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**This file or an individual page  
shall not be considered a certified document.**

09/08/99

See Sheet 1A For Index of Sheets

STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

CATAWBA COUNTY / GASTON COUNTY

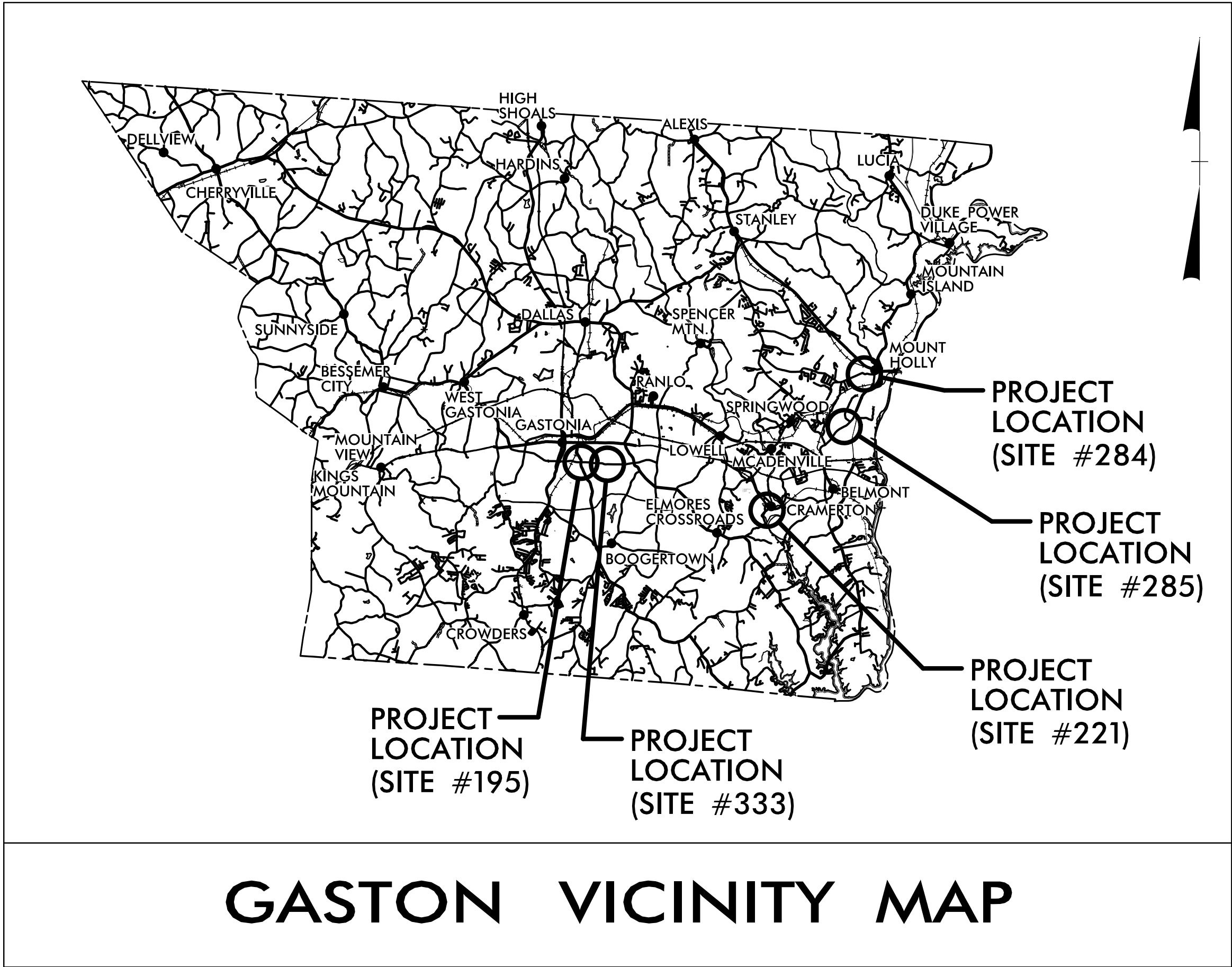
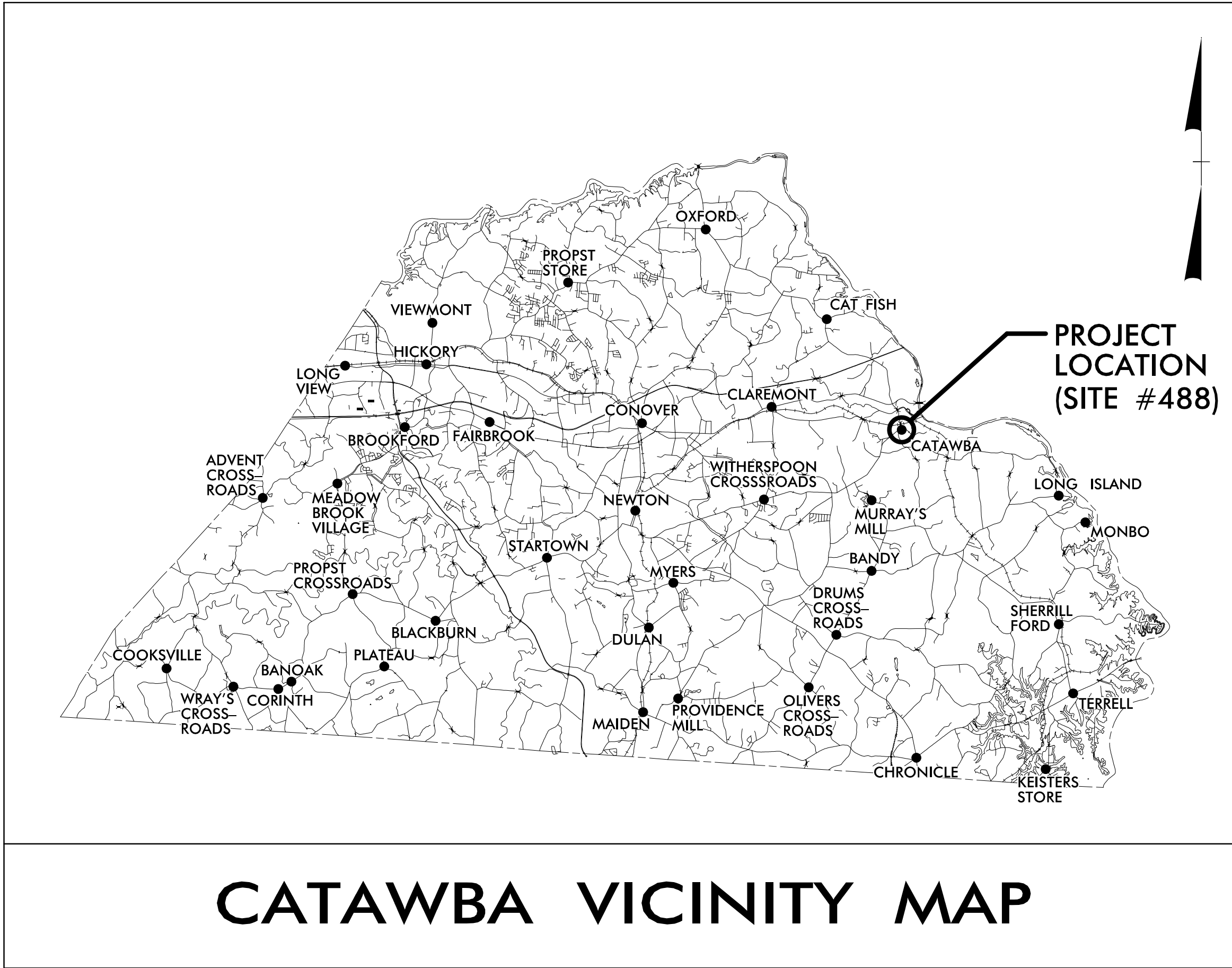
LOCATION: VARIOUS LOCATIONS THROUGHOUT CATAWBA AND  
GASTON COUNTIES

TYPE OF WORK: PEDESTRIAN SIGNALS, CONCRETE CURB RAMPS,  
AND CROSSWALKS

| STATE           | STATE PROJECT REFERENCE NO. | SHEET NO.         | TOTAL SHEETS |
|-----------------|-----------------------------|-------------------|--------------|
| N.C.            | BN-0031LA                   | 1                 |              |
| STATE PROJ. NO. | F. A. PROJ. NO.             | DESCRIPTION       |              |
| 52073.12.8      | TAPE012                     | PE (SITE#195)     |              |
| 52073.12.301    | TAPE012                     | CONST. (SITE#195) |              |
| 52073.12.8      | TAPE012                     | PE (SITE#333)     |              |
| 52073.12.302    | TAPE012                     | CONST. (SITE#333) |              |
| 52073.12.6      | TAPE012                     | PE (SITE#488)     |              |
| 52073.12.303    | TAPE012                     | CONST. (SITE#488) |              |
| 52073.12.6      | TAPE012                     | PE (SITE#221)     |              |
| 52073.12.304    | TAPE012                     | CONST. (SITE#221) |              |
| 52073.12.6      | TAPE012                     | PE (SITE#284)     |              |
| 52073.12.305    | TAPE012                     | CONST. (SITE#284) |              |
| 52073.12.6      | TAPE012                     | PE (SITE#285)     |              |
| 52073.12.306    | TAPE012                     | CONST. (SITE#285) |              |

TIP PROJECT: BN-0031LA

CONTRACT: DL00387



DOCUMENT NOT CONSIDERED FINAL  
UNLESS ALL SIGNATURES COMPLETED

GRAPHIC SCALES



TGS ENGINEERS  
201 W. MARION ST  
SUITE 200  
SHELBY, NC 28150  
PH (704) 476-0003  
CORP. LICENSE NO.: C-0275

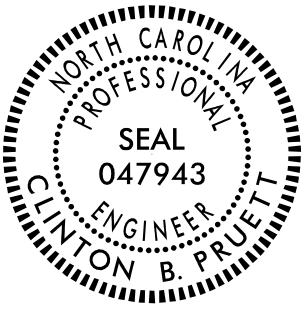
RIGHT OF WAY DATE:  
N/A

LETTING DATE:  
AUGUST 11, 2026

2024 STANDARD SPECIFICATIONS

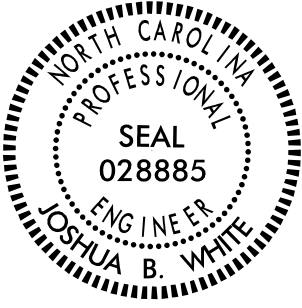
NORTH CAROLINA DEPARTMENT  
OF TRANSPORTATION  
DIVISION 12  
1710 E. MARION ST  
SHELBY, NC 28150

JIMMY L. TERRY, PE  
PROJECT ENGINEER  
(SITES #195, #333, #488)  
CLINTON B. PRUETT, PE  
PROJECT DESIGN ENGINEER  
(SITES #195, #333, #488)  
JOSHUA B. WHITE PE PLS  
PROJECT ENGINEER  
(SITES #221, #284, #285)  
R. TODD BRACKETT  
PROJECT DESIGN ENGINEER  
(SITES #221, #284, #285)



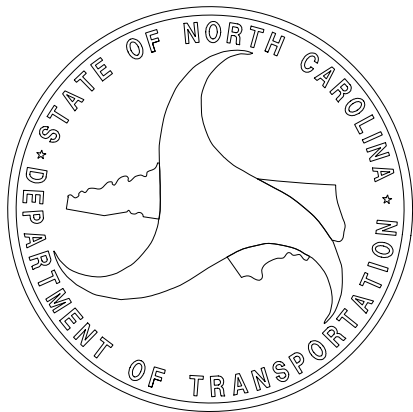
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(SITES #195, #333, #488)

SIGNATURE: \_\_\_\_\_ P.E.



ROADWAY DESIGN ENGINEER  
(SITES #221, #284, #285)

SIGNATURE: \_\_\_\_\_ P.E.





09/08/99

\$\$\$\$\$SYTIME\$\$\$\$\$  
\$\$\$\$\$CDN\$\$\$\$\$  
\$\$\$\$\$USERNAME\$\$\$\$\$

CONTRACT: DL00387  
TIP PROJECT: BN-0031LA

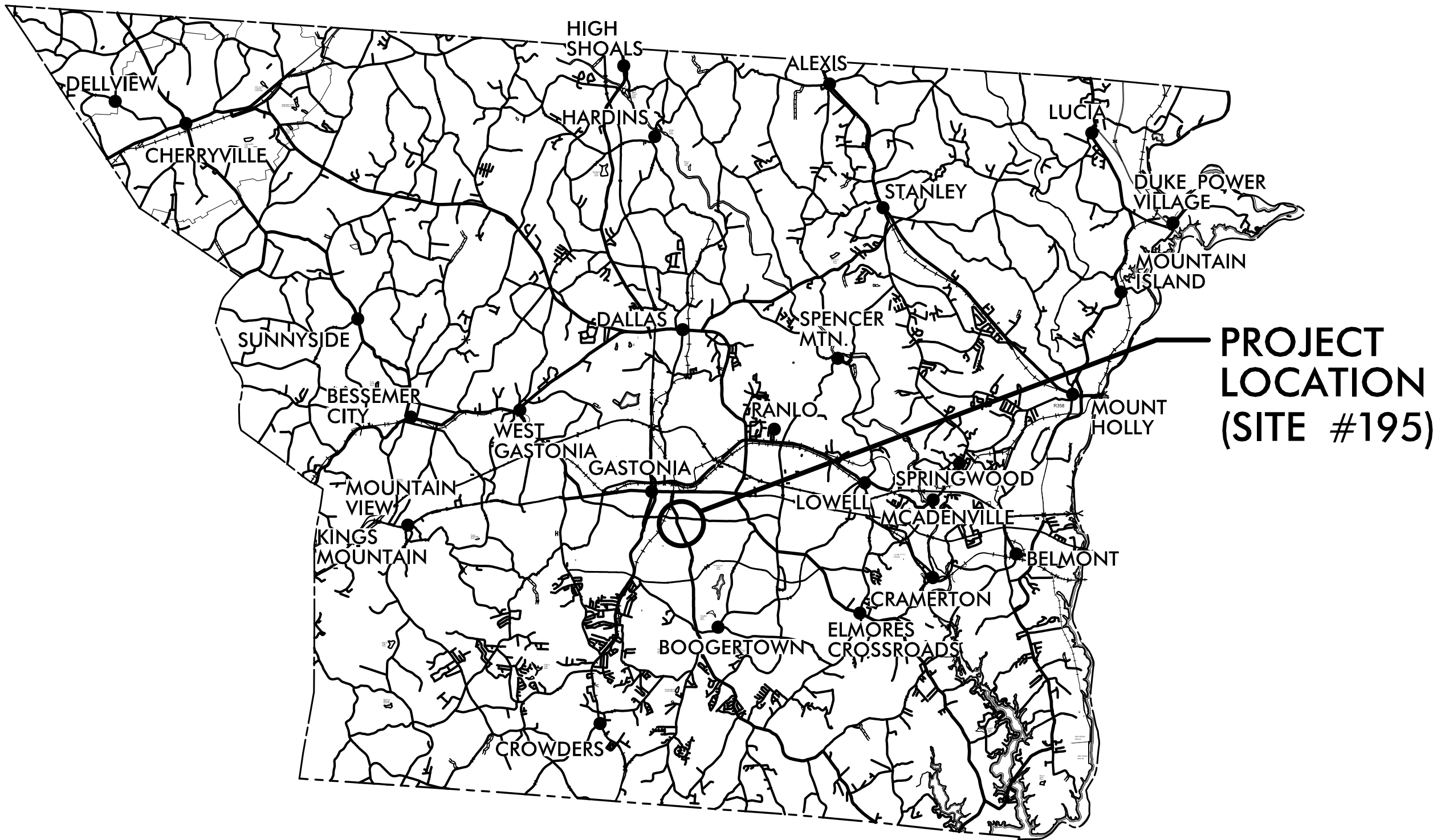
See Sheet 1A For Index of Sheets

STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

GASTON COUNTY

LOCATION: INTERSECTION OF NC 274 (UNION RD) AND SR 2466  
(E GARRISON BLVD)

TYPE OF WORK: INSTALLATION OF PEDESTRIAN SIGNALS AND  
CONSTRUCTION OF CONCRETE CURB RAMPS



VICINITY MAP

| STATE           | STATE PROJECT REFERENCE NO. | SHEET NO.   | TOTAL SHEETS |
|-----------------|-----------------------------|-------------|--------------|
| N.C.            | BN-0031LA                   | 1           |              |
| STATE PROJ. NO. | F. A. PROJ. NO.             | DESCRIPTION |              |
| 52073.12.8      | TAPE012                     | PE          |              |
| 52073.12.301    | TAPE012                     | CONST.      |              |
|                 |                             |             |              |
|                 |                             |             |              |
|                 |                             |             |              |
|                 |                             |             |              |
|                 |                             |             |              |

DOCUMENT NOT CONSIDERED FINAL  
UNLESS ALL SIGNATURES COMPLETED

GRAPHIC SCALES



DESIGN DATA

ADT 2026 = 19,400  
K = N/A %  
D = N/A %  
T = N/A % \*  
V = 45 MPH  
\* TTST =N/A DUAL =N/A  
FUNC CLASS =  
URBAN ARTERIAL  
REGIONAL TIER

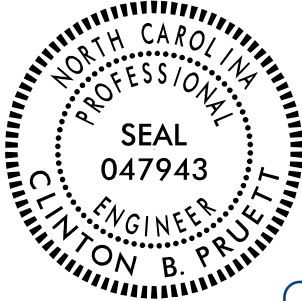
PROJECT LENGTH

N/A

NCDOT CONTACT: JOSH WHITE, PE, PLS

| PLANS PREPARED BY:                                                                                                                                                                                         | PLANS PREPARED FOR:                                                                                        |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|
|  TGS ENGINEERS<br>201 W. MARION ST<br>SUITE 200<br>SHELBY, NC 28150<br>PH (704) 476-0003<br>CORP. LICENSE NO.: C-0275 | NORTH CAROLINA DEPARTMENT<br>OF TRANSPORTATION<br><br>DIVISION 12<br>1710 E. MARION ST<br>SHELBY, NC 28150 |
| RIGHT OF WAY DATE:<br>N/A                                                                                                                                                                                  | JIMMY L. TERRY, PE<br>PROJECT ENGINEER                                                                     |
| LETTING DATE:<br>AUGUST 11, 2026                                                                                                                                                                           | CLINTON B. PRUETT, PE<br>PROJECT DESIGN ENGINEER                                                           |
| 2024 STANDARD SPECIFICATIONS                                                                                                                                                                               |                                                                                                            |

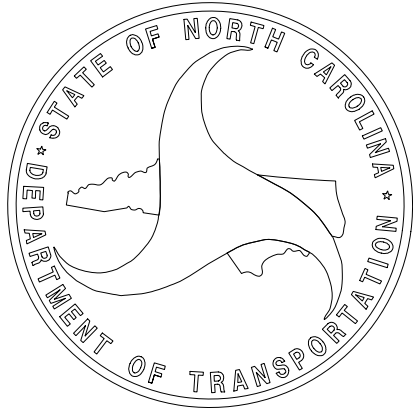
ROADWAY DESIGN  
ENGINEER



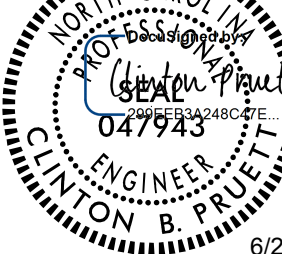
6/25/2026

DocuSigned by:  
Clinton Pruett  
SIGNATURE

P.E.





|                                                                                     |                                                                                                                                    |
|-------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------|
| PROJECT REFERENCE NO.                                                               | SHEET NO.                                                                                                                          |
| BN-0031LA                                                                           | 1A                                                                                                                                 |
| R/W SHEET NO.                                                                       |                                                                                                                                    |
| ROADWAY DESIGN<br>ENGINEER                                                          |                                                                                                                                    |
|  |                                                                                                                                    |
| 6/25/2026                                                                           |                                                                                                                                    |
| <p><b>DOCUMENT NOT CONSIDERED FINAL<br/>UNLESS ALL SIGNATURES COMPLETED</b></p>     |                                                                                                                                    |
|  | <p><b>TCS ENGINEERS</b><br/>201 W. MARION ST. STE 200<br/>SHELBY, NC 28150<br/>PH (704) 476-0003<br/>CORP. LICENSE NO.: C-0275</p> |

# INDEX OF SHEETS

|                      |                                                 |
|----------------------|-------------------------------------------------|
| SHEET NUMBER         | SHEET                                           |
| 1                    | TITLE SHEET                                     |
| 1A                   | INDEX OF SHEETS &<br>PAVEMENT MARKING<br>LEGEND |
| 4                    | PLAN SHEET                                      |
| EC-2A                | ONSITE CONCRETE WASHOUT DETAIL                  |
| SIG-1.0 THRU SIG-1.2 | SIGNAL PLANS                                    |

# PAVEMENT MARKING LEGEND

| SYMBOL | DESCRIPTION                    |
|--------|--------------------------------|
|        | THERMOPLASTIC (24")            |
| T61    | WHITE STOPBAR (90 MILS)        |
| T62    | WHITE CROSSWALK LINE (90 MILS) |

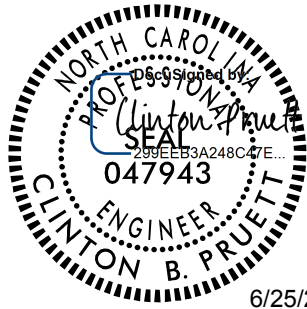


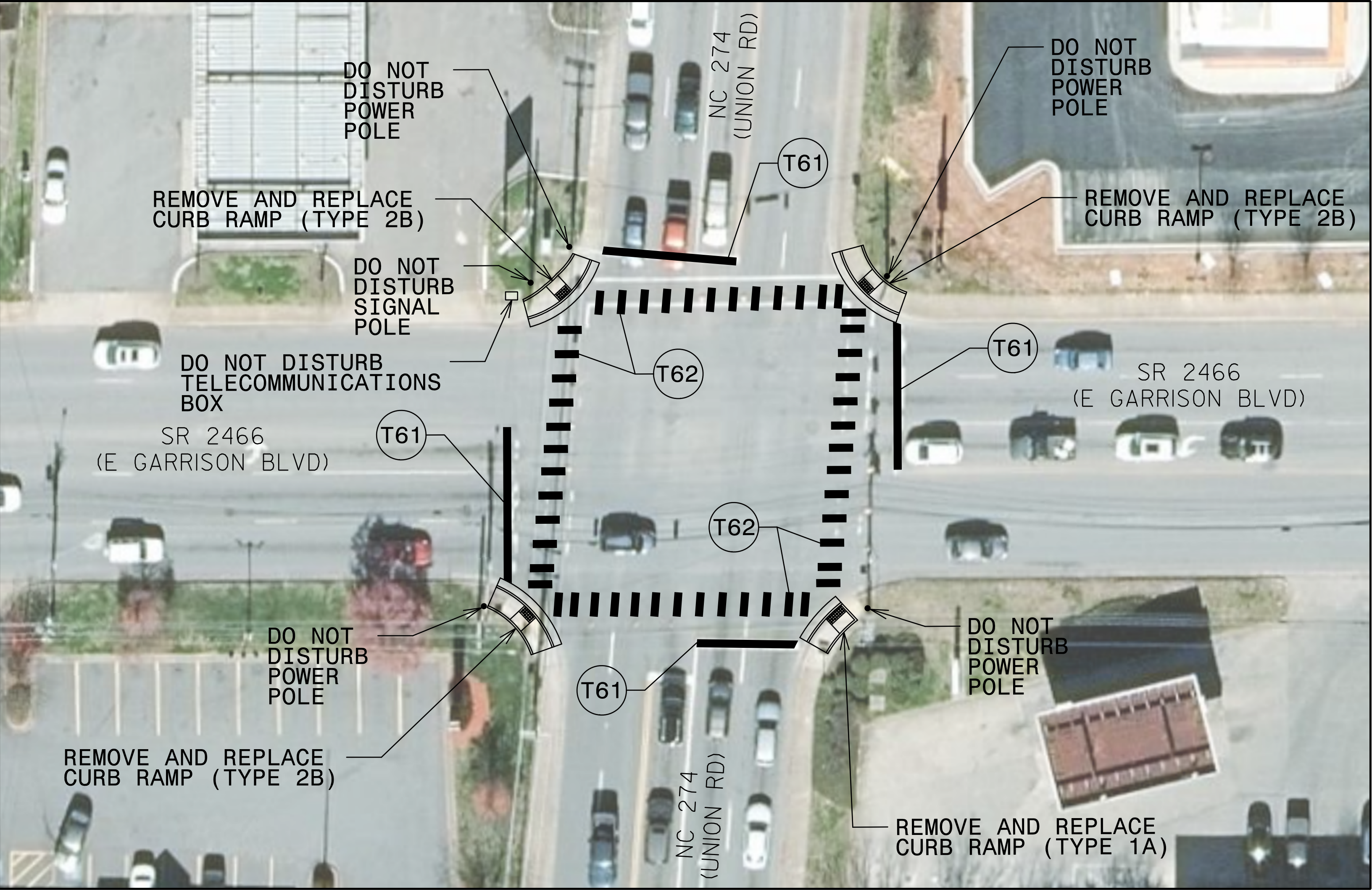
8/17/99

REVISIONS



# SITE 195 – NC 274 (UNION RD) AT SR 2466 (E GARRISON BLVD)

|                                                                                                                                                                                                       |           |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| PROJECT REFERENCE NO.                                                                                                                                                                                 | SHEET NO. |
| BN-0031A                                                                                                                                                                                              | 4         |
| RW SHEET NO.                                                                                                                                                                                          |           |
| ROADWAY DESIGN<br>ENGINEER                                                                                                                                                                            |           |
|                                                                                                                    |           |
| DOCUMENT NOT CONSIDERED FINAL<br>UNLESS ALL SIGNATURES COMPLETED                                                                                                                                      |           |
|  TGS ENGINEERS<br>201 W. MARION ST., STE 200<br>SHELBY, NC 28150<br>PH (704) 476-0003<br>CORP. LICENSE NO.: C-0275 |           |



NOTE: REFER TO SIGNAL PLANS  
FOR ALL PEDESTRIAN SIGNAL  
AND PUSH BUTTON LOCATIONS.

NOTE: NO SURVEY INFORMATION  
AVAILABLE. ITEMS ARE SHOWN  
AT APPROXIMATE LOCATIONS  
BASED ON AERIAL IMAGERY.

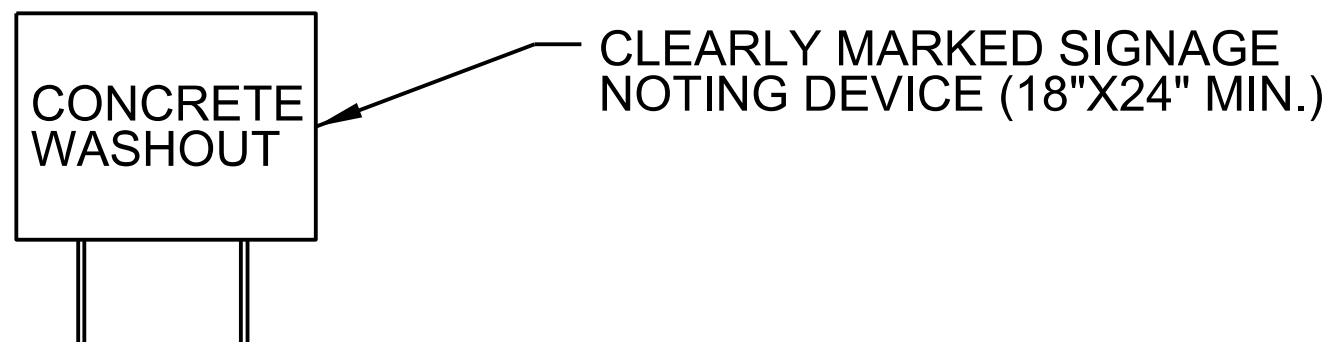
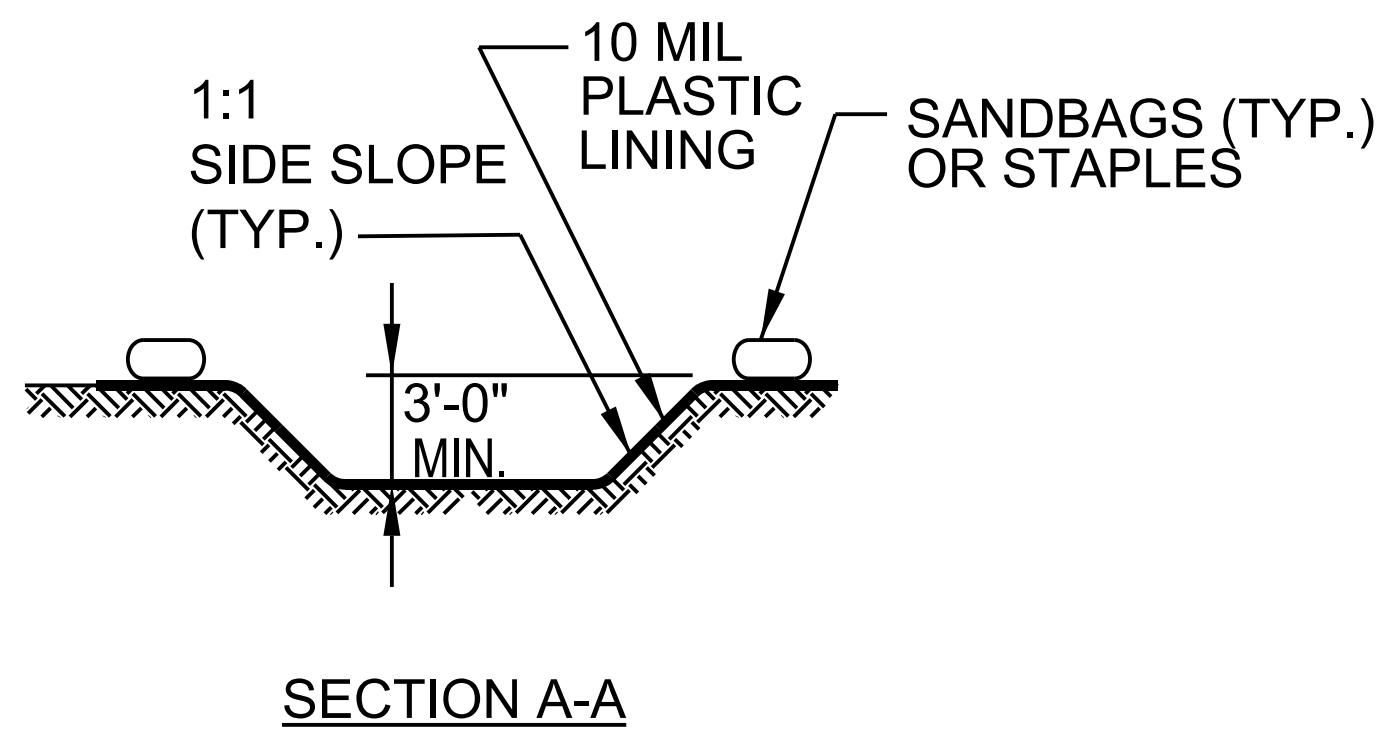
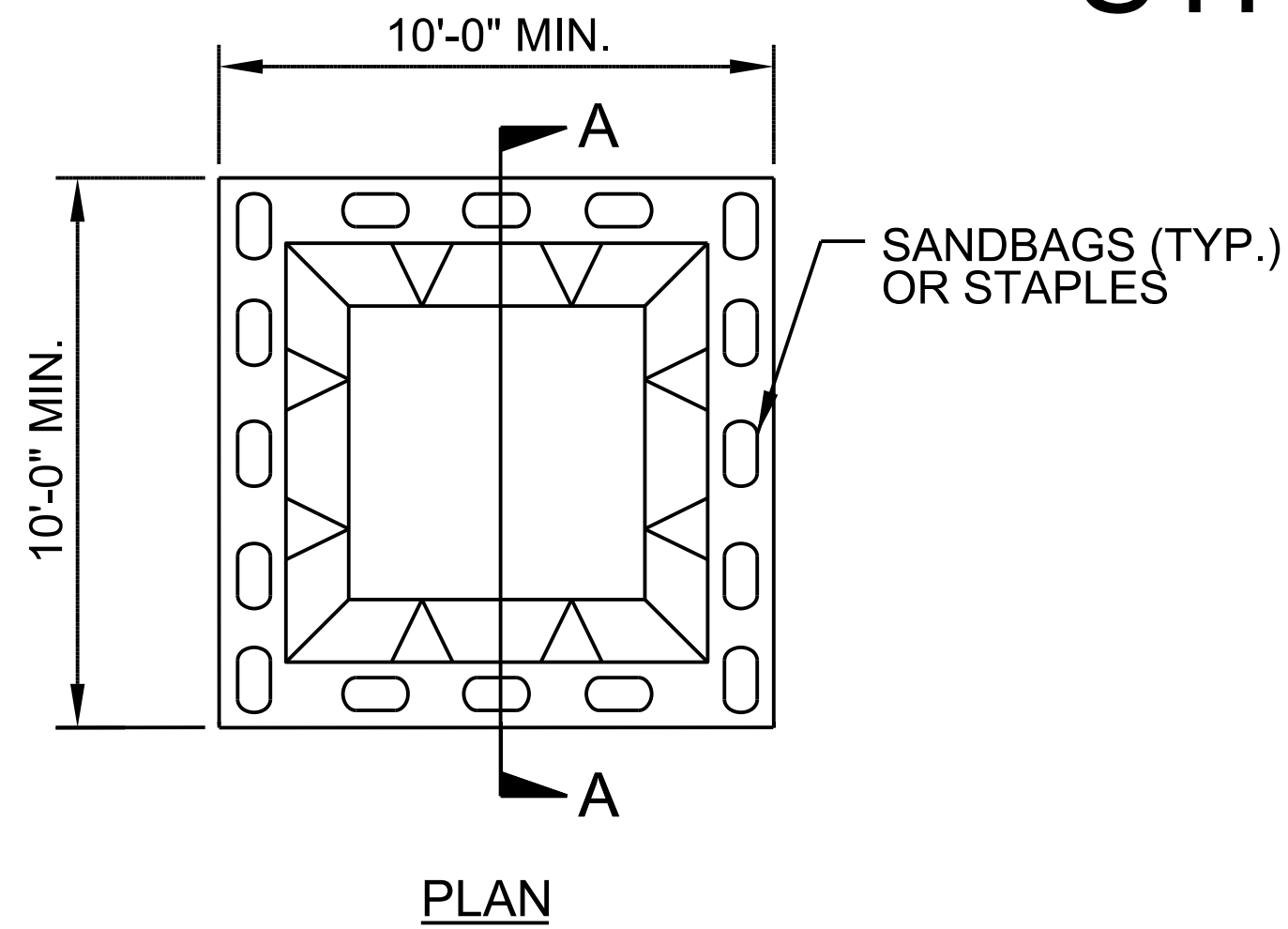
NOTE: REFER TO 2024 NCDOT STANDARD DRAWING 848.06 FOR CURB RAMP INSTALLATION.  
REFER TO 2024 NCDOT STANDARD DRAWING 1205.07 FOR CROSSWALK INSTALLATION.

\$\$\$SYTIME\$\$\$DESIGNED\$\$\$\$\$



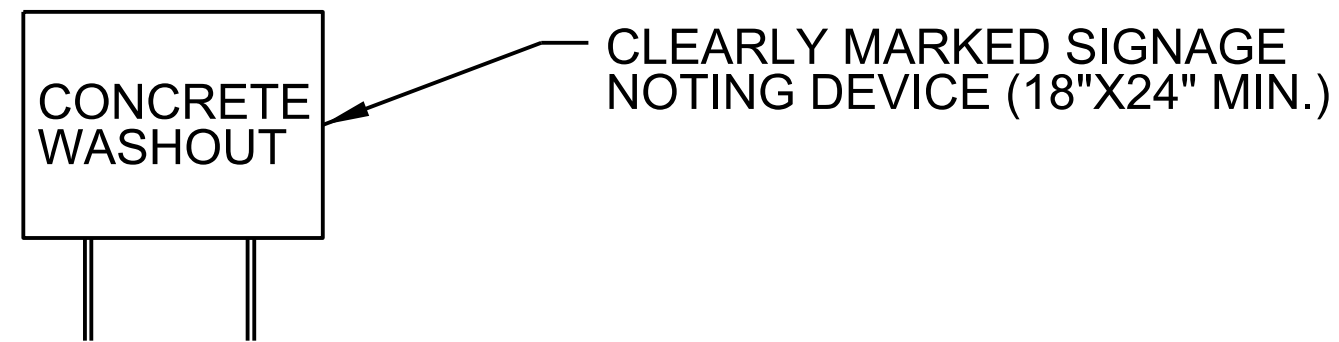
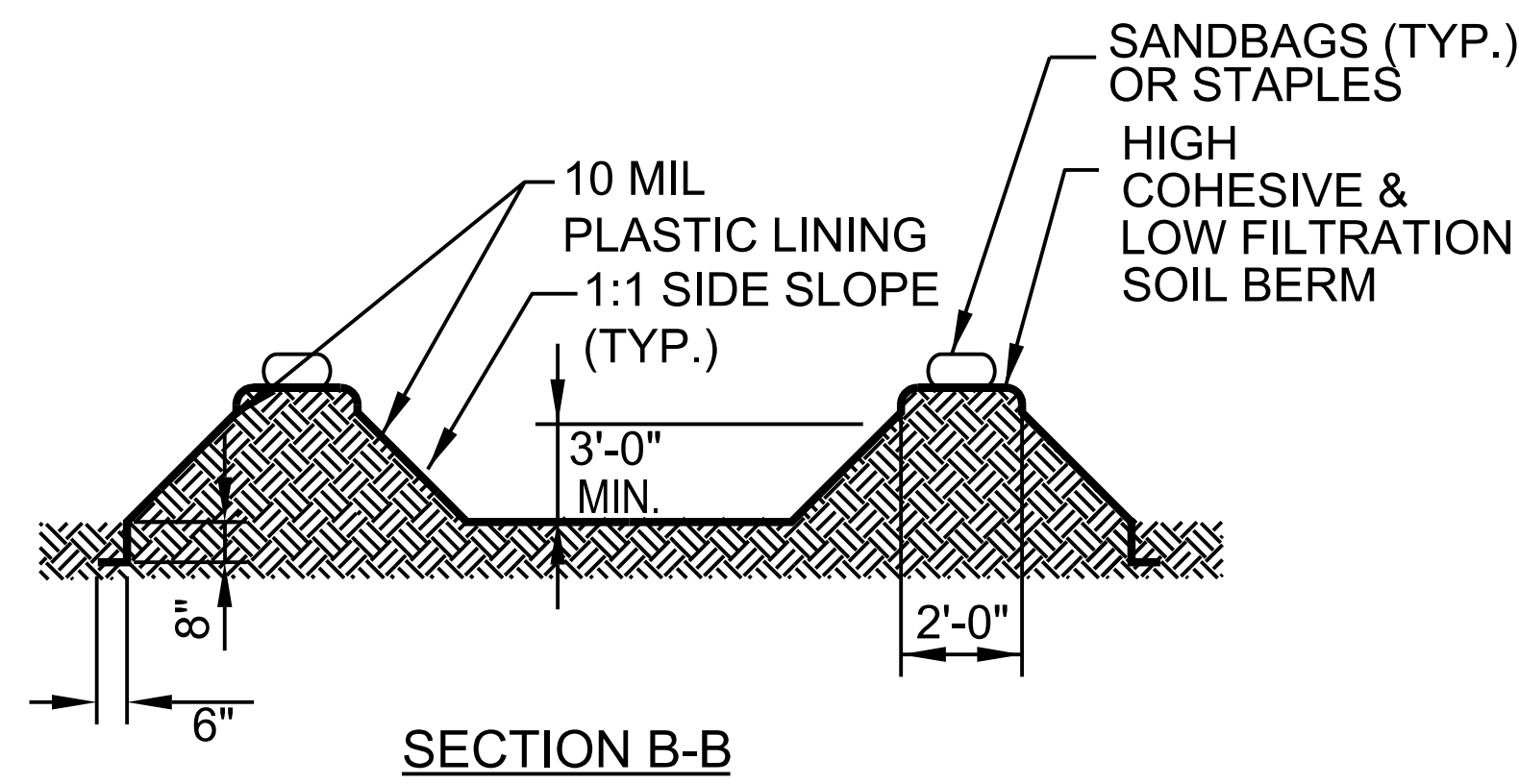
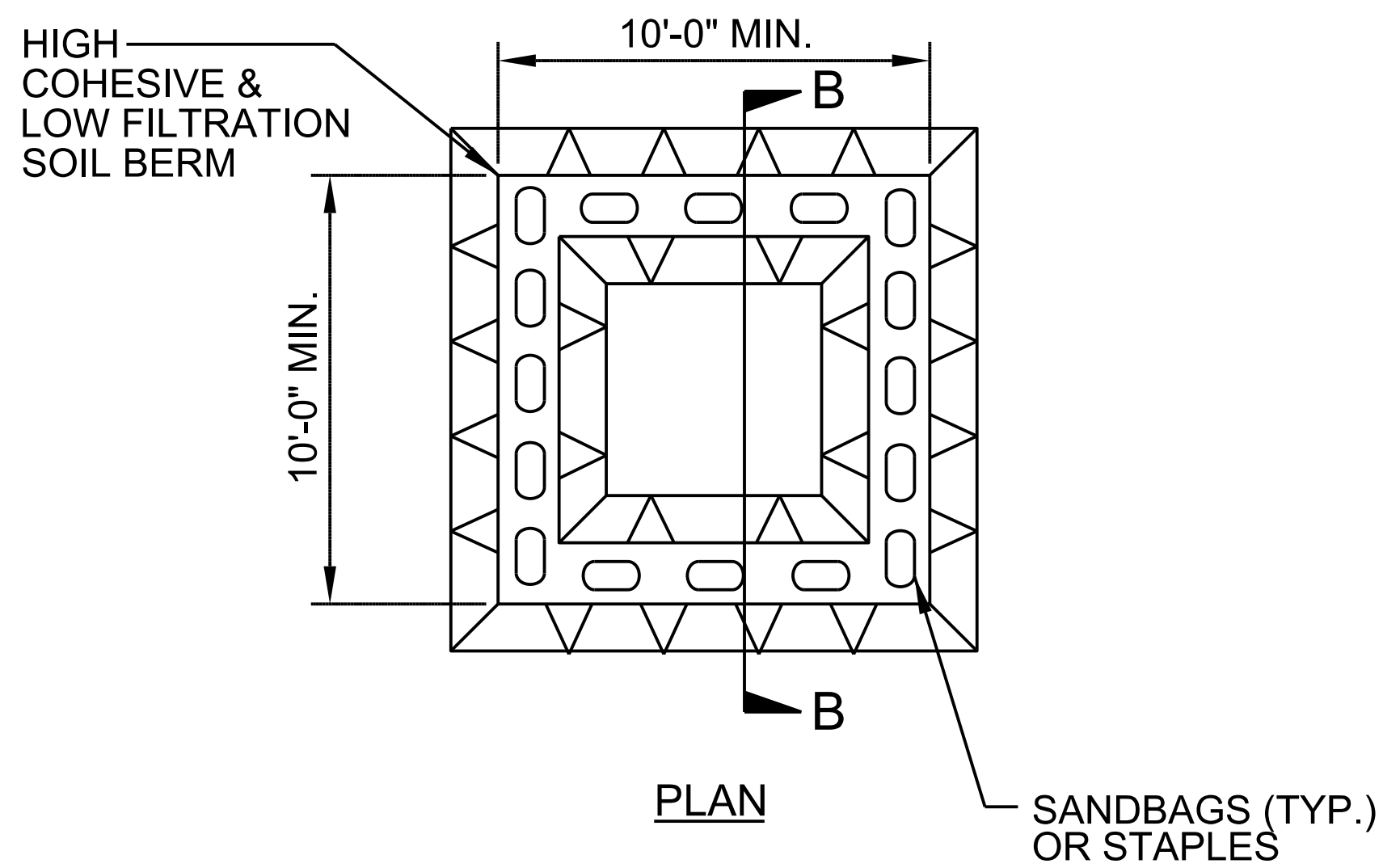
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|-------------------------|---------------------|
| <i>BN-0031LA</i>        | <i>EC-2A</i>        |
| R/W SHEET NO.           |                     |
| ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER |

# ONSITE CONCRETE WASHOUT STRUCTURE WITH LINER



BELOW GRADE WASHOUT STRUCTURE  
NOT TO SCALE

- 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 CLEARLY MARKED WITH SIGNAGE NOTING DEVICE.



ABOVE GRADE WASHOUT STRUCTURE  
NOT TO SCALE

- 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 CLEARLY MARKED WITH SIGNAGE NOTING DEVICE.



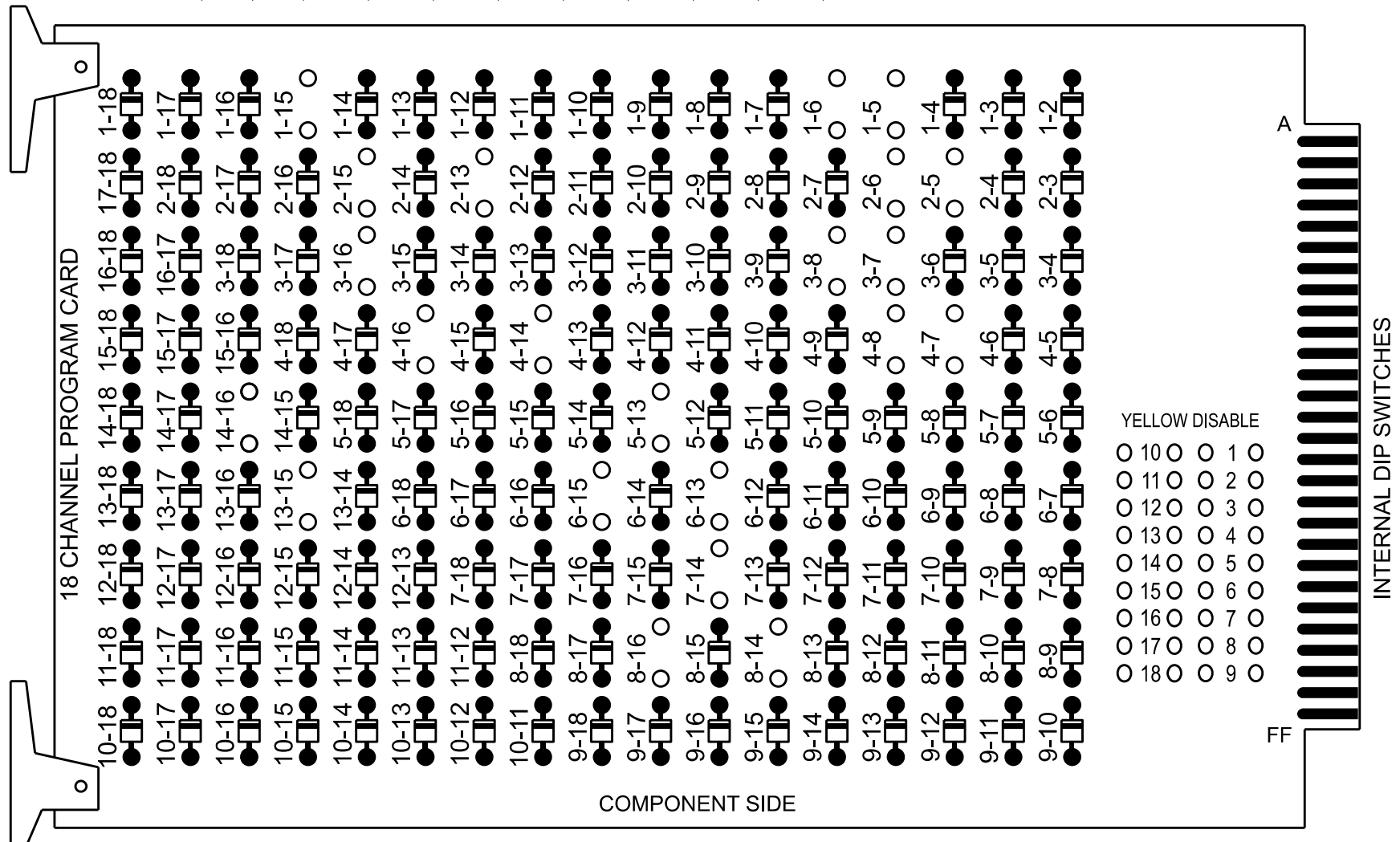
|                    |         |
|--------------------|---------|
| SIG. INVENTORY NO. | 12-0098 |
|--------------------|---------|



18 CHANNEL IP CONFLICT MONITOR  
PROGRAMMING DETAIL

(remove jumpers and set switches as shown)

REMOVE DIODE JUMPERS 1-5, 1-6, 1-15, 2-5, 2-6, 2-13, 2-15, 3-7, 3-8,  
3-16, 4-7, 4-8, 4-14, 4-16, 5-13, 6-13, 6-15, 7-14, 8-14, 8-16, 13-15 AND 14-16.



REMOVE JUMPERS AS SHOWN

NOTES:

- Card is provided with all diode jumpers in place. Removal of any jumper allows its channels to run concurrently.
- Ensure jumpers SEL2-SEL5 and SEL9 are present on the monitor board.
- Ensure that the Red Enable is active at all times during normal operation.
- Integrate monitor with Ethernet network in cabinet.

NOTES

- To prevent "flash-conflict" problems, insert red flash program blocks for all vehicle load switches in the output file. The installer shall verify that signal heads flash in accordance with the signal plan.
- Program controller to start up in phase 2 Green No Walk and phase 6 Green No Walk.
- The cabinet and controller are part of the Gastonia Signal System.

EQUIPMENT INFORMATION

Controller.....2070LX  
Cabinet.....332 w/ Aux  
Software.....Q-Free MAXTIME  
Cabinet Mount.....Base  
Output File Positions.....18 With Aux. Output File  
Load Switches Used.....S1, S2, S3, S4, S5, S6, S7, S8, S9,  
S10, S11, S12  
Phases Used.....1, 2, 2PED, 3, 4, 4PED, 5, 6, 6PED,  
7, 8, 8 PED  
Overlaps.....NONE

SIGNAL HEAD HOOK-UP CHART

| LOAD SWITCH NO.     | S1  | S2    | S3       | S4  | S5    | S6       | S7  | S8    | S9       | S10 | S11   | S12      | AUX S1 | AUX S2 | AUX S3 | AUX S4 | AUX S5 | AUX S6 |
|---------------------|-----|-------|----------|-----|-------|----------|-----|-------|----------|-----|-------|----------|--------|--------|--------|--------|--------|--------|
| CMU CHANNEL NO.     | 1   | 2     | 13       | 3   | 4     | 14       | 5   | 6     | 15       | 7   | 8     | 16       | 9      | 10     | 17     | 11     | 12     | 18     |
| PHASE               | 1   | 2     | 2 PED    | 3   | 4     | 4 PED    | 5   | 6     | 6 PED    | 7   | 8     | 8 PED    | OL1    | OL2    | SPARE  | OL3    | OL4    | SPARE  |
| SIGNAL HEAD NO.     | 11  | 21,22 | P21, P22 | 31  | 41,42 | P41, P42 | 51  | 61,62 | P61, P62 | 71  | 81,82 | P81, P82 | NU     | NU     | NU     | NU     | NU     | NU     |
| RED                 |     | 128   |          |     | 101   |          |     | 134   |          |     | 107   |          |        |        |        |        |        |        |
| YELLOW              |     | 129   |          |     | 102   |          |     | 135   |          |     | 108   |          |        |        |        |        |        |        |
| GREEN               |     | 130   |          |     | 103   |          |     | 136   |          |     | 109   |          |        |        |        |        |        |        |
| RED ARROW           | 125 |       |          | 116 |       |          | 131 |       |          | 122 |       |          |        |        |        |        |        |        |
| YELLOW ARROW        | 126 |       |          | 117 |       |          | 132 |       |          | 123 |       |          |        |        |        |        |        |        |
| GREEN ARROW         | 127 |       |          | 118 |       |          | 133 |       |          | 124 |       |          |        |        |        |        |        |        |
| Hand icon           |     |       | 113      |     |       | 104      |     |       | 119      |     |       | 110      |        |        |        |        |        |        |
| Walking person icon |     |       | 115      |     |       | 106      |     |       | 121      |     |       | 112      |        |        |        |        |        |        |

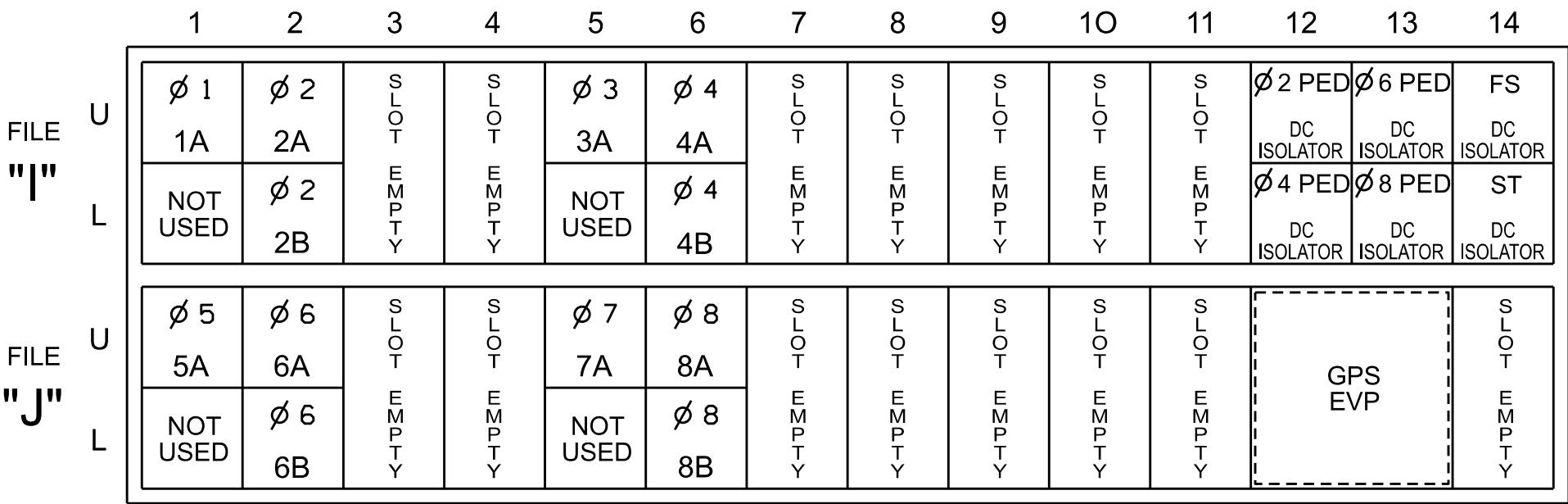
NU = Not Used

ACCESSIBLE PEDESTRIAN SIGNAL (APS)  
INSTALLATION NOTES

- Install push buttons and APS equipment per manufacturer's instructions.
- Provide a dedicated cable to each push button per manufacturer's instructions.
- If APS equipment is mounted in cabinet, use filtered power (i.e., Controller Receptacle) to power APS equipment. Do not use Equipment Receptacle, which is a GFCI outlet.
- Never attempt to operate a standard contact closure push button with the APS system unless cabinet is re-wired for standard button operation or unless explicitly allowed by the manufacturer.
- Place manufacturer's instructions in cabinet with cabinet prints, signal plans, and electrical details.
- An APS push button station that is designed to work without the need for interfacing with a pedestrian signal head shall be installed for applications where a push button is installed in a median without a pedestrian signal head.
- A push button with a single tactile arrow that points in both directions of travel shall be installed if the median separates two parallel crosswalks.

INPUT FILE POSITION LAYOUT

(front view)



EX. : 1A, 2A, ETC. = LOOP NO.'S

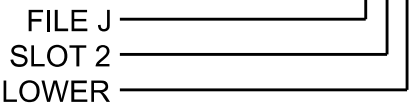
FS = FLASH SENSE  
ST = STOP TIME

INPUT FILE CONNECTION & PROGRAMMING CHART

| LOOP NO.         | LOOP TERMINAL | INPUT FILE POS. | PIN NO. | INPUT POINT | DETECTOR NO. | CALL PHASE | DELAY TIME | EXTEND TIME | EXTEND | ADDED INITIAL | CALL | DELAY DURING GREEN |
|------------------|---------------|-----------------|---------|-------------|--------------|------------|------------|-------------|--------|---------------|------|--------------------|
| 1A               | TB2-1,2       | I1U             | 56      | 18          | 1            | 1          | 3.0        |             | X      |               | X    |                    |
| 2A               | TB2-5,6       | I2U             | 39      | 1           | 2            | 2          |            |             | X      |               | X    |                    |
| 2B               | TB2-7,8       | I2L             | 43      | 5           | 3            | 2          |            |             | X      |               | X    |                    |
| 3A               | TB4-5,6       | I5U             | 58      | 20          | 7            | 3          | 3.0        |             | X      |               | X    |                    |
| 4A               | TB4-9,10      | I6U             | 41      | 3           | 8            | 4          |            |             | X      |               | X    |                    |
| 4B               | TB4-11,12     | I6L             | 45      | 7           | 9            | 4          | 10.0       |             | X      |               | X    |                    |
| 5A               | TB3-1,2       | J1U             | 55      | 17          | 15           | 5          | 3.0        |             | X      |               | X    |                    |
| 6A               | TB3-5,6       | J2U             | 40      | 2           | 16           | 6          |            |             | X      |               | X    |                    |
| 6B               | TB3-7,8       | J2L             | 44      | 6           | 17           | 6          |            |             | X      |               | X    |                    |
| 7A               | TB5-5,6       | J5U             | 57      | 19          | 21           | 7          | 3.0        |             | X      |               | X    |                    |
| 8A               | TB5-9,10      | J6U             | 42      | 4           | 22           | 8          |            |             | X      |               | X    |                    |
| 8B               | TB5-11,12     | J6L             | 46      | 8           | 23           | 8          | 10.0       |             | X      |               | X    |                    |
| PED PUSH BUTTONS |               |                 |         |             |              |            |            |             |        |               |      |                    |
| P21,P22          | TB8-4,6       | I12U            | 67      | 33          | 2            | PED 2      |            |             |        |               |      |                    |
| P41,P42          | TB8-5,6       | I12L            | 69      | 35          | 4            | PED 4      |            |             |        |               |      |                    |
| P61,P62          | TB8-7,9       | I13U            | 68      | 34          | 6            | PED 6      |            |             |        |               |      |                    |
| P81,P82          | TB8-8,9       | I13L            | 70      | 36          | 8            | PED 8      |            |             |        |               |      |                    |

NOTE:  
INSTALL DC ISOLATORS  
IN INPUT FILE SLOTS  
I12 AND I13.

INPUT FILE POSITION LEGEND: J2L



COUNTDOWN PEDESTRIAN SIGNAL OPERATION

Countdown Ped Signals are required to display timing only during Ped Clearance Interval. Consult Ped Signal Module user's manual for instructions on selecting this feature.

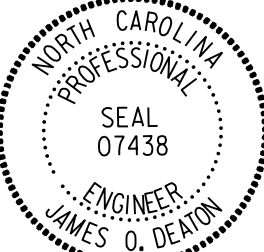
GPS PREEMPTION INSTALLATION NOTE

Install a GPS preemption system. Perform installation according to manufacturer's directions and NCDOT engineer approved mountaing location to accomplish the preemption schemes shown on the Signal Design Plans.

THIS ELECTRICAL DETAIL IS FOR  
THE SIGNAL DESIGN: 12-0098  
DESIGNED: May 2026  
SEALED: 06/05/2026  
REVISED: N/A

**AECOM**  
NC Firm License No.: F-0342  
5438 Wade Park Boulevard  
Suite 200, Raleigh, NC 27607  
Phone: 919-461-1100

Electrical Detail - Sheet 1 of 2

|                                                                                                                       |  |                                                              |  |                                                                                               |  |
|-----------------------------------------------------------------------------------------------------------------------|--|--------------------------------------------------------------|--|-----------------------------------------------------------------------------------------------|--|
| ELECTRICAL AND PROGRAMMING<br>DETAILS FOR:                                                                            |  | SR 2466 (E. Garrison Boulevard)<br>at<br>NC 274 (Union Road) |  | DOCUMENT NOT CONSIDERED<br>FINAL UNLESS ALL<br>SIGNATURES COMPLETED                           |  |
| Prepared for the Offices of:<br> |  | Division 12 Gaston County Gastonia                           |  | SEAL<br> |  |
| PLAN DATE: May 2026                                                                                                   |  | REVIEWED BY: J O Deaton                                      |  | DocuSigned by:<br>James O. Deaton 6/5/2026                                                    |  |
| PREPARED BY: M W Yalch                                                                                                |  | REVIEWED BY:                                                 |  | 40678AC43BBD0E<br>DATE                                                                        |  |
| REVISIONS                                                                                                             |  | INIT.                                                        |  | DATE                                                                                          |  |
| 750 N. Greenfield Pkwy, Garner, NC 27529                                                                              |  |                                                              |  | SIG. INVENTORY NO. 12-0098                                                                    |  |



## Electrical Detail - Sheet 2 of 2

Main Menu >Controller >Preemption >Preempt Phasing/Preempt Parameters

Home >Controller >Preempt Configuration >Preempts

## Preempt Configuration

## Channel Configuration

|                         |               |               |               |               |
|-------------------------|---------------|---------------|---------------|---------------|
| Preempt                 | 3             | 4             | 5             | 6             |
| Enabled                 | Enabled       | Enabled       | Enabled       | Enabled       |
| Type                    | Emergency Veh | Emergency Veh | Emergency Veh | Emergency Veh |
| Track Phases            | -             | -             | -             | -             |
| Track Overlaps          | -             | -             | -             | -             |
| Dwell Phases            | 1,6           | 2,5           | 3,8           | 4,7           |
| Dwell Peds              | -             | -             | -             | -             |
| Dwell Overlaps          | -             | -             | -             | -             |
| Cycling Phases          | -             | -             | -             | -             |
| Cycling Peds            | -             | -             | -             | -             |
| Cycling Overlaps        | -             | -             | -             | -             |
| Exit Phases             | 2,6           | 2,6           | 4,8           | 4,8           |
| Exit Overlaps           | -             | -             | -             | -             |
| Delay                   | 0             | 0             | 0             | 0             |
| Call Ext Time           | 2.0           | 2.0           | 2.0           | 2.0           |
| Max Presence            | 120           | 120           | 120           | 120           |
| Max Pres Act            | Terminate     | Terminate     | Terminate     | Terminate     |
| Enter Min Green         | 1             | 1             | 1             | 1             |
| Enter Walk              | 1             | 1             | 1             | 1             |
| Enter Ped Clear         | 5             | 5             | 5             | 5             |
| Enter Yellow Change     | 25.5          | 25.5          | 25.5          | 25.5          |
| Enter Red Clear         | 25.5          | 25.5          | 25.5          | 25.5          |
| Track Green             | -             | -             | -             | -             |
| Track Yellow Clr        | 25.5          | 25.5          | 25.5          | 25.5          |
| Track Red Clear         | 25.5          | 25.5          | 25.5          | 25.5          |
| Dwell Green             | 7             | 7             | 7             | 7             |
| Exit Min Green          | 255           | 255           | 255           | 255           |
| Exit Yellow Change      | 25.5          | 25.5          | 25.5          | 25.5          |
| Exit Red Clear          | 25.5          | 25.5          | 25.5          | 25.5          |
| Exit Type               | Exit Phases   | Exit Phases   | Exit Phases   | Exit Phases   |
| Non Locking Memory      | X             | X             | X             | X             |
| Not Ovrd Flash          | X             | X             | X             | X             |
| Not Ovrd Nxt Pre        | X             | X             | X             | X             |
| Require All Red Entry   | -             | -             | -             | -             |
| Track Clear Ovrd        | X             | X             | X             | X             |
| Ped Clear During Yellow | X             | X             | X             | X             |
| Entry Omit OLTG         | -             | -             | -             | -             |
| Track Reserve           | -             | -             | -             | -             |

## Notice Red Flash

## PROGRAMMING DETAIL

Main Menu >Controller >Unit

Home >Controller >Unit

Modify parameters as shown below and save changes.

## Unit Flash Parameters

|                         |
|-------------------------|
| All Red Flash Exit Time |
| 6                       |

THIS ELECTRICAL DETAIL IS FOR  
THE SIGNAL DESIGN: 12-0098  
DESIGNED: May 2026  
SEALED: 06/05/2026  
REVISED: N/A



| ELECTRICAL AND PROGRAMING<br>DETAILS FOR:                                                                                      | <h1 style="margin: 0;">SR 2466 (E. Garrison Boulevard)<br/>at<br/>NC 274 (Union Road)</h1>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | SEAL<br><br> |             |               |          |            |          |                         |              |           |              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|--------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------|-------------|---------------|----------|------------|----------|-------------------------|--------------|-----------|--------------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| Prepared for the Offices of:<br><br>      | <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 33%;">Division 12</td> <td style="width: 33%;">Gaston County</td> <td style="width: 33%;">Gastonia</td> </tr> <tr> <td>PLAN DATE:</td> <td>May 2026</td> <td>REVIEWED BY: J O Deaton</td> </tr> <tr> <td>PREPARED BY:</td> <td>M W Yalch</td> <td>REVIEWED BY:</td> </tr> </table>                                                                                                                                                                                                                                                                        |                                                                                                   | Division 12 | Gaston County | Gastonia | PLAN DATE: | May 2026 | REVIEWED BY: J O Deaton | PREPARED BY: | M W Yalch | REVIEWED BY: |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Division 12                                                                                                                    | Gaston County                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Gastonia                                                                                          |             |               |          |            |          |                         |              |           |              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| PLAN DATE:                                                                                                                     | May 2026                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | REVIEWED BY: J O Deaton                                                                           |             |               |          |            |          |                         |              |           |              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| PREPARED BY:                                                                                                                   | M W Yalch                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | REVIEWED BY:                                                                                      |             |               |          |            |          |                         |              |           |              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 750 N. Greenfield Pkwy, Garner, NC 27529                                                                                       | <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 60%;">REVISONS</th> <th style="width: 20%;">INIT.</th> <th style="width: 20%;">DATE</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> </tbody> </table> |                                                                                                   | REVISONS    | INIT.         | DATE     |            |          |                         |              |           |              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| REVISONS                                                                                                                       | INIT.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | DATE                                                                                              |             |               |          |            |          |                         |              |           |              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                   |             |               |          |            |          |                         |              |           |              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                   |             |               |          |            |          |                         |              |           |              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                   |             |               |          |            |          |                         |              |           |              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                   |             |               |          |            |          |                         |              |           |              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                   |             |               |          |            |          |                         |              |           |              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                   |             |               |          |            |          |                         |              |           |              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                   |             |               |          |            |          |                         |              |           |              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                   |             |               |          |            |          |                         |              |           |              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                   |             |               |          |            |          |                         |              |           |              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                   |             |               |          |            |          |                         |              |           |              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| DocuSigned by:<br><b>James O. Deaton</b><br><i>JOFFACB03DD0F</i> 6/5/2026<br>SIGNATURE      DATE<br>SIG. INVENTORY NO. 12-0098 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                   |             |               |          |            |          |                         |              |           |              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |



09/08/99

\$\$\$\$\$SYTIME\$\$\$\$\$  
\$\$\$\$\$CDN\$\$\$\$\$  
\$\$\$\$\$USERNAME\$\$\$\$\$

CONTRACT: DL00387  
TIP PROJECT: BN-0031LA

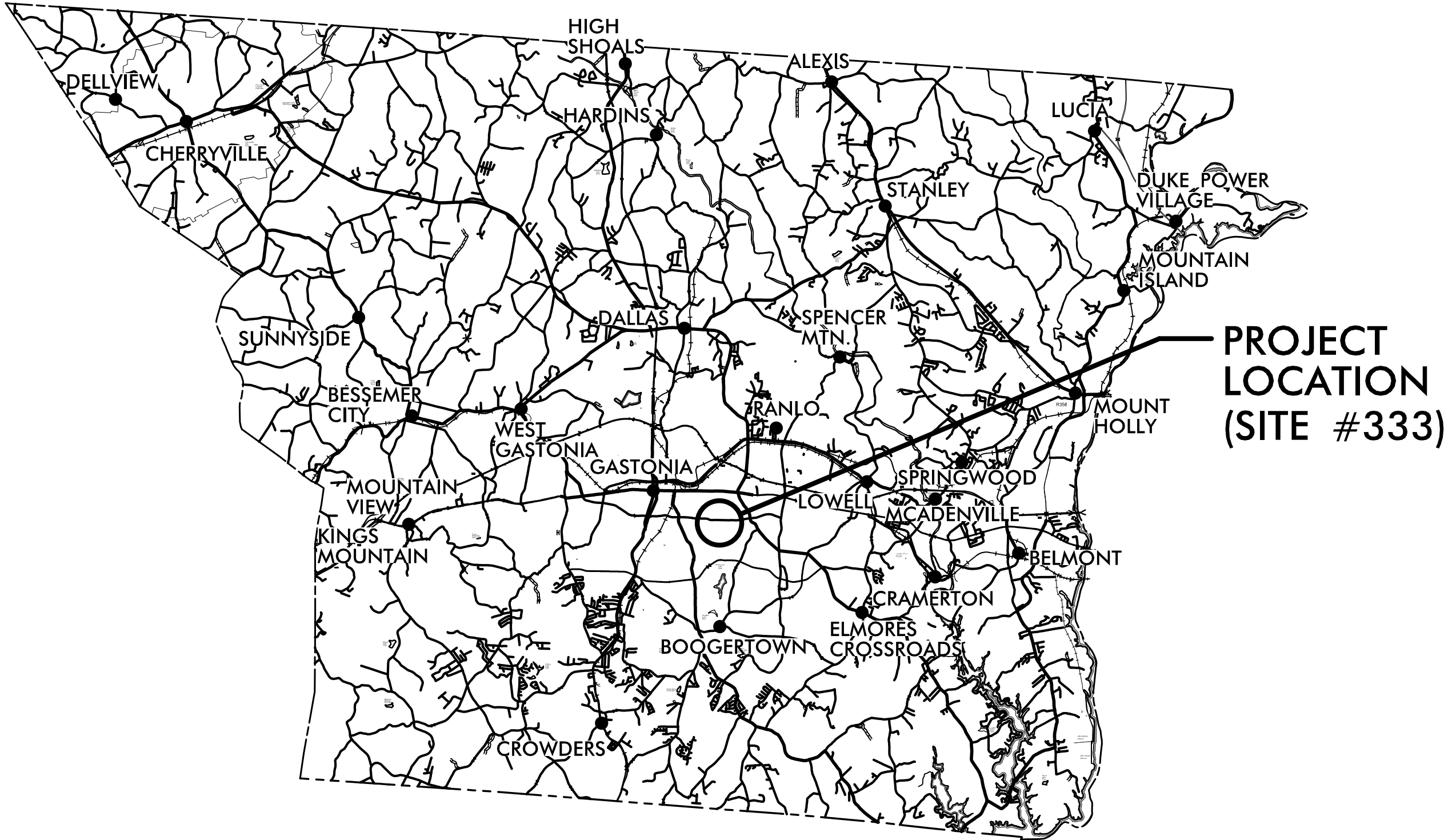
See Sheet 1A For Index of Sheets

STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

GASTON COUNTY

LOCATION: INTERSECTION OF SR 2466 (E GARRISON BLVD) AND  
SR 1700 (CHURCHILL DR)

TYPE OF WORK: INSTALLATION OF PEDESTRIAN SIGNALS AND  
CONSTRUCTION OF CONCRETE CURB RAMPS



VICINITY MAP

| STATE           | STATE PROJECT REFERENCE NO. | SHEET NO.   | TOTAL SHEETS |
|-----------------|-----------------------------|-------------|--------------|
| N.C.            | BN-0031LA                   | 1           |              |
| STATE PROJ. NO. | F. A. PROJ. NO.             | DESCRIPTION |              |
| 52073.12.8      | TAPE012                     | PE          |              |
| 52073.12.302    | TAPE012                     | CONST.      |              |
|                 |                             |             |              |
|                 |                             |             |              |
|                 |                             |             |              |
|                 |                             |             |              |
|                 |                             |             |              |

DOCUMENT NOT CONSIDERED FINAL  
UNLESS ALL SIGNATURES COMPLETED

GRAPHIC SCALES



DESIGN DATA

ADT 2026 = 16,600  
K = N/A %  
D = N/A %  
T = N/A % \*  
V = 45 MPH  
\* TTST =N/A DUAL =N/A  
FUNC CLASS =  
URBAN ARTERIAL  
REGIONAL TIER

PROJECT LENGTH

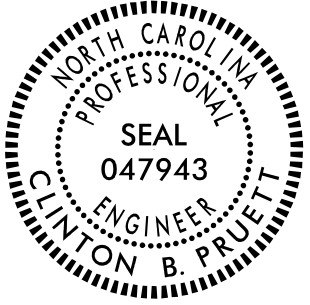
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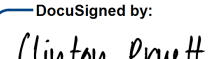
NCDOT CONTACT: JOSH WHITE, PE, PLS

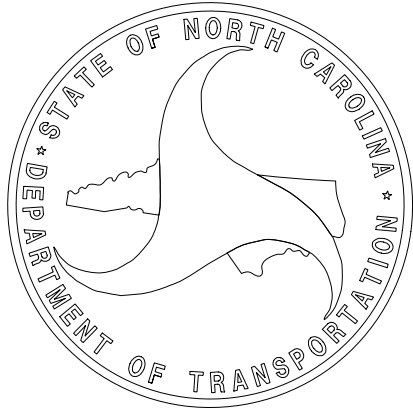
| PLANS PREPARED BY:                                                                                                                                                                                         | PLANS PREPARED FOR:                                                                                        |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|
|  TGS ENGINEERS<br>201 W. MARION ST<br>SUITE 200<br>SHELBY, NC 28150<br>PH (704) 476-0003<br>CORP. LICENSE NO.: C-0275 | NORTH CAROLINA DEPARTMENT<br>OF TRANSPORTATION<br><br>DIVISION 12<br>1710 E. MARION ST<br>SHELBY, NC 28150 |
| RIGHT OF WAY DATE:<br>N/A                                                                                                                                                                                  | JIMMY L. TERRY, PE<br>PROJECT ENGINEER                                                                     |
| LETTING DATE:<br>AUGUST 11, 2026                                                                                                                                                                           | CLINTON B. PRUETT, PE<br>PROJECT DESIGN ENGINEER                                                           |
| 2024 STANDARD SPECIFICATIONS                                                                                                                                                                               |                                                                                                            |

ROADWAY DESIGN  
ENGINEER

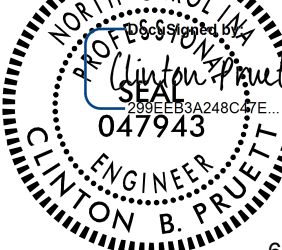
6/25/2026



DocuSigned by:  
  
SIGNATURE: \_\_\_\_\_ P.E.





|                                                                                     |                                                                                                                                                                         |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| PROJECT REFERENCE NO.                                                               | SHEET NO.                                                                                                                                                               |
| BN-0031LA                                                                           | 1A                                                                                                                                                                      |
| R/W SHEET NO.                                                                       |                                                                                                                                                                         |
| ROADWAY DESIGN<br>ENGINEER                                                          |                                                                                                                                                                         |
|  |                                                                                                                                                                         |
| 6/25/2026                                                                           |                                                                                                                                                                         |
| <p><b>DOCUMENT NOT CONSIDERED FINAL<br/>UNLESS ALL SIGNATURES COMPLETED</b></p>     |                                                                                                                                                                         |
|  | <p><b>TGS ENGINEERS</b><br/>         201 W. MARION ST., STE 200<br/>         SHELBY, NC 28150<br/>         PH (704) 476-0003<br/>         CORP. LICENSE NO.: C-0275</p> |

# INDEX OF SHEETS

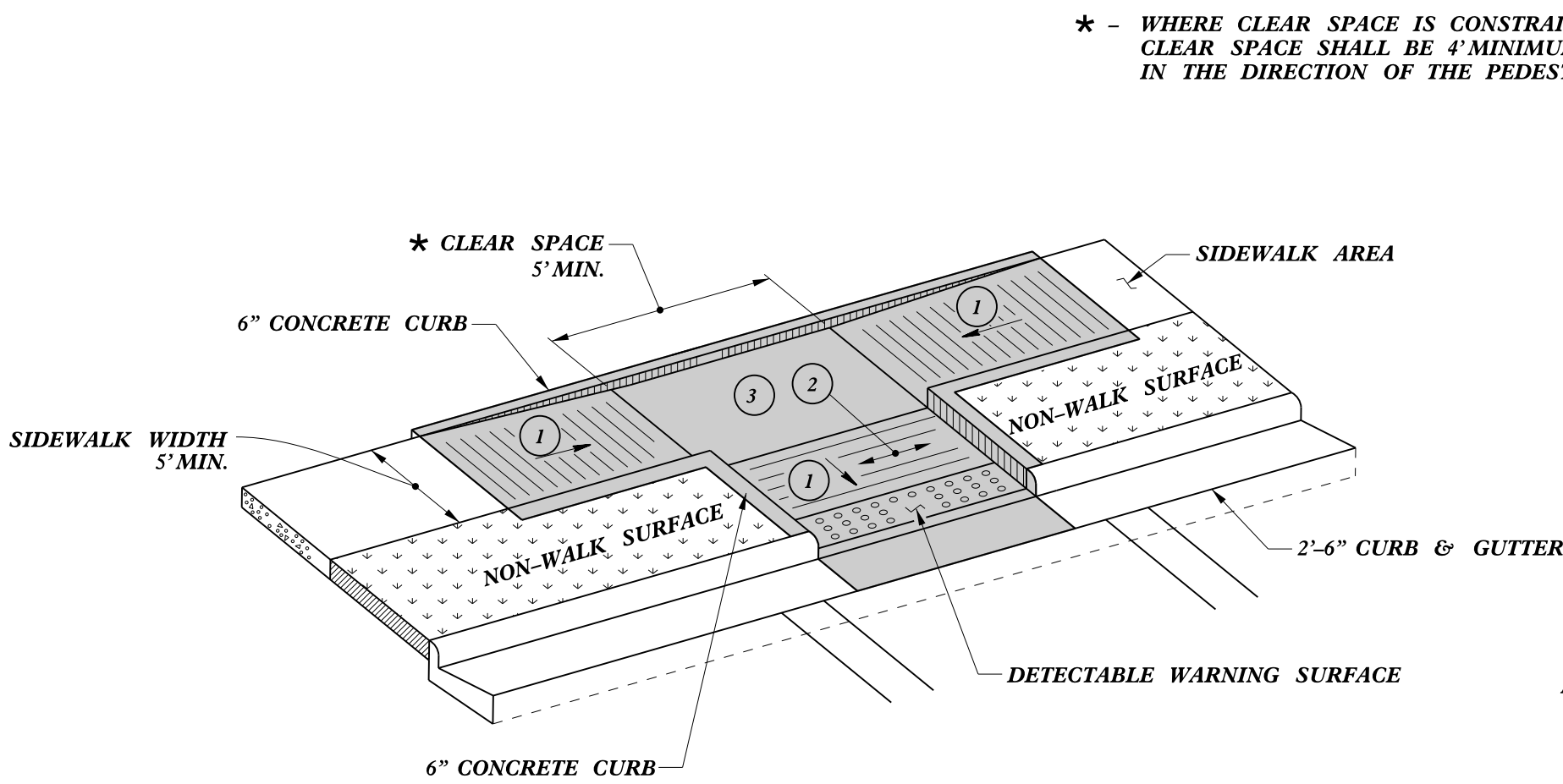
| SHEET NUMBER         | SHEET                                           |
|----------------------|-------------------------------------------------|
| 1                    | TITLE SHEET                                     |
| 1A                   | INDEX OF SHEETS &<br>PAVEMENT MARKING<br>LEGEND |
| 2C-1                 | CURB RAMP DETAIL                                |
| 4                    | PLAN SHEET                                      |
| EC-2A                | ONSITE CONCRETE WASHOUT DETAIL                  |
| SIG-1.0 THRU SIG-1.3 | SIGNAL PLANS                                    |

# PAVEMENT MARKING LEGEND

| SYMBOL | DESCRIPTION                    |
|--------|--------------------------------|
|        | THERMOPLASTIC (24")            |
| T61    | WHITE STOPBAR (90 MILS)        |
| T62    | WHITE CROSSWALK LINE (90 MILS) |

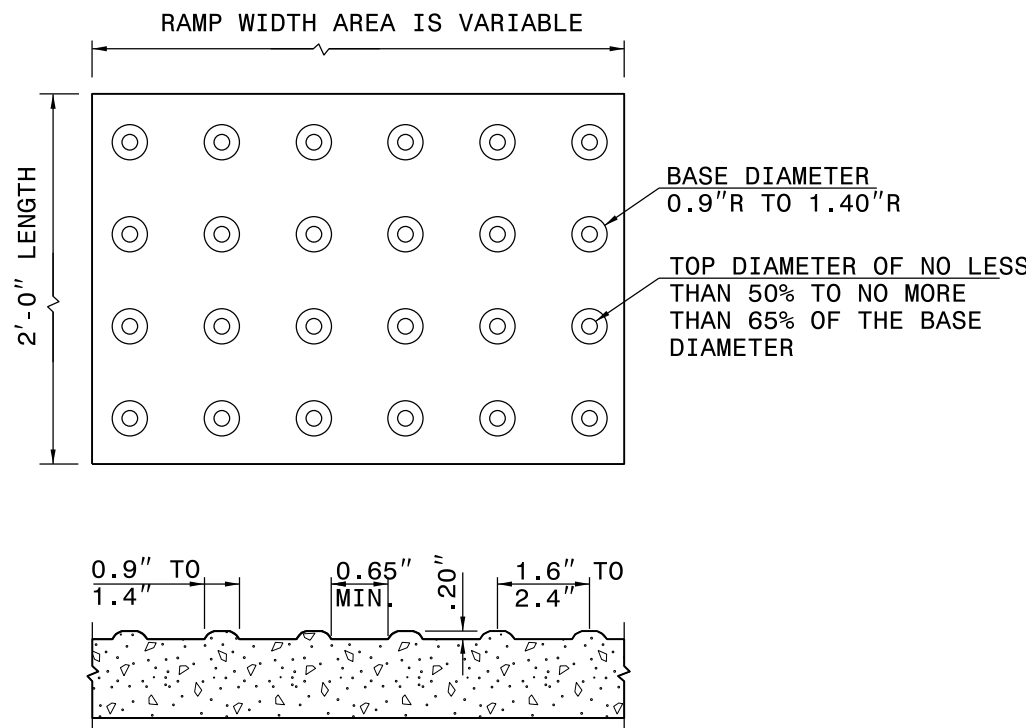


|                       |           |
|-----------------------|-----------|
| PROJECT REFERENCE NO. | SHEET NO. |
| BN-0031LA             | 2C-1      |

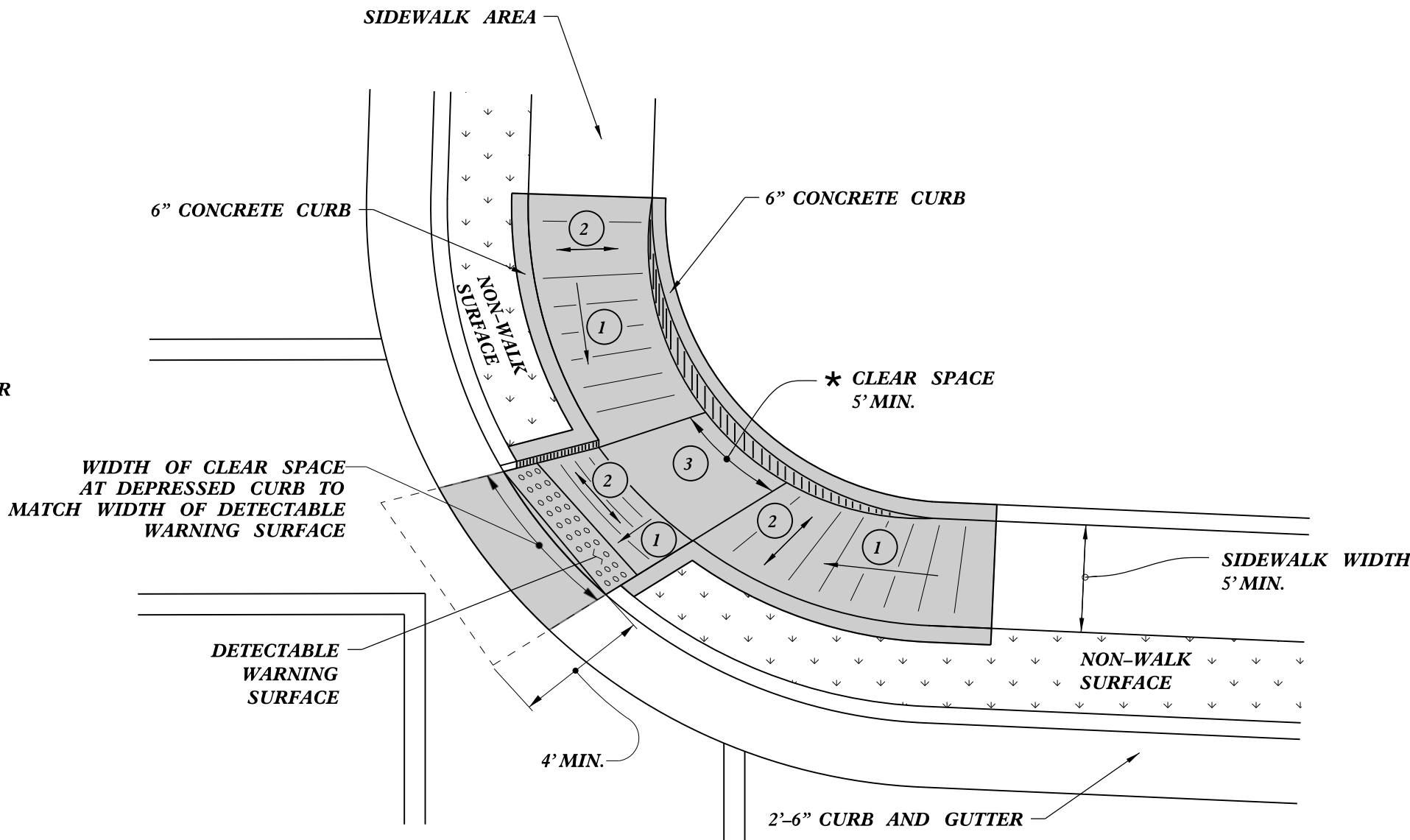


TYPE 3

NOTES:  
DETECTABLE WARNING SURFACE SHALL COVER 2'-0" LENGTH AND FULL WIDTH OF THE RAMP FLOOR AS SHOWN ON THE DETAILS.  
DETECTABLE WARNING SURFACE SHALL CONTRAST VISIBLY WITH ADJOINING SURFACE, EITHER LIGHT-ON-DARK, OR DARK-ON-LIGHT SEQUENCE COVERING THE ENTIRE RAMP.



DETECTABLE WARNING SURFACE



TYPE 3 MODIFIED  
INSTALLATION IN A RADIUS

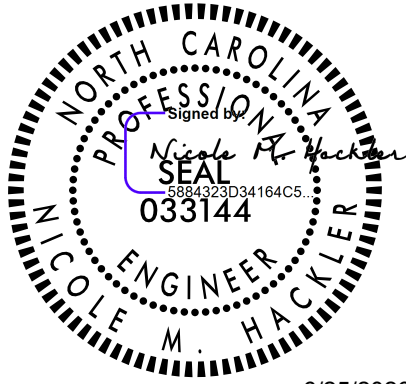
- 1 8.33% (12:1) MAX RAMP SLOPE
- 2 CROSS SLOPE: 2.00%
- 3 MAXIMUM CROSS SLOPE AND LONGITUDINAL SLOPE OF 2.00%.

PAY LIMITS FOR 1 CURB RAMP

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

ROADWAY DETAIL DRAWING FOR  
**CURB RAMP**  
PARALLEL RAMP

SHEET 9 OF 13  
**848D06**



6/25/2026

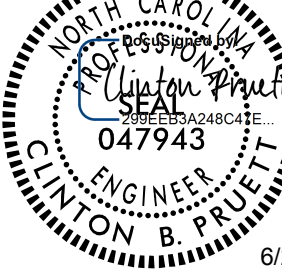
DOCUMENT NOT CONSIDERED FINAL  
UNLESS ALL SIGNATURES COMPLETED

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

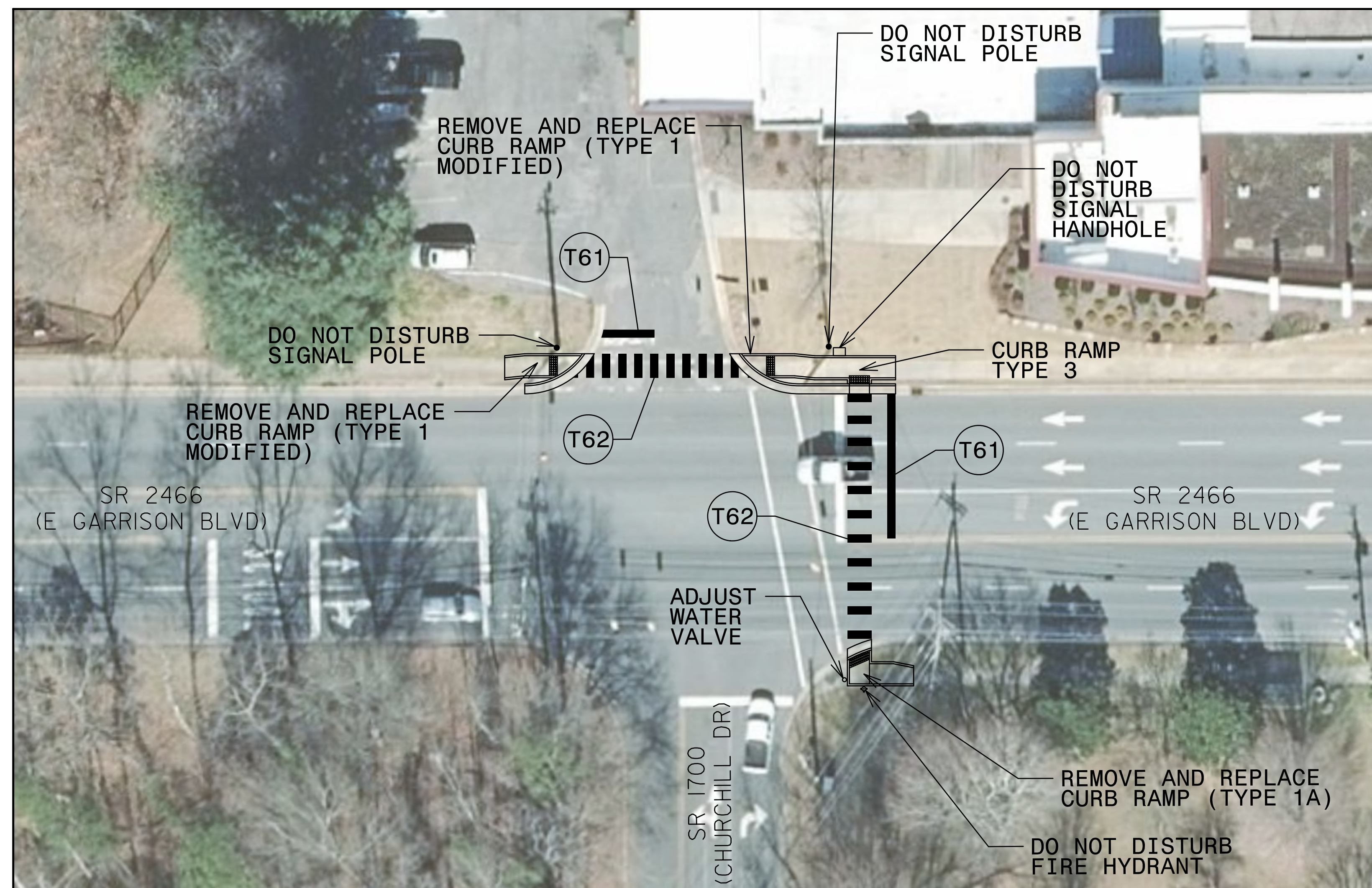
SEE TITLE BLOCK

ORIGINAL BY: S.CALHOUN DATE: 12-22-2023  
MODIFIED BY: DATE:  
CHECKED BY: DATE:  
FILE SPEC.: special\_details\nmhackler\DO609.dgn



|                                                                                     |                                                                                                                                                                          |
|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| PROJECT REFERENCE NO.                                                               | SHEET NO.                                                                                                                                                                |
| <i>BN-0031LA</i>                                                                    | <i>4</i>                                                                                                                                                                 |
| RW SHEET NO.                                                                        |                                                                                                                                                                          |
| ROADWAY DESIGN<br>ENGINEER                                                          |                                                                                                                                                                          |
|  |                                                                                                                                                                          |
| 6/25/2026                                                                           |                                                                                                                                                                          |
| <p><b>DOCUMENT NOT CONSIDERED FINAL<br/>UNLESS ALL SIGNATURES COMPLETED</b></p>     |                                                                                                                                                                          |
|  | <p><b>TGS ENGINEERS</b><br/>         201 W. MARION ST. STE 200<br/>         SHELBY, NC 28150<br/>         PH (704) 476-0003<br/>         CORP. REFERENCE NO.: C-0275</p> |

***SITE 333 – SR 2466 (E GARRISON BLVD)  
AT SR 1700 (CHURCHILL DR)***



NOTE: REFER TO SIGNAL PLANS  
FOR ALL PEDESTRIAN SIGNAL  
AND PUSH BUTTON LOCATIONS.

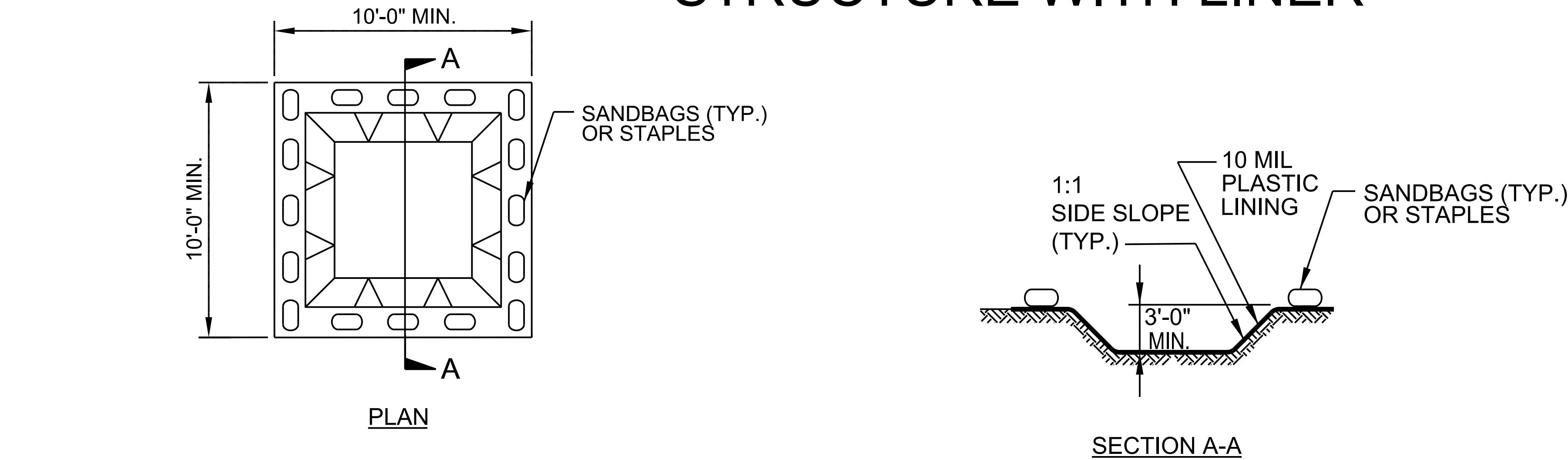
NOTE: NO SURVEY INFORMATION  
AVAILABLE. ITEMS ARE SHOWN  
AT APPROXIMATE LOCATIONS  
BASED ON AERIAL IMAGERY.

NOTE: REFER TO 2024 NCDOT STANDARD DRAWING 848.06 AND/OR 2C-1 DETAIL FOR CURB RAMP INSTALLATION.  
REFER TO 2024 NCDOT STANDARD DRAWING 1205.07 FOR CROSSWALK INSTALLATION.



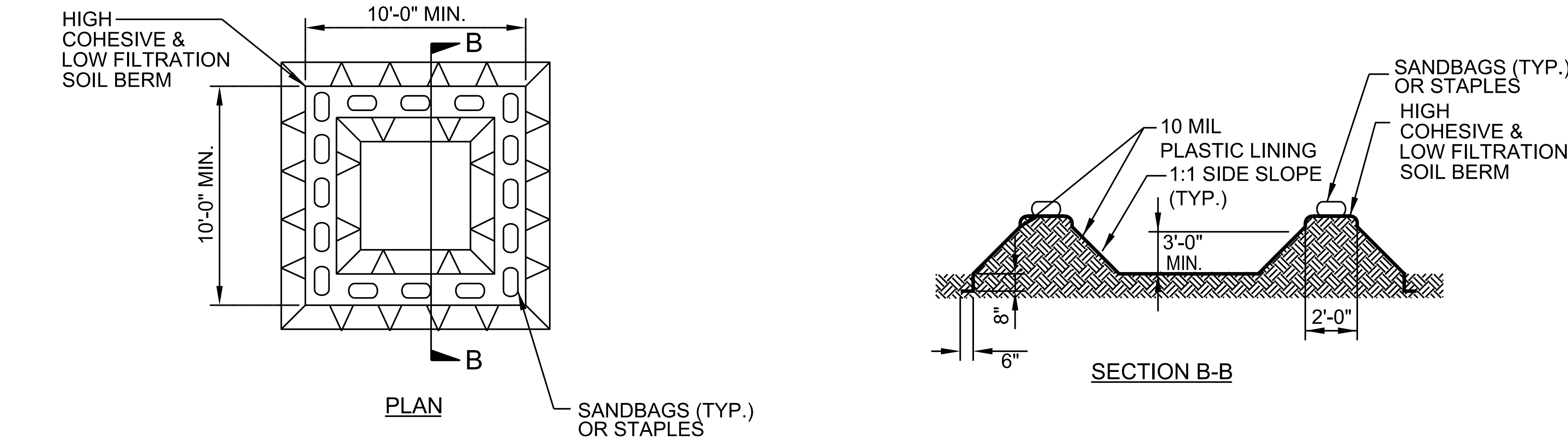
# ONSITE CONCRETE WASHOUT STRUCTURE WITH LINER

| PROJECT REFERENCE NO.   | SHEET NO.           |
|-------------------------|---------------------|
| BN-003/LA               | EC-2A               |
| R/W SHEET NO.           |                     |
| ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER |



- 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 CLEARLY MARKED WITH SIGNAGE NOTING DEVICE.

BELOW GRADE WASHOUT STRUCTURE  
NOT TO SCALE

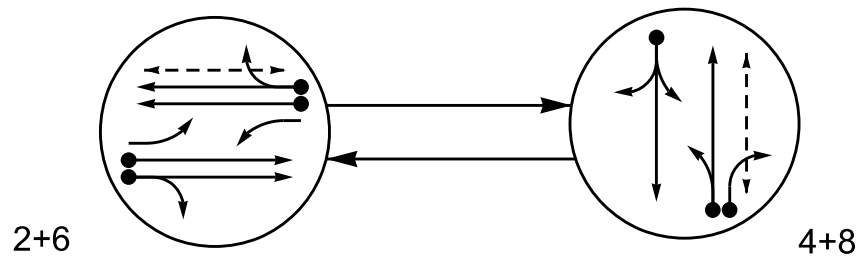


- NOTES:
1. ACTUAL LOCATION DETERMINED IN FIELD
  2. THE CONCRETE WASHOUT STRUCTURES SHALL BE MAINTAINED WHEN THE LIQUID AND/OR SOLID REACHES 75% OF THE STRUCTURES CAPACITY TO PROVIDE ADEQUATE HOLDING CAPACITY WITH A MINIMUM 12 INCHES OF FREEBOARD.
  3. CONCRETE WASHOUT STRUCTURE NEEDS TO BE CLEARLY MARKED WITH SIGNAGE NOTING DEVICE.

ABOVE GRADE WASHOUT STRUCTURE  
NOT TO SCALE



PHASING DIAGRAM



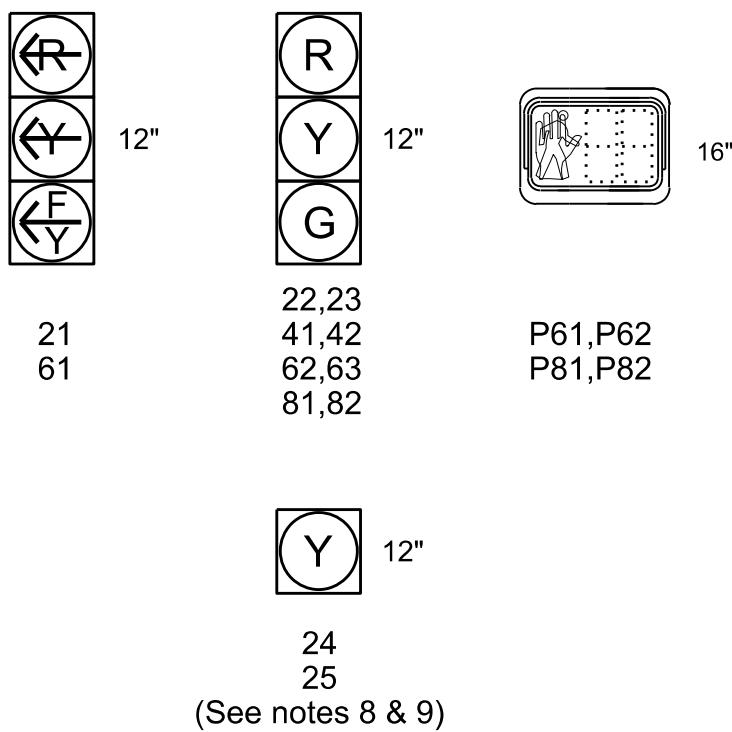
PHASING DIAGRAM DETECTION LEGEND

- DETECTED MOVEMENT
- UNDETECTED MOVEMENT (OVERLAP)
- UNSIGNALIZED MOVEMENT
- PEDESTRIAN MOVEMENT

| SIGNAL FACE | PHASE |     |       |
|-------------|-------|-----|-------|
|             | 2+6   | 4+8 | FLASH |
| 21          | F     | R   | R     |
| 22,23       | G     | R   | R     |
| 41,42       | R     | G   | R     |
| 61          | F     | R   | R     |
| 62,63       | G     | R   | R     |
| 81,82       | R     | G   | R     |
| P61,P62     | W     | DW  | DRK   |
| P81,P82     | DW    | W   | DRK   |

SIGNAL FACE I.D.

All Heads L.E.D.



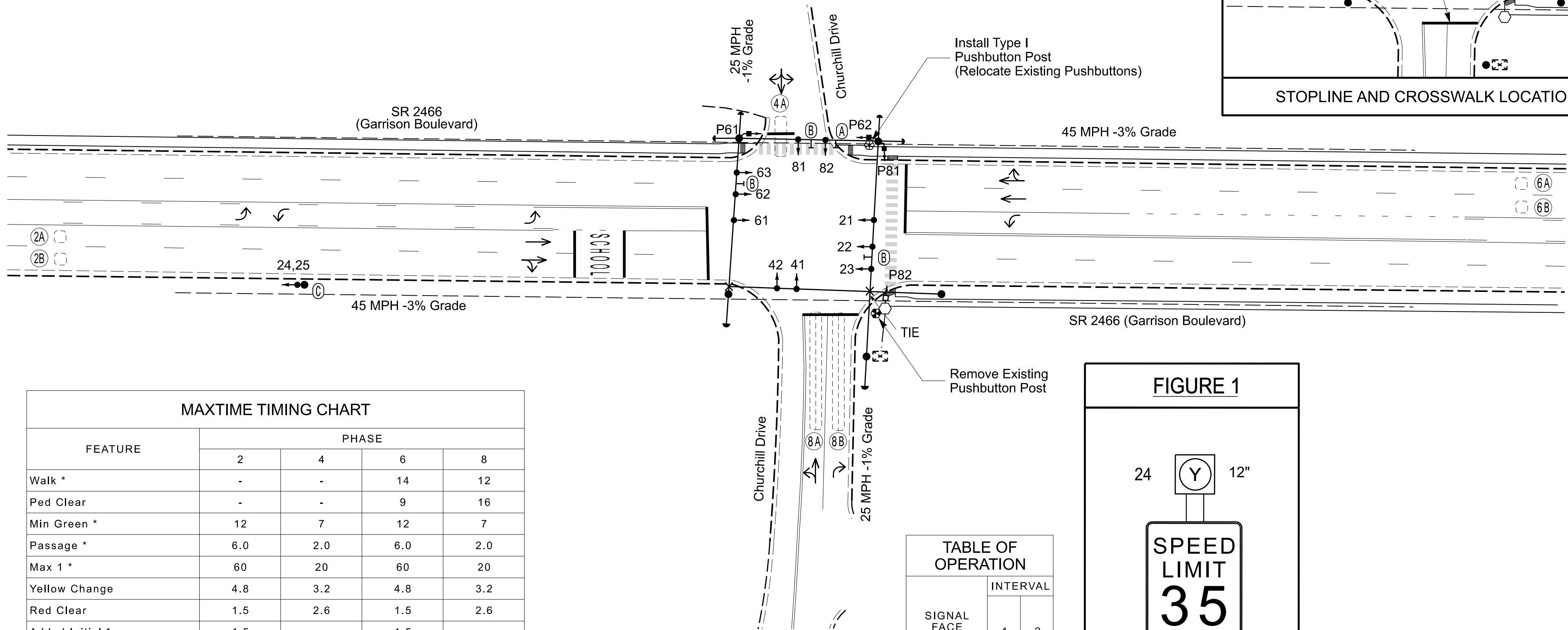
MAXTIME DETECTOR INSTALLATION CHART

| DETECTOR |           |                              |          |          | PROGRAMMING |            |             |        |               |                         |
|----------|-----------|------------------------------|----------|----------|-------------|------------|-------------|--------|---------------|-------------------------|
| LOOP     | SIZE (FT) | DISTANCE FROM STOP LINE (FT) | URNS     | NEW LOOP | CALL PHASE  | DELAY TIME | EXTEND TIME | EXTEND | ADDED INITIAL | CALL DELAY DURING GREEN |
| 2A       | 6X6       | 300                          | 6        | -        | 2           | -          | -           | X      | X             | X                       |
| 2B       | 6X6       | 300                          | 6        | -        | 2           | -          | -           | X      | X             | X                       |
| 4A       | 6X20      | +10                          | Existing | -        | 4           | -          | -           | X      | -             | X                       |
| 6A       | 6X6       | 300                          | 6        | -        | 6           | -          | -           | X      | X             | X                       |
| 6B       | 6X6       | 300                          | 6        | -        | 6           | -          | -           | X      | X             | X                       |
| 8A       | 6X60      | 0                            | 2-4-2    | -        | 8           | -          | -           | X      | -             | X                       |
| 8B       | 6X60      | 0                            | 2-4-2    | -        | 8           | -          | -           | X      | -             | X                       |

2 Phase  
Fully Actuated  
Gastonia Signal System

NOTES

- Refer to "Roadway Standard Drawings NCDOT" dated January 2024 and "Standard Specifications for Roads and Structures" dated January 2024.
- Do not program signal for late night flashing operation unless otherwise directed by the Engineer.
- Set all detector units to presence mode.
- In the event of loop replacement, refer to the current TSMO Design Manual and submit a Plan of Record to the Signal Design Section.
- Omit "WALK" and flashing "DON'T WALK" with no pedestrian calls.
- Program pedestrian heads to countdown the flashing "Don't Walk" time only.
- Pavement markings are existing unless otherwise shown/noted.
- Maximum times shown in timing chart are for free-run operation only. Coordinated signal system timing values supersede these values.
- Flash beacons 24 and 25 during school hours.
- Beacons 24 and 25 shall flash alternately.
- All proposed pedestrian signal heads shall be black in color (Federal Standard 595C, Color Chip Number 27038).



MAXTIME TIMING CHART

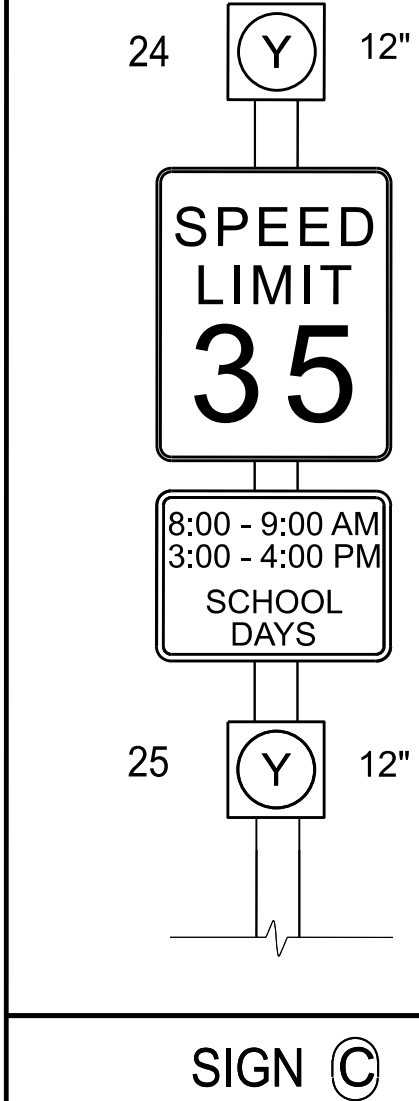
| FEATURE                 | PHASE      |     |            |     |
|-------------------------|------------|-----|------------|-----|
|                         | 2          | 4   | 6          | 8   |
| Walk *                  | -          | -   | 14         | 12  |
| Ped Clear               | -          | -   | 9          | 16  |
| Min Green *             | 12         | 7   | 12         | 7   |
| Passage *               | 6.0        | 2.0 | 6.0        | 2.0 |
| Max 1 *                 | 60         | 20  | 60         | 20  |
| Yellow Change           | 4.8        | 3.2 | 4.8        | 3.2 |
| Red Clear               | 1.5        | 2.6 | 1.5        | 2.6 |
| Added Initial *         | 1.5        | -   | 1.5        | -   |
| Maximum Initial *       | 34         | -   | 34         | -   |
| Time Before Reduction * | 15         | -   | 15         | -   |
| Time To Reduce *        | 30         | -   | 30         | -   |
| Minimum Gap             | 3.0        | -   | 3.0        | -   |
| Advance Walk            | -          | -   | 7          | 5   |
| Non Lock Detector       | -          | X   | -          | X   |
| Vehicle Recall          | MIN RECALL | -   | MIN RECALL | -   |
| Dual Entry              | -          | X   | -          | X   |
| Simultaneous Entry      | -          | X   | -          | X   |

\* These values may be field adjusted. Do not adjust Min Green and Passage times for phases 2 and 6 lower than what is shown. Min Green for all other phases should not be lower than 4 seconds.

TABLE OF OPERATION

| SIGNAL FACE | INTERVAL |     |
|-------------|----------|-----|
|             | 1        | 2   |
| 24          | ON       | OFF |
| 25          | OFF      | ON  |

FIGURE 1



LEGEND

| PROPOSED |                                      | EXISTING |
|----------|--------------------------------------|----------|
|          | Traffic Signal Head                  |          |
|          | Modified Signal Head                 | N/A      |
|          | Sign                                 |          |
|          | Pedestrian Signal Head               |          |
|          | Signal Pole with Guy                 |          |
|          | Signal Pole with Sidewalk Guy        |          |
|          | Inductive Loop Detector              |          |
|          | Controller & Cabinet                 |          |
|          | Junction Box                         |          |
|          | 2-in Underground Conduit             |          |
|          | Right of Way                         |          |
|          | Directional Arrow                    |          |
|          | Type II Signal Pedestal              |          |
|          | Type I Pushbutton Post               |          |
|          | Right Arrow "ONLY" Sign (R3-5R)      |          |
|          | Street Name Sign (D3-1)              |          |
|          | School Advance Beacon (See Figure 1) |          |

Signal Upgrade

Stantec Consulting Services Inc.  
801 Jones Franklin Road-Suite 300  
Raleigh, NC 27606  
Tel. 919.851.6866  
Fax. 919.851.7024  
www.stantec.com  
License No. F-0672

Prepared in the Offices of:

750 N. Greenfield Pkwy, Garner, NC 27529

SR 2466 (Garrison Boulevard)  
at  
Churchill Drive

Division 12 Gaston County Gastonia

PLAN DATE: April 2026 REVIEWED BY: R Muncy

PREPARED BY: J Galloway REVIEWED BY:

REVISIONS INIT. DATE

SCALE 0 40 1"=40'

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

SEAL  
NORTH CAROLINA  
PROFESSIONAL  
SEAL 029904  
ENGINEER  
JASON P. GALLOWAY  
Signed by: Jason Galloway 4/22/2026  
DATE  
SIG. INVENTORY NO. 12-0276



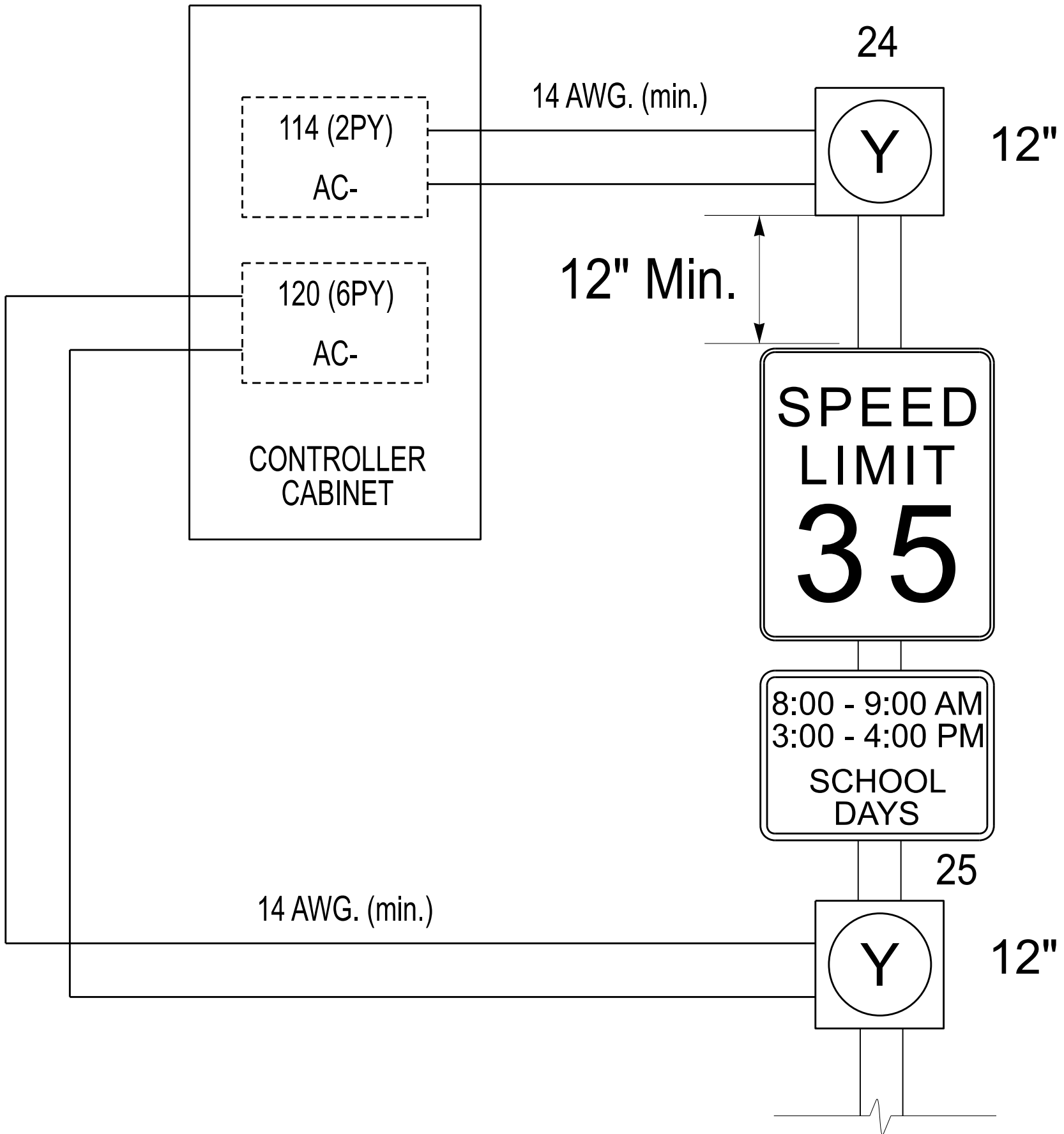




SCHOOL ADVANCE BEACON WIRING DETAIL

(wire flasher as shown below)

SIGN SHOWN IS TYPICAL. ACTUAL SPEED AND MESSAGE MAY VARY.



IMPORTANT

1. IF ATTACHED, REMOVE, TAPE, AND LABEL CONFLICT MONITOR WIRE ATTACHED TO THE REAR OF TERMINALS 114 (2PY) AND 120 (6PY).
2. TO ACTIVATE BEACON OPERATION AS INDICATED ON THE SIGNAL PLAN, PROGRAM THE CONTROLLER AS SHOWN IN THE LOGIC PROCESSOR AND OUTPUT ASSIGNMENT PROGRAMMING DETAILS ON THIS SHEET.

3. IN ORDER FOR FLASHER TO SWITCH "ON" AND "OFF" BY TIME OF DAY, USE THE SCHEDULER FUNCTION TO CREATE TWO DAY PLANS: ONE PLAN WITH THE BEGIN TIME OF OPERATION, AND A SECOND PLAN WITH THE END TIME OF OPERATION.

ASSIGN AN ACTION PLAN TO BE COMMANDED BY THE DAY PLAN CONTAINING THE BEGIN TIME. THE DAY PLAN CONTAINING THE END TIME SERVES AS THE PLAN THAT CEASES THE FLASHING OF BEACONS BY ACTIVATING AN ACTION PLAN CORRESPONDING WITH NORMAL (NON-SCHOOL HOURS) OPERATION.

LOGIC PROCESSOR PROGRAMMING

Front Panel

Main Menu >Controller >More >User Programs >Definition

Web Interface

Home >Controller >User Programs Configuration >User Programs Definition

Program 1

| Statement | Result          | Index | Operation        | Parameter A      | Index | Parameter B     | Index | Delay | Ext |
|-----------|-----------------|-------|------------------|------------------|-------|-----------------|-------|-------|-----|
| 1         | Unit Stop Time  | 1     | Result=A         | Aux Switch State | 0     | None            | 0     | 0.0   | 0.0 |
| 2         | Local Variable  | 10    | Result=(A==B)    | Current Pattern  | 0     | Number          | *     | 0.0   | 0.0 |
| 3         | Global Variable | 33    | Result=(A AND B) | Local Variable   | 10    | Flash State     | 0     | 0.0   | 0.0 |
| 4         | Global Variable | 34    | Result=(A AND B) | Local Variable   | 10    | Alt Flash State | 0     | 0.0   | 0.0 |

\* Pattern number to be set by City Engineer or their representative.

LOGIC STATEMENT DESCRIPTION

Statement 1 Description: Aux Switch Stop Time

Statement 2 Description: Verify Pattern set during beacon hours of operation

Statement 3 Description: Set Global Variable 33 to flash if beacon pattern is active (wig flash state)

Statement 4 Description: Set Global Variable 34 to flash if beacon pattern is active (wag flash state)

MAXTIME BEACON OUTPUT  
ASSIGNMENT PROGRAMMING DETAIL

Front Panel

Main Menu >Controller >More >Advanced IO >Output Points

Web Interface

Home >Controller >Advanced IO >Cabinet Configuration >Output Points

IO Module 1

| Output Point | Description | Output Control Type | Index |
|--------------|-------------|---------------------|-------|
| 33           | C1-35       | Global Variable     | 33    |
| 34           | C1-36       | Global Variable     | 34    |

Output Reference Schedule

OUTPUT 33 = 2 PED Y  
OUTPUT 34 = 6 PED Y

OVERLAP PROGRAMMING

Front Panel

Main Menu >Controller >Overlap >Overlap Parameters/Overlap Timings

Web Interface

Home >Controller >Overlap Configuration >Overlaps

Overlap Plan 1

| Overlap           | 1               | 3               |
|-------------------|-----------------|-----------------|
| Type              | FYA 4 - Section | FYA 4 - Section |
| Included Phases   | 2               | 6               |
| Modifier Phases   | -               | -               |
| Modifier Overlaps | -               | -               |
| Trail Green       | 0               | 0               |
| Trail Yellow      | 0.0             | 0.0             |
| Trail Red         | 0.0             | 0.0             |

THIS ELECTRICAL DETAIL IS FOR  
THE SIGNAL DESIGN: 12-0267  
DESIGNED: April 2026  
SEALED: 4/22/2026  
REVISED:

Electrical Detail - Sheet 2 of 3

DOCUMENT NOT CONSIDERED  
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801 Jones Franklin Road-Suite 300  
Raleigh, NC 27606  
Tel. 919.851.6866  
Fax. 919.851.7024  
www.stantec.com  
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750 N. Greenfield Pkwy, Garner, NC 27529

Electrical and Programming  
Details For:

Prepared in the Offices of:

SR 2466 (Garrison Boulevard)  
at  
Churchill Drive

Division 12 Gaston County Gastonia

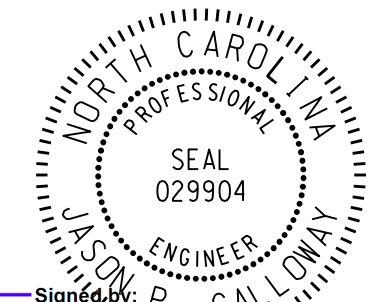
PLAN DATE: April 2026 REVIEWED BY: R Muncey

PREPARED BY: J Galloway REVIEWED BY:

REVISIONS

INIT. DATE

SEAL



Signed by: Jason P. Galloway 4/22/2026

1001E2B40B4B46E DATE

SIG. INVENTORY NO. 12-0276



|                       |           |
|-----------------------|-----------|
| PROJECT REFERENCE NO. | SHEET NO. |
| BN-0031LA             | Sig.1.3   |

## OUTPUT CHANNEL CONFIGURATION

Front Panel  
Main Menu >Controller >More>Channels>Channels Config

Web Interface  
Home >Controller >Advanced IO>Channels>Channel Configuration

## Channel Configuration

| Channel | Control Type  | Control Source | Flash Yellow | Flash Red | Flash Alt | MMU Channel |
|---------|---------------|----------------|--------------|-----------|-----------|-------------|
| 1       | Phase Vehicle | 1              |              | X         | X         | 1           |
| 2       | Phase Vehicle | 2              |              | X         |           | 2           |
| 3       | Phase Vehicle | 3              |              | X         | X         | 3           |
| 4       | Phase Vehicle | 4              |              | X         |           | 4           |
| 5       | Phase Vehicle | 5              |              | X         |           | 5           |
| 6       | Phase Vehicle | 6              |              | X         | X         | 6           |
| 7       | Phase Vehicle | 7              |              | X         |           | 7           |
| 8       | Phase Vehicle | 8              |              | X         | X         | 8           |
| 9       | Overlap       | 1              |              | X         | X         | 9           |
| 10      | Overlap       | 2              |              | X         | X         | 10          |
| 11      | Overlap       | 3              |              | X         |           | 11          |
| 12      | Overlap       | 4              |              | X         |           | 12          |
| 13      | Phase Ped     | 2              |              |           |           | 13          |
| 14      | Phase Ped     | 4              |              |           |           | 14          |
| 15      | Phase Ped     | 6              |              |           |           | 15          |
| 16      | Phase Ped     | 8              |              |           |           | 16          |
| 17      | Overlap       | 5              |              | X         | X         | 17          |
| 18      | Overlap       | 6              |              | X         |           | 18          |

↑  
NOTE FLASH RED

## MAXTIME STARTUP AND SOFTWARE FLASH PROGRAMMING DETAIL

Front Panel  
Main Menu >Controller >Unit

Web Interface  
Home >Controller >Unit

Modify parameters as shown below and save changes.

## Start Up Parameters

|                        |
|------------------------|
| StartUp Clearance Hold |
| 6                      |

## Unit Flash Parameters

|                         |
|-------------------------|
| All Red Flash Exit Time |
| 6                       |

THIS ELECTRICAL DETAIL IS FOR  
THE SIGNAL DESIGN: 12-0267  
DESIGNED: April 2026  
SEALED: 4/22/2026  
REVISED:

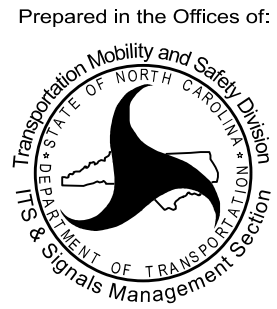
Electrical Detail - Sheet 3 of 3



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## Electrical and Programming Details For:



750 N. Greenfield Pkwy, Garner, NC 27529

SR 2466 (Garrison Boulevard)  
at  
Churchill Drive

Division 12                      Gaston County                      Gastonia

|            |            |              |          |
|------------|------------|--------------|----------|
| PLAN DATE: | April 2026 | REVIEWED BY: | R Muncey |
|------------|------------|--------------|----------|

PREPARED BY: J Galloway

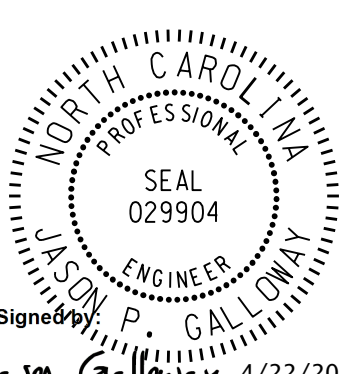
REVIEWED BY: \_\_\_\_\_

| REVISIONS | INIT. | DATE |
|-----------|-------|------|
|-----------|-------|------|

|      |      |
|------|------|
| NIT. | DATE |
|------|------|

DATE \_\_\_\_\_

SEAL



DATE \_\_\_\_\_

G. INVENTORY NO. 12-0276



09/08/99

TIP PROJECT: BN-0031LA

CONTRACT: DL00387

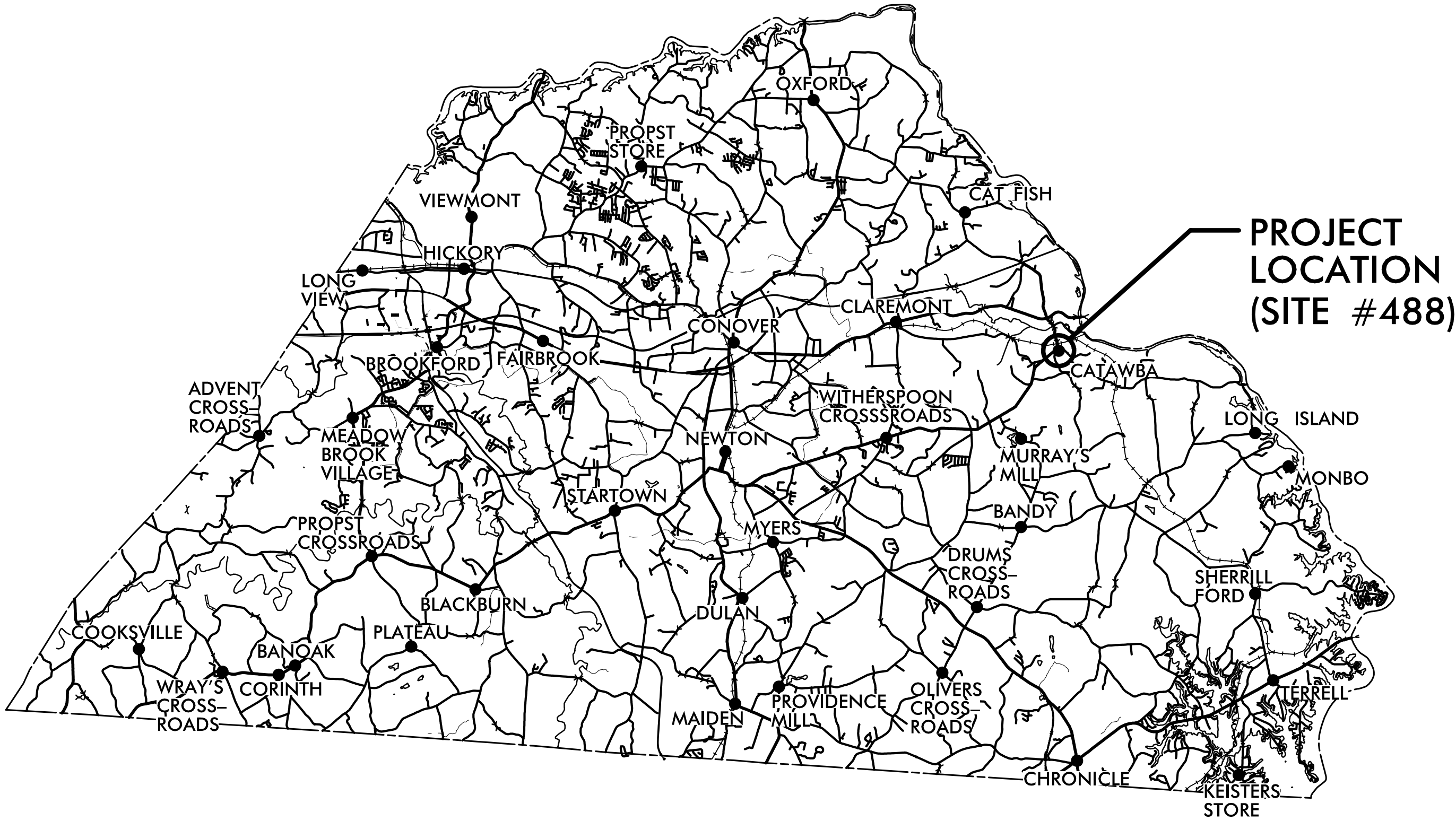
See Sheet 1A For Index of Sheets

STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

CATAWBA COUNTY

LOCATION: NC 10 (N. MAIN ST) FROM 1ST AVE SW TO  
1ST AVE NW

TYPE OF WORK: INSTALLATION OF PEDESTRIAN SIGNALS AND  
CONSTRUCTION OF CONCRETE CURB RAMPS



VICINITY MAP

| STATE           | STATE PROJECT REFERENCE NO. | SHEET NO.   | TOTAL SHEETS |
|-----------------|-----------------------------|-------------|--------------|
| N.C.            | BN-0031LA                   | 1           |              |
| STATE PROJ. NO. | F. A. PROJ. NO.             | DESCRIPTION |              |
| 52073.12.6      | TAPE012                     | PE          |              |
| 52073.12.303    | TAPE012                     | CONST.      |              |
|                 |                             |             |              |
|                 |                             |             |              |
|                 |                             |             |              |
|                 |                             |             |              |
|                 |                             |             |              |

DOCUMENT NOT CONSIDERED FINAL  
UNLESS ALL SIGNATURES COMPLETED

GRAPHIC SCALES



DESIGN DATA

ADT 2026 = 6,650  
K = N/A %  
D = N/A %  
T = N/A % \*  
V = 25 MPH  
\* TTST =N/A DUAL =N/A  
FUNC CLASS =  
URBAN MAJOR COLLECTOR  
REGIONAL TIER

PROJECT LENGTH

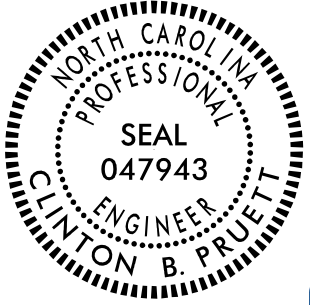
N/A

NCDOT CONTACT: JOSH WHITE, PE, PLS

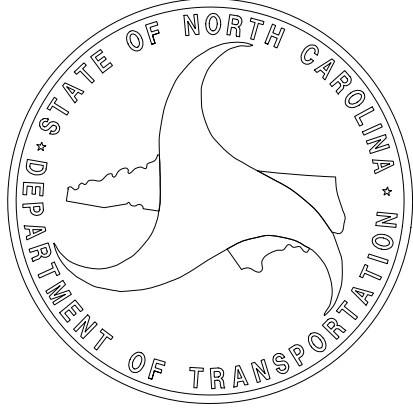
| PLANS PREPARED BY:                                                                                                                                                                                            | PLANS PREPARED FOR:                                                                                        |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|
| <br>TGS ENGINEERS<br>201 W. MARION ST<br>SUITE 200<br>SHELBY, NC 28150<br>PH (704) 476-0003<br>CORP. LICENSE NO.: C-0275 | NORTH CAROLINA DEPARTMENT<br>OF TRANSPORTATION<br><br>DIVISION 12<br>1710 E. MARION ST<br>SHELBY, NC 28150 |
| RIGHT OF WAY DATE:<br>N/A                                                                                                                                                                                     | JIMMY L. TERRY, PE<br>PROJECT ENGINEER                                                                     |
| LETTING DATE:<br>AUGUST 11, 2026                                                                                                                                                                              | CLINTON B. PRUETT, PE<br>PROJECT DESIGN ENGINEER                                                           |
| 2024 STANDARD SPECIFICATIONS                                                                                                                                                                                  |                                                                                                            |

ROADWAY DESIGN  
ENGINEER

6/25/2026



DocuSigned by:  
  
SIGNATURE: P.E.









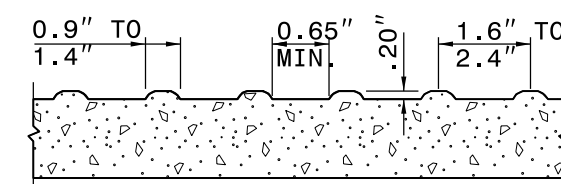


RAMP WIDTH AREA IS VARIABLE

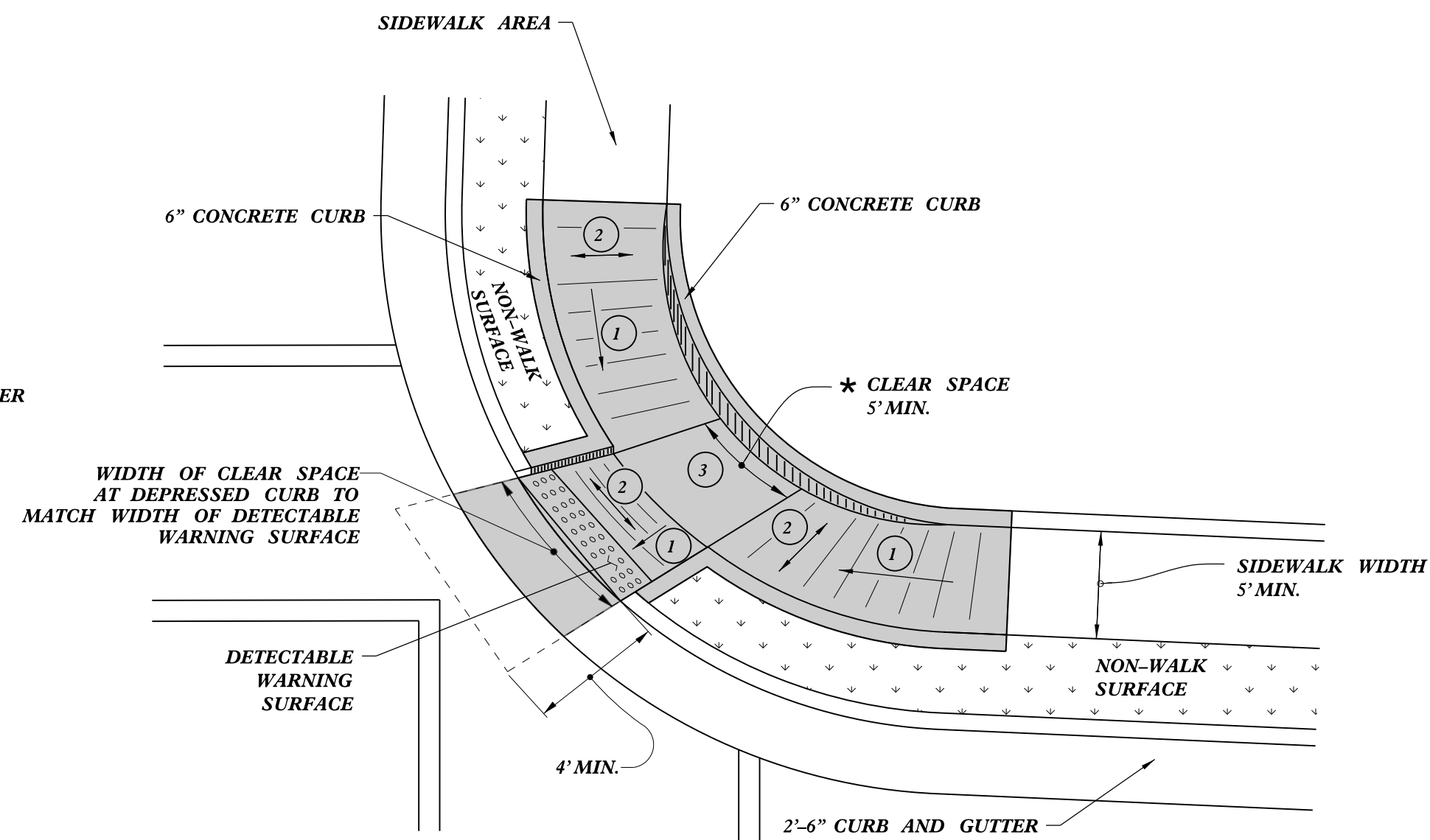
2'-0" LENGTH

BASE DIAMETER  
0.9"R TO 1.40"R

TOP DIAMETER OF NO LESS  
THAN 50% TO NO MORE  
THAN 65% OF THE BASE  
DIAMETER



## DETECTABLE WARNING SURFACE



TYPE 3 MODIFIED  
INSTALLATION IN A RADIUS

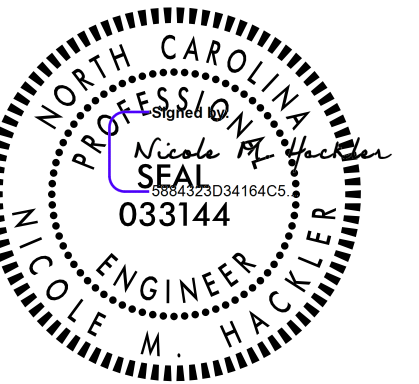
- 1 8.33% (12:1) MAX RAMP SLOPE
- 2 CROSS SLOPE: 2.00%
- 3 MAXIMUM CROSS SLOPE AND LONGITUDINAL SLOPE OF 2.00%.

PAY LIMITS FOR 1 CURB RAMP

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

**CURB RAMP**  
**PARALLEL RAMP**

SHEET 9 OF 13  
**848D06**



25/2026

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UNLESS ALL SIGNATURES COMPLETED**

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

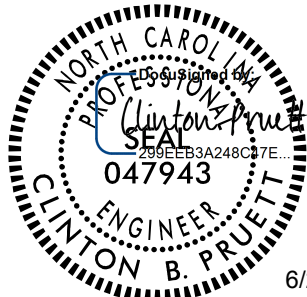
**SEE TITLE BLOCK**

|                                                       |                         |
|-------------------------------------------------------|-------------------------|
| ORIGINAL BY: <u>S.CALHOUN</u>                         | DATE: <u>12-22-2023</u> |
| MODIFIED BY: _____                                    | DATE: _____             |
| CHECKED BY: _____                                     | DATE: _____             |
| FILE SPEC.: <u>special details\nmhackler\0609.dgn</u> |                         |

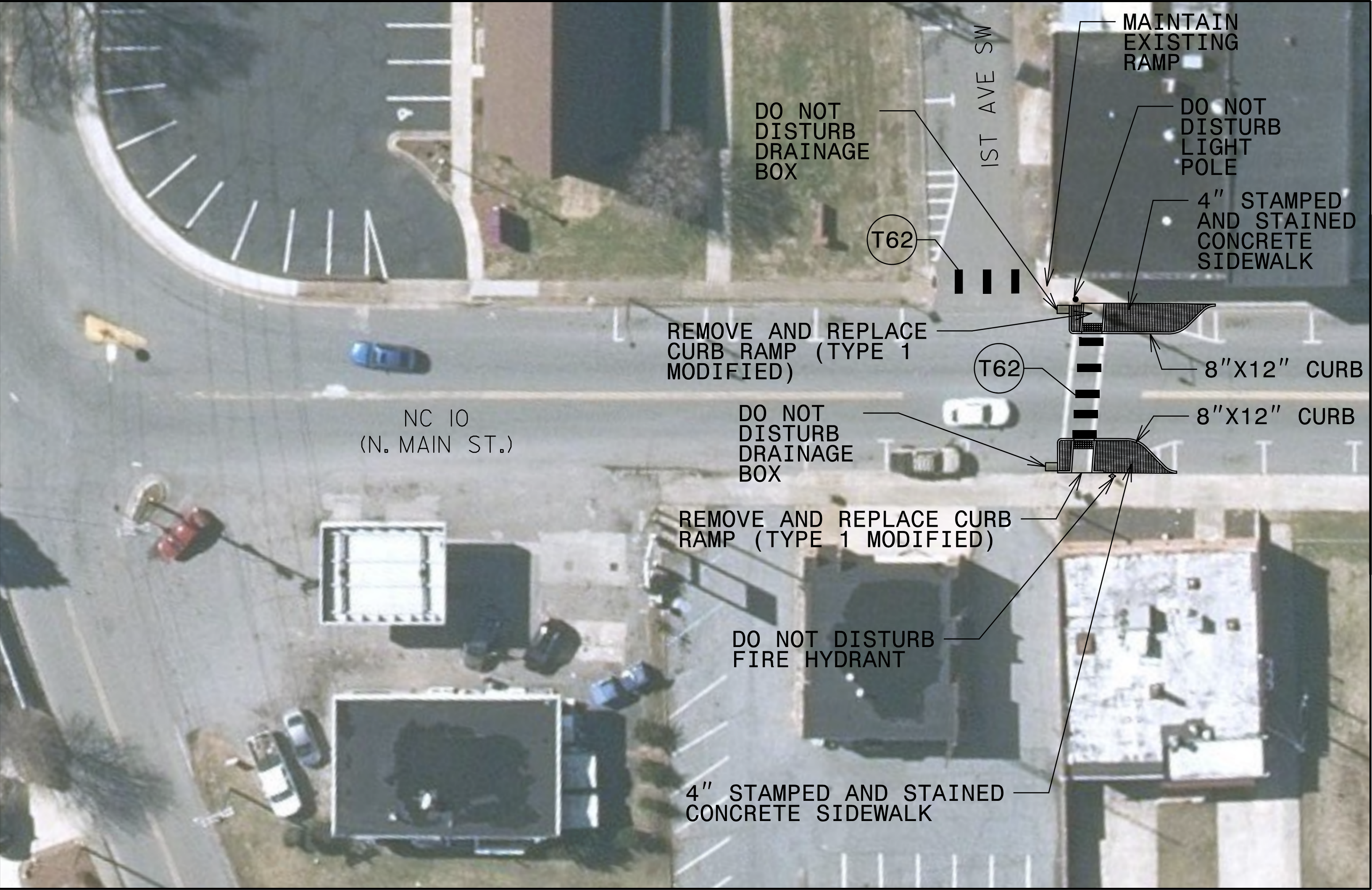
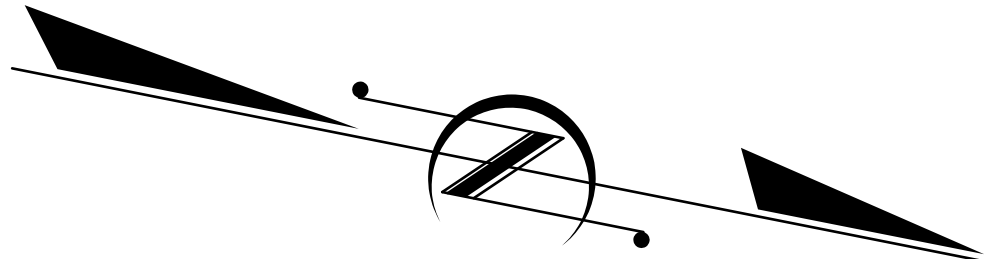


8/17/99

REVISIONS

|                                                                                                                                                                                                       |           |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| PROJECT REFERENCE NO.                                                                                                                                                                                 | SHEET NO. |
| BN-0031LA                                                                                                                                                                                             | 4         |
| RW SHEET NO.                                                                                                                                                                                          |           |
| ROADWAY DESIGN ENGINEER                                                                                                                                                                               |           |
|                                                                                                                    |           |
| DOCUMENT NOT CONSIDERED FINAL<br>UNLESS ALL SIGNATURES COMPLETED                                                                                                                                      |           |
|  TGS ENGINEERS<br>201 W. MARION ST., STE 200<br>SHELBY, NC 28150<br>PH (704) 476-0003<br>CORP. LICENSE NO.: C-0275 |           |

***SITE 488 – NC 10 (N. MAIN ST.) FROM  
1ST AVE SW TO 1ST AVE NW***



MATCH LINE  
MATCH TO SHEET NO. 5

NOTE: REFER TO SIGNAL PLANS  
FOR ALL PEDESTRIAN SIGNAL  
AND PUSH BUTTON LOCATIONS.

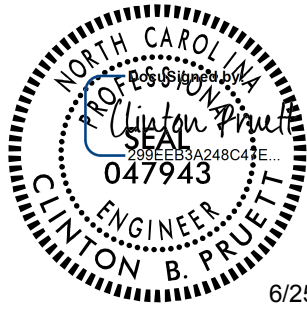
NOTE: NO SURVEY INFORMATION  
AVAILABLE. ITEMS ARE SHOWN  
AT APPROXIMATE LOCATIONS  
BASED ON AERIAL IMAGERY.

NOTE: REFER TO 2024 NCDOT STANDARD DRAWING 848.06 AND/OR 2C-1 DETAIL FOR CURB RAMP INSTALLATION.  
REFER TO 2024 NCDOT STANDARD DRAWING 1205.07 FOR CROSSWALK INSTALLATION.

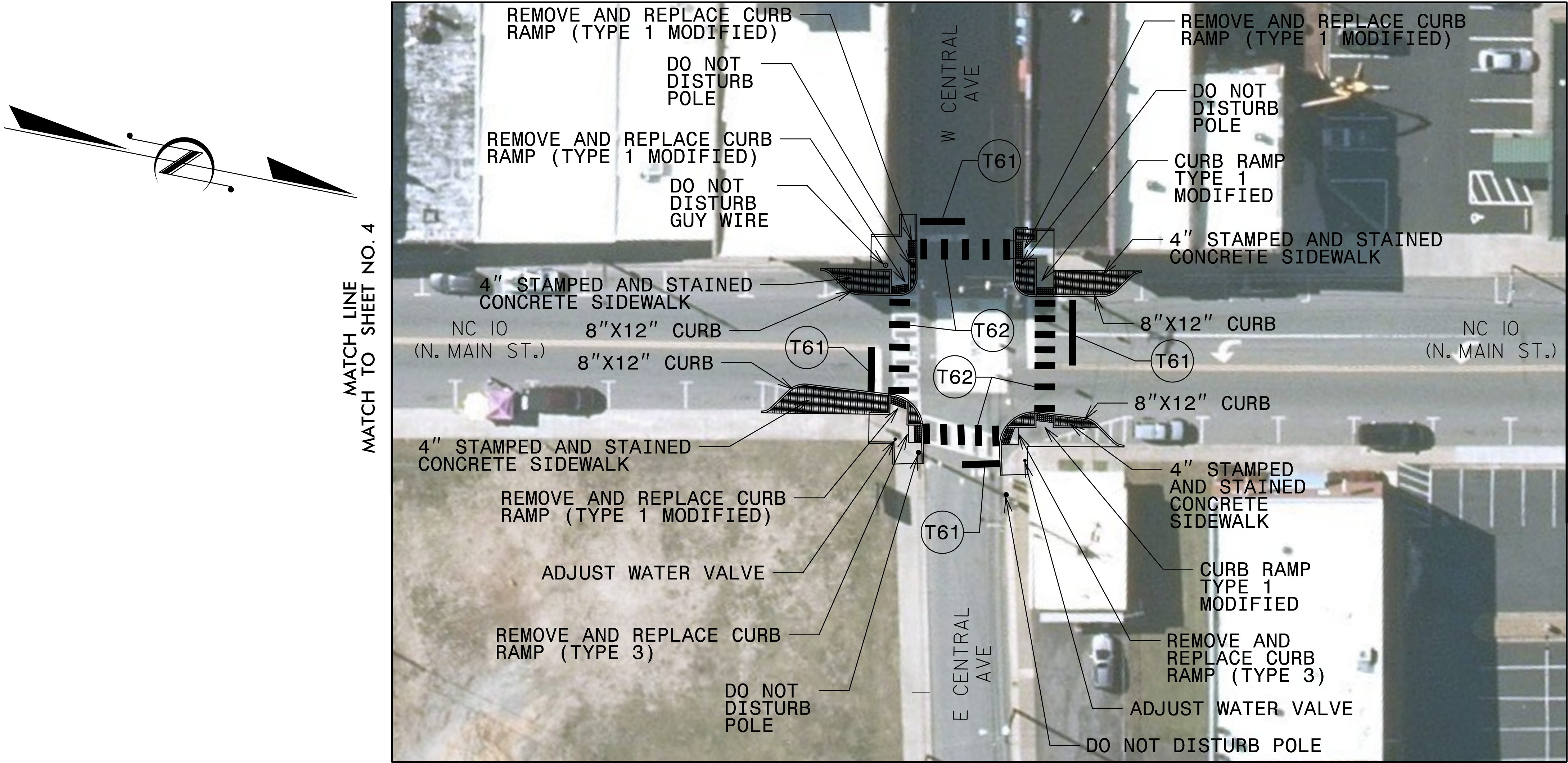
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\$\$\$CHECKED\$\$\$  
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REVISIONS

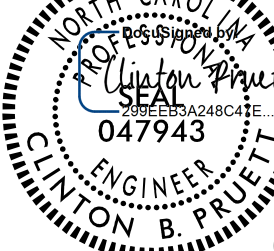
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| BN-0031LA                                                                                                                                                                                             | 5         |
| RW SHEET NO.                                                                                                                                                                                          |           |
| ROADWAY DESIGN ENGINEER                                                                                                                                                                               |           |
|                                                                                                                    |           |
| DOCUMENT NOT CONSIDERED FINAL<br>UNLESS ALL SIGNATURES COMPLETED                                                                                                                                      |           |
|  TGS ENGINEERS<br>201 W. MARION ST., STE 200<br>SHELBY, NC 28150<br>PH (704) 476-0003<br>CORP. LICENSE NO.: C-0275 |           |

***SITE 488 – NC 10 (N. MAIN ST.) FROM  
1ST AVE SW TO 1ST AVE NW***

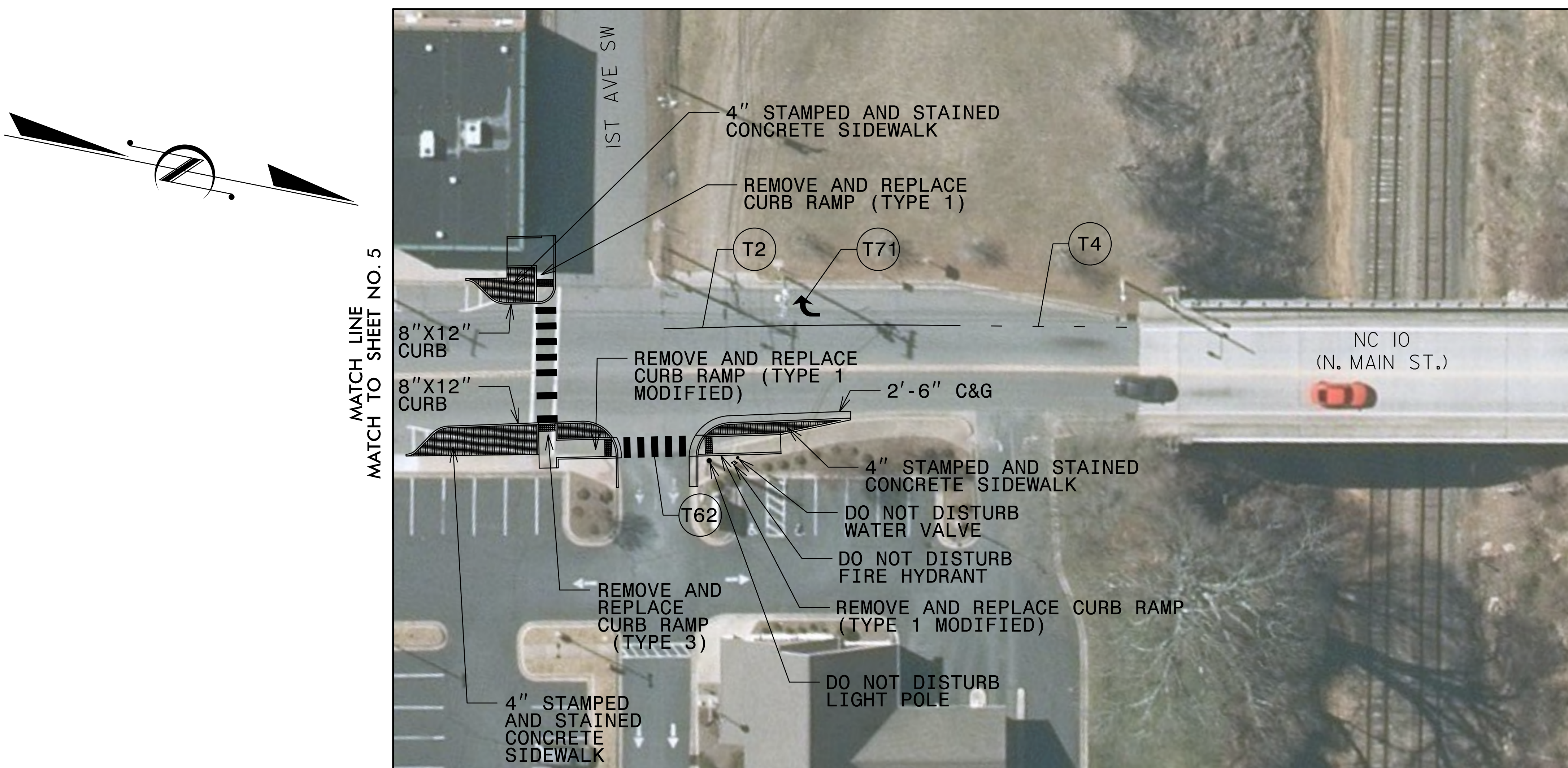


NOTE: REFER TO 2024 NCDOT STANDARD DRAWING 848.06 AND/OR 2C-1 DETAIL FOR CURB RAMP INSTALLATION.  
REFER TO 2024 NCDOT STANDARD DRAWING 1205.07 FOR CROSSWALK INSTALLATION.



|                                                                                                                                                                                                                          |           |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| PROJECT REFERENCE NO.                                                                                                                                                                                                    | SHEET NO. |
| BN-003/LA                                                                                                                                                                                                                | 6         |
| R/W SHEET NO.                                                                                                                                                                                                            |           |
| ROADWAY DESIGN<br>ENGINEER                                                                                                                                                                                               |           |
|                                                                                                                                       |           |
| 6/25/2026                                                                                                                                                                                                                |           |
| <p><b>NOTED</b></p> <p><b>PROJECT NOT CONSIDERED FINAL<br/>UNLESS ALL SIGNATURES COMPLETED</b></p>                                                                                                                       |           |
|  <p><b>TGS ENGINEERS</b><br/>201 W. MARION ST. STE 200<br/>SHELBY, NC 28150<br/>PH. (704) 476-0003<br/>CORP. LICENSE NO.: C-02775</p> |           |

***SITE 488 – NC 10 (N. MAIN ST.) FROM  
1ST AVE SW TO 1ST AVE NW***



NOTE: REFER TO SIGNAL PLANS  
FOR ALL PEDESTRIAN SIGNAL  
AND PUSH BUTTON LOCATIONS.

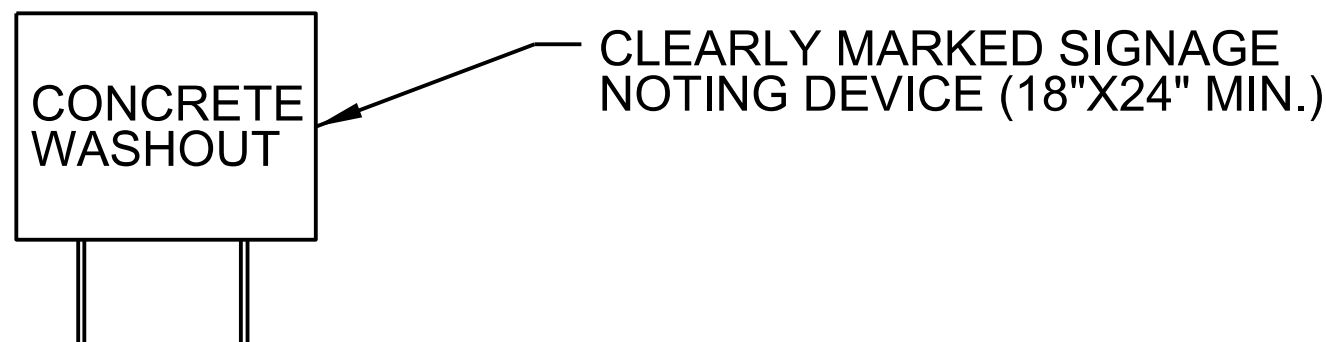
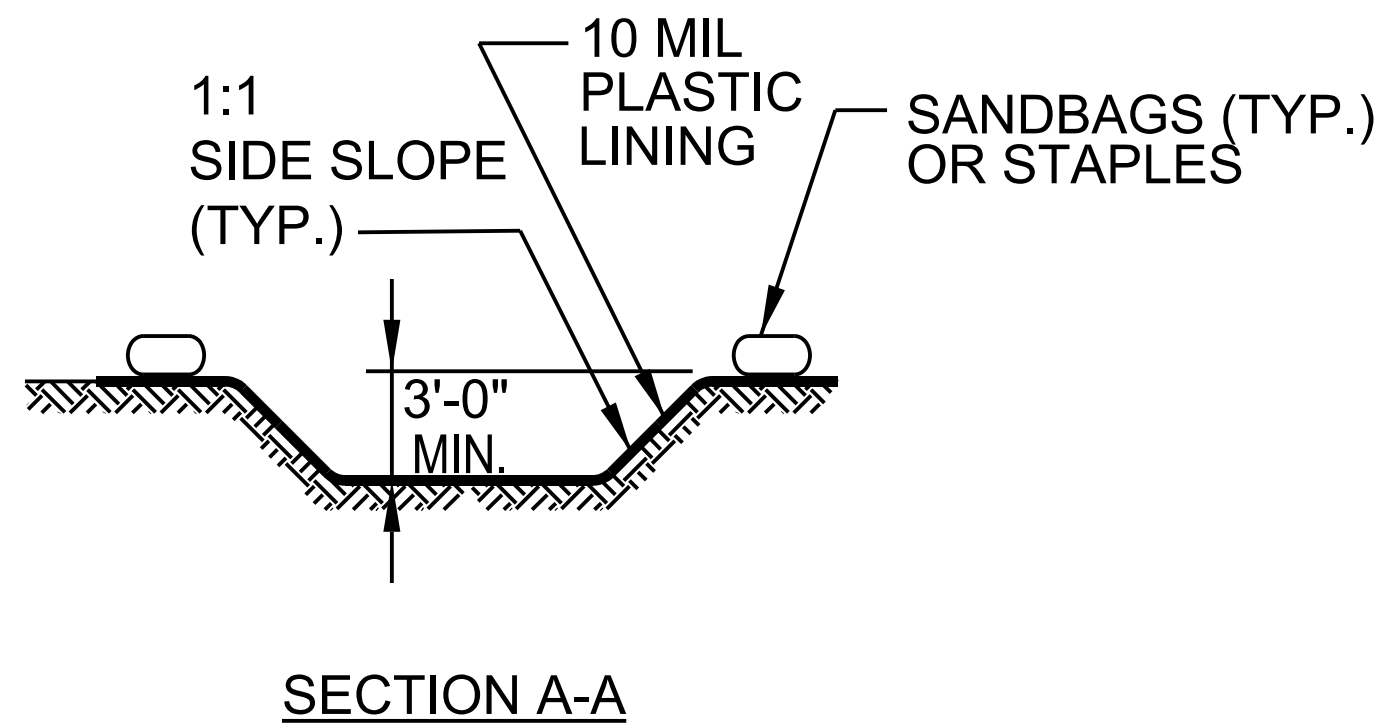
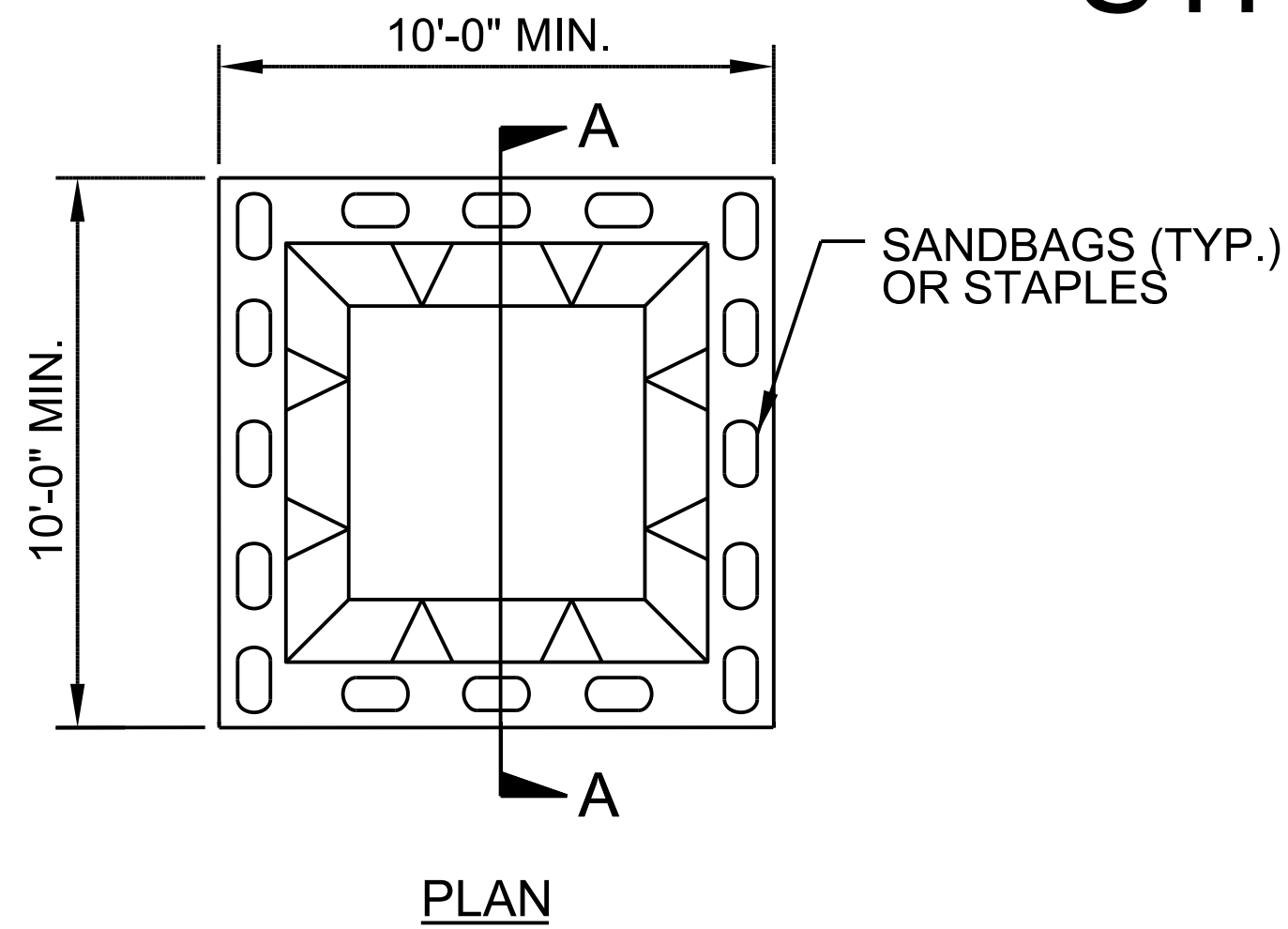
NOTE: NO SURVEY INFORMATION  
AVAILABLE. ITEMS ARE SHOWN  
AT APPROXIMATE LOCATIONS  
BASED ON AERIAL IMAGERY.

NOTE: REFER TO 2024 NCDOT STANDARD DRAWING 848.06 AND/OR 2C-1 DETAIL FOR CURB RAMP INSTALLATION.  
REFER TO 2024 NCDOT STANDARD DRAWING 1205.07 FOR CROSSWALK INSTALLATION.



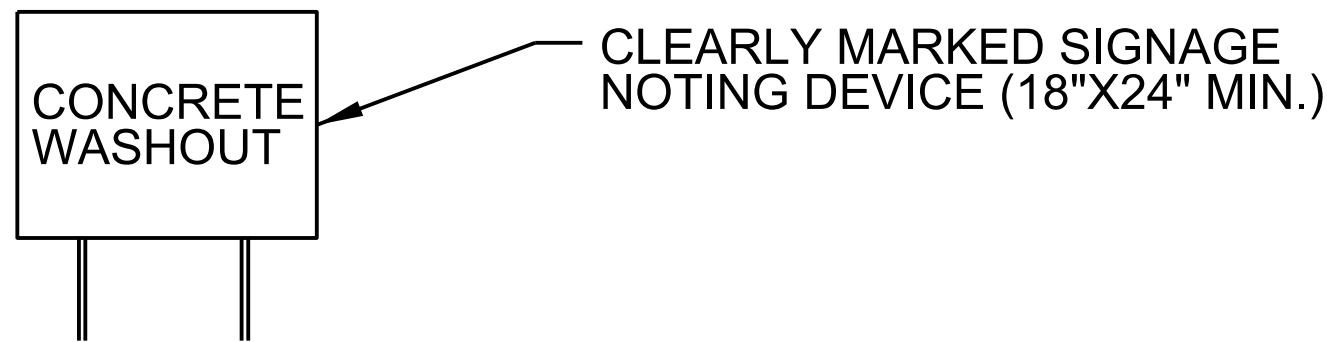
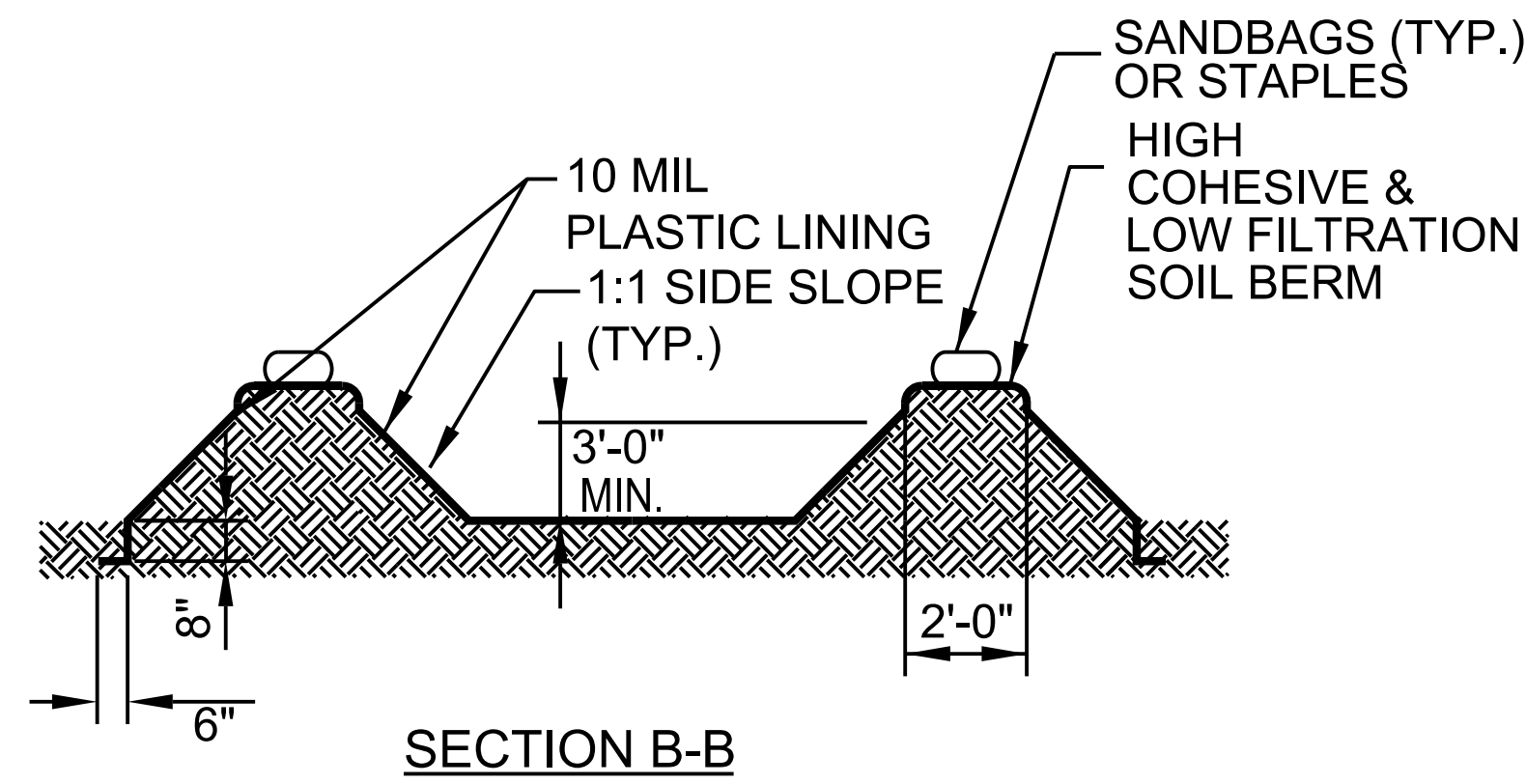
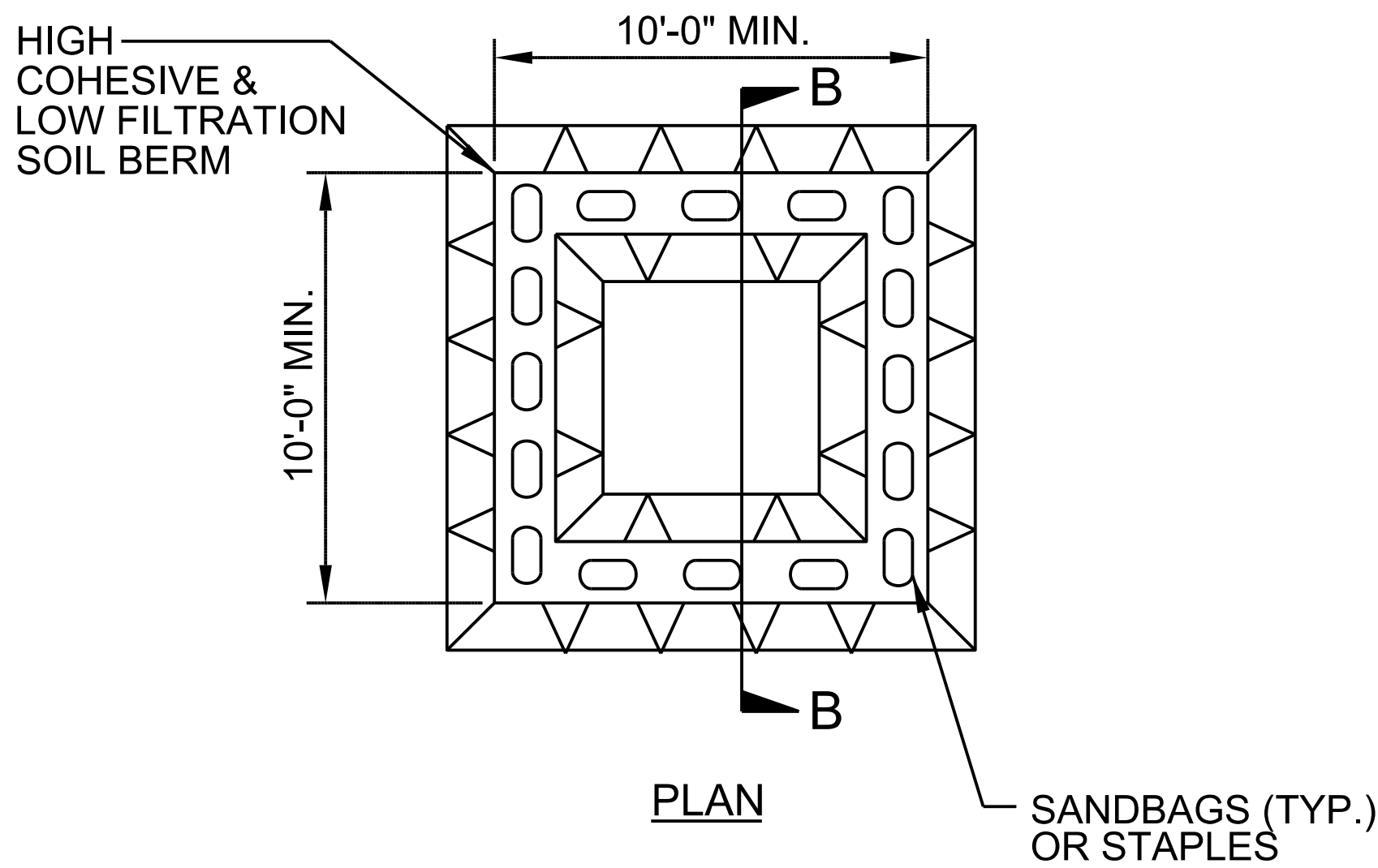
| PROJECT REFERENCE NO.   | SHEET NO.           |
|-------------------------|---------------------|
| BN-003/LA               | EC-2A               |
| R/W SHEET NO.           |                     |
| ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER |

# ONSITE CONCRETE WASHOUT STRUCTURE WITH LINER



BELOW GRADE WASHOUT STRUCTURE  
NOT TO SCALE

- 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 CLEARLY MARKED WITH SIGNAGE NOTING DEVICE.

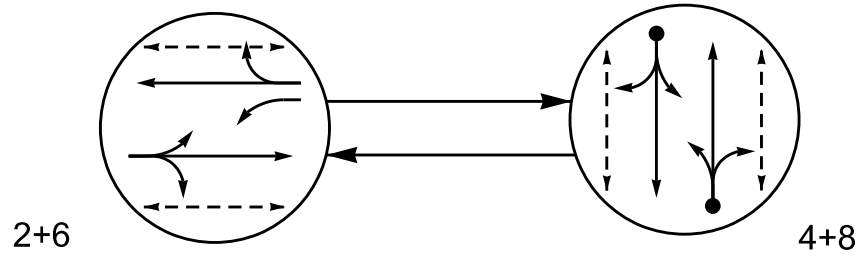


ABOVE GRADE WASHOUT STRUCTURE  
NOT TO SCALE

- 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 CLEARLY MARKED WITH SIGNAGE NOTING DEVICE.



PHASING DIAGRAM



PHASING DIAGRAM DETECTION LEGEND

- DETECTED MOVEMENT
- UNDETECTED MOVEMENT (OVERLAP)
- UNSIGNALIZED MOVEMENT
- PEDESTRIAN MOVEMENT

| SIGNAL FACE | PHASE |       |       |
|-------------|-------|-------|-------|
|             | 2 + 6 | 4 + 8 | FLASH |
| 21, 22      | G     | R     | R     |
| 41, 42      | R     | G     | R     |
| 61, 62      | G     | R     | R     |
| 81, 82      | R     | G     | R     |
| P21, P22    | W     | DW    | DRK   |
| P41, P42    | DW    | W     | DRK   |
| P61, P62    | W     | DW    | DRK   |
| P81, P82    | DW    | W     | DRK   |

| MAXTIME DETECTOR INSTALLATION CHART |           |                              |       |          |             |            |             |        |               |                         |
|-------------------------------------|-----------|------------------------------|-------|----------|-------------|------------|-------------|--------|---------------|-------------------------|
| DETECTOR                            |           |                              |       |          | PROGRAMMING |            |             |        |               |                         |
| LOOP                                | SIZE (FT) | DISTANCE FROM STOP LINE (FT) | TURNS | NEW LOOP | CALL PHASE  | DELAY TIME | EXTEND TIME | EXTEND | ADDED INITIAL | CALL DELAY DURING GREEN |
| 4A                                  | 6 X 40    | 0                            | 2-4-2 | -        | 4           | 10.0       | -           | X      | -             | X                       |
| 8A                                  | 6 X 40    | 0                            | 2-4-2 | -        | 8           | 10.0       | -           | X      | -             | X                       |

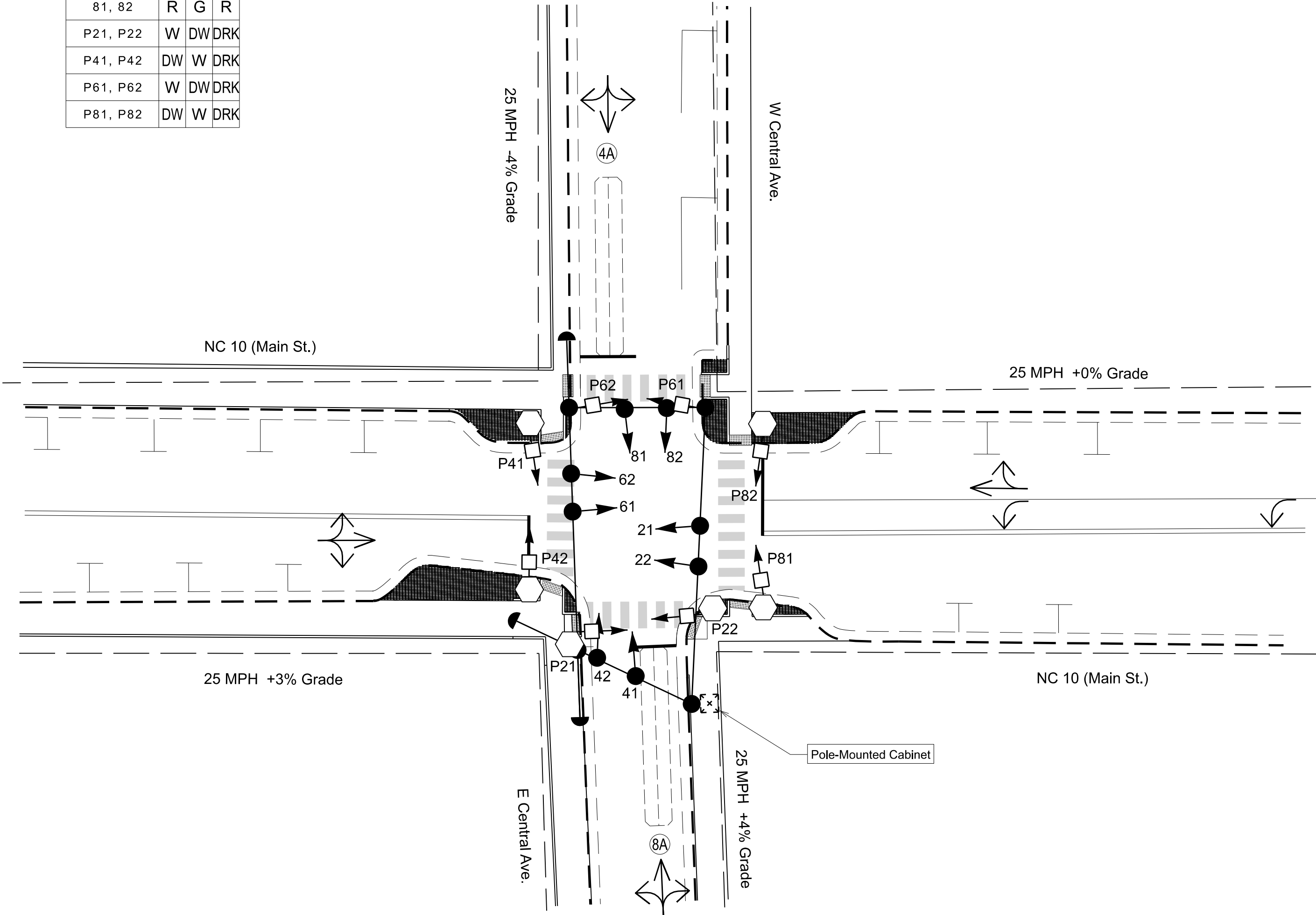
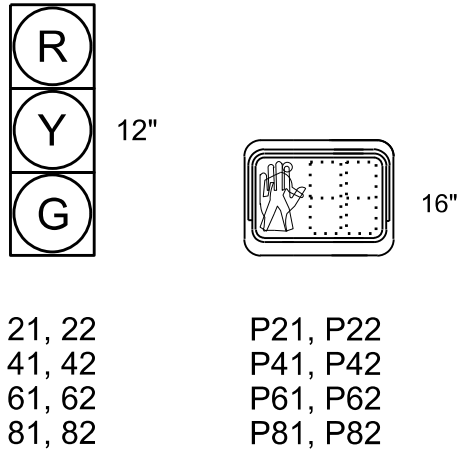
2-Phase  
Semi-Actuated  
Isolated

NOTES

- Refer to "Roadway Standard Drawings NCDOT" dated January 2024 and "Standard Specifications for Roads and Structures" dated January 2024.
- Do not program signal for late night flashing operation unless otherwise directed by the Engineer.
- Set all detector units to presence mode.
- Omit "WALK" and flashing "DON'T WALK" with no pedestrian calls for phases 4 and 8 only.
- Program pedestrian heads to countdown the flashing "Don't Walk" time only.

SIGNAL FACE I.D.

All Heads L.E.D.

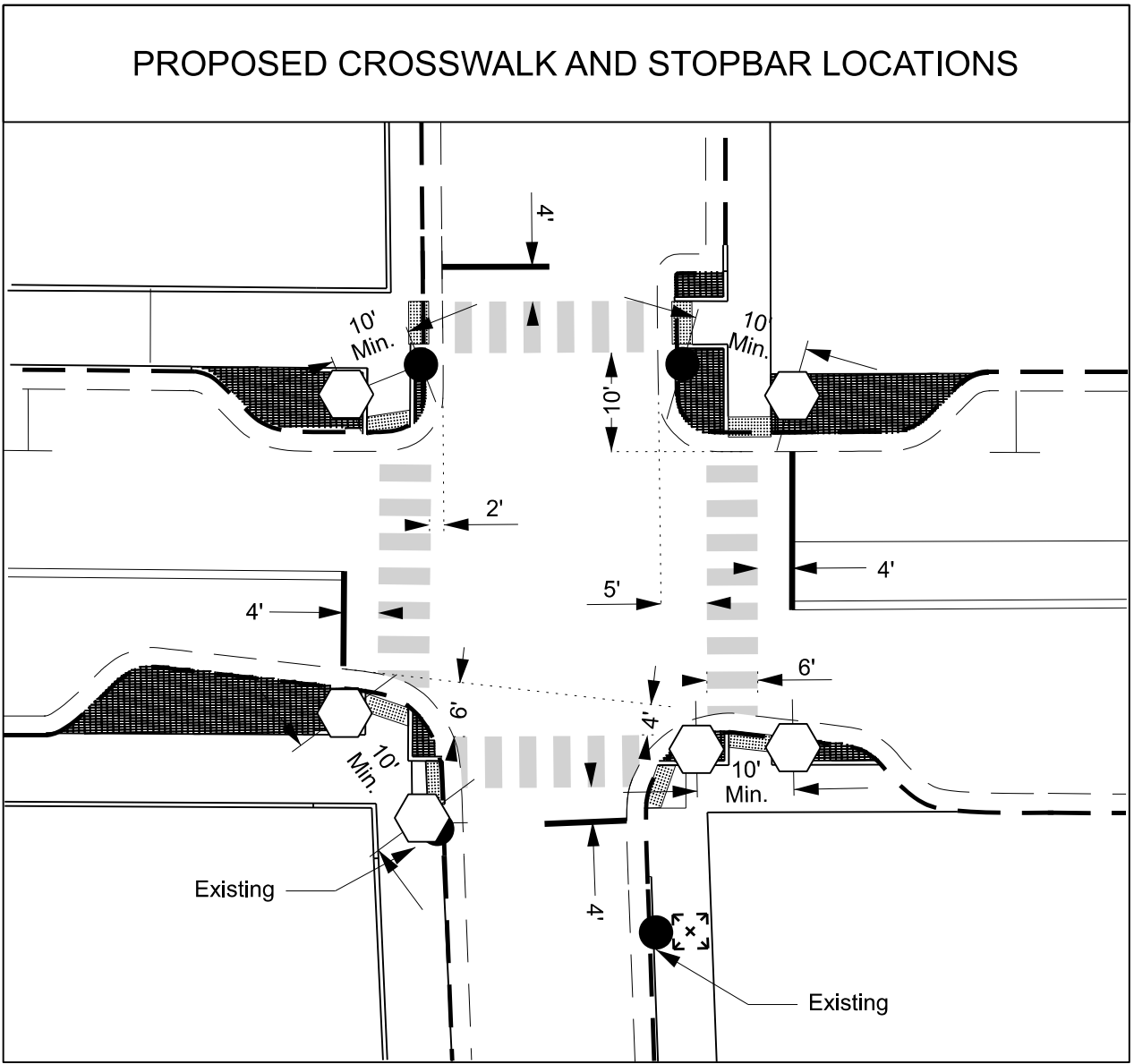


MAXTIME TIMING CHART

| FEATURE                 | PHASE          |     |                |     |
|-------------------------|----------------|-----|----------------|-----|
|                         | 2              | 4   | 6              | 8   |
| Walk *                  | 11             | 12  | 11             | 11  |
| Ped Clear               | 4              | 6   | 5              | 7   |
| Min Green *             | 25             | 7   | 25             | 7   |
| Passage *               | 0.0            | 2.0 | 0.0            | 2.0 |
| Max 1 *                 | 25             | 20  | 25             | 20  |
| Yellow Change           | 4.0            | 4.0 | 4.0            | 4.0 |
| Red Clear               | 2.0            | 2.0 | 2.0            | 2.0 |
| Red Revert              | 2.0            | 2.0 | 2.0            | 2.0 |
| Added Initial *         | -              | -   | -              | -   |
| Maximum Initial *       | -              | -   | -              | -   |
| Time Before Reduction * | -              | -   | -              | -   |
| Time To Reduce *        | -              | -   | -              | -   |
| Minimum Gap             | -              | -   | -              | -   |
| Advance Walk            | -              | -   | -              | -   |
| Non Lock Detector       | -              | X   | -              | X   |
| Vehicle Recall          | MIN/PED RECALL | -   | MIN/PED RECALL | -   |
| Dual Entry              | -              | X   | -              | X   |

\* These values may be field adjusted. Do not adjust Min Green and Passage times for phases 2 and 6 lower than what is shown. Min Green for all other phases should not be lower than 4 seconds.

PROPOSED CROSSWALK AND STOPBAR LOCATIONS



LEGEND

| PROPOSED |                               | EXISTING |
|----------|-------------------------------|----------|
|          | Traffic Signal Head           |          |
|          | Modified Signal Head          | N/A      |
|          | Sign                          |          |
|          | Pedestrian Signal Head        |          |
|          | Signal Pole with Guy          |          |
|          | Signal Pole with Sidewalk Guy |          |
|          | Inductive Loop Detector       |          |
|          | Controller & Cabinet          |          |
|          | Junction Box                  |          |
|          | 2-in Underground Conduit      |          |
|          | Right of Way                  |          |
|          | Directional Arrow             |          |
|          | Curb Ramp                     |          |
|          | Type II Signal Pedestal       |          |

Signal Upgrade

|                                                                             |                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                       |
|-----------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Prepared in the Offices of:<br><br>750 N. Greenfield Pkwy, Garner, NC 27529 | <b>NC 10 (Main Street)<br/>at<br/>Central Avenue</b><br>Division 12    Catawba County    Catawba<br>PLAN DATE: April 2026    REVIEWED BY: R.N. Zinser<br>PREPARED BY: K. Singleton    REVIEWED BY:<br>REVISIONS<br>INIT.    DATE<br>SCALE: 0 20<br>1"=20' | DOCUMENT NOT CONSIDERED<br>FINAL UNLESS ALL<br>SIGNATURES COMPLETED<br>SEAL<br>NORTH CAROLINA<br>PROFESSIONAL ENGINEER<br>SEAL 043914<br>RICHARD N. ZINSER<br>DocuSigned by:<br>R. Nicholas Zinser 04/27/2026<br>F138897347248F<br>DATE<br>SIG. INVENTORY NO. 12-0786 |
|-----------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

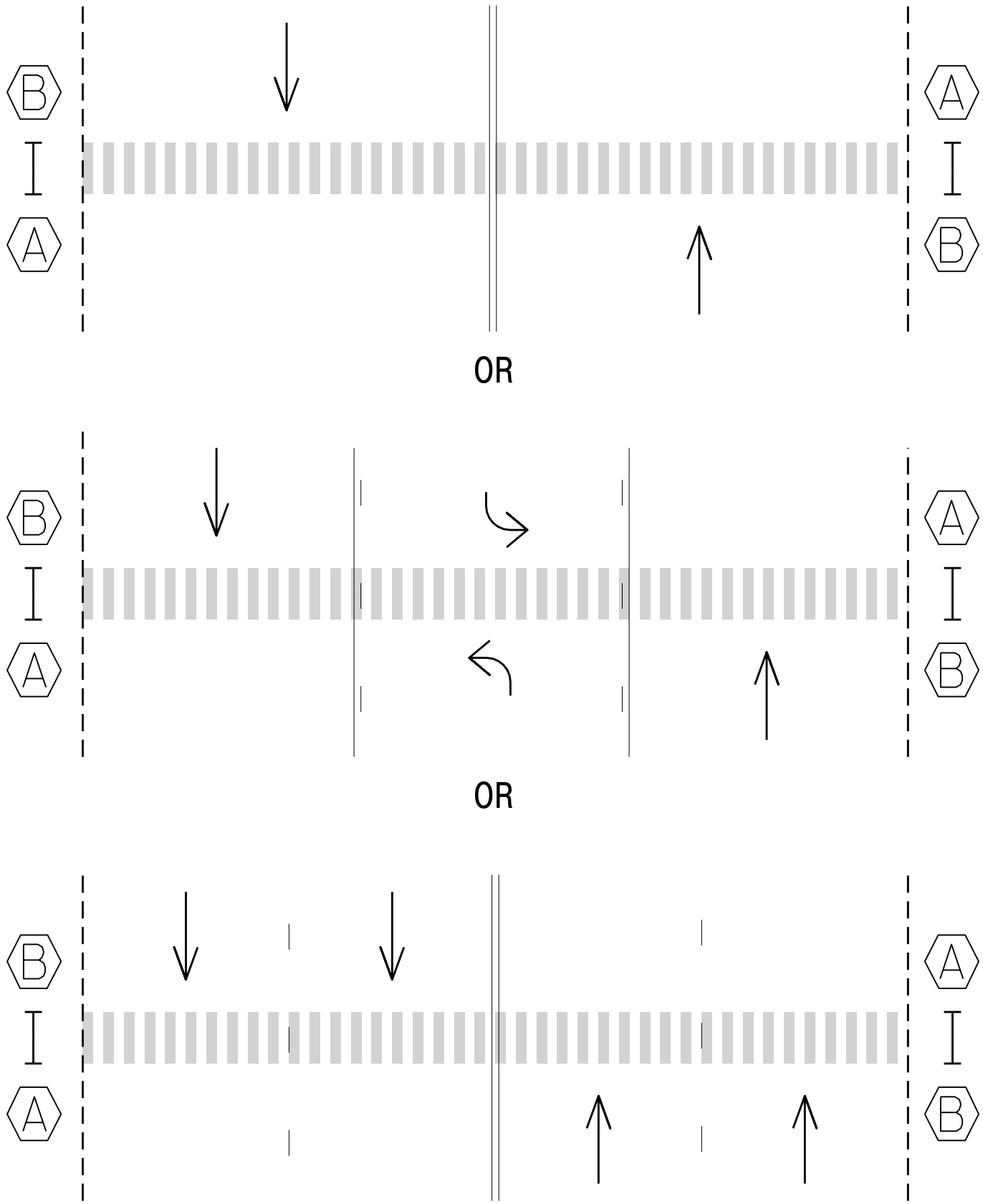




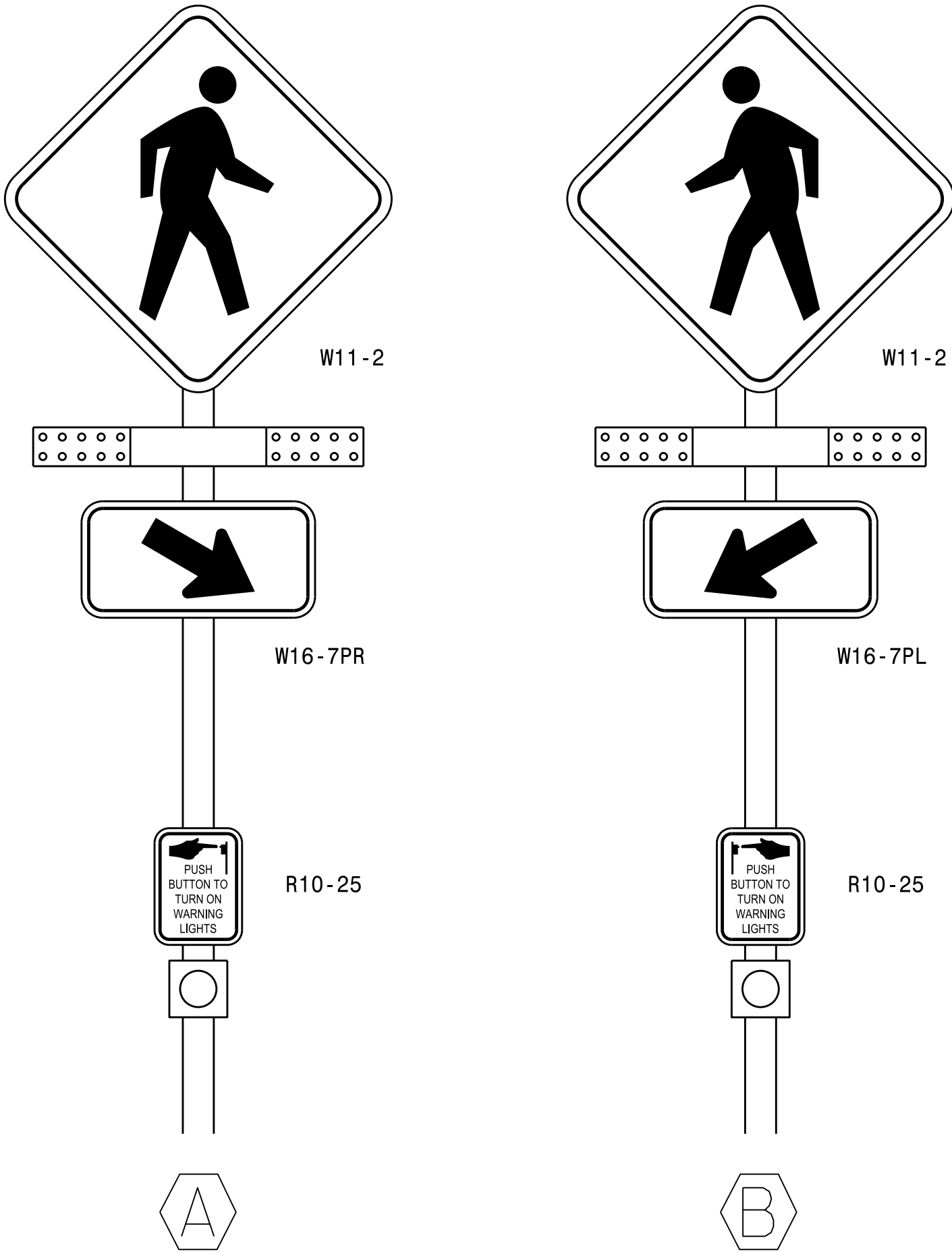


| PROJECT REFERENCE NO. | SHEET NO. |
|-----------------------|-----------|
| BN-0031LA             | Sig. 2.0  |

Two to Four Lanes, Undivided



RRFB Sign Detail



Notes

- Design the RRFB in accordance with the 2023 MUTCD, 11th Edition, Chapter 4L: Rectangular Rapid Flashing Beacons. The Rectangular Rapid Flashing Beacon (RRFB) unit associated with a post-mounted sign and plaque should be located between the pedestrian crossing warning (W11-2) sign and the supplemental downward diagonal arrow plaque (W16-7p).
- If needed, a supplemental RRFB with an "AHEAD" (W16-9P) or distance (W16-2P) plaque may be installed on the approach in advance of the crosswalk. The additional RRFB shall be a supplemental to and not a replacement for the RRFB at the actual crosswalk.
- When practical, the RRFB and mounting post on the right side of the road shall be mounted on the approach side of the crosswalk closest to approaching traffic.
- When practical, the RRFB and mounting post on the left side of the road may be mounted on the back of the post for the opposing approach.
- A RRFB on the left side of the roadway or in the median may be individually mounted on the approach side of the crosswalk closest to approaching traffic, or, when practical, may be mounted back to back on the same post and mounted on either side of the crosswalk in the median.
- Locate push button sign (R10-25) and push button to face crosswalk, even if it is mounted on the back side of the sign.
- All RRFB units associated with a given crosswalk (including those with an advance crossing sign) shall, when actuated, simultaneously commence operation of their rapid-flashing indications and shall cease operation simultaneously.
- If an audible information device is used in conjunction with an RRFB, the audible message should be a speech message that says "Warning lights are flashing." The audible message should be spoken twice. The audible information device shall not use vibrotactile or percussive indications.
- For quantitative purposes, a single sided, post mounted RRFB is one assembly unit. A double sided RRFB mounted on the same post is counted as two (2) assemblies.
- For additional information, see Version 24 of the Transportation Systems Management and Operations (TSMO) Unit Project Special Provisions (PSP).

Timing of RRFBs

When actuated, the two yellow indications in each RRFB unit shall flash in a rapidly flashing sequence.

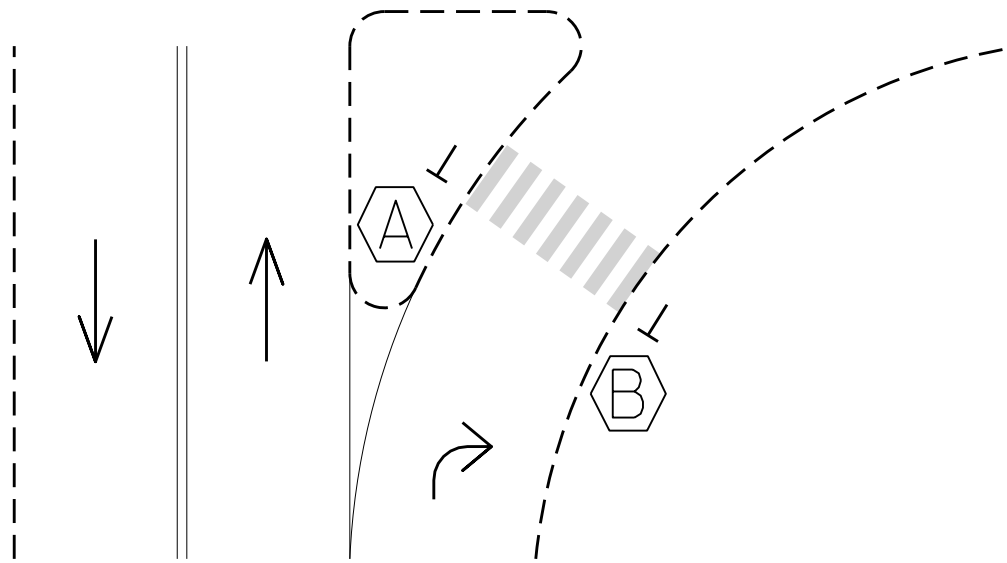
The RRFB shall flashing sequence shall provide enough time for pedestrians to cross from curb to curb. It is recommended to be a minimum of 7 seconds plus the crossing distance (D) divided by 3.5 feet/per sec., rounded up to the next whole second:

Flash Time (sec.) = 7 + D/3.5

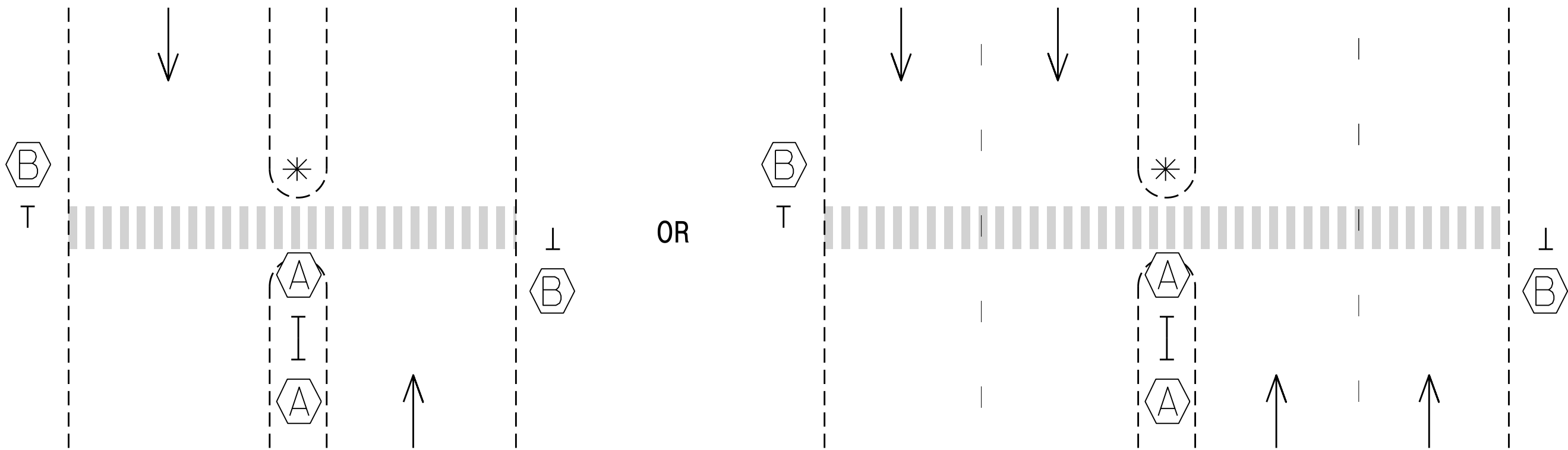
Per Section 4L.03 of the 2023 MUTCD, RRFBs shall provide 75 flashing sequences per minute. During each 800 millisecond flashing sequence, the left and right RRFB indications shall operate using the following sequence:

- The RRFB indication on the left-hand side shall be illuminated for approximately 50 milliseconds. Both RRFB indications shall be dark for approximately 50 milliseconds.
- The RRFB indication on the right-hand side shall be illuminated for approximately 50 milliseconds. Both RRFB indications shall be dark for approximately 50 milliseconds.
- The RRFB indication on the left-hand side shall be illuminated for approximately 50 milliseconds. Both RRFB indications shall be dark for approximately 50 milliseconds.
- The RRFB indication on the right-hand side shall be illuminated for approximately 50 milliseconds. Both RRFB indications shall be dark for approximately 50 milliseconds.
- Both RRFB indications shall be illuminated for approximately 50 milliseconds. Both RRFB indications shall be dark for approximately 50 milliseconds.
- Both RRFB indications shall be illuminated for approximately 50 milliseconds. Both RRFB indications shall be dark for approximately 250 milliseconds.

Slip Lanes



Two or Multi-Lanes, Divided



\* See Note 5

\* See Note 5

Standard Drawing for Rectangular Rapid Flashing Beacon

Prepared in the Offices of:

Transportation Mobility and Safety Division

STATE OF NORTH CAROLINA

DEPARTMENT OF TRANSPORTATION

TSMO Unit

750 N. Greenfield Parkway

Garner, NC 27529

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

SEAL

SEAL 026486

ENGINEER

ROBERT J. ZIEMBA

DocuSigned by: Robert J. Ziemba

02/13/2026

SIGNATURE DATE

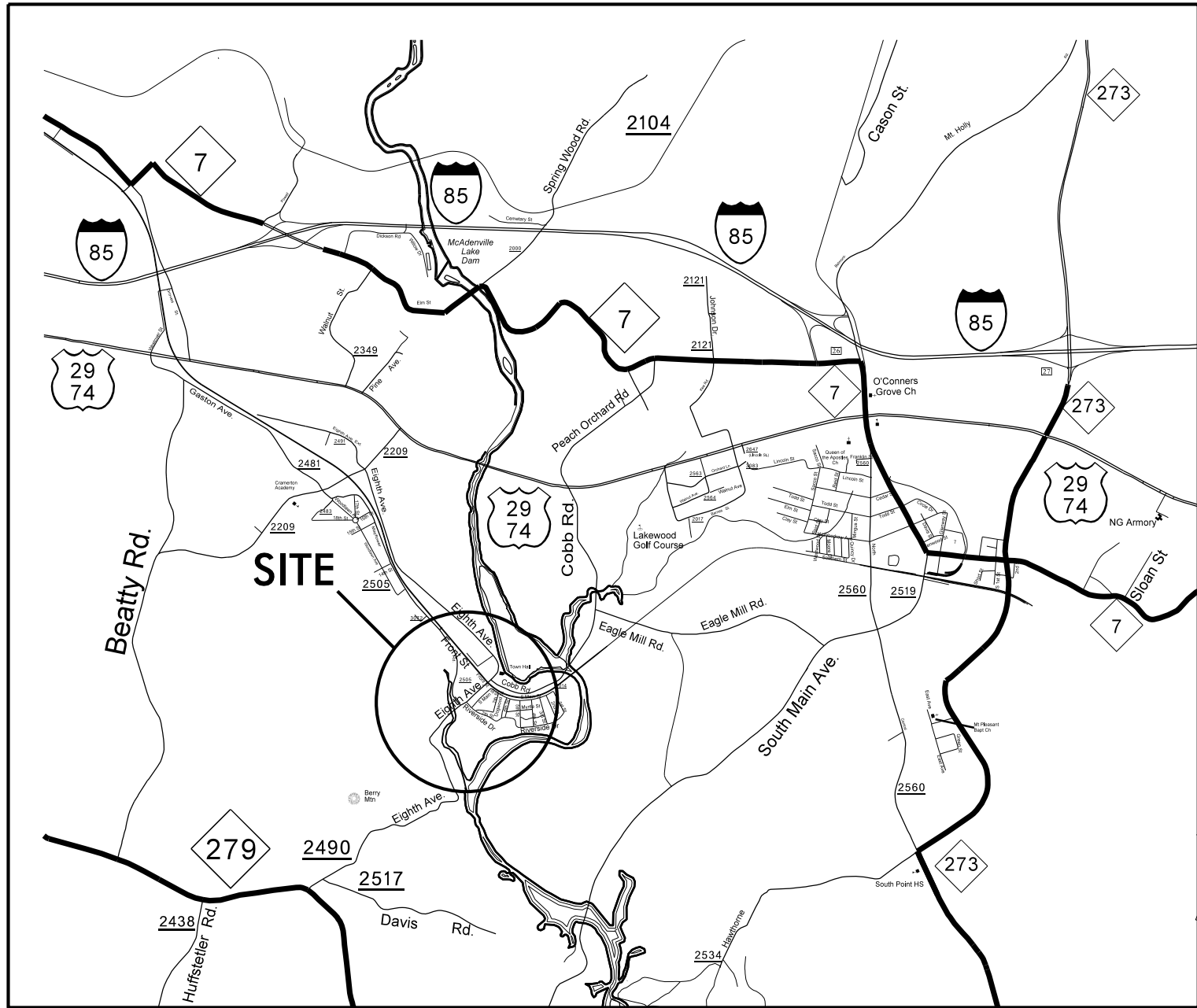


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09.08/99

CONTRACT: DL00387 TIP PROJECT: BN-0031LA

See Sheet 1A For Index of Sheets

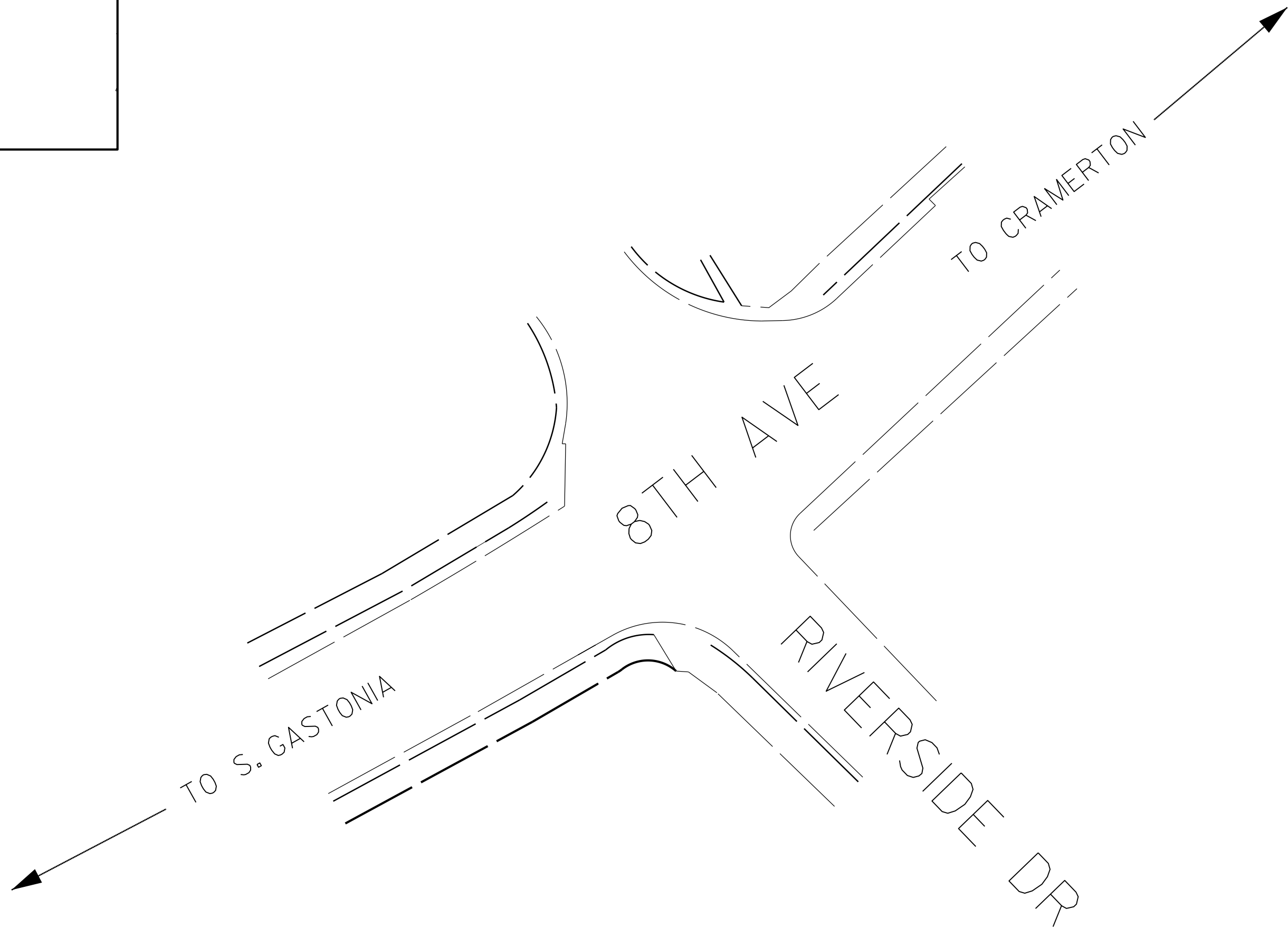


STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

GASTON COUNTY

LOCATION: 8TH AVE AND RIVERSIDE DR  
TOWN OF CRAMERTON

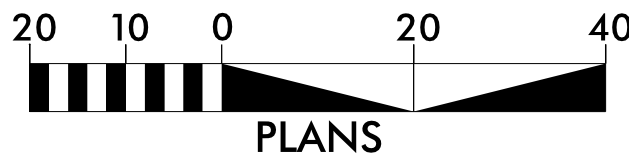
TYPE OF WORK: ADDING CURB RAMPS AND CROSSWALKS



| STATE           | STATE PROJECT REFERENCE NO. |                 | SHEET NO.   | TOTAL SHEETS |
|-----------------|-----------------------------|-----------------|-------------|--------------|
| N.C.            | BN-0031LA                   |                 | 1           |              |
| STATE PROJ. NO. |                             | F. A. PROJ. NO. | DESCRIPTION |              |
| 52073.12.6      |                             | TAPE012         | P.E.        |              |
| 52073.12.304    |                             | TAPE012         | CONST.      |              |
|                 |                             |                 |             |              |
|                 |                             |                 |             |              |
|                 |                             |                 |             |              |
|                 |                             |                 |             |              |
|                 |                             |                 |             |              |
|                 |                             |                 |             |              |



GRAPHIC SCALES



Prepared In the Office of:  
**DIVISION OF HIGHWAYS**  
1710 E. MARION ST., SHELBY NC, 28150

2024 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:  
N/A

LETTING DATE:  
AUGUST 11, 2026

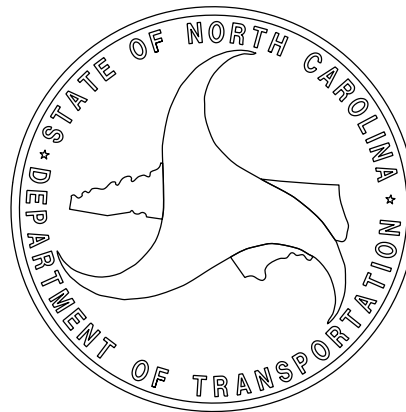
JOSHUA B. WHITE, P.E.  
PROJECT ENGINEER

R. TODD BRACKETT  
PROJECT DESIGN ENGINEER



ROADWAY DESIGN  
ENGINEER

Signed by: Joshua White P.E.  
SIGNATURE: 07/16/2026





|                       |           |
|-----------------------|-----------|
| PROJECT REFERENCE NO. | SHEET NO. |
| BN-0031LA             | 1A        |

ROADWAY DESIGN ENGINEER

SEAL  
028885  
ENGINEER  
JOSHUA B. WHITE

Signed by:  
Joshua White  
FOCBA3DDAD5640C...  
07/16/2026

| INDEX OF SHEETS    |                                                       | GENERAL NOTES:                                                                                                                                                                                                                                          | 2024 SPECIFICATIONS | 2024 ROADWAY ENGLISH STANDARD DRAWINGS                                                                                                                                                                                                                                 |
|--------------------|-------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SHEET NUMBER       | SHEET                                                 |                                                                                                                                                                                                                                                         |                     |                                                                                                                                                                                                                                                                        |
| 1                  | TITLE SHEET                                           | CURB RAMPS                                                                                                                                                                                                                                              |                     | The following Roadway Standards as appear in "Roadway Standard Drawings" Highway Design Branch - N. C. Department of Transportation - Raleigh, N. C., Dated January, 2012 are applicable to this project and by reference hereby are considered a part of these plans: |
| 1A                 | INDEX OF SHEETS, GENERAL NOTES, AND STANDARD DRAWINGS | CURB RAMPS ARE SHOWN ON THE PLANS AT APPROXIMATE LOCATIONS. CONSTRUCT ALL CURB RAMPS ACCORDANCE WITH STD 848.06, & SPECIAL DETAILS. IF FIELD CONDITIONS DICTATE THAT STANDARDS CAN NOT BE MET, CONSTRUCT AN ALTERNATE PAVEMENT MARKING AND SIGNAL PLANS |                     | STD.NO. TITLE                                                                                                                                                                                                                                                          |
| 4                  | PLAN SHEETS                                           |                                                                                                                                                                                                                                                         |                     | DIVISION 6 - ASPHALT BASES AND PAVEMENTS<br>654.01 Pavement Repairs                                                                                                                                                                                                    |
| TMP-1 THRU TMP-1B  | TRAFFIC MANAGEMENT PLANS                              |                                                                                                                                                                                                                                                         |                     | DIVISION 8 - INCIDENTALS<br>846.01 Concrete Curb, Gutter and Curb & Gutter<br>848D01 Concrete Sidewalk<br>848.06 Curb Ramp - Existing Curb & Gutter<br>1205.07 Pavement Markings                                                                                       |
| SIGN-1 THRU SIGN-2 | SIGNING PLANS                                         |                                                                                                                                                                                                                                                         |                     |                                                                                                                                                                                                                                                                        |



5/14/99

|                                                                                     |  |           |  |
|-------------------------------------------------------------------------------------|--|-----------|--|
| PROJECT REFERENCE NO.                                                               |  | SHEET NO. |  |
| BN-0031LA                                                                           |  | 4         |  |
| RW SHEET NO.                                                                        |  | N/A       |  |
| ROADWAY DESIGN ENGINEER                                                             |  |           |  |
|  |  |           |  |
| Joshua B. White                                                                     |  |           |  |
| P02883DDAD5868C                                                                     |  |           |  |
| 07/16/2026                                                                          |  |           |  |

REMOVE EXISTING MARKINGS



EXISTING CURB RAMP

8TH AVE

EXISTING CURB RAMP

REMOVE EXISTING MARKINGS

INSTALL HI-VISIBILITY CROSSWALK

CURB RAMP TYPE 2

INSTALL HI-VISIBILITY CROSSWALK

NEW SIDEWALK TIE TO EXISTING

RIVERSIDE DR

8TH AVE

NOTE:

REFER TO 2024 NCDOT STANDARD DRAWING 848.06 AND/OR 2B DETAILS FOR CURB RAMP INSTALLATION.

REFER TO 2024 NCDOT STANDARD DRAWING 1205.07 FOR CROSSWALK INSTALLATION.

REFER TO 2024 NCDOT STANDARD DRAWING 848DOI FOR SIDEWALK INSTALLATION.

16-JUL-2026 14:25 16-PROJECTS\12.19.25\221.EIGHTH.AVE\221.8TH.AVE.RIVERSIDE\_DR\_Rdy\_PSH\_4.dgn  
INGeston  
tbrackett



STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

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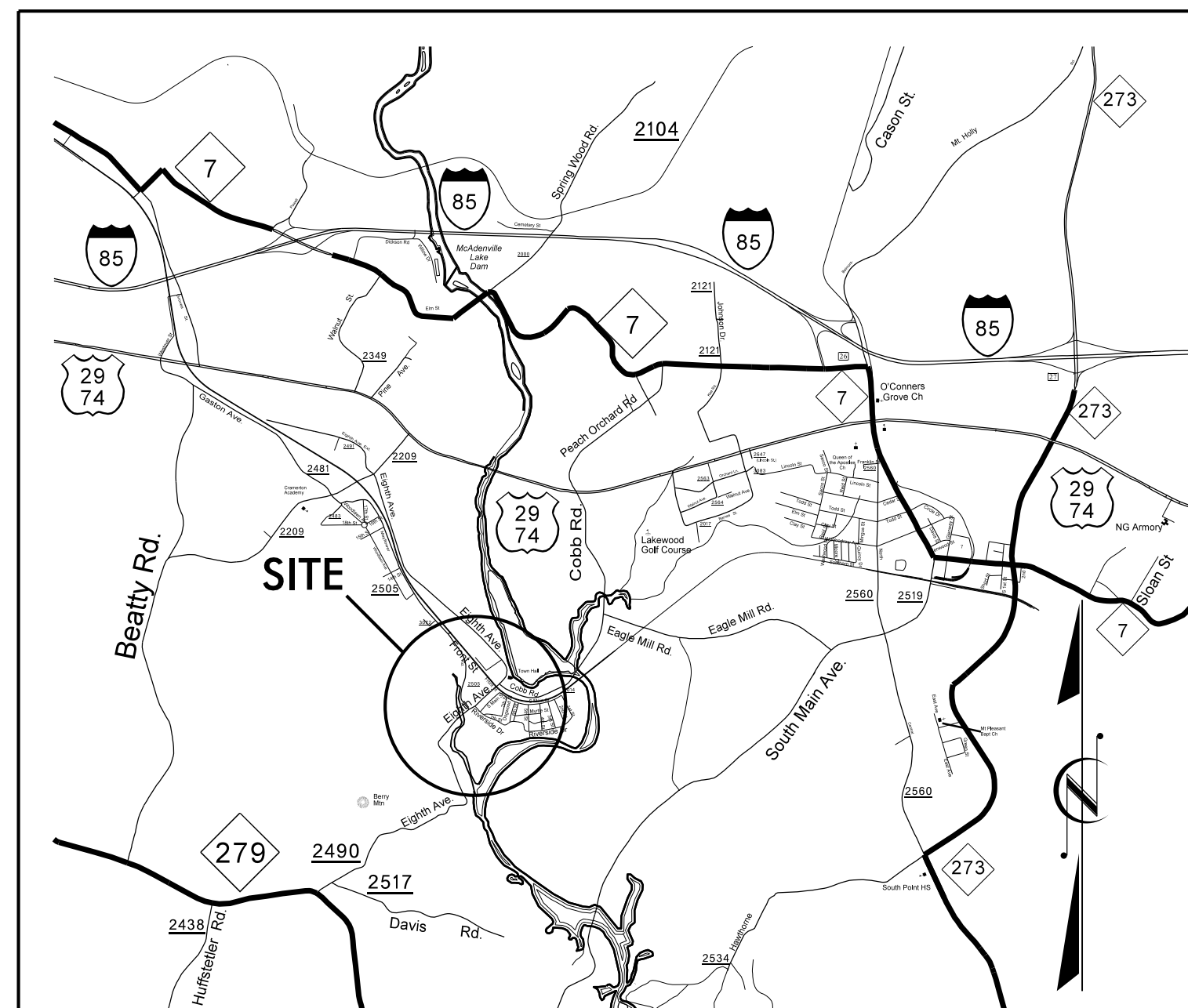
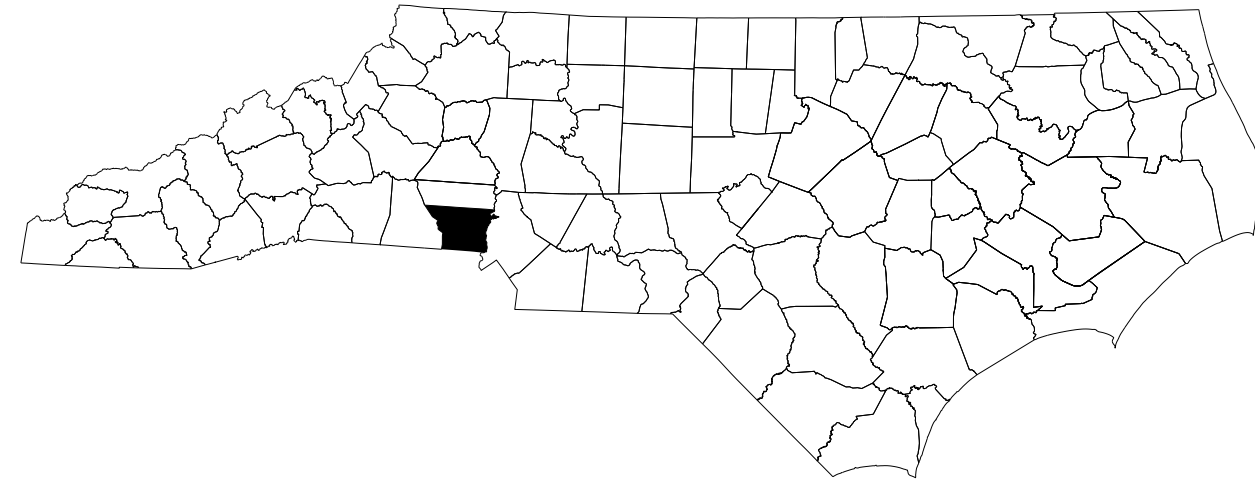
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***TRANSPORTATION MANAGEMENT PLAN***

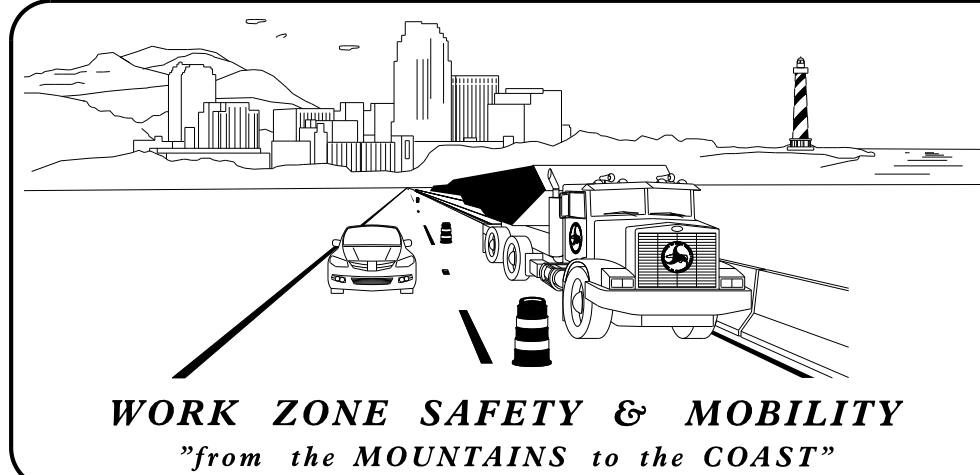
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***GASTON COUNTY***



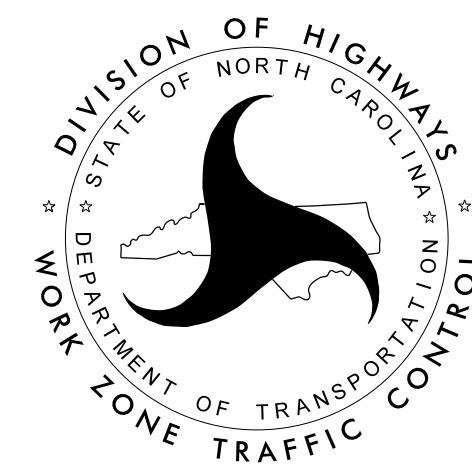
VICINITY MAP - NOT TO SCALE



R. TODD BRACKETT

JOSHUA B. WHITE, PE PLS  
*PROJECT ENGINEER*

R. TODD BRACKETT  
*PROJECT DESIGN ENGINEER*



| <u>SHEET NO.</u> | <u>TITLE</u>                                                                            |
|------------------|-----------------------------------------------------------------------------------------|
| TMP-1            | TITLE SHEET, VICINITY MAP, AND INDEX OF SHEETS                                          |
| TMP-1A           | LIST OF APPLICABLE ROADWAY STANDARD DRAWINGS, AND LEGEND                                |
| TMP-1B           | TRANSPORTATION OPERATIONS PLAN: (MANAGEMENT STRATEGIES, GENERAL NOTES, AND LOCAL NOTES) |

TMP-1

***BN-0031LA***

# TIP PROJECT:

**APPROVED:** \_\_\_\_\_

**DATE:** \_\_\_\_\_

Signed by: Joshua White  
FOC9A30DAD5640C...

07/16/2026

TH CAR

**SEAL**





30-JUN-2026 08:56  
C:\Users\rtbrackett\Documents\DDC\District\NGaston\TAP\_SCORED\PROJECTS\12\_19\_25\221\EIGHTH\_AVE\221L8TH\_AVE\_RIVERSIDE\_DR\_TC\_TMP\_1A.dgn  
rtbrackett AT DIV2-34577L

ROADWAY STANDARD DRAWINGS

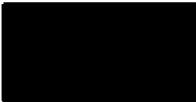
THE FOLLOWING ROADWAY STANDARDS AS SHOWN IN "ROADWAY STANDARD DRAWINGS" - N.C. DEPARTMENT OF TRANSPORTATION - RALEIGH, N.C., DATED JANUARY 2024 ARE APPLICABLE TO THIS PROJECT AND BY REFERENCE HEREBY ARE CONSIDERED A PART OF THESE PLANS:

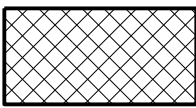
| STD. NO. | TITLE                                               |
|----------|-----------------------------------------------------|
| 1101.01  | WORK ZONE WARNING SIGNS                             |
| 1101.02  | TEMPORARY LANE CLOSURES                             |
| 1101.04  | TEMPORARY SHOULDER CLOSURES                         |
| 1101.05  | WORK ZONE VEHICLE ACCESSES                          |
| 1101.11  | TRAFFIC CONTROL DESIGN TABLES                       |
| 1110.01  | STATIONARY WORK ZONE SIGNS                          |
| 1110.02  | PORTABLE WORK ZONE SIGNS                            |
| 1115.01  | FLASHING ARROW BOARDS                               |
| 1130.01  | DRUMS                                               |
| 1135.01  | CONES                                               |
| 1150.01  | FLAGGING DEVICES                                    |
| 1160.01  | TEMPORARY CRASH CUSHION                             |
| 1165.01  | TRUCK MOUNTED ATTENUATOR                            |
| 1170.01  | PORTABLE CONCRETE BARRIER                           |
| 1180.01  | SKINNY - DRUMS                                      |
| 1205.01  | PAVEMENT MARKINGS - LINE TYPES AND OFFSETS          |
| 1205.02  | PAVEMENT MARKINGS - TWO LANE AND MULTILANE ROADWAYS |
| 1205.04  | PAVEMENT MARKINGS - INTERSECTIONS                   |
| 1205.07  | PAVEMENT MARKINGS - PEDESTRIAN CROSSWALKS           |
| 1250.01  | RAISED PAVEMENT MARKERS - INSTALLATION SPACING      |
| 1251.01  | RAISED PAVEMENT MARKERS - (PERMANENT AND TEMPORARY) |

LEGEND

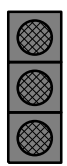
GENERAL

-  DIRECTION OF TRAFFIC FLOW
-  DIRECTION OF PEDESTRIAN TRAFFIC FLOW
-  EXIST. PVMT.
-  NORTH ARROW
-  PROPOSED PVMT.

 WORK AREA

 REMOVAL

SIGNALS

-  EXISTING
-  PROPOSED
-  TEMPORARY

PAVEMENT MARKINGS

-  EXISTING LINES
-  TEMPORARY LINES

TRAFFIC CONTROL DEVICES

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

TEMPORARY SIGNING

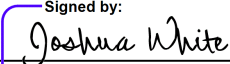
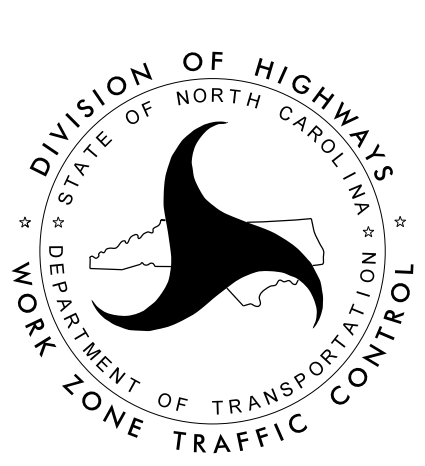
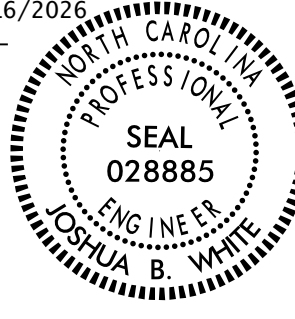
-  PORTABLE SIGN
-  STATIONARY SIGN
-  STATIONARY OR PORTABLE SIGN

PAVEMENT MARKERS

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

PAVEMENT MARKING SYMBOLS

-  PAVEMENT MARKING SYMBOLS
- 
- 

|                                                                  |                                                                                                                            |                                                                                       |                                       |
|------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------|
| APPROVED: _____                                                  | Signed by:<br><br>FOCB9A3DDAD5840C... |  | ROADWAY STANDARD<br>DRAWINGS & LEGEND |
| DATE: _____                                                      | 07/16/2026                                                                                                                 |                                                                                       |                                       |
| SEAL                                                             |                                       |                                                                                       |                                       |
| DOCUMENT NOT CONSIDERED FINAL<br>UNLESS ALL SIGNATURES COMPLETED |                                                                                                                            |                                                                                       |                                       |



## GENERAL NOTES / LOCAL NOTES

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

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

### TIME RESTRICTIONS

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

| ROAD NAME | DAY AND TIME RESTRICTIONS                                  |
|-----------|------------------------------------------------------------|
| ANY ROAD  | MONDAY THRU FRIDAY 7:00 AM TO 9:00 AM & 4:00 PM TO 6:00 PM |

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

| ROAD NAME                                                                                                                                                                                                                                                                                                                              |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ANY ROADS                                                                                                                                                                                                                                                                                                                              |
| HOLIDAY                                                                                                                                                                                                                                                                                                                                |
| 1. FOR ANY UNEXPECTED OCCURRENCE THAT CREATES UNUSUALLY HIGH TRAFFIC VOLUMES, AS DIRECTED BY THE ENGINEER.                                                                                                                                                                                                                             |
| 2. FOR NEW YEAR'S, BETWEEN THE HOURS OF 7:00 P.M. DECEMBER 31 <sup>st</sup> TO 7:00 JANUARY 2 <sup>ND</sup> . IF NEW YEAR'S DAY IS ON A FRIDAY, SATURDAY, SUNDAY, OR MONDAY THEN UNTIL THE FOLLOWING TUESDAY.                                                                                                                          |
| 3. FOR EASTER, BETWEEN THE HOURS OF 7:00 A.M. THURSDAY AND 7:00 P.M. MONDAY.                                                                                                                                                                                                                                                           |
| 4. FOR MEMORIAL DAY, BETWEEN THE HOURS OF 7:00 A.M. FRIDAY TO 7:00 P.M. TUESDAY.                                                                                                                                                                                                                                                       |
| 5. FOR INDEPENDENCE DAY, BETWEEN THE HOURS OF 7:00 A.M. THE DAY BEFORE INDEPENDENCE DAY AND 7:00 P.M. THE DAY AFTER INDEPENDENCE DAY.<br><br>IF INDEPENDENCE DAY IS ON A FRIDAY, SATURDAY, SUNDAY OR MONDAY THEN BETWEEN THE HOURS OF 7:00 A.M. THE THURSDAY BEFORE INDEPENDENCE DAY AND 7:00 P.M. THE TUESDAY AFTER INDEPENDENCE DAY. |
| 6. FOR LABOR DAY, BETWEEN THE HOURS OF 7:00 A.M. FRIDAY AND 7:00 P.M. TUESDAY.                                                                                                                                                                                                                                                         |
| 7. FOR THANKSGIVING DAY, BETWEEN THE HOURS OF 7:00 A.M. TUESDAY TO 7:00 P.M. MONDAY.                                                                                                                                                                                                                                                   |
| 8. FOR CHRISTMAS, BETWEEN THE HOURS OF 7:00 A.M. THE FRIDAY BEFORE THE WEEK OF CHRISTMAS DAY AND 7:00 P.M. THE FOLLOWING TUESDAY AFTER THE WEEK OF CHRISTMAS.                                                                                                                                                                          |

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

### LANE AND SHOULDER CLOSURE REQUIREMENTS

#### D) REMOVE LANE CLOSURE DEVICES FROM THE LANE WHEN WORK IS NOT BEING PERFORMED BEHIND THE LANE CLOSURE OR WHEN A LANE CLOSURE IS NO LONGER NEEDED OR AS DIRECTED BY THE ENGINEER.

#### E) WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING WITHIN 15 FT OF AN OPEN TRAVEL LANE, CLOSE THE NEAREST OPEN SHOULDER USING ROADWAY STANDARD DRAWING NO. 1101.04 UNLESS THE WORK AREA IS PROTECTED BY BARRIER OR GUARDRAIL OR A LANE CLOSURE IS INSTALLED.

#### F) WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING ON THE SHOULDER ADJACENT TO AN UNDIVIDED FACILITY AND WITHIN 5 FT OF AN OPEN TRAVEL LANE, CLOSE THE NEAREST OPEN TRAVEL LANE USING ROADWAY STANDARD DRAWING NO. 1101.02 UNLESS THE WORK AREA IS PROTECTED BY BARRIER OR GUARDRAIL.

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

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

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

### PAVEMENT EDGE DROP OFF REQUIREMENTS

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

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

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

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

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

### TRAFFIC PATTERN ALTERATIONS

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

### SIGNING

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

#### M) COVER OR REMOVE ALL SIGNS AND DEVICES REQUIRED TO CLOSE THE ROAD WHEN ROAD CLOSURE IS NOT IN OPERATION.

COVER OR REMOVE ALL SIGNS REQUIRED FOR THE OFF-SITE DETOUR WHEN THE DETOUR IS NOT IN OPERATION.

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

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

### TRAFFIC CONTROL DEVICES

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

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

### PAVEMENT MARKINGS AND MARKERS

#### R) TIE PROPOSED PAVEMENT MARKING LINES TO EXISTING PAVEMENT MARKING LINES.

#### S) REMOVE/REPLACE ANY CONFLICTING/DAMAGED PAVEMENT MARKINGS AND MARKERS BY THE END OF EACH DAY'S OPERATION.

### MISCELLANEOUS

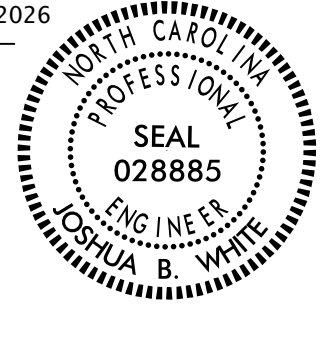
#### T) LAW ENFORCEMENT MAY BE USED TO MAINTAIN TRAFFIC THROUGH THE WORK AREA AND/OR INTERSECTIONS AS DIRECTED BY THE ENGINEER.

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

## MANAGEMENT STRATEGIES

ACCESS TO ALL BUSINESSES WITHIN THE PROJECT LIMITS MUST BE MAINTAINED AT ALL TIMES

WORK TO BE COMPLETED WITH THE USE OF TEMPORARY LANE CLOSURES PER STD. 1101.02, ADHERING TO DAY AND TIME RESTRICTIONS IN THE CONTRACT AND THE TRAFFIC CONTROL GENERAL NOTES.

|                                            |                                                                                                                                                             |                                                                                       |                                      |
|--------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|--------------------------------------|
| APPROVED: _____<br>DATE: _____<br><br>SEAL | Signed by: <u>Joshua White</u><br>F0C9A3DDAD5640C...<br>07/16/2026<br> |  | TRANSPORTATION<br>OPERATIONS<br>PLAN |
|--------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|--------------------------------------|



30-JUN-2026 08:48  
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rtbrackett AT DIM2-345777L

09/08/99

CONTRACT: DL00387

TIP PROJECT: BN-0031LA

STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

STATE PROJECT REFERENCE NO.  
BN-0031LA

SHEET NO.  
1

SIGNING PLANS, GASTON COUNTY

LOCATION: INTERSECTION OF 8TH AVE & RIVERSIDE DR.



ROADWAY STANDARD DRAWING

THE FOLLOWING ROADWAY STANDARDS AS THEY APPEAR IN "ROADWAY STANDARD DRAWINGS" - PROJECT SERVICES UNIT - N.C. DEPARTMENT OF TRANSPORTATION - RALEIGH, N.C., DATED JANUARY 2024 ARE ARE APPLICABLE TO THIS PROJECT AND BY REFERENCE AR HEREBY 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 |

GENERAL NOTES

ALL SIGNS FURNISHED BY CONTRACTOR.

WHEN NOT STATIONED OR DIMENSIONED ON PLANS, SEE ROADWAY STANDARD DRAWINGS FOR SPACING REQUIREMENTS, OR FIELD LOCATE BY THE ENGINEER.

THE BACKGROUND FOR TYPE E SIGNS SHALL BE GRADE C REFLECTIVE SHEETING UNLESS OTHERWISE NOTED.

PAY ITEM NOTES

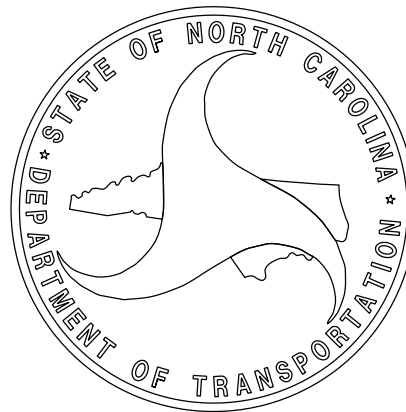
1 SIGN ERECTION, TYPE D, E OR F.

INDEX

| SHEET NO. | DESCRIPTION       |
|-----------|-------------------|
| SIGN-1    | TITLE SHEET       |
| SIGN-2    | TYPE E SIGN SHEET |
| PSH-4     | FINAL SIGNING     |

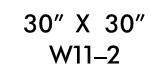
SUMMARY OF QUANTITIES

| ITEM NO.     |           | ITEM DESCRIPTION                                                                                                  | QUANTITY | UNIT |
|--------------|-----------|-------------------------------------------------------------------------------------------------------------------|----------|------|
| DESC. NO.    | SECT. NO. |                                                                                                                   |          |      |
| 4025000000-E | 901       | CONTRACTOR FURNISHED, TYPE E SIGN SUPPORTS, 3-LB STEEL U-CHANNEL SIGN ERECTION, RELOCATE, TYPE E (GROUND MOUNTED) | 20       | SF   |
| 4072000000-E | 903       |                                                                                                                   | 20       | LF   |
| 4116100000-E | 904       |                                                                                                                   | 2        | EA   |

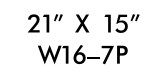




QUANTITY REQ'D 2



QUANTITY REQ'D 2



## TYPE E SIGNS



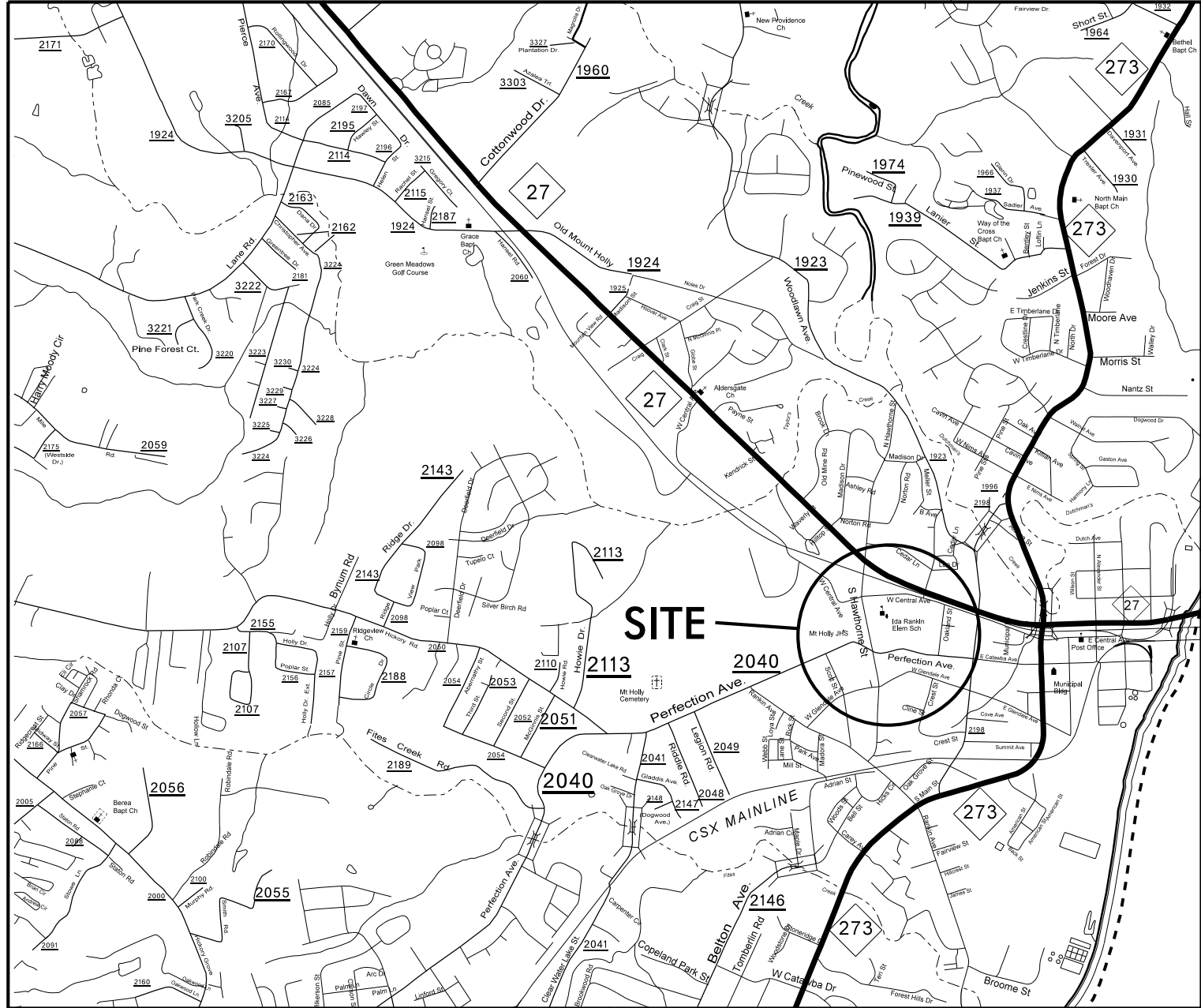
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rtbrackett AT DWM2-345777L

09.08/299

TIP PROJECT: BN-0031LA

CONTRACT: DL00387

See Sheet 1A For Index of Sheets



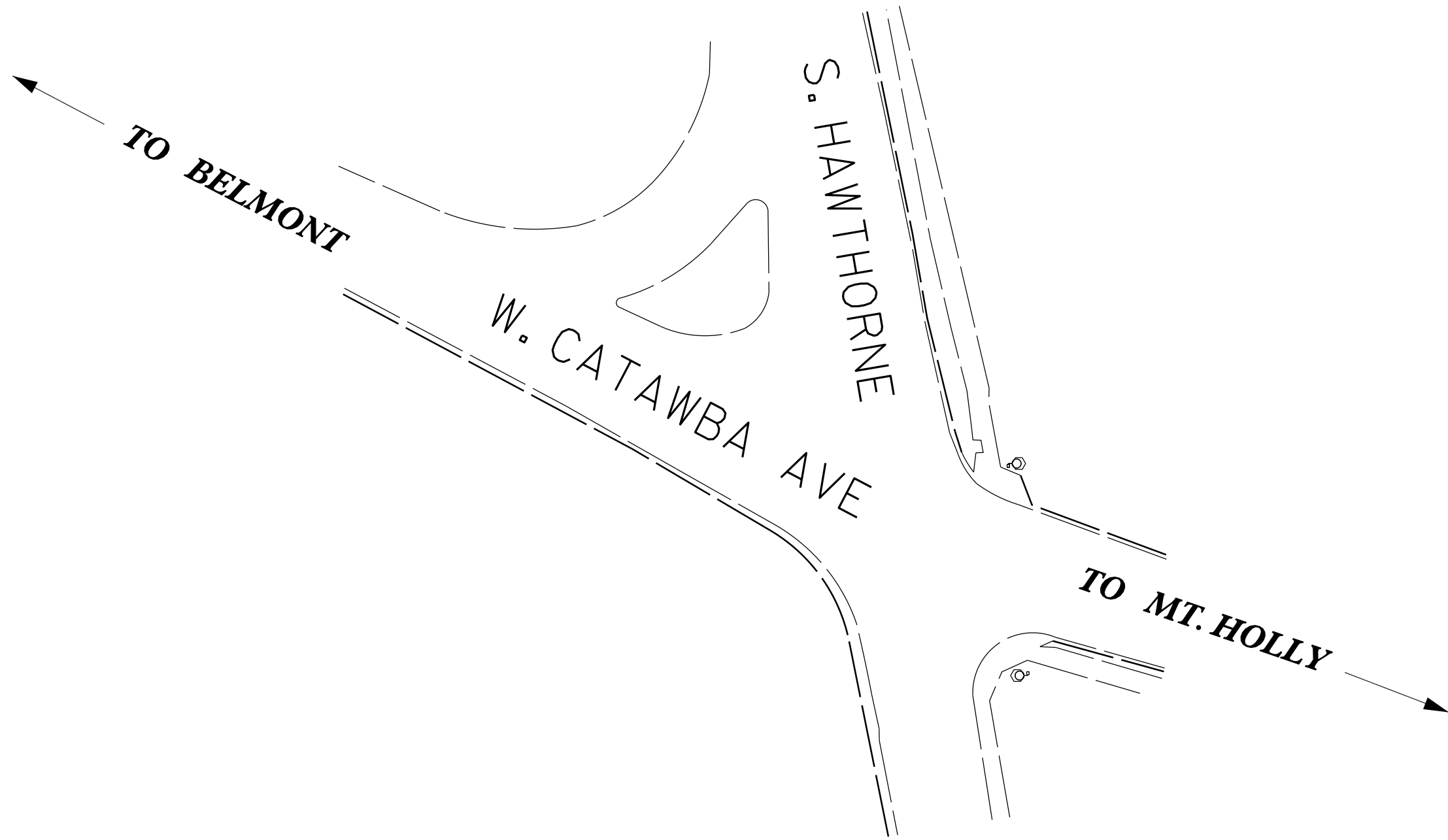
STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

GASTON COUNTY

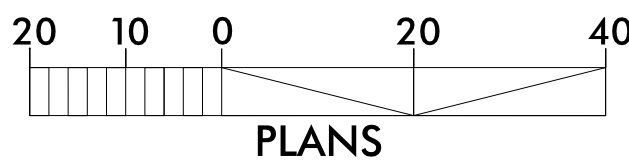
LOCATION: INTERSECTION OF W. CATAWBA AVE (SR 2040)  
AND S. HAWTHORNE ST.

TYPE OF WORK: PEDESTRIAN SIGNAL AND CROSSWALK

| STATE           | STATE PROJECT REFERENCE NO. | SHEET NO.   | TOTAL SHEETS |
|-----------------|-----------------------------|-------------|--------------|
| N.C.            | BN-0031LA                   | 1           |              |
| STATE PROJ. NO. | P.A. PROJ. NO.              | DESCRIPTION |              |
| 52073.12.6      | TAPE012                     | P.E.        |              |
| 52073.12.305    | TAPE012                     | CONST.      |              |
|                 |                             |             |              |
|                 |                             |             |              |
|                 |                             |             |              |
|                 |                             |             |              |
|                 |                             |             |              |



GRAPHIC SCALES



PLANS

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

2024 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:  
NA

LETTING DATE:  
AUGUST 11, 2026

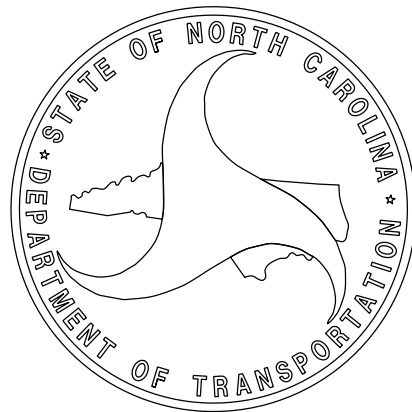
JOSHUA B. WHITE PE, PLS  
PROJECT ENGINEER

R. TODD BRACKETT  
PROJECT DESIGN ENGINEER



ROADWAY DESIGN  
ENGINEER

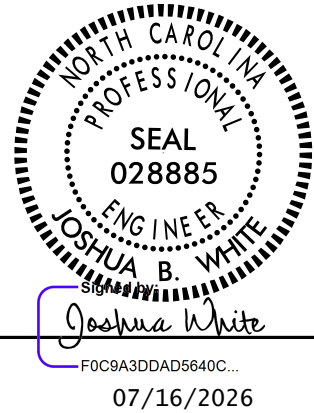
Signed by:  
Joshua White  
P.E.  
SIGNATURE: 07/16/2026





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ctbackett 07/16/2026

8/17/99

| PROJECT REFERENCE NO. |                                                       | SHEET NO.                                                                                                                                                                                                                                                              |                                         |
|-----------------------|-------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------|
| BN-0031LA             |                                                       | 1A                                                                                                                                                                                                                                                                     |                                         |
|                       |                                                       | ROADWAY DESIGN ENGINEER                                                                                                                                                                                                                                                |                                         |
|                       |                                                       |                                                                                                                                                                                     |                                         |
| INDEX OF SHEETS       |                                                       | GENERAL NOTES:                                                                                                                                                                                                                                                         |                                         |
| SHEET NUMBER          | SHEET                                                 | 2024 SPECIFICATIONS                                                                                                                                                                                                                                                    |                                         |
| 1                     | TITLE SHEET                                           | CURB RAMPS                                                                                                                                                                                                                                                             |                                         |
| 1A                    | INDEX OF SHEETS, GENERAL NOTES, AND STANDARD DRAWINGS | CURB RAMPS ARE SHOWN ON THE PLANS AT APPROXIMATE LOCATIONS. CONSTRUCT ALL CURB RAMPS ACCORDANCE WITH STD 848.06, & SPECIAL DETAILS. IF FIELD CONDITIONS DICTATE THAT STANDARDS CAN NOT BE MET, CONSTRUCT AN ALTERNATE CURB RAMP USING DETAILS INCLUDED ON PLANSHEET.   |                                         |
| 4                     | PLAN SHEETS                                           |                                                                                                                                                                                                                                                                        |                                         |
| TMP-1 THRU TMP-1B     | TRAFFIC MANAGEMENT PLANS                              |                                                                                                                                                                                                                                                                        |                                         |
| SIG-1.0 THRU SIG-1.1  | SIGNAL PLANS                                          |                                                                                                                                                                                                                                                                        |                                         |
|                       |                                                       | 2024 ROADWAY ENGLISH STANDARD DRAWINGS                                                                                                                                                                                                                                 |                                         |
|                       |                                                       | The following Roadway Standards as appear in "Roadway Standard Drawings" Highway Design Branch - N. C. Department of Transportation - Raleigh, N. C., Dated January, 2012 are applicable to this project and by reference hereby are considered a part of these plans: |                                         |
|                       |                                                       | STD.NO.                                                                                                                                                                                                                                                                | TITLE                                   |
|                       |                                                       | DIVISION 6 - ASPHALT BASES AND PAVEMENTS                                                                                                                                                                                                                               |                                         |
|                       |                                                       | 654.01                                                                                                                                                                                                                                                                 | Pavement Repairs                        |
|                       |                                                       | DIVISION 8 - INCIDENTALS                                                                                                                                                                                                                                               |                                         |
|                       |                                                       | 846.01                                                                                                                                                                                                                                                                 | Concrete Curb, Gutter and Curb & Gutter |
|                       |                                                       | 848D01                                                                                                                                                                                                                                                                 | Concrete Sidewalk                       |
|                       |                                                       | 848.06                                                                                                                                                                                                                                                                 | Curb Ramp - Existing Curb & Gutter      |
|                       |                                                       | 1205.07                                                                                                                                                                                                                                                                | Pavement Markings                       |

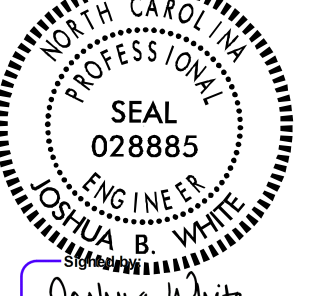


5/14/99

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SCOPED PROJECT 16-JUL-2026 14:52:25 \\284.S-HAWTHORNE.ST\_CATAWBA\_AVE...Rdy\_PSH\_4.dgn  
torockett



NOTE:  
REFER TO 2024 NCDOT STANDARD  
DRAWING 1205.07  
FOR CROSSWALK INSTALLATION

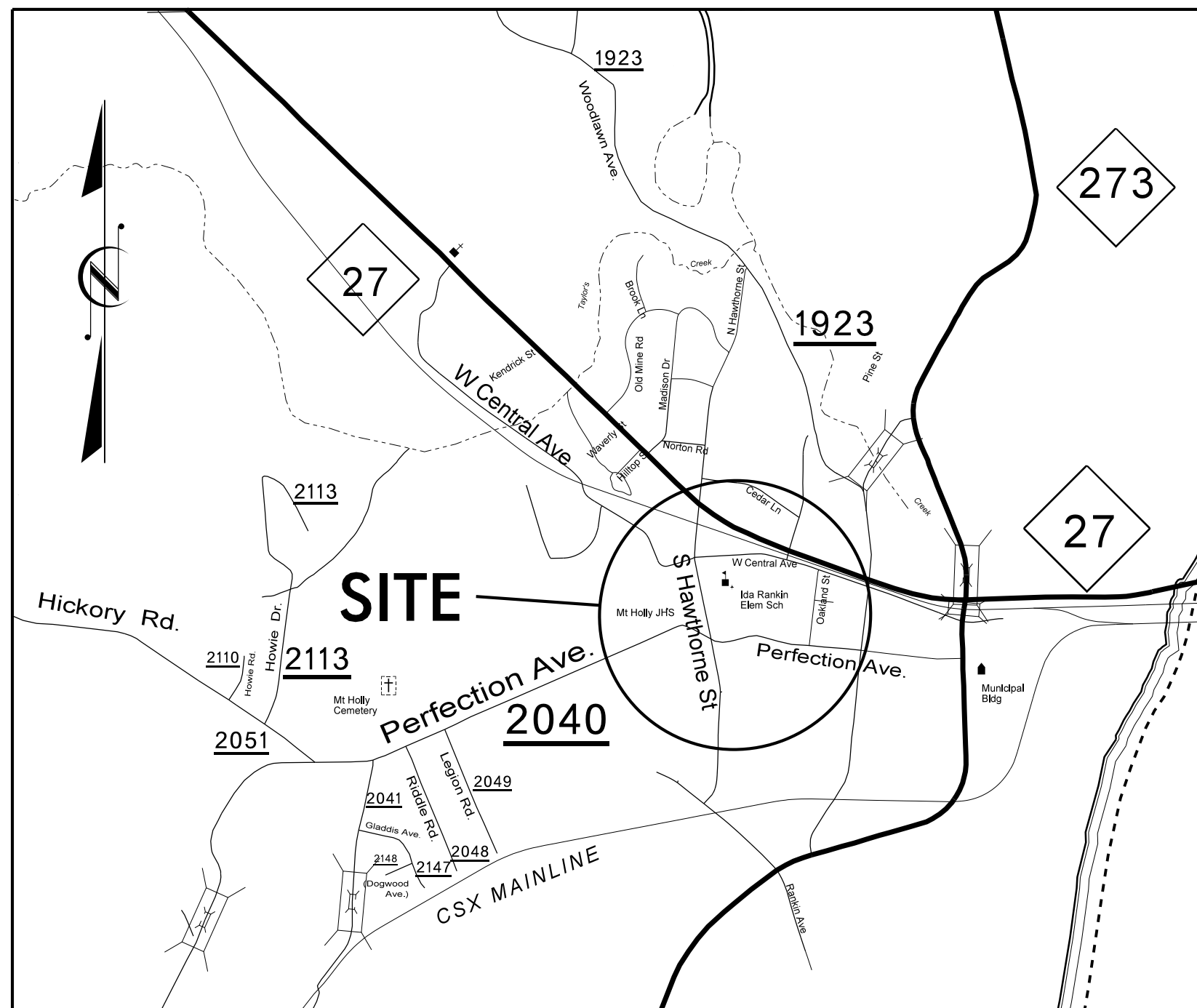
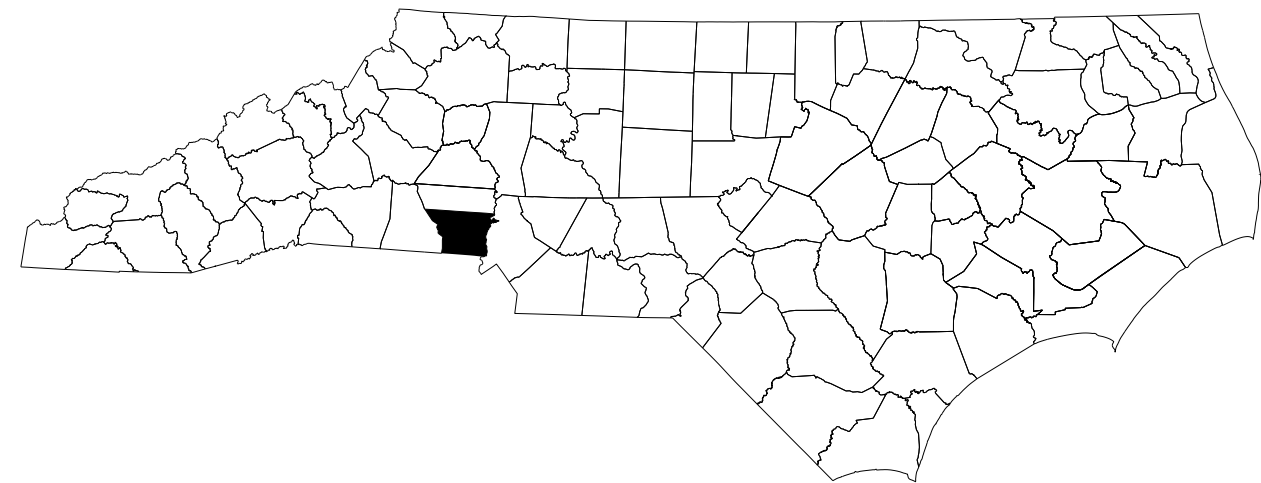
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| PROJECT REFERENCE NO.                                                               | SHEET NO. |
| BN-0031LA                                                                           | 4         |
| RW SHEET NO.                                                                        | N/A       |
| ROADWAY DESIGN ENGINEER                                                             |           |
|  |           |
| Joshua B. White                                                                     |           |
| 07/16/2026                                                                          |           |



STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

TRANSPORTATION MANAGEMENT PLAN

GASTON COUNTY



VICINITY MAP - NOT TO SCALE

INDEX OF SHEETS

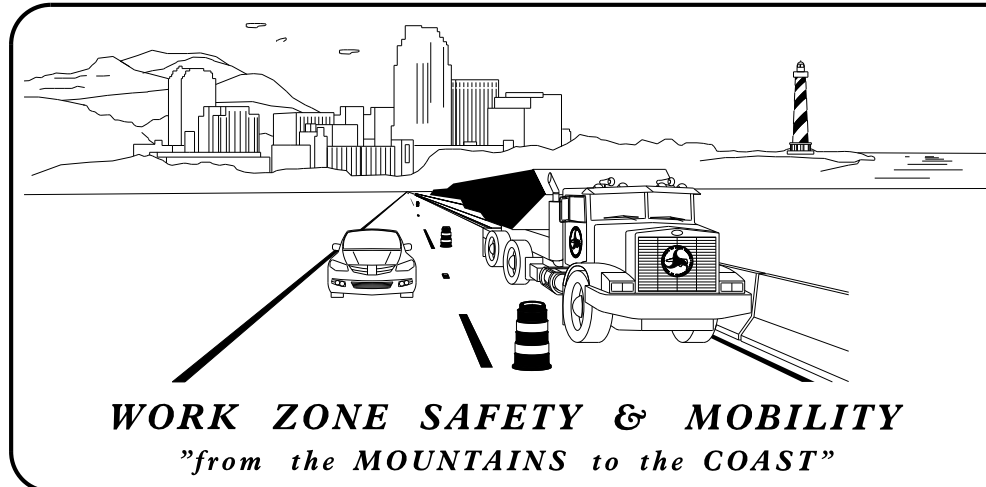
| SHEET NO. | TITLE                                                                                   |
|-----------|-----------------------------------------------------------------------------------------|
| TMP-1     | TITLE SHEET, VICINITY MAP, AND INDEX OF SHEETS                                          |
| TMP-1A    | LIST OF APPLICABLE ROADWAY STANDARD DRAWINGS, AND LEGEND                                |
| TMP-1B    | TRANSPORTATION OPERATIONS PLAN: (MANAGEMENT STRATEGIES, GENERAL NOTES, AND LOCAL NOTES) |

SHEET NO.

TMP-1

BN-0031LA

TIP PROJECT:



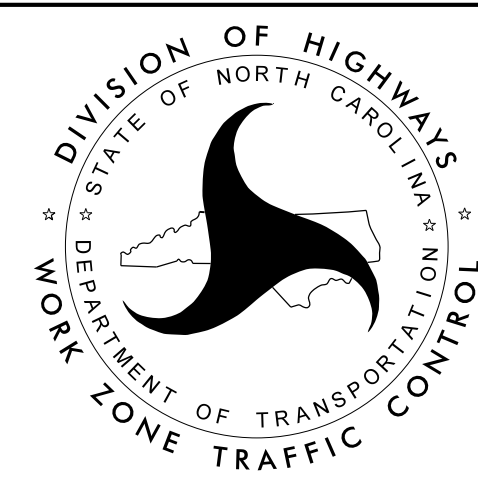
PLANS PREPARED BY:

R. TODD BRACKETT

NCDOT CONTACTS:

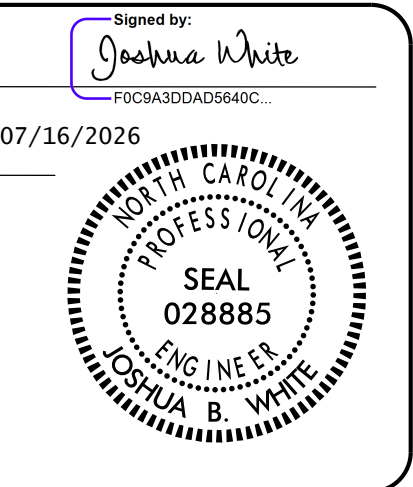
JOSHUA B. WHITE, PE PLS  
PROJECT ENGINEER

R. TODD BRACKETT  
PROJECT DESIGN ENGINEER



APPROVED:

DATE:



SEAL



30-JUN-2026 09:44  
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rtbrackett AT DIV2-34577L

# ROADWAY STANDARD DRAWINGS

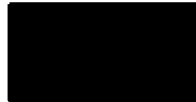
THE FOLLOWING ROADWAY STANDARDS AS SHOWN IN "ROADWAY STANDARD DRAWINGS" - N.C. DEPARTMENT OF TRANSPORTATION - RALEIGH, N.C., DATED JANUARY 2024 ARE APPLICABLE TO THIS PROJECT AND BY REFERENCE HEREBY ARE CONSIDERED A PART OF THESE PLANS:

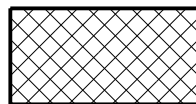
| STD. NO. | TITLE                                               |
|----------|-----------------------------------------------------|
| 1101.01  | WORK ZONE WARNING SIGNS                             |
| 1101.02  | TEMPORARY LANE CLOSURES                             |
| 1101.04  | TEMPORARY SHOULDER CLOSURES                         |
| 1101.05  | WORK ZONE VEHICLE ACCESSES                          |
| 1101.11  | TRAFFIC CONTROL DESIGN TABLES                       |
| 1110.01  | STATIONARY WORK ZONE SIGNS                          |
| 1110.02  | PORTABLE WORK ZONE SIGNS                            |
| 1115.01  | FLASHING ARROW BOARDS                               |
| 1130.01  | DRUMS                                               |
| 1135.01  | CONES                                               |
| 1150.01  | FLAGGING DEVICES                                    |
| 1160.01  | TEMPORARY CRASH CUSHION                             |
| 1165.01  | TRUCK MOUNTED ATTENUATOR                            |
| 1170.01  | PORTABLE CONCRETE BARRIER                           |
| 1180.01  | SKINNY - DRUMS                                      |
| 1205.01  | PAVEMENT MARKINGS - LINE TYPES AND OFFSETS          |
| 1205.02  | PAVEMENT MARKINGS - TWO LANE AND MULTILANE ROADWAYS |
| 1205.04  | PAVEMENT MARKINGS - INTERSECTIONS                   |
| 1205.07  | PAVEMENT MARKINGS - PEDESTRIAN CROSSWALKS           |
| 1250.01  | RAISED PAVEMENT MARKERS - INSTALLATION SPACING      |
| 1251.01  | RAISED PAVEMENT MARKERS - (PERMANENT AND TEMPORARY) |

# LEGEND

## GENERAL

-  DIRECTION OF TRAFFIC FLOW
-  DIRECTION OF PEDESTRIAN TRAFFIC FLOW
-  EXIST. PVMT.
-  NORTH ARROW
-  PROPOSED PVMT.

 WORK AREA

 REMOVAL

## SIGNALS

-  EXISTING
-  PROPOSED
-  TEMPORARY

## PAVEMENT MARKINGS

-  EXISTING LINES
-  TEMPORARY LINES

## TRAFFIC CONTROL DEVICES

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

## TEMPORARY SIGNING

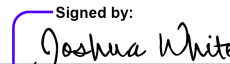
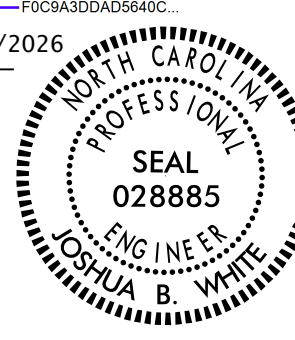
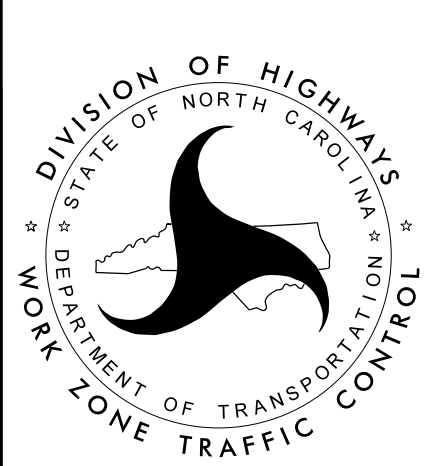
-  PORTABLE SIGN
-  STATIONARY SIGN
-  STATIONARY OR PORTABLE SIGN

## PAVEMENT MARKERS

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

## PAVEMENT MARKING SYMBOLS

-  PAVEMENT MARKING SYMBOLS

|                                                       |                                                                                                                                                                                                                               |                                                                                       |                                       |
|-------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------|
| APPROVED: _____<br>DATE: _____ 07/16/2026<br><br>SEAL | <div>Signed by:<br/><br/>FOCBA3DDAD5840C<br/></div> |  | ROADWAY STANDARD<br>DRAWINGS & LEGEND |
|-------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------|



30-JUN-2026 09:46  
C:\Users\rtbrackett\Documents\DDC\distric1\Gaston\TAP\_SCORED\PROJECTS\19\_25\284\_S\_HAWTHORNE\_ST & CATAWBA\_AVE\284\_S\_HAWTHORNE\_ST\_TC\_TMP\_IB.dgn  
rtbrackett AT DIV2-34577L

## GENERAL NOTES / LOCAL NOTES

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

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

### TIME RESTRICTIONS

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

| ROAD NAME | DAY AND TIME RESTRICTIONS                                  |
|-----------|------------------------------------------------------------|
| ANY ROAD  | MONDAY THRU FRIDAY 7:00 AM TO 9:00 AM & 4:00 PM TO 6:00 PM |

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

| ROAD NAME |                                                                                                                                                                                                                                                                                                                                     |
|-----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ANY ROADS |                                                                                                                                                                                                                                                                                                                                     |
| HOLIDAY   |                                                                                                                                                                                                                                                                                                                                     |
| 1.        | FOR ANY UNEXPECTED OCCURRENCE THAT CREATES UNUSUALLY HIGH TRAFFIC VOLUMES, AS DIRECTED BY THE ENGINEER.                                                                                                                                                                                                                             |
| 2.        | FOR NEW YEAR'S, BETWEEN THE HOURS OF 7:00 P.M. DECEMBER 31st TO 7:00 JANUARY 2ND. IF NEW YEAR'S DAY IS ON A FRIDAY, SATURDAY, SUNDAY, OR MONDAY THEN UNTIL THE FOLLOWING TUESDAY.                                                                                                                                                   |
| 3.        | FOR EASTER, BETWEEN THE HOURS OF 7:00 A.M. THURSDAY AND 7:00 P.M. MONDAY.                                                                                                                                                                                                                                                           |
| 4.        | FOR MEMORIAL DAY, BETWEEN THE HOURS OF 7:00 A.M. FRIDAY TO 7:00 P.M. TUESDAY.                                                                                                                                                                                                                                                       |
| 5.        | FOR INDEPENDENCE DAY, BETWEEN THE HOURS OF 7:00 A.M. THE DAY BEFORE INDEPENDENCE DAY AND 7:00 P.M. THE DAY AFTER INDEPENDENCE DAY.<br><br>IF INDEPENDENCE DAY IS ON A FRIDAY, SATURDAY, SUNDAY OR MONDAY THEN BETWEEN THE HOURS OF 7:00 A.M. THE THURSDAY BEFORE INDEPENDENCE DAY AND 7:00 P.M. THE TUESDAY AFTER INDEPENDENCE DAY. |
| 6.        | FOR LABOR DAY, BETWEEN THE HOURS OF 7:00 A.M. FRIDAY AND 7:00 P.M. TUESDAY.                                                                                                                                                                                                                                                         |
| 7.        | FOR THANKSGIVING DAY, BETWEEN THE HOURS OF 7:00 A.M. TUESDAY TO 7:00 P.M. MONDAY.                                                                                                                                                                                                                                                   |
| 8.        | FOR CHRISTMAS, BETWEEN THE HOURS OF 7:00 A.M. THE FRIDAY BEFORE THE WEEK OF CHRISTMAS DAY AND 7:00 P.M. THE FOLLOWING TUESDAY AFTER THE WEEK OF CHRISTMAS.                                                                                                                                                                          |
| C)        | DO NOT CONDUCT ANY HAULING OPERATIONS AGAINST THE FLOW OF TRAFFIC OF AN OPEN TRAVELWAY UNLESS THE HAULING OPERATION IS PROTECTED BY BARRIER OR GUARDRAIL OR AS DIRECTED BY THE ENGINEER.                                                                                                                                            |

### LANE AND SHOULDER CLOSURE REQUIREMENTS

- D) REMOVE LANE CLOSURE DEVICES FROM THE LANE WHEN WORK IS NOT BEING PERFORMED BEHIND THE LANE CLOSURE OR WHEN A LANE CLOSURE IS NO LONGER NEEDED OR AS DIRECTED BY THE ENGINEER.
- E) WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING WITHIN 15 FT OF AN OPEN TRAVEL LANE, CLOSE THE NEAREST OPEN SHOULDER USING ROADWAY STANDARD DRAWING NO. 1101.04 UNLESS THE WORK AREA IS PROTECTED BY BARRIER OR GUARDRAIL OR A LANE CLOSURE IS INSTALLED.
- F) WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING ON THE SHOULDER ADJACENT TO AN UNDIVIDED FACILITY AND WITHIN 5 FT OF AN OPEN TRAVEL LANE, CLOSE THE NEAREST OPEN TRAVEL LANE USING ROADWAY STANDARD DRAWING NO. 1101.02 UNLESS THE WORK AREA IS PROTECTED BY BARRIER OR GUARDRAIL.
- WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING ON THE SHOULDER ADJACENT TO A DIVIDED FACILITY AND WITHIN 10 FT OF AN OPEN TRAVEL LANE, CLOSE THE NEAREST OPEN TRAVEL LANE USING ROADWAY STANDARD DRAWING NO. 1101.02 UNLESS THE WORK AREA IS PROTECTED BY BARRIER OR GUARDRAIL.
- G) WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING WITHIN A LANE OF TRAVEL OF AN UNDIVIDED OR DIVIDED FACILITY, CLOSE THE LANE ACCORDING TO THE TRAFFIC CONTROL PLANS, ROADWAY STANDARD DRAWINGS, OR AS DIRECTED BY THE ENGINEER. CONDUCT THE WORK SO THAT ALL PERSONNEL AND/OR EQUIPMENT REMAIN WITHIN THE CLOSED TRAVEL LANE.
- H) DO NOT WORK SIMULTANEOUSLY WITHIN 15 FT ON BOTH SIDES OF AN OPEN TRAVELWAY, RAMP, OR LOOP WITHIN THE SAME LOCATION UNLESS PROTECTED WITH GUARDRAIL OR BARRIER.

### PAVEMENT EDGE DROP OFF REQUIREMENTS

- I) BACKFILL AT A 6:1 SLOPE UP TO THE EDGE AND ELEVATION OF EXISTING PAVEMENT IN AREAS ADJACENT TO AN OPENED TRAVEL LANE THAT HAS AN EDGE OF PAVEMENT DROP-OFF AS FOLLOWS:
- BACKFILL DROP-OFFS THAT EXCEED 2 INCHES ON ROADWAYS WITH POSTED SPEED LIMITS OF 45 MPH OR GREATER.
- BACKFILL DROP-OFFS THAT EXCEED 3 INCHES ON ROADWAYS WITH POSTED SPEED LIMITS LESS THAN 45 MPH.
- BACKFILL WITH SUITABLE COMPACTED MATERIAL, AS APPROVED BY THE ENGINEER, AT NO EXPENSE TO THE DEPARTMENT.
- J) DO NOT EXCEED A DIFFERENCE OF 2 INCHES IN ELEVATION BETWEEN OPEN LANES OF TRAFFIC FOR NOMINAL LIFTS OF 1.5 INCHES. INSTALL ADVANCE WARNING "UNEVEN LANES" SIGNS (W8-11) IN ADVANCE AND A MINIMUM OF EVERY HALF MILE THROUGHOUT THE UNEVEN AREA.

### TRAFFIC PATTERN ALTERATIONS

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

### SIGNING

- L) INSTALL ADVANCE WORK ZONE WARNING SIGNS WHEN WORK IS WITHIN 40 FT FROM THE EDGE OF TRAVEL LANE AND NO MORE THAN THREE (3) DAYS PRIOR TO THE BEGINNING OF CONSTRUCTION.
- M) COVER OR REMOVE ALL SIGNS AND DEVICES REQUIRED TO CLOSE THE ROAD WHEN ROAD CLOSURE IS NOT IN OPERATION.
- COVER OR REMOVE ALL SIGNS REQUIRED FOR THE OFF-SITE DETOUR WHEN THE DETOUR IS NOT IN OPERATION.
- N) ENSURE ALL NECESSARY SIGNING IS IN PLACE PRIOR TO ALTERING ANY TRAFFIC PATTERN.
- O) INSTALL BLACK ON ORANGE "DIP" SIGNS (W8-2) AND/OR "BUMP" SIGNS (W8-1) IN ADVANCE OF THE UNEVEN AREA, OR AS DIRECTED BY THE ENGINEER.

### TRAFFIC CONTROL DEVICES

- P) WHEN LANE CLOSURES ARE NOT IN EFFECT SPACE CHANNELIZING DEVICES IN WORK AREAS NO GREATER IN FEET THAN TWICE THE POSTED SPEED LIMIT (MPH) EXCEPT, 10 FT ON-CENTER IN RADII, AND 3 FT OFF THE EDGE OF AN OPEN TRAVELWAY. REFER TO STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES SECTIONS 1130 (DRUMS), 1135 (CONES) AND 1180 (SKINNY DRUMS) FOR ADDITIONAL REQUIREMENTS.
- Q) PLACE ADDITIONAL SETS OF THREE CHANNELIZING DEVICES PERPENDICULAR TO THE EDGE OF TRAVELWAY ON 500 FT CENTERS WHEN UNOPENED LANES ARE CLOSED TO TRAFFIC.

### PAVEMENT MARKINGS AND MARKERS

- R) TIE PROPOSED PAVEMENT MARKING LINES TO EXISTING PAVEMENT MARKING LINES.
- S) REMOVE/REPLACE ANY CONFLICTING/DAMAGED PAVEMENT MARKINGS AND MARKERS BY THE END OF EACH DAY'S OPERATION.

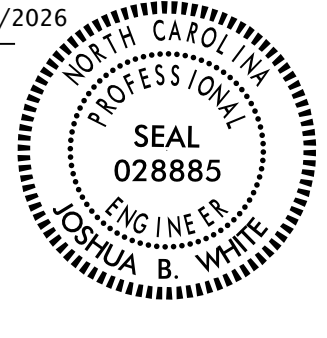
### MISCELLANEOUS

- T) LAW ENFORCEMENT MAY BE USED TO MAINTAIN TRAFFIC THROUGH THE WORK AREA AND/OR INTERSECTIONS AS DIRECTED BY THE ENGINEER.
- U) ALL CURB RAMP LOCATIONS SHALL BE DERIVED FROM STATIONING SHOWN ON PAVEMENT MARKING PLANS OR AS DIRECTED BY THE ENGINEER IN COORDINATION WITH THE SIGNING AND DELINEATION UNIT.

## MANAGEMENT STRATEGIES

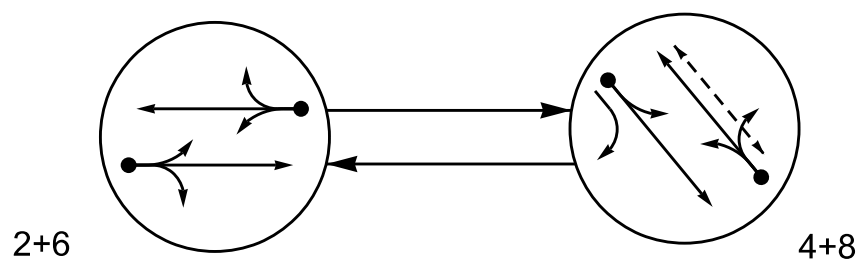
ACCESS TO ALL BUSINESSES WITHIN THE PROJECT LIMITS MUST BE MAINTAINED AT ALL TIMES

WORK TO BE COMPLETED WITH THE USE OF TEMPORARY LANE CLOSURES PER STD. 1101.02, ADHERING TO DAY AND TIME RESTRICTIONS IN THE CONTRACT AND THE TRAFFIC CONTROL GENERAL NOTES.

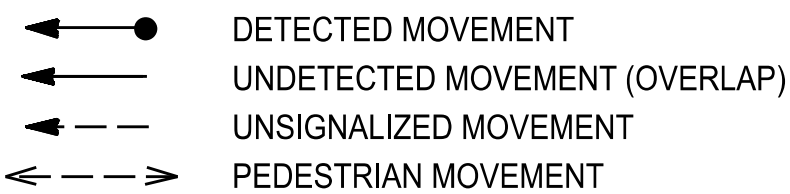
|                                                       |                                                                                                                                                            |                                                                                       |                                      |
|-------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|--------------------------------------|
| APPROVED: _____<br>DATE: _____ 07/16/2026<br><br>SEAL | <div>Signed by: <i>Joshua B. White</i><br/>FOCB3AD0AD9640C<br/></div> |  | TRANSPORTATION<br>OPERATIONS<br>PLAN |
|-------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|--------------------------------------|



## PHASING DIAGRAM



### PHASING DIAGRAM DETECTION LEGEND



## TABLE OF OPERATION

| TABLE OF OPERATION |             |             |                       |
|--------------------|-------------|-------------|-----------------------|
| SIGNAL<br>FACE     | PHASE       |             |                       |
|                    | 2<br>+<br>6 | 4<br>+<br>8 | F<br>L<br>A<br>S<br>H |
| 21, 22             | G           | R           | R                     |
| 41, 42             | R           | G           | R                     |
| 61, 62             | G           | R           | R                     |
| 81, 82             | R           | G           | R                     |
| P81, P82           | DW          | W           | DRK                   |

## MAXTIME DETECTOR INSTALLATION CHART

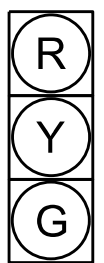
| MAXTIME DETECTOR INSTALLATION CHART |           |                              |       |          |             |            |             |        |               |                         |          |
|-------------------------------------|-----------|------------------------------|-------|----------|-------------|------------|-------------|--------|---------------|-------------------------|----------|
| DETECTOR                            |           |                              |       |          | PROGRAMMING |            |             |        |               |                         |          |
| LOOP                                | SIZE (FT) | DISTANCE FROM STOP LINE (FT) | TURNS | NEW LOOP | CALL PHASE  | DELAY TIME | EXTEND TIME | EXTEND | ADDED INITIAL | CALL DELAY DURING GREEN | NEW CARD |
| 2A                                  | 6X40      | 0                            | 2-4-2 | -        | 2           | -          | -           | X      | -             | X                       | -        |
| 4A                                  | 6X40      | 0                            | 2-4-2 | -        | 4           | -          | -           | X      | -             | X                       | -        |
| 6A                                  | 6X40      | 0                            | 2-4-2 | -        | 6           | -          | -           | X      | -             | X                       | -        |
| 8A                                  | 6X40      | 0                            | 2-4-2 | -        | 8           | 5.0        | -           | X      | -             | X                       | -        |

## ACCESSIBLE PEDESTRIAN SIGNAL OPERATION

| ACCESSIBLE PEDESTRIAN SIGNAL OPERATION |       |       |                                |                              |
|----------------------------------------|-------|-------|--------------------------------|------------------------------|
| SIGNAL FACE                            | VOICE | TONES | INTERVAL                       | SPEECH MESSAGE               |
| P81                                    | -     | X     | Walk                           | (Percussive Tone)            |
|                                        | X     | -     | Flashing Don't Walk/Don't Walk | Wait. Wait to cross Catawba. |
| P82                                    | -     | X     | Walk                           | (Percussive Tone)            |
|                                        | X     | -     | Flashing Don't Walk/Don't Walk | Wait. Wait to cross Catawba. |

SIGNAL FACE I.D.

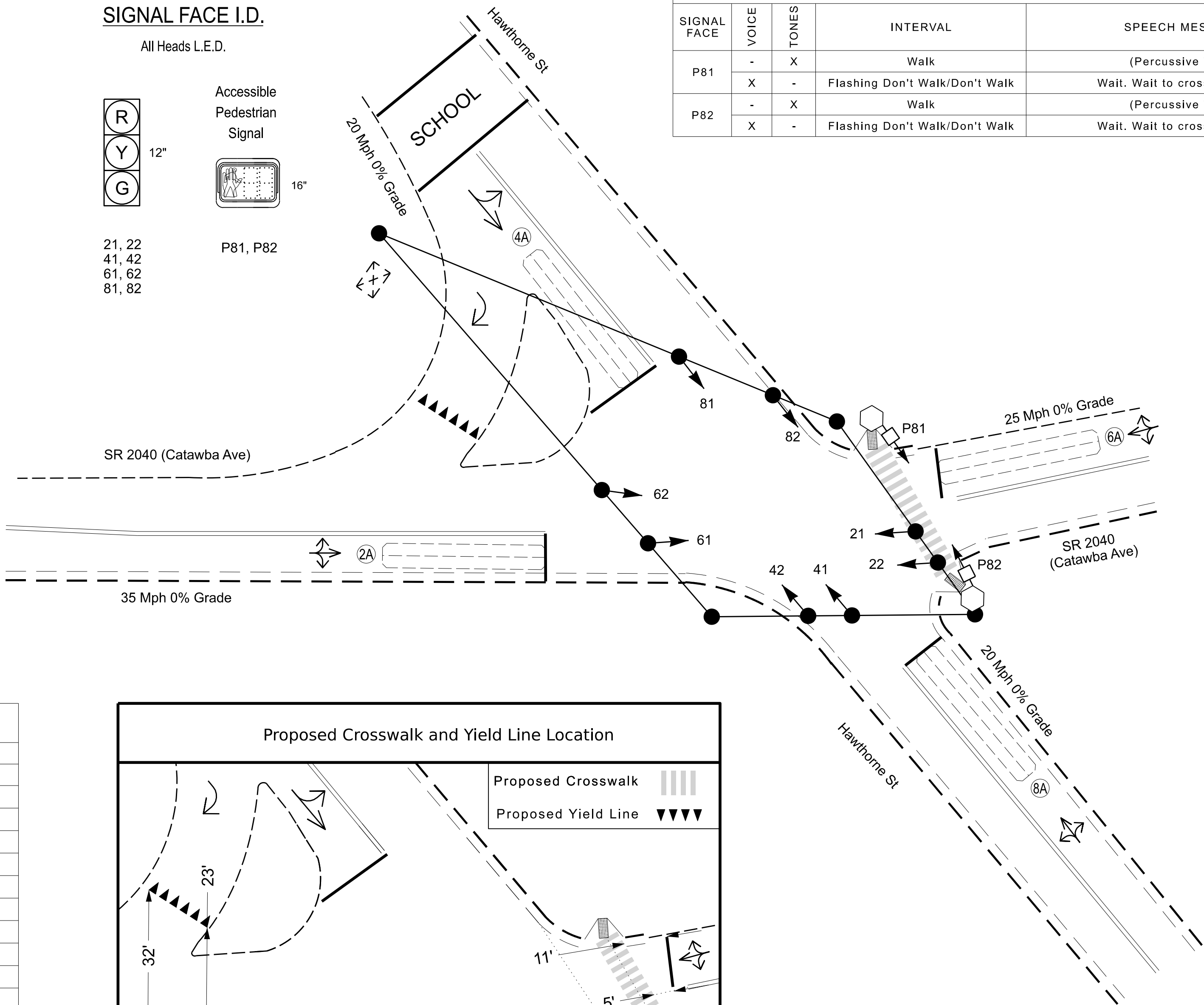
All Heads L.E.D.



21, 22  
41, 42  
61, 62  
81, 82

Accessible  
Pedestrian  
Signal

P81, P82



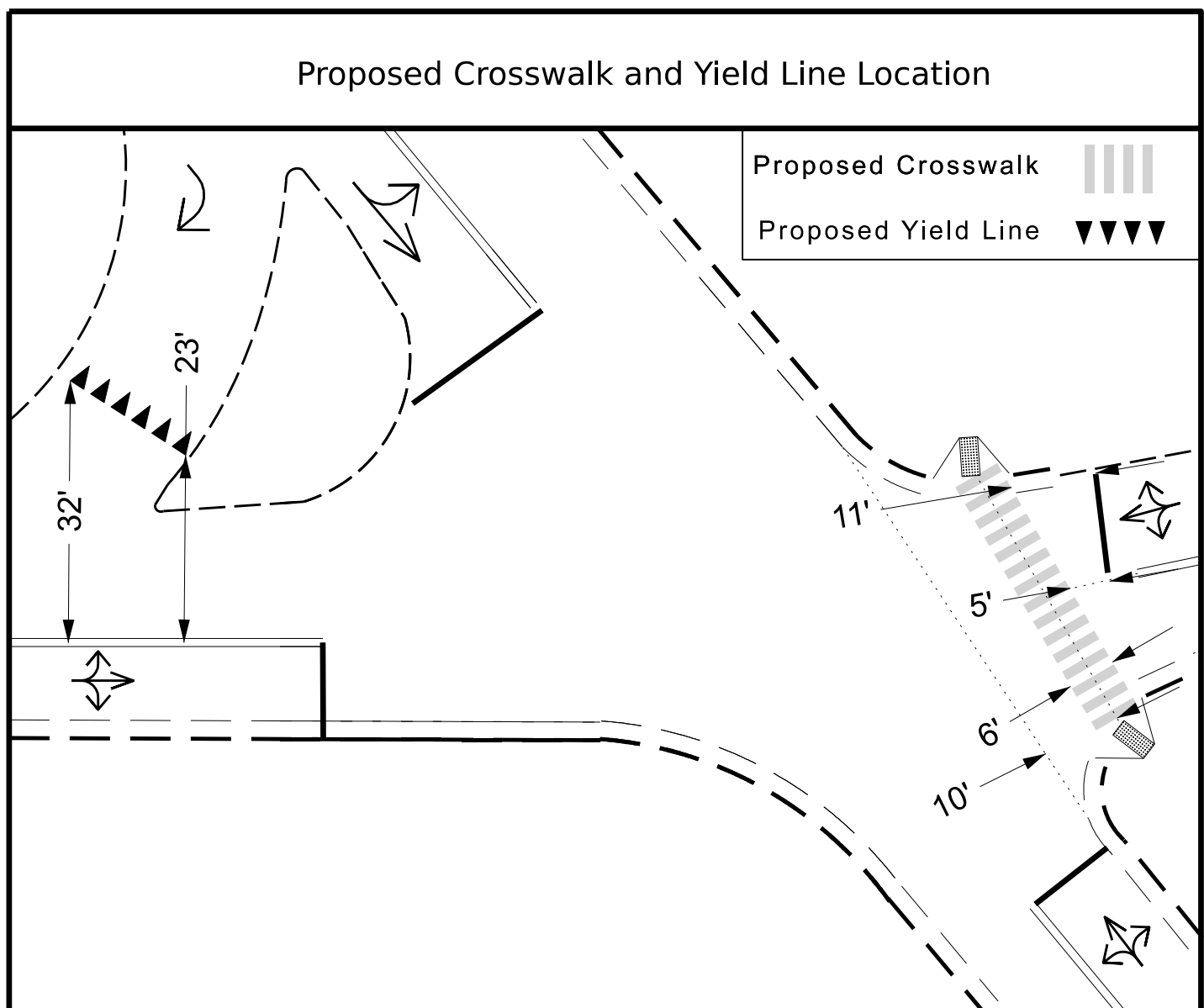
## MAXTIME TIMING CHART

| FEATURE                 | PHASE      |     |            |     |
|-------------------------|------------|-----|------------|-----|
|                         | 2          | 4   | 6          | 8   |
| Walk *                  | -          | -   | -          | 7   |
| Ped Clear               | -          | -   | -          | 7   |
| Min Green *             | 10         | 7   | 10         | 7   |
| Passage *               | 3.0        | 2.0 | 3.0        | 2.0 |
| Max 1 *                 | 45         | 20  | 45         | 20  |
| Yellow Change           | 3.2        | 3.2 | 3.2        | 3.2 |
| Red Clear               | 2.6        | 2.8 | 2.6        | 2.8 |
| Added Initial *         | -          | -   | -          | -   |
| Maximum Initial *       | -          | -   | -          | -   |
| Time Before Reduction * | -          | -   | -          | -   |
| Time To Reduce *        | -          | -   | -          | -   |
| Minimum Gap             | -          | -   | -          | -   |
| Advance Walk            | -          | -   | -          | 6   |
| Non Lock Detector       | -          | X   | -          | X   |
| Vehicle Recall          | MIN RECALL | -   | MIN RECALL | -   |
| Dual Entry              | -          | X   | -          | X   |
| Simultaneous Start **   | -          | X   | -          | X   |

\* These values may be field adjusted. Do not adjust Min Green and Passage times for phases 2 and 6 lower than what is shown. Min Green for all other phases should not be lower than 4 seconds.

\*\* Program phases 4&8 for Simultaneous Start for LPI.

### Proposed Crosswalk and Yield Line Location

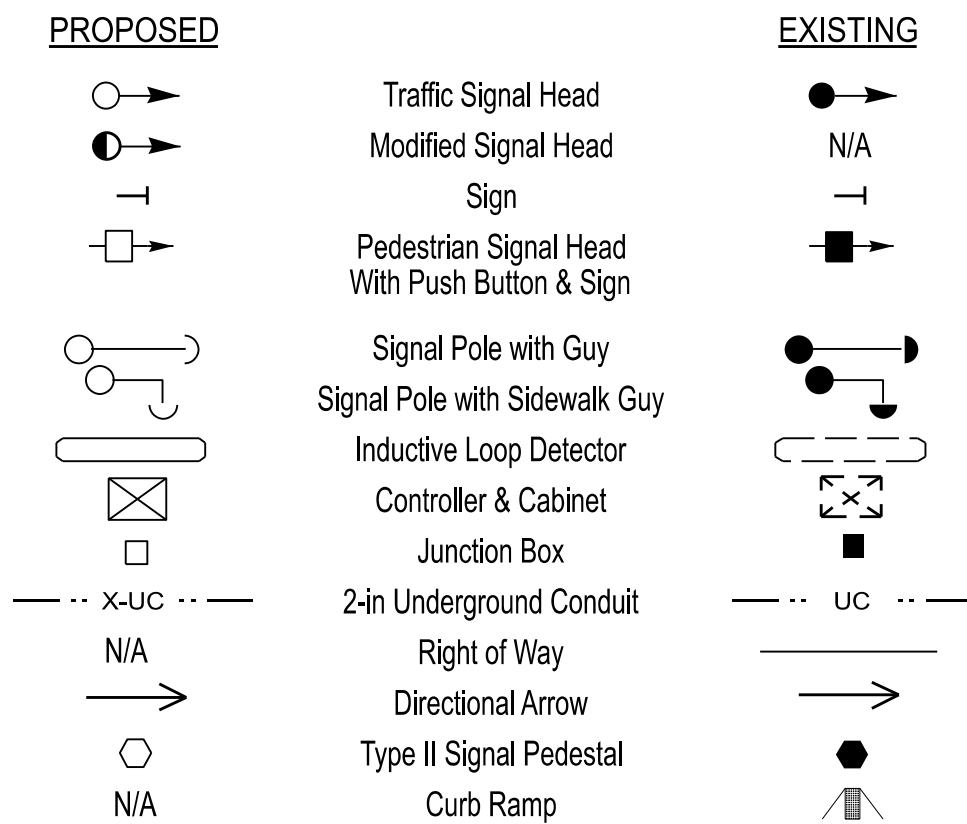


2 Phase  
Fully Actuated  
Isolated

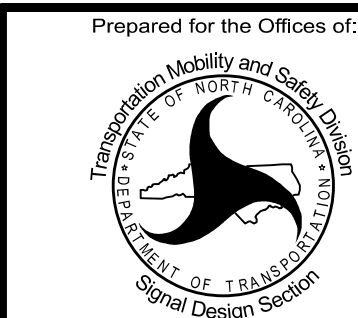
## NOTES

1. Refer to "Roadway Standard Drawings NCDOT" dated January 2024, "Standard Specifications for Roads and Structures" dated January 2024, and all applicable sections of the latest version of the generic Project Special Provisions. The PSP can be accessed at the following website:  
<https://connect.ncdot.gov/resources/safety/Pages/TSMO-Design-Resources.aspx>
2. Do not program signal for late night flashing operation unless otherwise directed by the Engineer.
3. Set all detector units to presence mode.
4. In the event of loop replacement, refer to the current TSMO Design Manual and submit a Plan of Record to the Signal Design Section.
5. Omit "WALK" and flashing "DON'T WALK" with no pedestrian calls.
6. Program pedestrian heads to countdown the flashing "Don't Walk" time only.
7. This intersection features accessible pedestrian signals utilizing percussive tone walk indications and/or speech messages.
8. Pavement markings are existing unless otherwise shown.

### LEGEND



## Signal Upgrade



**AECOM**  
NC Firm License No.: F-0342  
5438 Wade Park Boulevard  
Suite 200 Raleigh, NC 27607  
Phone: 919-461-1100

SR 2040 (Catawba Ave)  
At  
Hawthorne Street

Division 12                      Gaston County                      Gastonia

|            |           |              |            |
|------------|-----------|--------------|------------|
| PLAN DATE: | June 2026 | REVIEWED BY: | R. Garrett |
|------------|-----------|--------------|------------|

|              |        |              |
|--------------|--------|--------------|
| PREPARED BY: | X. Han | REVIEWED BY: |
|--------------|--------|--------------|

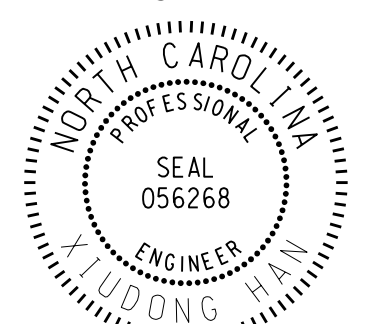
| REVISIONS | INIT. | DATE |
|-----------|-------|------|
|-----------|-------|------|

[illegible]

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|  |  |  |

DOCUMENT NOT CONSIDERED  
FINAL UNLESS ALL  
SIGNATURES COMPLETED

SEAL



Signed by: \_\_\_\_\_

Lindong Han 6/5/2026

| 575ED765381A4D2... | DATE     |
|--------------------|----------|
|                    | 12-27-11 |



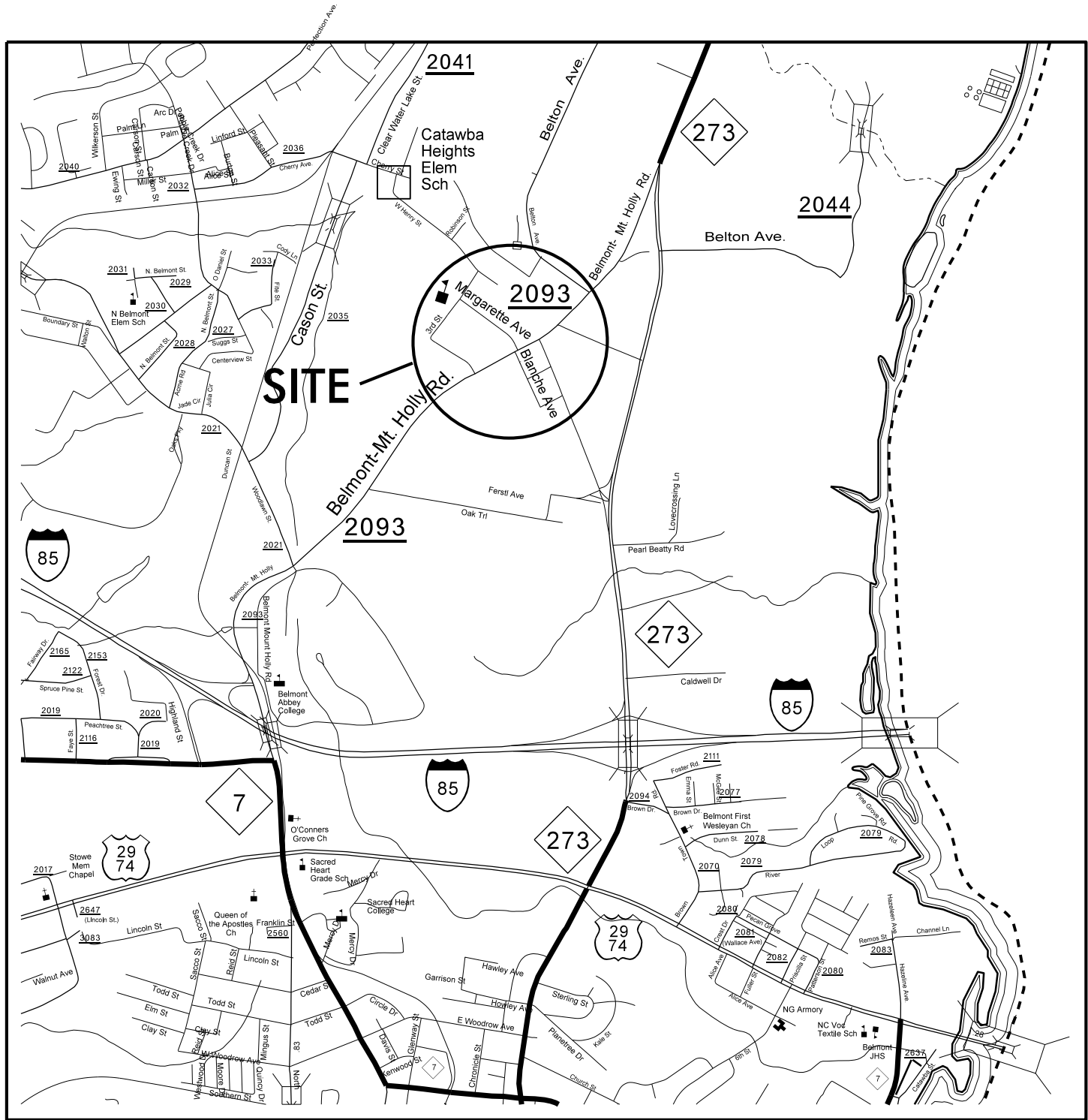




CONTRACT: DL00387

TIP PROJECT: BN-0031LA

See Sheet 1A For Index of Sheets



STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

GASTON COUNTY

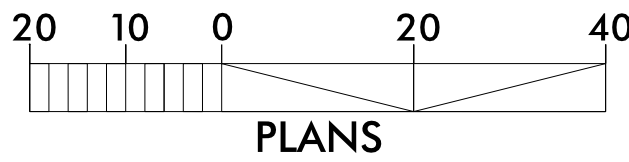
LOCATION: MARGARETTE AVE AND BLANCHE AVE  
BELMONT MT. HOLLY RD (SR 2093)

TYPE OF WORK: ADDING CURB RAMPS AND CROSSWALKS



|                 |                             |                 |             |              |
|-----------------|-----------------------------|-----------------|-------------|--------------|
| STATE           | STATE PROJECT REFERENCE NO. |                 | SHEET NO.   | TOTAL SHEETS |
| N.C.            | BN-0031LA                   |                 | 1           |              |
| STATE PROJ. NO. |                             | P. A. PROJ. NO. | DESCRIPTION |              |
| 52073.12.6      |                             | TAPE012         | P.E.        |              |
| 52073.12.306    |                             | TAPE012         | CONST.      |              |
|                 |                             |                 |             |              |
|                 |                             |                 |             |              |
|                 |                             |                 |             |              |
|                 |                             |                 |             |              |
|                 |                             |                 |             |              |
|                 |                             |                 |             |              |

GRAPHIC SCALES



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

2018 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:  
N/A

LETTING DATE:  
AUGUST 11, 2026

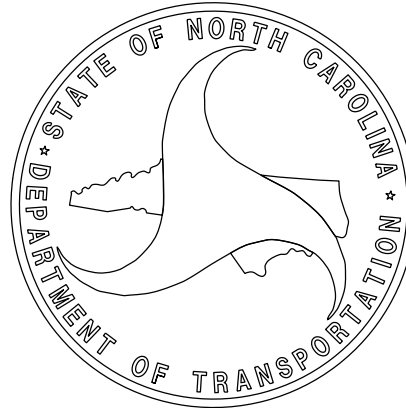
JOSHUA B. WHITE PE PLS  
PROJECT ENGINEER

R. TODD BRACKETT  
PROJECT DESIGN ENGINEER

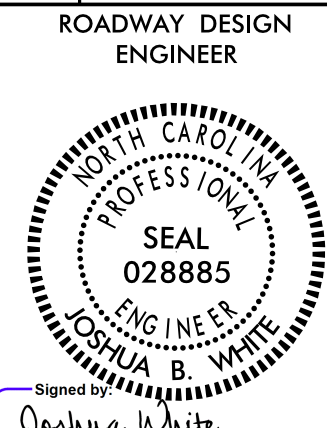


ROADWAY DESIGN  
ENGINEER

Signed by:  
Joshua B. White  
P.E.  
SIGNATURE: 07/16/2026







Signed by: Dushyant Mishra

F0C9A3DDAD5840C  
07/16/2026

## INDEX OF SHEETS

GENERAL NOTES:

## 2024 SPECIFICATIONS

## 2024 ROADWAY ENGLISH STANDARD DRAWINGS

The following Roadway Standards as appear in "Roadway Standard Drawings" Highway Design Branch - N. C. Department of Transportation - Raleigh, N. C., Dated January, 2012 are applicable to this project and by reference hereby are considered a part of these plans:

SHEET NUMBER SHEET

1 TITLE SHEET

1A INDEX OF SHEETS, GENERAL NOTES, AND STANDARD DRAWINGS

2C-1 CURB RAMP DETAILS

4 PLAN SHEETS

TMP-1 THRU TMP-1B      TRAFFIC MANAGEMENT PLANS

SIGN-1 THRU SIGN-2                      SIGNING PLANS

CURB RAMPS

CURB RAMPS ARE SHOWN ON THE PLANS AT APPROXIMATE LOCATIONS. CONSTRUCT ALL CURB RAMPS ACCORDANCE WITH STD 848.06, & SPECIAL DETAILS. IF FIELD CONDITIONS DICTATE THAT STANDARDS CAN NOT BE MET, CONSTRUCT AN ALTERNATE CURB RAMP USING DETAILS INCLUDED ON PLANSHEET.

| STD.NO. | TITLE |
|---------|-------|
|---------|-------|

DIVISION 6 - ASPHALT BASES AND PAVEMENTS

654.01      Pavement Repairs

DIVISION 8 - INCIDENTALS

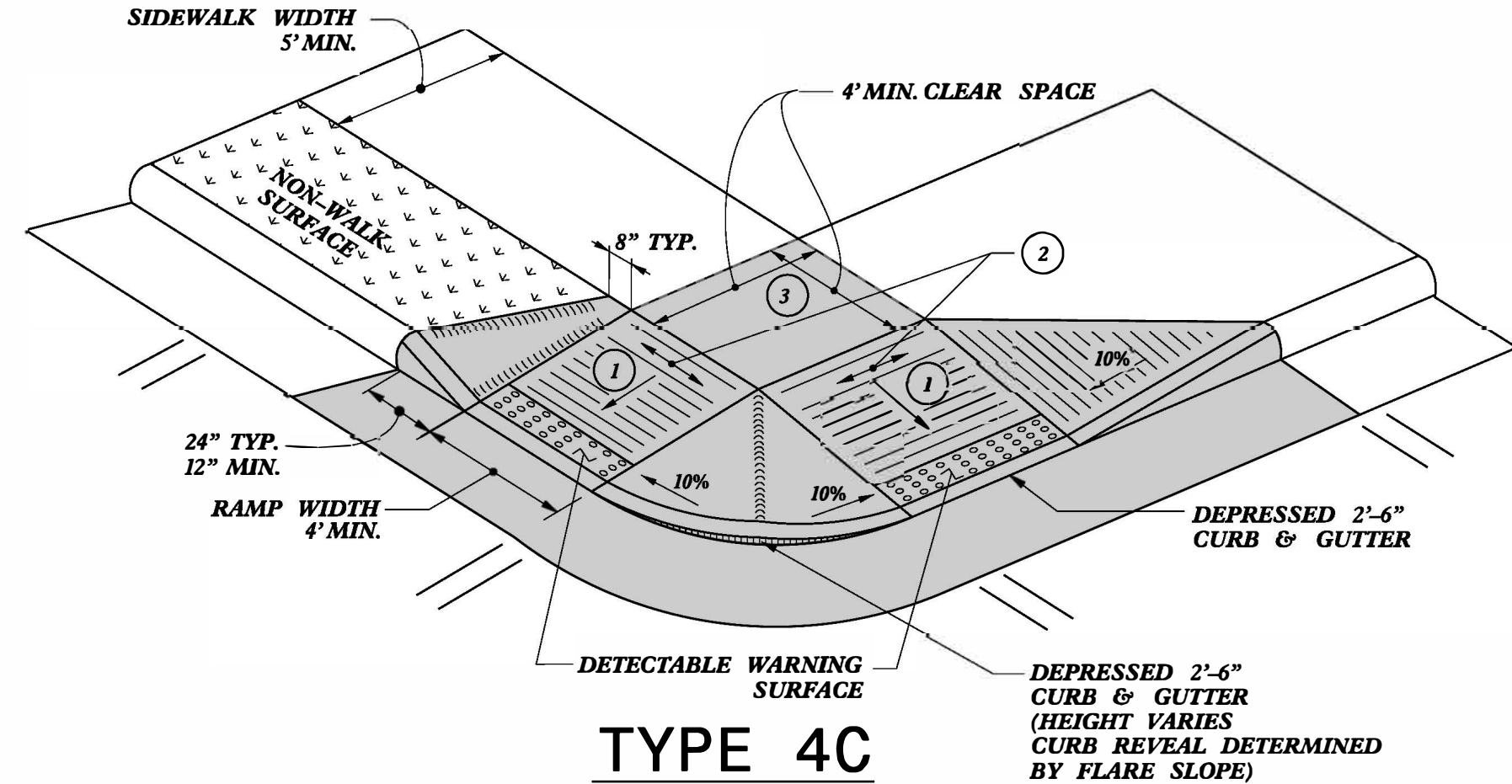
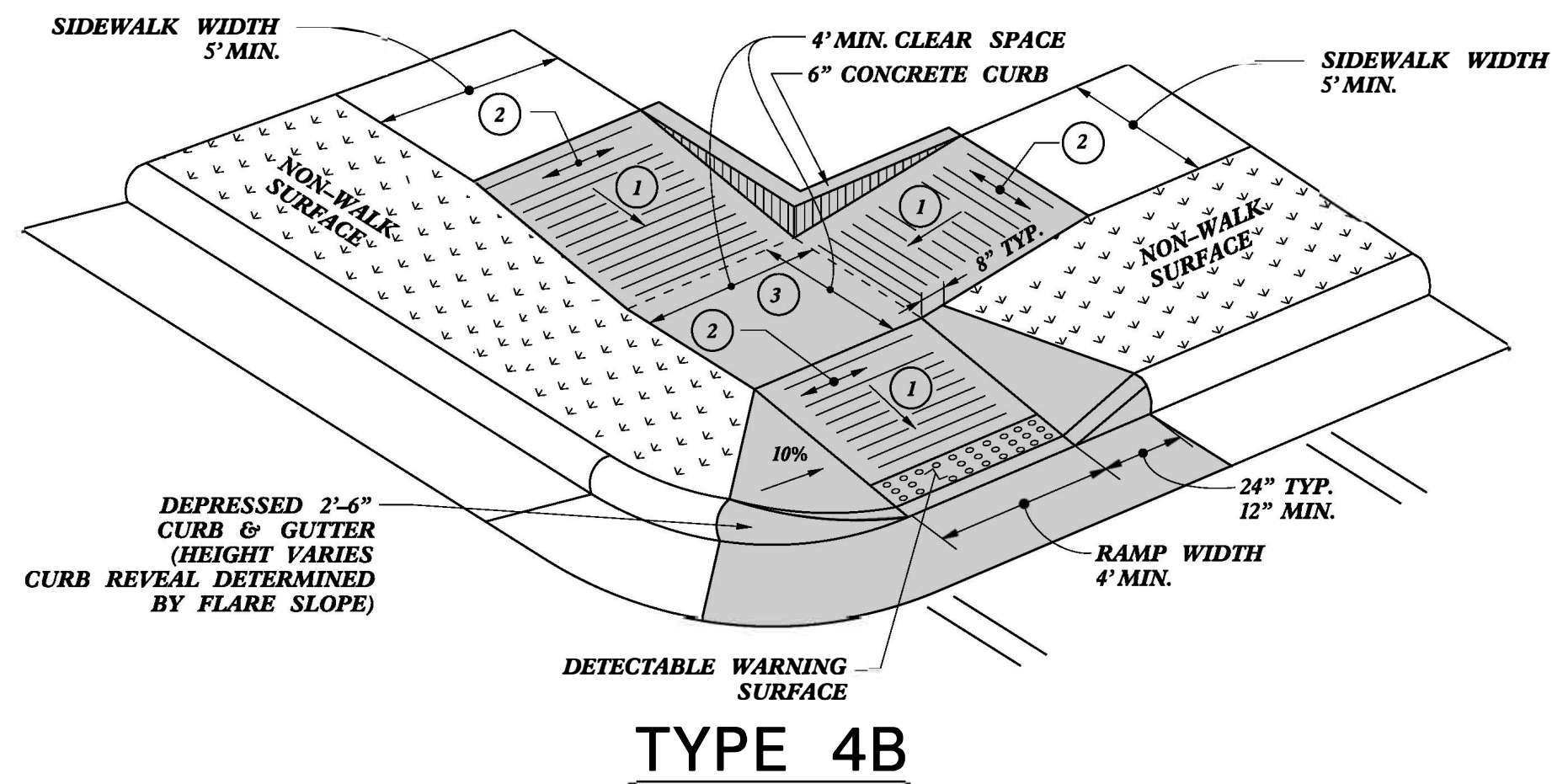
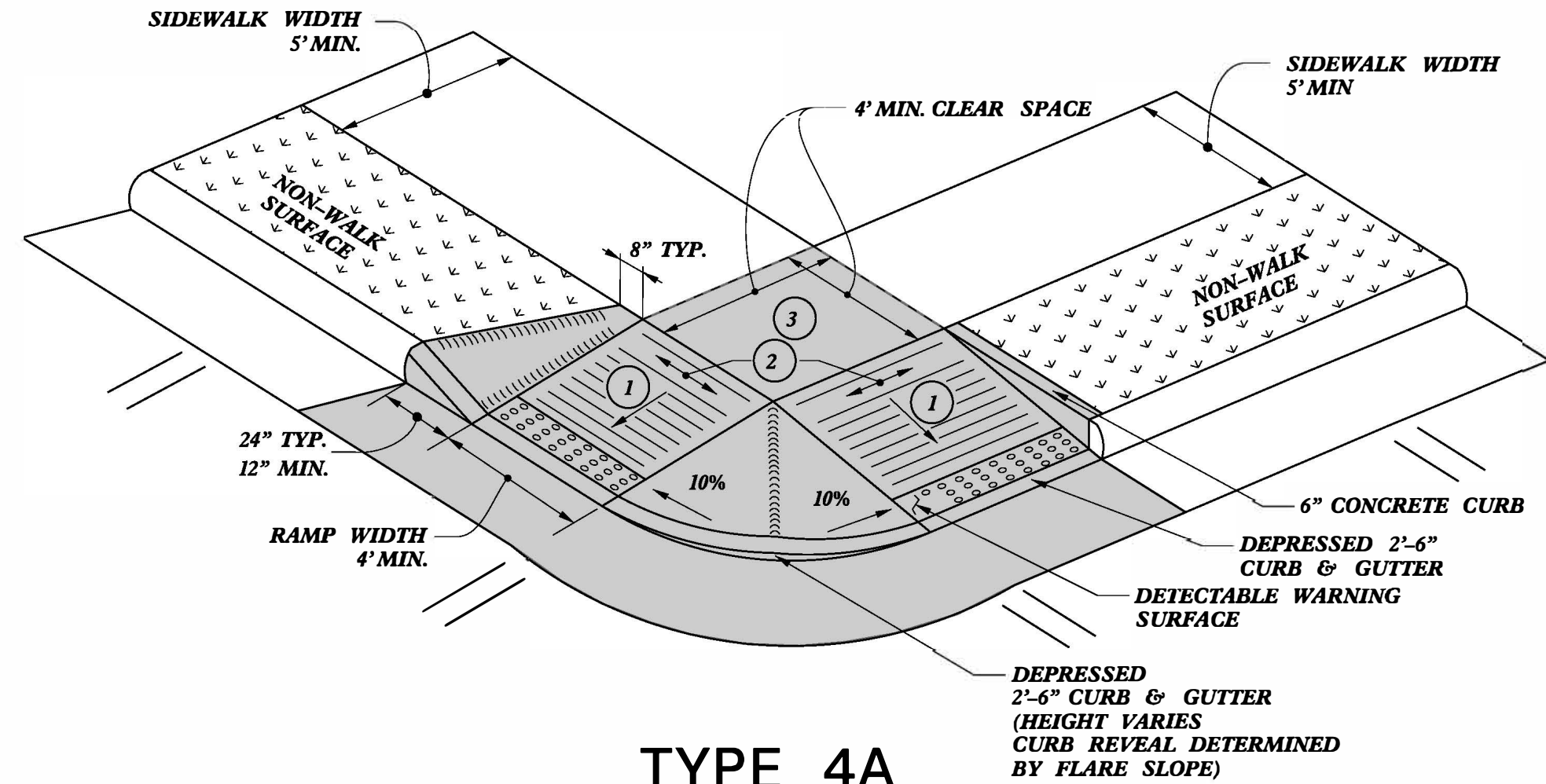
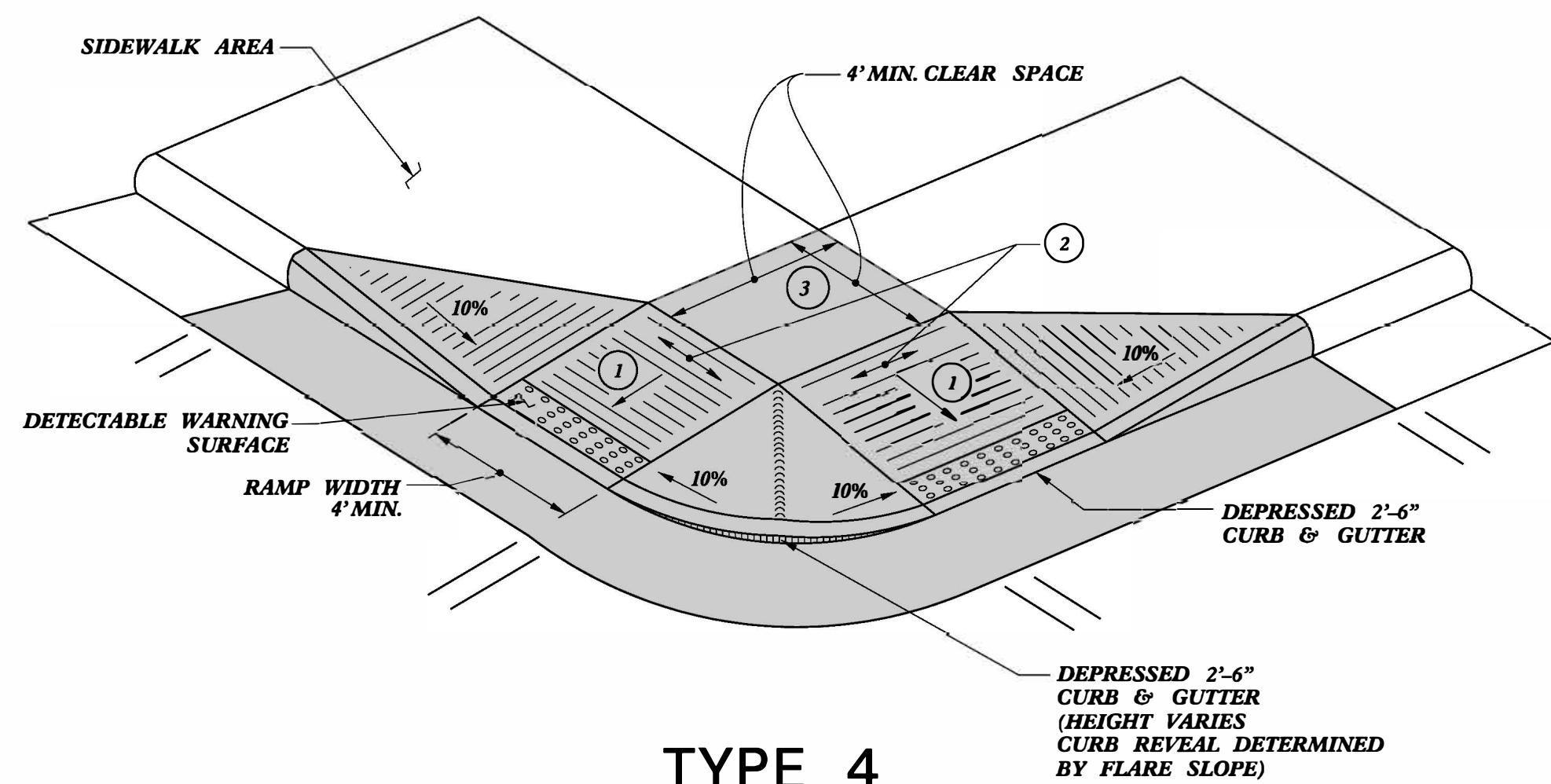
846.01 Concrete Curb, Gutter and Curb & Gutter

848D01 Concrete Sidewalk

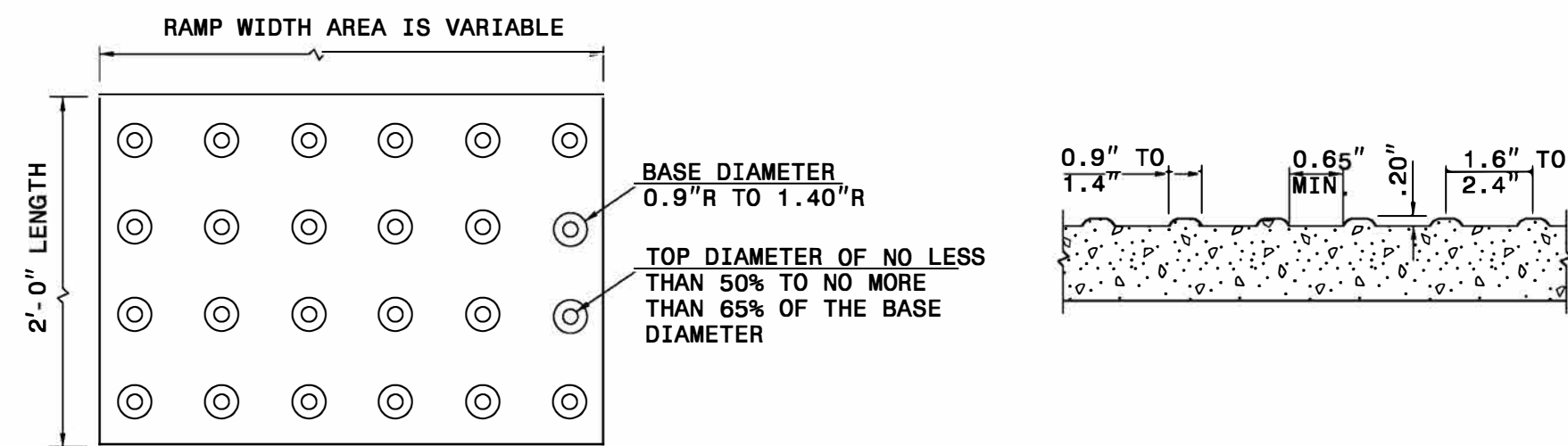
|         |                                    |
|---------|------------------------------------|
| 848.06  | Curb Ramp - Existing Curb & Gutter |
| 1205.03 | Pavement Markings                  |

1205.01 Pavement Markings





NOTES:  
DETECTABLE WARNING SURFACE SHALL COVER 2'-0" LENGTH AND FULL WIDTH OF THE RAMP FLOOR AS SHOWN ON THE DETAILS.  
DETECTABLE WARNING SURFACE SHALL CONTRAST VISIBLY WITH ADJOINING SURFACE, EITHER LIGHT-ON-DARK, OR DARK-ON-LIGHT SEQUENCE COVERING THE ENTIRE RAMP.



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

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

## DETECTABLE WARNING SURFACE

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

ROADWAY DETAIL DRAWING FOR  
**CURB RAMP**  
SHARED LANDING

SHEET 10 OF 13  
**848D06**



Signed by:  
Nicole M. Hickey  
0884323034164C5...  
07/16/2026

DOCUMENT NOT CONSIDERED FINAL  
UNLESS ALL SIGNATURES COMPLETED

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

## CURB RAMPS

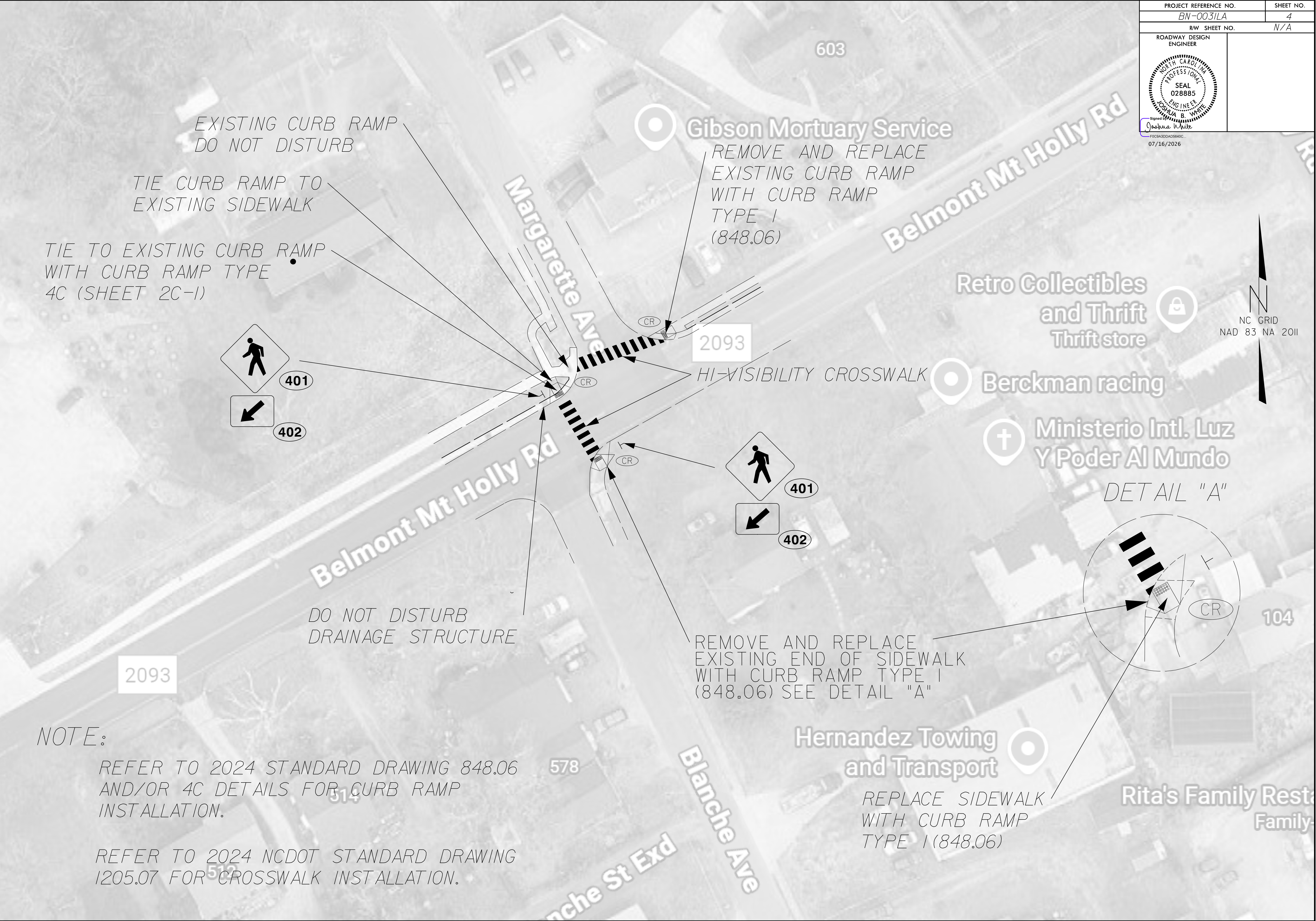
ORIGINAL BY: S. CALHOUN DATE: 12-22-2023  
MODIFIED BY: RTB DATE: 5-8-2026  
CHECKED BY: JBV DATE: 5-10-2026  
FILE SPEC.: special\_details\nmhackler\848D0610.dgn



5/14/99

16-JUL-2026 15:10  
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tbrockett

| PROJECT REFERENCE NO.                                                               |  | SHEET NO. |
|-------------------------------------------------------------------------------------|--|-----------|
| BN-0031LA                                                                           |  | 4         |
| RW SHEET NO.                                                                        |  | N/A       |
| ROADWAY DESIGN ENGINEER                                                             |  |           |
|  |  |           |
| Signed By<br>Joshua White<br>F003A300A05640C<br>07/16/2026                          |  |           |



NOTE:

REFER TO 2024 STANDARD DRAWING 848.06  
AND/OR 4C DETAILS FOR CURB RAMP  
INSTALLATION.

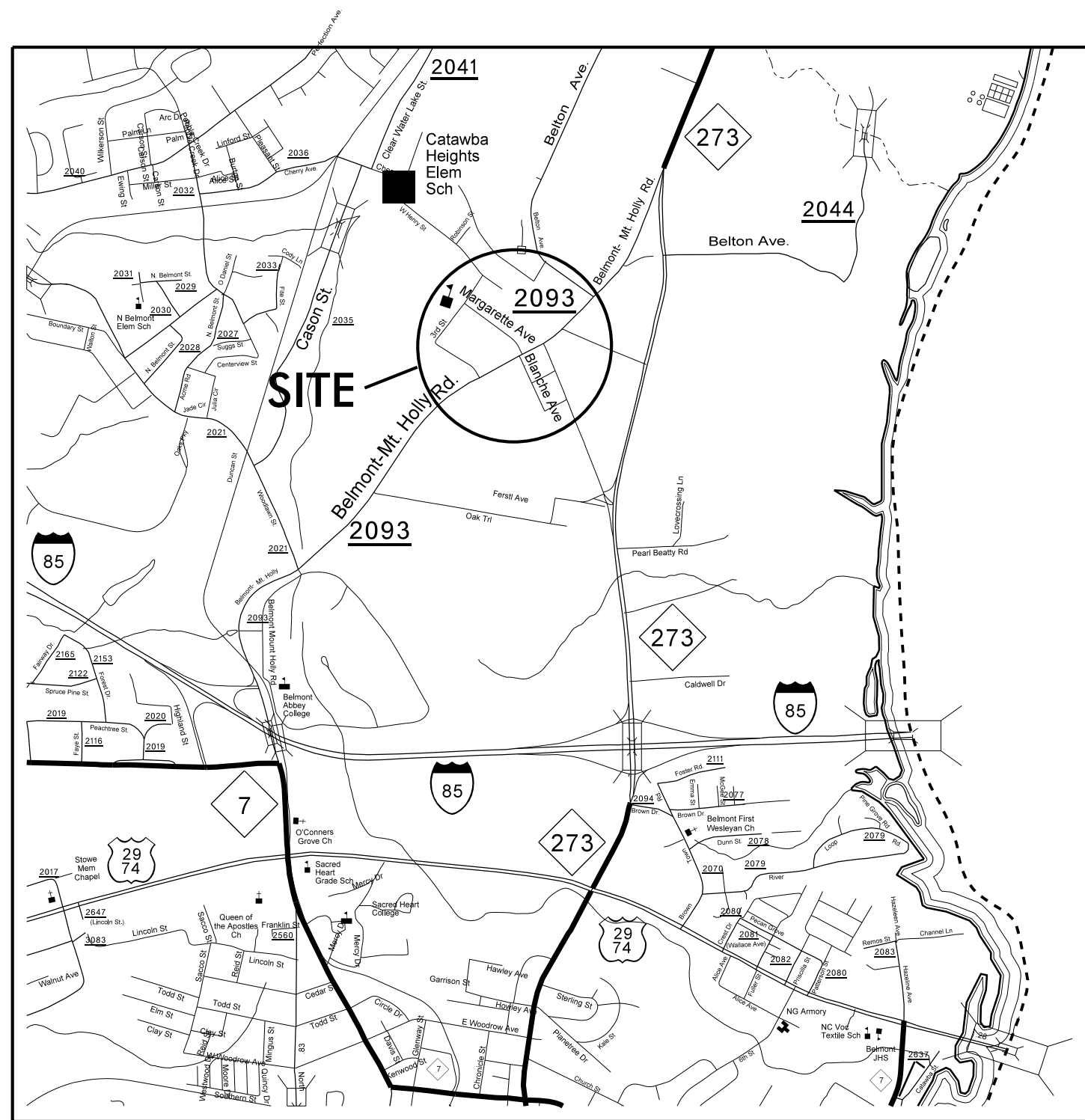
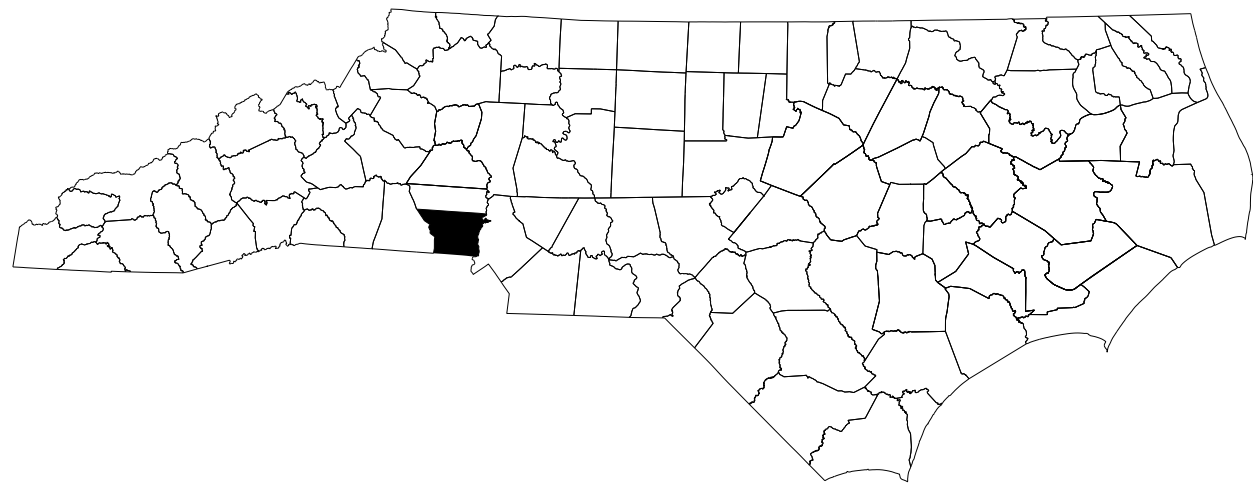
REFER TO 2024 NCDOT STANDARD DRAWING  
1205.07 FOR CROSSWALK INSTALLATION.



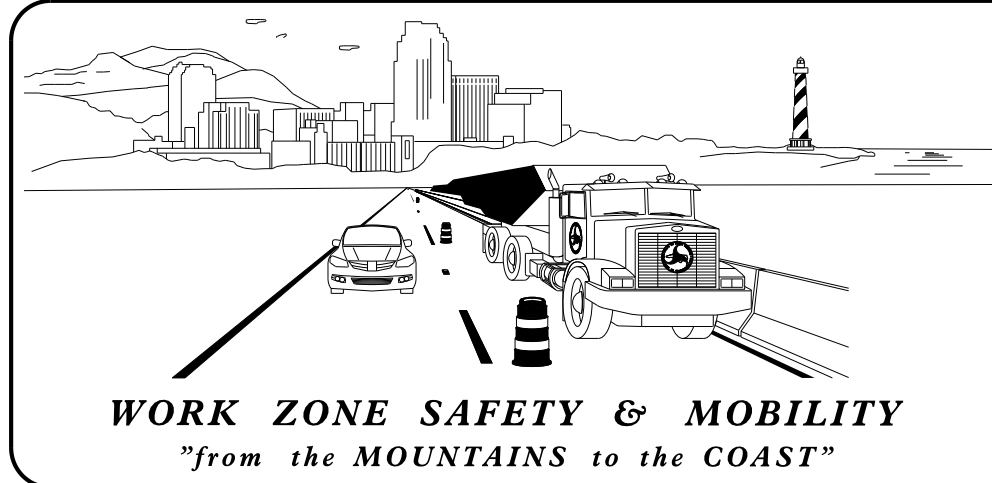
STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

TRANSPORTATION MANAGEMENT PLAN

GASTON COUNTY



VICINITY MAP - NOT TO SCALE



PLANS PREPARED BY:

R. TODD BRACKETT

NCDOT CONTACTS:

JOSHUA B. WHITE, PE, PLS  
PROJECT ENGINEER

R. TODD BRACKETT  
PROJECT DESIGN ENGINEER



INDEX OF SHEETS

| SHEET NO. | TITLE                                                                                   |
|-----------|-----------------------------------------------------------------------------------------|
| TMP-1     | TITLE SHEET, VICINITY MAP, AND INDEX OF SHEETS                                          |
| TMP-1A    | LIST OF APPLICABLE ROADWAY STANDARD DRAWINGS, AND LEGEND                                |
| TMP-1B    | TRANSPORTATION OPERATIONS PLAN: (MANAGEMENT STRATEGIES, GENERAL NOTES, AND LOCAL NOTES) |

SHEET NO.

TMP-1

BN-0031LA

TIP PROJECT:

APPROVED:

DATE:

SEAL





30-JUN-2026 10:34  
C:\Users\rtbrackett\Documents\DDC\District\Gaston\TAP\_SCORED\PROJECTS\12\_19\_25\285\BLANCHE\_AVE\MARGARETTE\_AVE\_TC\_TMP\_1A.dgn  
rtbrackett AT DIV2-34577L

ROADWAY STANDARD DRAWINGS

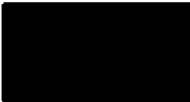
THE FOLLOWING ROADWAY STANDARDS AS SHOWN IN "ROADWAY STANDARD DRAWINGS" - N.C. DEPARTMENT OF TRANSPORTATION - RALEIGH, N.C., DATED JANUARY 2024 ARE APPLICABLE TO THIS PROJECT AND BY REFERENCE HEREBY ARE CONSIDERED A PART OF THESE PLANS:

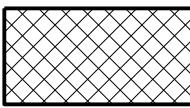
| STD. NO. | TITLE                                               |
|----------|-----------------------------------------------------|
| 1101.01  | WORK ZONE WARNING SIGNS                             |
| 1101.02  | TEMPORARY LANE CLOSURES                             |
| 1101.04  | TEMPORARY SHOULDER CLOSURES                         |
| 1101.05  | WORK ZONE VEHICLE ACCESSES                          |
| 1101.11  | TRAFFIC CONTROL DESIGN TABLES                       |
| 1110.01  | STATIONARY WORK ZONE SIGNS                          |
| 1110.02  | PORTABLE WORK ZONE SIGNS                            |
| 1115.01  | FLASHING ARROW BOARDS                               |
| 1130.01  | DRUMS                                               |
| 1135.01  | CONES                                               |
| 1150.01  | FLAGGING DEVICES                                    |
| 1160.01  | TEMPORARY CRASH CUSHION                             |
| 1165.01  | TRUCK MOUNTED ATTENUATOR                            |
| 1170.01  | PORTABLE CONCRETE BARRIER                           |
| 1180.01  | SKINNY - DRUMS                                      |
| 1205.01  | PAVEMENT MARKINGS - LINE TYPES AND OFFSETS          |
| 1205.02  | PAVEMENT MARKINGS - TWO LANE AND MULTILANE ROADWAYS |
| 1205.04  | PAVEMENT MARKINGS - INTERSECTIONS                   |
| 1205.07  | PAVEMENT MARKINGS - PEDESTRIAN CROSSWALKS           |
| 1250.01  | RAISED PAVEMENT MARKERS - INSTALLATION SPACING      |
| 1251.01  | RAISED PAVEMENT MARKERS - (PERMANENT AND TEMPORARY) |

LEGEND

GENERAL

-  DIRECTION OF TRAFFIC FLOW
-  DIRECTION OF PEDESTRIAN TRAFFIC FLOW
-  EXIST. PVMT.
-  NORTH ARROW
-  PROPOSED PVMT.

 WORK AREA

 REMOVAL

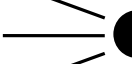
SIGNALS

-  EXISTING
-  PROPOSED
-  TEMPORARY

PAVEMENT MARKINGS

-  EXISTING LINES
-  TEMPORARY LINES

TRAFFIC CONTROL DEVICES

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

TEMPORARY SIGNING

-  PORTABLE SIGN
-  STATIONARY SIGN
-  STATIONARY OR PORTABLE SIGN

PAVEMENT MARKERS

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

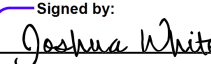
PAVEMENT MARKING SYMBOLS

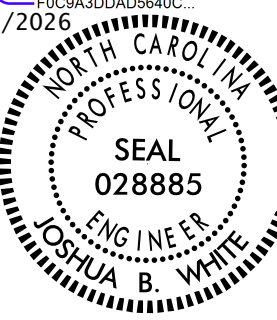
-   
- PAVEMENT MARKING SYMBOLS

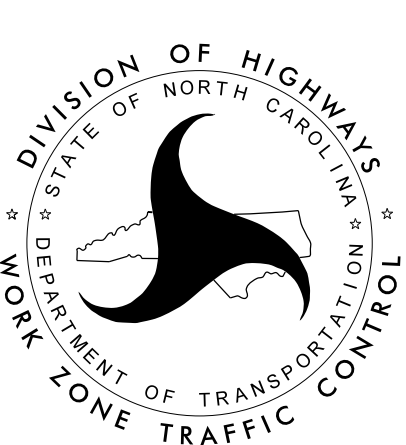
APPROVED: \_\_\_\_\_

DATE: \_\_\_\_\_

SEAL

Signed by:  
  
FOC8A3D0A05640C  
07/16/2026





ROADWAY STANDARD  
DRAWINGS & LEGEND



## GENERAL NOTES / LOCAL NOTES

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

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

### TIME RESTRICTIONS

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

| ROAD NAME | DAY AND TIME RESTRICTIONS                                  |
|-----------|------------------------------------------------------------|
| ANY ROAD  | MONDAY THRU FRIDAY 7:00 AM TO 9:00 AM & 4:00 PM TO 6:00 PM |

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

| ROAD NAME                                                                                                                                                                                                                                                                                                                              |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ANY ROADS                                                                                                                                                                                                                                                                                                                              |
| HOLIDAY                                                                                                                                                                                                                                                                                                                                |
| 1. FOR ANY UNEXPECTED OCCURRENCE THAT CREATES UNUSUALLY HIGH TRAFFIC VOLUMES, AS DIRECTED BY THE ENGINEER.                                                                                                                                                                                                                             |
| 2. FOR NEW YEAR'S, BETWEEN THE HOURS OF 7:00 P.M. DECEMBER 31st TO 7:00 JANUARY 2ND. IF NEW YEAR'S DAY IS ON A FRIDAY, SATURDAY, SUNDAY, OR MONDAY THEN UNTIL THE FOLLOWING TUESDAY.                                                                                                                                                   |
| 3. FOR EASTER, BETWEEN THE HOURS OF 7:00 A.M. THURSDAY AND 7:00 P.M. MONDAY.                                                                                                                                                                                                                                                           |
| 4. FOR MEMORIAL DAY, BETWEEN THE HOURS OF 7:00 A.M. FRIDAY TO 7:00 P.M. TUESDAY.                                                                                                                                                                                                                                                       |
| 5. FOR INDEPENDENCE DAY, BETWEEN THE HOURS OF 7:00 A.M. THE DAY BEFORE INDEPENDENCE DAY AND 7:00 P.M. THE DAY AFTER INDEPENDENCE DAY.<br><br>IF INDEPENDENCE DAY IS ON A FRIDAY, SATURDAY, SUNDAY OR MONDAY THEN BETWEEN THE HOURS OF 7:00 A.M. THE THURSDAY BEFORE INDEPENDENCE DAY AND 7:00 P.M. THE TUESDAY AFTER INDEPENDENCE DAY. |
| 6. FOR LABOR DAY, BETWEEN THE HOURS OF 7:00 A.M. FRIDAY AND 7:00 P.M. TUESDAY.                                                                                                                                                                                                                                                         |
| 7. FOR THANKSGIVING DAY, BETWEEN THE HOURS OF 7:00 A.M. TUESDAY TO 7:00 P.M. MONDAY.                                                                                                                                                                                                                                                   |
| 8. FOR CHRISTMAS, BETWEEN THE HOURS OF 7:00 A.M. THE FRIDAY BEFORE THE WEEK OF CHRISTMAS DAY AND 7:00 P.M. THE FOLLOWING TUESDAY AFTER THE WEEK OF CHRISTMAS.                                                                                                                                                                          |

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

### LANE AND SHOULDER CLOSURE REQUIREMENTS

D) REMOVE LANE CLOSURE DEVICES FROM THE LANE WHEN WORK IS NOT BEING PERFORMED BEHIND THE LANE CLOSURE OR WHEN A LANE CLOSURE IS NO LONGER NEEDED OR AS DIRECTED BY THE ENGINEER.

E) WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING WITHIN 15 FT OF AN OPEN TRAVEL LANE, CLOSE THE NEAREST OPEN SHOULDER USING ROADWAY STANDARD DRAWING NO. 1101.04 UNLESS THE WORK AREA IS PROTECTED BY BARRIER OR GUARDRAIL OR A LANE CLOSURE IS INSTALLED.

F) WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING ON THE SHOULDER ADJACENT TO AN UNDIVIDED FACILITY AND WITHIN 5 FT OF AN OPEN TRAVEL LANE, CLOSE THE NEAREST OPEN TRAVEL LANE USING ROADWAY STANDARD DRAWING NO. 1101.02 UNLESS THE WORK AREA IS PROTECTED BY BARRIER OR GUARDRAIL.

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

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

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

### PAVEMENT EDGE DROP OFF REQUIREMENTS

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

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

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

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

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

### TRAFFIC PATTERN ALTERATIONS

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

### SIGNING

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

M) COVER OR REMOVE ALL SIGNS AND DEVICES REQUIRED TO CLOSE THE ROAD WHEN ROAD CLOSURE IS NOT IN OPERATION.

COVER OR REMOVE ALL SIGNS REQUIRED FOR THE OFF-SITE DETOUR WHEN THE DETOUR IS NOT IN OPERATION.

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

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

### TRAFFIC CONTROL DEVICES

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

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

### PAVEMENT MARKINGS AND MARKERS

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

S) REMOVE/REPLACE ANY CONFLICTING/DAMAGED PAVEMENT MARKINGS AND MARKERS BY THE END OF EACH DAY'S OPERATION.

### MISCELLANEOUS

T) LAW ENFORCEMENT MAY BE USED TO MAINTAIN TRAFFIC THROUGH THE WORK AREA AND/OR INTERSECTIONS AS DIRECTED BY THE ENGINEER.

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

## MANAGEMENT STRATEGIES

ACCESS TO ALL BUSINESSES WITHIN THE PROJECT LIMITS MUST BE MAINTAINED AT ALL TIMES

WORK TO BE COMPLETED WITH THE USE OF TEMPORARY LANE CLOSURES PER STD. 1101.02, ADHERING TO DAY AND TIME RESTRICTIONS IN THE CONTRACT AND THE TRAFFIC CONTROL GENERAL NOTES.

|                                            |                                                                                                                                               |                                                                                                                            |                                      |
|--------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------|--------------------------------------|
| APPROVED: _____<br>DATE: _____<br><br>SEAL | <div>Signed by: Joshua White<br/>F0C9A3DDAD5640C<br/>07/16/2026<br/>NORTH CAROLINA PROFESSIONAL ENGINEER<br/>028885<br/>JOSHUA B. WHITE</div> | <div>DIVISION OF HIGHWAYS<br/>STATE OF NORTH CAROLINA<br/>DEPARTMENT OF TRANSPORTATION<br/>WORK ZONE TRAFFIC CONTROL</div> | TRANSPORTATION<br>OPERATIONS<br>PLAN |
|--------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------|--------------------------------------|



CONTRACT: DL00387

TIP PROJECT: BN-0031LA

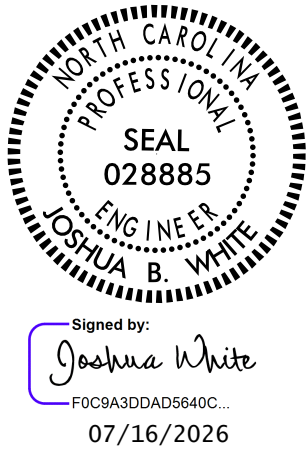
STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

STATE PROJECT REFERENCE NO.  
BN-0031LA

SHEET NO.  
1

SIGNING PLANS, GASTON COUNTY

LOCATION: INTERSECTION OF BLANCHE AVE. & MARGARETTE AVE.



ROADWAY STANDARD DRAWING

THE FOLLOWING ROADWAY STANDARDS AS THEY 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 ARE HEREBY 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 |

GENERAL NOTES

ALL SIGNS FURNISHED BY CONTRACTOR.

WHEN NOT STATIONED OR DIMENSIONED ON PLANS, SEE ROADWAY STANDARD DRAWINGS FOR SPACING REQUIREMENTS, OR FIELD LOCATE BY THE ENGINEER.

THE BACKGROUND FOR TYPE E SIGNS SHALL BE GRADE C REFLECTIVE SHEETING UNLESS OTHERWISE NOTED.

PAY ITEM NOTES

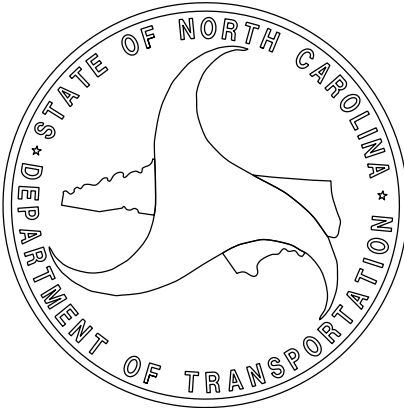
1 SIGN ERECTION, TYPE D, E OR F.

INDEX

| SHEET NO. | DESCRIPTION       |
|-----------|-------------------|
| SIGN-1    | TITLE SHEET       |
| SIGN-2    | TYPE E SIGN SHEET |
| PSH-4     | FINAL SIGNING     |

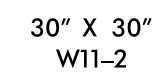
SUMMARY OF QUANTITIES

| ITEM NO.     |           | ITEM DESCRIPTION                                                                                                  | QUANTITY | UNIT |
|--------------|-----------|-------------------------------------------------------------------------------------------------------------------|----------|------|
| DESC. NO.    | SECT. NO. |                                                                                                                   |          |      |
| 4025000000-E | 901       | CONTRACTOR FURNISHED, TYPE E SIGN SUPPORTS, 3-LB STEEL U-CHANNEL SIGN ERECTION, RELOCATE, TYPE E (GROUND MOUNTED) | 20       | SF   |
| 4072000000-E | 903       |                                                                                                                   | 20       | LF   |
| 4116100000-E | 904       |                                                                                                                   | 2        | EA   |

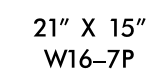




QUANTITY REQ'D 2



QUANTITY REQ'D 2



## TYPE E SIGNS