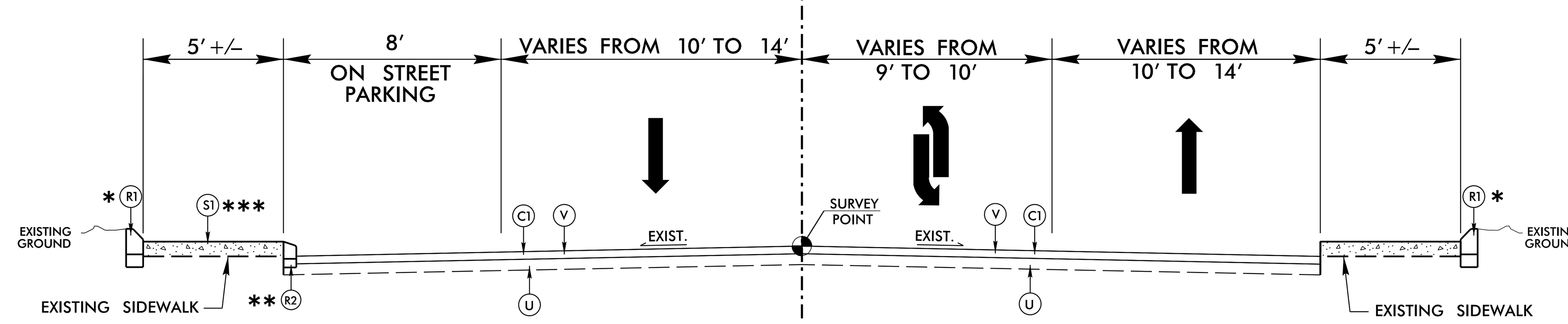


TYPICAL SECTION NO. 2

USE TYPICAL SECTION NO. 2
-L- STA. 36+92 TO STA. 49+00

* INSTALL 9" X 12" CONCRETE CURB
-EL- 37+49 +/- TO STA. 37+68 +/- RT

** INSTALL 4" CONCRETE SIDEWALK
-EL- STA. 37+49 +/- TO STA. 37+68 +/- RT



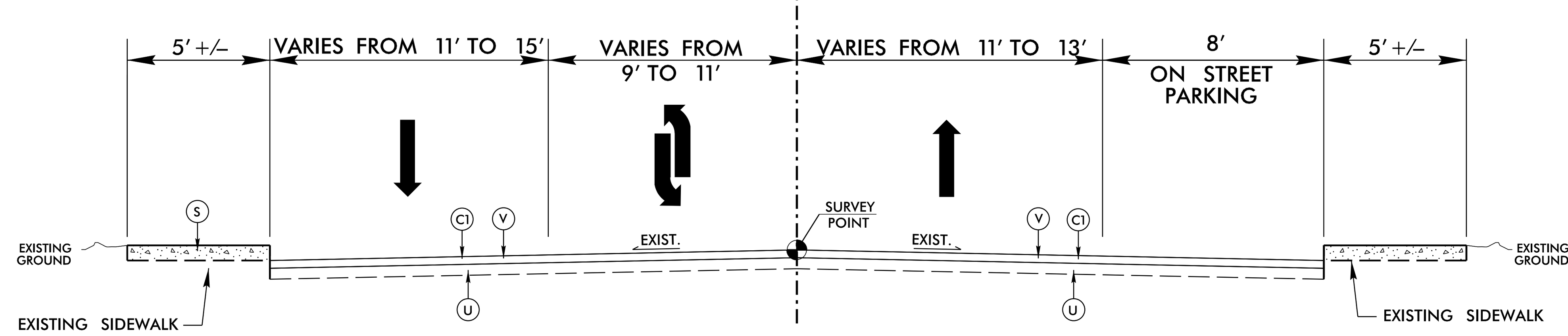
TYPICAL SECTION NO. 3

USE TYPICAL SECTION NO. 3
-L- STA. 49+00 TO STA. 69+50

* INSTALL 8" X 12" CONCRETE CURB
-EL- STA. 60+61 +/- TO STA. 60+79 +/- RT
-EL- STA. 67+37 +/- TO STA. 67+47 +/- LT

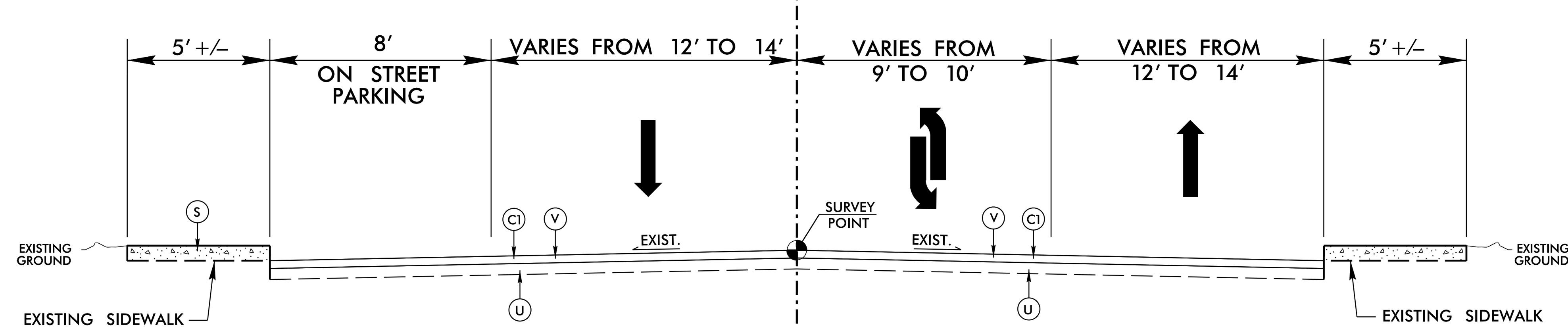
** INSTALL 9" X 12" CONCRETE CURB
-EL- STA. 68+95 +/- TO STA. 69+05 +/- LT

*** INSTALL 4" CONCRETE SIDEWALK
-EL- STA. 68+95 +/- TO STA. 69+05 +/- LT



TYPICAL SECTION NO. 4

USE TYPICAL SECTION NO. 4
-L- STA. 69+50 TO 75+00



TYPICAL SECTION NO. 5

USE TYPICAL SECTION NO. 5
-L- STA. 75+00 TO STA. 85+50

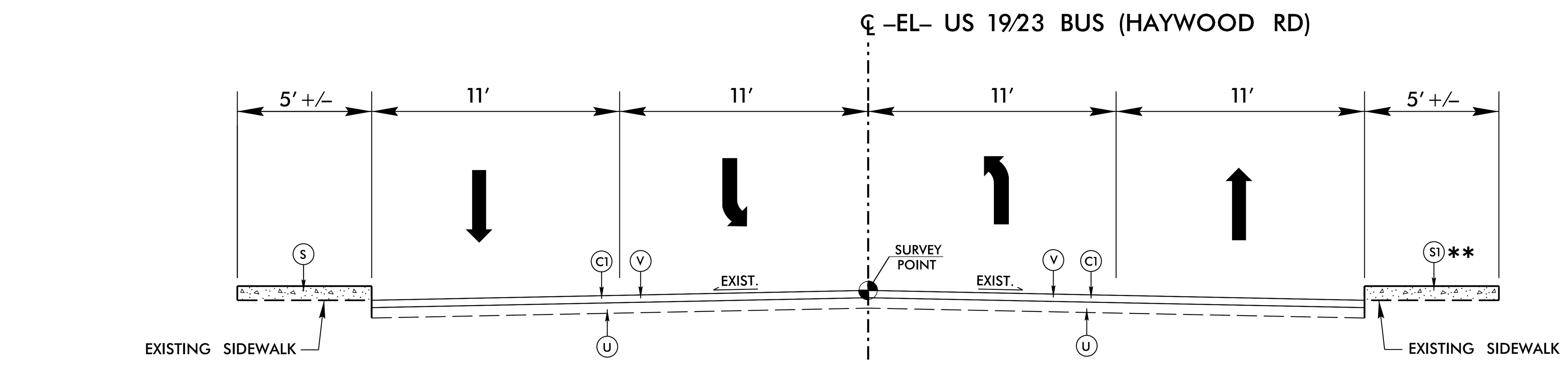
C1	PROP. APPROX. 1.5" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. OER SQ. YARD
R1	8" X 12" CONCRETE CURB
R2	9" X 12" CONCRETE CURB
S1	4" CONCRETE SIDEWALK
U	EXISTING PAVEMENT
V	1.5" FINE MILLING
V1	INCIDENTAL MILLING

PROJECT REFERENCE NO.	SHEET NO.
HL-0003	2A-2
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 041993 WILLIAM C. CARVER

DocuSigned by: William C Carver 07/30/2024

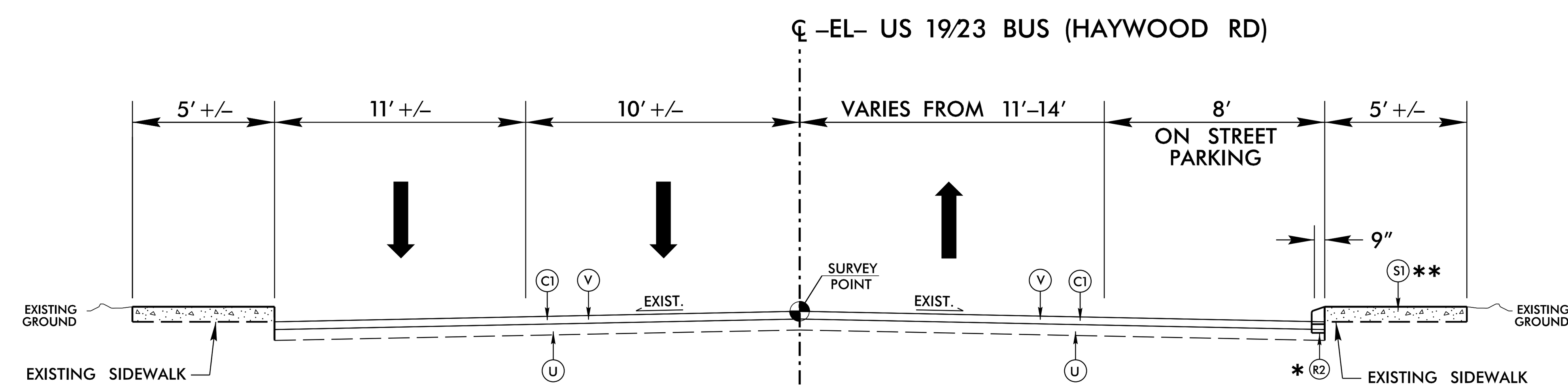
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



TYPICAL SECTION NO. 6

USE TYPICAL SECTION NO. 6
-L- STA. 85+50 TO STA. 88+00

** INSTALL 4" CONCRETE SIDEWALK
-EL- STA. 87+93 +/- TO STA. 87+99 +/- RT

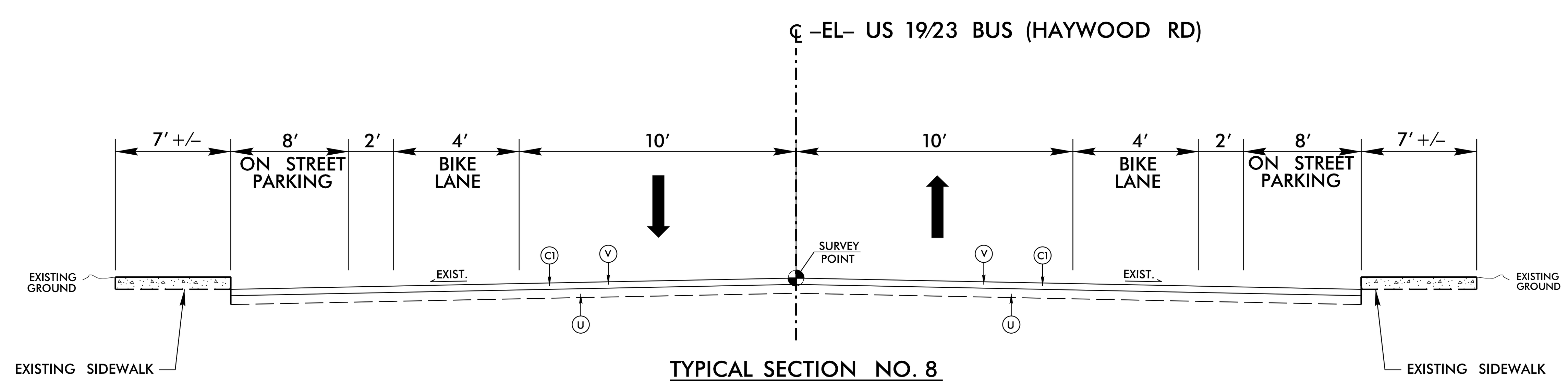


TYPICAL SECTION NO. 7

USE TYPICAL SECTION NO. 7
-L- STA. 88+00 TO STA. 94+22

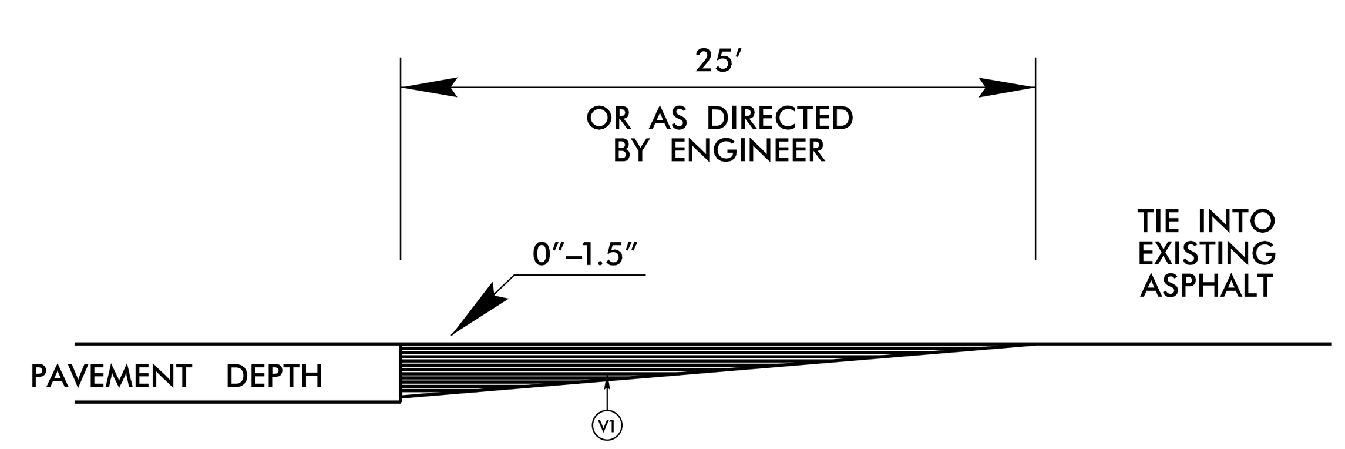
* INSTALL 9" X 12" CONCRETE CURB
-EL- STA. 93+18 +/- TO STA. 93+43 +/- RT

** INSTALL 4" CONCRETE SIDEWALK
-EL- STA. 93+18 +/- TO STA. 93+43 +/- RT



TYPICAL SECTION NO. 8

USE TYPICAL SECTION NO. 8
-L- STA. 94+22 TO STA. 111+00



DETAIL TO TIE INTO EXIST PAVEMENT

C1	PROP. APPROX. 1.5" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. OER SQ. YARD
R1	8" X 12" CONCRETE CURB
R2	9" X 12" CONCRETE CURB
S1	4" CONCRETE SIDEWALK
U	EXISTING PAVEMENT
V	1.5" FINE MILLING
V1	INCIDENTAL MILLING

6/2/99

29-JUL-2024 14:04
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6/2/99

PROJECT REFERENCE NO.	SHEET NO.
HL-0003	2B-1

ROADWAY DESIGN ENGINEER

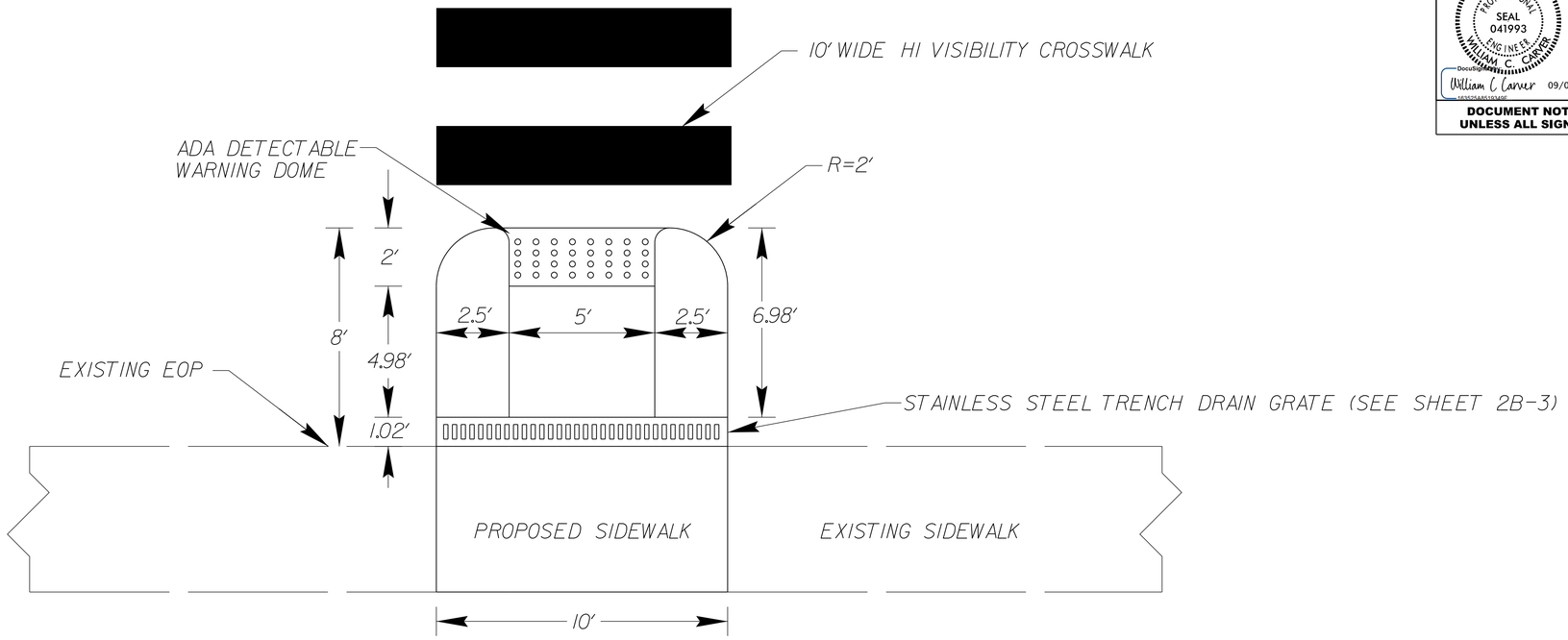
NORTH CAROLINA PROFESSIONAL SEAL 041993 ENGINEER WILLIAM C. CARVER

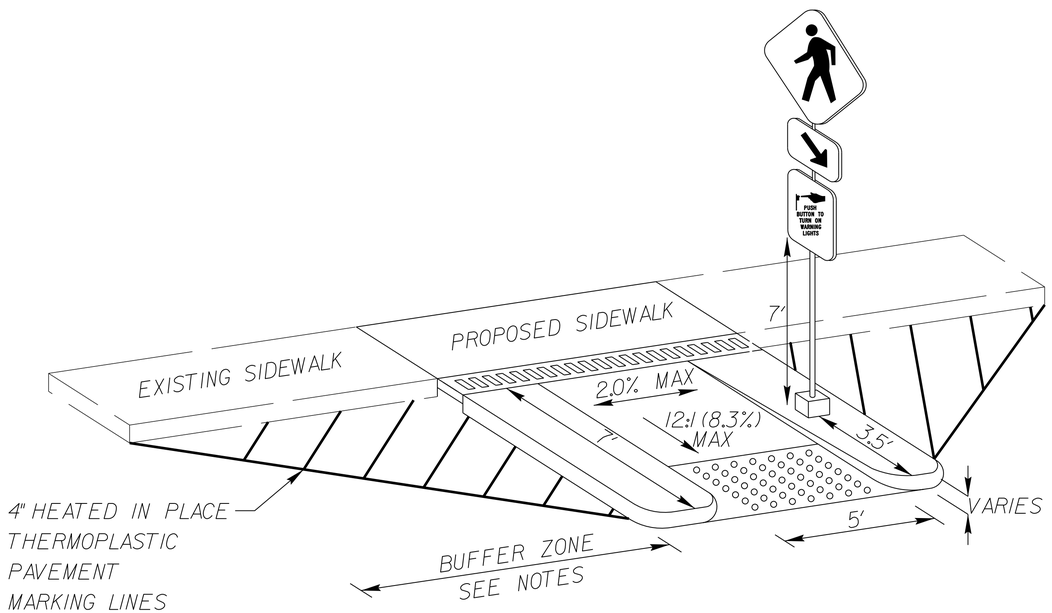
DocuSigned by: William C Carver 09/05/2024

PAVEMENT DESIGN ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

PEDESTRIAN BULBOUT DETAIL





NOTES:

USE CAST IRON DETECTABLE WARNINGS FOUND ON THE NCDOT APPROVED PRODUCTS LIST WITH A NATURAL FINISH TO ENCOURAGE A WEATHERED APPEARANCE LOOK AT LOCATIONS AS SHOWN IN THE PLANS. DETECTABLE WARNINGS SHALL BE APPROVED FOR USE BY THE ENGINEER PRIOR TO INSTALLATION.

BUFFER ZONE PAVEMENT MARKINGS SHALL BE A MINIMUM OF 20 FT IN LENGTH ON BOTH SIDES ON THE PEDESTRIAN BULB OUT AT MID BLOCK CROSSINGS.

BUFFER ZONE PAVEMENT MARKINGS SHALL BE A MINIMUM OF 30 FT IN LENGTH BEWTEEN THE PEDESTRIAN BULB OUT AND SIGNALIZED INTERSECTIONS.

05-SEP-2024 15:08
05_DOT_60_Buncombe\SR 3548 Haywood Road\Roadway\Proj\Haywood Rd_DOC_Bulbout Detail.dgn
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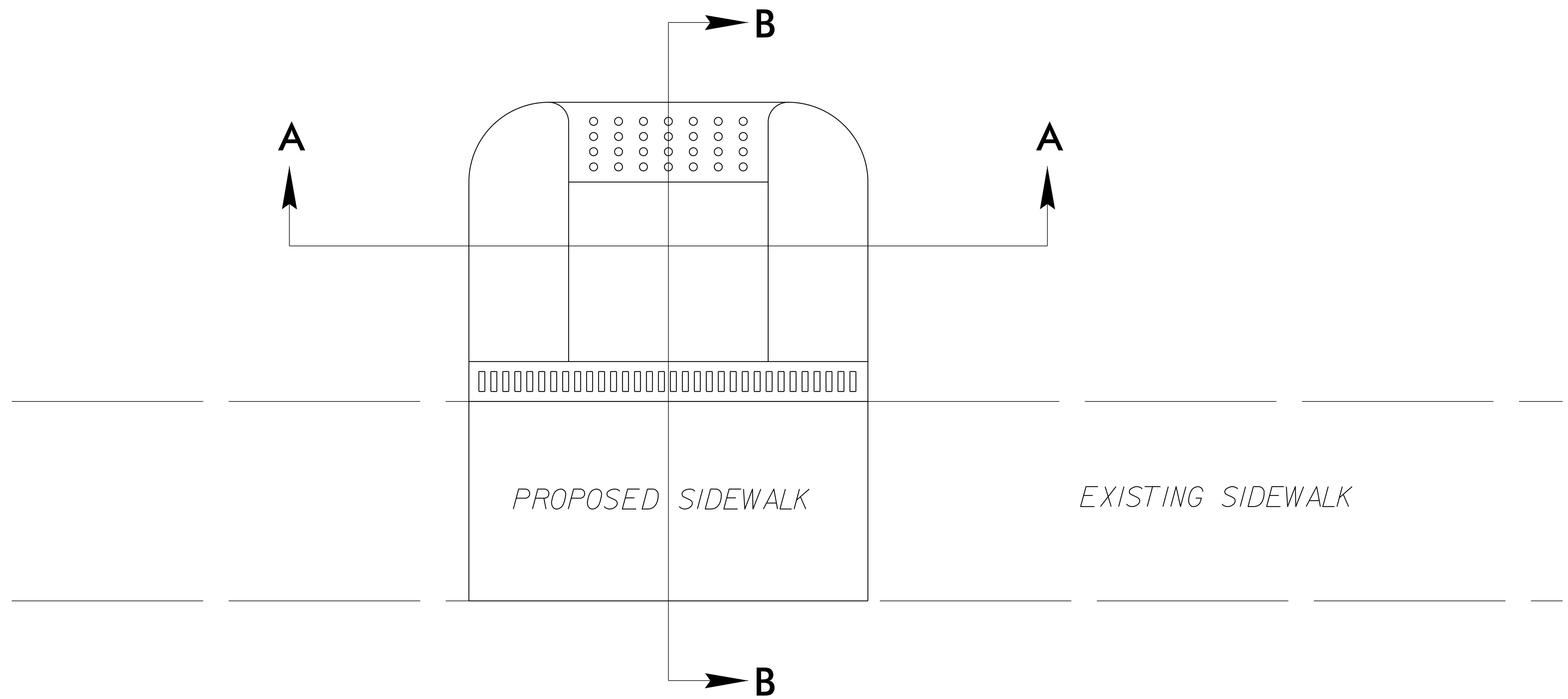
PROJECT REFERENCE NO.	SHEET NO.
HL-0003	2B-2
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

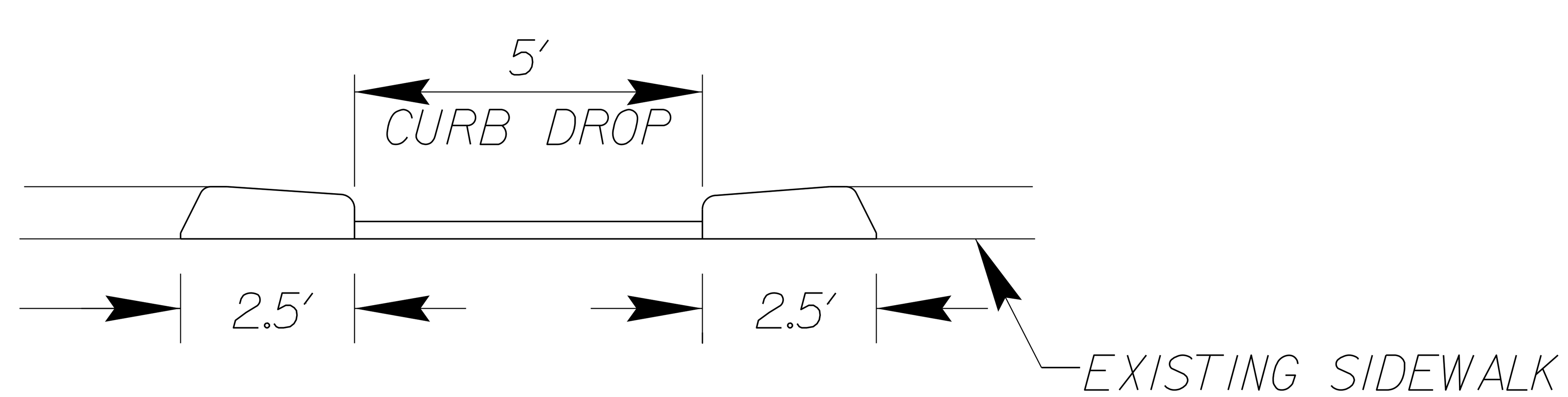
NORTH CAROLINA PROFESSIONAL SEAL 041993 ENGINEER WILLIAM C. CARVER

DocuSigned by: William C Carver 09/05/2024

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

PEDESTRIAN BULBOUT DETAIL (CONT.)





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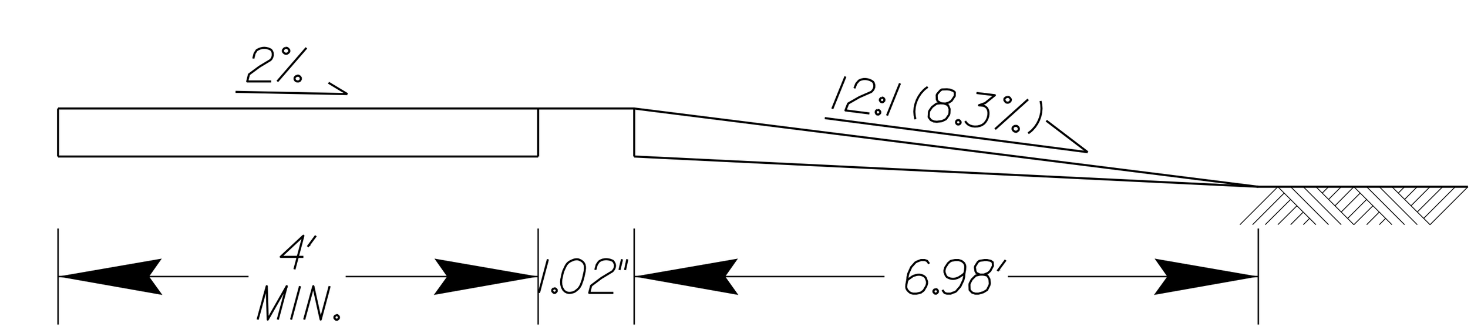

SECTION B–B

REVISIONS

8/17/99

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PROJECT REFERENCE NO.	SHEET NO.
HL-0003	2B-3
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER

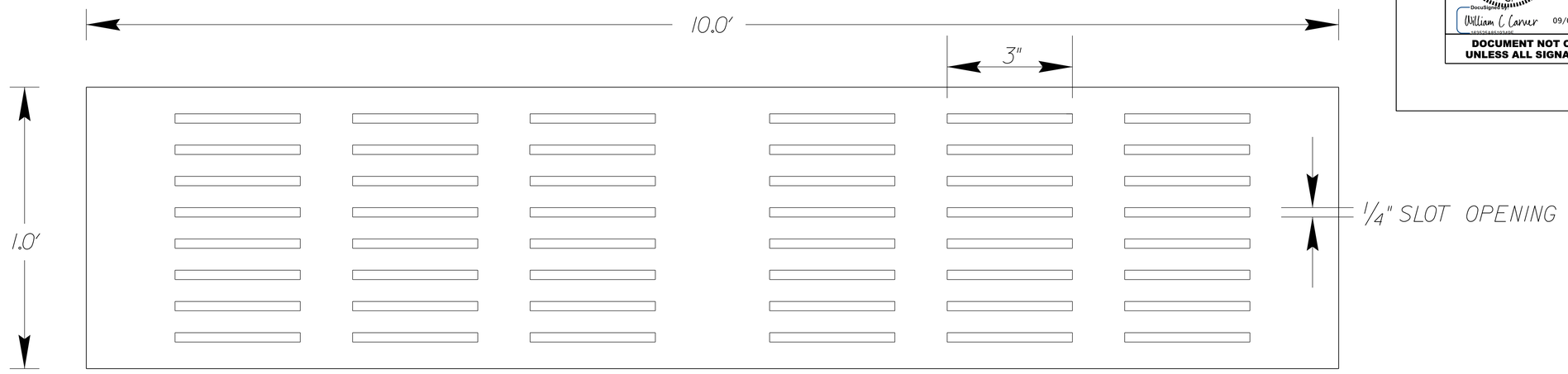
NORTH CAROLINA PROFESSIONAL SEAL 041993 ENGINEER WILLIAM C. CARVER

DocuSigned by: William C Carver 09/05/2024

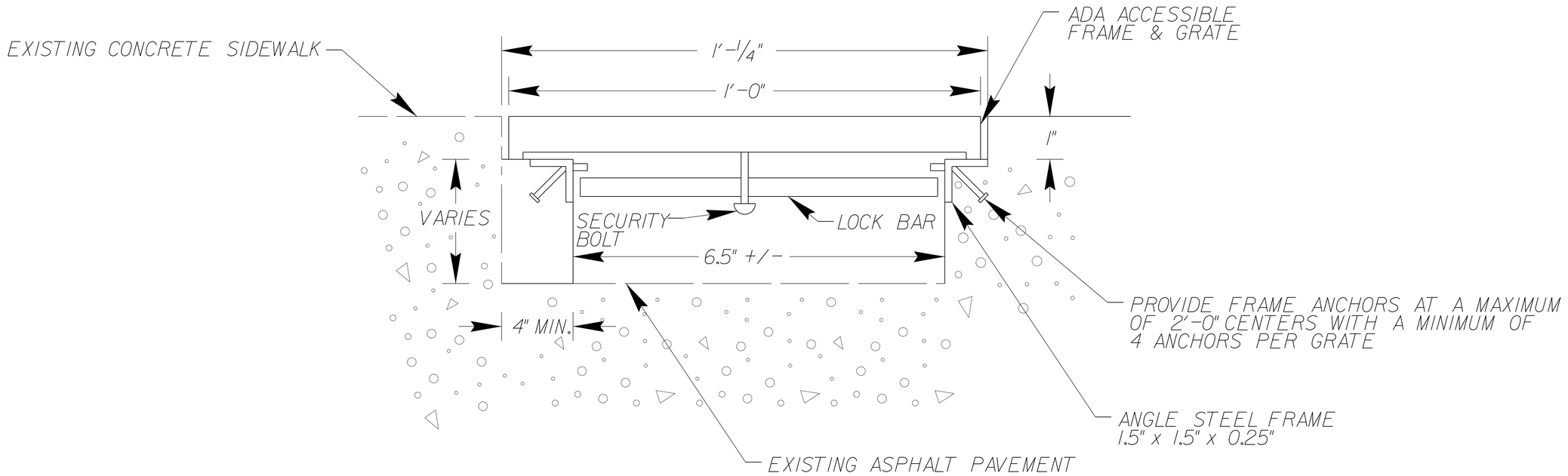
HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

PEDESTRIAN BULB OUT TRENCH DRAIN GRATE DETAIL



12" WIDE ADA STAINLESS STEEL GRATE



CROSS SECTION

REVISIONS

8/17/99

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PROJECT REFERENCE NO.	SHEET NO.
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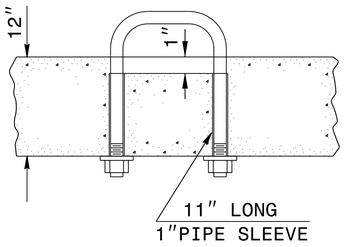

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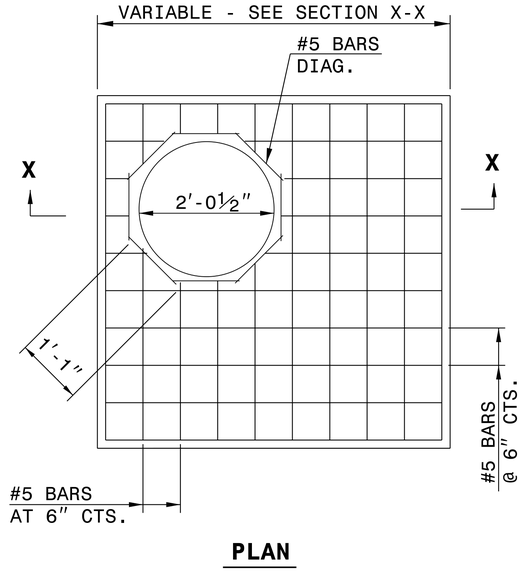
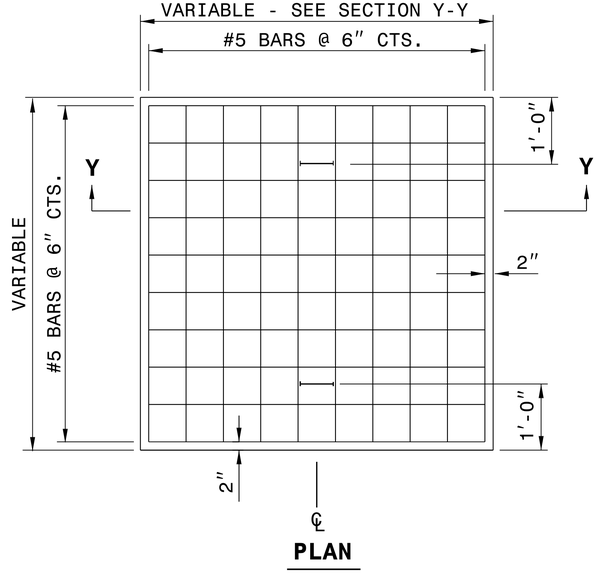


PLAN



PLAN

GENERAL NOTES:

CONSTRUCT IN ACCORDANCE WITH SECTION 859 OF THE STANDARD SPECIFICATIONS.

FIELD VERIFY THE DIMENSIONS FOR THE EXISTING BOXES.

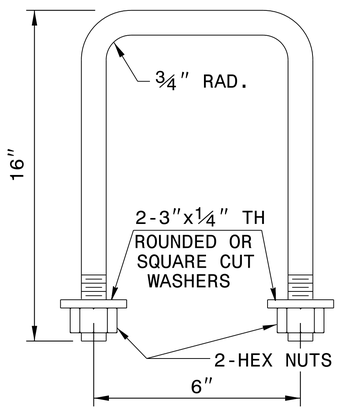
BILL OF MATERIALS

MASONRY	
TOP SLAB CONCRETE CLASS "A"	.037YDS^3 PER FT^2
BRICK MASONRY	.025YDS^3 PER FT^2
REINFORCING STEEL	7.64LBS PER FT^2

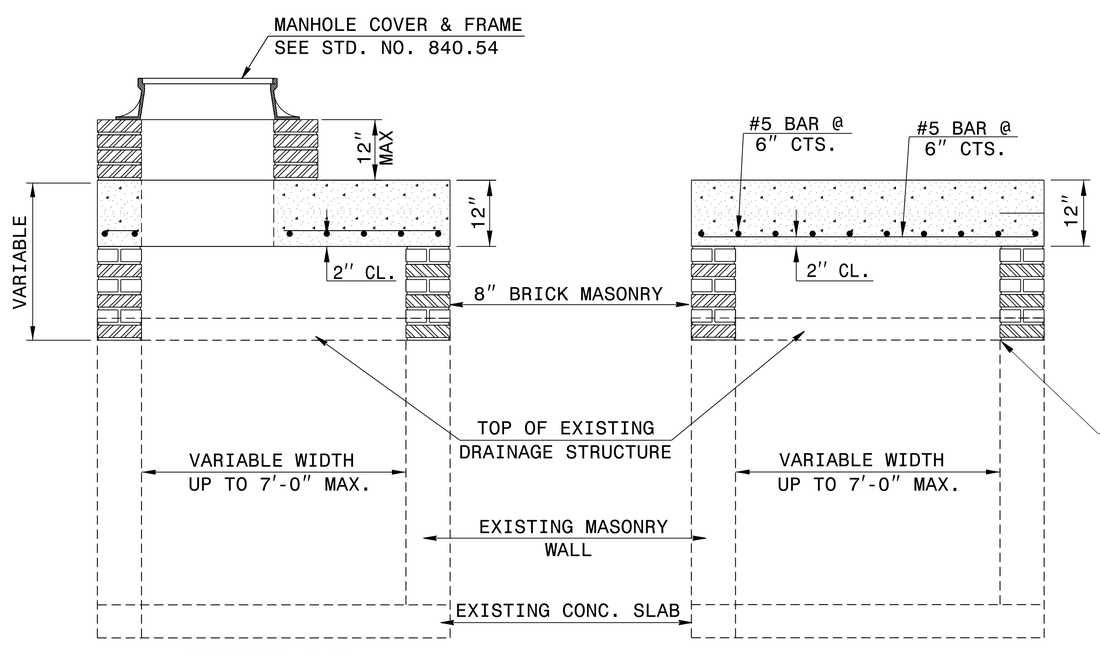
MANHOLE OPTION QUANTITIES			
SIZE	QTY.	LENGTH	REINF. STEEL LBS.
#5 DIAG.	8	1'-1"	9.04

NOTE:
CONCRETE AND REINFORCING STEEL QUANTITIES BASED ON SQUARE FOOT AREA OF THE PROPOSED TOP SLAB FOR THE EXISTING DRAINAGE STRUCTURE.

BRICK MASONRY QUANTITY IS BASED ON THE TOTAL SQUARE FOOTAGE OF EXTERIOR WALL SURFACE AREA TO BE CONSTRUCTED.



DETAIL OF HANDLE



SECTION X-X

SECTION Y-Y

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 33144 NICOLE M. HACKLER

DocuSigned by:
Nicole M. Hackler
5884323D34164C5...

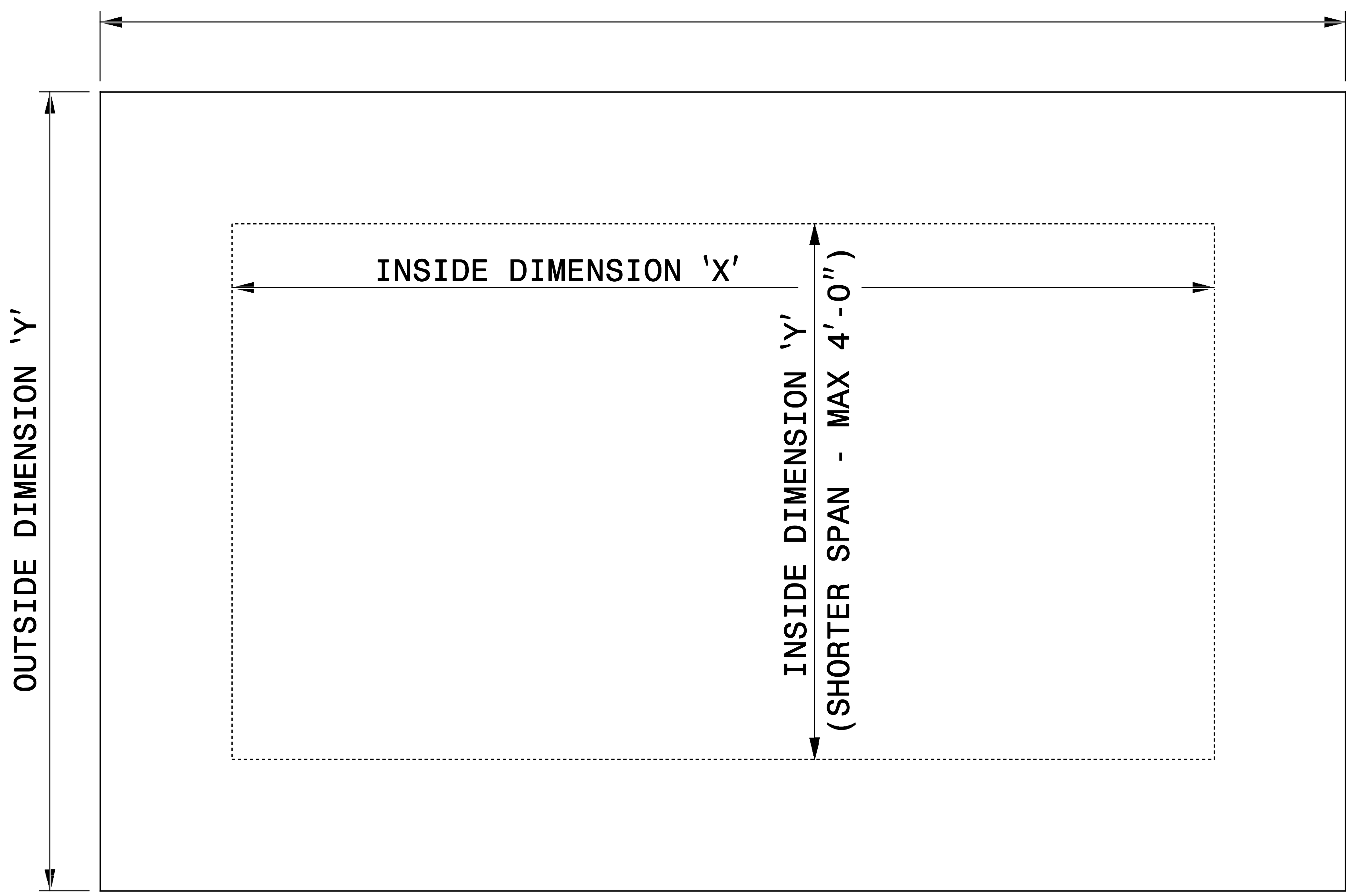
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

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

DETAIL TO CONVERT EXISTING TRAFFIC BEARING DROP INLET OR CATCH BASIN TO TRAFFIC BEARING JUNCTION BOX (MANHOLE OPTIONAL)

ORIGINAL BY: T.S.S. DATE: FEB.2000
MODIFIED BY: E.E.W. DATE: NOV.2001
CHECKED BY: DATE:
FILE SPEC.: w:ericward/usr/details/stand/boxtotbjbe.dgn

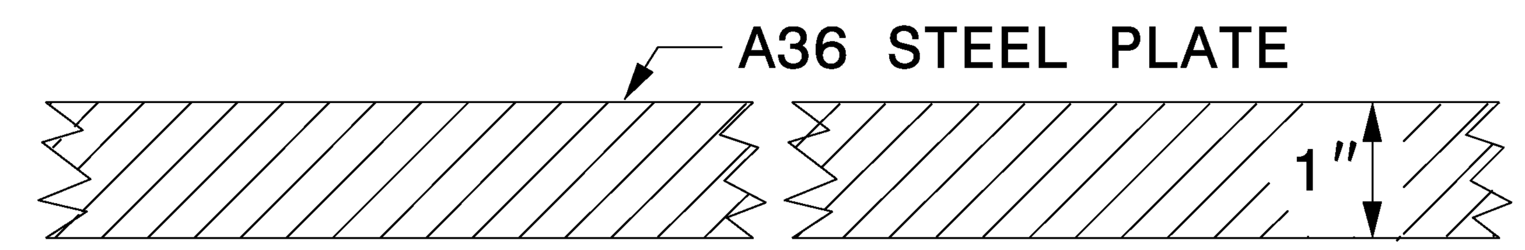
PROJECT REFERENCE NO.	SHEET NO.
3	



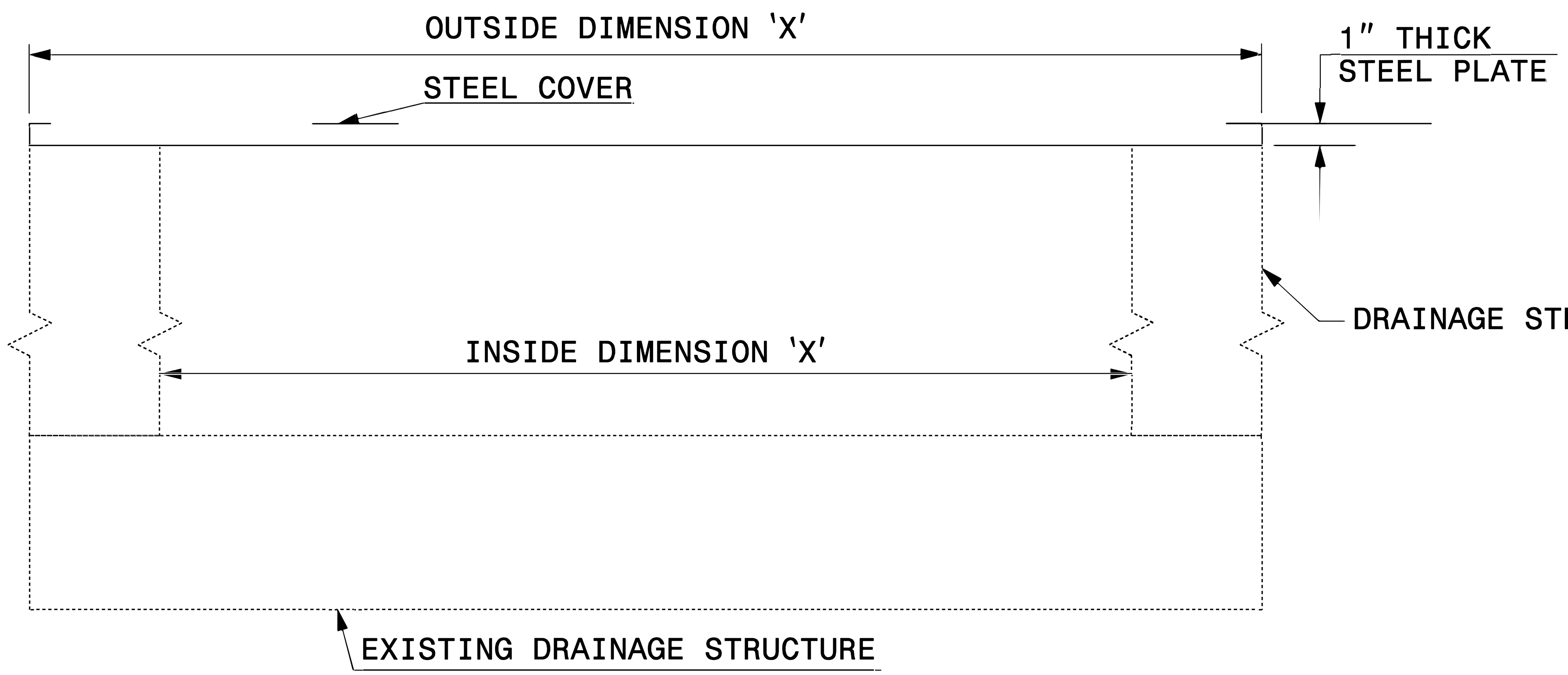
PLAN VIEWS

GENERAL NOTES:

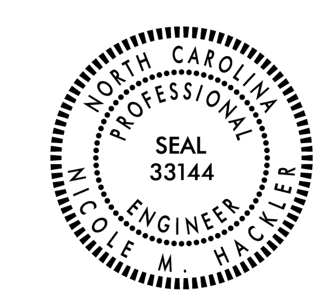
-USE GRADE A36 STEEL
-STEEL COVERS ARE FOR TEMPORARY USE DURING PHASE CONSTRUCTION.
-FILL SHALL BE PLACED DIRECTLY OVER THE STEEL PLATES.
-SEE ROADWAY PLANS AND PROVISIONS FOR LOCATIONS
-QUANTITES TO BE PAID FOR AT THE UNIT PRICE BID PER EACH.



SECTION VIEW OF STEEL TOP PLATE



ELEVATION VIEWS



DocuSigned by:
Nicole M. Hackler
5884323D34164C5...

$$$$$$SYSTIME$$$$$
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$$$$USERNAME$$$$

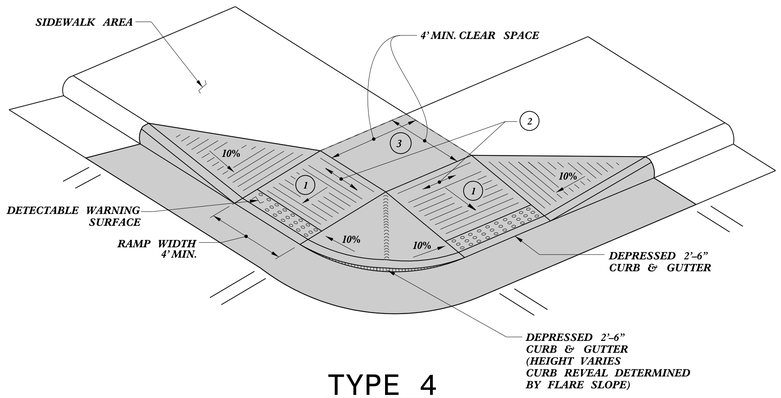
DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

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

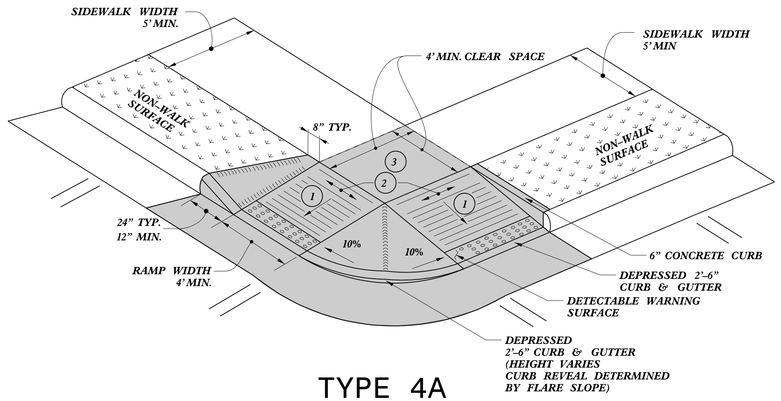
DETAIL OF TEMPORARY
1" STEEL COVER
OVER DRAINAGE STRUCTURE

ORIGINAL BY: E.E. WARD DATE: 2-2-98
MODIFIED BY: DATE:
CHECKED BY: DATE:
FILE SPEC.: eric:/usr/details/metric/stand/stlcvr2.dgn

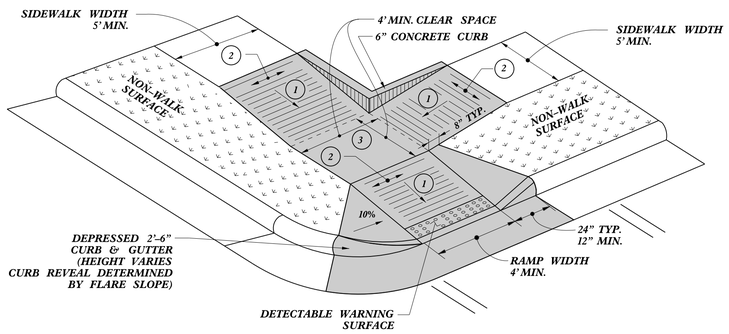
PROJECT REFERENCE NO.	SHEET NO.
HL-0003	2C-3



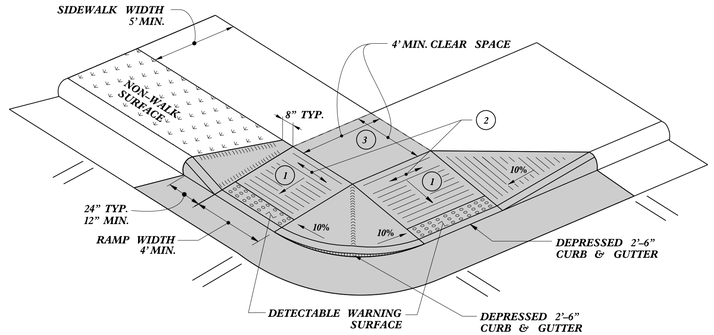
TYPE 4



TYPE 4A



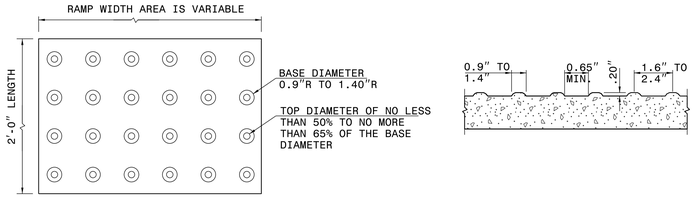
TYPE 4B



TYPE 4C

NOTES:
DETECTABLE WARNING SURFACE SHALL COVER 2'-0" LENGTH AND FULL WIDTH OF THE RAMP FLOOR AS SHOWN ON THE DETAILS.

DETECTABLE WARNING SURFACE SHALL CONTRAST VISIBLY WITH ADJOINING SURFACE, EITHER LIGHT-ON-DARK, OR DARK-ON-LIGHT SEQUENCE COVERING THE ENTIRE RAMP.



DETECTABLE WARNING SURFACE

1. *8.33% (12:1) MAX RAMP SLOPE*
2. *CROSS SLOPE: 2.00%*
3. *MAXIMUM CROSS SLOPE AND LONGITUDINAL SLOPE OF 2.00%.*

PAY LIMITS FOR 1 OR 2 CURB RAMPS (CALCULATE BASED ON NUMBER OF SETS OF DETECTABLE WARNING SURFACES

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

ROADWAY DETAIL DRAWING FOR

CURB RAMP

SHARED LANDING

SHEET 10 OF 13

848D06

NORTH CAROLINA PROFESSIONAL SEAL 033144 ENGINEER NICOLE M. HACKLER

DocuSigned by:
Nicole M. Hackler
5884323D3416405...

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

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

SEE TITLE BLOCK

ORIGINAL BY: S.CALHOUN DATE: 12-22-2023
MODIFIED BY: DATE:
CHECKED BY: DATE:
FILE SPEC.: special details\nmhackler\848D0610.dgn

COMPUTED BY: ____________ DATE: ____________
CHECKED BY: ____________ DATE: ____________

PROJECT REFERENCE NO.	SHEET NO.
HL-0003	3-D

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

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

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

STATION	LOCATION (LT,RT, OR CL)	STRUCTURE NO. FROM	STRUCTURE NO. TO	TOP ELEVATION	INVERT ELEVATION	INVERT ELEVATION	SLOPE CRITICAL	SIDE DRAIN PIPE (RCP, CSP, CAAP, HDPE, or PVC) 12"	15"	18"	24"	30"	36"	42"	48"	DO NOT USE RCP	DO NOT USE CSP	DO NOT USE CAAP	DO NOT USE HDPE
SIZE / THICKNESS OR GAUGE																			
-EL- 20+55	LT	401																	
-EL- 47+07	LT	601																	
-EL- 47+10	RT	602																	
-EL- 48+02	LT	603																	
-EL- 48+38	LT	604																	
-EL- 64+15	LT	701																	
-EL- 65+31	RT	702																	
-EL- 66+42	RT	703																	
-EL- 66+45	RT	704		EXIST															
-EL- 66+94	RT	705																	
-EL- 66+97	LT	706																	
-EL- 69+47	LT	801																	
-EL- 70+68	LT	802																	
-EL- 70+93	LT	803																	
-EL- 71+05	LT	804		EXIST															
	LT	804	803		MATCH EXIST	MATCH EXIST			20										
-EL- 79+66	RT	805																	
-EL- 85+38	RT	901																	
-EL- 85+74	LT	902																	
-EL- 88+72	RT	903																	
-EL- 88+85	LT	904																	
-EL- 101+46	RT	1001																	
-EL- 101+50	LT	1002																	
-EL- 108+47	LT	1003																	
-EL- 108+75	RT	1004		EXIST															
-EL- 108+70	LT	1005																	
-EL- 109+22	LT	1006		EXIST															
						SHEET TOTALS			20										

STATION	C.S. PIPE 12" .064	15" .064	18" .064	24" .064	36" .079	42" .109	48" .109	R.C. PIPE (CLASS III) 15"	18"	24"	30"	36"	42"	48"	R.C. PIPE (CLASS IV) 12"	15"	18"	24"	30"	36"	42"	48"
-EL- 20+55																						
-EL- 47+07																						
-EL- 47+10																						
-EL- 48+02																						
-EL- 48+38																						
-EL- 64+15																						
-EL- 65+31																						
-EL- 66+42																						
-EL- 66+45																						
-EL- 66+94																						
-EL- 66+97																						
-EL- 69+47																						
-EL- 70+68																						
-EL- 70+93																						
-EL- 71+05																						
-EL- 79+66																						
-EL- 85+38																						
-EL- 85+74																						
-EL- 88+72																						
-EL- 88+85																						
-EL- 101+46																						
-EL- 101+50																						
-EL- 108+47																						
-EL- 108+75																						
-EL- 108+70																						
-EL- 109+22																						
SHEET TOTALS																						

STATION	*** R. C. PIPE (CLASS V)	*** R. C. PIPE CULVERTS, CONTRACTOR DESIGN PIPE	*** R. C. PIPE CULVERTS, CONTRACTOR DESIGN PIPE	15" SIDE DRAIN PIPE	18" SIDE DRAIN PIPE	ENDWALLS STD. 838.01, STD. 838.11 OR STD. 838.80 (UNLESS NOTED OTHERWISE) CU. YDS. R.C.P.	C.S.P.	QUANTITIES FOR DRAINAGE STRUCTURES PER EACH (0' THRU 5.0')	* TOTAL L.F. FOR PAY QUANTITY SHALL BE COL. 'A' + (1.3 X COL. 'B') LIN. FT. A 5.0' THRU 10.0'	B 10.0' AND ABOVE	C.B. STD. 840.01 OR STD. 840.02	FRAME, GRATES AND HOOD STANDARD 840.03 TYPE OF GRATE E	F	G		CONCRETE TRANSITIONAL SECTION CATCH BASIN	DROP INLET	TEMPORARY STEEL PLATE COVERS	DRAINAGE STRUCTURE CLEAN OUT	ADA FRAME AND GRATE	MANHOLE FRAME AND COVER 840.54	CONVERT TRAFFIC BEARING DROP INLET TO TRAFFIC BEARING JUNCTION BOX	TEMPORARY STEEL PLATE COVER RESET	CORR. STEEL ELBOWS NO. & SIZE	CONC. COLLARS CL. "B" C.Y. STD 840.72	CONC. & BRICK PIPE PLUG, C.Y. STD. 840.71	PIPE REMOVAL LIN.FT.	REMARKS
-EL- 20+55																			1	1								
-EL- 47+07																			1	1								
-EL- 47+10																			1	1								
-EL- 48+02																			1	1								
-EL- 48+38																			1	1								
-EL- 64+15																			1	1								
-EL- 65+31																			1	1								
-EL- 66+42																			1	1								
-EL- 66+45								1												1			1					
-EL- 66+94																			1	1								
-EL- 66+97																			1	1								
-EL- 69+47																			1	1								
-EL- 70+68																			1	1								
-EL- 70+93																		1	1		1	1						CONVERT EXISTING TBDI TO TBJB W/MANHOLE
-EL- 71+05								1										1		1								
-EL- 79+66																			1	1								
-EL- 85+38																			1	1								
-EL- 85+74																			1	1								
-EL- 88+72																			1	1								
-EL- 88+85																			1	1								
-EL- 101+46																			1	1								
-EL- 101+50																			1	1								
-EL- 108+47																			1	1								
-EL- 108+75								1												1			1					
-EL- 108+70																			1	1								
-EL- 109+22								1												1								
SHEET TOTALS								4										2	22	25	1	1	2					

ABBREVIATIONS

C.B.	CATCH BASIN
N.D.I.	NARROW DROP INLET
D.I.	DROP INLET
G.D.I.	GRATED DROP INLET
G.D.I. (N.S.)	GRATED DROP INLET (NARROW SLOT)
J.B.	JUNCTION BOX
M.H.	MANHOLE
T.B.D.I.	TRAFFIC BEARING DROP INLET
T.B.J.B.	TRAFFIC BEARING JUNCTION BOX

PROJECT REFERENCE NO.	SHEET NO.
HL-0003	4
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 041993 ENGINEER WILLIAM C. CARVER

DocuSigned by: William C Carver 09/03/2024

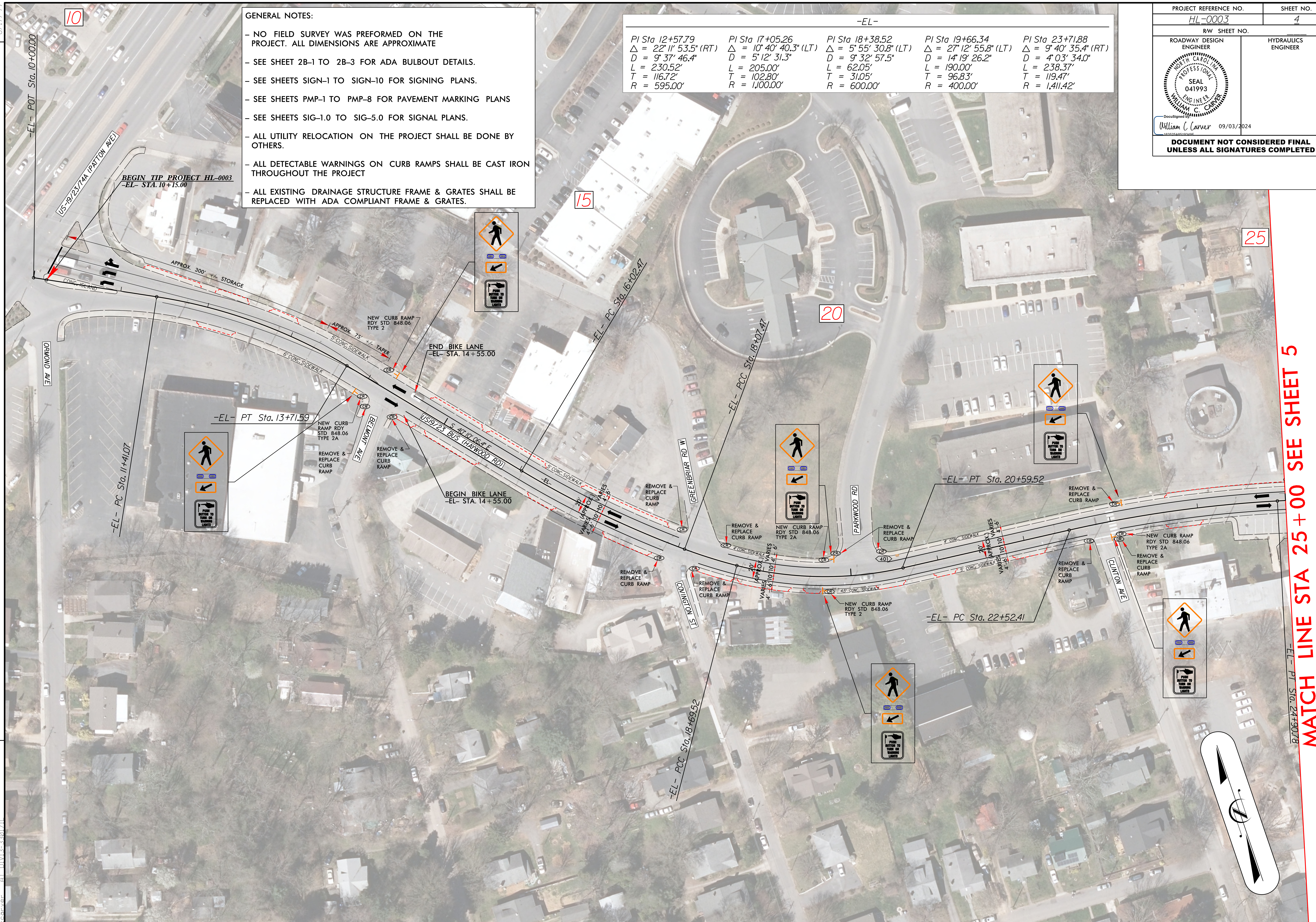
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

GENERAL NOTES:

- NO FIELD SURVEY WAS PREFORMED ON THE PROJECT. ALL DIMENSIONS ARE APPROXIMATE
- SEE SHEET 2B-1 TO 2B-3 FOR ADA BULBOUT DETAILS.
- SEE SHEETS SIGN-1 TO SIGN-10 FOR SIGNING PLANS.
- SEE SHEETS PMP-1 TO PMP-8 FOR PAVEMENT MARKING PLANS
- SEE SHEETS SIG-1.0 TO SIG-5.0 FOR SIGNAL PLANS.
- ALL UTILITY RELOCATION ON THE PROJECT SHALL BE DONE BY OTHERS.
- ALL DETECTABLE WARNINGS ON CURB RAMPS SHALL BE CAST IRON THROUGHOUT THE PROJECT
- ALL EXISTING DRAINAGE STRUCTURE FRAME & GRATES SHALL BE REPLACED WITH ADA COMPLIANT FRAME & GRATES.

-EL-

PI Sta 12+57.79	PI Sta 17+05.26	PI Sta 18+38.52	PI Sta 19+66.34	PI Sta 23+71.88
△ = 22° 11' 53.5" (RT)	△ = 10° 40' 40.3" (LT)	△ = 5° 55' 30.8" (LT)	△ = 27° 12' 55.8" (LT)	△ = 9° 40' 35.4" (RT)
D = 9° 37' 46.4"	D = 5° 12' 31.3"	D = 9° 32' 57.5"	D = 14° 19' 26.2"	D = 4° 03' 34.0"
L = 230.52'	L = 205.00'	L = 62.05'	L = 190.00'	L = 238.37'
T = 116.72'	T = 102.80'	T = 31.05'	T = 96.83'	T = 119.47'
R = 595.00'	R = 1,100.00'	R = 600.00'	R = 400.00'	R = 1,411.42'



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PROJECT REFERENCE NO.	SHEET NO.
HL-0003	5

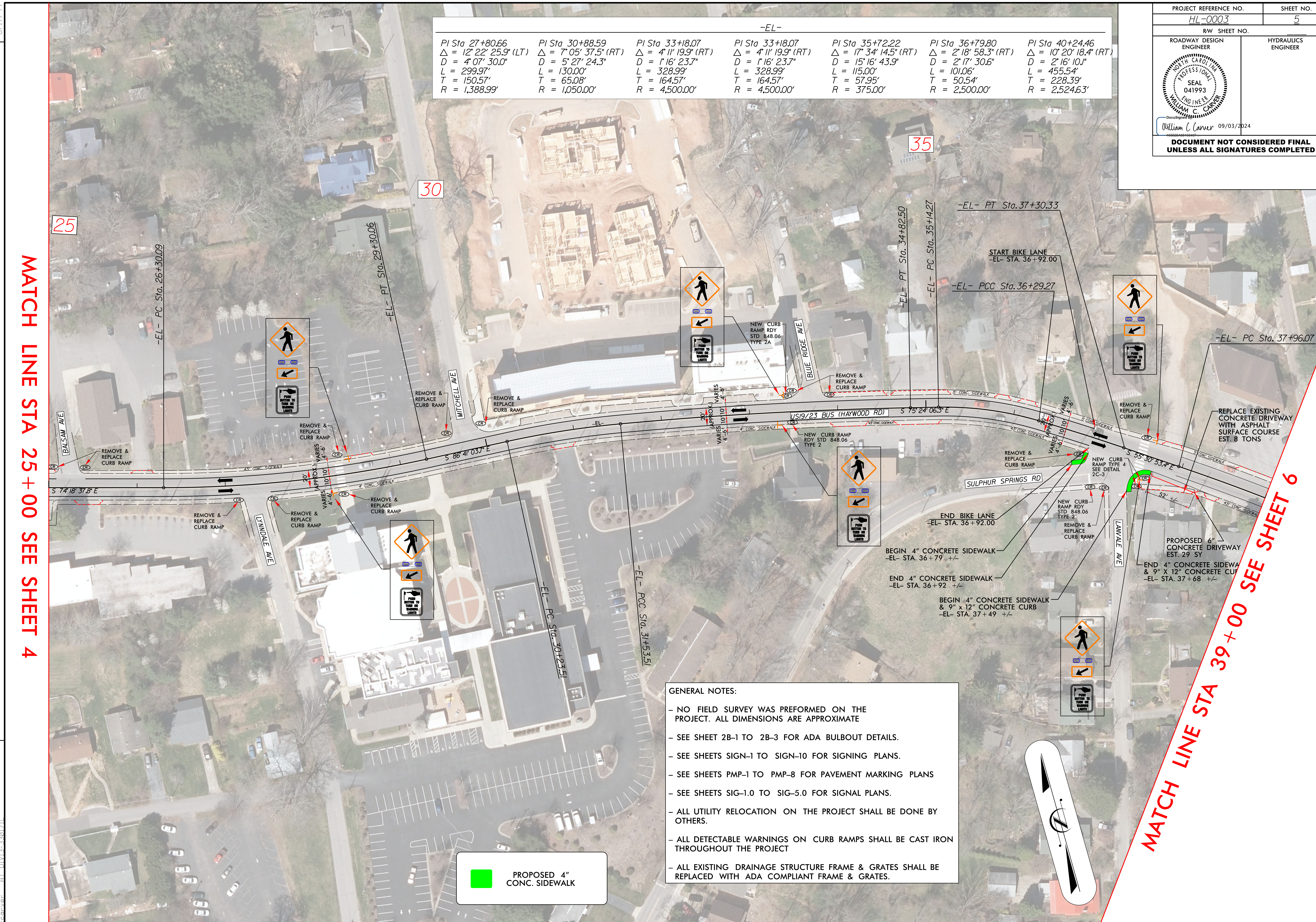
R/W SHEET NO. ____

ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 041993 WILLIAM C. CARVER DocuSigned by: William C Carver 09/03/2024 163525A8519349F...	

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

-EL-

PI Sta 27+80.66	PI Sta 30+88.59	PI Sta 33+18.07	PI Sta 33+18.07	PI Sta 35+72.22	PI Sta 36+79.80	PI Sta 40+24.46
Δ = 12° 22′ 25.9″ (LT)	Δ = 7° 05′ 37.5″ (RT)	Δ = 4° 11′ 19.9″ (RT)	Δ = 4° 11′ 19.9″ (RT)	Δ = 17° 34′ 14.5″ (RT)	Δ = 2° 18′ 58.3″ (RT)	Δ = 10° 20′ 18.4″ (RT)
D = 4° 07′ 30.0″	D = 5° 27′ 24.3″	D = 1° 16′ 23.7″	D = 1° 16′ 23.7″	D = 15° 16′ 43.9″	D = 2° 17′ 30.6″	D = 2° 16′ 10.1″
L = 299.97′	L = 130.00′	L = 328.99′	L = 328.99′	L = 115.00′	L = 101.06′	L = 455.54′
T = 150.57′	T = 65.08′	T = 164.57′	T = 164.57′	T = 57.95′	T = 50.54′	T = 228.39′
R = 1,388.99′	R = 1,050.00′	R = 4,500.00′	R = 4,500.00′	R = 375.00′	R = 2,500.00′	R = 2,524.63′



PROPOSED 4″ CONC. SIDEWALK

GENERAL NOTES:

- NO FIELD SURVEY WAS PREFORMED ON THE PROJECT. ALL DIMENSIONS ARE APPROXIMATE
- SEE SHEET 2B-1 TO 2B-3 FOR ADA BULBOUT DETAILS.
- SEE SHEETS SIGN-1 TO SIGN-10 FOR SIGNING PLANS.
- SEE SHEETS PMP-1 TO PMP-8 FOR PAVEMENT MARKING PLANS
- SEE SHEETS SIG-1.0 TO SIG-5.0 FOR SIGNAL PLANS.
- ALL UTILITY RELOCATION ON THE PROJECT SHALL BE DONE BY OTHERS.
- ALL DETECTABLE WARNINGS ON CURB RAMPS SHALL BE CAST IRON THROUGHOUT THE PROJECT
- ALL EXISTING DRAINAGE STRUCTURE FRAME & GRATES SHALL BE REPLACED WITH ADA COMPLIANT FRAME & GRATES.

REVISIONS

8/17/99

03-SEP-2024 09:31
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-EL-		
PI Sta 40+24.46	PI Sta 44+59.37	PI Sta 48+52.67
Δ = 10° 20' 18.4" (RT)	Δ = 11° 01' 29.1" (LT)	Δ = 1° 19' 40.7" (RT)
D = 2° 16' 10.1"	D = 5° 43' 46.5"	D = 0° 18' 25.7"
L = 455.54'	L = 192.42'	L = 432.37'
T = 228.39'	T = 96.51'	T = 216.19'
R = 2,524.63'	R = 1,000.00'	R = 18,654.77'

GENERAL NOTES:

- NO FIELD SURVEY WAS PREFORMED ON THE PROJECT. ALL DIMENSIONS ARE APPROXIMATE
- SEE SHEET 2B-1 TO 2B-3 FOR ADA BULBOUT DETAILS.
- SEE SHEETS SIGN-1 TO SIGN-10 FOR SIGNING PLANS.
- SEE SHEETS PMP-1 TO PMP-8 FOR PAVEMENT MARKING PLANS
- SEE SHEETS SIG-1.0 TO SIG-5.0 FOR SIGNAL PLANS.
- ALL UTILITY RELOCATION ON THE PROJECT SHALL BE DONE BY OTHERS.
- ALL DETECTABLE WARNINGS ON CURB RAMPS SHALL BE CAST IRON THROUGHOUT THE PROJECT
- ALL EXISTING DRAINAGE STRUCTURE FRAME & GRATES SHALL BE REPLACED WITH ADA COMPLIANT FRAME & GRATES.

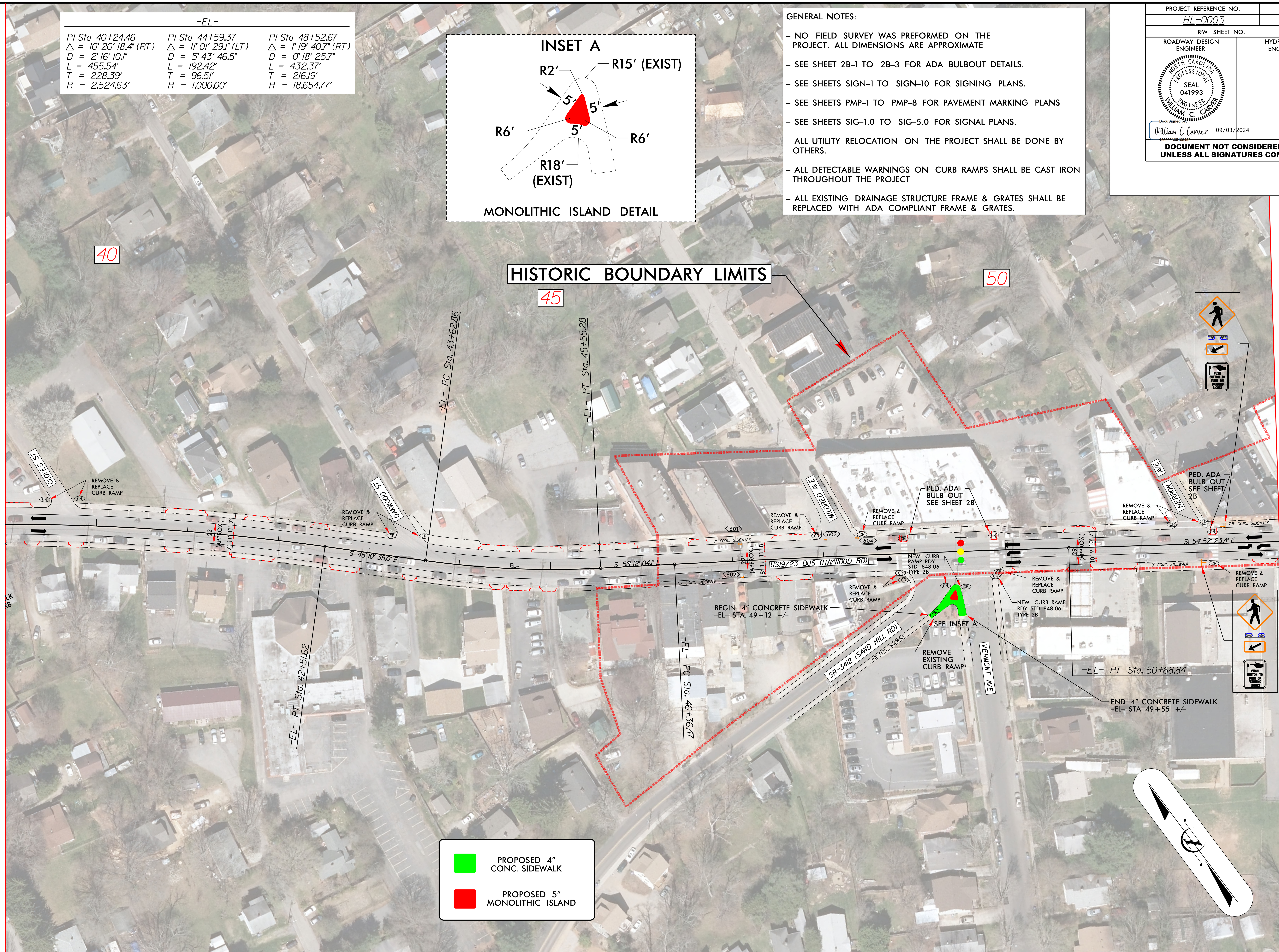
PROJECT REFERENCE NO.	SHEET NO.
HL-0003	6
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 041993 WILLIAM C. CARVER

William C Carver 09/03/2024

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

REVISIONS



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