

T.I.P.: HE-0001B

CONTRACT:

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

SIGNING PLAN
BUNCOMBE COUNTY

LOCATION: FUTURE CONNECTOR ROAD (EAST FREDERICK LAW OLMSTEAD
WAY) FROM I-26 INTERCHANGE TO ROUNDABOUT

ROADWAY STANDARD DRAWINGS

THE FOLLOWING ROADWAY STANDARDS AS APPEAR IN "ROADWAY STANDARD DRAWINGS" -
CONTRACT STANDARDS AND DEVELOPMENT 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
901.50	ARROWS AND SHIELDS
901.70	SIGN STRINGERS AND SUPPORT SPACING
903D1003	GROUND MOUNTED SIGN SUPPORTS
904.10	ORIENTATION OF GROUND MOUNTED SIGNS
910.40	SINGLE LANE ROUNDABOUT SIGNING, WITH PEDESTRIANS
904.50	MOUNTING OF TYPE 'D', 'E' AND 'F' SIGNS ON 'U' CHANNEL POSTS

PAY ITEM NOTES

1 SIGN ERECTION, TYPE D, E OR F

SUMMARY OF QUANTITIES

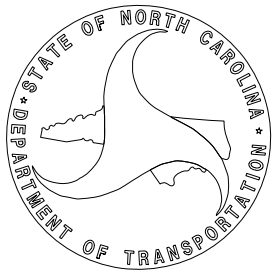
ITEM NO.		ITEM DESCRIPTION	QUANTITY	UNIT
DESC. NO.	SECT. NO.			
4072000000	903	SUPPORTS, 3-LB STEEL U-CHANNEL SIGN ERECTION, TYPE D SIGN ERECTION, TYPE E SIGN ERECTION, TYPE F	230	LF
4096000000	904		5	EA
4102000000	904		12	EA
4108000000	904		36	EA

GENERAL NOTES

- . SIGNS FURNISHED BY STATE.
- . ALL PROPOSED SIGNS SEE PAY ITEM NOTE 1 UNLESS OTHERWISE NOTED.
- . CONFIRM IN WRITING AT LEAST 4 MONTHS IN ADVANCE, THE ACTUAL DATE THE DEPARTMENT FURNISHED SIGNS WILL BE REQUIRED.
- . ALL TYPE D, E, AND F SIGNS SHALL BE MOUNTED ON TWO U-CHANNEL POSTS UNLESS OTHERWISE INDICATED ON THE PLANS.
- . 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 TYPE E AND F SIGNS SHALL BE FIELD LOCATED BY THE ENGINEER.
- . ALL EXISTING SIGNS ON "U" CHANNEL POST WITHIN THE PROJECT CONSTRUCTION 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 AND F SIGNS SHALL BE GRADE C REFLECTIVE SHEETING UNLESS OTHERWISE.
- . DO NOT BEGIN FABRICATION FOR TYPE A AND B SIGNS MOUNTED ON OVERHEAD STRUCTURES OR STEEL SUPPORTS UNTIL "S" DIMENSIONS HAVE BEEN FIELD VERIFIED.
- . SEE ROADWAY PLANS FOR GUARD/GUIDE RAIL DETAILS.

PLANS SUBMITTED TO:

_____	DIVISION 13 TRAFFIC ENGINEER
_____	DIVISION 14 TRAFFIC ENGINEER
_____	REGIONAL TRAFFIC SAFETY ENGINEER
_____	WESTERN SIGNING & DELINEATION ENGINEER, DIVISIONS 07, 09-14



PLANS PREPARED BY: Gannett Fleming

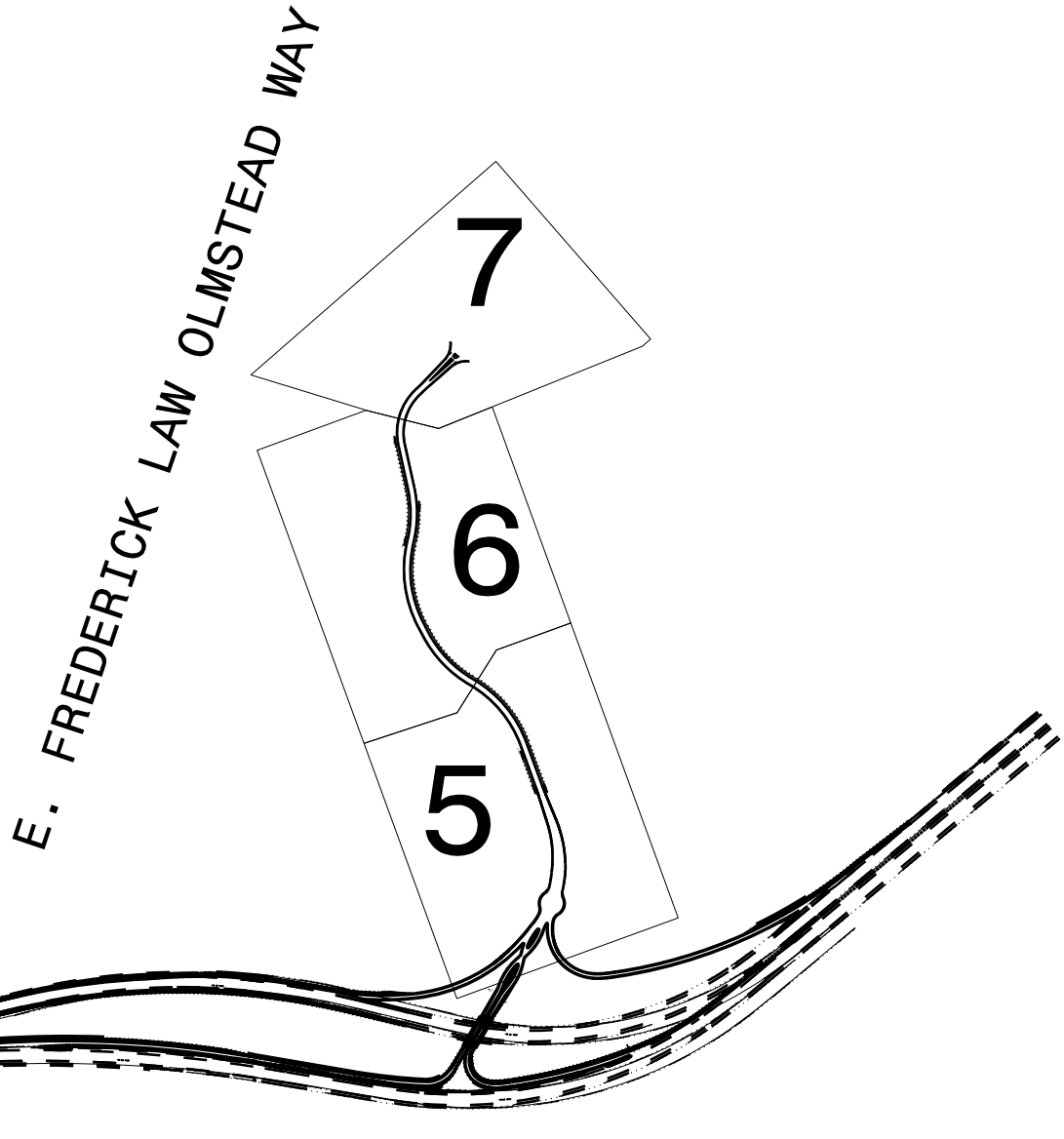
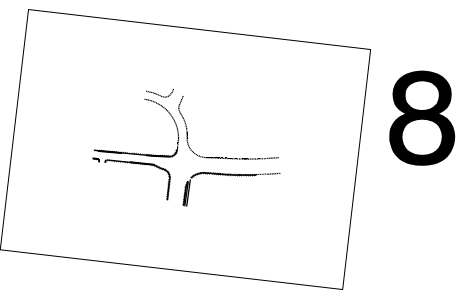
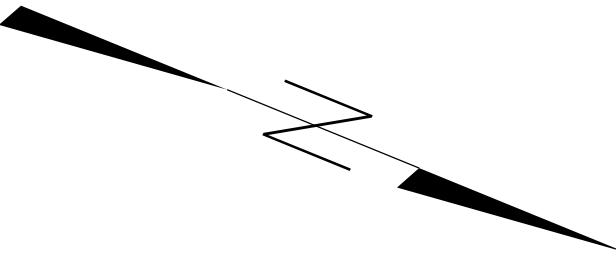
<u>Rick Tipton, PE</u>	SIGNING PROJECT MANAGER
<u>Donald Hartland, PE</u>	SIGNING PROJECT ENGINEER
<u>Grant Moss</u>	SIGNING DESIGN SENIOR TECHNICIAN



INDEX

SHEET NO.	DESCRIPTION
SIGN-1	TITLE SHEET
SIGN-1A	KEY SHEET
SIGN-4A THRU 4C	SIGN DESIGNS, TYPE E AND F
SIGN-5 THRU 8	SIGNING PLAN SHEETS
SIGN-9	GROUND MOUNTED SIGN SUPPORT DETAIL (903D1003)

TIP NO.	SHEET NO.
HE - 0001B	SIGN - 1
APPROVED: <div>DocuSigned by: Donald L. Hartland 9C09D5F8D8E8480...</div>	
DATE: 9/9/2025	
SEAL 	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

PROPOSED SIGNING



TIP NO.	SHEET NO.
HE - 0001B	SIGN - 1A
APPROVED:  9C00D5F8DE85490...	
DATE: 8/26/2025	
SEAL 	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

\$\$\$\$\$SYTIME\$\$\$\$\$
\$\$\$\$\$DGN\$\$\$\$\$
\$\$\$\$\$USERNAVE\$\$\$\$\$

A circular professional engineer seal for Donald L. Hartland, North Carolina. The seal features the text "NORTH CAROLINA" at the top, "PROFESSIONAL" below it, "SEAL" in the center, the license number "047962" below the seal, "ENGINEER" below the license number, and "DONALD L. HARTLAND" at the bottom. The seal is surrounded by a decorative border of small dots.

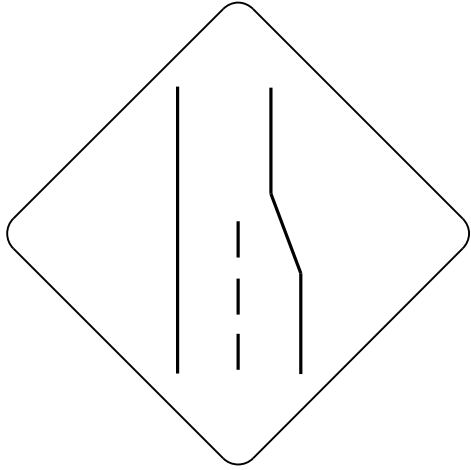
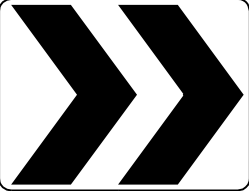
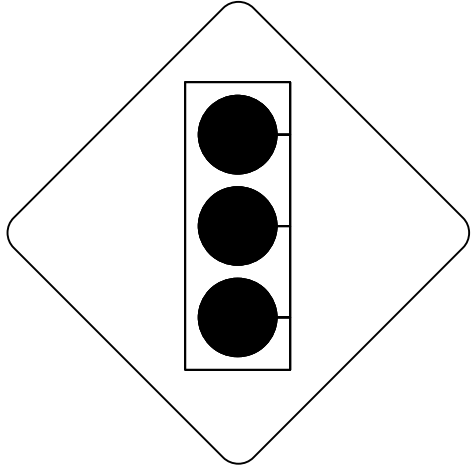
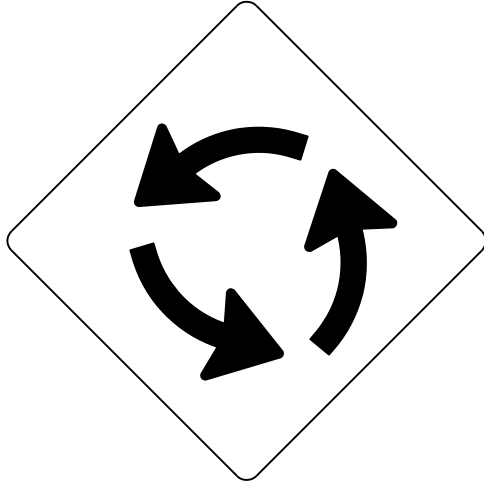
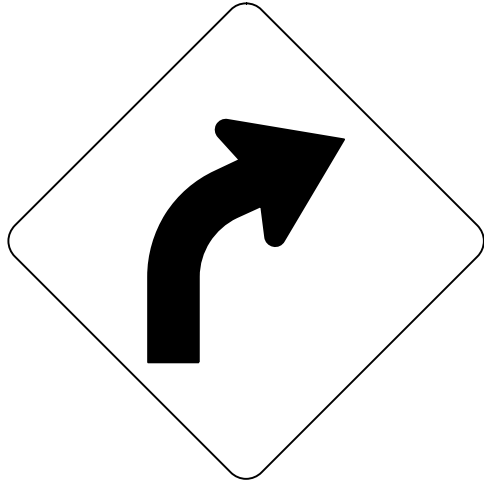

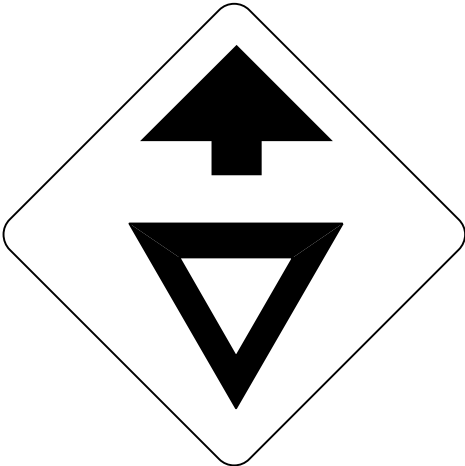

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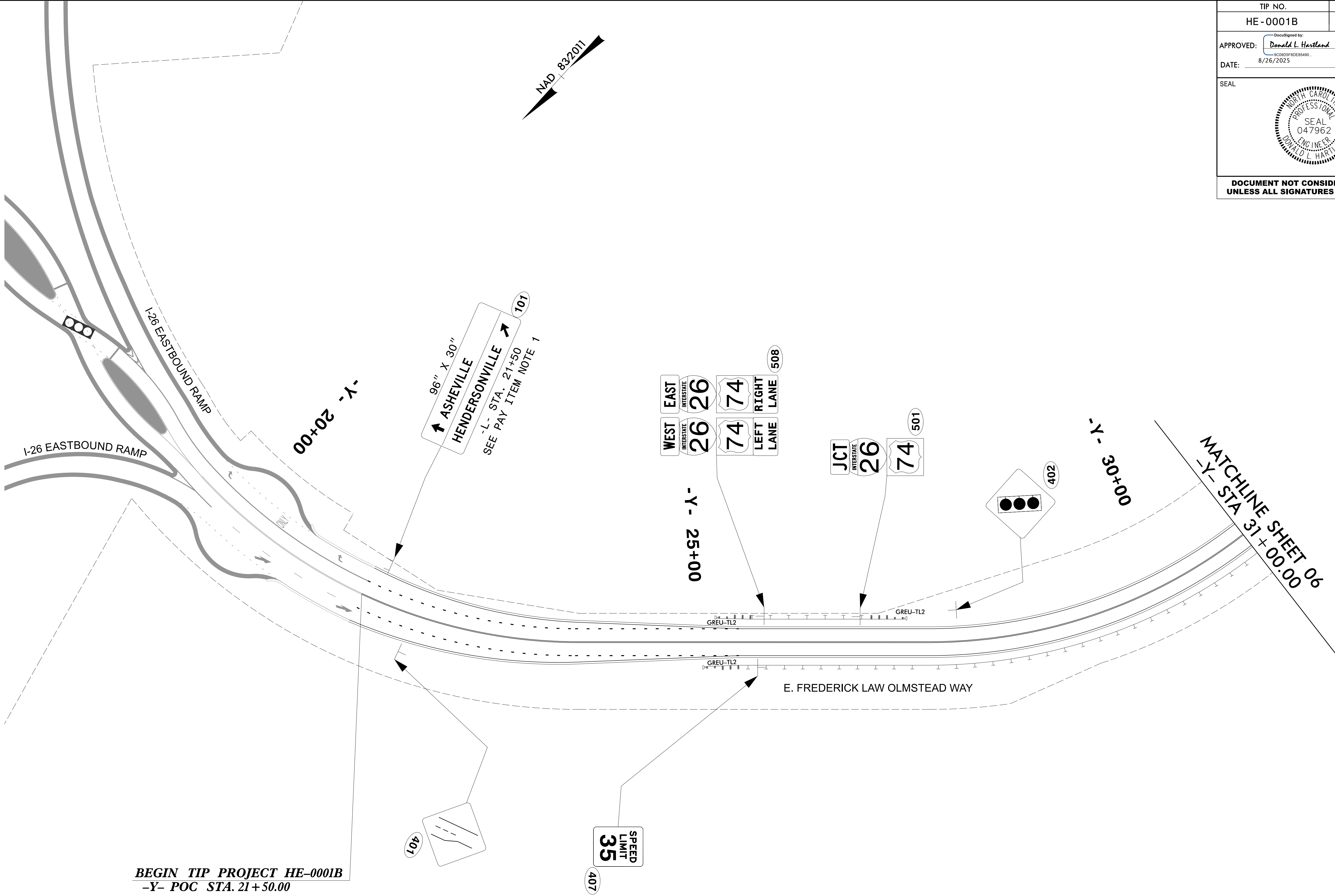
Spacing Factor is 1 unless specified otherwise

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\$\$\$\$\$SERVAVNE\$\$\$\$\$

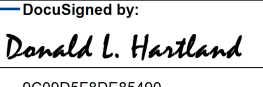

<div>401</div> <div>QUANTITY REQ'D 1</div> <div></div> <div>36" X 36" W4-2R</div> <div>ONE "U" POST PER SIGN</div>	<div>406</div> <div>QUANTITY REQ'D 1</div> <div></div> <div>30" X 24" R6-4</div> <div>ONE "U" POST PER SIGN</div>	<div>501</div> <div><div><div>JCT</div><div>INTERSTATE</div><div>26</div></div><div>1 - 21" X 15"</div><div><div>74</div></div><div>1 - 24" X 24"</div><div><div>74</div></div><div>1 - 24" X 24"</div></div> <div>ONE "U" POSTS PER ASSEMBLY</div>	<div>506</div> <div><div><div>TO</div><div>191</div></div><div>1 - 24" X 12"</div><div><div>191</div></div><div>1 - 24" X 24"</div><div><div>↑</div></div><div>1 - 21" X 15"</div></div> <div>ONE "U" POST PER ASSEMBLY</div>
<div>402</div> <div>QUANTITY REQ'D 1</div> <div></div> <div>36" X 36" W3-3</div> <div>ONE "U" POST PER SIGN</div>	<div>407</div> <div>QUANTITY REQ'D 2</div> <div><div><div>SPEED LIMIT</div><div>35</div></div></div> <div>30" X 36" R2-1</div> <div>ONE "U" POST PER SIGN</div>	<div>502</div> <div><div><div>SOUTH</div><div>NORTH</div></div><div>2 - 24" X 12"</div><div><div>191</div><div>191</div></div><div>2 - 24" X 24"</div><div><div>←</div><div>→</div></div><div>2 - 21" X 15"</div></div> <div>ONE "U" POSTS PER ASSEMBLY</div>	<div>507</div> <div><div><div>TO</div><div>INTERSTATE</div><div>26</div></div><div>1 - 24" X 12"</div><div><div>26</div></div><div>1 - 24" X 24"</div><div><div>74</div></div><div>1 - 24" X 24"</div><div><div>↑</div></div><div>1 - 21" X 15"</div></div> <div>ONE "U" POST PER ASSEMBLY</div>
<div>403</div> <div>QUANTITY REQ'D 1</div> <div></div> <div>36" X 36" W3-3</div> <div>ONE "U" POST PER SIGN</div>	<div>408</div> <div>QUANTITY REQ'D 1</div> <div></div> <div>30" X 30" W1-2R</div> <div>ONE "U" POST PER SIGN</div>	<div>503</div> <div><div><div>TO</div><div>INTERSTATE</div><div>26</div></div><div>1 - 24" X 12"</div><div><div>26</div></div><div>1 - 24" X 24"</div><div><div>74</div></div><div>1 - 24" X 24"</div><div><div>←</div></div><div>1 - 21" X 15"</div></div> <div>ONE "U" POST PER ASSEMBLY</div>	<div>508</div> <div><div><div>WEST</div><div>EAST</div></div><div>1 - 24" X 12"</div><div><div>INTERSTATE</div><div>26</div></div><div>1 - 24" X 24"</div><div><div>26</div></div><div>1 - 24" X 24"</div><div><div>74</div><div>74</div></div><div>1 - 24" X 24"</div><div><div>LEFT LANE</div><div>RIGHT LANE</div></div><div>1 - 21" X 15"</div></div> <div>ONE "U" POSTS PER ASSEMBLY</div>
<div>404</div> <div>QUANTITY REQ'D 1</div> <div></div> <div>18" X 24" W1-8L</div> <div>ONE "U" POST PER SIGN</div>	<div>409</div> <div>QUANTITY REQ'D 2</div> <div><div><div>25</div><div>MPH</div></div></div> <div>18" X 18" W13-1P</div> <div>ONE "U" POST PER SIGN</div>	<div>504</div> <div><div><div>TO</div><div>INTERSTATE</div><div>26</div></div><div>1 - 24" X 12"</div><div><div>26</div></div><div>1 - 24" X 24"</div><div><div>74</div></div><div>1 - 24" X 24"</div><div><div>→</div></div><div>1 - 21" X 15"</div></div> <div>TWO "U" POST PER ASSEMBLY</div>	
<div>405</div> <div>QUANTITY REQ'D 1</div> <div></div> <div>36" X 36" W3-3</div> <div>ONE "U" POST PER SIGN</div>	<div>410</div> <div>QUANTITY REQ'D 1</div> <div></div> <div>30" X 30" W1-2L</div> <div>ONE "U" POST PER SIGN</div>	<div>505</div> <div><div><div>TO</div><div>INTERSTATE</div><div>26</div></div><div>1 - 24" X 12"</div><div><div>26</div></div><div>1 - 24" X 24"</div><div><div>74</div></div><div>1 - 24" X 24"</div><div><div>↑</div></div><div>1 - 21" X 15"</div></div> <div>ONE "U" POST PER ASSEMBLY</div>	

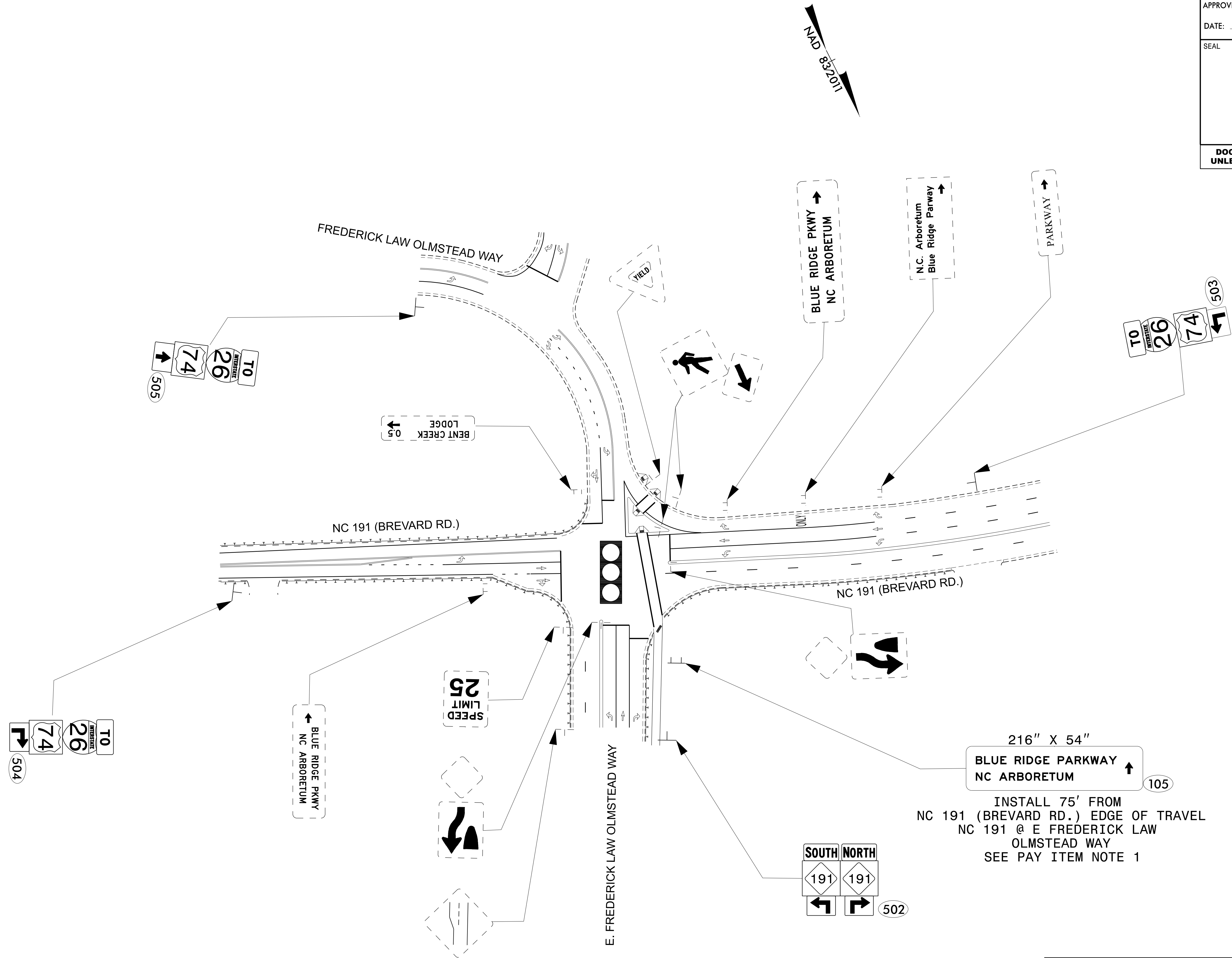
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HE-0001B	SIGN-4C
APPROVED: <div>Digitally signed by Donald L. Hartland DN: cn=Donald L. Hartland, o=SC0905FBDE85490...</div>	
DATE: 8/26/2025	
SEAL	
	
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TIP NO.	SHEET NO.
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APPROVED: <div>DocuSigned by: Donald L. Hartland 9C0B05F8DE85490...</div>	
DATE: 8/26/2025	
SEAL	
<div>SEAL 047962 ENGINEER DAVID L. HARTLAND</div>	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	



BEGIN TIP PROJECT HE-0001B
-Y- POC STA. 21+50.00

TIP NO.	SHEET NO.
HE-0001B	SIGN-8
APPROVED:  Donal L. Hartland 9C09D5F8DEB5480...	
DATE: 8/26/2025	
SEAL 	
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\$\$\$ SYSTEMS \$\$\$
\$\$\$ CONSULTING \$\$\$
\$\$\$ ENGINEERING \$\$\$
\$\$\$ SURVEYING \$\$\$



**GANNETT
FLEMING**

22 S. Pack Square
Suite 800
Asheville, NC 28801
828-209-7104
NC License No. F-0270

**PROPOSED SIGNING
NC 191 @ E FREDERICK LAW
OLMSTEAD WAY**

NOTES:

- DESIGN CONFORMS WITH THE SPECIFICATIONS FOR THE DESIGN AND CONSTRUCTION OF STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS - AASHTO.
- USE MATERIALS, FABRICATE AND ERECT SIGNS AND SUPPORTS THAT CONFORM TO THE NORTH CAROLINA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES.
- USE HIGH STRENGTH BOLTS, NUTS AND WASHERS THAT CONFORM TO ASTM A-325 AND THAT ARE GALVANIZED IN ACCORDANCE WITH ASTM F2329 OR B695 CLASS 55.
- USE BACKING PLATES, SLIP BASE PLATES, FRICTION PLATES, AND HINGE PLATES THAT CONFORM TO ASTM A-36 AND THAT ARE GALVANIZED IN ACCORDANCE WITH ASTM A-123 PRIOR TO GALVANIZING, GRIND SMOOTH ANY METAL PROJECTION BEYOND THE PLATE FACE.
KEEPER PLATES SHALL BE MANUFACTURED FROM 28 GAUGE SHEET STEEL THAT CONFORMS TO ASTM A-36 AND IS GALVANIZED IN ACCORDANCE WITH ASTM A-123
- ASSEMBLE HINGE CONNECTIONS IN THE SHOP. THE SHOP SHALL TIGHTEN BOLTS BY USE OF EITHER A CALIBRATED POWER WRENCH OR A MANUAL TORQUE WRENCH. TIGHTEN EACH HINGE CONNECTION BOLT TO 1/3 PAST SNUG.
- BASE PLATES DETAILS ARE FOR INSTALLATIONS ON THE RIGHT SHOULDER AND IN GORE AREAS.
- ASSEMBLE UPPER SUPPORT TO STUB AS SHOWN IN DETAIL. SLIP BASE PLATES SHALL BE FILLET WELDED ONTO SUPPORTS ALL AROUND THE STRUCTURAL SHAPE SO AS TO INSURE NO LOSS OF STRENGTH. ASSEMBLE IN EITHER SHOP OR FIELD. 28 GAUGE KEEPER PLATE IS PLACED BETWEEN SLIP BASE PLATES TO PREVENT BOLT SLIPPING. TIGHTEN BOLTS TO THE FOLLOWING PRESCRIBED TORQUE:

BOLT DIAMETER	TORQUE (LB. FT.)
1/2"	9
5/8"	22
3/4"	37
1"	48

COMPLETELY ASSEMBLE BREAKAWAY SUPPORTS PRIOR TO ERECTION. BREAKAWAY SUPPORT TO BE SET IN ONE PIECE. AFTER SUPPORT HAS BEEN ERECTED AND THE CONCRETE FOOTINGS HAS CURED AT LEAST 48 HOURS, CLEAN CONCRETE FROM BASE CONNECTION BOLTS THEN LOOSEN AND RE TIGHTEN EACH BOLT IN A SYSTEMATIC ORDER TO THE PRESCRIBED TORQUE.DO NOT OVER TIGHTEN. BURR ALL BOLT THREADS OF BASE CONNECTIONS TO PREVENT LOOSENING.

- ELIMINATE HINGE CONNECTION FOR ALL SINGLE SUPPORT SIGNS.
- DETAIL IS FOR ONE DIRECTION BREAKAWAY. WHEN PLANS REQUIRE A TWO DIRECTION BREAKAWAY, TWO FRICTION PLATES SHALL BE USED IN LIEU OF ONE FRICTION PLATE AND ONE HINGE PLATE.

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

ROADWAY DETAIL DRAWING FOR
GROUND MOUNTED SIGN SUPPORTS

SHEET 3 OF 3
903D1003



Signed by:
Matthew V. Springer, P.E.
SD00P0E18B584403...

**CONTRACTS STANDARDS
AND DEVELOPMENT UNIT**
Office 919-707-8950 FAX 919-250-4119

SEE TITLE BLOCK

ORIGINAL BY:	R.S. GALLO	DATE:	05-22-2025
MODIFIED BY:		DATE:	
CHECKED BY:		DATE:	
FILE SPEC.:			