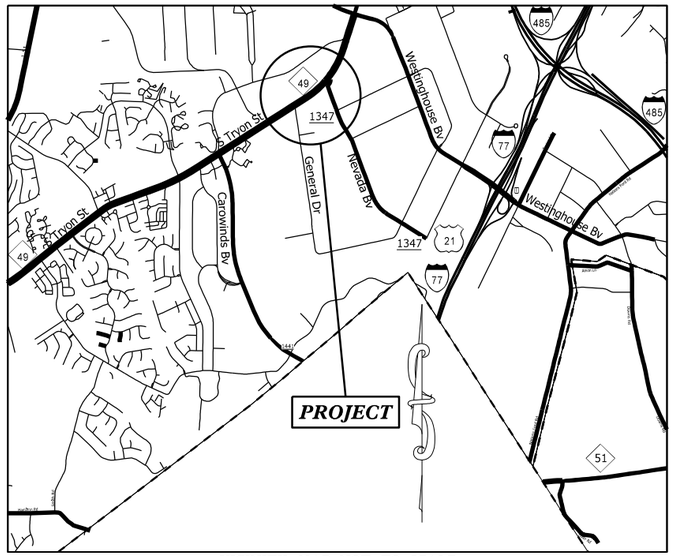
PROJECT: 49291.3.5 TIP: HS-2010E



VICINITY MAP NOT TO SCALE

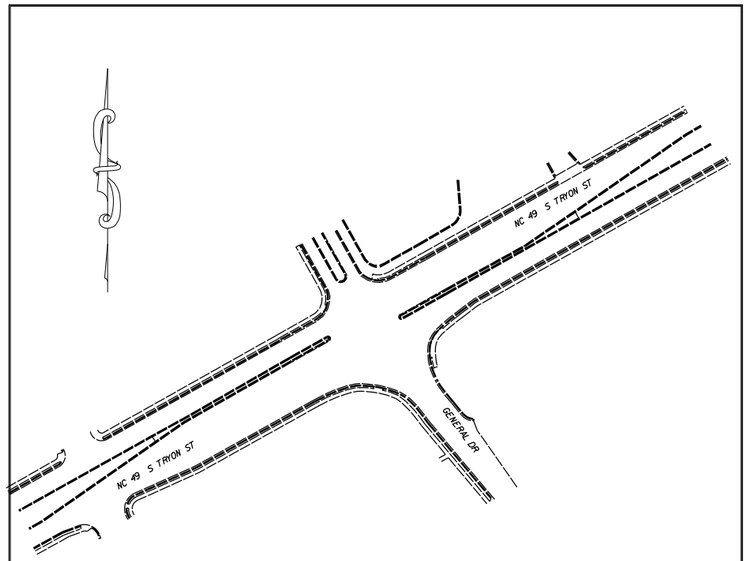
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS
MECKLENBURG COUNTY

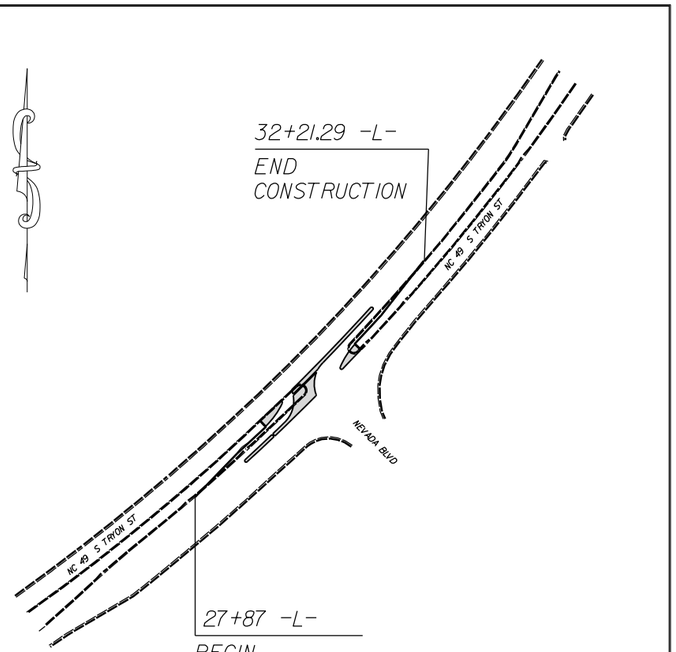
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	49291.3.5	1	

STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
49291.1.5	0049040	*P.E.*
49291.2.5	0049040	*R/W*
49291.3.5	0049040	*CONST.*

LOCATION: *INTERSECTION OF NC 49 (SOUTH TRYON ST) AND GENERAL DRIVE AND INTERSECTION OF NC 49 (SOUTH TRYON ST) AND NEVADA BLVD. (SR-1347)*

TYPE OF WORK: *GRADING, DRAINAGE, MILLING, PAVING, CONCRETE MONOLITHIC ISLANDS, CURB & GUTTER, THERMOPLASTIC PAVEMENT MARKINGS, AND SIGNALS*





GRAPHIC SCALES

PLANS 0 50 100

PROFILE (HORIZONTAL) 0 50 100

PROFILE (VERTICAL) 0 5 10

DESIGN DATA

ADT =
ADT =
DHV = %
D = %
T = %
V = MPH

PROJECT LENGTH

LENGTH OF ROADWAY PROJECT 49291.3.5 = 0.08 MILES

TOTAL LENGTH OF STATE PROJECT 49291.3.5 = 0.08 MILES

Prepared in the Office of:
DIVISION OF HIGHWAYS
DIVISION TEN
DIVISION DESIGN / CONSTRUCT UNIT

2024 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE: N/A

LETTING DATE: MARCH 5, 2025

DONALD HARWARD
PROJECT ENGINEER

TRAVIS LOWDER
PROJECT DESIGN ENGINEER

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA
02/24/2025

NORTH CAROLINA PROFESSIONAL SEAL 042673 ENGINEER TRAVIS PRESLAR

DocuSigned by: Travis Preslar

APPROVED BY *DATE*
DIVISION PROJECT TEAM LEAD

23-FEB-2025 14:26
S:\eDOCs\RDY\Mecklenburg\HS-2010E_NC 49_General Dr_Nevada Dr\tsh\HS-2010E_NC 49_General Dr_Nevada Dr_tsh.dgn
$$$$USERNAME$$$$

9/10/2021

PROJECT REFERENCE NO.	SHEET NO.
49291.3.5	1A

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 — CSX TRANSPORTATION
- RR Signal Milepost — MILEPOST 35
- Switch — 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 — CONC
- Bridge Wing Wall, Head Wall and End Wall — CONC WW

MINOR:

- Head and End Wall — CONC HW
- Pipe Culvert
- Footbridge
- Drainage Box: Catch Basin, DI or JB — CB
- Paved Ditch Gutter
- Storm Sewer Manhole
- Storm Sewer

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 — A/G Water

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 — A/G Gas

SANITARY SEWER:

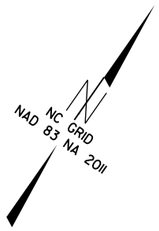
- Sanitary Sewer Manhole
- Sanitary Sewer Cleanout
- U/G Sanitary Sewer Line
- Above Ground Sanitary Sewer — A/G Sanitary Sewer
- SS Force Main Line Test Hole (SUE – LOS A)*
- SS Force Main Line (SUE – LOS B)*
- SS Force Main Line (SUE – LOS C)*
- SS Force Main Line (SUE – LOS D)*

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. — UST
- A/G Tank; Water, Gas, Oil
- Geoenvironmental Boring
- Abandoned According to Utility Records — AATUR
- End of Information — E.O.I.

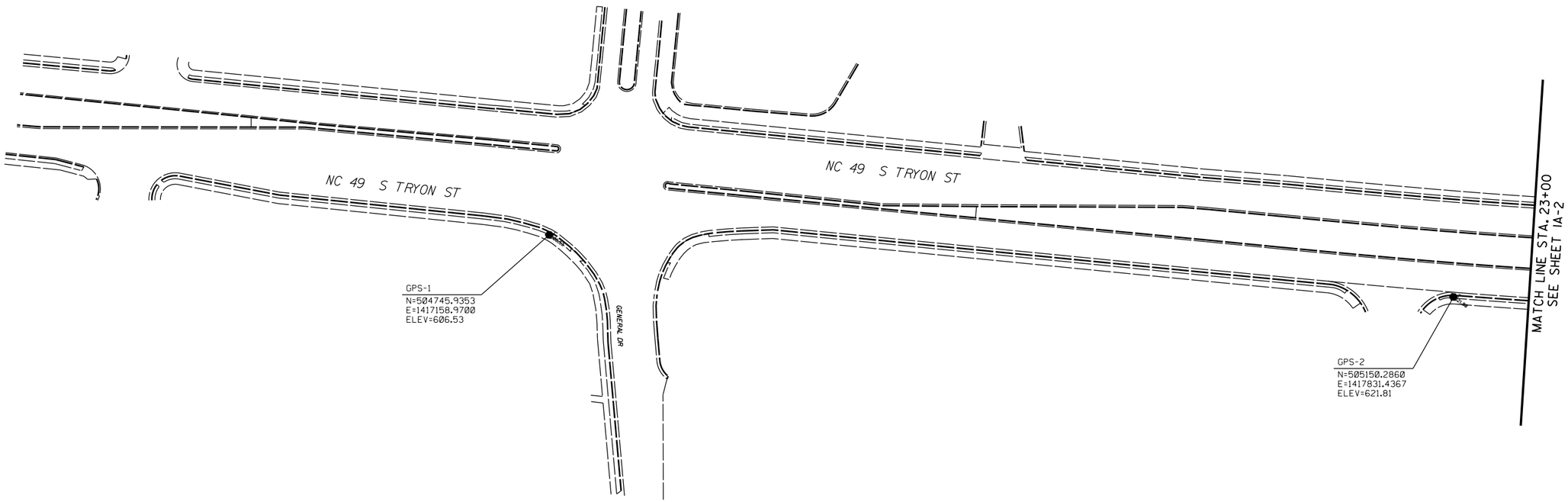
PROJECT NO.	SHEET NO.
4929I.3.5	IB-I
F.A. PROJECT NO.	0049040

SURVEY CONTROL SHEET



BL

POINT	DESC.	NORTH	EAST	ELEVATION	L STATION	OFFSET
1		504745.9353	1417158.9700	606.53	14+51.73	63.13 RT
2		505150.2860	1417831.4367	621.81	22+35.47	43.30 RT
3		505574.2507	1418419.3217	631.39	29+49.59	59.26 RT



NOTES:

1. PROJECT CONTROL WAS ESTABLISHED USING GNSS, THE GLOBAL NAVIGATION SATELLITE SYSTEM.
2. THE SURVEY CONTROL DATA FOR THIS PROJECT HAS BEEN COMPILED BY THE DIVISION 10 DDC UNIT. IF FURTHER INFORMATION REGARDING PROJECT CONTROL IS NEEDED, PLEASE CONTACT THE DIVISION 10 DDC UNIT.

SIGNAL INSTALLATION AT THE INTERSECTION OF NC 49/S.TRYON ST. AND GENERAL DR. DIRECTIONAL CROSSOVER ON NC 49/S.TRYON ST. AT NEVADA BLVD. (SR-1347)

SCALE	*1"=50'*
DATE	*8-2024*
DWG. BY	*JCB*
DESIGN BY	*JCB*
APPROVED	*JDH*

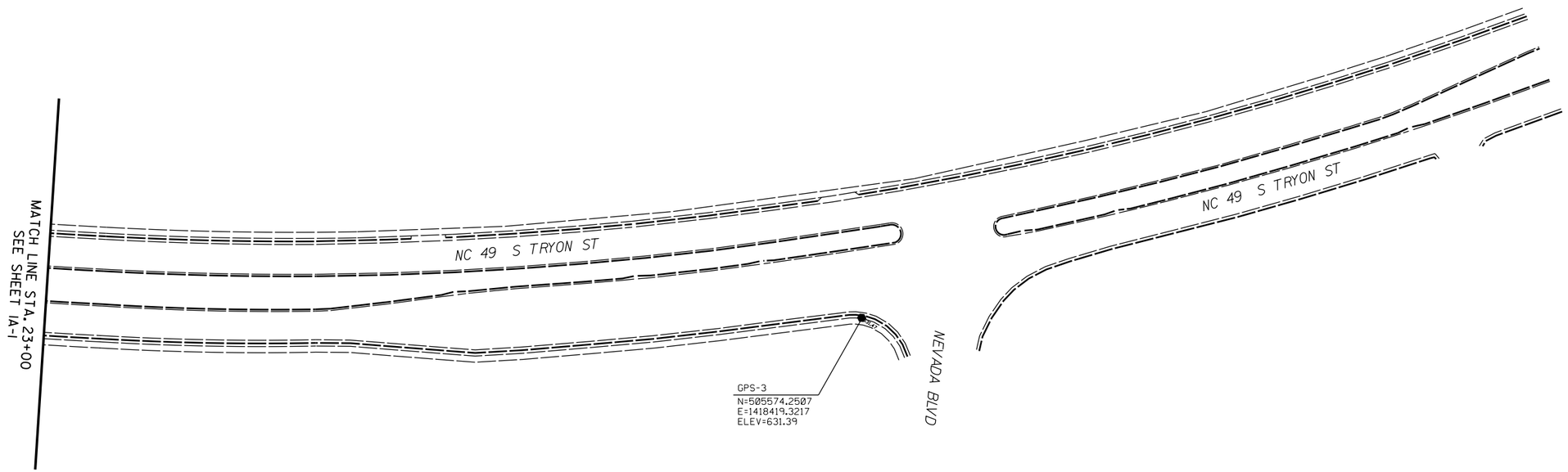
REVISIONS	

PROJECT NO.	SHEET NO.
4929.3.5	IB-2
F.A. PROJECT NO.	0049040

SURVEY CONTROL SHEET

BL

POINT	DESC.	NORTH	EAST	ELEVATION	L STATION	OFFSET
1		504745.9353	1417158.9700	606.53	14+51.73	63.13 RT
2		505150.2860	1417831.4367	621.81	22+35.47	43.30 RT
3		505574.2507	1418419.3217	631.39	29+49.59	59.26 RT



NOTES:

1. PROJECT CONTROL WAS ESTABLISHED USING GNSS, THE GLOBAL NAVIGATION SATELLITE SYSTEM.
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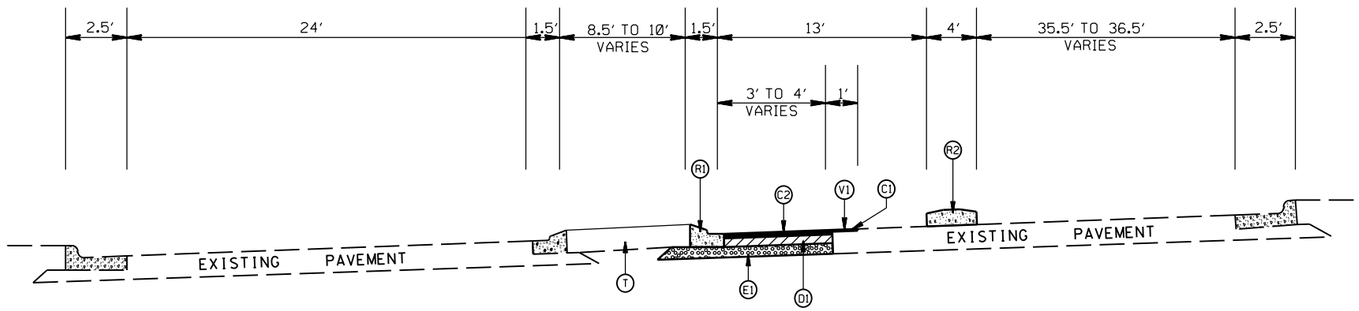
SIGNAL INSTALLATION AT THE INTERSECTION OF NC 49/S.TRYON ST. AND GENERAL DR. DIRECTIONAL CROSSOVER ON NC 49/S.TRYON ST. AT NEVADA BLVD.(SR-1347)

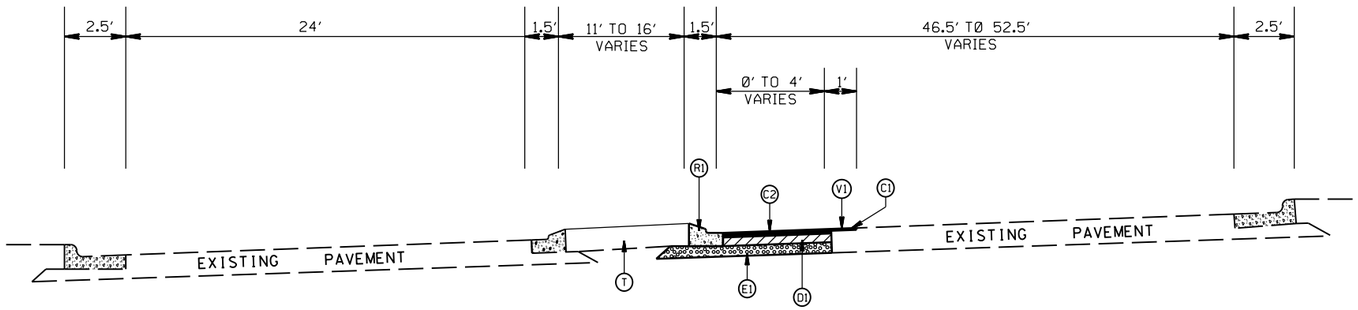
		REVISIONS	
SCALE	1"=50'		
DATE	8-2024		
DWG. BY	JCB		
DESIGN BY	JCB		
APPROVED	JDH		

PROJECT NO.	SHEET NO.
4929I.3.5	2
F.A. PROJECT NO.	0049040

ROADWAY DESIGN ENGINEER
02/24/2025
NORTH CAROLINA PROFESSIONAL SEAL 042673 ENGINEER
DocuSigned by: Jonathan Heller
A53C1AC7A1FF47B...



TYPICAL SECTION NO. 3
STA.28+67.00 TO 28+93.00 -L-



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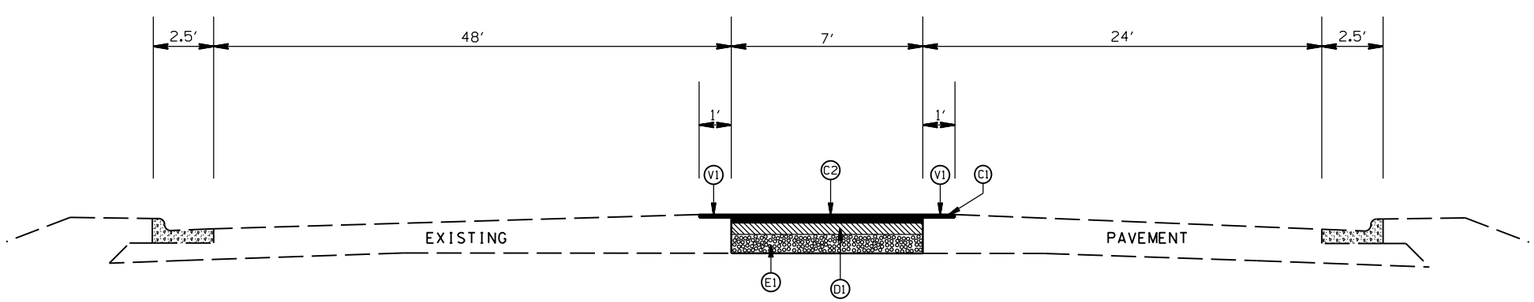
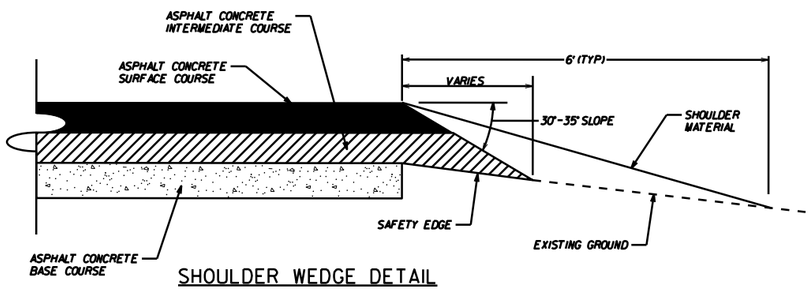
STA.27+87.00 TO 28+67.00 -L-



TYPICAL SECTION NO. 1
STA.15+46.25 TO 15+71.00 -L-

PAVEMENT SCHEDULE

C1	PROP. APPROX. 1½" ASPHALT CONC. SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
C2	PROP. APPROX. 1½" ASPHALT CONC. SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
D1	PROP. APPROX. 4" ASPHALT CONC. INTERMEDIATE COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
E1	PROP. APPROX. 5" ASPHALT CONC. BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 570 LBS. PER SQ. YD.
R1	PROP. 1′-6" CONC. CURB & GUTTER
R2	PROP. 5" MONOLITHIC ISLAND (SURFACE MOUNTED)
T	EARTH MATERIAL
V1	MILLING ASPHALT 1½" PAVEMENT, IN DEPTH



SHOULDER WEDGE DETAIL

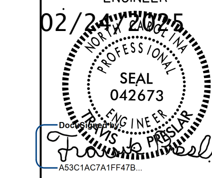
SIGNAL INSTALLATION AT THE INTERSECTION OF NC 49/S.TRYON ST. AND GENERAL DR. DIRECTIONAL CROSSOVER ON NC 49/S.TRYON ST. AT NEVADA BLVD.(SR-1347)

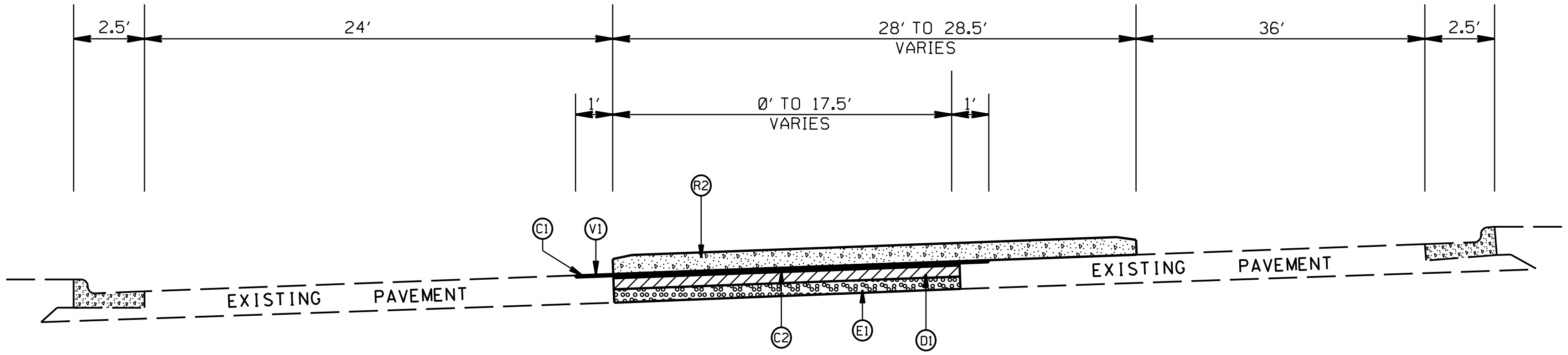
SCALE	N/A
DATE	11-2024
DWG. BY	JCB
DESIGN BY	JCB
APPROVED	JDH

REVISIONS	

PROJECT NO.	SHEET NO.
49291.3.5	2A
F.A. PROJECT NO.	0049040

ROADWAY DESIGN ENGINEER





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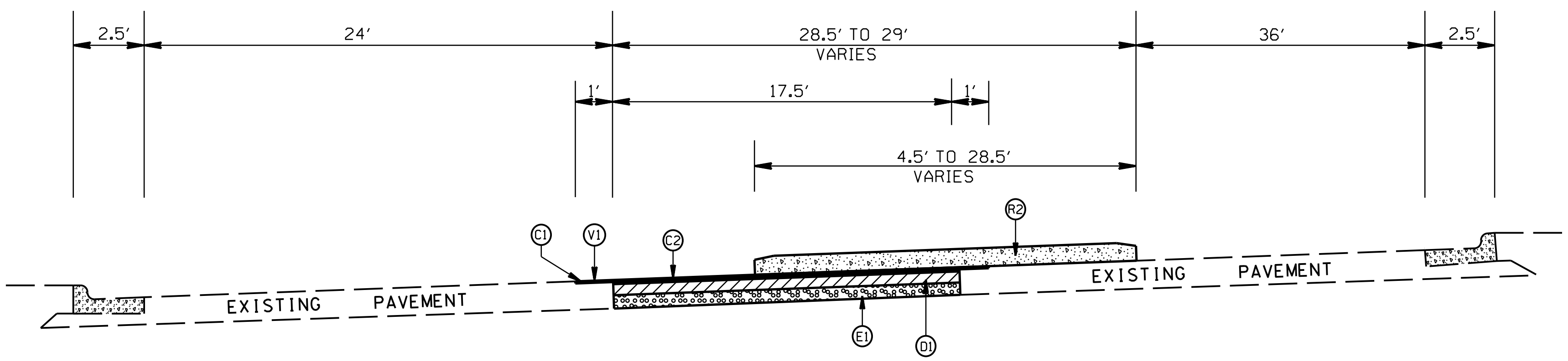
STA.29+65.00 TO 29+95.00 -L-



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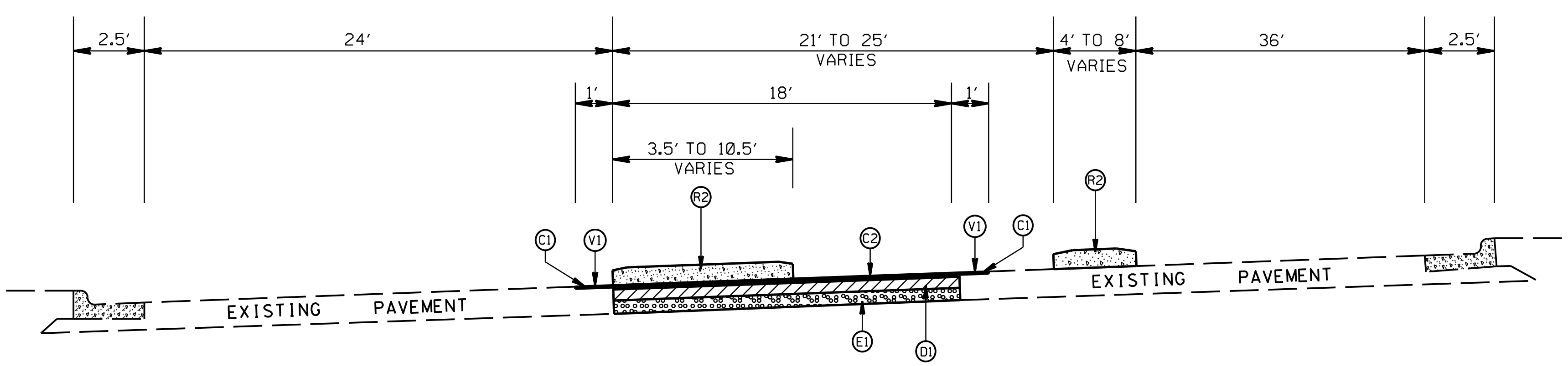
STA.29+31.00 TO 29+65.00 -L-



TYPICAL SECTION NO. 4
STA.28+93.00 TO 29+31.00 -L-

PAVEMENT SCHEDULE

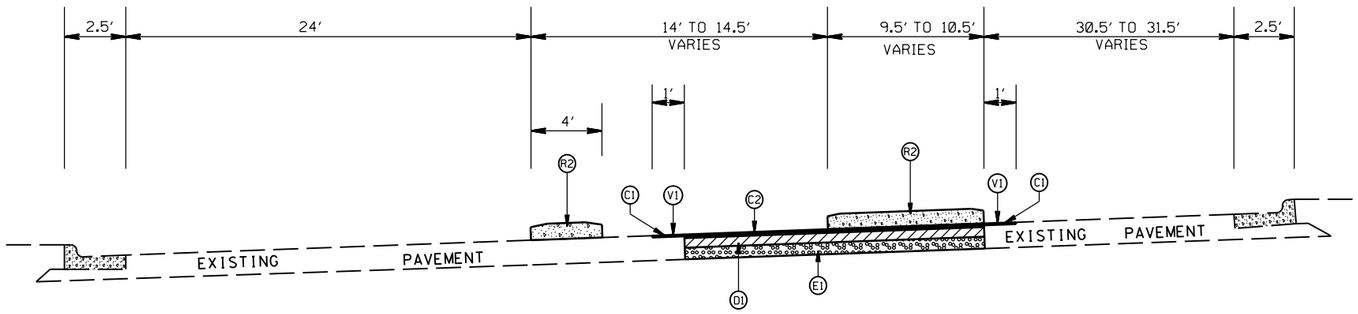
C1	PROP. APPROX. 1½" ASPHALT CONC. SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
C2	PROP. APPROX. 1½" ASPHALT CONC. SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
D1	PROP. APPROX. 4" ASPHALT CONC. INTERMEDIATE COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
E1	PROP. APPROX. 5" ASPHALT CONC. BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 570 LBS. PER SQ. YD.
R1	PROP. 1′-6" CONC. CURB & GUTTER
R2	PROP. 5" MONOLITHIC ISLAND (SURFACE MOUNTED)
T	EARTH MATERIAL
V1	MILLING ASPHALT 1½" PAVEMENT, IN DEPTH

SIGNAL INSTALLATION AT THE INTERSECTION OF NC 49/S.TRYON ST. AND GENERAL DR. DIRECTIONAL CROSSOVER ON NC 49/S.TRYON ST. AT NEVADA BLVD.(SR-1347)

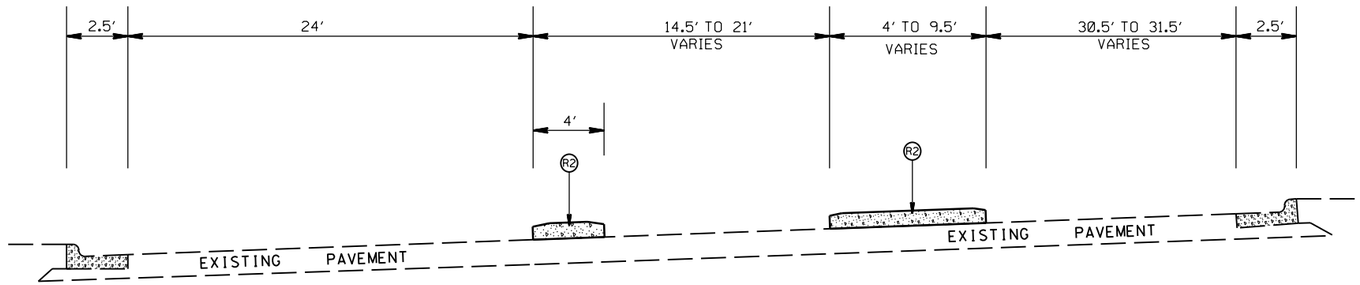
		REVISIONS
SCALE	N/A	
DATE	11-2024	
DWG. BY	JCB	
DESIGN BY	JCB	
APPROVED	JDH	

PROJECT NO.	SHEET NO.
4929I.3.5	2B
F.A. PROJECT NO.	0049040

ROADWAY DESIGN ENGINEER
02/24/2025
NOT VALID UNTIL SIGNED PROFESSIONALLY
SEAL 042673
ENGINEER
DocuSigned by: THOMAS PRESLAR
AS3C1AC7A1FF47B...



TYPICAL SECTION NO. 9
STA.30+66.00 TO 30+78.00 -L-



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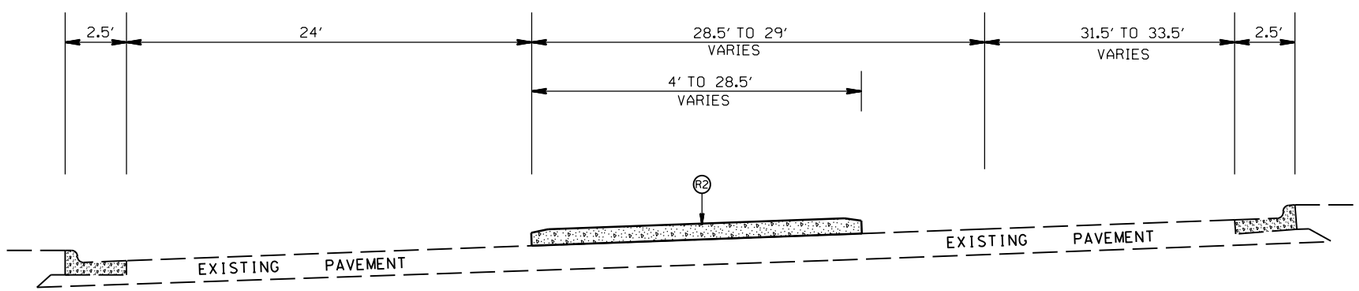


TYPICAL SECTION NO. 7
STA.29+95.00 TO 30+42.00 -L-

PAVEMENT SCHEDULE

C1	PROP. APPROX. 1½" ASPHALT CONC. SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
C2	PROP. APPROX. 1½" ASPHALT CONC. SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
D1	PROP. APPROX. 4" ASPHALT CONC. INTERMEDIATE COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
E1	PROP. APPROX. 5" ASPHALT CONC. BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 570 LBS. PER SQ. YD.
R1	PROP. 1′-6" CONC. CURB & GUTTER
R2	PROP. 5" MONOLITHIC ISLAND (SURFACE MOUNTED)
T	EARTH MATERIAL
V1	MILLING ASPHALT 1½" PAVEMENT, IN DEPTH

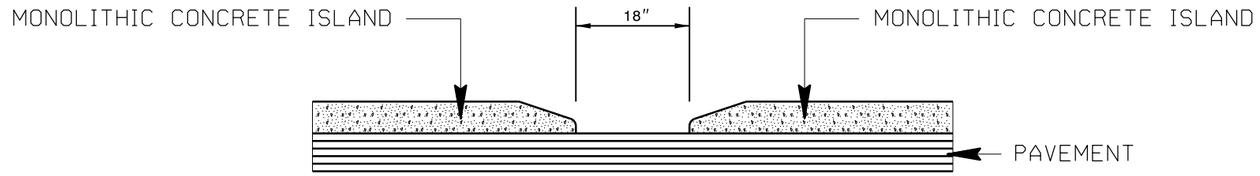
SIGNAL INSTALLATION AT THE INTERSECTION OF NC 49/S.TRYON ST. AND GENERAL DR. DIRECTIONAL CROSSOVER ON NC 49/S.TRYON ST. AT NEVADA BLVD.(SR-1347)

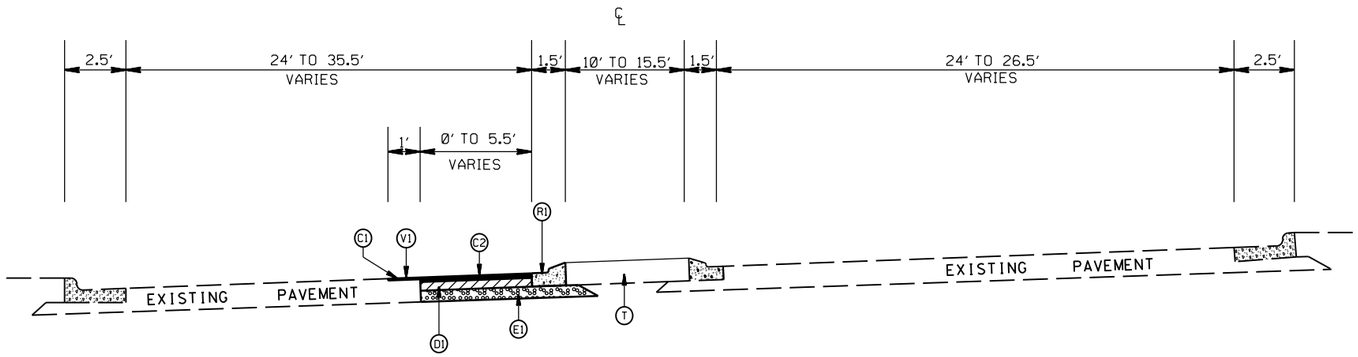
		REVISIONS	
SCALE	N/A		
DATE	11-2024		
DWG. BY	JCB		
DESIGN BY	JCB		
APPROVED	JDH		

PROJECT NO.	SHEET NO.
4929.3.5	2C
F.A. PROJECT NO.	0049040

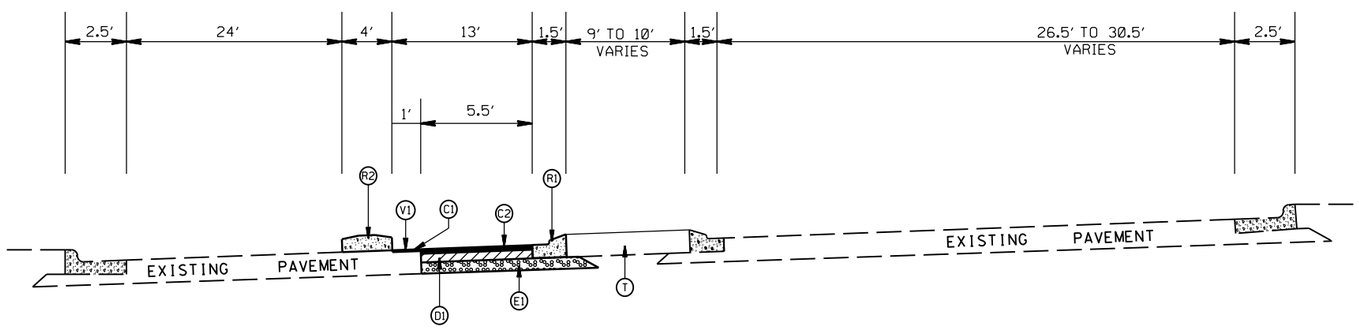
ROADWAY DESIGN ENGINEER
02/24/2025
NORTH CAROLINA PROFESSIONAL SEAL 042673 ENGINEER
DocuSigned by: A53C1AC7A1FF47B...

DETAIL #1





TYPICAL SECTION NO. 11
STA.31+30.00 TO 32+21.29 -L-



TYPICAL SECTION NO.10
STA.30+78.00 TO 31+30.00 -L-

PAVEMENT SCHEDULE

C1	PROP. APPROX. 1½" ASPHALT CONC. SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
C2	PROP. APPROX. 1½" ASPHALT CONC. SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
D1	PROP. APPROX. 4" ASPHALT CONC. INTERMEDIATE COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
E1	PROP. APPROX. 5" ASPHALT CONC. BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 570 LBS. PER SQ. YD.
R1	PROP. 1'-6" CONC. CURB & GUTTER
R2	PROP. 5" MONOLITHIC ISLAND (SURFACE MOUNTED)
T	EARTH MATERIAL
V1	MILLING ASPHALT 1½" PAVEMENT, IN DEPTH

SIGNAL INSTALLATION AT THE INTERSECTION OF NC 49/S.TRYON ST. AND GENERAL DR. DIRECTIONAL CROSSOVER ON NC 49/S.TRYON ST. AT NEVADA BLVD.(SR-1347)

SCALE	N/A
DATE	11-2024
DWG. BY	JCB
DESIGN BY	JCB
APPROVED	JDH

REVISIONS	

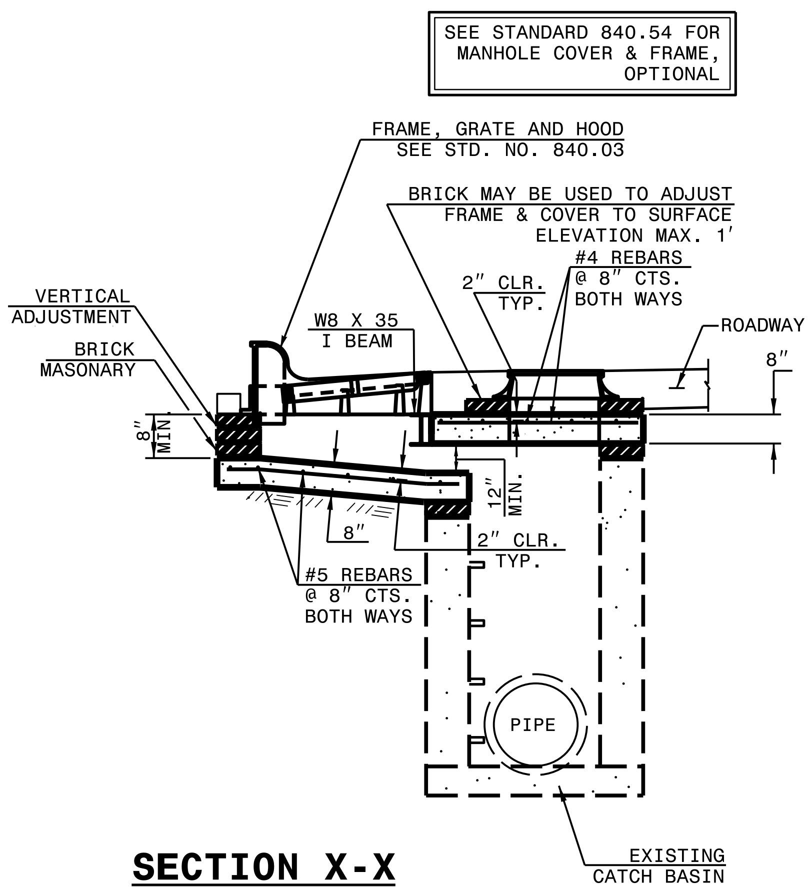
PROJECT NO.	SHEET NO.
49291.3.5	2D
F.A. PROJECT NO.	0049040

ROADWAY DESIGN ENGINEER

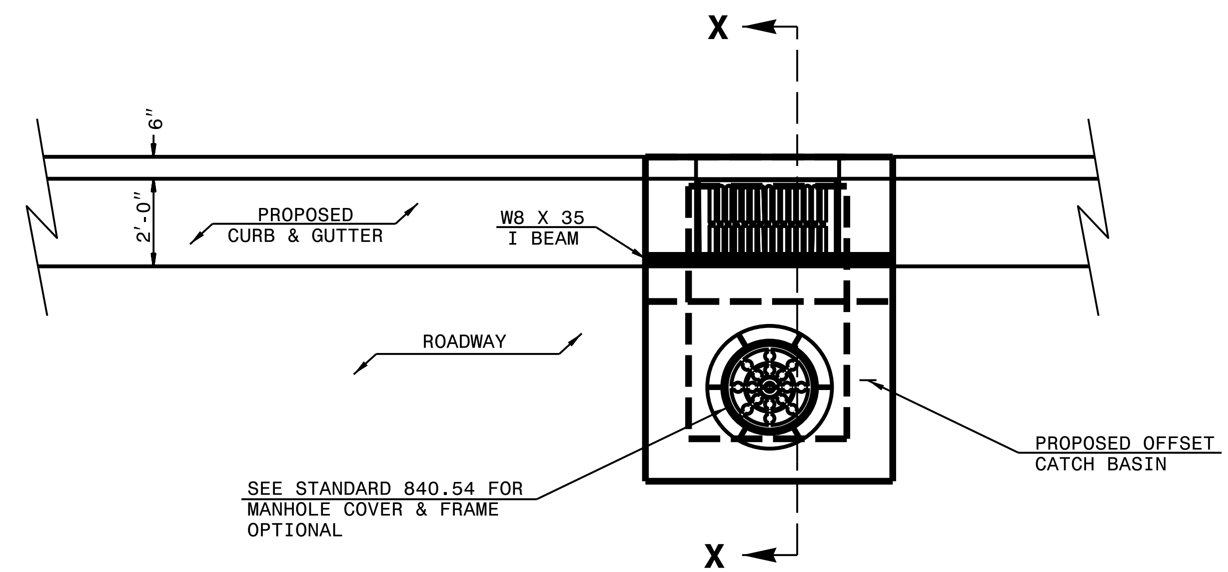
02/24/2025

SEAL 042673

CONVERSION OF EXISTING CATCH BASIN TO OFFSET CATCH BASIN



SECTION X-X



PLAN

NOTES:

MORTAR JOINTS ½″ TO ¼″ THICK.
USE CLASS "B" CONCRETE THROUGHOUT.
USE TYPE "E", "F" AND "G" GRATES UNLESS OTHERWISE INDICATED.
USE BRICK OR CONCRETE BLOCK WHICH COMPLIES WITH THE REQUIREMENTS OF SECTION 840 OF THE STANDARD SPECIFICATIONS.
CHAMFER ALL EXPOSED CORNERS 1″.
DRAWING NOT TO SCALE.
ALL CONVERSIONS SHALL BE ACCORDANCE WITH SECTION 859 OF THE STANDARD SPECIFICATIONS.
DIMENSIONS MAY BE ADJUSTED BY THE ENGINEER.

SIGNAL INSTALLATION AT THE INTERSECTION OF NC 49/S.TRYON ST.AND GENERAL DR. DIRECTIONAL CROSSOVER ON NC 49/S.TRYON ST. AT NEVADA BLVD.(SR-1347)

		REVISIONS
SCALE	N/A	
DATE	11-2024	
DWG. BY	JCB	
DESIGN BY	JCB	
APPROVED	JDH	

4/04/06

COMPUTED BY: JCB DATE: 10-25-2022
CHECKED BY: _____ DATE: _____

PROJECT REFERENCE NO.	SHEET NO.
49291.3.5	3

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS
STATEWIDE
LIST OF PIPES, ENDWALLS, ETC. (FOR PIPES 48" & UNDER)

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".

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) SIZE	SIDE DRAIN PIPE THICKNESS OR GAUGE	C.S. PIPE SIZE	C.S. PIPE THICKNESS OR GAUGE	R.C. PIPE (CLASS III) SIZE	R.C. PIPE (CLASS III) THICKNESS OR GAUGE	R.C. PIPE (CLASS IV) SIZE	R.C. PIPE (CLASS IV) THICKNESS OR GAUGE	*** 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.	ENDWALLS: STD. 838.01, STD. 838.11 OR STD. 838.80 (UNLESS NOTED OTHERWISE) CU. YDS. C.S.P.	QUANTITIES FOR DRAINAGE STRUCTURES * TOTAL L.F. FOR PAY QUANTITY SHALL BE COL. 'A' + (1.3 X COL. 'B') PER EACH (0 THRU 5.0')	QUANTITIES FOR DRAINAGE STRUCTURES * TOTAL L.F. FOR PAY QUANTITY SHALL BE COL. 'A' + (1.3 X COL. 'B') LIN. *FT. A 5.0' THRU 10.0'	QUANTITIES FOR DRAINAGE STRUCTURES * TOTAL L.F. FOR PAY QUANTITY SHALL BE COL. 'A' + (1.3 X COL. 'B') LIN. *FT. 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	FRAME, GRATES AND HOOD STANDARD 840.03 TYPE OF GRATE F	FRAME, GRATES AND HOOD STANDARD 840.03 TYPE OF GRATE G	CONCRETE TRANSITIONAL SECTION CATCH BASIN	CONCRETE TRANSITIONAL SECTION DROP INLET	G.D.I. TYPE "D" STD. 840.19 OR 840.28	G.D.I. FRAME WITH TWO GRATES STD. 840.22	D.I. STD. 840.14 OR STD. 840.15	D.I. FRAME & GRATE STD. 840.16	CONV. EXIST. C.B. TO T.B.J.B.	M.H. FRAME & COVER STD. 840.54	OFFSET CATCH BASIN	CONC. COLLARS CL. "B" C.Y. STD 840.72	CONC. & BRICK PIPE PLUG, C.Y. STD. 840.71	PIPE REMOVAL LIN.FT.	REMARKS
28+77 -L-	CL		500	628.63		623.38																		1	0.3				1										SEE DETAIL SHEET 2D
TOTAL:																								1	0.3				1										

ABBREVIATIONS

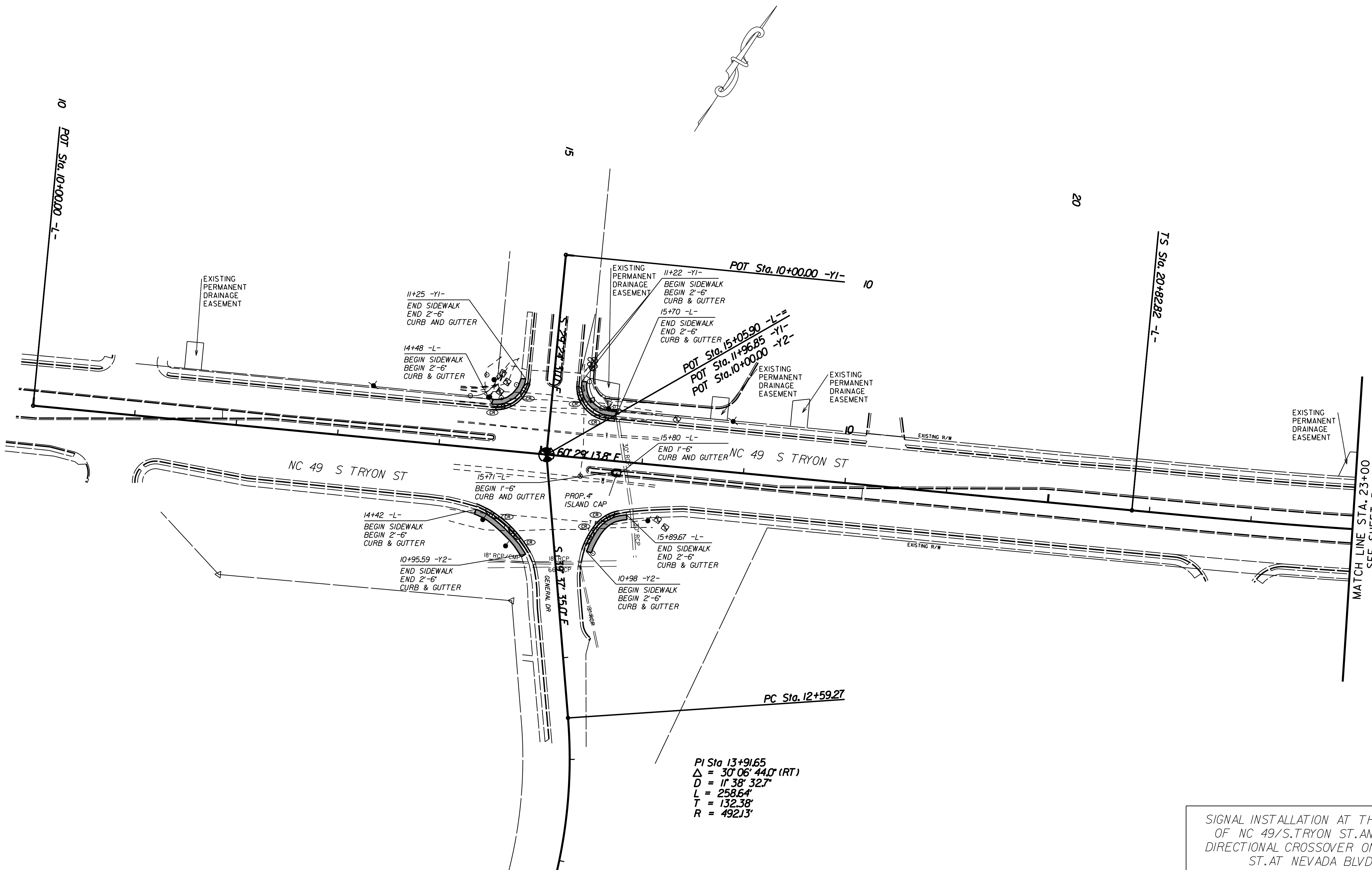
C.B.	CATCH BASIN
N.D.I.	NARROW DROP INLET
D.I.	DROP INLET
G.D.I.	GRATED DROP INLET
G.D.I. (N.S.)	GRATED DROP INLET (NARROW SLOT)
J.B.	JUNCTION BOX
M.H.	MANHOLE
T.B.D.I.	TRAFFIC BEARING DROP INLET
T.B.J.B.	TRAFFIC BEARING JUNCTION BOX

PROJECT NO.	SHEET NO.
49291.3.5	4
F.A. PROJECT NO.	0049040

ROADWAY DESIGN ENGINEER

02/24/2025

NORTH CAROLINA PROFESSIONAL SEAL 042673 ENGINEER



POT Sta. 10+00.00 -L-
EXISTING PERMANENT DRAINAGE EASEMENT
11+25 -Y1-
END SIDEWALK
END 2'-6"
CURB AND GUTTER
14+48 -L-
BEGIN SIDEWALK
BEGIN 2'-6"
CURB & GUTTER
POT Sta. 10+00.00 -Y1-
11+22 -Y1-
BEGIN SIDEWALK
BEGIN 2'-6"
CURB & GUTTER
15+70 -L-
END SIDEWALK
END 2'-6"
CURB & GUTTER
POT Sta. 15+05.90 -L-=
POT Sta. 11+96.85 -Y1-
POT Sta. 10+00.00 -Y2-
TS Sta. 20+82.82 -L-
NC 49 S TRYON ST
15+80 -L-
END 1'-6"
CURB AND GUTTER
15+71 -L-
BEGIN 1'-6"
CURB AND GUTTER
PROP. 4" ISLAND CAP
14+42 -L-
10+95.59 -Y2-
15+89.67 -L-
10+98 -Y2-
GENERAL DR
EXISTING R/W
MATCH LINE STA. 23+00 SEE SHEET 5
PC Sta. 12+59.27
PI Sta 13+91.65
Δ = 30° 06' 44.0" (RT)
D = 11° 38' 32.7"
L = 258.64'
T = 132.38'
R = 492.13'

SIGNAL INSTALLATION AT THE INTERSECTION OF NC 49/S.TRYON ST.AND GENERAL DR. DIRECTIONAL CROSSOVER ON NC 49/S.TRYON ST.AT NEVADA BLVD.(SR-1347)

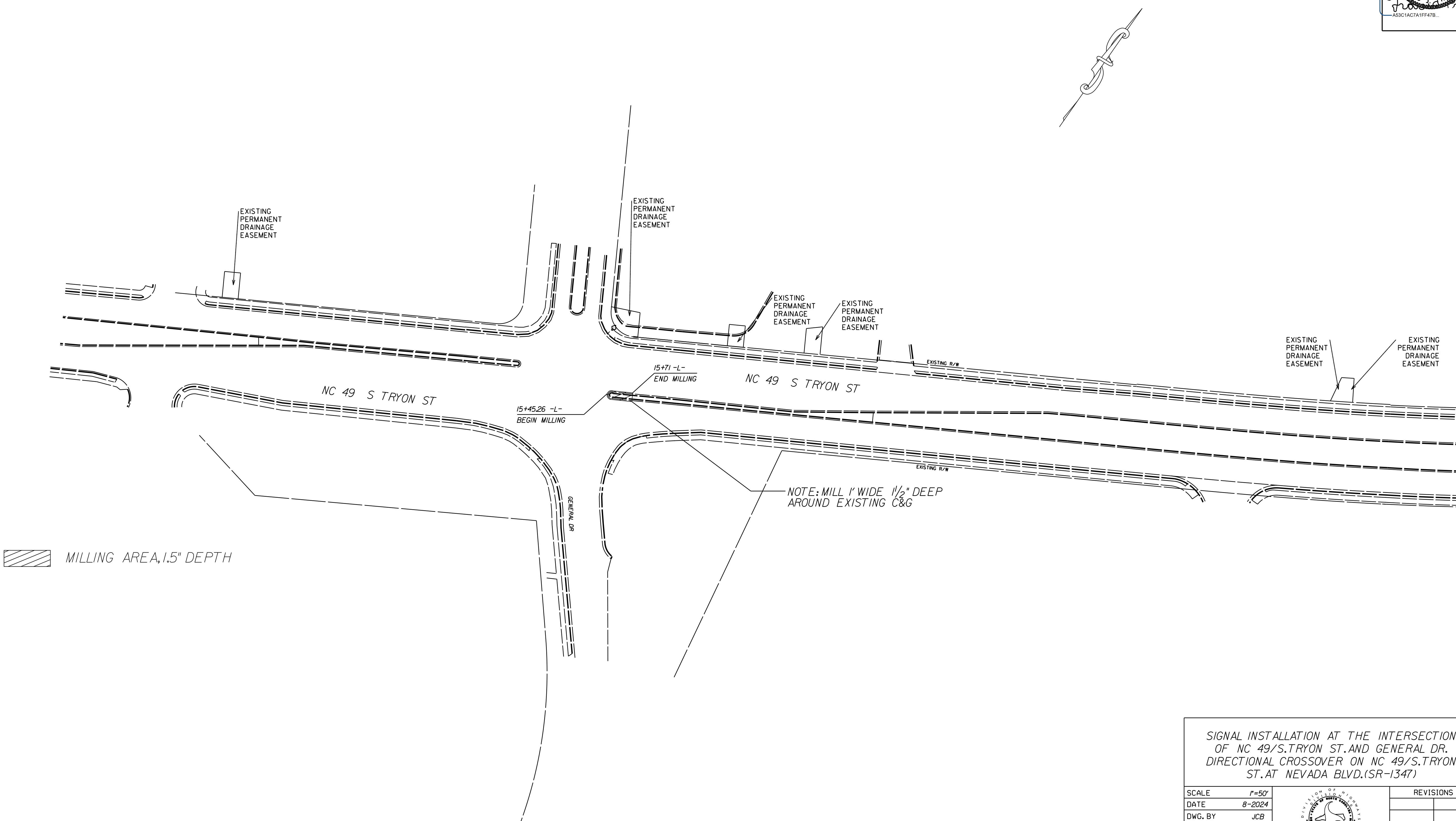
		REVISIONS
SCALE	1"=50'	
DATE	8-2024	
DWG. BY	JCB	
DESIGN BY	JCB	
APPROVED	JDH	

PROJECT NO.	SHEET NO.
49291.3.5	4A
F.A. PROJECT NO.	0049040

ROADWAY DESIGN ENGINEER

02/24/2025

NORTH CAROLINA PROFESSIONAL SEAL 042673 ENGINEER TRAVIS J. PRESLAR



SIGNAL INSTALLATION AT THE INTERSECTION OF NC 49/S.TRYON ST.AND GENERAL DR. DIRECTIONAL CROSSOVER ON NC 49/S.TRYON ST.AT NEVADA BLVD.(SR-1347)

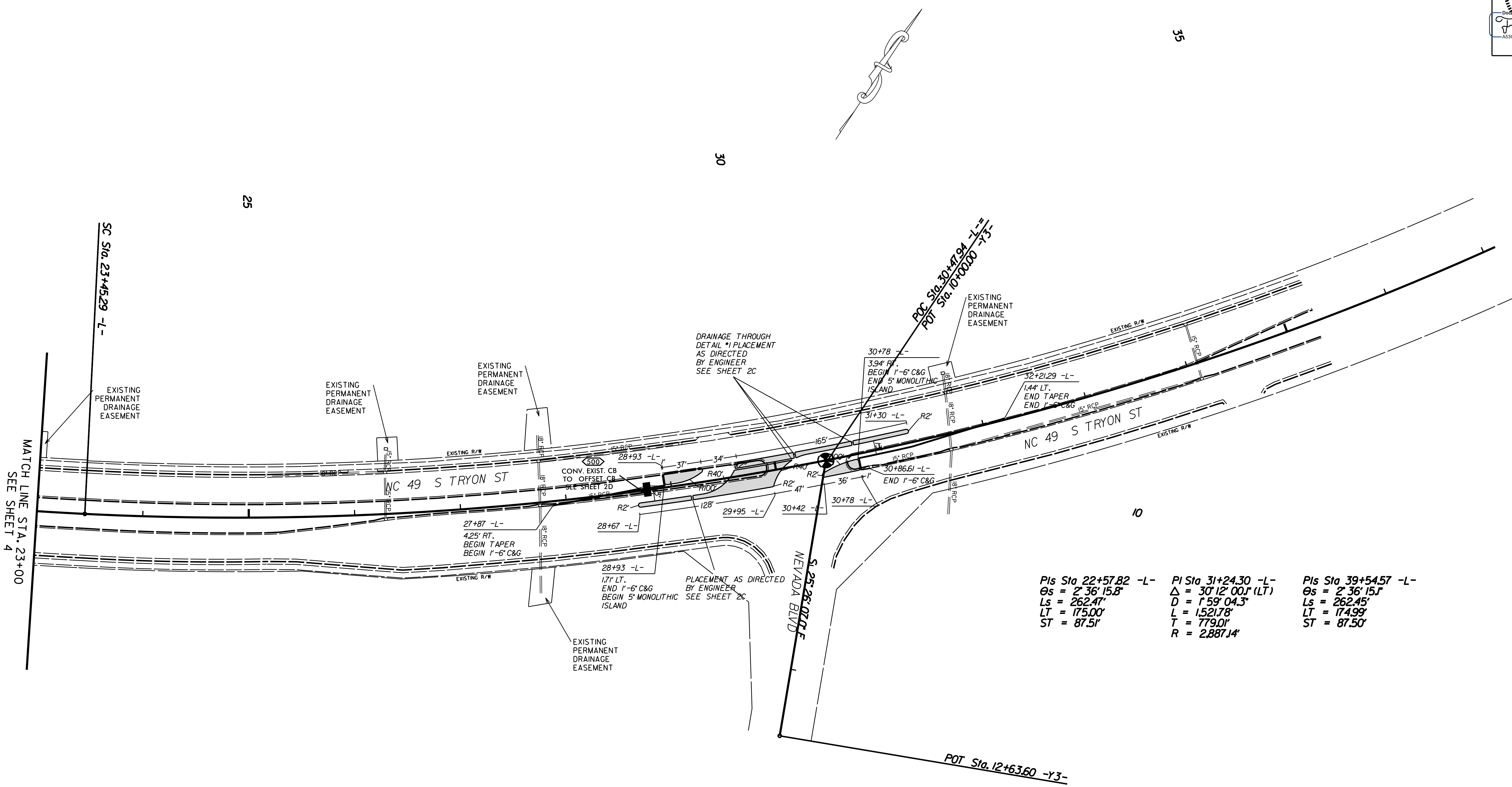
		REVISIONS
SCALE	1"=50'	
DATE	8-2024	
DWG. BY	JCB	
DESIGN BY	JCB	
APPROVED	JDH	

PROJECT NO.	SHEET NO.
49291.3.5	5
F.A. PROJECT NO.	0049040

ROADWAY DESIGN ENGINEER

02/24/2025

NORTH CAROLINA PROFESSIONAL SEAL 042673 ENGINEER TRAVIS J. PRESLAR



MATCH LINE STA. 23+00
SEE SHEET 4
SC Sta. 23+45.29 -L-
EXISTING PERMANENT DRAINAGE EASEMENT
EXISTING R/W
NC 49 S TRYON ST
CONV. EXIST. CB TO OFFSET CB SEE SHEET 2D
28+93 -L-
27+87 -L-
4.25' RT.
BEGIN TAPER
BEGIN 1'-6" C&G
28+67 -L-
28+93 -L-
1.71' LT.
END 1'-6" C&G
BEGIN 5' MONOLITHIC ISLAND
PLACEMENT AS DIRECTED BY ENGINEER SEE SHEET 2C
DRAINAGE THROUGH DETAIL #1 PLACEMENT AS DIRECTED BY ENGINEER SEE SHEET 2C
29+95 -L-
30+42 -L-
30+78 -L-
30+78 -L-
3.94' RT.
BEGIN 1'-6" C&G
END 5' MONOLITHIC ISLAND
31+30 -L-
30+86.61 -L-
END 1'-6" C&G
32+21.29 -L-
1.44' LT.
END TAPER
END 1'-6" C&G
POC Sta. 30+47.94 -L- =
POT Sta. 10+00.00 -Y3-
NEVADA BLVD
POT Sta. 12+63.60 -Y3-
25
30
35
10

Pls Sta 22+57.82 -L-
θs = 2° 36' 15.8"
Ls = 262.47'
LT = 175.00'
ST = 87.51'

PI Sta 31+24.30 -L-
Δ = 30° 12' 00.1" (LT)
D = 1° 59' 04.3"
L = 1,521.78'
T = 779.01'
R = 2,887.14'

Pls Sta 39+54.57 -L-
θs = 2° 36' 15.1"
Ls = 262.45'
LT = 174.99'
ST = 87.50'

SIGNAL INSTALLATION AT THE INTERSECTION OF NC 49/S.TRYON ST.AND GENERAL DR. DIRECTIONAL CROSSOVER ON NC 49/S.TRYON ST.AT NEVADA BLVD.(SR-1347)

SCALE	1"=50'
DATE	8-2024
DWG. BY	JCB
DESIGN BY	JCB
APPROVED	JDH

REVISIONS

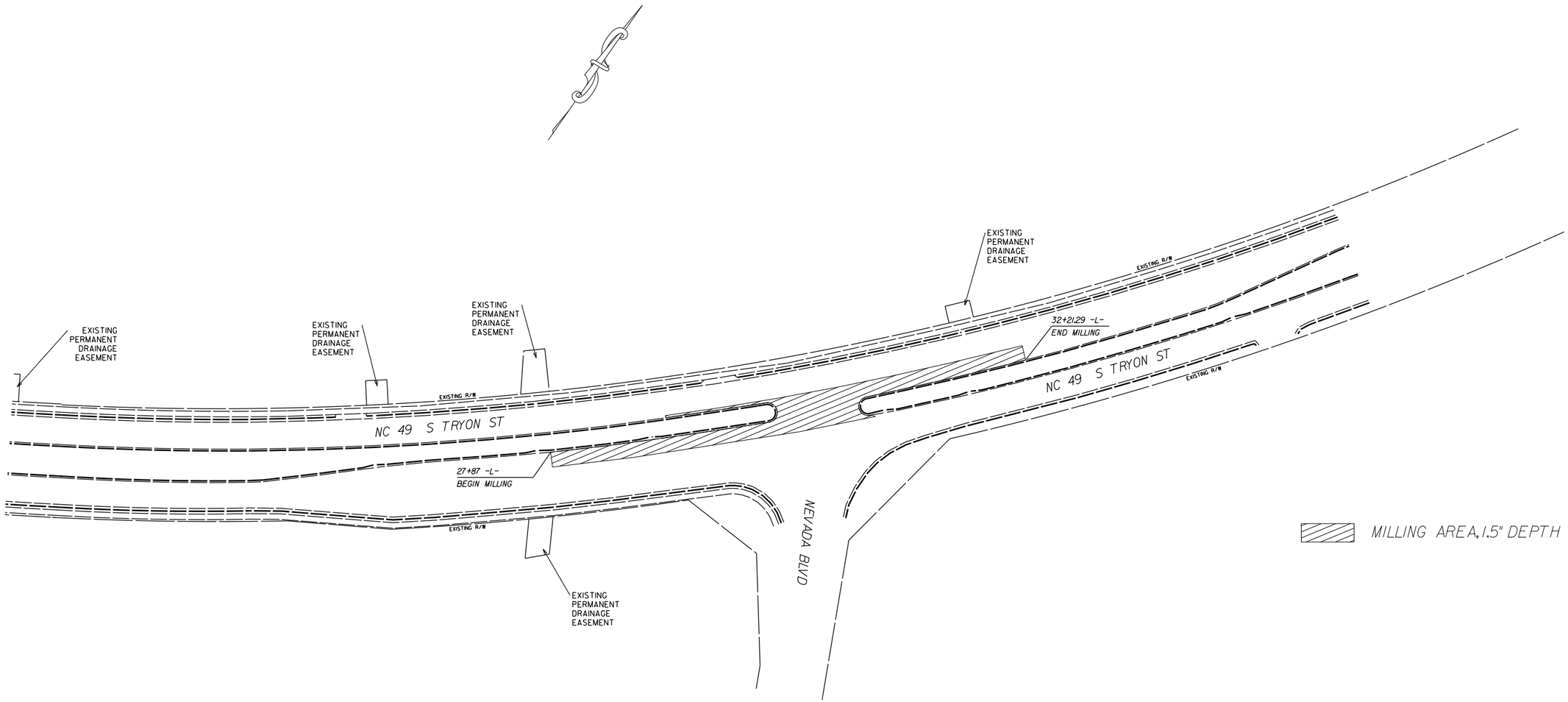
PROJECT NO.	SHEET NO.
49291.3.5	5A
F.A. PROJECT NO.	0049040

ROADWAY DESIGN ENGINEER

02/24/2025

NORTH CAROLINA PROFESSIONAL SEAL 042673 ENGINEER TRAVIS JO PHELAR

DocuSigned by: Travis Phelar A53C1AC7A1FF47B...



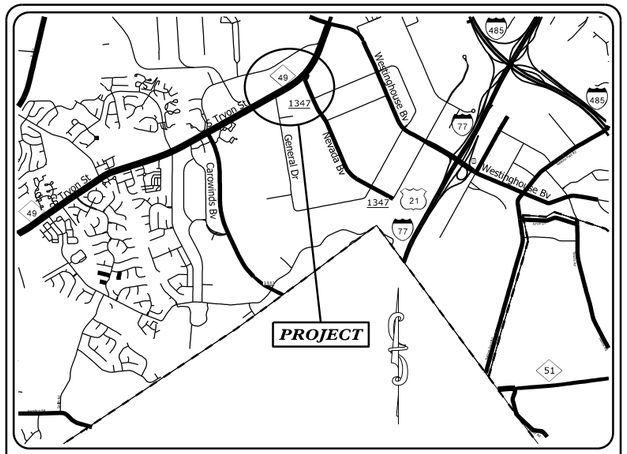
SIGNAL INSTALLATION AT THE INTERSECTION OF NC 49/S.TRYON ST. AND GENERAL DR. DIRECTIONAL CROSSOVER ON NC 49/S.TRYON ST. AT NEVADA BLVD. (SR-1347)

SCALE	1"=50'
DATE	8-2024
DWG. BY	JCB
DESIGN BY	JCB
APPROVED	JDH

DIVISION OF HIGHWAYS

REVISIONS	

TIP PROJECT: HS-2010E



VICINITY MAP
NOT TO SCALE

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS
PLAN FOR PROPOSED HIGHWAY EROSION CONTROL

MECKLENBURG COUNTY

LOCATION: *INTERSECTION OF NC 49 (SOUTH TRYON ST) AND GENERAL DRIVE AND INTERSECTION OF NC 49 (SOUTH TRYON ST) AND NEVADA BLVD. (SR-1347)*

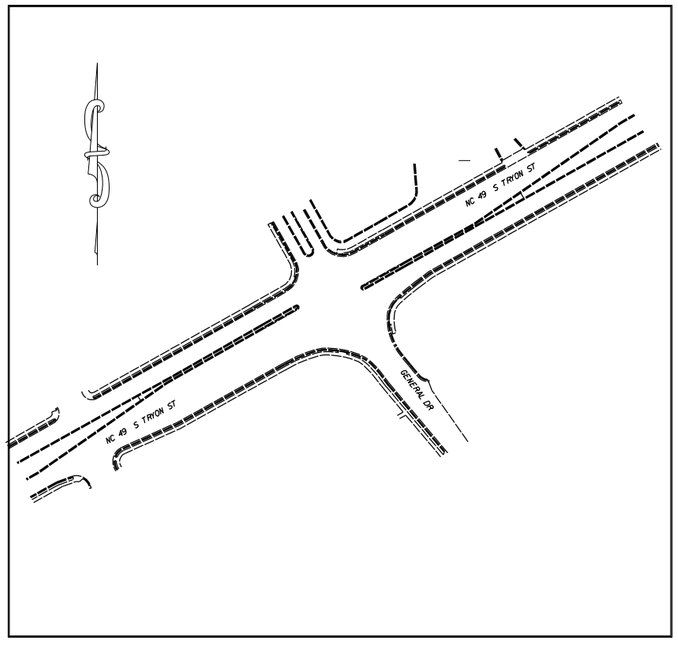
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	49291.3.5	EC-1	

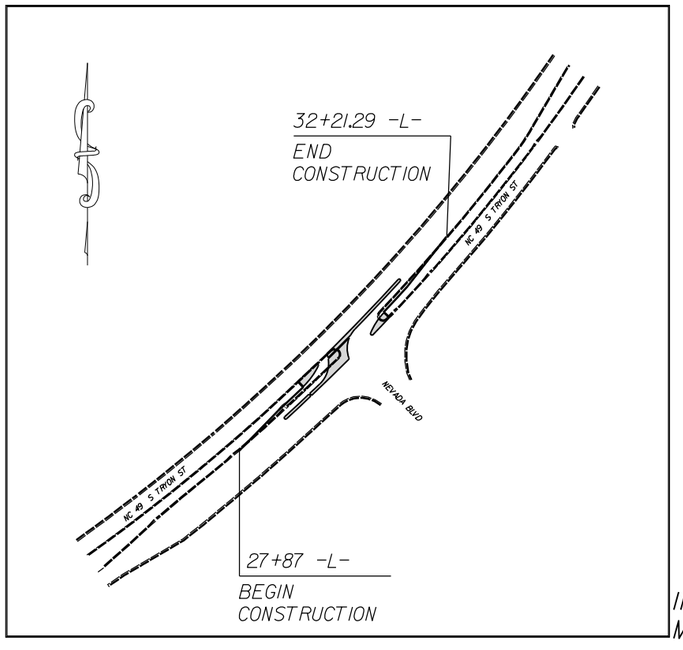
STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
49291.1.5	0049040	P.E.
49291.2.5	0049040	R/W
49291.3.5	0049040	CONST.

EROSION AND SEDIMENT CONTROL MEASURES

Std. #	Description	Symbol
1630.03	Temporary Silt Ditch	TSD
1630.05	Temporary Diversion	TD
1605.01	Temporary Silt Fence	
1606.01	Special Sediment Control Fence	
1622.01	Temporary Berms and Slope Drains	
1630.02	Silt Basin Type B	
1633.01	Temporary Rock Silt Check Type-A	
	Temporary Rock Silt Check Type-A with Matting and Polyacrylamide (PAM)	
1633.02	Temporary Rock Silt Check Type-B	
	Wattle / Coir Fiber Wattle	WW / CFW
	Wattle / Coir Fiber Wattle with Polyacrylamide (PAM)	
1634.01	Temporary Rock Sediment Dam Type-A	
1634.02	Temporary Rock Sediment Dam Type-B	
1635.01	Rock Pipe Inlet Sediment Trap Type-A	
1635.02	Rock Pipe Inlet Sediment Trap Type-B	
1630.04	Stilling Basin	
1630.06	Special Stilling Basin	
	Rock Inlet Sediment Trap:	
1632.01	Type A	A
1632.02	Type B	B
1632.03	Type C	C
	Skimmer Basin	SK
	Tiered Skimmer Basin	SK
	Infiltration Basin	

THIS PROJECT CONTAINS EROSION CONTROL PLANS FOR CLEARING AND GRUBBING PHASE OF CONSTRUCTION.





INSTALL PERIMETER EROSION CONTROL MEASURES DURING INITIAL CLEARING PHASE

GRAPHIC SCALE

50 25 0 50 100
PLANS

THESE EROSION AND SEDIMENT CONTROL PLANS COMPLY WITH THE APPLICABLE REGULATIONS SET FORTH BY THE NCG-010000 GENERAL CONSTRUCTION PERMIT EFFECTIVE APRIL 1, 2019 AND ISSUED BY THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENTAL QUALITY DIVISION OF WATER RESOURCES.

DIVISION OF HIGHWAYS · STATE OF NORTH CAROLINA · DEPARTMENT OF TRANSPORTATION · DIVISION DESIGN CONSTRUCT UNIT

Prepared in the Office of:

DDC UNIT DIVISION 10
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

Designed by:

VITALIY CHEPEL — *4658*
NAME — *LEVEL III CERTIFICATION NO.*

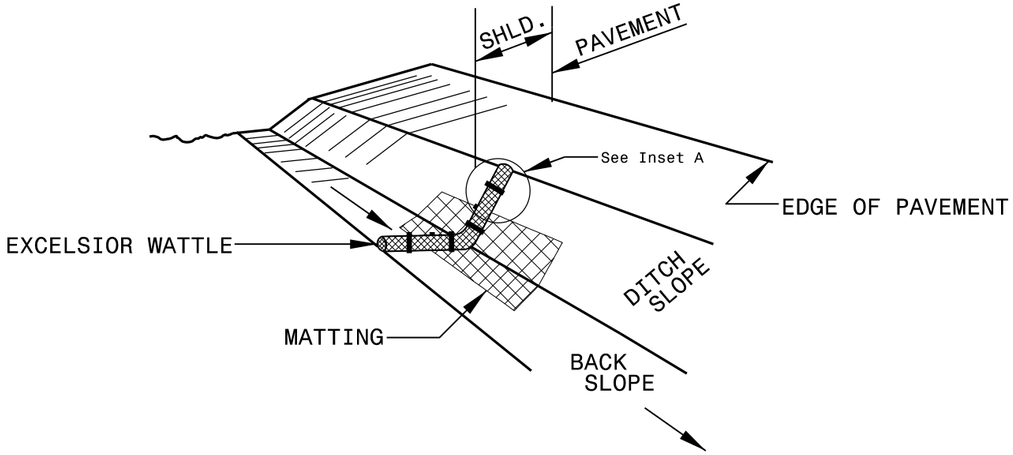
Roadway Standard Drawings

The following roadway english standards as appear in "Roadway Standard Drawings"– Roadway Design Unit – N. C. Department of Transportation – Raleigh, N. C., dated January 2024 and the latest revison thereto are applicable to this project and by reference hereby are considered a part of these plans.

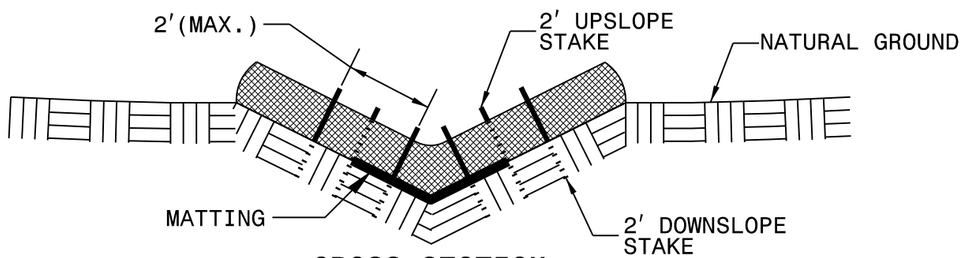
1604.01	Railroad Erosion Control Detail	1632.01	Rock Inlet Sediment Trap Type A
1605.01	Temporary Silt Fence	1632.02	Rock Inlet Sediment Trap Type B
1606.01	Special Sediment Control Fence	1632.03	Rock Inlet Sediment Trap Type C
1607.01	Gravel Construction Entrance	1633.01	Temporary Rock Silt Check Type A
1622.01	Temporary Berms and Slope Drains	1633.02	Temporary Rock Silt Check Type B
1630.01	Riser Basin	1634.01	Temporary Rock Sediment Dam Type A
1630.02	Silt Basin Type B	1634.02	Temporary Rock Sediment Dam Type B
1630.03	Temporary Silt Ditch	1635.01	Rock Pipe Inlet Sediment Trap Type A
1630.04	Stilling Basin	1635.02	Rock Pipe Inlet Sediment Trap Type B
1630.05	Temporary Diversion	1640.01	Coir Fiber Baffle
1630.06	Special Stilling Basin	1645.01	Temporary Stream Crossing
1631.01	Matting Installation		

WATTLE DETAIL

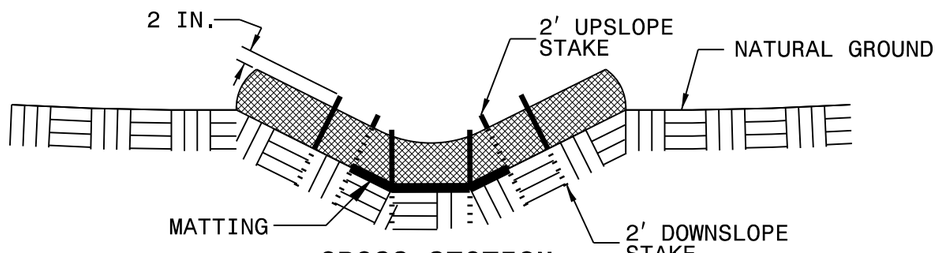
PROJECT NO.	SHEET NO.
49291.3.5	EC-2
F.A. PROJECT NO.	0049040



ISOMETRIC VIEW



CROSS SECTION VEE DITCH



CROSS SECTION TRAPEZOIDAL DITCH

NOTES:

USE MINIMUM 12 IN. DIAMETER EXCELSIOR WATTLE.

USE 2 FT. WOODEN STAKES WITH A 2 IN. BY 2 IN. NOMINAL CROSS SECTION.

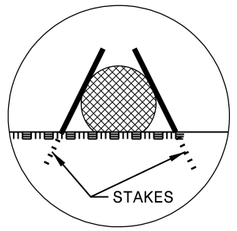
ONLY INSTALL WATTLE(S) TO A HEIGHT IN DITCH SO FLOW WILL NOT WASH AROUND WATTLE AND SCOUR DITCH SLOPES AND AS DIRECTED.

INSTALL A MINIMUM OF 2 UPSLOPE STAKES AND 4 DOWNSLOPE STAKES AT AN ANGLE TO WEDGE WATTLE TO BOTTOM OF DITCH.

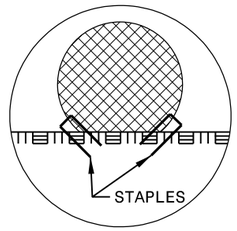
PROVIDE STAPLES MADE OF 0.125 IN. DIAMETER STEEL WIRE FORMED INTO A U SHAPE NOT LESS THAN 12″ IN LENGTH.

INSTALL STAPLES APPROXIMATELY EVERY 1 LINEAR FOOT ON BOTH SIDES OF WATTLE AND AT EACH END TO SECURE IT TO THE SOIL.

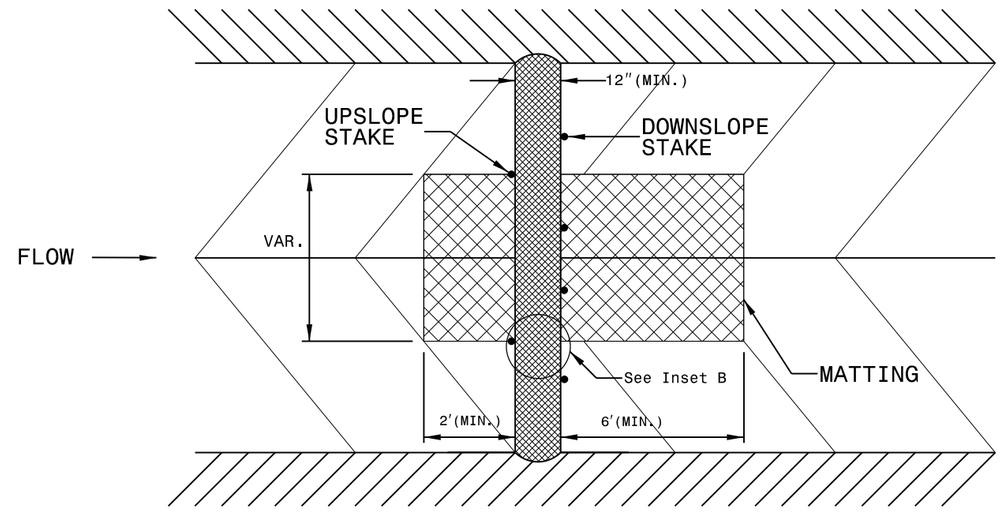
INSTALL MATTING IN ACCORDANCE WITH SECTION 1631 OF THE STANDARD SPECIFICATIONS.



INSET A



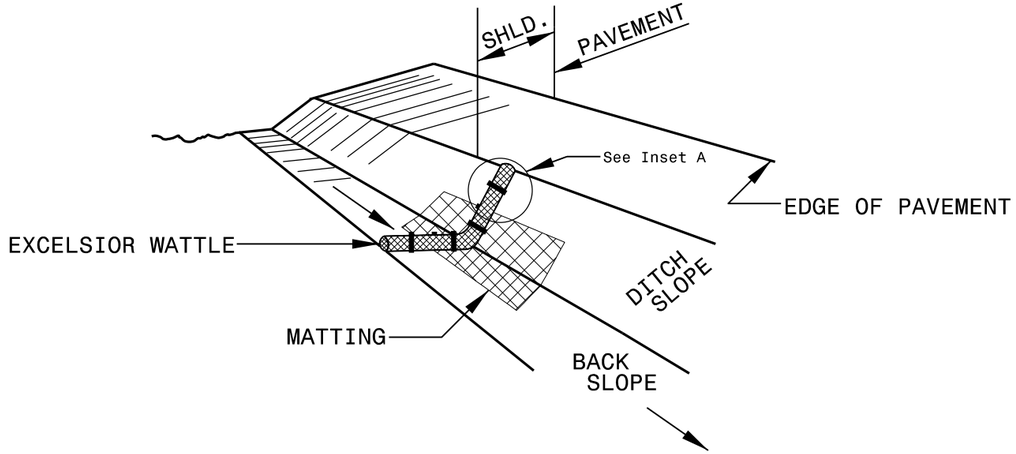
INSET B



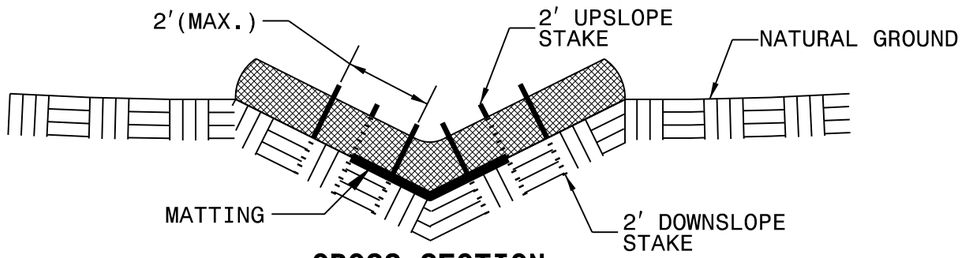
TOP VIEW

PROJECT NO.	SHEET NO.
49291.3.5	EC-2A

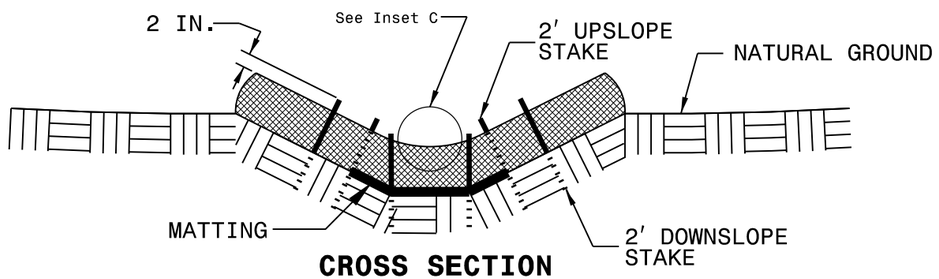
WATTLE WITH POLYACRYLAMIDE (PAM) DETAIL



ISOMETRIC VIEW



CROSS SECTION VEE DITCH



CROSS SECTION TRAPEZOIDAL DITCH

NOTES:

USE MINIMUM 12 IN. DIAMETER EXCELSIOR WATTLE.

USE 2 FT. WOODEN STAKES WITH A 2 IN. BY 2 IN. NOMINAL CROSS SECTION.

ONLY INSTALL WATTLE(S) TO A HEIGHT IN DITCH SO FLOW WILL NOT WASH AROUND WATTLE AND SCOUR DITCH SLOPES AND AS DIRECTED.

INSTALL A MINIMUM OF 2 UPSLOPE STAKES AND 4 DOWNSLOPE STAKES AT AN ANGLE TO WEDGE WATTLE TO BOTTOM OF DITCH.

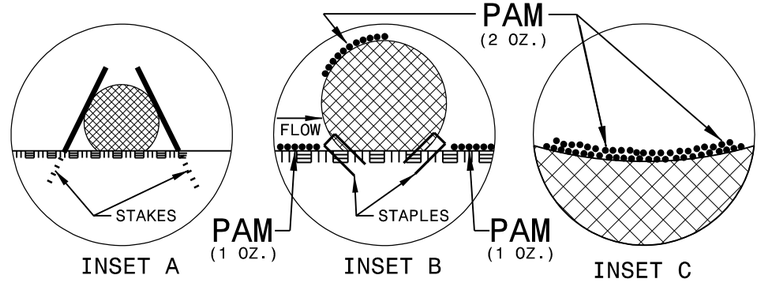
PROVIDE STAPLES MADE OF 0.125 IN. DIAMETER STEEL WIRE FORMED INTO A U SHAPE NOT LESS THAN 12″ IN LENGTH.

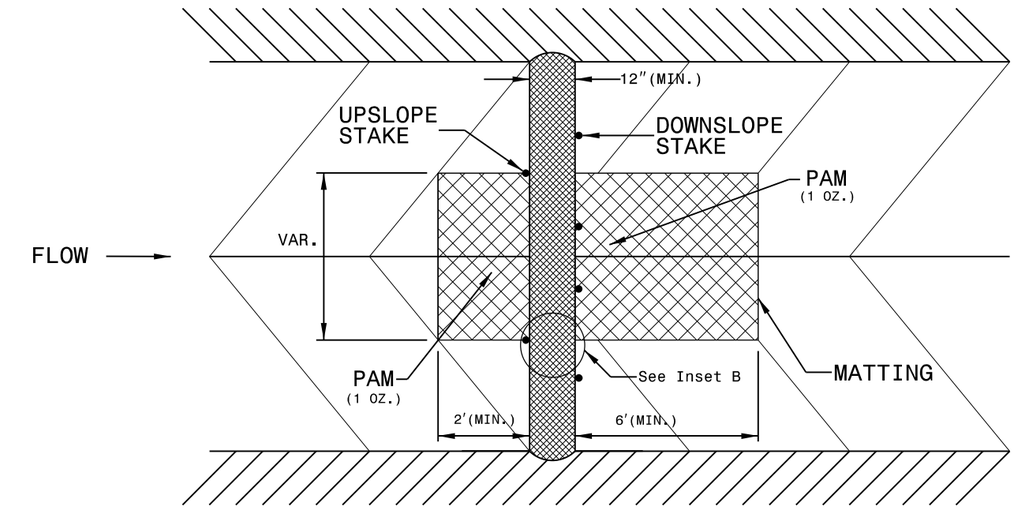
INSTALL STAPLES APPROXIMATELY EVERY 1 LINEAR FOOT ON BOTH SIDES OF WATTLE AND AT EACH END TO SECURE IT TO THE SOIL.

INSTALL MATTING IN ACCORDANCE WITH SECTION 1631 OF THE STANDARD SPECIFICATIONS.

PRIOR TO POLYACRYLAMIDE (PAM) APPLICATION, OBTAIN A SOIL SAMPLE FROM PROJECT LOCATION, AND FROM OFFSITE MATERIAL, AND ANALYZE FOR APPROPRIATE PAM FLOCCULANT TO BE APPLIED TO EACH WATTLE.

INITIALLY APPLY 2 OUNCES OF ANIONIC OR NEUTRALLY CHARGED PAM OVER WATTLE WHERE WATER WILL FLOW AND 1 OUNCE OF PAM ON MATTING ON EACH SIDE OF WATTLE. REAPPLY PAM AFTER EVERY RAINFALL EVENT THAT IS EQUAL TO OR EXCEEDS 0.50 IN.

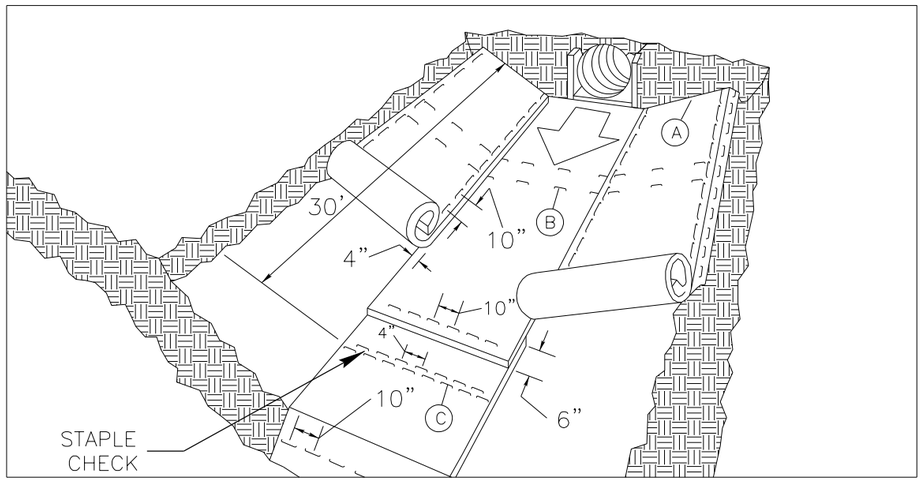




TOP VIEW

PROJECT REFERENCE NO.	SHEET NO.
49291.3.5	EC-2B

MATTING INSTALLATION DETAIL



MATTING IN DITCHES

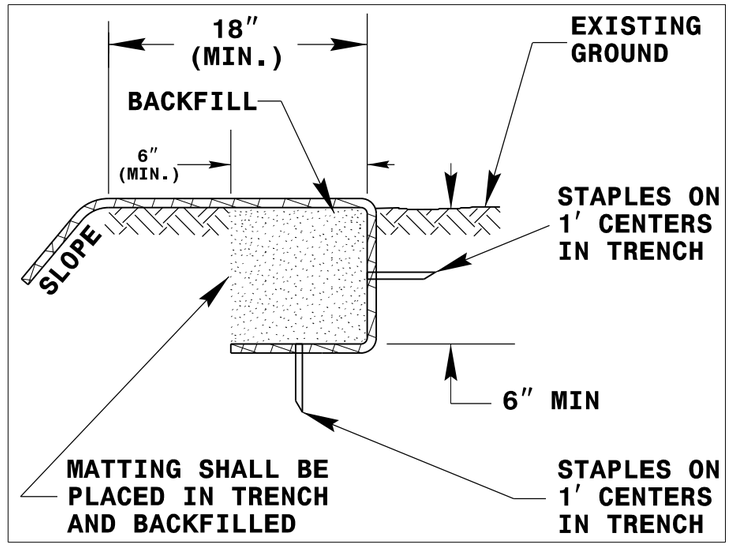
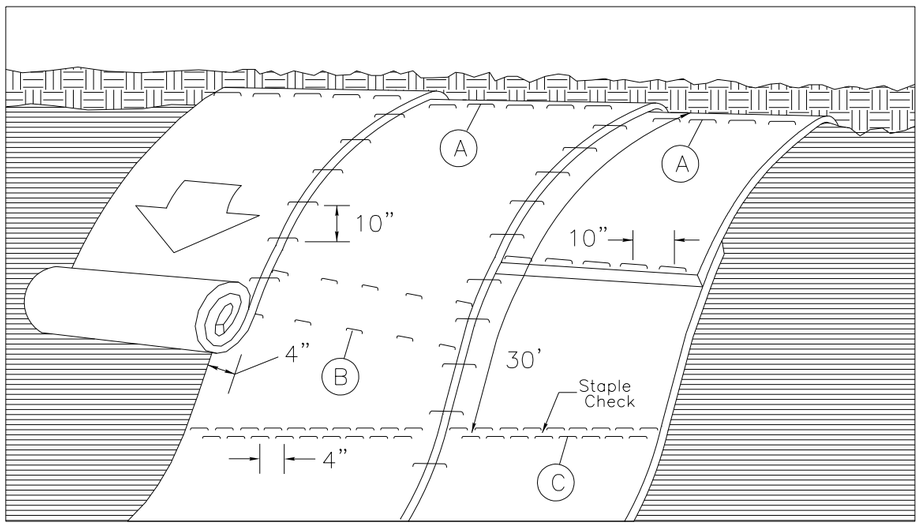


DIAGRAM (A)



MATTING ON SLOPES

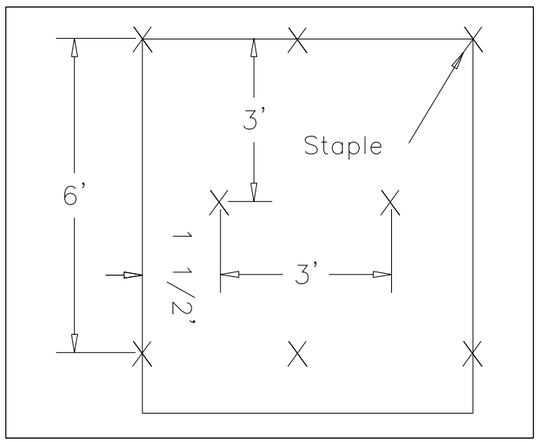


DIAGRAM (B)

Staple Check Pattern

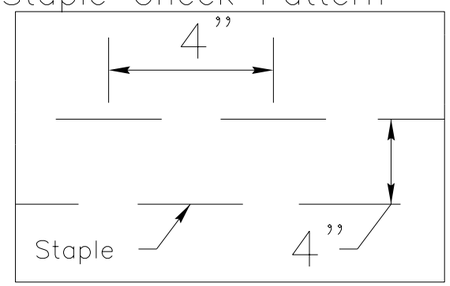


DIAGRAM (C)

NOTES:

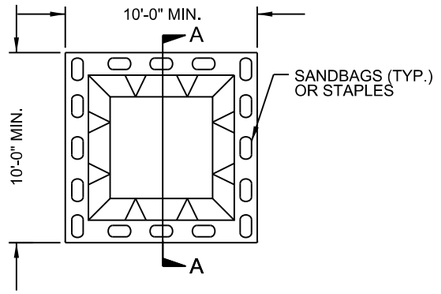
THIS DETAIL APPLIES TO STRAW, EXCELSIOR, AND PERMANENT SOIL REINFORCEMENT MAT (PSRM) INSTALLATION.

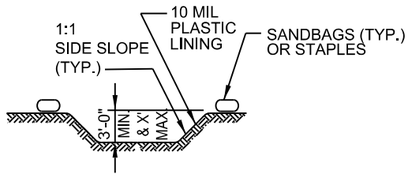
STAPLES SHALL BE NO. 11 GAUGE STEEL WIRE FORMED INTO A "U" SHAPE WITH A MINIMUM THROAT WIDTH OF 1 INCH AND NOT LESS THAN 6 INCHES IN LENGTH.

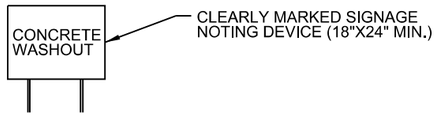
NOT TO SCALE

PROJECT NO.	SHEET NO.
49291.3.5	EC-2C
F.A. PROJECT NO.	0049040

ONSITE CONCRETE WASHOUT STRUCTURE WITH LINER







SECTION A-A

PLAN

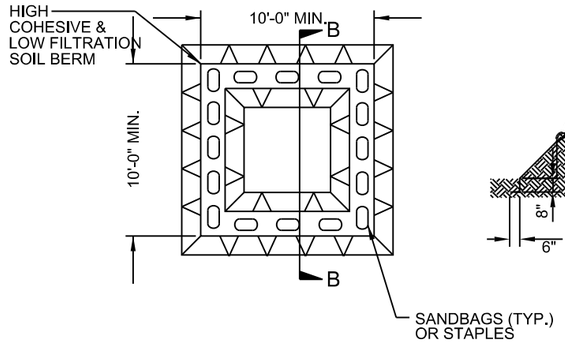
NOTES:
1. ACTUAL LOCATION DETERMINED IN FIELD

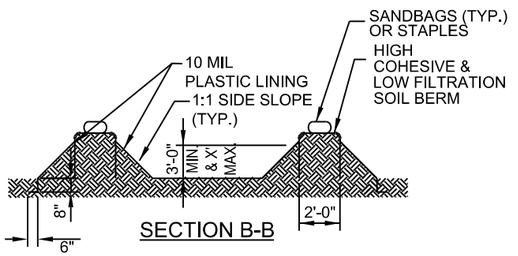
2. THE CONCRETE WASHOUT STRUCTURES SHALL BE MAINTAINED WHEN THE LIQUID AND/OR SOLID REACHES 75% OF THE STRUCTURES CAPACITY.

3.CONCRETE WASHOUT STRUCTURE NEEDS TO BE CLEARY MARKED WITH SIGNAGE NOTING DEVICE.

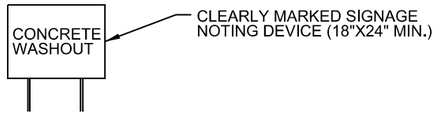
BELOW GRADE WASHOUT STRUCTURE

NOT TO SCALE





SECTION B-B



PLAN

NOTES:
1. ACTUAL LOCATION DETERMINED IN FIELD

2. THE CONCRETE WASHOUT STRUCTURES SHALL BE MAINTAINED WHEN THE LIQUID AND/OR SOLID REACHES 75% OF THE STRUCTURES CAPACITY TO PROVIDE ADEQUATE HOLDING CAPACITY WITH A MINIMUM 12 INCHES OF FREEBOARD.

3.CONCRETE WASHOUT STRUCTURE NEEDS TO BE CLEARY MARKED WITH SIGNAGE NOTING DEVICE.

ABOVE GRADE WASHOUT STRUCTURE

NOT TO SCALE

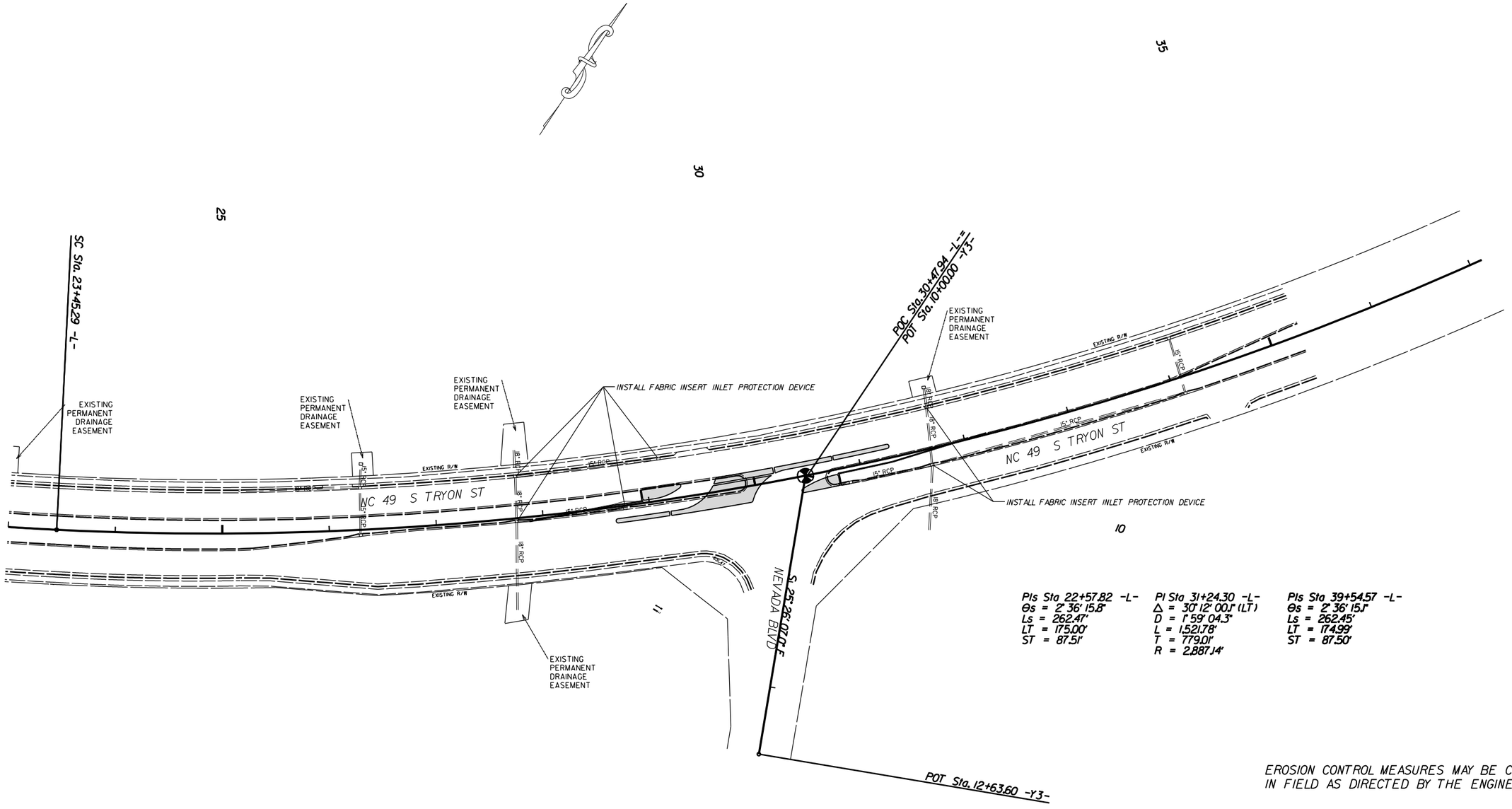
PROJECT REFERENCE NO.	SHEET NO.
49291.3.5	EC-3

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

SOIL STABILIZATION TIMEFRAMES

SITE DESCRIPTION	*STABILIZATION TIME*	*TIMEFRAME EXCEPTIONS*
PERIMETER DIKES, SWALES, DITCHES AND SLOPES	7 DAYS	NONE
HIGH QUALITY WATER (HQW) ZONES	7 DAYS	NONE
SLOPES STEEPER THAN 3:1	7 DAYS	IF SLOPES ARE 10' OR LESS IN LENGTH AND ARE NOT STEEPER THAN 2:1, 14 DAYS ARE ALLOWED.
SLOPES 3:1 OR FLATTER	14 DAYS	7 DAYS FOR SLOPES GREATER THAN 50' IN LENGTH.
ALL OTHER AREAS WITH SLOPES FLATTER THAN 4:1	14 DAYS	NONE, EXCEPT FOR PERIMETERS AND HQW ZONES.

PROJECT NO.	SHEET NO.
49291.3.5	EC-4
F.A. PROJECT NO.	0049040



Pls Sta 22+57.82 -L-
Es = 2° 36' 15.8"
Ls = 262.47'
LT = 175.00'
ST = 87.51'

Pl Sta 31+24.30 -L-
Δ = 30° 12' 00.1" (LT)
D = 1° 59' 04.3"
L = 1,521.78'
T = 779.01'
R = 2,887.14'

Pls Sta 39+54.57 -L-
Es = 2° 36' 15.1"
Ls = 262.45'
LT = 174.99'
ST = 87.50'

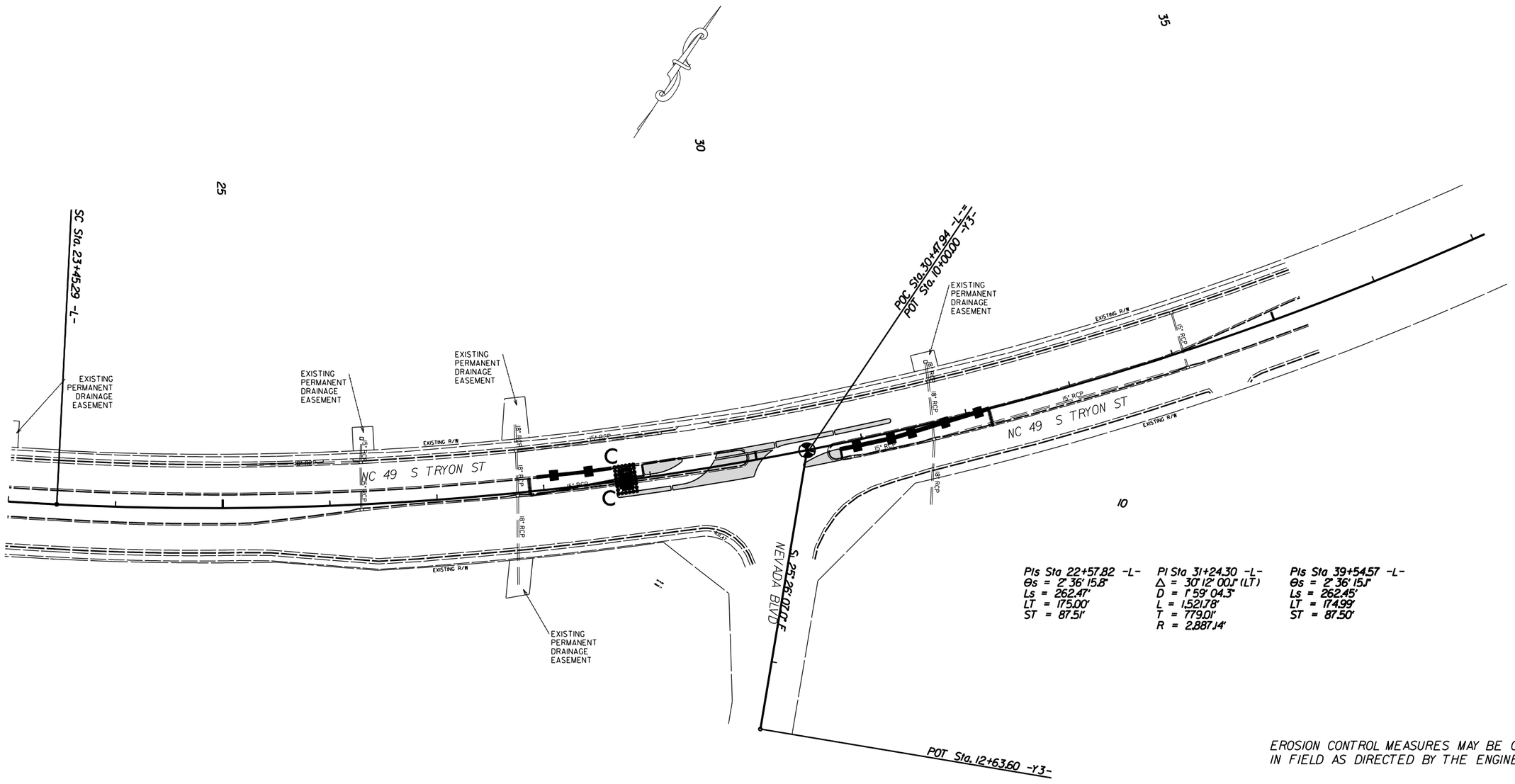
EROSION CONTROL MEASURES MAY BE CHANGED, IN FIELD AS DIRECTED BY THE ENGINEER.

SIGNAL INSTALLATION AT THE INTERSECTION OF NC49/S.TRYON ST. AND GENERAL DR. DIRECTIONAL CROSSOVER ON NC 49/S.TRYON ST. AT NEVADA BLVD.(SR-1347)

SCALE	1"=50'
DATE	10-2022
DWG. BY	JCB
DESIGN BY	JCB
APPROVED	JDH

REVISIONS	

PROJECT NO.	SHEET NO.
49291.3.5	EC-5
F.A. PROJECT NO.	0049040



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SIGNAL INSTALLATION AT THE INTERSECTION OF NC49/S.TRYON ST. AND GENERAL DR. DIRECTIONAL CROSSOVER ON NC 49/S.TRYON ST. AT NEVADA BLVD.(SR-1347)

SCALE	1"=50'
DATE	10-2022
DWG. BY	JCB
DESIGN BY	JCB
APPROVED	JDH

REVISIONS	

PROJECT NO.	SHEET NO.
49291.3.5	PMP-1
F.A. PROJECT NO.	0049040

ROADWAY DESIGN ENGINEER
02/24/2025
NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 042673
Docusigned by: Thomas Presslar
A53C1AC7A1FF47B...

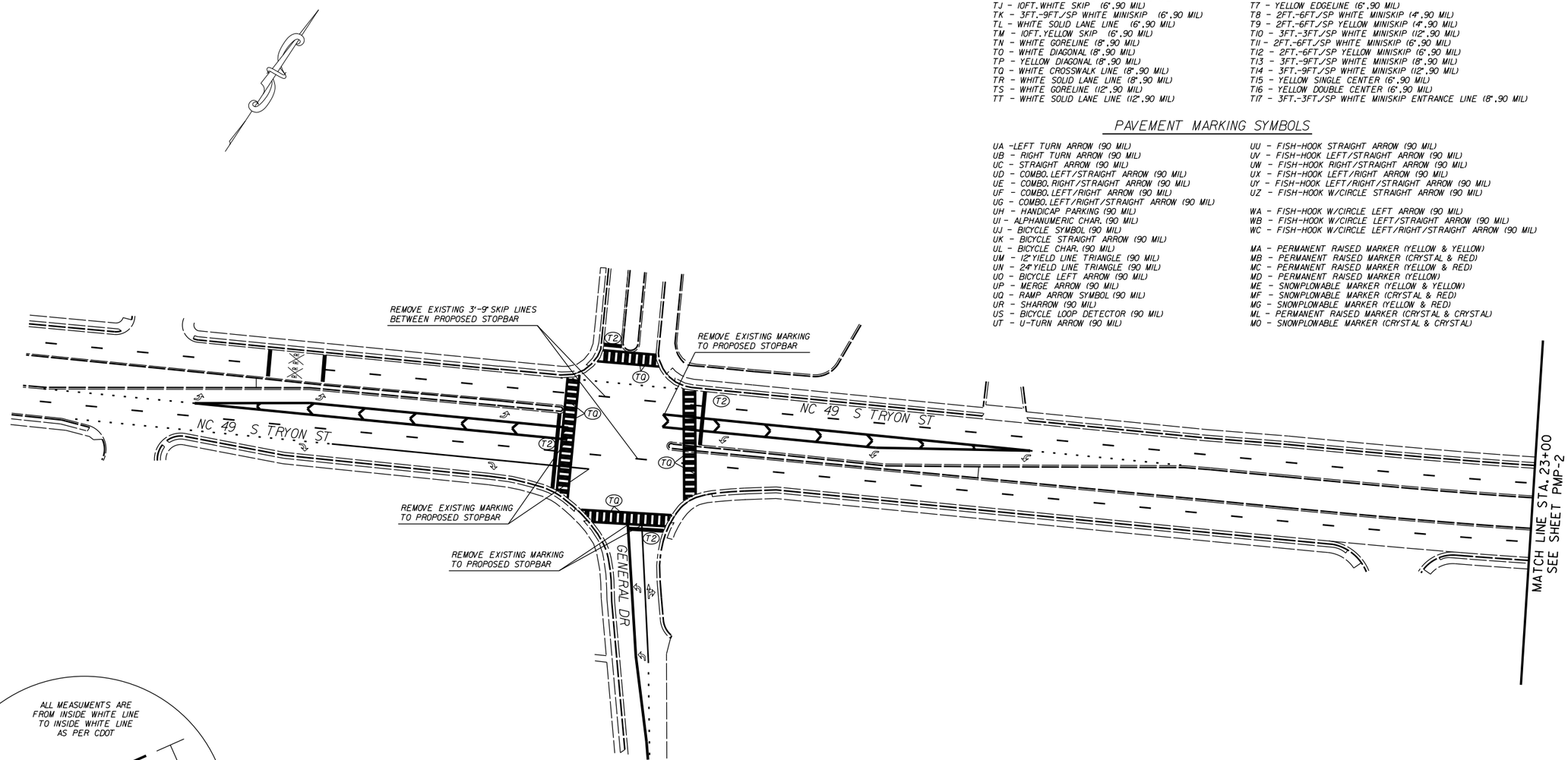
PAVEMENT MARKING SCHEDULE

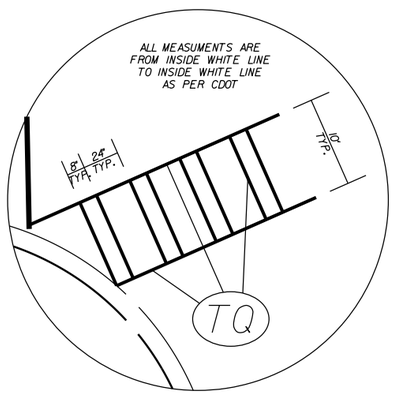
PAVEMENT MARKING LINES

TA - WHITE EDGELINE (4",90 MIL)
TB - YELLOW EDGELINE (4",90 MIL)
TC - 10FT.WHITE SKIP (4",90 MIL)
TD - 3FT.-9FT./SP WHITE MINISKIP (4",90 MIL)
TE - WHITE SOLID LANE LINE (4",90 MIL)
TF - 10FT.YELLOW SKIP (4",90 MIL)
TH - YELLOW SINGLE CENTER (4",90 MIL)
TI - YELLOW DOUBLE CENTER (4",90 MIL)
TJ - 10FT.WHITE SKIP (6",90 MIL)
TK - 3FT.-9FT./SP WHITE MINISKIP (6",90 MIL)
TL - WHITE SOLID LANE LINE (6",90 MIL)
TM - 10FT.YELLOW SKIP (6",90 MIL)
TN - WHITE GORELINE (8",90 MIL)
TQ - WHITE DIAGONAL (8",90 MIL)
TP - YELLOW DIAGONAL (8",90 MIL)
TQ - WHITE CROSSWALK LINE (8",90 MIL)
TR - WHITE SOLID LANE LINE (8",90 MIL)
TS - WHITE GORELINE (12",90 MIL)
TT - WHITE SOLID LANE LINE (12",90 MIL)
TU - WHITE DIAGONAL (12",90 MIL)
TV - YELLOW DIAGONAL (12",90 MIL)
TI - WHITE LINE,RR X (16",90 MIL)
T2 - WHITE STORBAR (24",90 MIL)
T3 - WHITE CROSSWALK LINE (24",90 MIL)
T4 - WHITE RUMBLE STRIP (4",240 MIL)
T5 - YELLOW RUMBLE STRIP (4",240 MIL)
T6 - WHITE EDGELINE (6",90 MIL)
T7 - YELLOW EDGELINE (6",90 MIL)
T8 - 2FT.-6FT./SP WHITE MINISKIP (4",90 MIL)
T9 - 2FT.-6FT./SP YELLOW MINISKIP (4",90 MIL)
TI0 - 3FT.-3FT./SP WHITE MINISKIP (12",90 MIL)
TII - 2FT.-6FT./SP WHITE MINISKIP (6",90 MIL)
TI2 - 2FT.-6FT./SP YELLOW MINISKIP (6",90 MIL)
TI3 - 3FT.-9FT./SP WHITE MINISKIP (8",90 MIL)
TI4 - 3FT.-9FT./SP WHITE MINISKIP (12",90 MIL)
TI5 - YELLOW SINGLE CENTER (6",90 MIL)
TI6 - YELLOW DOUBLE CENTER (6",90 MIL)
TI7 - 3FT.-3FT./SP WHITE MINISKIP ENTRANCE LINE (8",90 MIL)

PAVEMENT MARKING SYMBOLS

UA -LEFT TURN ARROW (90 MIL)
UB - RIGHT TURN ARROW (90 MIL)
UC - STRAIGHT ARROW (90 MIL)
UD - COMBO.LEFT/STRAIGHT ARROW (90 MIL)
UE - COMBO.RIGHT/STRAIGHT ARROW (90 MIL)
UF - COMBO.LEFT/RIGHT ARROW (90 MIL)
UG - COMBO.LEFT/RIGHT/STRAIGHT ARROW (90 MIL)
UH - HANDICAP PARKING (90 MIL)
UI - ALPHANUMERIC CHAR.(90 MIL)
UJ - BICYCLE SYMBOL (90 MIL)
UK - BICYCLE STRAIGHT ARROW (90 MIL)
UL - BICYCLE CHAR.(90 MIL)
UM - 12"YIELD LINE TRIANGLE (90 MIL)
UN - 24"YIELD LINE TRIANGLE (90 MIL)
UO - BICYCLE LEFT ARROW (90 MIL)
UP - MERGE ARROW (90 MIL)
UQ - RAMP ARROW SYMBOL (90 MIL)
UR - SHARROW (90 MIL)
US - BICYCLE LOOP DETECTOR (90 MIL)
UT - U-TURN ARROW (90 MIL)
UU - FISH-HOOK STRAIGHT ARROW (90 MIL)
UV - FISH-HOOK LEFT/STRAIGHT ARROW (90 MIL)
UW - FISH-HOOK RIGHT/STRAIGHT ARROW (90 MIL)
UX - FISH-HOOK LEFT/RIGHT ARROW (90 MIL)
UY - FISH-HOOK LEFT/RIGHT/STRAIGHT ARROW (90 MIL)
UZ - FISH-HOOK W/CIRCLE STRAIGHT ARROW (90 MIL)
WA - FISH-HOOK W/CIRCLE LEFT ARROW (90 MIL)
WB - FISH-HOOK W/CIRCLE LEFT/STRAIGHT ARROW (90 MIL)
WC - FISH-HOOK W/CIRCLE LEFT/RIGHT/STRAIGHT ARROW (90 MIL)
MA - PERMANENT RAISED MARKER (YELLOW & YELLOW)
MB - PERMANENT RAISED MARKER (CRYSTAL & RED)
MC - PERMANENT RAISED MARKER (YELLOW & RED)
MD - PERMANENT RAISED MARKER (YELLOW)
ME - SNOWPLOWABLE MARKER (YELLOW & YELLOW)
MF - SNOWPLOWABLE MARKER (CRYSTAL & RED)
MG - SNOWPLOWABLE MARKER (YELLOW & RED)
ML - PERMANENT RAISED MARKER (CRYSTAL & CRYSTAL)
MO - SNOWPLOWABLE MARKER (CRYSTAL & CRYSTAL)





SIGNAL INSTALLATION AT THE INTERSECTION OF NC 49/S.TRYON ST. AND GENERAL DR. DIRECTIONAL CROSSOVER ON NC 49/S.TRYON ST. AT NEVADA BLVD.(SR-1347)

		REVISIONS	
SCALE	1"=50'		
DATE	8-2024		
DWG. BY	JCB		
DESIGN BY	JCB		
APPROVED	JDH		

PROJECT NO.	SHEET NO.
49291.3.5	PMP-2
F.A. PROJECT NO.	0049040

ROADWAY DESIGN ENGINEER

02/24/2025

SEAL 042673

PAVEMENT MARKING SCHEDULE

PAVEMENT MARKING LINES

TA - WHITE EDGELINE (4",90 MIL)
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TT - WHITE SOLID LANE LINE (12",90 MIL)

TU - WHITE DIAGONAL (12",90 MIL)
TV - YELLOW DIAGONAL (12",90 MIL)
T1 - WHITE LINE, RR X (16",90 MIL)
T2 - WHITE STOPBAR (24",90 MIL)
T3 - WHITE CROSSWALK LINE (24",90 MIL)
T4 - WHITE RUMBLE STRIP (4",240 MIL)
T5 - YELLOW RUMBLE STRIP (4",240 MIL)
T6 - WHITE EDGELINE (6",90 MIL)
T7 - YELLOW EDGELINE (6",90 MIL)
T8 - 2FT.-6FT./SP WHITE MINISKIP (4",90 MIL)
T9 - 2FT.-6FT./SP YELLOW MINISKIP (4",90 MIL)
T10 - 3FT.-3FT./SP WHITE MINISKIP (12",90 MIL)
T11 - 2FT.-6FT./SP WHITE MINISKIP (6",90 MIL)
T12 - 2FT.-6FT./SP YELLOW MINISKIP (6",90 MIL)
T13 - 3FT.-9FT./SP WHITE MINISKIP (8",90 MIL)
T14 - 3FT.-9FT./SP WHITE MINISKIP (12",90 MIL)
T15 - YELLOW SINGLE CENTER (6",90 MIL)
T16 - YELLOW DOUBLE CENTER (6",90 MIL)
T17 - 3FT.-3FT./SP WHITE MINISKIP ENTRANCE LINE (8",90 MIL)

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UW - FISH-HOOK RIGHT/STRAIGHT ARROW (90 MIL)
UX - FISH-HOOK LEFT/RIGHT ARROW (90 MIL)
UY - FISH-HOOK LEFT/RIGHT/STRAIGHT ARROW (90 MIL)
UZ - FISH-HOOK W/CIRCLE STRAIGHT ARROW (90 MIL)

WA - FISH-HOOK W/CIRCLE LEFT ARROW (90 MIL)
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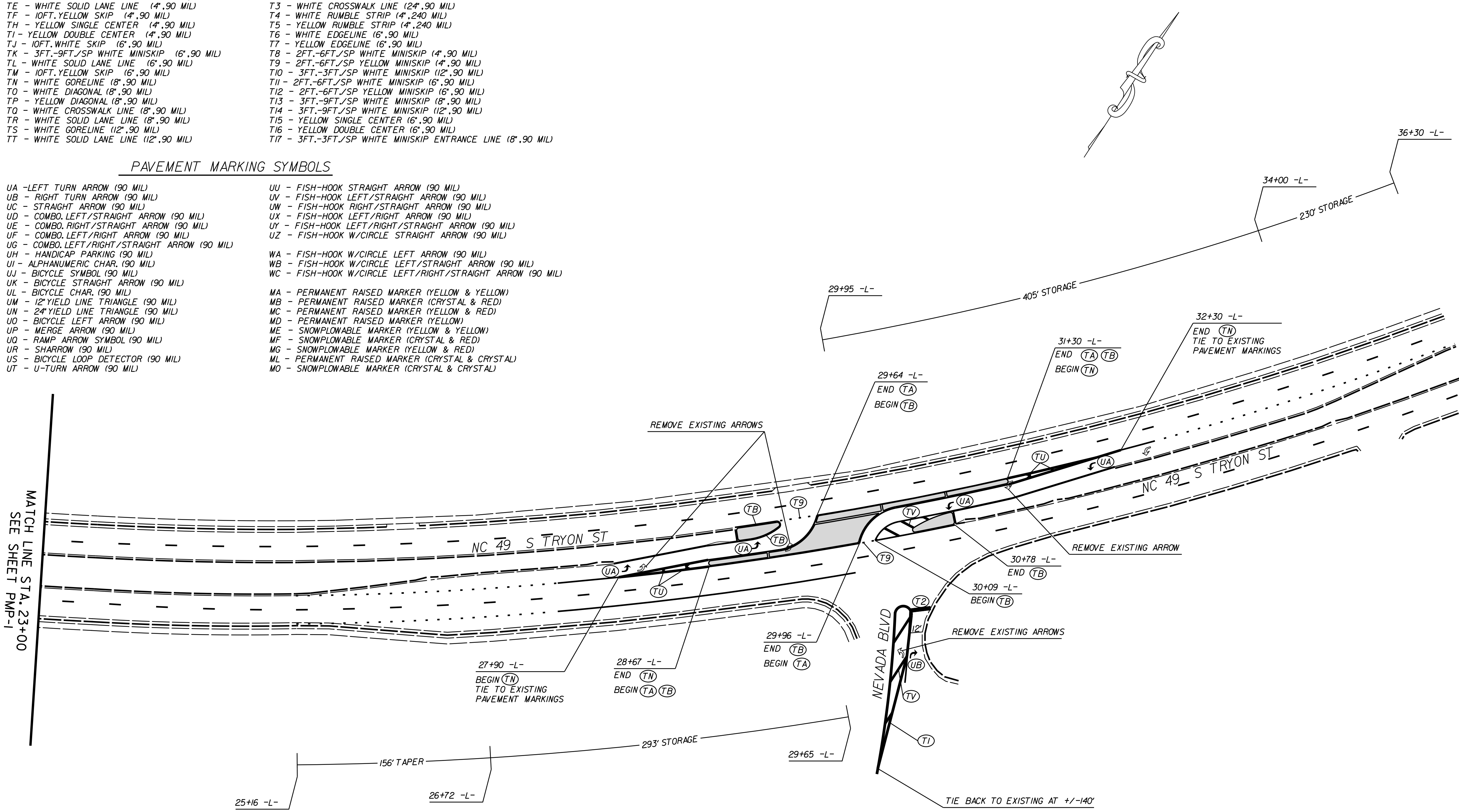


SIGNAL INSTALLATION AT THE INTERSECTION OF NC 49/S.TRYON ST.AND GENERAL DR. DIRECTIONAL CROSSOVER ON NC 49/S.TRYON ST.AT NEVADA BLVD.(SR-1347)

SCALE	1"=50'
DATE	12-2024
DWG. BY	TBL
DESIGN BY	JCB
APPROVED	JDH

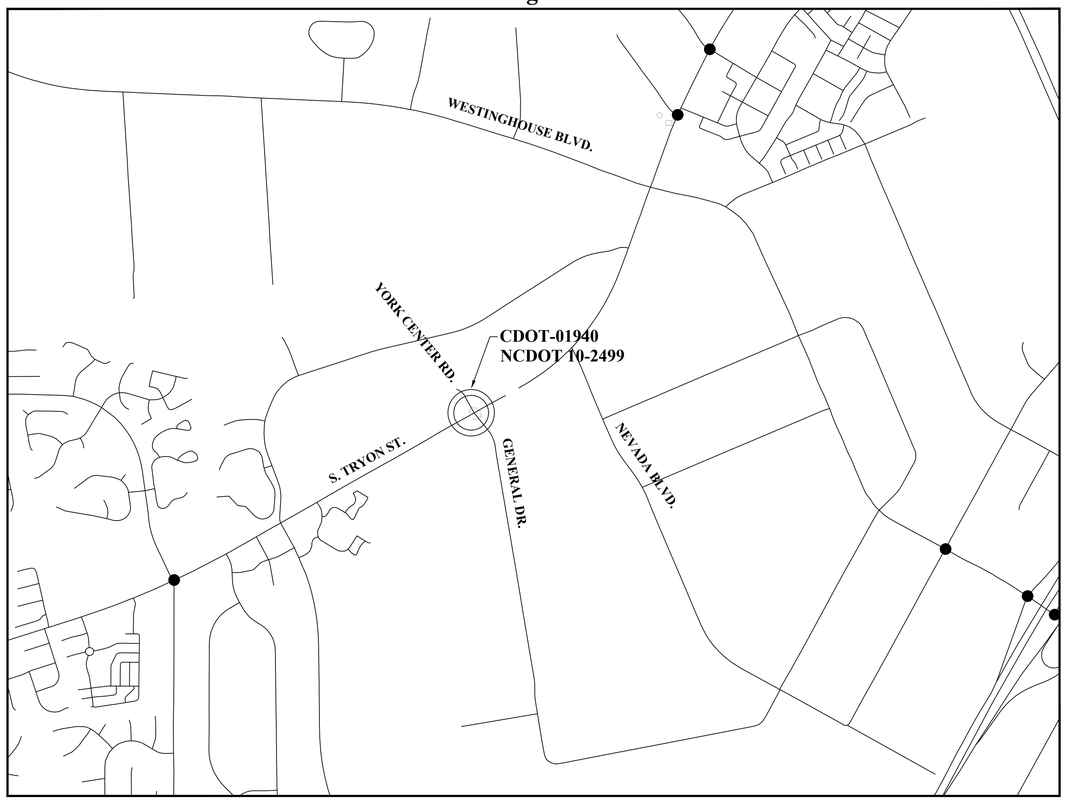
REVISIONS	

INDEX OF SHEETS

CHARLOTTE.
TRANSPORTATION

Signal Plans of
NC 49 (S. Tryon Street) at General Drive/ York Center Road

CDOT Signal ID 01940
NCDOT Signal ID 10-2499



VICINITY MAP (NTS)

LEGEND

PROPOSED	DESCRIPTION	EXISTING
	CONTROL BOX	
	METER PEDESTAL	
	PULL BOX	
	STEEL POLE	
	MAST ARM	
	PED PEDESTAL	
	UTILITY POLE	
	ANCHOR	
	SIGNAL HEAD	
	VIDEO CAMERA	
	OPTICOM	
	OBSERVATION CAM	
	DETECTOR	
	CONDUIT	
	INTERCONNECT	
	EDGE OF PVMT.	
	CURB & GUTTER	
	TUBULAR MARKER	
	GROUND SIGN	
	OVERHEAD SIGN	
	DOUBLE YELLOW	
	STOP BAR	
	WHITE SKIP	
	WHITE MINI	
	PAVEMENT ARROW	
	PROPERTY LINE	
	ROW	

PULLBOX ID

	SIZE	PULLBOX TYPE
1	13"x24"x12"	LOOP
2	17"x30"x24"	FIBER OPTIC
3	24"x36"x30"	CONTROLLER / FIBER
4	30"x48"x36"	CONTROLLER
5	24"x24"x12"	CONTROLLER
6	36"x36"x12"	CONTROLLER

NOTE:
PULLBOX MATERIAL MUST MEET OR EXCEED THE 1998 CDOT TRAFFIC SIGNAL SPECIFICATIONS.

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

PLANS PREPARED BY:

Kimley»Horn
421 FAYETTEVILLE STREET, SUITE 600
RALEIGH, NORTH CAROLINA, 27601
PHONE: 919-677-2000

PLAN NOTES

1. ALL PAVEMENT MARKING DIMENSIONS ARE APPROXIMATE.
2. SIGNAL SHALL BE INSTALLED IN ACCORDANCE WITH THE LATEST NCDOT STANDARD SPECIFICATIONS AND CDOT TRAFFIC SIGNAL SPECIAL PROVISIONS.
3. PED SIGNALS WITH PUSHBUTTONS WILL BE LABELED "PB" (FOR EXAMPLE PB21, PB22)
4. COUNTDOWN PEDESTRIAN SIGNALS SHALL COUNT DOWN FLASHING DON'T WALK ONLY.
5. FYA'S 11, 51 AND 71 WILL INITIALLY OPERATE PROTECTED-PERMITTED 24/7.
6. OVERLAPS A & H SHALL SIMULTANEOUSLY CLEAR TO RED.
7. PHASES 2 & 6 TO FLASH YELLOW DURING 7-DAY BURN-IN PERIOD.

PE SEAL

NORTH CAROLINA PROFESSIONAL SEAL 032607 ENGINEER STACIE L. PHILLIPS

DocuSigned by: 5/14/2024

PROJECT TEAM

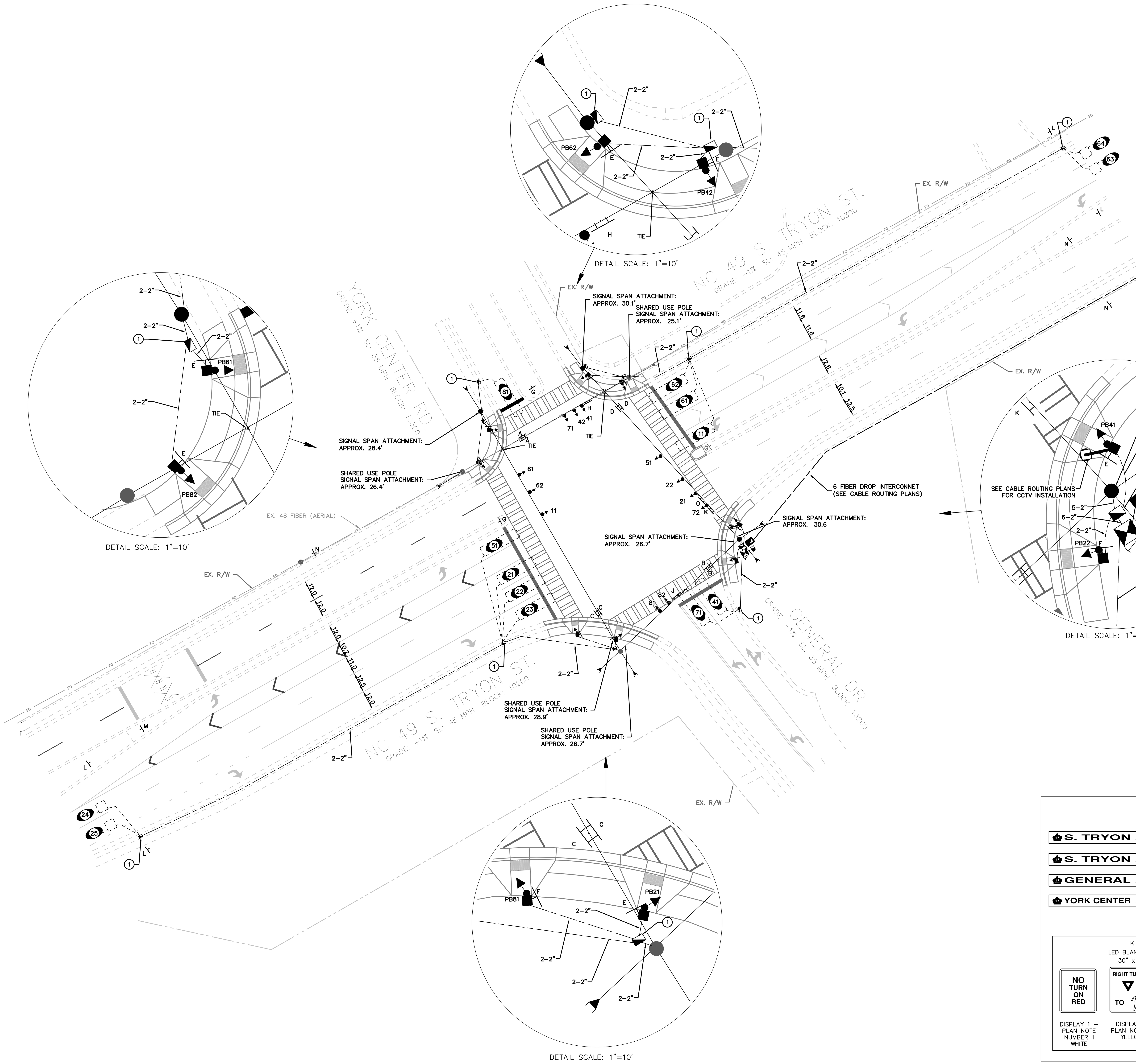
DESIGNER:	SP PENNINGTON
PROJECT MANAGER:	SL PHILLIPS
TIMING ENGINEER:	CODY EDWARDS

CHARLOTTE.
TRANSPORTATION

Signal ID 10-2499/01940

NC 49(S. Tryon St.)@General Dr./York Center Rd.

Wednesday, May 8, 2024 2:06:46 PM



CHARLOTTE TRANSPORTATION

Plans Prepared By:
Kimley»Horn
421 FAYETTEVILLE STREET, SUITE 600
RALEIGH, NORTH CAROLINA, 27601
PHONE: 919-677-2000

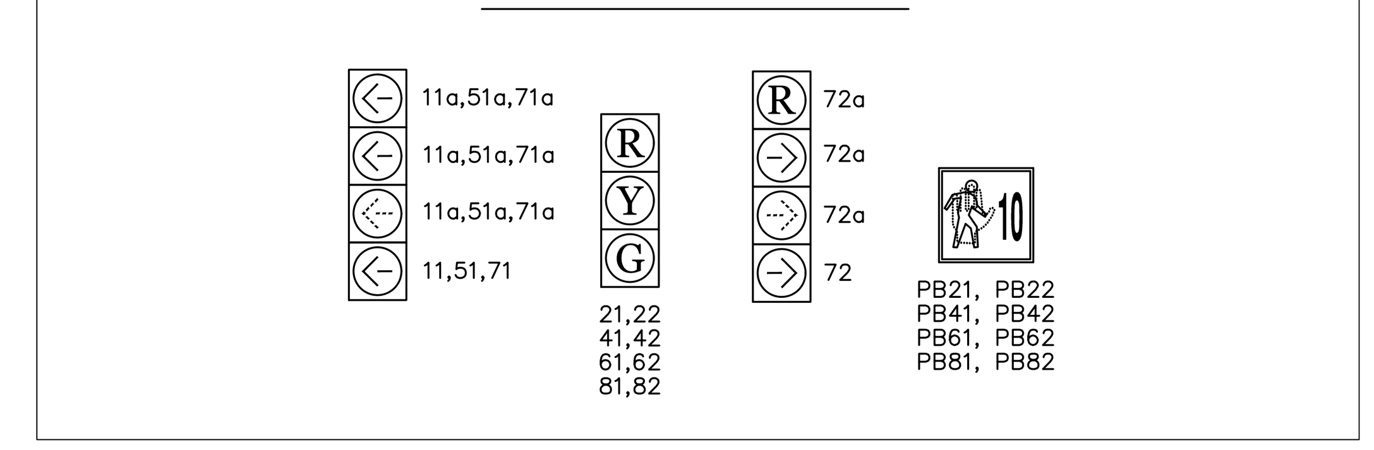
NO.	DATE	BY	REVISION DESCRIPTION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 032607 STACIE L. PHILLIPS

DocuSigned by: 5/14/2024

SIGNAL HEAD ID



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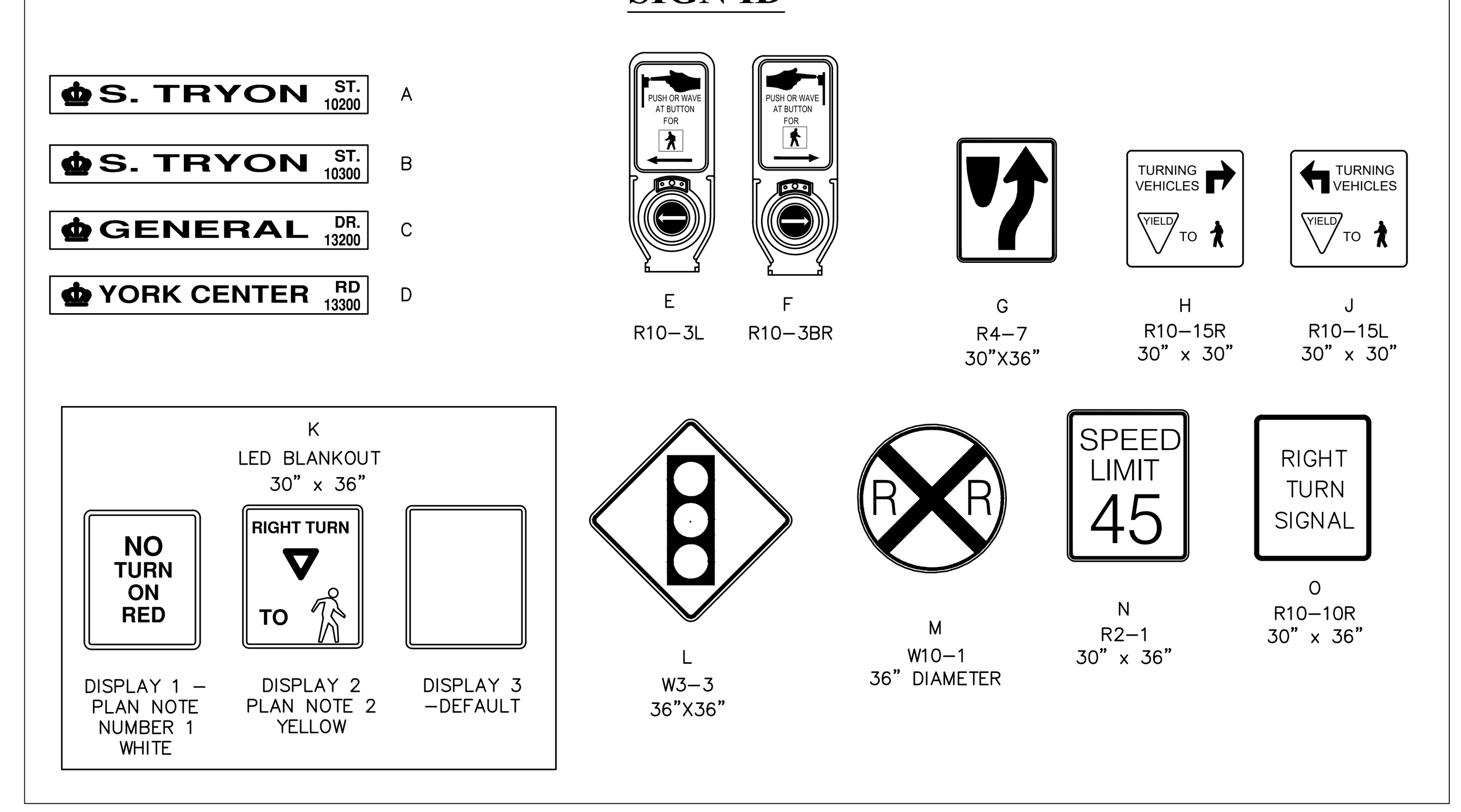


SPP/SLP
PREPARED BY

05-2023
DATE

0194O
SIGNAL NO.

10-2499
NCDOT ID NO.

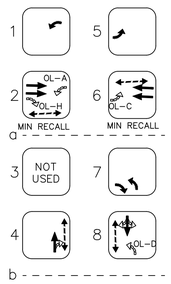
NC 49 (S. TRYON ST) @ GENERAL DR / YORK CENTER RD.

SIGNAL PLAN

SHEET SIG1 OF SIG5

SIGNAL PHASING

Ring Configuration 1,2,a,4,b / 5,6,a,7,8,b



SIGNAL SEQUENCE

RING 1	PHASE 1		PHASE 2		PHASE 3		PHASE 4		
SIGNAL ID NUMBER	R/W	OTH	R/W	OTH	R/W	OTH	R/W	OTH	FLASH
11	◀	◁							⁂
21,22			G	Y					R
41,42							G	Y	R
									⁂
									⁂
									⁂
PB21,PB22			W FDW	DW					DARK
PB41,PB42							W FDW	DW	DARK

RING 2	PHASE 5		PHASE 6		PHASE 7		PHASE 8		
SIGNAL ID NUMBER	R/W	OTH	R/W	OTH	R/W	OTH	R/W	OTH	FLASH
51	◀	◁							⁂
61,62			G	Y					R
71					◀	◁			⁂
81,82							G	Y	R
72					▶	▷			R
									⁂
PB61,PB62			W FDW	DW					DARK
PB81,PB82							W FDW	DW	DARK

⁂ RED ARROW ◁ YELLOW ARROW
◀ GREEN ARROW ✳ FLASHING YELLOW ARROW

OVERLAP PHASE

OVERLAP – PHASE	OL–A/1+2 FYA/LT		OL–B/		OL–C/5+6 FYA/LT		OL–D/7+8 FYA/LT		
SIGNAL ID NUMBER	R/W	OTH	R/W	OTH	R/W	OTH	R/W	OTH	FLASH
11a	✳	◁							⁂
51a					✳	◁			⁂
71a							✳	◁	⁂
									⁂

OVERLAP – PHASE	OL–E/		OL–F/		OL–G/		OL–H/7+2 FYA/RT		
SIGNAL ID NUMBER	R/W	OTH	R/W	OTH	R/W	OTH	R/W	OTH	FLASH
72a							✳	▷	R
									⁂
									⁂
									⁂

⁂ RED ARROW ◁ YELLOW ARROW
◀ GREEN ARROW ✳ FLASHING YELLOW ARROW

TURNING MOVEMENT COUNT

SIGN ID

A — S. TRYON ST. 10200
B — S. TRYON ST. 10300
C — GENERAL DR. 13200
D — YORK CENTER RD 13300

E R10–3L
F R10–3BR
G R4–7 30"X36"
H R10–15R 30" x 30"
J R10–15L 30" x 30"

K LED BLANKOUT 30" x 36"
DISPLAY 1 – PLAN NOTE NUMBER 1 WHITE: NO TURN ON RED
DISPLAY 2 PLAN NOTE 2 YELLOW: RIGHT TURN TO
DISPLAY 3 –DEFAULT

L W3–3 36"X36"
M W10–1 36" DIAMETER
N R2–1 30" x 36": SPEED LIMIT 45
O R10–10R 30" x 36": RIGHT TURN SIGNAL

CLEARANCE INTERVALS

Phase	1	2	4	5	6	7	8
% Grade	-1.0%	1.0%	-1.0%	1.0%	-1.0%	-1.0%	1.0%
Distance	95	115	140	80	110	125	145
Approach Speed (mph)	25	45	35	25	45	25	35
Yellow	**3.2**	**4.4**	**3.9**	**3.1**	**4.6**	**3.2**	**3.8**
All Red	**2.6**	**1.8**	**2.8**	**2.2**	**1.7**	**3.3**	**2.9**
Total Clearance	5.8	6.2	6.7	5.3	6.3	6.5	6.7

SIGNAL HEAD ID

11a,51a,71a
11a,51a,71a
11a,51a,71a
11,51,71

R Y G
21,22
41,42
61,62
81,82

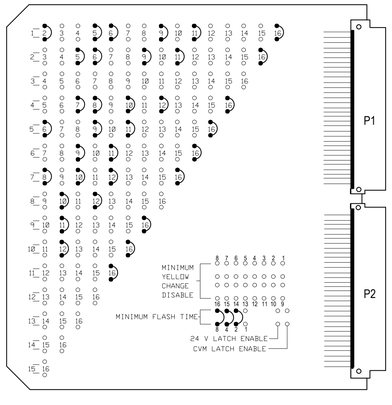
R 72a
72a
72a
72

10
PB21, PB22
PB41, PB42
PB61, PB62
PB81, PB82

MALFUNCTION MANAGEMENT UNIT / CONFLICT MONITOR

PROGRAMMING DETAIL

(program card and tables as shown)



MMU PROGRAMMING CARD

FIELD CHECK ENABLE DUAL IND ENABLE RED FAIL ENABLE	
CHANNEL NUMBER	ENABLE/ DISABLE
1	ENABLE
2	ENABLE
3	DISABLE
4	ENABLE
5	ENABLE
6	ENABLE
7	ENABLE
8	ENABLE
9	ENABLE
10	ENABLE
11	ENABLE
12	ENABLE
13	ENABLE
14	ENABLE
15	DISABLE
16	ENABLE

UNIT OPTIONS	
OPTION	SETTING
RECURRENT PULSE	ON
WALK DISABLE	OFF
LOG CVM FAULTS	ON
EXTERN WATCHDOG	OFF
24V-2=12VDC	OFF
PGM CARD MEMORY	ON
LEDguard	ON
FORCE TYPE 16	OFF
TYPE12-SDLC	OFF
VM 3x/Day Latch	ON

FLASHING YELLOW ARROW	
CONFIG MODE	G
ENABLE CHANNEL PAIR, FYA	
CH 1-9	ON
CH 3-10	OFF
CH 5-11	ON
CH 7-12	ON
RED/YEL INPUT ENABLE	
CH 1	OFF
CH 3	OFF
CH 5	OFF
CH 7	OFF
FLASH RATE FAULT	ON
FYA TRAP DETECT	ON

MMU PROGRAMMING NOTE

ENSURE YELLOW CHANGE PLUS RED CLEARANCE MONITORING IS ENABLED FOR ALL CHANNELS.

ECONOLITE EOS-2070 SPECIAL MMU PROGRAMMING

(program controller as shown)

1. From Main Menu select: 1. CONFIGURATION
2. From CONFIGURATION Submenu select: 1. CABINET
3. From PORT 1 (SDLC) Submenu select: 4. MONITOR PROGRAMMING

CAUTION!

Set intersection to Flash before attempting to enter or change any MMU programming data.

This programming and that of the MMU programming card must match exactly. If they do not, the intersection will be placed into Flash.

```
MMU PROGRAM [     MANUAL]

          CH  6 5 4 3 2 1 0 9 8 7 6 5 4 3 2
           1  X . . . . X . X . . X X . . X
           2  X . . . . X . X . . X X . .
           3  . . . . . . . . . . . . . .
           4  X . . . X . X . X X . . .
           5  X . . . . X . X . . X
           6  X . . . . X . X . .
           7  X . . . X . X . X
           8  . . . . X . X .
           9  X . . . . X .
          10  X . . . X .
          11  X . . . .
          12  . . . .
          13  . . .
          14  . .
          15  .
```

END PROGRAMMING

DETECTOR RACK SETUP

INSERT DETECTOR CARDS IN RACK ACCORDING TO THE DETAIL SHOWN BELOW.
PARTICULAR DETECTOR CHANNELS WILL CALL PHASES INDICATED.

DET BIU #1	CH1 L3 ∅2	CH3 L1 ∅1	CH1 L7 ∅4	CH3 L5 ∅2	CH1 L11 ∅6	CH3 L9 ∅6	SLOT EMPTY	CH3 L13 ∅7	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	DET BIU #2
	CH2 L4 ∅2	CH4 L2 ∅2	CH2 L8 ∅5	CH4 L6 ∅2	CH2 L12 ∅6	CH4 L10 ∅6		CH4 L14 ∅8									

BLANK OUT SIGN NOTES

1. PB81,82 & PB21,22 ACTIVATE DISPLAY 1 OF K1.
2. DISPLAY 2 IS ACTIVATED AT THE END OF THE LEADING PEDESTRIAN INTERVAL OF PHASE 2. DISPLAY 2 OVERRIDES DISPLAY 1 IF BOTH DISPLAYS ARE ACTIVE ON THE SAME SIGN.
3. BOTH DISPLAYS DEACTIVATE AT THE END OF FDW.

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

CHARLOTTE. TRANSPORTATION

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PHONE: 919-677-2000

NO.	DATE	BY	REVISION DESCRIPTION

NORTH CAROLINA PROFESSIONAL SEAL 032607 ENGINEER STACIE L. PHILLIPS

DocuSigned by: 5/14/2024

SPP/SLP PREPARED BY
05-2023 DATE
01940 SIGNAL NO.
10-2499 NCDOT I.D. NO.

NC 49 (S. TRYON ST) @ GENERAL DR / YORK CENTER RD.

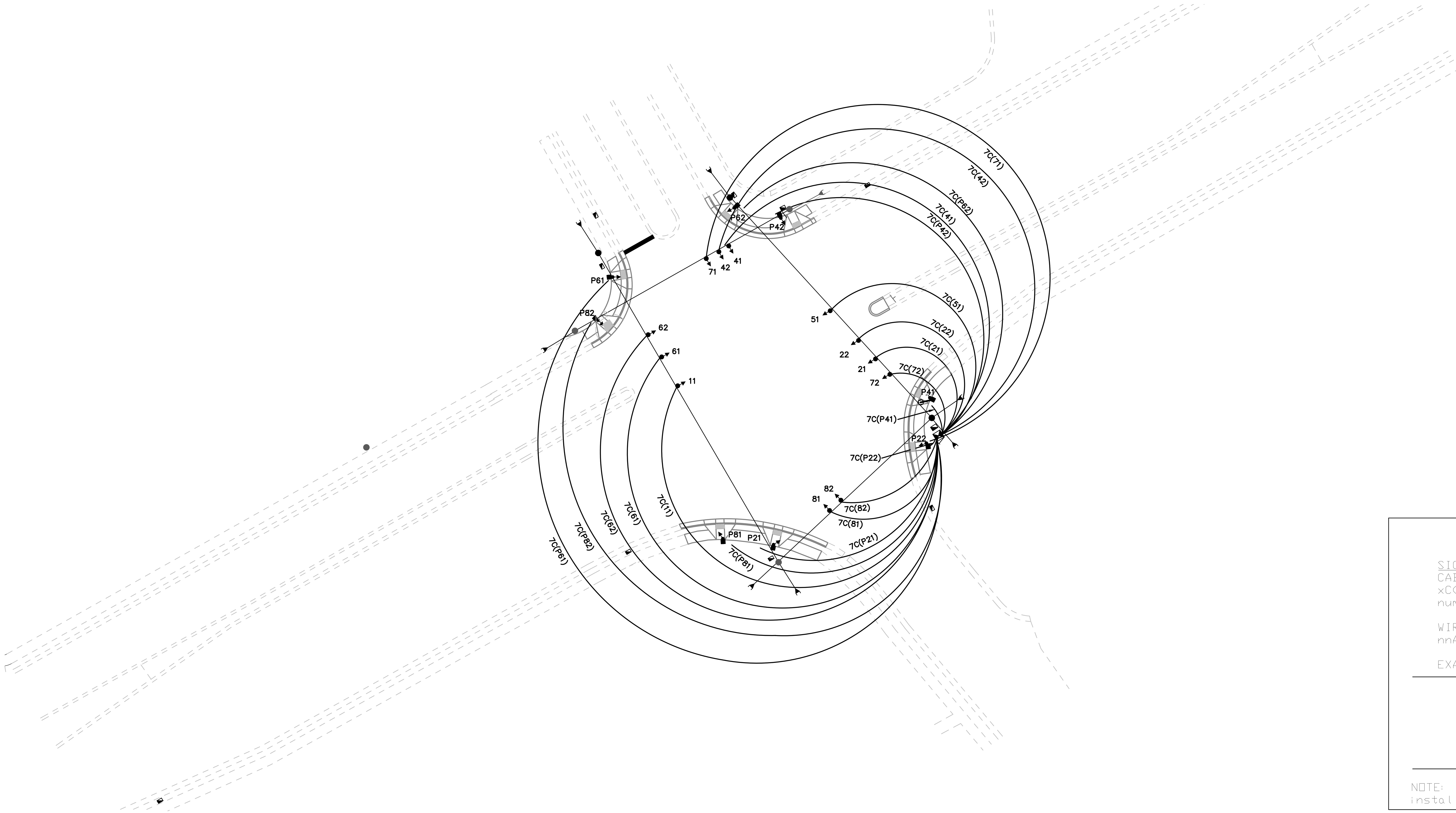
SIGNAL DETAIL

SHEET SIG2 OF SIG5

SIGNAL HEAD WIRING

CHANNEL		1	2		3	4		5	6		7		8		9			10		11			12			13	14	15	16
PHASE		1	2		3	4		5	6		7		8		2 PED			4 PED		6 PED			8 PED			OL-E	OL-F	OL-G	OL-H
SIGNAL HEAD NO.		11	21	22	NU	41	42	51	61	62	71	72	81	82	PB21	PB22	11a	PB41	PB42	PB61	PB62	51a	PB81	PB82	71a	LED Sign	NU	NU	72a
RED	Wire		21R	22R		41R	42R		61R	62R			81R	82R															
	Terminal		LS2-R	LS2-R		LS4-Y	LS4-Y		LS6-R	LS6-R			LS8-R	LS8-R															
YELLOW	Wire		21Y	22Y		41Y	42Y		61Y	62Y			81Y	82Y															
	Terminal		LS2-Y	LS2-Y		LS4-Y	LS4-Y		LS6-Y	LS6-Y			LS8-Y	LS8-Y															
GREEN	Wire		21G	22G		41G	42G		61G	62G			81G	82G															
	Terminal		LS2-G	LS2-G		LS4-G	LS4-G		LS6-G	LS6-G			LS8-G	LS8-G															
RED ARROW	Wire	11G						51R			71R																		72R
	Terminal	LS1-R						LS5-R			LS7G																		LS16-R
YELLOW ARROW	Wire	11Y						51Y			71Y															NTOR			72Y
	Terminal	LS1-Y						LS5-Y			LS7G															LS13-Y			LS16-Y
FLASHING YELLOW	Wire																									YTP			72G
	Terminal																									LS13-G			LS16-G
GREEN ARROW	Wire	11G						51G			71G	72G																	
	Terminal	LS1-G						LS5-G			LS7G	LS7G																	
DON'T WALK	Wire														P21R	P22R		P41R	P42R	P61R	P62R		P81R	P82R					
	Terminal														LS9-R	LS9-R		LS10-R	LS10-R	LS11-R	LS11-R		LS12-R	LS12-R					
PED YELLOW	Wire																11Y					51Y			71Y				
	Terminal																LS9-PY					LS11-PY			LS12-PY				
WALK	Wire														P21G	P22G		P41G	P42G	P61G	P62G		P81G	P82G					
	Terminal														LS9-G	LS9-G		LS10-G	LS10-G	LS11-G	LS11-G		LS12-G	LS12-G					

(XX) = SPLICE IN POLE BASE [XX*] = TERMINAL BLOCK IN SIGNAL HEAD LSX* = TERMINAL IN LOAD BAY

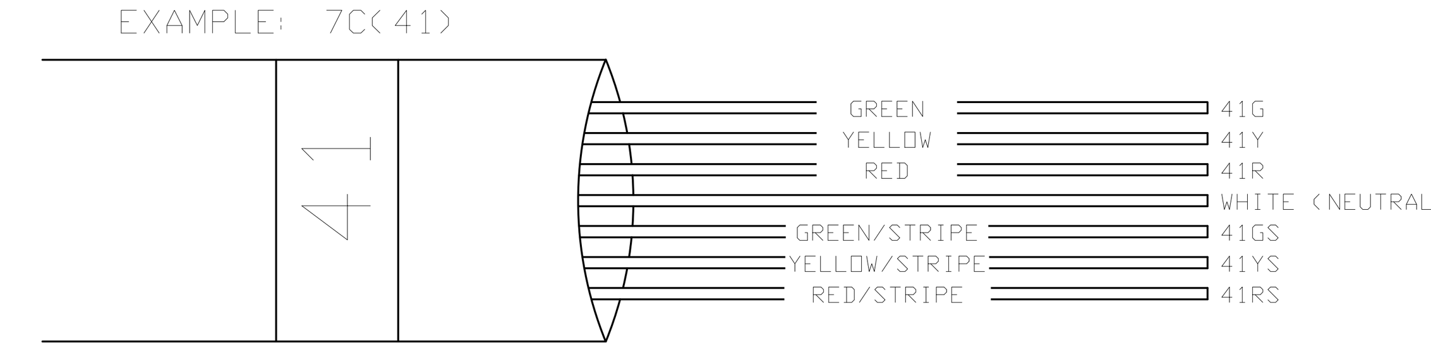


SIGNAL WIRE NAMING CONVENTION:

CABLES:
xC(nn) x = #of conductors in cable, nn = cable number

WIRES:
nnA nn = cable number, A = conductor in cable

EXAMPLE: 7C(41)



NOTE: Conductor colors may vary. Record plan actual colors installed.

CHARLOTTE TRANSPORTATION

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NO.	DATE	BY	REVISION DESCRIPTION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

NORTH CAROLINA PROFESSIONAL SEAL 032607 ENGINEER STACIE L. PHILLIPS

DocuSigned by: 5/14/2024

SPP/SLP PREPARED BY

05-2023 DATE

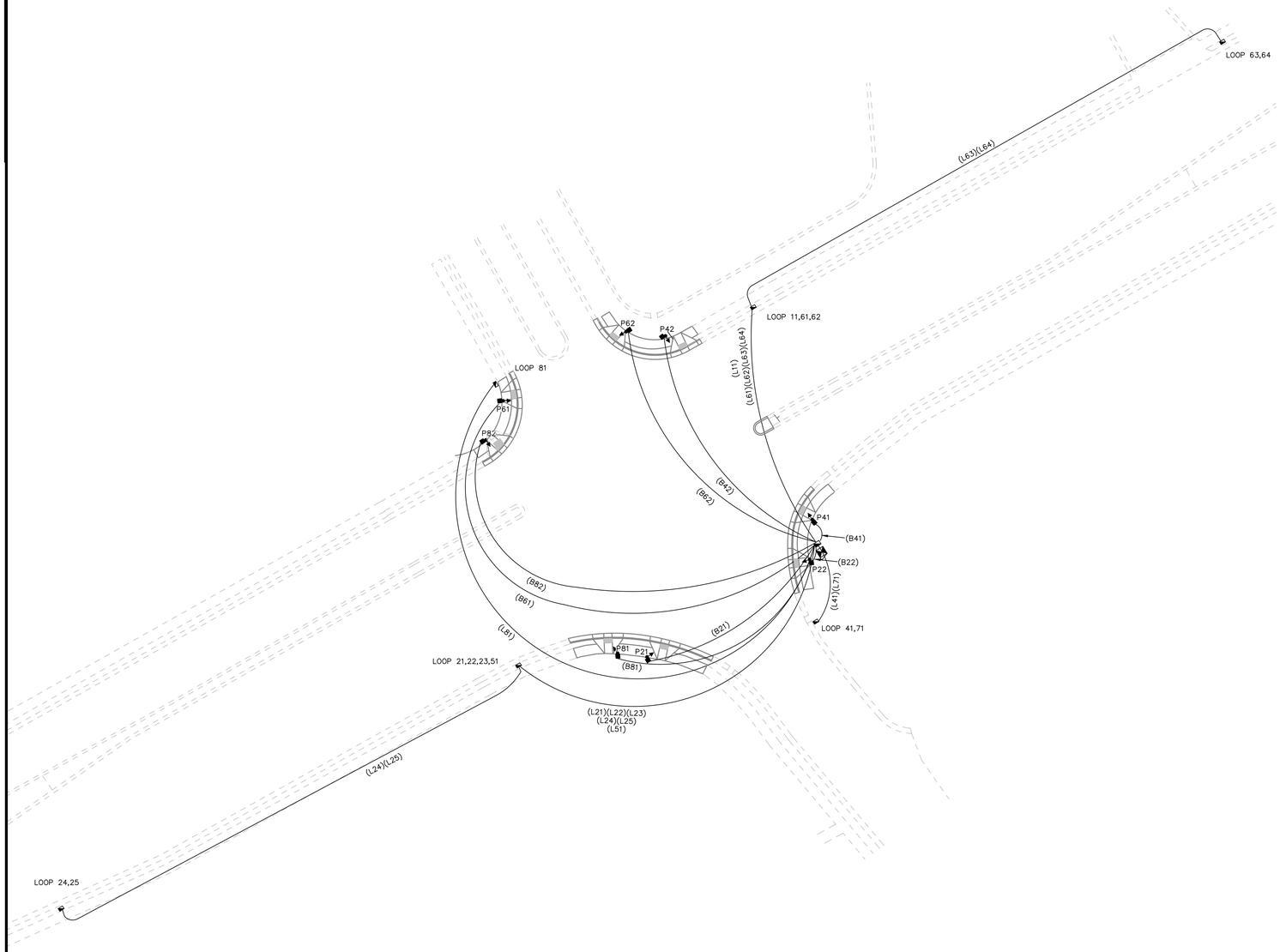
0940 SIGNAL NO.

10-2499 NCDOT ID NO.

NC 49 (S. TRYON ST) @ GENERAL DR / YORK CENTER RD.

SIGNAL WIRING DIAGRAM

SHEET SIG3 OF SIG5



LOOP WIRING

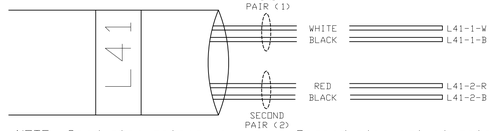
Loop Number	Wire	Terminal	Controller Detector Number	Phase	Timing		Size	Comments
					Feature	Time		
11	L11-1-W	LT1-1	1	1,2	DELAY	3	6'X25'	@STOP BAR
	L11-1-B	LT1-2						
21	L21-2-R	LT1-5	2	2	-	-	6'X25'	@STOP BAR
	L21-2-B	LT1-6						
22	L22-1-W	LT1-7	3	2	-	-	6'X25'	@STOP BAR
	L22-1-B	LT1-8						
23	L23-1-W	LT1-9	4	2	-	-	6'X25'	@STOP BAR
	L23-1-B	LT1-10						
24	L24-2-R	LT1-11	5	2	-	-	6'X6'	300' FROM STOP BAR
	L24-2-B	LT1-12						
25	L25-1-W	LT1-13	6	2	-	-	6'X6'	300' FROM STOP BAR
	L25-1-B	LT1-14						
41	L41-2-R	LT1-15	7	4	DELAY	3	6'X25'	@STOP BAR
	L41-2-B	LT1-16						
51	L51-1-W	LT2-1	8	5,6	DELAY	3	6'X25'	@STOP BAR
	L51-1-B	LT2-2						
61	L61-1-R	LT2-5	9	6	-	-	6'X25'	@STOP BAR
	L61-1-B	LT2-6						
62	L62-2-W	LT2-7	10	6	-	-	6'X25'	@STOP BAR
	L62-2-B	LT2-8						
63	L63-1-R	LT2-9	11	6	-	-	6'X6'	300' FROM STOP BAR
	L63-1-B	LT2-10						
64	L64-2-W	LT2-11	12	6	-	-	6'X6'	300' FROM STOP BAR
	L64-2-B	LT2-12						
71	L71-1-R	LT2-13	13	7,8	DELAY	3	6'X25'	@STOP BAR
	L71-1-B	LT2-14						
81	L81-1-R	LT2-17	14	8	DELAY	3	6'X25'	@STOP BAR
	L81-1-B	LT2-18						

LOW-VOLTAGE WIRE NAMING CONVENTION:

CABLES:
(Ann) A = Loops(L)/Pushbutton(B) nn = cable number

WIRES:
Ann-C-D A = Loops(L)/Pushbutton(B), nn = cable number,
C = pair number, D = conductor in pair

EXAMPLE: (L41)



NOTE: Conductor colors may vary. Record plan actual colors installed.

NOTE:
ALL LEAD-IN WIRE SHOULD BE TWO PAIR CABLE

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CHARLOTTE. TRANSPORTATION

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NO.	DATE	REVISION DESCRIPTION

NORTH CAROLINA PROFESSIONAL SEAL 032607 ENGINEER STACY L. PHILLIPS

DocuSigned by: 5/14/2024

SPP/SLP	05-2023
PREPARED BY	DATE

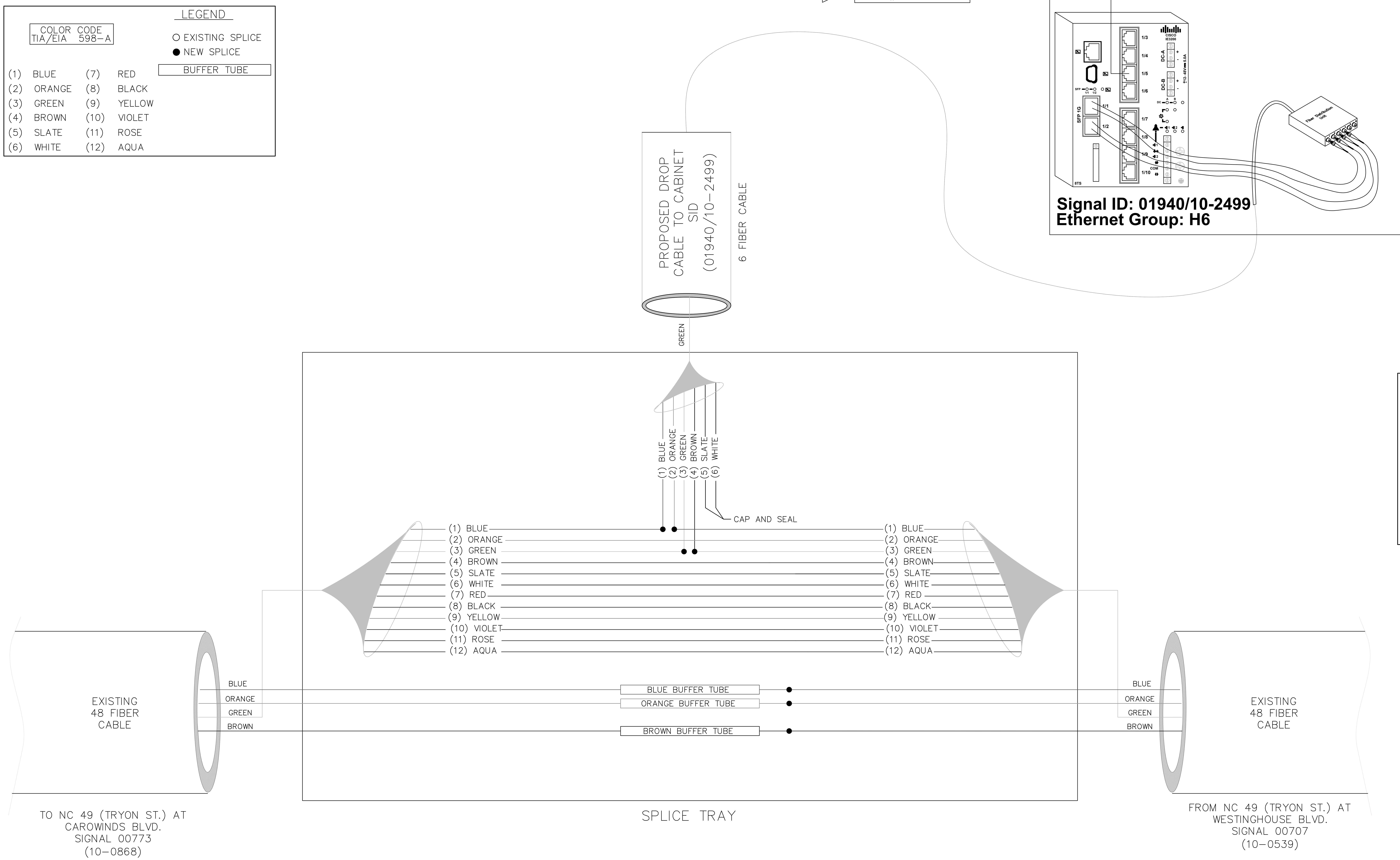
01940	10-2499	
SIGNAL NO.	NCDOT ID NO.	

NC 49 (S. TRYON ST) @ GENERAL DR / YORK CENTER RD.

LOW VOLTAGE WIRING DIAGRAM

SHEET SIG4 OF SIG5

AERIAL SPLICE ENCLOSURE IN NEW HANDHOLD (HH3) ON NC 49 (TRYON ST.) NORTHEAST OF GENERAL DR. SID 01940(10-2499)


LEGEND
COLOR CODE TIA/EIA 598-A
○ EXISTING SPLICE
● NEW SPLICE
BUFFER TUBE
(1) BLUE (7) RED
(2) ORANGE (8) BLACK
(3) GREEN (9) YELLOW
(4) BROWN (10) VIOLET
(5) SLATE (11) ROSE
(6) WHITE (12) AQUA
PROPOSED CCTV #3305
Cisco Ethernet Switch
Detail inside traffic controller
Signal ID: 01940/10-2499
Ethernet Group: H6
PROPOSED DROP CABLE TO CABINET SID (01940/10-2499)
6 FIBER CABLE
GREEN
(1) BLUE (2) ORANGE (3) GREEN (4) BROWN (5) SLATE (6) WHITE
CAP AND SEAL
(1) BLUE
(2) ORANGE
(3) GREEN
(4) BROWN
(5) SLATE
(6) WHITE
(7) RED
(8) BLACK
(9) YELLOW
(10) VIOLET
(11) ROSE
(12) AQUA
BLUE
ORANGE
GREEN
BROWN
BLUE BUFFER TUBE
ORANGE BUFFER TUBE
BROWN BUFFER TUBE
EXISTING 48 FIBER CABLE
SPLICE TRAY
TO NC 49 (TRYON ST.) AT CAROWINDS BLVD. SIGNAL 00773 (10-0868)
FROM NC 49 (TRYON ST.) AT WESTINGHOUSE BLVD. SIGNAL 00707 (10-0539)

AERIAL SPLICE ENCLOSURE (SEE SHEET CR5) AT NC 49 (TRYON ST.) NORTHEAST OF GENERAL DR.

CHARLOTTE TRANSPORTATION

Plans Prepared By: Kimley»Horn
421 FAYETTEVILLE STREET, SUITE 600
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PHONE: 919-677-2000

NO	DATE	BY	REVISION DESCRIPTION

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NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 032607 STACIE L. PHILLIPS

DocuSigned by: 5/14/2024

SPP/SLP PREPARED BY

05-2023 DATE

01940 SIGNAL NO.

10-2499 NCDOT ID NO.

NC 49 (S. TRYON ST) @ GENERAL DR / YORK CENTER RD.

SPLICE DETAIL

SHEET SIG5 OF SIG5

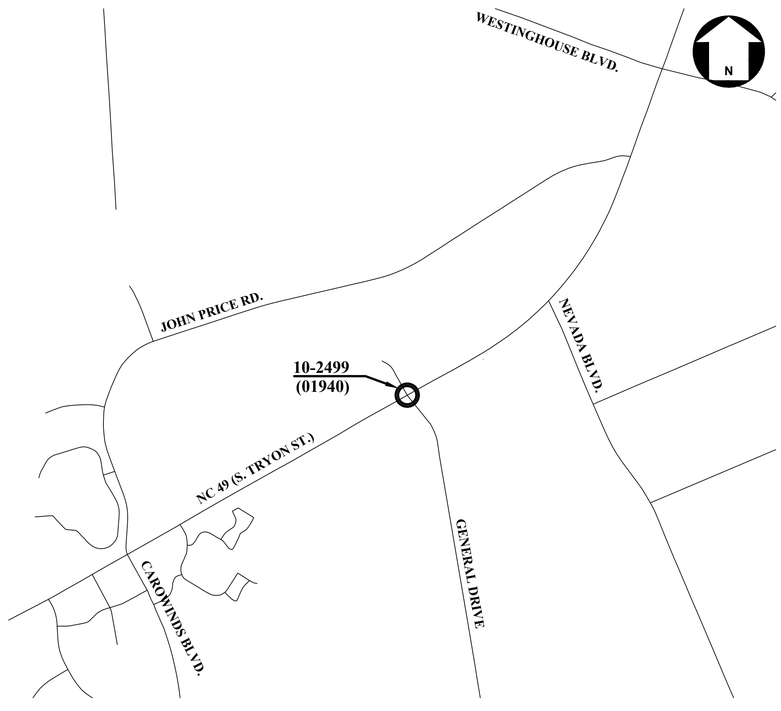
INDEX OF SHEETS

TOTAL SHEETS 14

CHARLOTTE.
TRANSPORTATION

Cable Routing of
NC 49 (S. Tryon Street) at General Drive/York Center Road

CDOT Signal ID 01940
NCDOT Signal ID 10-2499



VICINITY MAP (NTS)

CONVENTIONAL SYMBOLS LEGEND

- Maintained as R/W Line
- Existing Structures
- Railroad Tracks
- Proposed Edge of Pavement
- Existing Fence
- Temporary Construction Easement
- Sidewalk/Utility Easement
- Storm Drainage Easement
- Existing Gas Line
- Existing Water Line
- Existing Sanitary Sewer
- Existing Underground Telecommunications
- Existing Underground Electric
- Existing Storm Drainage
- Existing Guardrail
- Existing Tree
- Existing Right-of-Way
- Existing Water Meter
- Existing Water Valve
- Existing Gas Valve
- Existing Sanitary Sewer Manhole
- Existing Storm Drain Manhole
- Existing Telephone Manhole
- Existing Electric Manhole
- Existing Catch Basin
- Existing Light Pole
- Existing/Proposed Utility Pole
- Guy Wire
- Existing Fire Hydrant
- Existing Drop Inlet
- Accessible Ramp
- Tree Protection
- Silt Fence
- Proposed Curb & Gutter, Conc. Drive, Sidewalk
- Proposed Gravel
- Proposed Pavement Removal
- Existing/Proposed Camera
- Existing/Proposed Traffic Control Box
- Existing/Proposed Hand Hole
- Existing/Proposed Aerial Splice Enclosure
- Existing/Proposed Aerial Splice Enclosure w/ Slack
- Proposed Bore Pit
- Existing/Proposed Aerial Slack Storage
- Existing Aerial Fiber
- Proposed Aerial Fiber
- Proposed Directional Bore
- Proposed Trenching
- Existing Conduit
- Proposed Underground Fiber Curb Marker
- Proposed Adhesive Fiber Warning Sign
- Existing/Proposed Aluminum Camera Pole
- Existing/Proposed Aluminum Camera Pole

PLANS PREPARED BY:

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NC License #F-0102
421 Fayetteville Street, Suite 600
Raleigh, NC 27601
919- 677-2000

PLAN NOTES

1. CONTRACTOR IS RESPONSIBLE FOR LOCATING ALL UTILITIES PRIOR TO CONSTRUCTION.
2. CONTRACTOR TO CUT EXISTING CONDUITS IN NEW AND EXISTING HANDHOLE FOR 6 INCH STUB UP.
3. ALL UNUSED CONDUITS TO BE CAPPED AND TAPE SEALED. USED CONDUITS TO BE SEALED WITH SEALING COMPOUND (OR DUCT PLUGS).
4. CONDUIT AND FIBER QUANTITIES ARE MEASURED AND LABELED FROM HANDHOLE TO HANDHOLE AND/OR POLE TO POLE AND NOT PER SHEET.
5. CCTV CAMERA POLE LOCATION MUST BE STAKED AND APPROVED BY CDOT ENGINEER. MAINTAIN NESC CLEARANCE REQUIREMENTS AT ALL TIMES.

PE SEAL

NORTH CAROLINA PROFESSIONAL SEAL 028952 ENGINEER INGER Z. VanOSDELL

DocuSigned by: Inger VanOsdell 9CC23186EDC842A...

5/9/2024

PROJECT TEAM

DESIGNER:	MC BURKE
PROJECT MANAGER:	SL PHILLIPS
CABLE ROUTING ENGINEER:	IV VANOSDELL

CHARLOTTE.
TRANSPORTATION

NC 49 (S. Tryon Street) at General Drive/York Center Road

Monday, January 29, 2024 1:51:49 PM

GENERAL NOTES

1. THESE PLANS REFLECT CONDITIONS KNOWN DURING PLAN DEVELOPMENT. IN THE EVENT ACTUAL PHYSICAL CONDITIONS PREVENT THE APPLICATION OR THE PROGRESSION OF ANY WORK SPECIFIED IN THESE PLANS, THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY AND PRIOR TO ANY FURTHER WORK ACTIVITY.

2. THE CONTRACTOR IS RESPONSIBLE TO VISIT JOB SITE TO DETERMINE FIELD CONDITIONS WHICH MAY DICTATE THE USE OF SPECIFIC EQUIPMENT NEEDED TO COMPLETE THE CONSTRUCTION SHOWN HEREIN. THE CONTRACTOR SHALL INCLUDE ALL COSTS FOR ANY SPECIALIZED EQUIPMENT IN THE BID.

3. IN ORDER TO MINIMIZE IMPACT TO LANDSCAPING MATERIAL, THE CONTRACTOR SHALL EXERCISE CAUTION THROUGH LANDSCAPING LIMITS DURING ALL PHASES OF CONSTRUCTION ACTIVITY. ANY LANDSCAPE MATERIAL DAMAGED DURING THE CONSTRUCTION PROCESS SHALL BE REPLACED IN KIND AT THE CONTRACTOR'S EXPENSE.

4. THE CONTRACTOR SHALL EXERCISE ALL APPROPRIATE SAFETY MEASURES WHEN WORKING IN OR AROUND AREAS OF OVERHEAD ELECTRICAL/TRANSMISSION LINES OR UNDERGROUND UTILITIES. HAND DIGGING SHALL BE USED AROUND ALL KNOWN AND LOCATED UTILITIES.

5. THE WORK CORRIDOR SHALL BE RESTORED TO PRE-WORK CONDITIONS.

6. ALL CONCRETE GUTTERS SHALL BE MAINTAINED OR RESTORED TO PRE-WORK CONDITIONS.

7. CONTRACTOR SHALL MAKE SURE THAT ALL NECESSARY PROTECTIVE MEASURES ARE TAKEN TO SAFEGUARD EXISTING UTILITIES DURING FIBER/EQUIPMENT INSTALLATIONS.

8. ALL ELECTRICAL EQUIPMENT SHALL BE WEATHERPROOF.

9. THE LOCATION OF THE CONDUCTORS, CONDUITS, JUNCTION BOXES, SERVICE POINTS, AND CONTROLLER BOXES ARE DIAGRAMMATIC ONLY AND MAY BE SHIFTED BY THE ENGINEER TO ACCOMMODATE LOCAL CONDITIONS AND EXISTING UTILITY LOCATIONS. CONDUIT SHALL BE PLACED WITHIN EXISTING RIGHT-OF-WAY.

10. THE CONTRACTOR SHALL AVOID AND/OR PROTECT ALL TREES AND ROOTS BY HAND DIGGING AS NECESSARY.

11. VEGETATION SHALL BE REMOVED OR CUT BACK AS DIRECTED BY THE CONSTRUCTION ENGINEER. VEGETATION REMOVAL AND TRIMMING SHALL BE CONSIDERED INCIDENTAL TO THE UNIT PRICE OF THE CAMERA POLE.

12. PLACE FIBER OPTIC CURB MARKERS AWAY FROM CURB RETURNS.

13. THE CONTRACTOR SHALL USE DISCRETION IN DETERMINING ACTUAL BORE PIT LOCATIONS. BORE PIT LOCATIONS MAY BE ADJUSTED DEPENDING ON CONTRACTOR'S ABILITY TO LENGTHEN BORE DISTANCES BETWEEN BORE PITS. UNDER NO CIRCUMSTANCES SHALL CONTRACTOR SHORTEN BORE DISTANCES.

14. ALL ELECTRICAL WORK SHALL MEET ALL REQUIREMENTS OF THE LATEST EDITIONS OF THE NATIONAL ELECTRICAL CODE, NATIONAL ELECTRIC SAFETY CODE, AND THE NORTH CAROLINA D.O.T. STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION. ALL COMPONENTS SHALL BE PROPERLY GROUNDED AND BONDED PER N.E.C. REQUIREMENTS.

15. PULLING INSTRUCTIONS FOR POWER CONDUCTORS; CONNECT PULLING DEVICES TO COPPER WIRE AND NOT TO JACKET AND MEET MANUFACTURES REQUIREMENTS. USE PULLING COMPOUND PER MANUFACTURERS REQUIREMENTS. ALL BENDS SHALL NOT BE LESS THAN RECOMMENDED BY N.E.C. OR N.E.S.C. FOR CABLE USED.

16. PRIOR TO ANY EQUIPMENT ORDER, THE CONTRACTOR SHALL SUBMIT FOR REVIEW AND APPROVAL OF THE EQUIPMENT SPECIFICATIONS OR DESIGN AND SHOP DRAWINGS, INCLUDING PLAN OF ATTACHMENTS FOR ALL MATERIAL PROPOSED FOR THIS PROJECT NOT DETAILED IN THE PLANS. SUBMITTED PLAN SHALL BE SIGNED AND SEALED AT ENGINEER'S DISCRETION.

17. THE CONTRACTOR SHALL NOT DISPOSE OF ANY MATERIAL EITHER ON OR OFF CITY-OWNED AND NCDOT-OWNED R/W IN A REGULATORY FLOOD ZONE AS DEFINED BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY WITHOUT APPROVAL BY SAME. ALL MATERIAL SHALL BE DISPOSED OF IN UPLAND (NON-WETLAND) AREAS AND PER LOCAL CODE. THE COST OF THE MATERIAL DISPOSAL SHALL BE INCIDENTAL TO THE EQUIPMENT INSTALLATION.

18. AT LOCATIONS NEAR REINFORCED EARTH WALLS AND EXISTING BARRIER WALLS, THE CONTRACTOR IS TO ASSURE THAT THE WALL IS NOT UNDERMINED DURING FOUNDATION EXCAVATION AND INSTALLATION. METHODS USED TO SHORE UP WALLS SHALL BE APPROVED BY THE ENGINEER. THE COST SHALL BE INCIDENTAL TO THE UNDERGROUND CONDUIT INSTALLATION.

19. CONTRACTOR SHALL INSTALL HANDHOLES BEHIND SIDEWALK IF AVAILABLE R/W AS FIRST OPTION, IN PLANTING STRIP AS SECOND OPTION, AND IN SIDEWALK AS THIRD OPTION.

20. CONTRACTOR SHALL FOLLOW ALL REQUIREMENTS OF NORFOLK SOUTHERN'S NSCE-8 SPECIFICATIONS.

21. PIPELINE AND CROSSING TO BE INSTALLED AND MAINTAINED IN ACCORDANCE WITH LAST APPROVED AMERICAN RAILWAY ENGINEERING AND MAINTENANCE OF WAY ASSOCIATION SPECIFICATIONS FOR PIPELINES CONVEYING FLAMMABLE AND NON-FLAMMABLE SUBSTANCES.

22. BLASTING NOT PERMITTED.

23. CCTV POLE LOCATIONS MUST BE APPROVED BY CDOT PRIOR TO CONSTRUCTION.

24. RETURN OLD CCTV AND EQUIPMENT TO CDOT ELECTRONICS LAB. CONTACT AT 704-336-3919 TO ARRANGE DELIVERY.

TRAFFIC CONTROL:

TRAFFIC CONTROL SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE "WORK AREA TRAFFIC CONTROL HANDBOOK" (WATCH) AND THE NCDOT STANDARDS AND SPECIFICATIONS.

TRAFFIC CONTROL WILL NOT BE PAID FOR AS A SEPARATE ITEM, BUT WILL BE CONSIDERED INCIDENTAL TO THE CONTRACT.

GENERAL NOTES

UTILITIES:

UTILITIES ARE ILLUSTRATED FOR INFORMATION PURPOSES ONLY. THE CITY WILL NOT BE HELD RESPONSIBLE FOR THE ACCURACY OF UTILITY LOCATIONS, SIZES, DEPTHS, OR FOR COMPLETENESS OF UTILITY INFORMATION.
PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL NOTIFY AND MEET WITH ALL UTILITY OWNERS, THE CITY UTILITY COORDINATOR AND CITY INSPECTOR WHOSE FACILITIES WILL BE AFFECTED TO DETERMINE UTILITY LOCATIONS. THE CONTRACTOR SHALL PROTECT ALL UTILITIES FROM DAMAGE CAUSED BY HIS OPERATIONS OR THOSE OF HIS AGENTS. THE CONTRACTOR SHALL HOLD THE CITY HARMLESS FOR ANY THIRD-PARTY INCONVENIENCE CREATED BY WORK OF HIS OWN FORCES OR THAT OF HIS AGENTS. ANY DAMAGES INCURRED SHALL BE THE CONTRACTORS FINANCIAL RESPONSIBILITY.

- FOR UTILITY LOCATES CALL NORTH CAROLINA ONE-CALL @ 1-800-632-4949.
- FOR LOCATES OF UTILITIES NOT MEMBERS OF NORTH CAROLINA ONE-CALL CONTACT PROJECT MANAGER & C.E.I.

DRAINAGE STRUCTURES:

GRADES, ELEVATIONS AND LOCATIONS SHOWN ARE APPROXIMATE.

DRIVEWAYS AND SIDEWALKS:

PROPOSED DRIVEWAY ENTRANCE DIMENSIONS ARE FROM EXPANSION JOINT TO EXPANSION JOINT. MATCH REPLACEMENT MATERIALS TO THE EXISTING SURFACE ACCORDINGLY:

- CONCRETE- SIX INCH PORTLAND CEMENT CONCRETE (3600 PSI).
- ASPHALT - (COMMERCIAL) TWO INCH SF9.5B COURSE AND FOUR INCH I19.0B INTERMEDIATE COURSE. (RESIDENTIAL) TWO INCH SF9.5B COURSE AND FOUR INCH AGGREGATE BASE COURSE.
- GRAVEL - SIX INCH INCIDENTAL STONE

SIDEWALK SHALL BE FOUR INCHES THICK, AND SIX INCHES THICK AT DRIVEWAY CROSSINGS, PER CITY STD. NO. 10.22

CROSS SLOPES ON SIDEWALKS SHALL NOT EXCEED 2.0%

RUNNING SLOPES ALONG SIDEWALKS SHALL NOT EXCEED 5.0%, OR THE ADJACENT ROADWAY SLOPE AS MEASURED AT THE GUTTER PAN, WHICHEVER IS GREATER.

A TURNING SPACE (LANDING) SHALL BE PROVIDED AT ALL LOCATIONS WHERE A PEDESTRIAN MIGHT TURN TO CHANGE DIRECTION OF TRAVEL. THE LANDING SHALL BE A MINIMUM OF 4 FEET BY 4 FEET, UNLESS NOTED BY THE ENGINEER. TYPICALLY LANDING DIMENSIONS WILL MATCH SIDEWALK WIDTH. THE LANDING ALSO SHALL NOT EXCEED 2.0% SLOPE MEASURED PERPENDICULAR TO THE ROADWAY. THE LANDING ALSO SHALL NOT EXCEED 2.0% OF ADJACENT ROADWAY SLOPE, WHICHEVER IS GREATER, MEASURED PARALLEL TO THE ROADWAY.

A CROSS SLOPE TRANSITION PANEL MAY BE REQUIRED WHERE PROPOSED SIDEWALK MEETS EXISTING SIDEWALK WITH A CROSS SLOPE GREATER THAN 2.0%. THE TRANSITION PANEL SHALL NOT EXCEED 2.0% ON THE SIDE OF THE PROPOSED SIDEWALK AND/OR RAMP, AND SHALL MATCH THE EXISTING CROSS SLOPE ON THE SIDE OF THE EXISTING SIDEWALK.

SUBSURFACE PLANS:

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

TREES, SHRUBS, AND HEDGES:

1. THE CONTRACTOR SHALL ALSO PROTECT TREES AND SHRUBS OUTSIDE OF CUT/FILL LINES, IN ADDITION TO THOSE THAT RECEIVE TREES/SHRUB PROTECTION BARRIERS. WHEN ROOT PRUNING IS NECESSARY, CUT ROOTS CLEANLY USING A DISC TRENCHER IN ACCORDANCE WITH SECTION 01000 OF THE CITY OF CHARLOTTE LANDSCAPE CONSTRUCTION STANDARDS. PRUNING SHALL BE PER THE LATEST STANDARD OF THE LANDSCAPE CONSTRUCTION STANDARDS MANUAL. TREES SPECIFIED BY THE PLANS TO HAVE PROTECTION SHALL BE IN ACCORDANCE WITH CLD STD. 40.02. WHEN THE TREE IS CLOSE TO THE WORK AREA TREE PROTECTION CLD STD. 40.12 SHALL BE USED.

2. IN ORDER TO MINIMIZE IMPACT TO LANDSCAPING MATERIAL, EXERCISE CAUTION THROUGH LANDSCAPING LIMITS DURING ALL PHASES OF CONSTRUCTION ACTIVITY. THE CONTRACTOR IS REQUIRED TO INSTALL TEMPORARY 4' HIGH ORANGE PLASTIC BARRIER FENCING PRIOR TO WORKINGS AROUND AREAS OF LANDSCAPING. THE FENCE CAN BE MOVED AS THE WORK PROGRESSES. COST OF THE TEMPORARY FENCE IS INCIDENTAL TO INSTALLATION OF CCTV POLES. REPAIR/ REPLACE ANY DAMAGED LANDSCAPING AND PLANT BEDS CAUSED BY CONSTRUCTION ACTIVITY.

PLANS:

1. AERIAL PHOTOGRAPHY IN THESE PLANS MAY NOT REPRESENT CURRENT CONDITIONS. THE CONTRACTOR SHALL REVIEW THE SITE CONDITIONS PRIOR TO BIDDING / CONSTRUCTION.

2. THE BASE MAPPING DEPICTED ON ALL LAYOUT SHEETS WAS OBTAINED FROM EXISTING PLANS PROVIDED BY CDOT AND AERIAL PHOTOGRAPHY. THEREFORE, THE ACCURACY OF THE BASE MAPPING IS NOT THAT OF SURVEYED MAPPING TYPICALLY USED WITH ROADWAY DESIGN PROJECTS AND SHOULD ONLY BE RELIED UPON FOR ESTABLISHING GENERAL LOCATIONS FOR EXISTING AND PROPOSED FEATURES.

3. BASELINES SHOWN ON THE PLANS ARE FOR INFORMATION PURPOSES ONLY AND ARE NOT STAKED IN THE FIELD.

4. THE RIGHT OF WAY DESIGNATIONS SHOWN ON THE PLANS ARE NOT TIED TO A SURVEYED CENTERLINE AND AS SUCH ARE APPROXIMATE.

5. CABINETS AND PULL BOXES ARE DIMENSIONED TO THE CENTER. THE LOCATION OF ALL PROPOSED EQUIPMENT TO BE INSTALLED SHALL BE CONSIDERED TO BE APPROXIMATE AND ADJUSTMENTS MAY BECOME NECESSARY. VARIATIONS FROM THE PROPOSED LOCATIONS MUST BE VERIFIED WITH THE ENGINEER. THE CONTRACTOR SHALL STAKE ALL POLE LOCATIONS AND RECEIVE APPROVAL FROM THE ENGINEER PRIOR TO CONSTRUCTION. THE COST FOR STAKING THE POLE LOCATIONS SHALL BE PAID FOR AS PART OF THE POLE INSTALLATION.

GENERAL NOTES

EROSION CONTROL:

THE CONTRACTOR SHALL MAINTAIN EROSION CONTROL DEVICES IN ACCORDANCE WITH THE APPROPRIATE CITY AND STATE EROSION AND SEDIMENT CONTROL ORDINANCES. THE CONTRACTOR SHALL PREVENT STANDING WATER DUE TO CONSTRUCTION. DISTURBED AREAS SHALL BE SEEDED AND MULCHED AT THE DIRECTION OF THE ENGINEER. THE CONTRACTOR SHALL FOLLOW APPLICABLE EROSION CONTROL MEASURES SHOWN IN THE 2018 OR CURRENT EDITION OF NCDOT STANDARD SPECIFICATIONS.

EROSION CONTROL WILL NOT BE PAID FOR AS A SEPARATE ITEM, BUT WILL BE CONSIDERED INCIDENTAL TO THE CONTRACT.

PAVEMENT DEGRADATION FEE:

CDOT HAS DETERMINED THAT NO PAVEMENT DEGRADATION FEE IS TO BE ASSESSED.

CONDUIT:

1. THE FIBER OPTIC CONDUIT NETWORK SHALL BE MAINTAINED AT A CONSTANT HORIZONTAL AND VERTICAL LOCATION.

2. CONDUIT RUN SHALL NOT EXCEED 270 DEGREES OF BENDS BETWEEN HANDHOLES.

3. MINIMUM REQUIRED CONDUIT BURY DEPTHS SHALL BE MAINTAINED WHERE CONFLICTS OCCUR WITH DRAINAGE OR OTHER UTILITIES PER THESE PLANS.

4. ALL NEW UNDERGROUND CONDUIT SHALL BE SEALED AT BOTH ENDS TO PREVENT THE ENTRY OF DUST, DIRT OR MOISTURE.

5. ALL CONDUIT TRENCHES SHALL BE BACKFILLED COMPLETELY TO PROVIDE SAFE CROSSING BY THE END OF EACH WORKING DAY OR WHENEVER THE WORK ZONE BECOMES INACTIVE. THE CONTRACTOR SHALL NOT OPEN ANY AREA THAT CANNOT BE BACKFILLED IN THE SAME DAY/NIGHT OPERATION.

6. IT SHOULD BE NOTED THAT NO TEST BORINGS WERE MADE WHERE CONDUIT RUNS ARE TO BE INSTALLED BY DIRECTIONAL BORE OR TRENCHING. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO EXAMINE JOB SITE CONDITIONS BEFORE SUBMITTING BID PROPOSALS. THE CONTRACTOR SHALL HAND DIG THE FIRST 4' TO VERIFY POSSIBLE UTILITY CONFLICT.

7. THE PLANS SHOW THE GENERAL ROUTE AND LOCATION OF CONDUIT AND EQUIPMENT RELATIVE TO MAJOR PHYSICAL FEATURES. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO FIELD LOCATE ALL ABOVEGROUND AND UNDERGROUND CONFLICTS IN ADVANCE OF THE PLACEMENT OF ANY CONDUIT OR OTHER FACILITIES. THE CONTRACTOR SHALL FIELD MARK THE PROPOSED ALIGNMENT FOR REVIEW AND CONCURRENCE BY THE ENGINEER PRIOR TO TRENCHING AND/OR PLACEMENT. NO PULL BOXES OR SPLICE VAULTS SHALL BE LOCATED IN DRAINAGE SWALES, DITCHES OR PAVED SHOULDERS.

EXISTING SANITARY SEWER AND WATER LINE:

THE CONTRACTOR SHALL USE CARE WHEN WORKING AROUND SANITARY SEWERS AND WATER LINES. SHOULD THE CONTRACTOR DAMAGE EXISTING SEWER OR WATER LINES, HE SHALL IMMEDIATELY REPLACE THE LINE AT HIS EXPENSE WITH DUCTILE IRON PIPE. THE CONTRACTOR SHALL REPLACE SANITARY SEWER AND/OR WATER LINE, WITH A MINIMUM TEN FOOT SECTION OF DUCTILE IRON PIPE WHEN DRAINAGE PIPE COMES WITHIN TWO FEET OF SAID LINES, VERTICALLY OR HORIZONTALLY.

CAMERA:

CDOT ELECTRONIC SYSTEMS LAB SHALL APPROVE THE FIRST CAMERA CONTROL BOX BUILT BY THE CONTRACTOR

FIBER

UNDER NO CIRCUMSTANCES SHALL ENERGIZED CABLE BE PLACED IN THE SAME CONDUIT AS FIBER OPTIC CABLE UNLESS OTHERWISE APPROVED BY THE ENGINEER.

STANDARDS

THE FOLLOWING STANDARDS AND THE LATEST REVISION THERETO ARE APPLICABLE TO THIS PROJECT AND BY REFERENCE ARE CONSIDERED A PART OF THESE PLANS. NCDOT STANDARDS SHALL BE USED. CHARLOTTE LAND DEVELOPMENT STANDARDS MAY BE USED IF THERE IS NOT AN APPLICABLE NCDOT STANDARD.

CONSTRUCTION TO BE CONSISTENT WITH LATEST EDITION OF THE NCDOT STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES.

NCDOT:

STD. NO.:	TITLE:
848.01	CONCRETE SIDEWALK
1716.01	JUNCTION BOXES
1720.01	POLES
1721.01	GUY ASSEMBLIES
1730.01	FIBER-OPTIC CABLE SLACK

CHARLOTTE LAND DEVELOPMENT STANDARD:

STD. NO.:	TITLE:
30.06A	TEMPORARY SILT FENCE
30.17A	SEEDING SCHEDULE
30.17B	SEEDING SCHEDULE

ABBREVIATIONS

CHARLOTTE LAND DEVELOPMENT STANDARD:

ABAND	ABANDONED
ASPH	ASPHALT
APPROX	APPROXIMATELY
B/C	BACK OF CURB
BIT	BITUMINOUS
BM	BENCH MARK
BRG	BEARING
CB	CATCH BASIN
C&G	CURB AND GUTTER
CL	CLEARANCE C/L
FENCE	CHAIN LINK FENCE
CMP	CORRUGATED MTL PIPE
CONC	CONCRETE
CONST	CONSTRUCTION
DI	DROP INLET
DIA	DIAMETER
DW	DRIVEWAY
DIM	DIMENSION
E	EAST/EASTING
EA	EACH
ELEV	ELEVATION
EOP	EDGE OF PAVEMENT
ESMT	EASEMENT
EXIST	EXISTING
F/C	FACE OF CURB
FES	FLARED END SECTION
FH	FIRE HYDRANT
FOC	FIBER OPTIC CABLE
GV	GAS VALVE
HORIZ	HORIZONTAL
INT	INTERSECTION
INV	INVERT
IP	IRON PIN SET
L	LENGTH
LF	LINEAR FOOTAGE
LT	LEFT
lb	POUND
LP	LIGHT POLE
MAX	MAXIMUM
MIN	MINIMUM
MONO	MONOLITHIC
mph	MILES PER HOUR
MTL	METAL
N	NORTH/NORTHING
NTS	NOT TO SCALE
O/H	OVER HEAD
OC	ON CENTER
PAVT	PAVEMENT
PC	POINT OF CURVATURE
PERM	PERMANENT
PG	PAGE
PI	POINT OF INT
PK	PK NAIL SET
PP	POWER POLE
PROP	PROPOSED
PSE	PERM SW ESMT
PT	POINT OF TANGENCY
PVI	POINT OF VERT INT
PUE	PERM UTILITY ESMT
r	RADIUS
RT	RIGHT
RCP	REINFORCED CONC PIPE
R/W	RIGHT OF WAY
S	SOUTH
SD	STORM DRAIN
SF	SQUARE FOOT
SS	SANITARY SEWER
STA	STATION
STD	STANDARD
SW	SIDEWALK
TAN	TANGENT
TCE	TEMP CONST ESMT
TEMP	TEMPORARY
TP	TRAVERSE POINT
T/W	TEST WIRE
TYP	TYPICAL
U/G	UNDER GROUND
VC	VERTICAL CURVE
VERT	VERTICAL
W/	WITH
WM	WATER METER W
WV	WATER VALVE
60p	SIXTY PENNY NAIL SET
"	INCH
'	FEET

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

CHARLOTTE.

Plans Prepared By:
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NO.	DATE	BY	DESCRIPTION

CDOT STANDARD DETAIL
CONTRACTOR TO ENSURE DETAIL IS CURRENT AT TIME OF CONSTRUCTION

CDOT-ITS-###-#### JOB NO.
1"=20' SCALE
CAD FILE
MC Burke PREPARED BY
IZ Vanosdell CHECKED BY
IZ Vanosdell APPROVED BY
4/2023 DATE

NC 49 (S.TRYON STREET) AT GENERAL DRIVE/ YORK CENTER ROAD CHARLOTTE, NC

GENERAL NOTES & STANDARDS

SHEET CR2A
OF CR5

TRAFFIC CONTROL NOTES

A) ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE REQUIREMENTS OF THE MOST CURRENT EDITIONS OF THE CHARLOTTE DEPT. OF TRANSPORTATION(CDOT) WORK AREA TRAFFIC CONTROL HANDBOOK(W.A.T.C.H.), THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES(M.U.T.C.D.), THE NORTH CAROLINA DEPARTMENT OF TRANSPORTATION(NCDOT) SUPPLEMENT TO THE M.U.T.C.D., THE NCDOT ROADWAY STANDARD DRAWINGS AND THE CURRENT EDITION OF THE NCDOT STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES.

B) THE CONTRACTOR IS TO NOTIFY CDOT IN WRITING 10 WORKING DAYS IN ADVANCE OF ANY ROAD CLOSURE OR 5 WORKING DAYS PRIOR TO CLOSING ONE OR MORE TRAVEL LANES IN ACCORDANCE WITH THE SECTION "APPROVAL AND NOTIFICATION REQUIREMENT FOR WORK IN THE PUBLIC RIGHT-OF-WAY OF THE W.A.T.C.H. HANDBOOK.

C) ALL SIGNAL REVISIONS OR SHIFTS OF SIGNAL HEADS WILL BE THE RESPONSIBILITY OF CDOT; PRIOR TO REVISING TRAFFIC LANES WHICH REQUIRE SIGNAL REVISIONS, THE CONTRACTOR SHALL NOTIFY THE CDOT IMPLEMENTATION SECTION MANAGER (TONY TAGLIAFERRI/ 980-310-7539) OR HIS REPRESENTATIVE A MINIMUM OF 30 CALENDAR DAYS IN ADVANCE. TRAFFIC LANES SHALL NOT BE SHIFTED UNTIL THE REQUIRED SIGNAL REVISION/SHIFT IS COMPLETE AND READY FOR ACTIVATION. ALL COMPLETE RESTRINGS OR NEW TRAFFIC SIGNALS REQUIRE 60 CALENDAR DAYS NOTICE.

D) THE CONTRACTOR SHALL BE REQUIRED TO FURNISH, INSTALL, RELOCATE, AND MAINTAIN ALL TRAFFIC CONTROL DEVICES, SIGNS, BARRICADES, WARNING AND/OR CHANNELIZING DEVICES FOR WORK SITES AND DETOUR ROUTES AS SHOWN IN TRAFFIC CONTROL PLANS UNLESS OTHERWISE SPECIFIED BY THE ENGINEER.

E) CONSTRUCTION PHASING MAY DICTATE THAT TWO OR MORE TYPICAL W.A.T.C.H. DIAGRAMS OR STANDARDS BE USED IN ONE AREA OF CONSTRUCTION. CHANNELIZING DEVICES ASSOCIATED WITH THESE TYPICALS SHALL BE MOVED, SUPPLEMENTED, CHANGED, OR REMOVED AS NECESSARY TO COMPLY WITH THE CONSTRUCTION PHASING OF THE PLANS. THE LOCATION AND POSITIONING OF THESE DEVICES SHALL BE APPROVED BY THE ENGINEER TO ENSURE THAT THE MOTORIST DOES NOT RECEIVE FALSE INFORMATION WHEN TWO OR MORE TYPICALS AND/OR ROADWAY STANDARD DRAWINGS OVERLAP.

F) CONTRACTOR SHOULD BE AWARE THAT WHEN THE CONSTRUCTION AREA IS IN OR NEAR A VERTICAL CREST OR HORIZONTAL CURVE, THE WORK AREA SHALL BE EXTENDED SO THAT LANE CLOSURE BEGINS IN ADVANCE OF THE CURVE AND MINIMUM STOPPING SIGHT DISTANCE IS MET.

G) OFF-DUTY POLICE OFFICERS MAY BE REQUIRED AS DIRECTED BY THE ENGINEER TO BE PRESENT FOR CONTROLLING TRAFFIC DURING CONSTRUCTION HOURS.

H) THE CONTRACTOR SHALL IDENTIFY ALL HAZARDS WITHIN THE LIMITS OF THE PROJECT WITH WELL-MAINTAINED SIGNS, BARRICADES, WARNING AND/OR CHANNELIZING DEVICES. ON CONNECTING ROADS, ALL BARRICADES, SIGNS, WARNING, AND/OR CHANNELIZING DEVICES SHALL BE MOVED, SUPPLEMENTED, CHANGED, OR REMOVED AS REQUIRED DURING THE PROGRESS OF CONSTRUCTION AS APPROVED BY THE ENGINEER.

I) WORK ON THE PROJECT OR ANY SEPARATE ACTIVITY THEREIN SHALL NOT START UNTIL ALL OF THE REQUIRED SIGNS, BARRICADES, WARNING, AND/OR CHANNELIZING DEVICES ARE INSTALLED AND APPROVED BY THE ENGINEER.

J) THE CONTRACTOR SHALL CONTACT TONY TAGLIAFERRI, IMPLEMENTATION SECTION MANAGER (980-310-7539) OR REPRESENTATIVE WITH THE CITY OF CHARLOTTE DEPARTMENT OF TRANSPORTATION (CDOT) TWO WEEKS PRIOR TO BEGINNING ANY WORK THAT WILL REQUIRE THE RELOCATION OF SIGNS OR OTHER TRAFFIC CONTROL DEVICES BY THE CITY.

K. THE CONTRACTOR MUST MAINTAIN DURING ALL PERIODS OF CONSTRUCTION ACTIVITY THE ABILITY TO FLAG TRAFFIC USING QUALIFIED FLAGGERS WHEN NECESSARY OR REQUIRED

TRAFFIC CONTROL NOTES

L. THE CONTRACTOR SHALL INSTALL TEMPORARY PAVEMENT MARKINGS AND ADDRESS CONFLICTING PAVEMENT MARKINGS IN ACCORDANCE WITH THE SECTION "TEMPORARY TRAFFIC CONTROL ZONE DEVICES" OF THE W.A.T.C.H. HANDBOOK OR AS DIRECTED BY THE ENGINEER. THE CONTRACTOR SHALL MAINTAIN ANY EXISTING PAVEMENT MARKINGS UNLESS OTHERWISE DIRECTED BY THE ENGINEER.

M) THE CONTRACTOR SHALL MAINTAIN TWO WAY TRAFFIC ON ALL PORTIONS OF THIS PROJECT UNLESS OTHERWISE SPECIFIED IN THE PLANS, PROJECT NOTES, OR BY THE ENGINEER. FOR ALL APPROVED ROAD AND LANE CLOSURES, THE CONTRACTOR MUST NOTIFY TONY TAGLIAFERRI, IMPLEMENTATION SECTION MANAGER (980-310-7539) OR REPRESENTATIVE A MINIMUM OF TEN WORKING DAYS PRIOR TO THE ROAD CLOSING, AND FIVE WORKING DAYS PRIOR TO A 24-HOUR/PEAK HOUR LANE CLOSURE.

N) THE CONTRACTOR WILL BE REQUIRED TO PROVIDE PROPERTY OWNERS AND TENANTS ACCESS TO THEIR PROPERTIES THROUGHOUT THE PROJECT LIMITS, INCLUDING REASONABLE INGRESS AND EGRESS FOR BUSINESSES. SPECIAL ATTENTION SHALL BE PAID TO FIRE HYDRANTS.

O) THE CONTRACTOR IS TO NOTIFY (BY MAIL) ALL PROPERTY OWNERS AND OCCUPANTS WHO HAVE DIRECT ACCESS TO THE ROADWAY WITHIN THE PROJECT LIMITS A MINIMUM OF 5 AND A MAXIMUM OF 10 WORKING DAYS PRIOR TO INSTALLING TRAFFIC CONTROL DEVICES IN FRONT OF THOSE PROPERTIES. NOTIFICATIONS SHOULD INCLUDE CONTACT PERSONS NAME, TELEPHONE NUMBER, EMAIL ADDRESS, AND MAILING ADDRESS.

P) THE CONTRACTOR SHALL PATROL THE WORK SITE AT THE BEGINNING AND END OF EACH WORK DAY, AT A MINIMUM, TO ENSURE THAT ALL TRAFFIC CONTROL DEVICES ARE IN PLACE AND FUNCTIONING PROPERLY. CONTRACTOR SHALL ENSURE THAT ALL TRAFFIC CONTROL DEVICES ARE IN PLACE AND FUNCTIONING AT ALL TIMES DURING PERIODS OF CONSTRUCTION INACTIVITY.

Q) DURING PERIODS OF INACTIVITY OR AT NIGHT, EQUIPMENT SHALL NOT BE PARKED IN SUCH A MANNER AS TO BLOCK SIDEWALKS, TRAFFIC CONTROL DEVICES, OR THE MOTORISTS' VIEW OF TRAFFIC. EQUIPMENT SHALL BE AT LEAST 10 FEET AWAY FROM THE TRAVEL LANE. EQUIPMENT SHALL NOT BLOCK SIDEWALKS AT ANY TIME UNLESS THE SIDEWALK ITSELF IS UNDERGOING CONSTRUCTION.

R) WHENEVER TRAFFIC MUST BE ROUTED ACROSS THE CENTERLINE DURING CONSTRUCTION ACTIVITY, THE TWO OPPOSING DIRECTIONS MUST BE PHYSICALLY SEPARATED. TRAFFIC CONES CAN BE USED FOR THIS PURPOSE DURING DAYLIGHT HOURS; REFLECTORIZED CONES OR DRUMS MUST BE USED AT NIGHT. TRAFFIC SHALL NOT BE ROUTED ACROSS THE CENTERLINE DURING CONSTRUCTION INACTIVITY UNLESS PAVEMENT MARKING CONFLICTS ARE APPROPRIATELY ADDRESSED AND AGREEMENT ON REMOVAL OR NOT IS WORKED OUT WITH THE ENGINEER IN ACCORDANCE WITH THE SECTION "DURATION OF WORK" OF THE W.A.T.C.H. HANDBOOK. IF THE ENGINEER APPROVES TRAFFIC TO CROSS THE CENTER LINE DURING CONSTRUCTION INACTIVITY, ONLY REFLECTORIZED DRUMS MUST BE USED.

S) THE CITY ENGINEER OR DIRECTOR OF THE CHARLOTTE DEPARTMENT OF TRANSPORTATION OR THEIR APPOINTED REPRESENTATIVES ARE AUTHORIZED TO STOP ANY WORK WITHIN PUBLIC RIGHT OF WAY THAT DOES NOT FOLLOW THIS TRAFFIC CONTROL PLAN OR REQUIREMENTS OF THE W.A.T.C.H. AND THE M.U.T.C.D. UNTIL SUCH REQUIREMENTS ARE MET.

T) ADJACENT LANES TO CONSTRUCTION ZONES MAY REMAIN OPEN IF LATERAL CLEARANCE BETWEEN EDGE OF TRAVEL LANE AND EQUIPMENT IS EQUAL TO OR GREATER THAN 2 FEET (INCLUDING WIDTH OF DRUM). IF A DROPOFF EXISTS WITHIN THE WORK ZONE, CONTRACTOR SHOULD FOLLOW THE SECTION "MISCELLANEOUS CONSIDERATIONS" OF THE W.A.T.C.H. HANDBOOK PERTAINING TO ADJACENT LANE CLOSURES DUE TO DROPOFFS.

TRAFFIC CONTROL NOTES

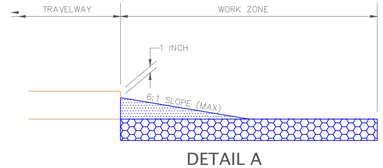
U) THE CONTRACTOR SHALL FOLLOW THE PHASING AS DESCRIBED HEREIN. THE CONTRACTOR SHALL COMPLETE THE REQUIREMENTS OF EACH CONSTRUCTION PHASE IN SEQUENCE. WHEN A CONSTRUCTION PHASE IS DIVIDED INTO STEPS, THE CONTRACTOR SHALL COMPLETE THE REQUIREMENTS OF EACH STEP IN SEQUENCE UNLESS OTHERWISE SPECIFIED IN THE PLAN OR APPROVED BY THE ENGINEER, (EXAMPLE: THE REQUIREMENTS OF PHASE I SHALL BE COMPLETED BEFORE PROCEEDING TO PHASE II; THE REQUIREMENTS OF STEP 1 OF PHASE I SHALL BE COMPLETED BEFORE PROCEEDING TO STEP 2 OF PHASE I). ALL WORK DESCRIBED IN THE PROJECT PHASING SHALL BE PERFORMED BY THE CONTRACTOR, EXCEPT WHERE IT IS SPECIFIED FOR CERTAIN WORK TO BE PERFORMED BY OTHERS.

V) THE CONTRACTOR SHALL NOT BE ALLOWED TO STOP TRAFFIC FOR MORE THAN 5 MINUTES AT A TIME IN ANY ONE DIRECTION.

W) CONTRACTOR SHALL NOT BE ALLOWED TO WORK ON BOTH SIDES OF THE ROAD SIMULTANEOUSLY WITHIN THE SAME AREA EXCEPT WHERE THE ROADWAY IS DIVIDED BY A RAISED MEDIAN AND PEDESTRIAN TRAFFIC IS MAINTAINED ON AT LEAST ONE SIDE UNIMPEDED. IT WILL BE ACCEPTABLE TO CONSTRUCT BORE PITS ON EACH SIDE OF A ROADWAY FOR BORING UTILITIES UNDER THE ROADWAY UNLESS SUPERCEDED BY ENGINEER TO COMPLY WITH PEDESTRIAN REQUIREMENTS OR LATERAL CLEARANCE FROM TRAVEL LANES.

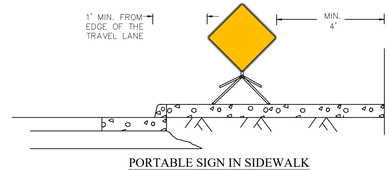
X) THE CONTRACTOR SHALL PAY SPECIAL ATTENTION TO THE SECTION "PEDESTRIAN CONSIDERATIONS" OF THE W.A.T.C.H. PEDESTRIANS MUST NOT BE REROUTED TO CROSS TO THE OTHER SIDE OF THE ROAD UNLESS THE ENGINEER AGREES THAT THERE IS NO ALTERNATE SAFE ROUTE ON THE SAME SIDE OF THE STREET. THE ALTERNATIVE PEDESTRIAN ROUTE IF APPROVED/USED MUST INCLUDE ACCESSIBILITY AND DETECTABLE FEATURES CONSISTENT WITH THE EXISTING PEDESTRIAN FACILITY.

Y) THE CONTRACTOR SHALL PAY SPECIAL ATTENTION TO THE SECTION "TEMPORARY TRAFFIC CONTROL ZONE DEVICES" OF THE W.A.T.C.H. NEITHER PORTABLE NOR PERMANENT SIGNS OR SIGN SUPPORT SHOULD OBSTRUCT SIDEWALKS UNLESS THE SIDEWALK ITSELF IS UNDERGOING CONSTRUCTION. A 4' MINUIMUM CLEAR PATH MUST BE MAINTAINED WHEN A PORTABLE SIGN IS TO BE PLACED IN THE EXISTING SIDEWALK OTHERWISE, ROAD SIGNS SHOULD BE MOUNTED ON A POST WITH A MINIMUM VERTICAL CLEARANCE OF 7' FROM THE SURFACE OF THE SIDEWALK.

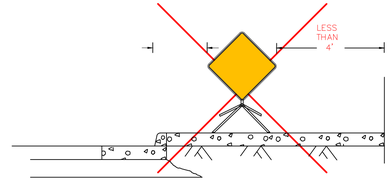


DETAIL A

N.T.S.



PORTABLE SIGN IN SIDEWALK ACCEPTABLE



DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

CDOT-UTS-###-#### JOB NO.

1"=20' SCALE

CAD FILE

MC Burke PREPARED BY

IZ Vanosdell CHECKED BY

IZ Vanosdell APPROVED BY

4/2023 DATE

CDOT STANDARD DETAIL
CONTRACTOR TO ENSURE DETAIL IS CURRENT AT TIME OF CONSTRUCTION

NC 49 (S.TRYON STREET) AT GENERAL DRIVE/ YORK CENTER ROAD CHARLOTTE, NC

TRAFFIC CONTROL NOTES

SHEET CR2B

OF CR5

NO.	DATE	BY	DESCRIPTION

Plans Prepared By:

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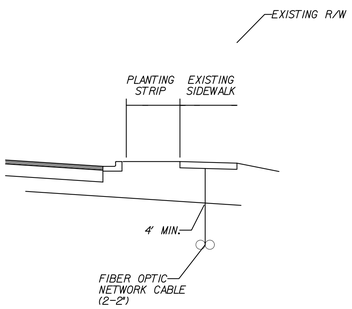
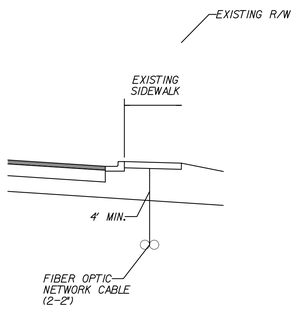
919-677-2000

CHARLOTTE.

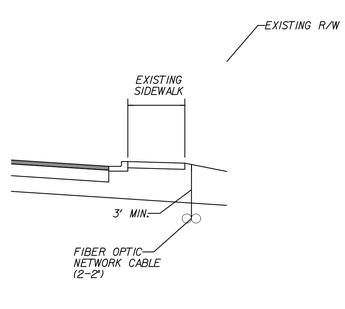
TRENCH AND DIRECTIONAL BORE DETAILS



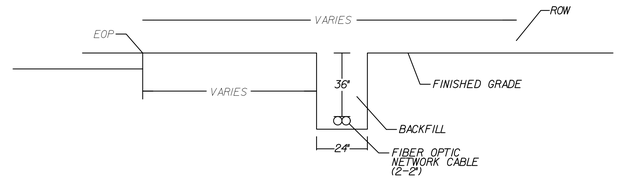
TYPICAL DIRECTIONAL BORE CROSS SECTION



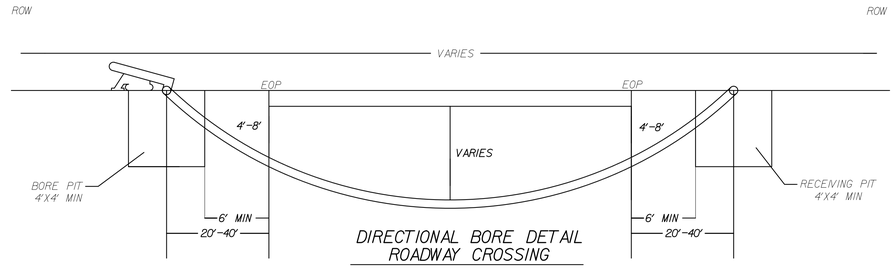
TYPICAL DIRECTIONAL BORE CROSS SECTION



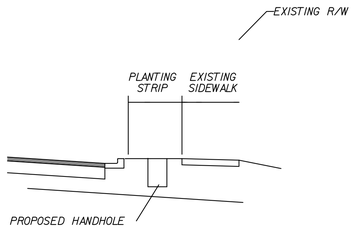
TYPICAL TRENCH CROSS SECTION



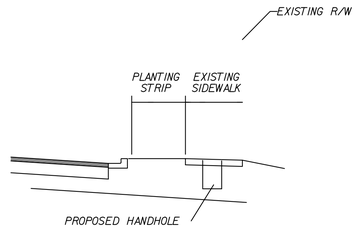
TRENCH DETAIL



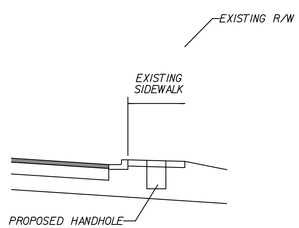
DIRECTIONAL BORE DETAIL ROADWAY CROSSING



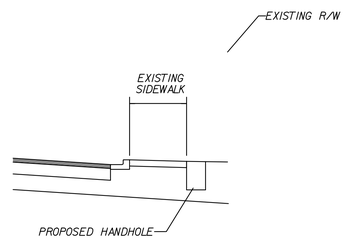
TYPICAL DIRECTIONAL BORE HANDHOLE CROSS SECTION



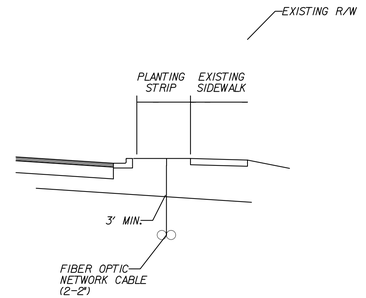
TYPICAL DIRECTIONAL BORE HANDHOLE CROSS SECTION



TYPICAL DIRECTIONAL BORE HANDHOLE CROSS SECTION



TYPICAL TRENCH HANDHOLE CROSS SECTION



TYPICAL TRENCH CROSS SECTION

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CHARLOTTE.

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NO.	DESCRIPTION	BY	DATE

CDOT STANDARD DETAIL
CONTRACTOR TO ENSURE DETAIL IS CURRENT AT TIME OF CONSTRUCTION

CDOT-ITS-###-###
JOB NO.

1"=20'
SCALE

CAD FILE

MC Burke
PREPARED BY

IZ Vanosdell
CHECKED BY

4/2023
DATE

IZ Vanosdell
APPROVED BY

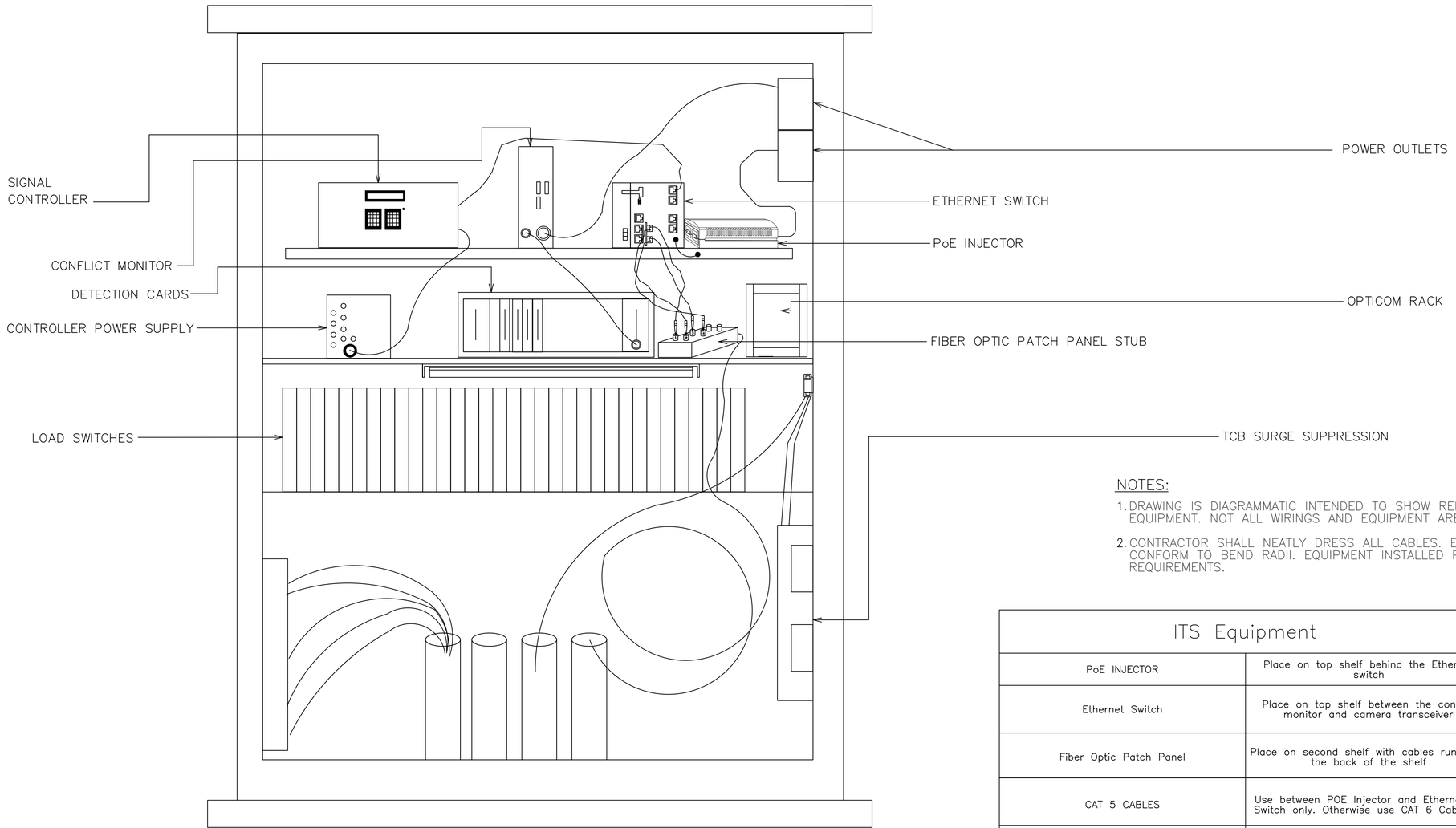
NC 49 (S.TRYON STREET) AT GENERAL DRIVE/ YORK CENTER ROAD
CHARLOTTE, NC

TRENCH AND DIRECTIONAL BORE DETAILS

SHEET CR2C

OF CR5

TRAFFIC CONTROL BOX (TCB)
TS2 CABINET SHOWN



NOTES:

1. DRAWING IS DIAGRAMMATIC INTENDED TO SHOW RELATIVE LOCATION OF EQUIPMENT. NOT ALL WIRINGS AND EQUIPMENT ARE SHOWN.
2. CONTRACTOR SHALL NEATLY DRESS ALL CABLES. ENSURE ALL CABLES CONFORM TO BEND RADII. EQUIPMENT INSTALLED PER MANUFACTURER REQUIREMENTS.

ITS Equipment	
PoE INJECTOR	Place on top shelf behind the Ethernet switch
Ethernet Switch	Place on top shelf between the conflict monitor and camera transceiver
Fiber Optic Patch Panel	Place on second shelf with cables run from the back of the shelf
CAT 5 CABLES	Use between POE Injector and Ethernet Switch only. Otherwise use CAT 6 Cable
CAT 6 CABLES	Route through the back of the signal cabinet to the POE Switch

CHARLOTTE.

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CDOT STANDARD DETAIL
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		MC Burke PREPARED BY	IZ Vansdell APPROVED BY	

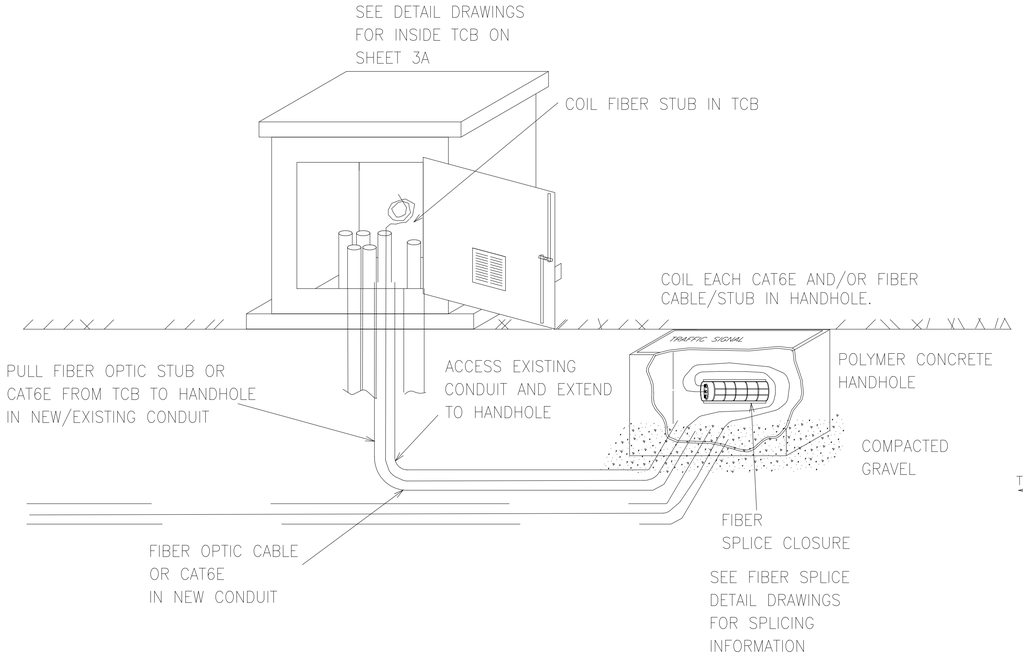
NC 49 (S.TRYON STREET) AT GENERAL DRIVE/ YORK CENTER ROAD CHARLOTTE, NC

TRAFFIC CONTROL BOX DETAIL

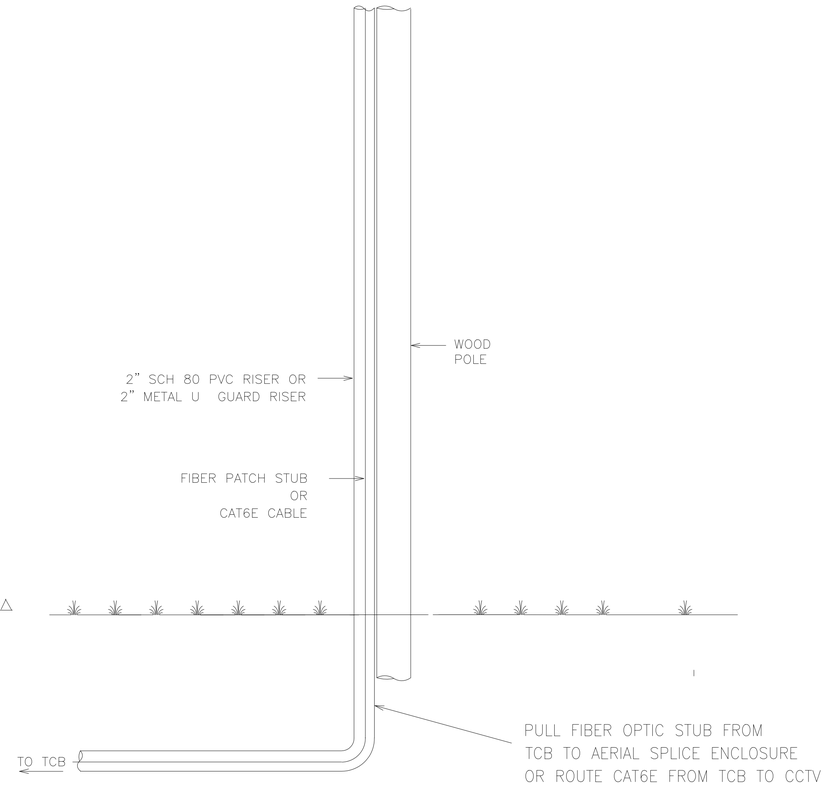
SHEET CR2D

OF CR5

TRAFFIC CONTROL BOX (TCB)
ENTRANCE GUIDE DRAWING



FROM HANDHOLE



FROM POLE

CHARLOTTE.

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919-677-2000

NO.	DATE	BY	DESCRIPTION

CDOT STANDARD DETAIL
CONTRACTOR TO ENSURE
DETAIL IS CURRENT
AT TIME OF CONSTRUCTION

DOCUMENT NOT CONSIDERED
FINAL UNLESS ALL
SIGNATURES COMPLETED

CDOT.ITS.##.###
JOB NO.

1"=20'
SCALE

CAD FILE

MC Burke
PREPARED BY

IZ Vanssdell
CHECKED BY

4/2023
DATE

IZ Vanssdell
APPROVED BY

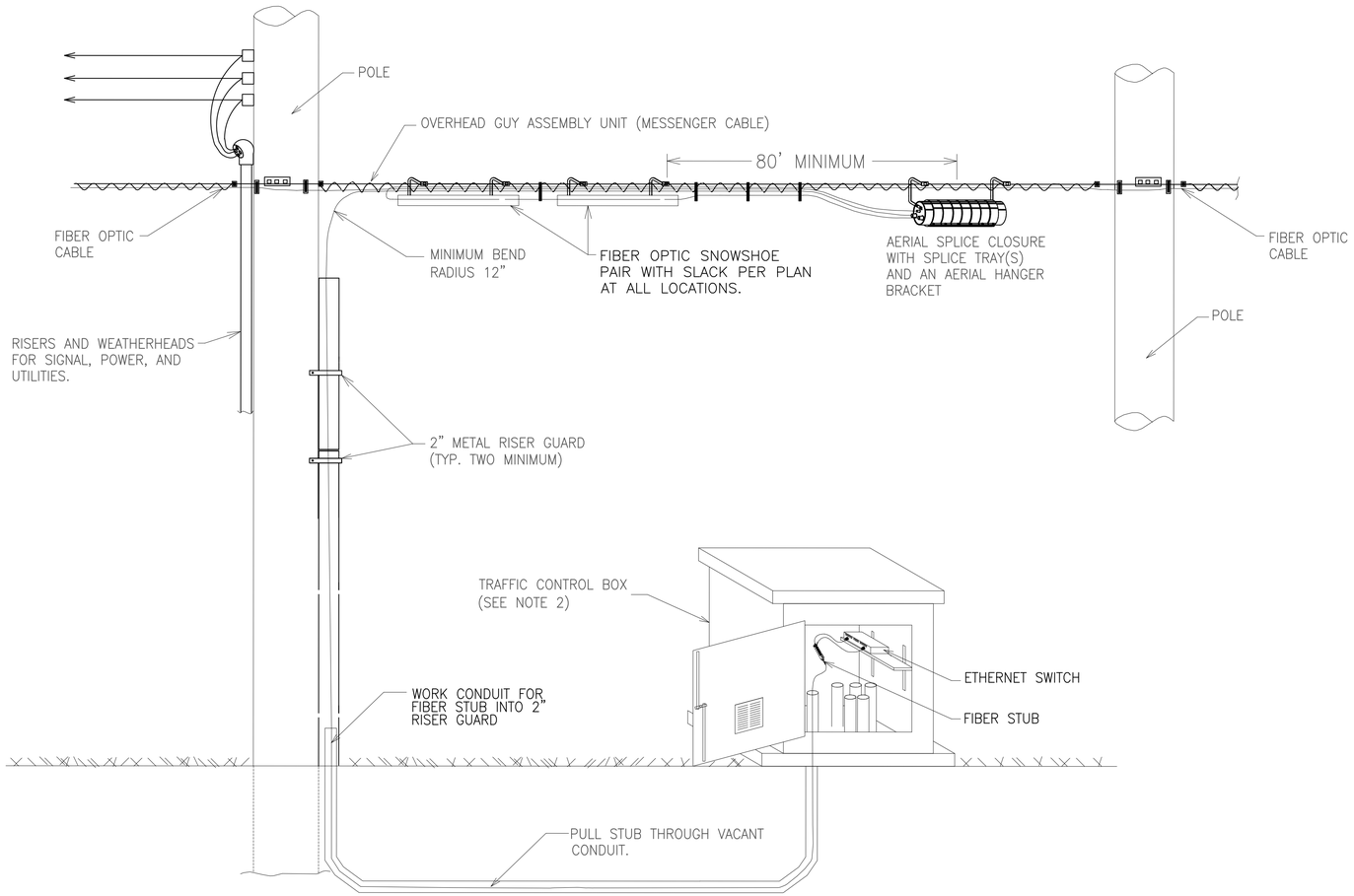
NC 49 (S.TRYON STREET) AT
GENERAL DRIVE/
YORK CENTER ROAD
CHARLOTTE, NC

TRAFFIC CONTROL BOX (TCB)
ENTRANCE DETAILS

SHEET
CR2E

OF
CR5

TYPICAL AERIAL FIBER INSTALLATION WITH TCB



TYPICAL EQUIPMENT CONFIGURATION AT AERIAL SPLICE CLOSURE INSTALLATIONS

NOTES:

1. SLACK SHALL BE INSTALLED AT ALL SNOWSHOES. 80' MINIMUM SHALL BE PROVIDED BETWEEN THE SNOWSHOES AND AERIAL SPICE CLOSURE.
2. SEE EQUIPMENT DIAGRAM FOR TCB DETAILS.
3. FOLLOW CABLE MANUFACTURER INSTALLATION GUIDELINES FOR CABLE LASHING.
4. POLE GROUNDING NOT SHOWN. FOR CLARITY, REFER TO NCDOT STANDARD NO. 1720.01.
5. FOR HANDHOLE CONSTRUCTION, REFER TO NCDOT STANDARD NO. 1730.01.

CHARLOTTE.

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CDOT STANDARD DETAIL
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CDOT-LTS-##-#### JOB NO.	CAD FILE	1"=20' SCALE	
MC Burke PREPARED BY		IZ Vanosdell CHECKED BY	4/2023 DATE
IZ Vanosdell APPROVED BY			

NC 49 (S.TRYON STREET) AT GENERAL DRIVE/ YORK CENTER ROAD CHARLOTTE, NC

TRAFFIC CONTROL BOX (TCB) ENTRANCE DETAILS

SHEET CR2F

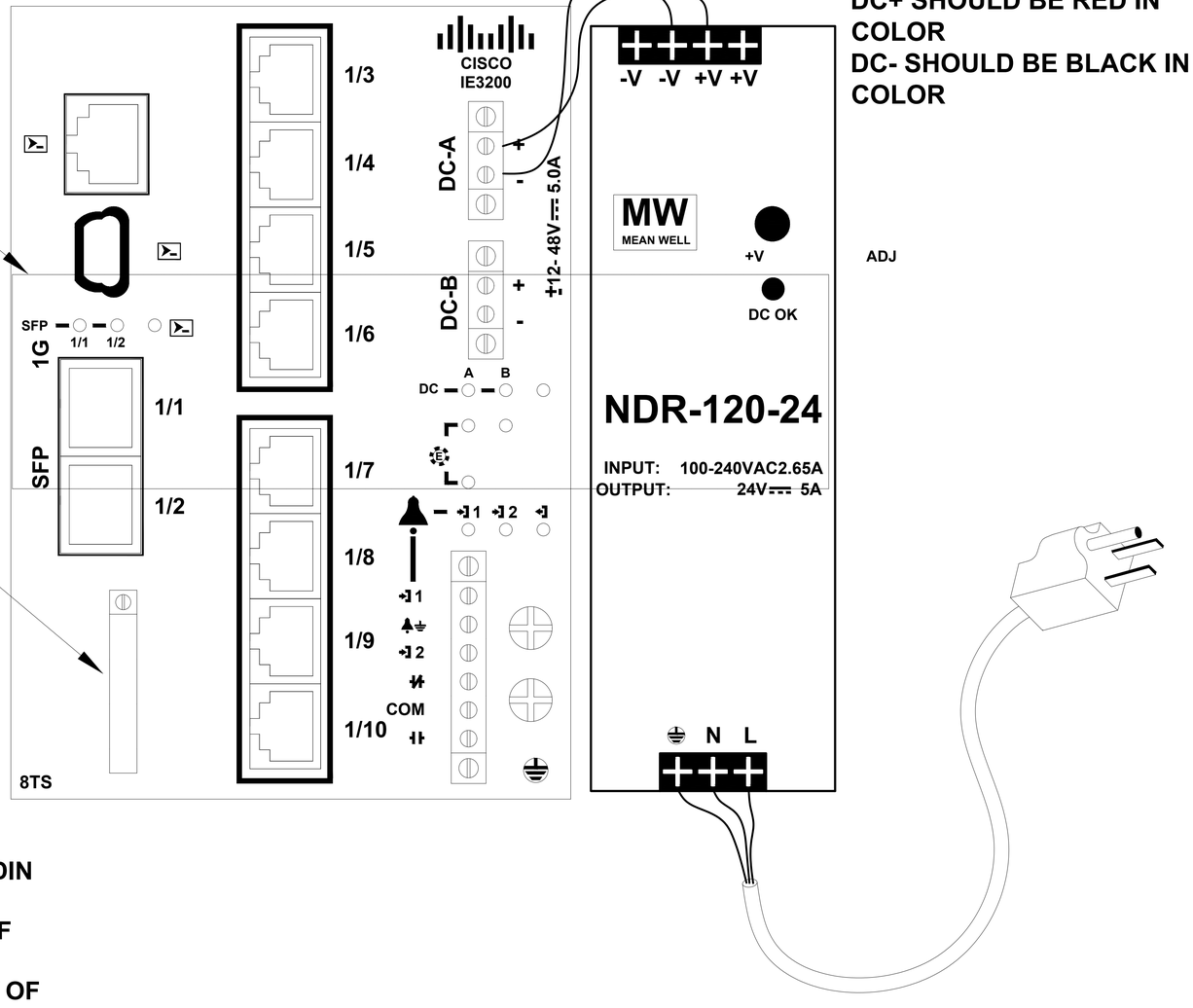
OF CR5

IE3200 ETHERNET SWITCH

DIN RAIL (TS-35/7.5) SHOULD BE CUT TO A LENGTH OF 5.25 INCHES

SD CARD WILL BE OWNER FURNISHED

DC POWER WIRES SHOULD BE NO SMALLER THAN 20 GAUGE. (EXAMPLE: BLEDON 9320)
DC+ SHOULD BE RED IN COLOR
DC- SHOULD BE BLACK IN COLOR



NOTES:

1. ATTACH SWITCH AND POWER SUPPLY TO DIN RAIL.
2. CONNECT RED WIRE (#20 AWG) FROM +V OF POWER SUPPLY TO +DC ON SWITCH.
3. CONNECT BLACK WIRE (#20 AWG) FROM -V OF POWER SUPPLY TO -DC OF SWITCH.
4. CONNECT GREEN WIRE FROM POWER CORD TO GROUND OF POWER SUPPLY.
5. CONNECT WHITE WIRE FROM POWER CORD TO NEUTRAL OF THE POWER SUPPLY.
6. CONNECT BLACK WIRE FROM POWER CORD TO LINE INPUT OF THE POWER SUPPLY.

CHARLOTTE.

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NO.	DATE	BY	DESCRIPTION

CDOT STANDARD DETAIL
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DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

CDOT-ITS-###-### JOB NO.	CAD FILE	1"=20' SCALE	IZ Vanosdell CHECKED BY	4/2023 DATE
MC Burke PREPARED BY			IZ Vanosdell APPROVED BY	

NC 49 (S.TRYON STREET) AT GENERAL DRIVE/ YORK CENTER ROAD CHARLOTTE, NC

IE3200 ETHERNET SWITCH DETAILS

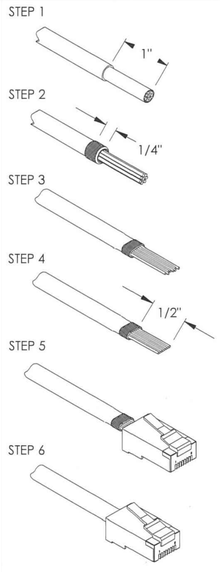
SHEET CR2G

OF CR5

AXIS CAMERA CONNECTIONS

DETAIL B

8 Position Shielded Modular Plug
(Round Shielded Cable Applications)



STEP 1. Strip cable jacket 1".

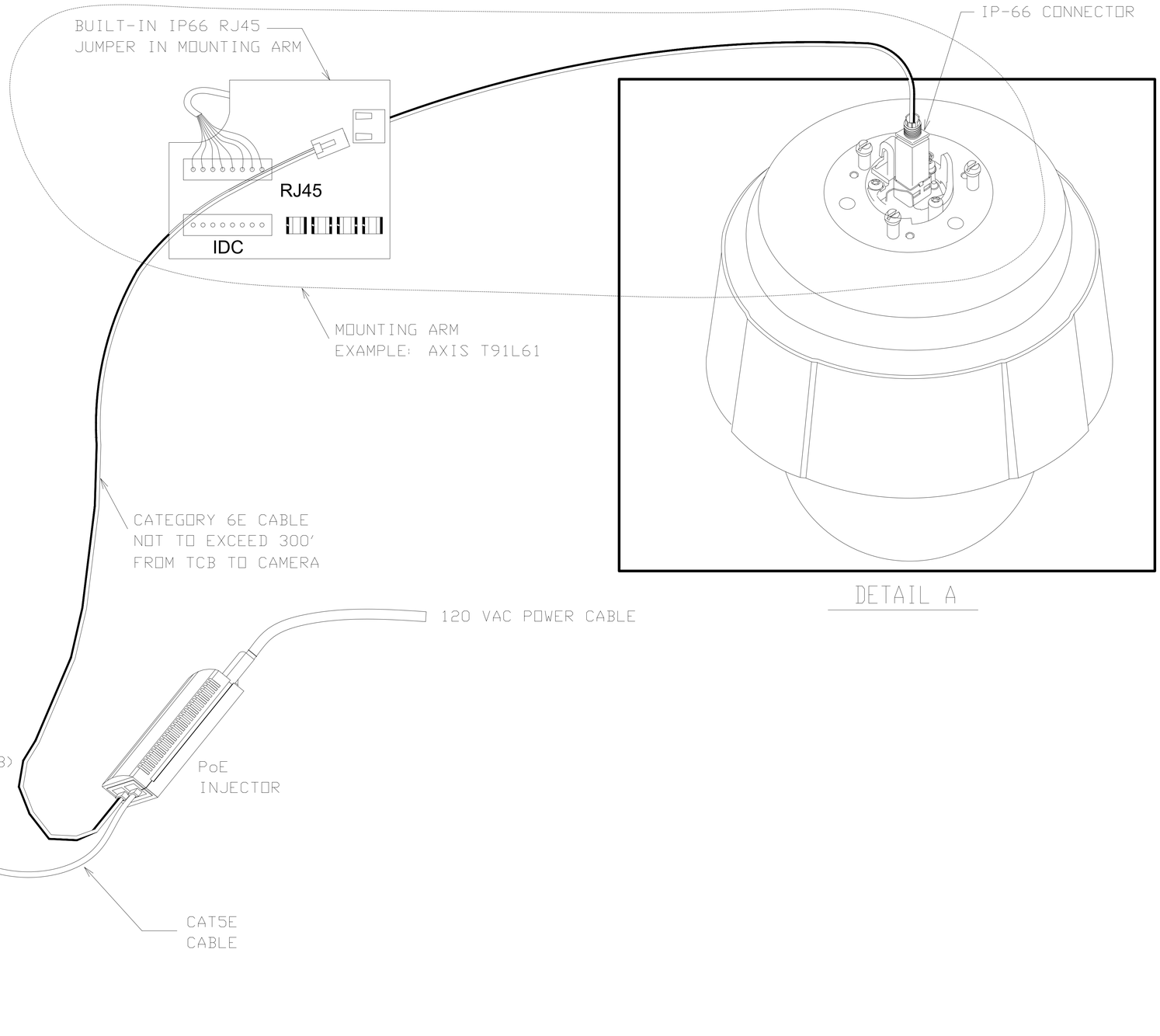
STEP 2. Fold shielding back over jacket. Wrap drain wirearound shielding. Trim shielding leaving approximately 1/4" on jacket. (If desrired, the drain wire may be soldered to the plug shielding after termination is completed).

STEP 3. Untwist pairs and arrange conductors into desired order. Do not untwist pairs inside cable jacket.

STEP 4. Trim conductors to 1/2" long. All conductors should be the same length.

STEP 5. Push the cable into the connector. Be certain the conductors contact the end of the plug. NOTE: The conductors should be visible through the end of the plug.

STEP 6. Crimp the contacts and using the proper crimping tool.



DETAIL A

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

CHARLOTTE.

Plans Prepared By:
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NC License #F-0102
421 Fayetteville Street, Suite 600
Raleigh, NC 27601
919- 677-2000

NO.	DATE	BY	DESCRIPTION

CDOT STANDARD DETAIL
CONTRACTOR TO ENSURE DETAIL IS CURRENT AT TIME OF CONSTRUCTION

CDOT-ITS-##-###
JOB NO.

1"=20'
SCALE

CAD FILE

MC Burke
PREPARED BY

IZ Vanosdell
CHECKED BY

IZ Vanosdell
APPROVED BY

4/2023
DATE

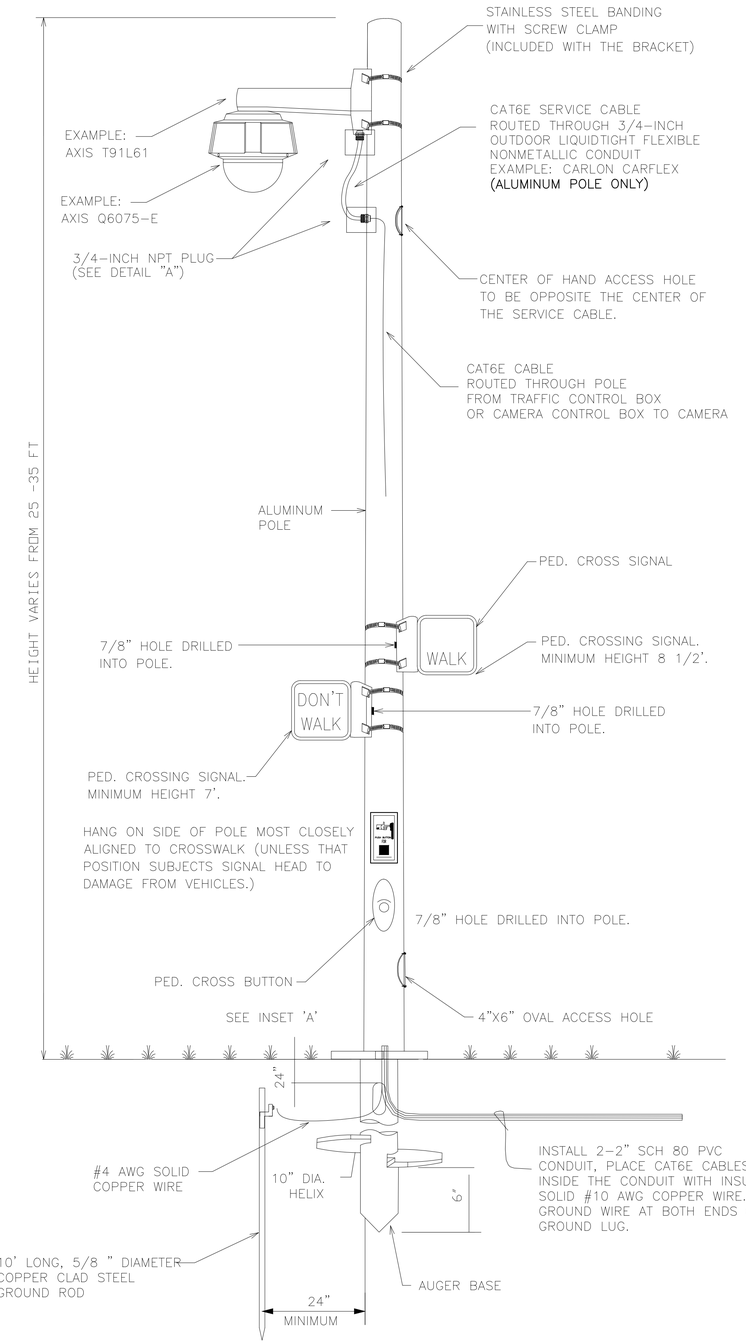
NC 49 (S.TRYON STREET) AT GENERAL DRIVE/ YORK CENTER ROAD
CHARLOTTE, NC

AXIS CAMERA CONNECTION DETAILS

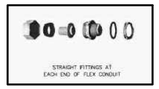
SHEET CR2H

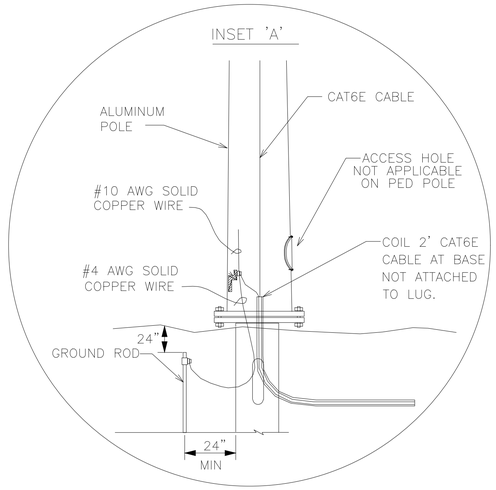
OF CR5

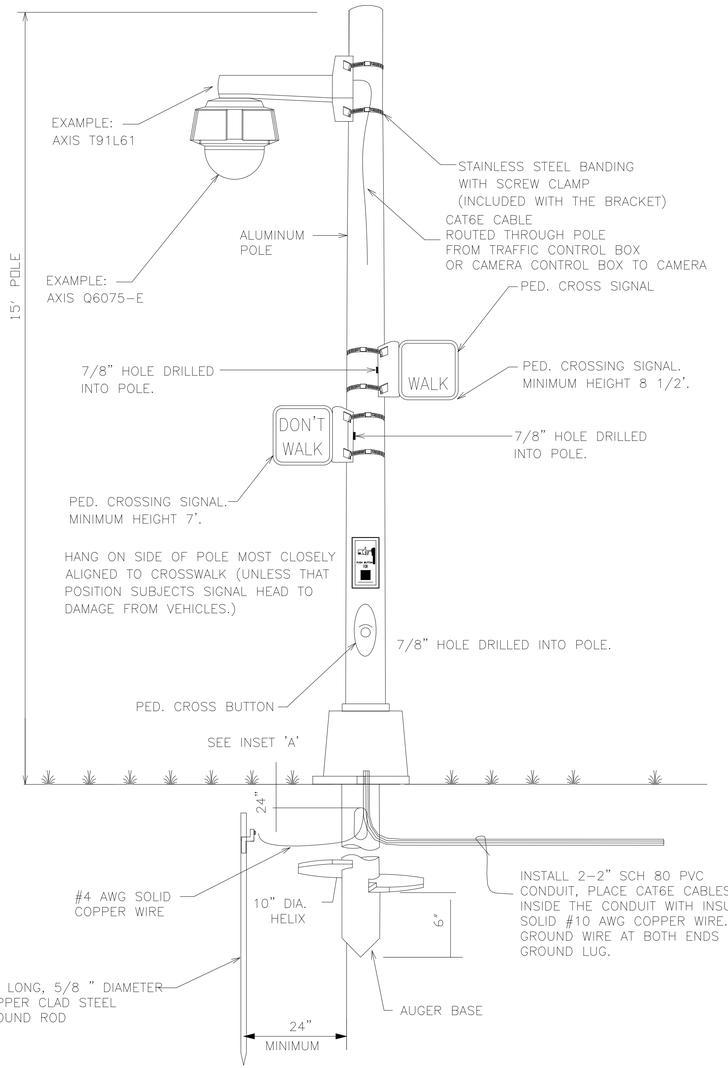
AXIS CAMERA ON 15 & 35 FT POLE WITH PEDS AND PUSH BUTTONS



DETAIL 'A'







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CHARLOTTE.

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NO.	DATE	BY	DESCRIPTION

CDOT STANDARD DETAIL
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CDOT-ITS-##-#### JOB NO.	CAD FILE	1"=20' SCALE
MC Burke PREPARED BY	IZ Vanosdell CHECKED BY	4/2023 DATE
IZ Vanosdell APPROVED BY		

NC 49 (S.TRYON STREET) AT GENERAL DRIVE/ YORK CENTER ROAD CHARLOTTE, NC

AXIS CAMERA ON 15 & 35 FT POLE WITH PEDS AND PUSH BUTTONS DETAILS

SHEET CR2H

OF CR5

AERIAL SPLICE ENCLOSURE IN NEW HANDHOLD (HH3) ON NC 49 (TRYON ST.) NORTHEAST OF GENERAL DR. SID 01940 (10-2499)

LEGEND

COLOR CODE TIA/EIA 598-A

○ EXISTING SPLICE
● NEW SPLICE

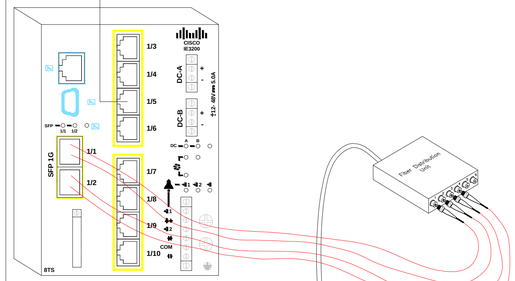
BUFFER TUBE

(1)	BLUE	(7)	RED
(2)	ORANGE	(8)	BLACK
(3)	GREEN	(9)	YELLOW
(4)	BROWN	(10)	VIOLET
(5)	SLATE	(11)	ROSE
(6)	WHITE	(12)	AQUA

PROPOSED CCTV #3305

Cisco Ethernet Switch

Detail inside traffic controller



Signal ID: 01940
Ethernet Group: H6

PROPOSED DROP CABLE TO CABINET SID (01940)

6 FIBER CABLE

GREEN

BLUE
ORANGE
GREEN
BROWN
SLATE
WHITE
(1) (2) (3) (4) (5) (6)

CAP AND SEAL

(1) BLUE	(1) BLUE
(2) ORANGE	(2) ORANGE
(3) GREEN	(3) GREEN
(4) BROWN	(4) BROWN
(5) SLATE	(5) SLATE
(6) WHITE	(6) WHITE
(7) RED	(7) RED
(8) BLACK	(8) BLACK
(9) YELLOW	(9) YELLOW
(10) VIOLET	(10) VIOLET
(11) ROSE	(11) ROSE
(12) AQUA	(12) AQUA

EXISTING 48 FIBER CABLE

BLUE
ORANGE
GREEN
BROWN

BLUE BUFFER TUBE
ORANGE BUFFER TUBE
BROWN BUFFER TUBE

BLUE
ORANGE
GREEN
BROWN

EXISTING 48 FIBER CABLE

TO NC 49 (TRYON ST.) AT CROWINDS BLVD. SIGNAL 00773 (10-0868)

SPLICE TRAY

FROM NC 49 (TRYON ST.) AT WESTINGHOUSE BLVD. SIGNAL 00707 (10-0539)

AERIAL SPLICE ENCLOSURE (SEE SHEET CR5) AT NC 49 (TRYON ST.) NORTHEAST OF GENERAL DR.

CHARLOTTE.

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919-677-2000

NO.	DATE	BY	DESCRIPTION

5/9/2024

NORTH CAROLINA PROFESSIONAL SEAL 028952 ENGINEER INGRID Z. VanOSDELL

DocuSigned by: Ingrid VanOsdell 9CC2198EDC842A...

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

CDOT-LATS-##-####
JOB NO.

1"=20'
SCALE

CAD FILE

MC Burke
PREPARED BY

IZ Vanosdell
CHECKED BY

IZ Vanosdell
APPROVED BY

4/2023
DATE

NC 49 (S.TRYON STREET) AT GENERAL DRIVE/ YORK CENTER ROAD CHARLOTTE, NC

SPLICE DETAILS

SHEET CR A

OF CR

ITEM #	DESCRIPTION		CR4	CR5	TOTAL
(15)(60-6.25)PB/PS	PEDESTAL POLE ASSEMBLY UNIT	EA	1	0	1
BM53A	ADHESIVE FIBER WARNING SIGN ASSEMBLY UNIT	EA	0	1	1
BM53CM	FIBER CURB MARKER ASSEMBLY UNIT	EA	0	2	2
BM71(DB)	ROCK DRILLING ADDER UNIT	LF	0	0	35
BM71(DBSR)	SOLID ROCK DRILLING ADDER UNIT	LF	0	0	35
BM81	CABLE RISER GUARD UNIT	EA	0	2	2
C(CAMERA)IP(AX)	CAMERA ASSEMBLY INSTALLATION UNIT	EA	1	0	1
CHO-4(1)ST/LC	FIBER OPTIC JUMPER ASSEMBLY UNIT	EA	2	0	2
CO(6)FIBER/ML/ESS	FIBER OPTIC CABLE SPLICE-SLACK STOW UNIT	EA	0	50	50
FOE(TRX)(ESU)CI(3200)	ETHERNET SWITCH UNIT/MODULE –CISCO	EA	1	0	1
FOE(TRX)(ESU)(SFP)(GLX-R)	ETHERNET SMALL FORM-FACTOR PLUGGABLE PORT	EA	2	0	2
HACO(48)	AERIAL FIBER OPTIC CLOSURE ASSEMBLY UNIT	EA	0	1	1
HO-1	FIBER OPTIC SPLICING ASSEMBLY UNIT	EA	0	4	4
PM2	POLE GROUND ASSEMBLY UNIT	EA	0	1	1
UD(2-2 LW)HD	UNDERGROUND CONDUIT ASSEMBLY UNIT	LF	5	5	11
UD(2-2 LW)DB	UNDERGROUND CONDUIT ASSEMBLY UNIT	LF	360	315	696
UF-CAT6ES	CATEGORY 6 ETHERNET SERVICE CABLE	EA	1	0	1
UH-1	UNDERGROUND HANDHOLE ASSEMBLY UNIT	EA	1	1	2
UH-2	UNDERGROUND HANDHOLE ASSEMBLY UNIT	EA	1	0	1
UH-EBM	ELECTRONIC BALL MARKER	EA	2	1	3
UO(6)PATCH PANEL/ML	FIBER OPTIC PATCH PANEL UNIT	EA	1	0	1
UO(6)FIBER/ML	UNDERGROUND FIBER OPTIC CABLE STUB UNIT	LF	485	390	902
(W)CC	ACCESS TO THE TRAFFIC SIGNAL CONTROLLER CABINET	EA	1	0	1
(W)UH	PLACING NEW CONDUIT OR CABLE IN EXISTING HANDHOLE UNIT	EA	1	0	1
(W) PM-ESS	EXISTING SLACK STORAGE REARRANGEMENT UNIT	EA	0	1	1

NOTE: 3% ADDED TO TOTAL FIBER CABLE UNIT AND CONDUIT UNIT QUANTITIES

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

CHARLOTTE.

Plans Prepared By:
Kimley»Horn
NC License #F-0102
421 Fayetteville Street, Suite 600
Raleigh, NC 27601
919-677-2000

NO.	DATE	BY	DESCRIPTION

5/9/2024

NORTH CAROLINA PROFESSIONAL SEAL 028952 ENGINEER Inger J. VanOsdell

DocuSigned by: Inger VanOsdell 9CC2319BED0842A...

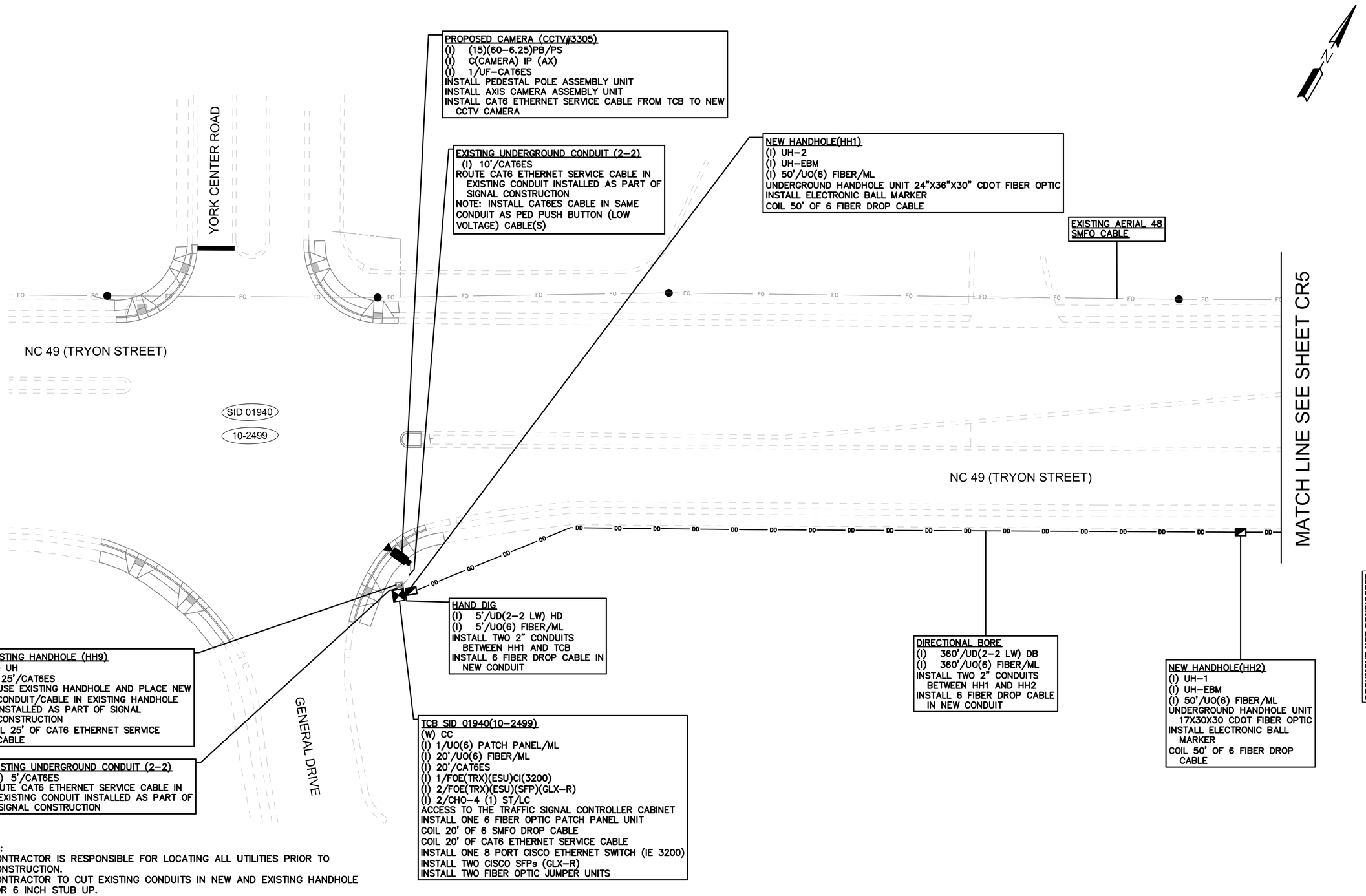
1"=20' SCALE	CAD FILE	IZ Vanosdell CHECKED BY	4/2023 DATE
CDOT-ITS-###### JOB NO.		MC Burke PREPARED BY	IZ Vanosdell APPROVED BY

NC 49 (S.TRYON STREET) AT GENERAL DRIVE/ YORK CENTER ROAD CHARLOTTE, NC

TABULATION SHEET

SHEET CR B

OF CR



NOTES:
1. CONTRACTOR IS RESPONSIBLE FOR LOCATING ALL UTILITIES PRIOR TO CONSTRUCTION.
2. CONTRACTOR TO CUT EXISTING CONDUITS IN NEW AND EXISTING HANDHOLE FOR 6 INCH STUB UP.
3. ALL UNUSED CONDUITS TO BE CAPPED AND TAPE SEALED. USED CONDUITS TO BE SEALED WITH SEALING COMPOUD (OR DUCT PLUGS).
4. CONDUIT AND FIBER QUANTITIES ARE MEASURED AND LABELED FROM HANDHOLE TO HANDHOLE AND/OR POLE TO POLE AND NOT PER SHEET.

CHARLOTTE.

Plans Prepared By:
Kimley»Horn
NC License #F-0102
421 Fayetteville Street, Suite 600
Raleigh, NC 27601
919- 677-2000

NO.	DATE	BY	DESCRIPTION

5/9/2024

NORTH CAROLINA PROFESSIONAL SEAL 028952 ENGINEER MATTHEW Z. VanOSDELL

DocuSigned by: Inger VanOsdell 9CC23198EDC842A...

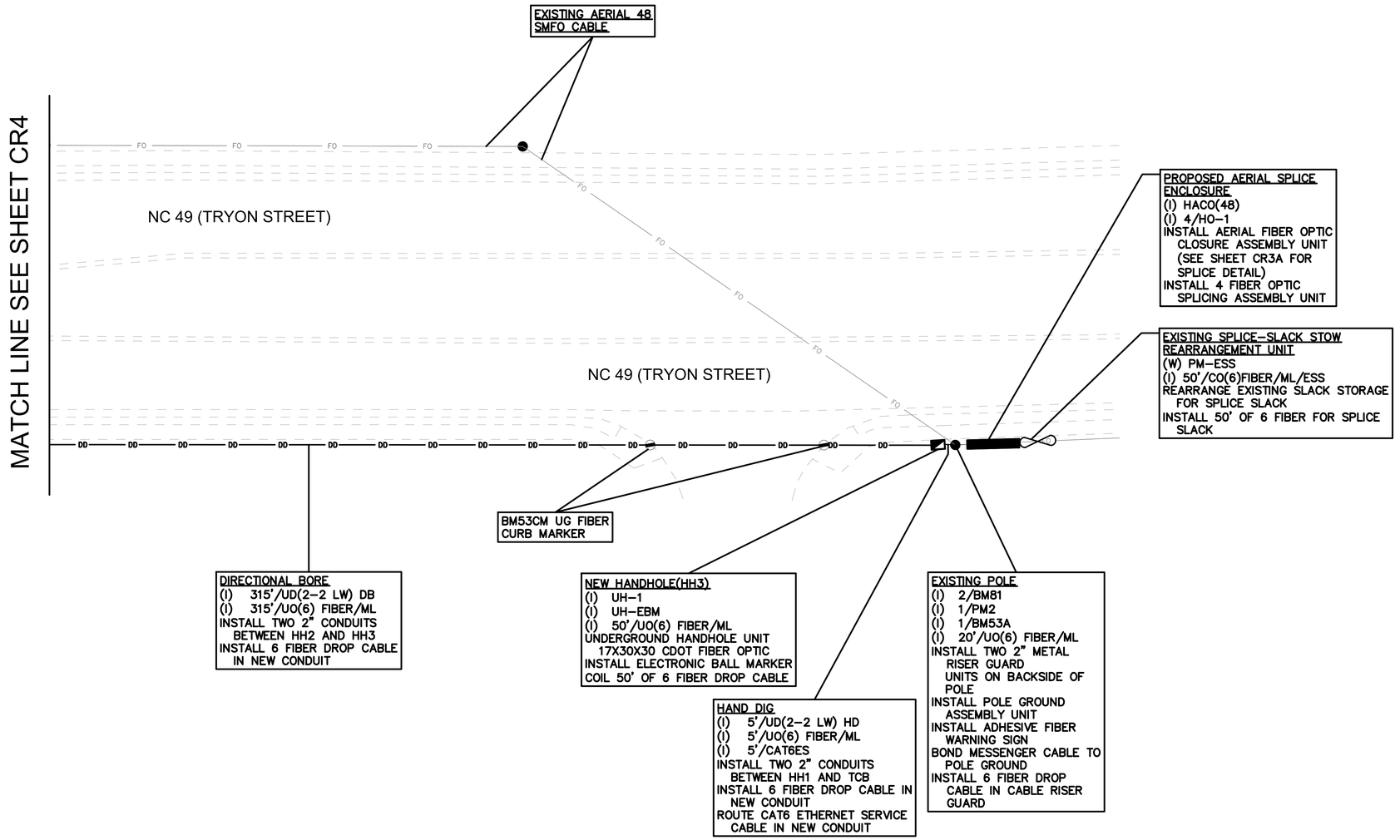
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

1"=20' SCALE	CAD FILE	IZ Vanosdell CHECKED BY	4/2023 DATE
CDOT-ITS-##-#### JOB NO.		MC Burke PREPARED BY	IZ Vanosdell APPROVED BY

NC 49 (S.TRYON STREET) AT GENERAL DRIVE/ YORK CENTER ROAD CHARLOTTE, NC

CABLE ROUTING PLANS

SHEET CR4 OF CR5



NOTES:
1. CONTRACTOR IS RESPONSIBLE FOR LOCATING ALL UTILITIES PRIOR TO CONSTRUCTION.
2. ALL UNUSED CONDUITS TO BE CAPPED AND TAPE SEALED. USED CONDUITS TO BE SEALED WITH SEALING COMPOUD (OR DUCT PLUGS).
3. CONDUIT AND FIBER QUANTITIES ARE MEASURED AND LABELED FROM HANDHOLE TO HANDHOLE AND/OR POLE TO POLE AND NOT PER SHEET.

0 20 40
SCALE : 1"=20'
UNLESS OTHERWISE NOTED.

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

CHARLOTTE.

Plans Prepared By:
Kimley»Horn
NC License #F-0102
421 Fayetteville Street, Suite 600
Raleigh, NC 27601
919-677-2000

NO.	DATE	BY	DESCRIPTION

5/9/2024

NORTH CAROLINA PROFESSIONAL SEAL 028952 ENGINEER INGER Z. VANOSDELL

DocuSigned by: Inger VanOsdell

1"=20' SCALE	CAD FILE	IZ Vanosdell CHECKED BY	4/2023 DATE
CDOT-ITS-###-#### JOB NO.		MC Burke PREPARED BY	IZ Vanosdell APPROVED BY

NC 49 (S.TRYON STREET) AT GENERAL DRIVE/ YORK CENTER ROAD CHARLOTTE, NC

CABLE ROUTING PLANS

SHEET CR5 OF CR5

PROJECT REFERENCE NO.	SHEET NO.
HS-2010E	SIGN-01

APPROVED: Jose G. Martinez

DATE: 09/18/2024

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 046786 ENGINEER JOSE G. MARTINEZ

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

SIGNING PLAN
MECKLENBURG COUNTY

LOCATION: DIRECTIONAL CROSSING AT NC 49 AND NEVADA BLVD

T.I.P.: HS-2010E

ROADWAY STANDARD DRAWING

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
904.10	ORIENTATION OF GROUND MOUNTED SIGNS
904.50	MOUNTING OF TYPE 'D', 'E' AND 'F' SIGNS ON 'U' CHANNEL POSTS

SUMMARY OF QUANTITIES

ITEM NO.		ITEM DESCRIPTION	QUANTITY	UNIT
DESC. NO.	SECT. NO.			
4025000000	901	CONTRACTOR FURNISHED, TYPE E SIGN	78	S.F.
4072000000	903	SUPPORTS, 3 LB STEEL U-CHANNEL	200	L.F.
4102000000	904	SIGN ERECTION, TYPE E	9	EA.
4155000000	907	DISPOSAL OF SIGN SYSTEM, U-CHANNEL	5	EA.

PROJECT NOTES

1 DISPOSAL OF SIGN SYSTEM, U-CHANNEL

INDEX

SHEET NO.	DESCRIPTION
SIGN-1	TITLE SHEET/ E SIGNS
SIGN-2	SIGNING PLAN SHEETS

PLAN PREPARED BY: N.C.D.O.T. SIGNING AND DELINEATION UNIT

K. L. JORDAN	SIGNING & DELINEATION REGIONAL ENGINEER
J. G. MARTINEZ, PE	SIGNING & DELINEATION PROJECT DESIGN ENGINEER

GENERAL NOTES

- SIGNS FURNISHED BY CONTRACTOR
- IF REMOVAL OR RELOCATION OF SIGNS ON PRIVATE STREET (NON-STATE MAINTAINED) IS REQUIRED DUE TO CONSTRUCTION, THE CONTRACTOR SHALL INFORM THE ENGINEER. THE WORK WILL BE COMPLETED BY OTHERS.
- WHEN NOT STATIONED OR DIMENSIONED ON PLANS, ALL 'E' AND 'F' SIGNS SHALL BE FIELD LOCATED BY THE ENGINEER
- ALL EXISTING SIGNS ON "U" CHANNEL POST WITHIN THE PROJECT LIMITS SHALL BE REMOVED AND DISPOSED OF UNLESS OTHERWISE NOTED ON PLANS.
- WHEN EXISTING SIGNS ARE REMOVED AND INSTALLED ON NEW SUPPORTS, THE RE-ERECTION SHALL IMMEDIATELY FOLLOW THE REMOVAL.
- THE BACKGROUND FOR TYPE E & F SIGNS SHALL BE TYPE C REFLECTIVE SHEETING.
- SEE ROADWAY PLANS FOR GUARD/GUIDE RAIL DETAILS.

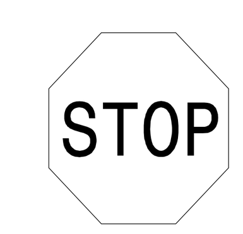
TYPE "E" SIGNS

401 QUANTITY REQ'D 1

48" X 18" R6-1 (R)

TWO "U" POSTS PER SIGN

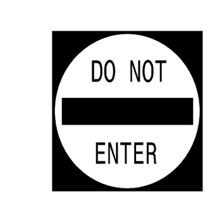
402 QUANTITY REQ'D 1



36" X 36" R1-1

MOUNT BELOW SIGN 401 IN 1 INSTALLATIONS

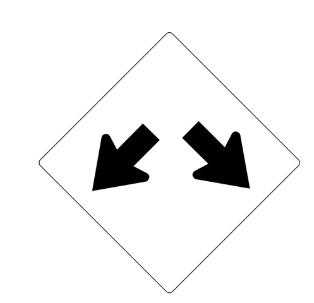
403 QUANTITY REQ'D 2



36" X 36" R5-1

ONE "U" POST PER SIGN

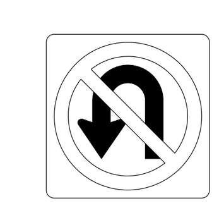
404 QUANTITY REQ'D 2



36" X 36" W12-1

ONE "U" POST PER SIGN

405 QUANTITY REQ'D 2



36" X 36" R3-4

ONE "U" POST PER SIGN

406 QUANTITY REQ'D 1

36" X 36" R3-2

ONE "U" POST PER SIGN

PROJECT REFERENCE NO.	SHEET NO.
HS-2010E	SIGN-02

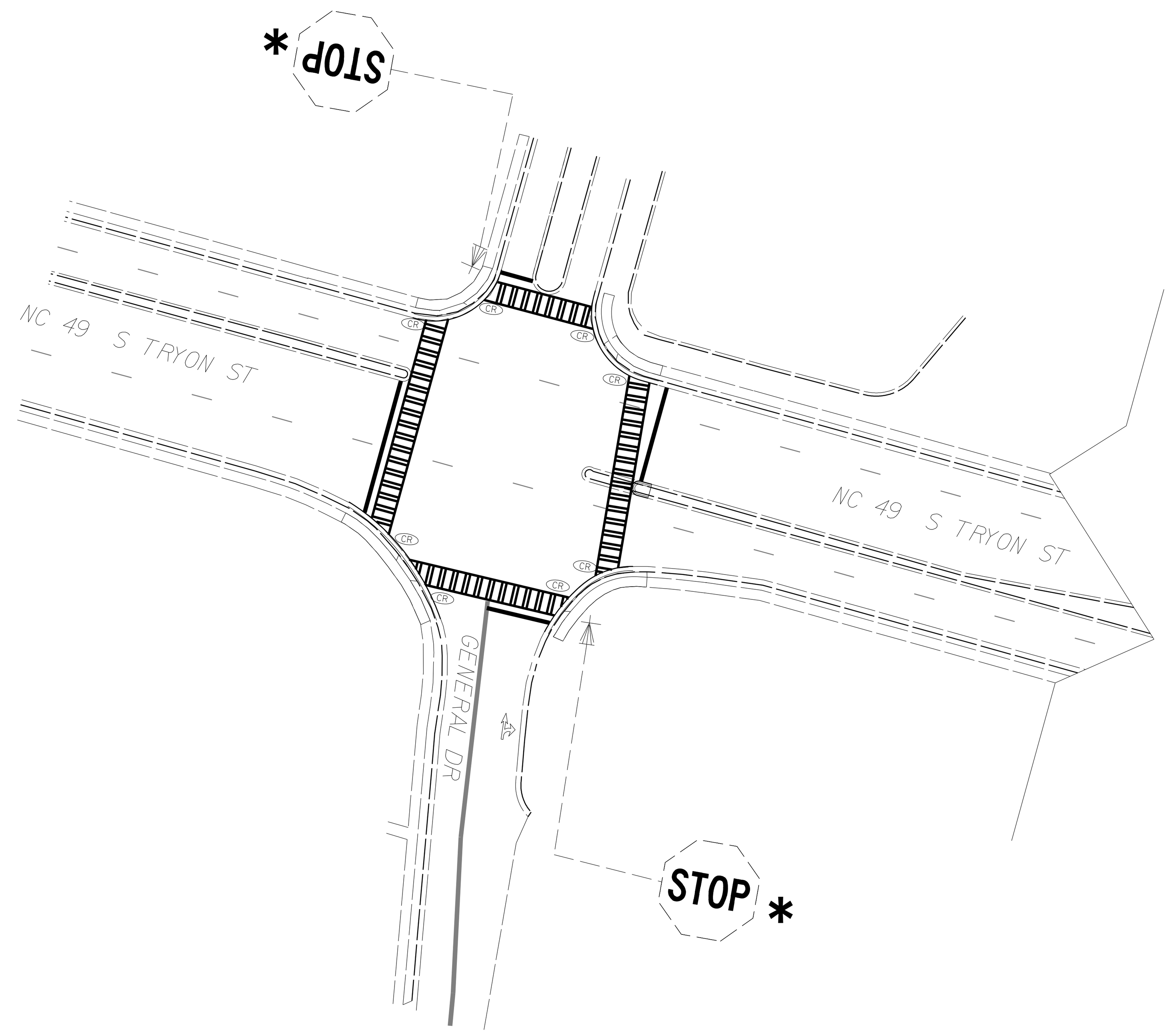
APPROVED: Jose G. Martinez

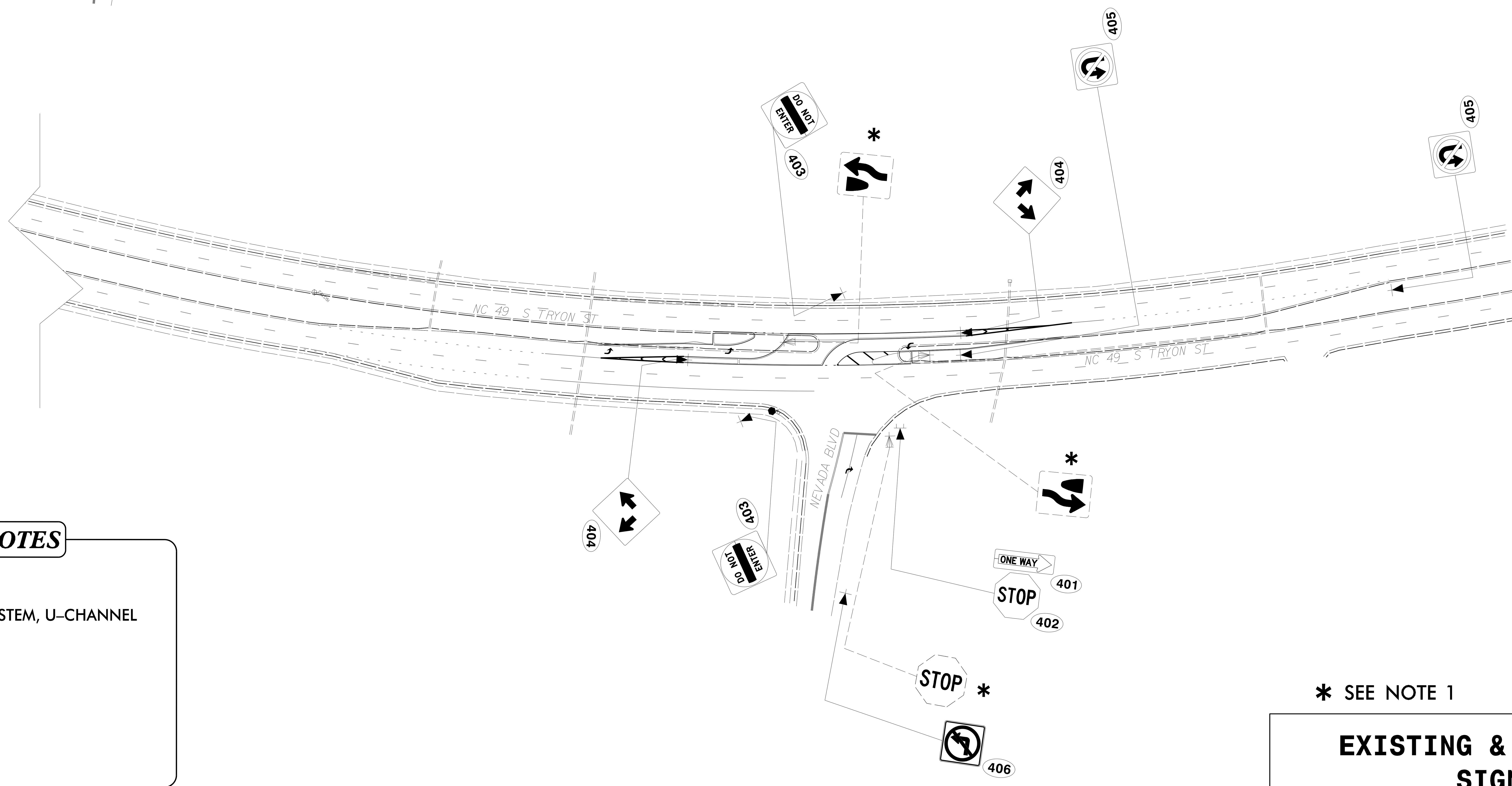
DATE: 09/18/2024

SEAL

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 046786 JOSE G. MARTINEZ

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED





PROJECT NOTES

1 DISPOSAL OF SIGN SYSTEM, U–CHANNEL

* SEE NOTE 1

EXISTING & PROPOSED SIGNS

PROJECT NO.	SHEET NO.
49291.3.5	TCP-1
F.A. PROJECT NO.	0049040

ROADWAY DESIGN ENGINEER

02/27/2025

NORTH CAROLINA PROFESSIONAL SEAL 042673 ENGINEER TIMOTHY BOYLAR

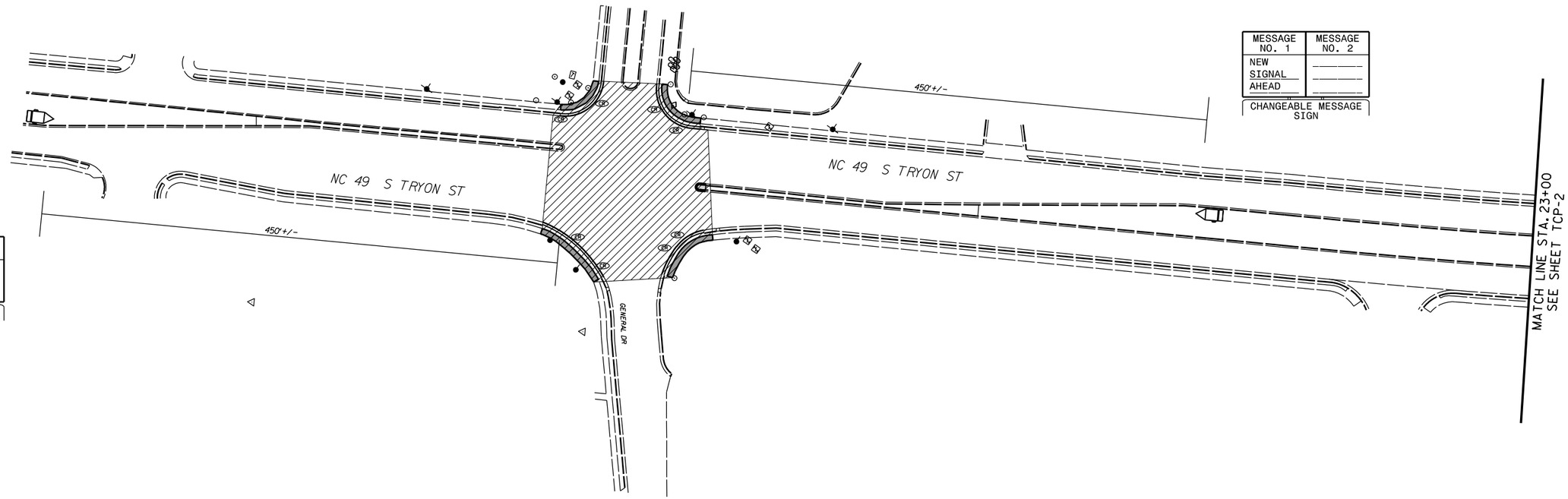
DocuSigned by: A53C1AC7A1FF47B...

CHANGEABLE MESSAGE SIGN

Phase I of Construction

NOTE: COMPLETE ALL WORK FOR GENERAL DRIVE INTERSECTION BEFORE WORKING ON NAVADA BLVD.

INSTALL ALL SIGNS PERTAINING TO HATCHED AREA DURING THIS PHASE SEE SHEETS SIGN-01 - SIGN-02



MESSAGE NO. 1	MESSAGE NO. 2
NEW SIGNAL AHEAD	_____ _____ _____

CHANGEABLE MESSAGE SIGN

MESSAGE NO. 1	MESSAGE NO. 2
NEW SIGNAL AHEAD	_____ _____ _____

CHANGEABLE MESSAGE SIGN

PHASE I

SIGNAL INSTALLATION AT THE INTERSECTION OF NC 49/S.TRYON ST. AND GENERAL DR. DIRECTIONAL CROSSOVER ON NC 49/S.TRYON ST. AT NEVADA BLVD.(SR-1347)

SCALE	1"=50'
DATE	8-2024
DWG. BY	TBL
DESIGN BY	TBL
APPROVED	JDH

DIVISION OF HIGHWAYS

REVISIONS	

PROJECT NO.	SHEET NO.
49291.3.5	TCP-2
F.A. PROJECT NO.	0049040

ROADWAY DESIGN ENGINEER

02/24/2025

NORTH CAROLINA PROFESSIONAL SEAL 042673 ENGINEER TRAVIS PRESLAR

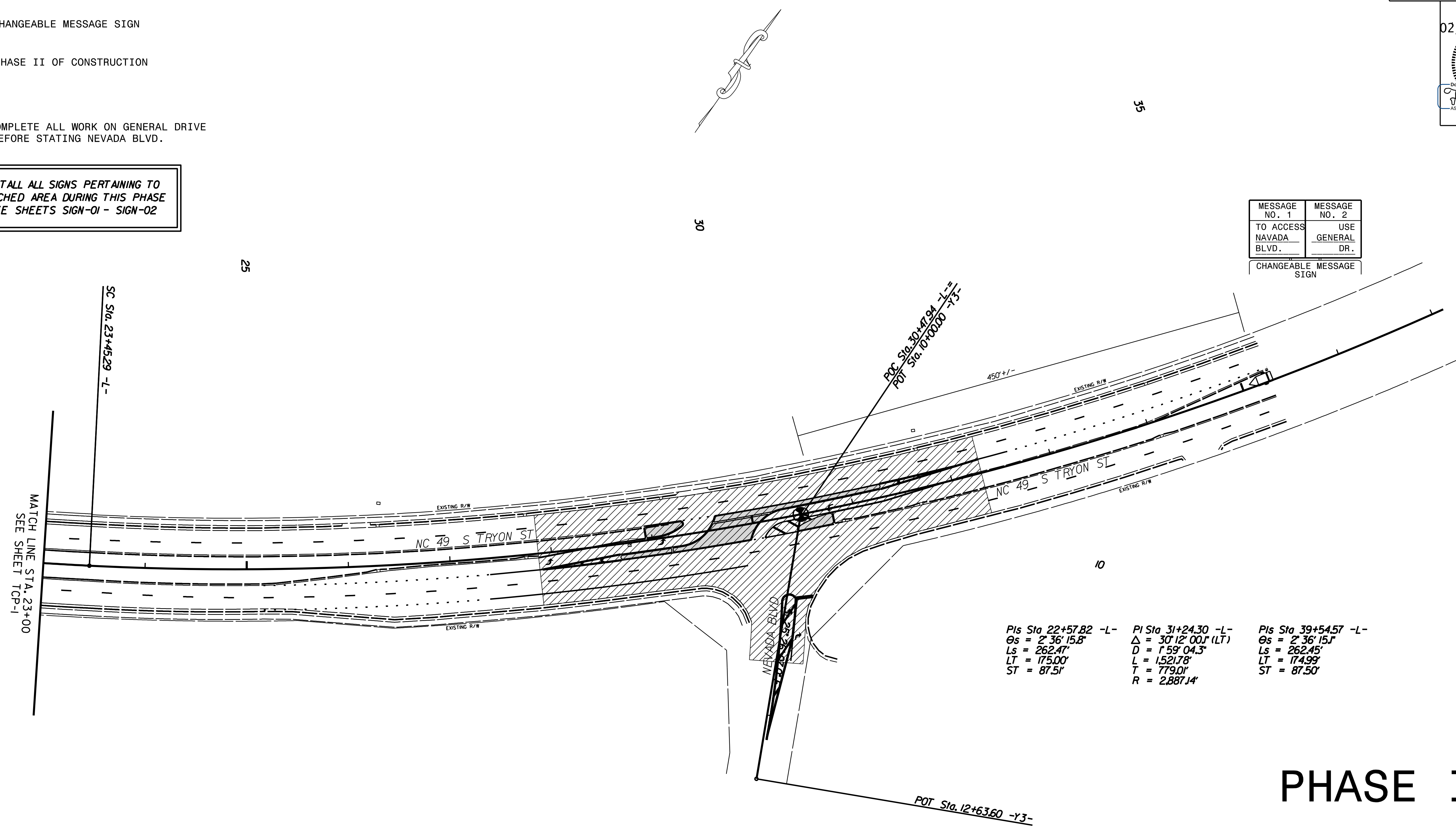
A53C1AC7A1FF47B...

CHANGEABLE MESSAGE SIGN

PHASE II OF CONSTRUCTION

NOTE: COMPLETE ALL WORK ON GENERAL DRIVE BEFORE STATING NEVADA BLVD.

INSTALL ALL SIGNS PERTAINING TO HATCHED AREA DURING THIS PHASE SEE SHEETS SIGN-01 - SIGN-02



MESSAGE NO. 1	MESSAGE NO. 2
TO ACCESS NAVADA BLVD.	USE GENERAL DR.

CHANGEABLE MESSAGE SIGN

PHASE II

SIGNAL INSTALLATION AT THE INTERSECTION OF NC 49/S.TRYON ST.AND GENERAL DR. DIRECTIONAL CROSSOVER ON NC 49/S.TRYON ST.AT NEVADA BLVD.(SR-1347)

SCALE	1"=50'
DATE	8-2024
DWG. BY	TBL
DESIGN BY	TBL
APPROVED	JDH

REVISIONS

6/23/16

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	49291.3.5	X-1

29+50.00

29+00.00

28+50.00

28+00.00

27+50.00

16-DEC-2024 07:49
S:\DOT\ROY\Mecklenburg\HS-2010E.NC 49_General Dr_Nevada Dr\XSC\HS-2010E.NC 49_General Dr_Nevada Dr_xpl.dgn
$$$$USERNAME$$$$

6/23/16

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	49291.3.5	X-2

32+50.00

32+00.00

31+50.00

31+00.00

30+50.00

NEVADA BLVD.

30+00.00

NEVADA BLVD.

06-SEP-2024 14:51
S:\DOT\RPY\Mecklenburg\HS-2010E_NC 49_General Dr_Nevada Dr\XSC\HS-2010E_NC 49_General Dr_Nevada Dr_xpll.dgn
$$$$USERNAME$$$$