STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

JOSH STEIN
GOVERNOR

DANIEL H. JOHNSON
SECRETARY

November 12, 2026

Addendum No. 4
RE: Contract # C205222
WBS # 34165.3.8
STATE FUNDED
Buncombe County (I-2513AC)
I-26/I-240 FROM NORTH OF I-40 TO SR-3548 (HAYWOOD RD)

November 17, 2026 Letting

To Whom It May Concern:

Reference is made to the plans and proposal furnished to you on this project.

The following revisions have been made to the Transportation Management Plans.

Sheet No.	Revision
TMP-3B	- Phase III, Step 1D was revised to cover the -DET18- off site detour signs but keep them installed for the -DET18- closure in Phase III, Step 2E - Phase III, Step 1E was revised to reference TMP-45A instead of TMP-47 and - Phase III, Step 2 was revised by removing the 1st sentence that mentioned completing -DET18- and opening to the pattern shown on TMP-45D. - Phase III, Step 2E was revised to include uncovering detour signs, placing -DET18- traffic on an off-site detour, and closing -DET18- - Phase III, Step 2F was revised to include reopening -DET18- to the pattern shown on TMP-47
TMP-44	Drums were added along existing -Y6- Ramp B to emphasize that it is closed
TMP-45A	Revised to show -DET18- open to traffic in a new pattern
TMP-45B, TMP-45C	Revised to show -DET18- open to traffic instead of being under construction

Mailing Address:
NC DEPARTMENT OF TRANSPORTATION
CONTRACT STANDARDS AND DEVELOPMENT
1591 MAIL SERVICE CENTER
RALEIGH, NC 27699-1591

Telephone: (919) 707-6900
Fax: (919) 250-4127
Customer Service: 1-877-368-4968

Location:
1020 BIRCH RIDGE DR.
RALEIGH, NC 27610

Website: www.ncdot.gov

Sheet No.	Revision
TMP-45D	Revised to show a new barricade being placed at the top of new -Y6- RPB instead of an already placed barricade

Please void the above listed sheets in your plans and staple the revised sheets thereto.

The following revisions have been made to the Structure Plans (Walls).

Sheet No.	Revision
W-59 thru W-68	Notes and details have been revised. These sheets have the same revisions as, and are in addition to, the ones included in Addendum No.3 dated November 10, 2026, also affected by the revision to the Geotechnical Unit Project Special Provision entitled **CIP MECHANICALLY STABILIZED EARTH RETAINING WALLS** which was also included in Addendum No.3

Please void the above listed sheets in your plans and staple the revised sheets thereto.

The following revisions have been made to the proposal.

Page No.	Revision
Proposal Cover	Note added that reads "Includes Addendum No. 4 Dated 11-12-2026".
G-12	The Project Special Provision entitled **INTERMEDIATE CONTRACT TIME NUMBER 20 AND LIQUIDATED DAMAGES** has been revised.

The contract will be prepared accordingly.

Sincerely,

Signed by:
Jon Weathersbee
E45DA45396074A0...

Jon Weathersbee, PE
State Contract Officer

JHW/jjr
Attachments

cc: Mr. Troy B. Brooks, PE
Mr. Tim Anderson, PE
Mr. Ken Kennedy, PE
Mr. Malcolm Bell
Mr. Forrest Dungan, PE
Ms. Jaci Kincaid
Mr. Josh Sellers, PE
Project File (2)

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH, N.C.

PROPOSAL

INCLUDES ADDENDUM No.4 DATED 11-12-2026

DATE AND TIME OF BID OPENING: **Nov 17, 2026 AT 02:00 PM**

CONTRACT ID	C205222
WBS	34165.3.8

FEDERAL-AID NO.	STATE FUNDED
COUNTY	BUNCOMBE
T.I.P NO.	I-2513AC
MILES	1.742
ROUTE NO.	I-26/240
LOCATION	I-26/I-240 FROM NORTH OF I-40 TO SR-3548 (HAYWOOD RD).
TYPE OF WORK	GRADING, DRAINAGE, PAVING, SIGNALS, AND STRUCTURES.

NOTICE:

ALL BIDDERS SHALL COMPLY WITH ALL APPLICABLE LAWS REGULATING THE PRACTICE OF GENERAL CONTRACTING AS CONTAINED IN CHAPTER 87 OF THE GENERAL STATUTES OF NORTH CAROLINA WHICH REQUIRES THE BIDDER TO BE LICENSED BY THE N.C. LICENSING BOARD FOR CONTRACTORS WHEN BIDDING ON ANY NON-FEDERAL AID PROJECT WHERE THE BID IS $40,000 OR MORE, EXCEPT FOR CERTAIN SPECIALTY WORK AS DETERMINED BY THE LICENSING BOARD. BIDDERS SHALL ALSO COMPLY WITH ALL OTHER APPLICABLE LAWS REGULATING THE PRACTICES OF ELECTRICAL, PLUMBING, HEATING AND AIR CONDITIONING AND REFRIGERATION CONTRACTING AS CONTAINED IN CHAPTER 87 OF THE GENERAL STATUTES OF NORTH CAROLINA. NOTWITHSTANDING THESE LIMITATIONS ON BIDDING, THE BIDDER WHO IS AWARDED ANY FEDERAL - AID FUNDED PROJECT SHALL COMPLY WITH CHAPTER 87 OF THE GENERAL STATUTES OF NORTH CAROLINA FOR LICENSING REQUIREMENTS WITHIN 60 CALENDAR DAYS OF BID OPENING.

BIDS WILL BE RECEIVED AS SHOWN BELOW:

THIS IS A ROADWAY & STRUCTURE PROPOSAL

5% BID BOND OR BID DEPOSIT REQUIRED

INTERMEDIATE CONTRACT TIME NUMBER 20 AND LIQUIDATED DAMAGES:
(2-20-07) (Rev. 6-18-13) 108 SP1 G14 H

The Contractor shall complete the work required of **Phase III, Steps #2D thru #2F** as shown on Sheet **TMP-3B** and shall place and maintain traffic on same.

The date of availability for this intermediate contract time is the **March 1st** that the Contractor elects to begin the work.

The completion date for this intermediate contract time is the date which is **twenty-four (24)** consecutive calendar days after and including the date of availability, **ending no later than May 25th of the same calendar year as the date of availability for this intermediate contract time**.

The liquidated damages are **Twenty Thousand Dollars ($ 20,000.00)** per calendar day.

INTERMEDIATE CONTRACT TIME NUMBER 21 AND LIQUIDATED DAMAGES:
(2-20-07) (Rev. 6-18-13) 108 SP1 G14 F

The Contractor shall complete the work required of **Phase III, Steps #4B thru #4E** as shown on Sheet **TMP-3B** and shall place and maintain traffic on same.

The time of availability for this intermediate contract time is the **Friday at 9:00 PM** that the Contractor elects to begin the work.

The completion time for this intermediate contract time is the following **Monday** at **6:00 AM** after the time of availability.

The liquidated damages are **One Thousand Dollars ($ 1,000.00)** per hour.

INTERMEDIATE CONTRACT TIME NUMBER 22 AND LIQUIDATED DAMAGES:
(2-20-07) (Rev. 6-18-13) 108 SP1 G14 H

The Contractor shall complete the work required of **Phase IV, Steps #1A thru #1D** as shown on Sheet **TMP-3B** and shall place and maintain traffic on same.

The date of availability for this intermediate contract time is the date the Contractor elects to begin the work.

The completion date for this intermediate contract time is the date which is **seven (7)** consecutive calendar days after and including the date the Contractor begins this work.

The liquidated damages are **Nine Thousand Dollars ($ 9,000.00)** per calendar day.

INTERMEDIATE CONTRACT TIME NUMBER 23 AND LIQUIDATED DAMAGES:
(2-20-07) (Rev. 6-18-13) 108 SP1 G14 H

The Contractor shall complete the work required of **Phase IV, Steps #3A thru #3C** as shown on Sheet **TMP-3B** and shall place and maintain traffic on same.

The date of availability for this intermediate contract time is the date the Contractor elects to begin the work.

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PHASING

PROJ. REFERENCE NO.	SHEET NO.
I-2513AC	TMP-3B

PHASE II (CONT'D)

4C: COVER AND REMOVE DETOUR SIGNS FOR -Y2RPD- AND OPEN -RP23- TO PATTERN SHOWN ON TMP-35 THRU TMP-38.

4D: AWAY FROM TRAFFIC, INSTALL ALL TEMP PVMT MARKINGS AND MARKERS ON -Y3- (AMBOY RD), -Y3A-, -Y3B-, -RP23-, -Y3RPD-, AND -DET06-. SEE TMP-35 THRU TMP-39.

4E: COVER AND REMOVE DETOUR SIGNS FOR AMBOY RD CLOSURE AND OPEN -Y3- (AMBOY RD), -Y3A-, -Y3B-, -RP23-, -Y3RPD-, AND -DET06- TO PATTERNS AS SHOWN ON TMP-35 THRU TMP-39.

STEP 5 (SEE TMP-39)

USING RSD 1101.02, SHEET 1, REMOVE -DET04- AS SHOWN ON TMP-39.
AWAY FROM TRAFFIC, CONSTRUCT -MUP3-. SEE TMP-39.

PHASE III

STEP 1 (TMP-40 TO TMP-45)

BEHIND PCB AND/OR AWAY FROM TRAFFIC, CONSTRUCT -L- RT 52+95± TO 91+76±. SEE TMP-40 TO TMP-42.

BEHIND PCB AND/OR AWAY FROM TRAFFIC, COMPLETE CONSTRUCTION OF -L- RT 18+00± TO 52+95±.

AWAY FROM TRAFFIC, REMOVE EXIST PVMT ON -Y15- AS SHOWN ON TMP-44.

COMPLETE THE WORK ON -Y8- HOMINY CREEK RD) STARTED IN PHASE I, STEP 2.

USING RSD 1101.02, SHEETS 3, 10 AND 11, BEGIN CONSTRUCTION OF -DET18- AS SHOWN ON TMP-44.

ICT
PHASE III, STEP 1A THRU 1E MUST BE COMPLETED IN SEVEN (7) CONSECUTIVE DAYS. SEE ICT AND LIQUIDATED DAMAGES.

CONSTRUCT -DET18- AS FOLLOWS (SEE NOTE):
1A: INSTALL AND COVER DETOUR ROUTE SIGNS AS SHOWN ON TMP-2L.
1B: UNCOVER DETOUR SIGNS AND USING RSD 1101.03, SHEET 2, CLOSE EXISTING RAMP B FROM -Y6- HAYWOOD AVE.
1C: USING RSD 1101.02, SHEETS 3 AND 11 WHERE NECESSARY, CONSTRUCT -DET18-. SEE TMP-43 AND 44.
1D: REMOVE ROAD CLOSURE DEVICES AND COVER DETOUR SIGNS. LEAVE DETOUR SIGNS IN PLACE FOR USE IN PHASE III, STEP 2D THRU 2F
1E: OPEN -DET18- TO TRAFFIC PATTERN SHOWN ON TMP-45A.

USING RSD 1101.02, SHEET 1, CONSTRUCT DRIVEWAY AND REMOVE PAVEMENT ON -Y3A- AS SHOWN ON TMP-45.

USING RSD 1101.02, SHEET 18, CONSTRUCT -Y3-14+96± TO -RAB2- 10+84±. SEE TMP-42.

CONSTRUCT -Y6RPC- AS FOLLOWS:
1F: USING RSD 1101.02, SHEETS 3 AND 11 WHERE NECESSARY, CONSTRUCT -Y6RPC-/-YY6RPC- AS SHOWN ON TMP-44.
1G: USING LAW ENFORCEMENT TO DIRECT TRAFFIC, INSTALL AND COVER TEMPORARY SIGNAL AT HAYWOOD RD AND HANOVER ST. SEE TMP-44. INSTALL AND COVER DETOUR ROUTE SIGNS AS SHOWN ON TMP-2G.

STEP 2 (SEE TMP-45A THRU TMP-45D)

USING RSD 1101.02, SHEETS 3, 10 AND 11, ADJUST TEMPORARY TRAFFIC PATTERN AND SIGNAL IN COORDIANTION WITH DESIGN BUILD WORK ON HAYWOOD RD.

ICT
PHASE III, STEP 2A THRU 2C MUST BE COMPLETED IN 50 CONSECUTIVE DAYS. SEE ICT FOR LIQUIDATED DAMAGES

2A: USING TMP-2U, RESTRIPE -L-, INSTALL DYNAMIC ZIPPER MERGE SYSTEM, AND INSTALL PCB AS SHOWN ON TMP-45A AND CONSTRUCT -L- AS SHOWN.

STEP 2 (CONT'D)

2B: USING TMP-2U, RESTRIPE -L-, INSTALL DYNAMIC ZIPPER MERGE SYSTEM, REMOVE AND RESET PCB AS SHOWN ON TMP-45B AND CONSTRUCT -L- AS SHOWN.
2C: REMOVE PCB, RESTRIPE I-26 WB TO THE EXISTING PATTERN, AND OPEN I-26 WB TO TWO-LANE, ONE-WAY TRAFFIC.

ICT
PHASE III, STEP 2D THRU 2F MUST BE COMPLETED IN 24 CONSECUTIVE DAYS. SEE ICT FOR LIQUIDATED DAMAGES

2D: USING TMP-2U, RESTRIPE -L-, INSTALL DYNAMIC ZIPPER MERGE SYSTEM AS DIRECTED BY THE ENGINEER, REMOVE AND RESET PCB AS SHOWN ON TMP-45C AND CONSTRUCT -L- AS SHOWN.
2E: UNCOVER DETOUR SIGNS INSTALLED IN PHASE III, STEP 1A AND USING RSD 1101.03, SHEET 2, CLOSE -DET18- FROM HAYWOOD AVE -Y6- AND USING TMP-2U, RESTRIPE -L-, INSTALL DYNAMIC ZIPPER MERGE SYSTEM AS DIRECTED BY THE ENGINEER, REMOVE AND RESET PCB AS SHOWN ON TMP-45D AND CONSTRUCT -L- AS SHOWN.
2F: REMOVE PCB, RESTRIPE I-26 EB TO THE EXISTING PATTERN, AND OPEN I-26 EB TO TWO-LANE, ONE-WAY TRAFFIC. OPEN -DET18- TO PATTERN SHOWN ON TMP-47.

2G: USING RSD 1101.02, SHEET 3, RESTRIPE -L- TO PATTERN SHOWN ON TMP-47.

STEP 3 (SEE TMP-46 AND TMP-47)

3A: PLACE TEMPORARY MARKINGS ON -Y6RPC- AND -TY6RPC- AND OPEN TO TRAFFIC AS SHOWN ON TMP-47.
3B: CLOSE -DET17-, PLACE PCB ALONG THE OUTSIDE SHOULDER OF -L- RT AS SHOWN ON TMP-46 AND 47.
3C: BEHIND PCB AND/OR AWAY FROM TRAFFIC, CONSTRUCT -L- RT FROM STA 107+00± TO 113+85± AS SHOWN ON TMP-46 AND 47.

STEP 4 (SEE TMP-48 TO TMP-55)

4A: AWAY FROM TRAFFIC, INSTALL AS MANY TEMPORARY PAVEMENT MARKINGS, TEMPORARY MARKERS, AND PCB AS POSSIBLE ON PROPOSED -L- RT AND -Y3-. SEE TMP-48 TO TMP-54.
° INSTALL AND COVER DETOUR ROUTE SIGNS AS SHOWN ON TMP-2H.

ICT
COMPLETE THE WORK OF PHASE III, STEPS 4B THRU 4E FROM FRIDAY AT 9:00PM TO THE FOLLOWING MONDAY AT 6:00AM. SEE ICT FOR LIQUIDATED DAMAGES

4B: UNCOVER DETOUR ROUTE SIGNS AND CLOSE -Y3RPD- AND PLACE TRAFFIC ON THE OFF SITE DETOUR SHOWN ON TMP-2H.
4C: REPLACE MARKINGS ON -L- FROM 93+00± TO 121+20± AND ON -Y3RPD- AS SHOWN ON TMP-53 TO TMP-55
4D: SHIFT -L- I-26 WB TRAFFIC TO THE PHASE III, STEP 4 PATTERN AS SHOWN ON TMP-48 THRU TMP-55
4E: COVER AND REMOVE DETOUR ROUTE SIGNS AND REOPEN -Y3RPD- TO TRAFFIC.

4F: AWAY FROM TRAFFIC, CONSTRUCT THE FOLLOWING:
° THE MEDIAN OF -L- INCLUDING THE REMAINDER OF -DET09- FROM 64+00± TO 70+00± AS SHOWN ON TMP-51 THRU TMP-52
° THE MEDIAN OF -L- INCLUDING STAGE 2 OF THE PROPOSED STRUCTURE OVER STATE ST FROM -L- 104+10± TO 110+50± AS SHOWN ON TMP-54 THRU TMP-55

USING RSD 1101.02 AS NEEDED, CONSTRUCT -DET07- AS SHOWN ON TMP-48.

PHASE IV

SHIFT -L- (I-26) AS FOLLOWS (STEP 1)

STEP 1 (SEE TMP-56 TO TMP-63)

ICT
COMPLETE THE WORK OF PHASE IV, STEP 1A THRU 1D IN SEVEN (7) CONSECUTIVE CALENDAR DAYS SEE ICT FOR LIQUIDATED DAMAGES.

1A: USING 1101.03, SHEET 2, CLOSE -DET01- (Y2 RAMP B), -DET02- (-Y2- RAMP A), AND -DET18- (Y6 RAMP B). PLACE TRAFFIC ON OFF SITE DETOUR AS SHOWN ON TMP-2F, 2I AND 2L
1B: USING 1101.02, SHEET 3, CONSTRUCT -DET07- AND SHIFT I-26 EB TRAFFIC TO THE PHASE IV PATTERN AS SHOWN ON SHEETS TMP-56 TO TMP-63.
1C: CONSTRUCT -DET08-, -DET09- AND -DET19- AND PLACE TEMPORARY PAVEMENT MARKINGS
1D: OPEN -Y2RPB-, -DET08, -DET09-, AND -DET19- TO TRAFFIC. SEE TMP-57 TO TMP-63.

- USING RSD 1101.02, SHEET 3, INSTALL ALL REMAINING TEMPORARY MARKINGS AND MARKERS ON I-26 EB LANES.
- USING RSD 1101.02, SHEET 3, INSTALL PCB ON THE OUTSIDE OF NEW I-26 EB LANES, -DET08-, AND -DET09- AS SHOWN (OUTSIDE). SEE TMP-56 TO TMP-62.

STEP 2 (SEE TMP-56 TO TMP-63)

UPON COMPLETION OF TRAFFIC SHIFT, CONSTRUCT AS FOLLOWS:

BEHIND PCB AND/OR USING RSD 1101.02, SHEET 3, CONSTRUCT THE FOLLOWING:
° -RP32- SEE TMP-59 TO TMP-61
° -Y3RPA- SEE TMP-61 AND TMP-62.
° -RAB1- SEE TMP-61
° BEGIN -L- LT 14+29± TO 39+66±. SEE TMP-56 AND TMP-57
° BEGIN -L- LT 36+10± TO 64+00± (INCLUDING PROPOSED BRIDGE OVER -Y8- HOMINY CREEK RD) SEE TMP-57 TO TMP-59
° BEGIN -L- LT 63+29± TO 110+65± (INCLUDING PROPOSED BRIDGE OVER -Y3- AMBOY RD AND OVER -Y14- STATE ST) SEE TMP-59 TO TMP-63
- AWAY FROM TRAFFIC, INSTALL AS MANY TEMP PVMT MARKINGS AND MARKERS ON -RP32-

STEP 3 (SEE TMP- 64 TO TMP-65)

ICT
COMPLETE THE WORK OF PHASE IV, STEP 3A THRU 3C IN SEVEN (7) CONSECUTIVE CALENDAR DAYS. SEE ICT FOR LIQUIDATED DAMAGES.

3A: USING RSD 1101.03, SHEET 2, CLOSE -Y2RPB- AND PLACE TRAFFIC ON OFF SITE DETOUR SHOWN ON TMP-2I
3B: AWAY FROM TRAFFIC, RESTRIPE -DET11-. SEE TMP-64 AND 65.
3C: OPEN -Y2RPB- AND -DET11-. SEE TMP-64 AND TMP-65.

CONSTRUCT -L- LT FROM 33+00 TO 39+66. CONSTRUCT -Y2RPB- FROM 12+95 TO 16+78.
SEE TMP-64 AND 65.

Stantec
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

NORTH CAROLINA PROFESSIONAL SEAL 19862 ENGINEER WOOLARD JR.
Signature: 9F4E99C4EC...
11/2/2026

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PHASING

11/2/2026
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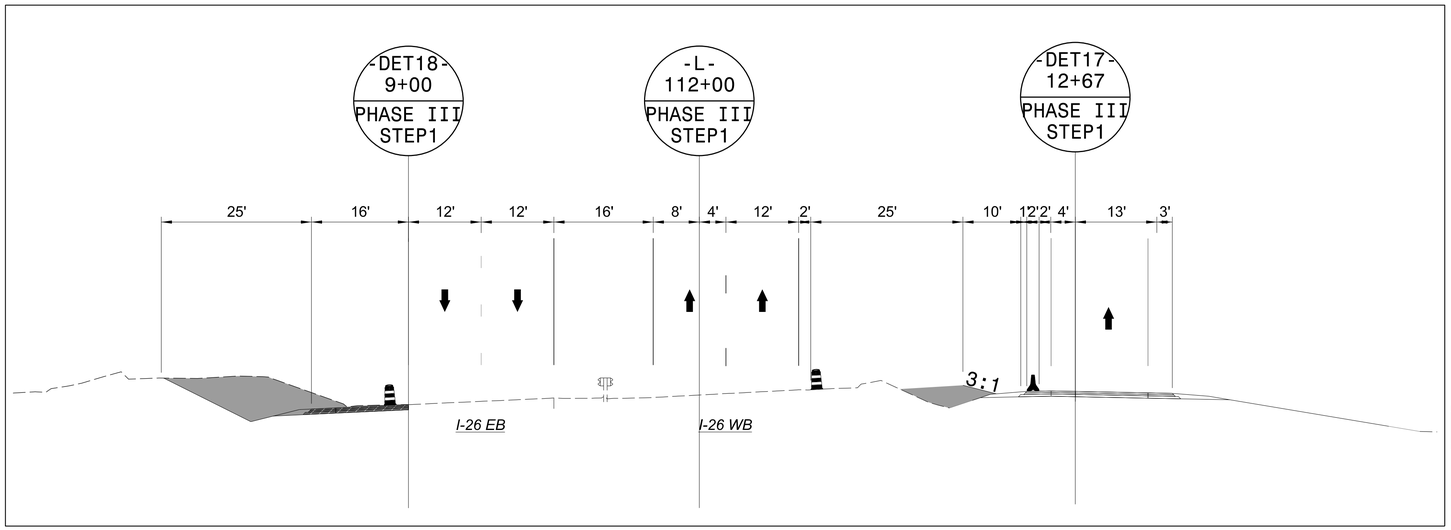
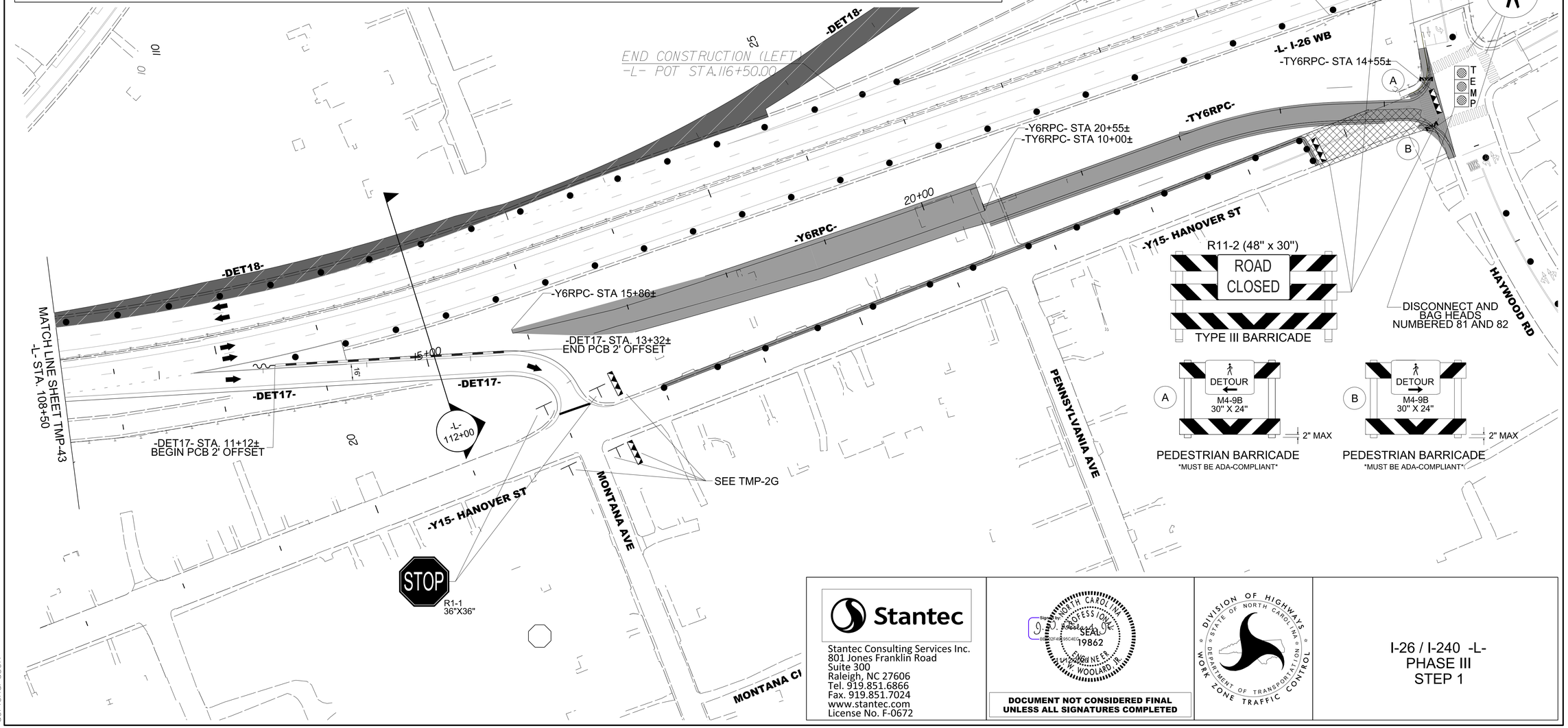
I-2513AC	TMP-44





Stantec
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

NORTH CAROLINA PROFESSIONAL SEAL 19862 ENGINEER JAMES W. WOOLARD, JR.

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I-26 / I-240 -L-
PHASE III
STEP 1

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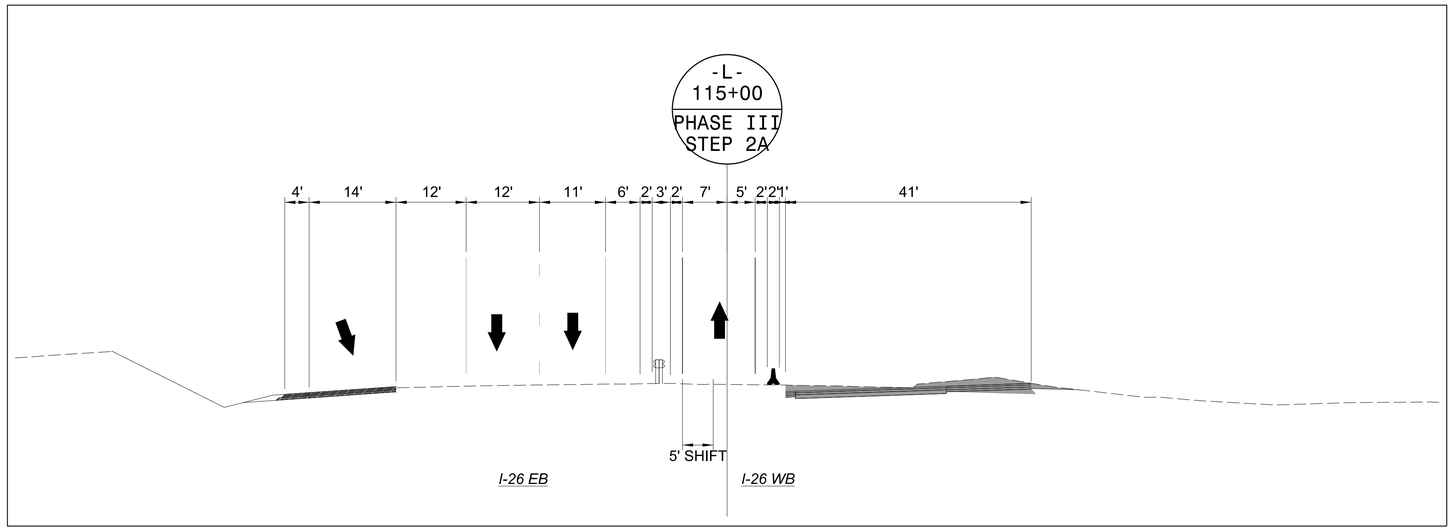
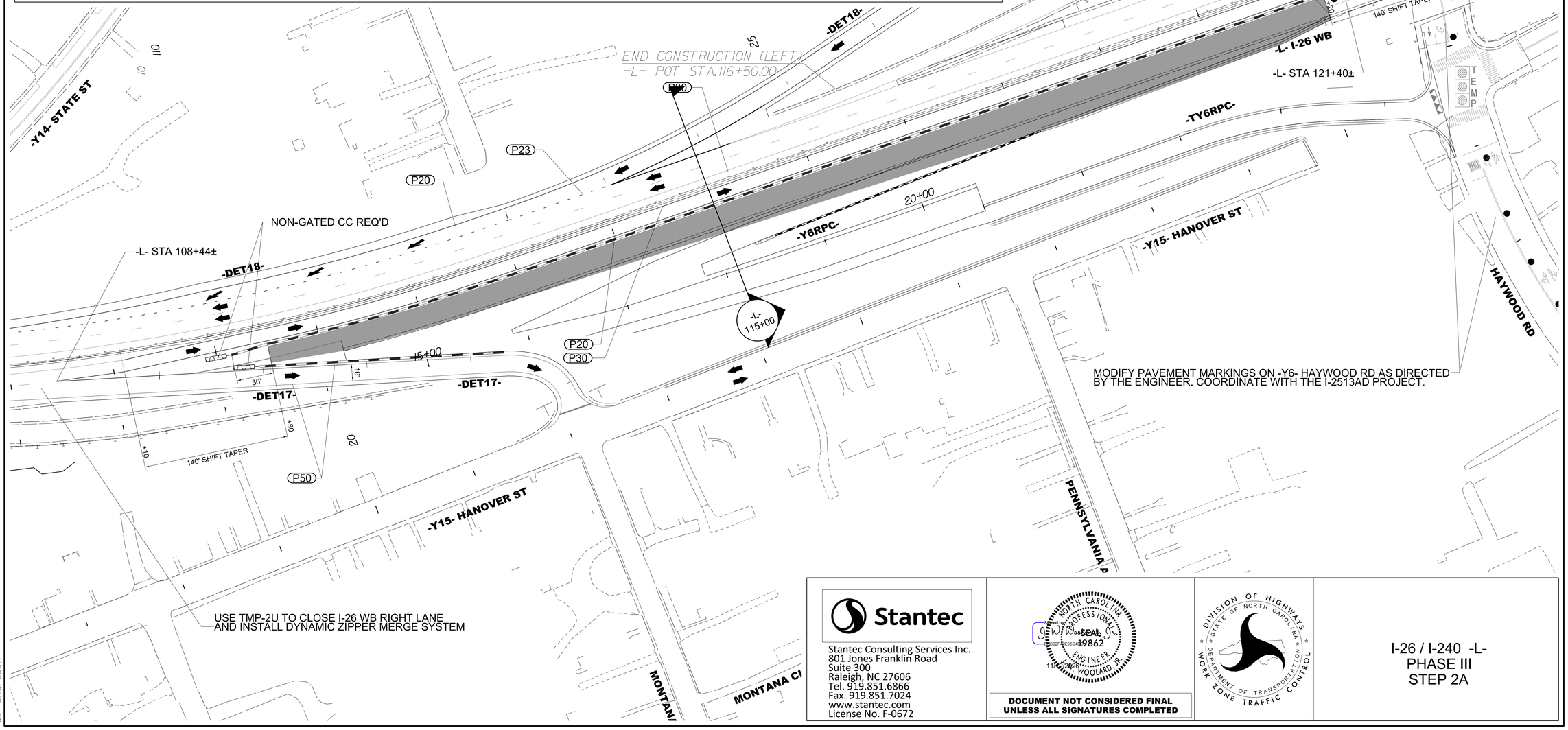
I-2513AC	TMP-45A





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

Signed by: W. Woolard Jr.
NORTH CAROLINA PROFESSIONAL SEAL 19862 ENGINEER WADE WOOLARD JR.

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I-26 / I-240 -L-
PHASE III
STEP 2A

11/12/2026
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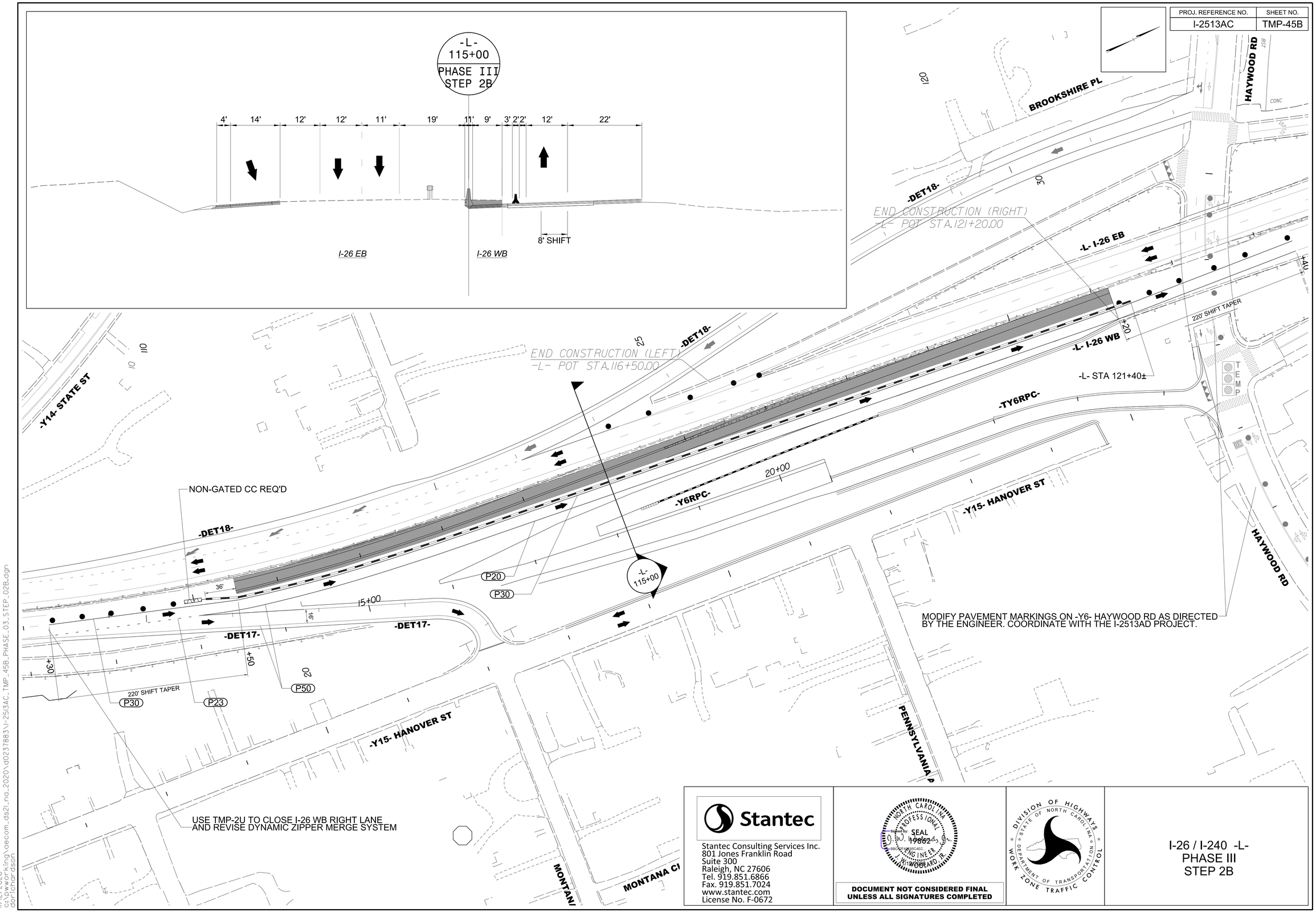
I-2513AC	TMP-45B



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Raleigh, NC 27606
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Fax. 919.851.7024
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I-26 / I-240 -L-
PHASE III
STEP 2B

11/12/2026
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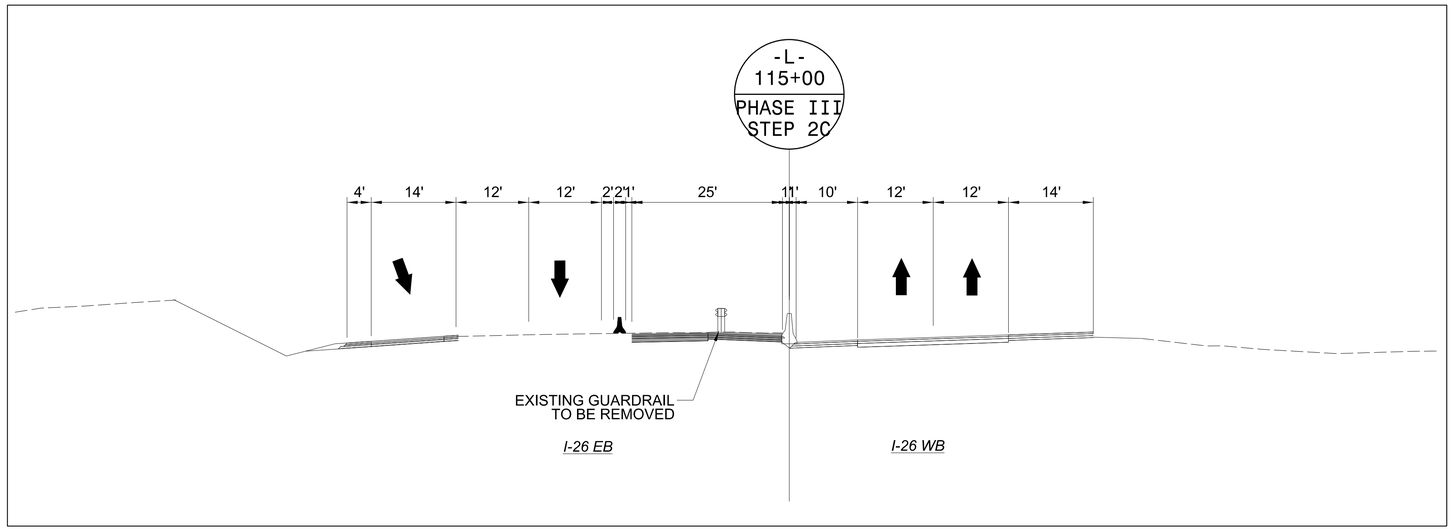
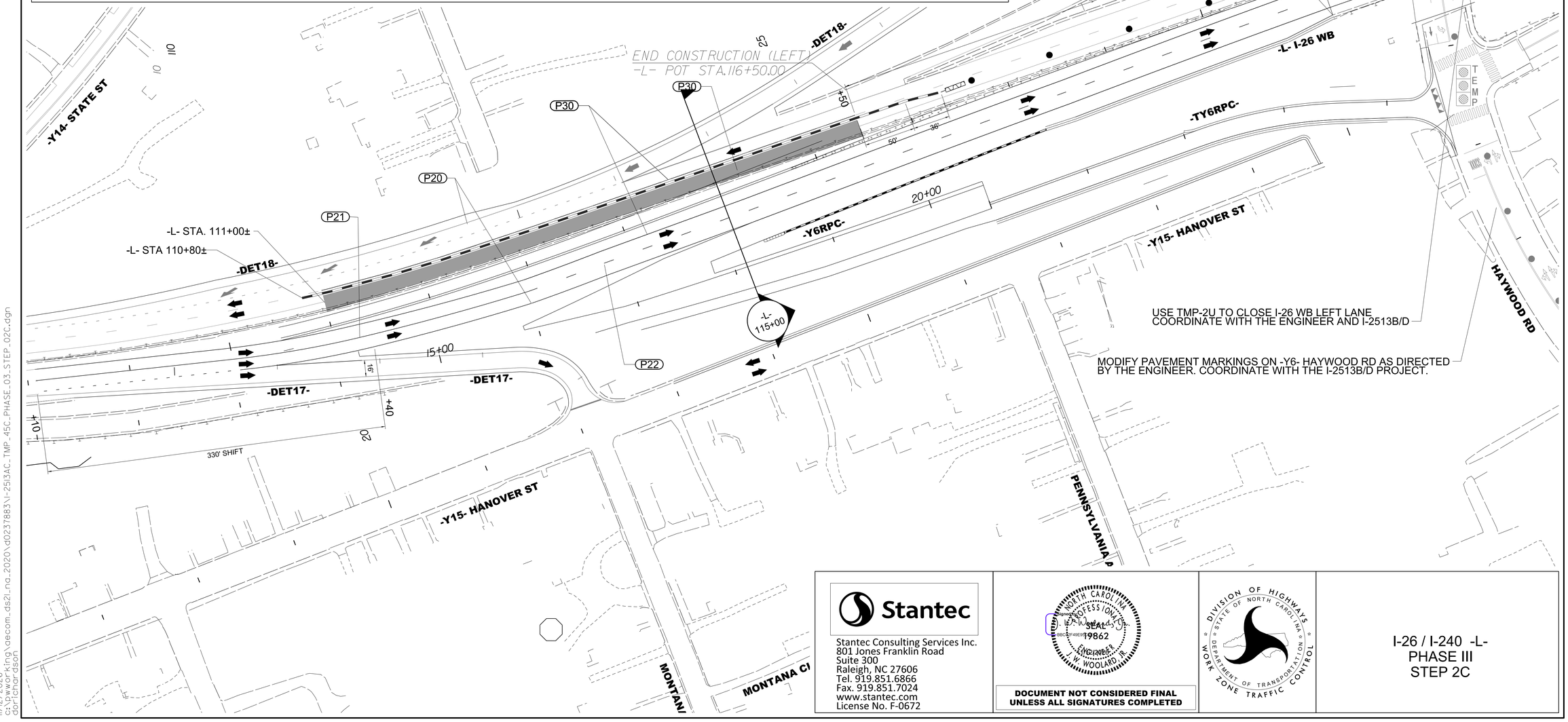
PROJ. REFERENCE NO.	SHEET NO.
I-2513AC	TMP-45C





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I-26 / I-240 -L-
PHASE III
STEP 2C

11/12/2026
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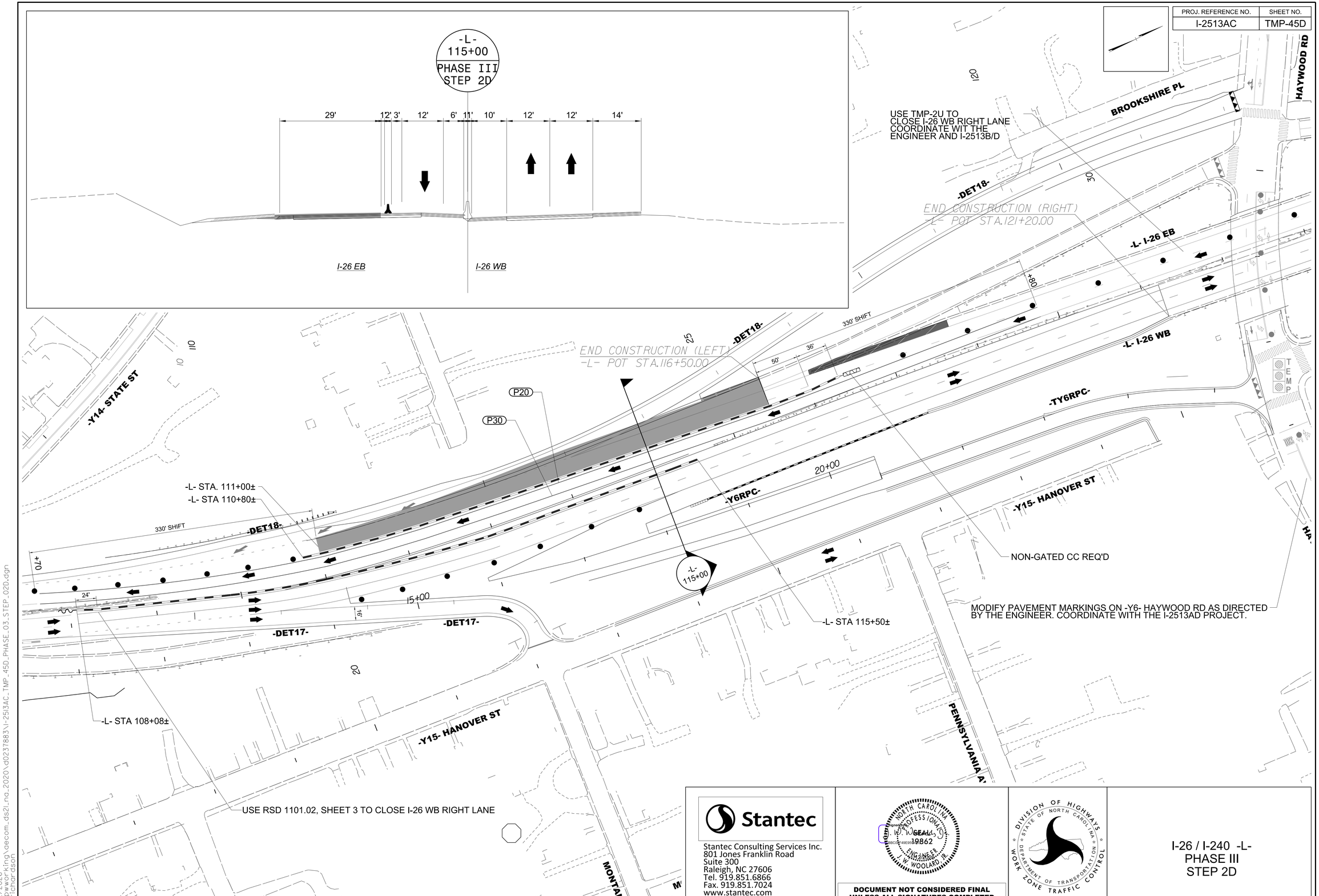
PROJ. REFERENCE NO.	SHEET NO.
I-2513AC	TMP-45D



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I-26 / I-240 -L-
PHASE III
STEP 2D

11/12/2026
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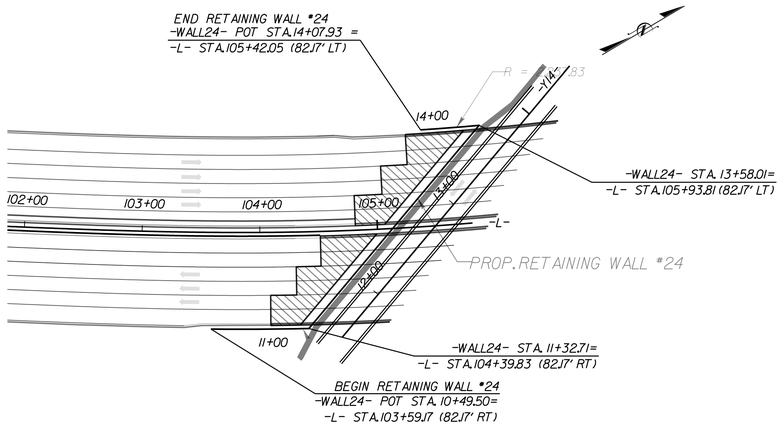
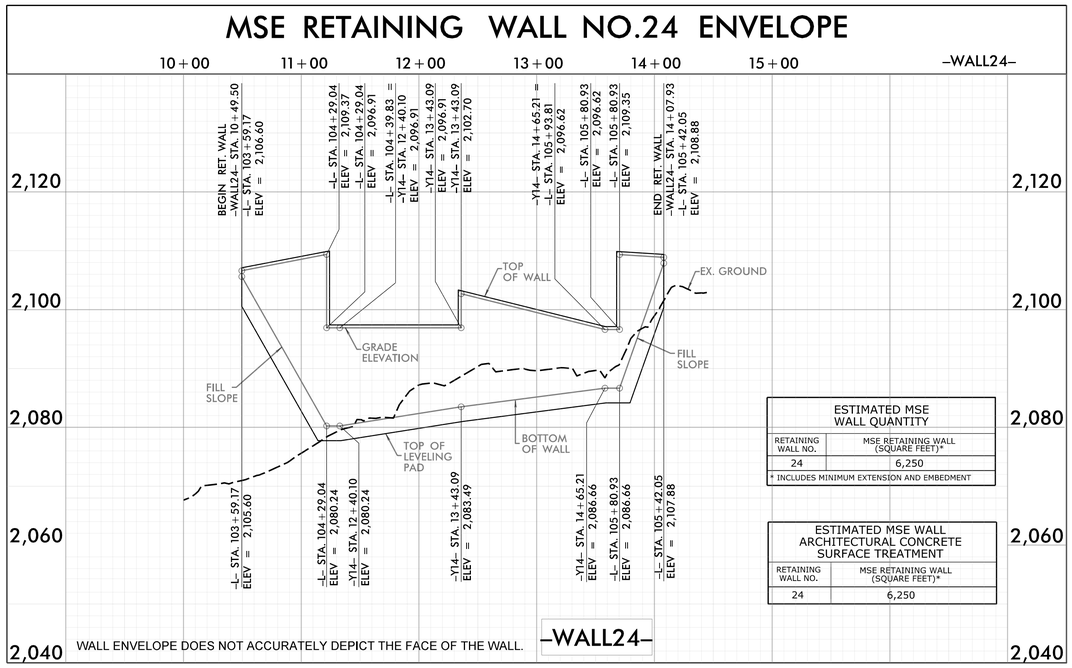
MSE RETAINING WALL NO.24 PLAN



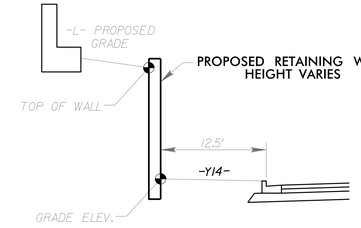
MSE RETAINING WALL NO.24 ENVELOPE



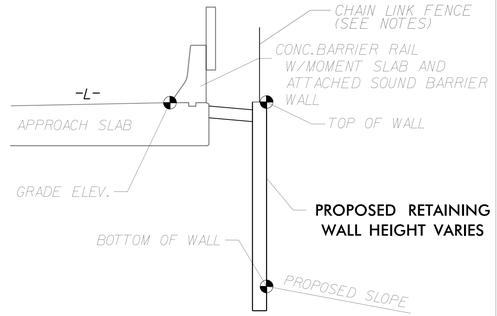
ESTIMATED MSE WALL QUANTITY	
RETAINING WALL NO.	MSE RETAINING WALL (SQUARE FEET)*
24	6,250

* INCLUDES MINIMUM EXTENSION AND EMBEDMENT

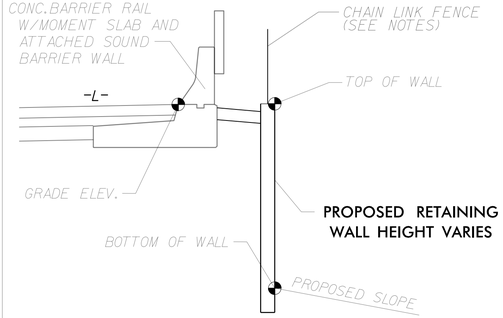
ESTIMATED MSE WALL ARCHITECTURAL CONCRETE SURFACE TREATMENT	
RETAINING WALL NO.	MSE RETAINING WALL (SQUARE FEET)*
24	6,250



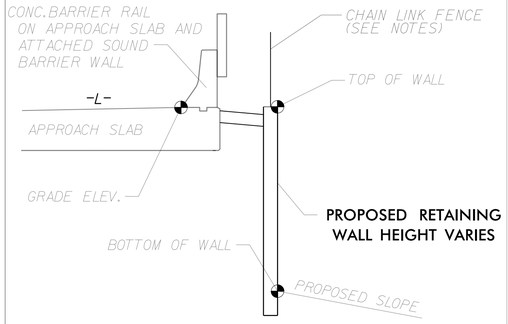
RETAINING WALL TYPICAL SECTION
–WALL24– STA. 11+32.71 TO STA. 13+58.01



RETAINING WALL TYPICAL SECTION
–WALL24– STA. 13+58.01 TO 14+07.93



RETAINING WALL TYPICAL SECTION
–WALL24– STA. 10+49.50 TO 11+00.00



RETAINING WALL TYPICAL SECTION
–WALL24– STA. 11+00.00 TO 11+32.71

PROJECT REFERENCE NO.	SHEET NO.
I-2513AC	W-59

GEOTECHNICAL ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 014155 ENGINEER ELMER F. RIGGS, JR.

DocuSigned by: Elmer Riggs Jr. C2F6ACA84D274B1... 11/11/2026

SIGNATURE DATE

ENGINEER

DATE

SIGNATURE DATE

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

PROJECT NO.: 34165.1.6 (I-2513AC)

BUNCOMBE COUNTY

STATION: STA. 10+49.50 TO 14+07.93 -WALL24-

SHEET 1 OF 5 WALL ID RW-24

PREPARED BY: ALMULLA, H.	DATE: 04/14/2026
REVIEWED BY: RIGGS, JR., A. F.	DATE: 04/14/2026

Prepared in the Office of:

Terracon

3150 SPRING FOREST ROAD, SUITE 100
RALEIGH, NORTH CAROLINA 27616
NC REGISTERED ENGINEERING FIRM: P-0869
NC REGISTERED GEOLOGIC FIRM: C-367

RETAINING WALL NO. 24
CIP MECHANICALLY STABILIZED EARTH WALL
PLAN AND ENVELOPE

REVISIONS

NO.	BY	DATE	NO.	BY	DATE
1	FIELDS, W. D.	5/4/26	3	FIELDS, W. D.	6/8/26
2	FIELDS, W. D.	5/26/26	4	FIELDS, W. D.	6/15/26

SHEET NO.

Docusign Envelope ID: 465D8D9A-FC4A-8E6A-8168-0957AF5763FA

PROJECT REFERENCE NO.	SHEET NO.
I-2513AC	W-60

ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 014155 ENGINEER ELMER F. RIGGS, JR.

DocuSigned by: Elmer Riggs Jr. C2F8ACA84D274B1...

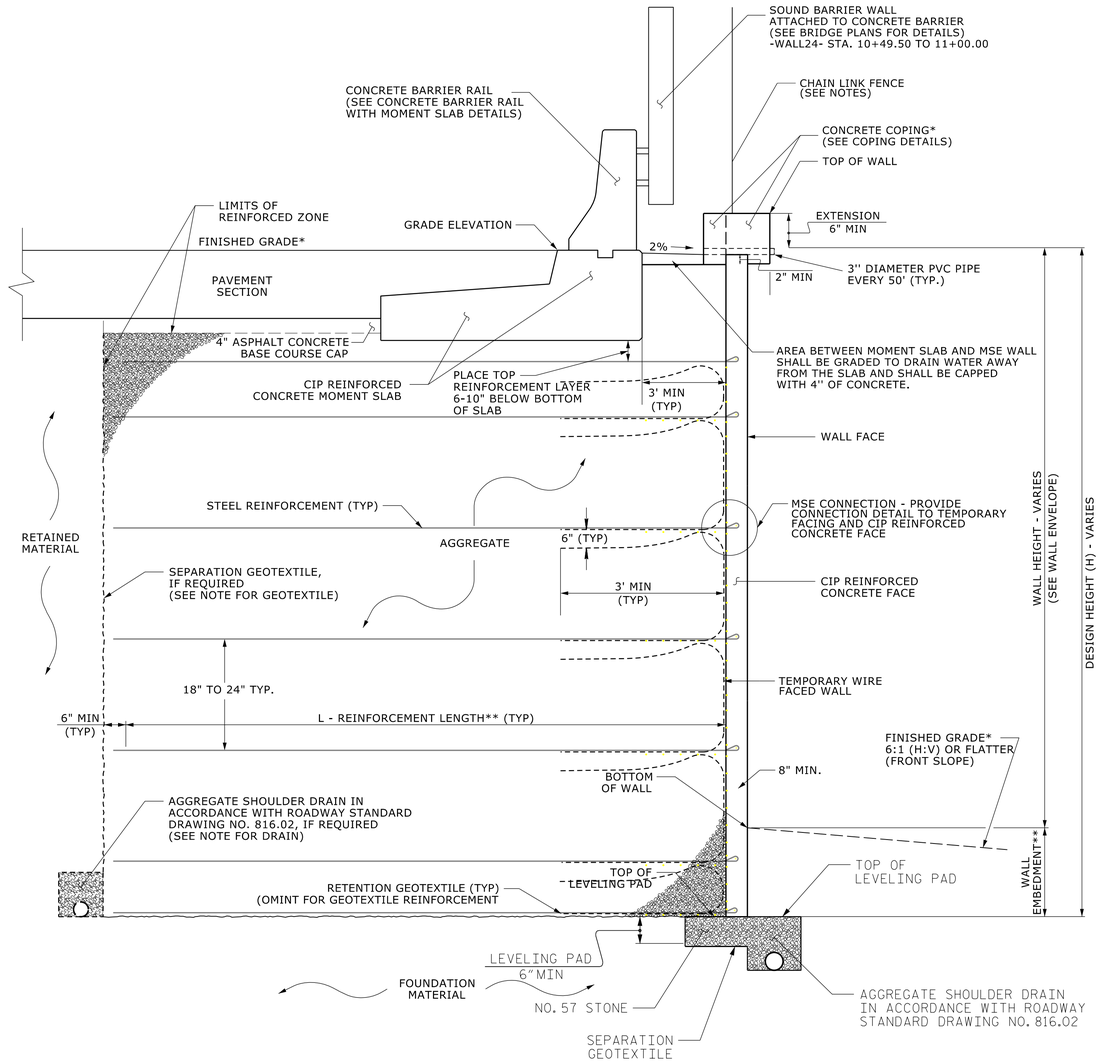
11/11/2026

SIGNATURE DATE

ENGINEER

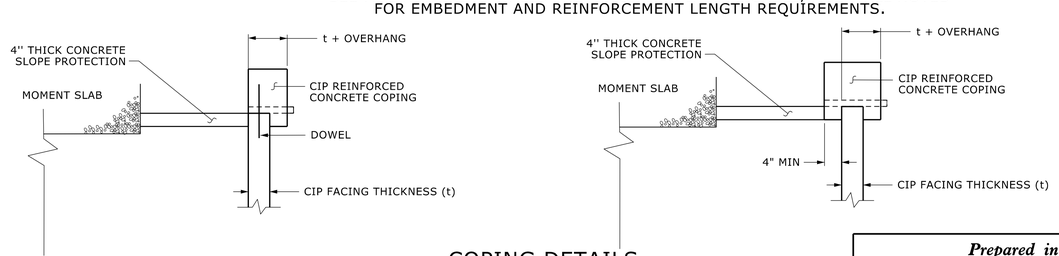
SIGNATURE DATE

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



CIP MSE WALL - TYPICAL SECTION

*SEE ROADWAY PLANS FOR FINISHED GRADE DETAILS.
**SEE MSE RETAINING WALLS PROVISION AND IF APPLICABLE, MSE WALL NOTES FOR EMBEDMENT AND REINFORCEMENT LENGTH REQUIREMENTS.



COPING DETAILS

AT THE CONTRACTOR'S OPTION, CONNECT COPING TO CIP FACING WITH DOWELS OR EXTEND COPING DOWN BACK OF CIP FACING.

PROJECT NO.: 34165.1.6 (I-2513AC)

BUNCOMBE COUNTY

STATION: STA. 10+49.50 TO 14+07.93 -WALL24-

SHEET 2 OF 5 WALL ID RW-24

PREPARED BY: ALMULLA, H.	DATE: 04/14/2026
REVIEWED BY: RIGGS, JR., A. F.	DATE: 04/14/2026

Prepared in the Office of:

Terracon

3150 SPRING FOREST ROAD, SUITE 100
RALEIGH, NORTH CAROLINA 27616
NC REGISTERED ENGINEERING FIRM: F-0869
NC REGISTERED GEOLOGIC FIRM: C-367

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS

GEOTECHNICAL ENGINEERING UNIT

RETAINING WALL NO. 24
CIP MECHANICALLY STABILIZED EARTH WALL
TYPICAL SECTION AND NOTES

REVISIONS

NO.	BY	DATE	NO.	BY	DATE
1	FIELDS, W. D.	5/4/26	4	FIELDS, W. D.	6/8/26
2	FIELDS, W. D.	5/12/26	5	FIELDS, W. D.	5/26/26
3	FIELDS, W. D.	5/26/26	6	FIELDS, W. D.	6/17/26

SHEET NO.

Docusign Envelope ID: D665699A-CB13-836C-83D9-BE9642081098

PROJECT REFERENCE NO.	SHEET NO.
I-2513AC	W-61

GEOTECHNICAL ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 014155 ENGINEER ELMER F. RIGGS JR.

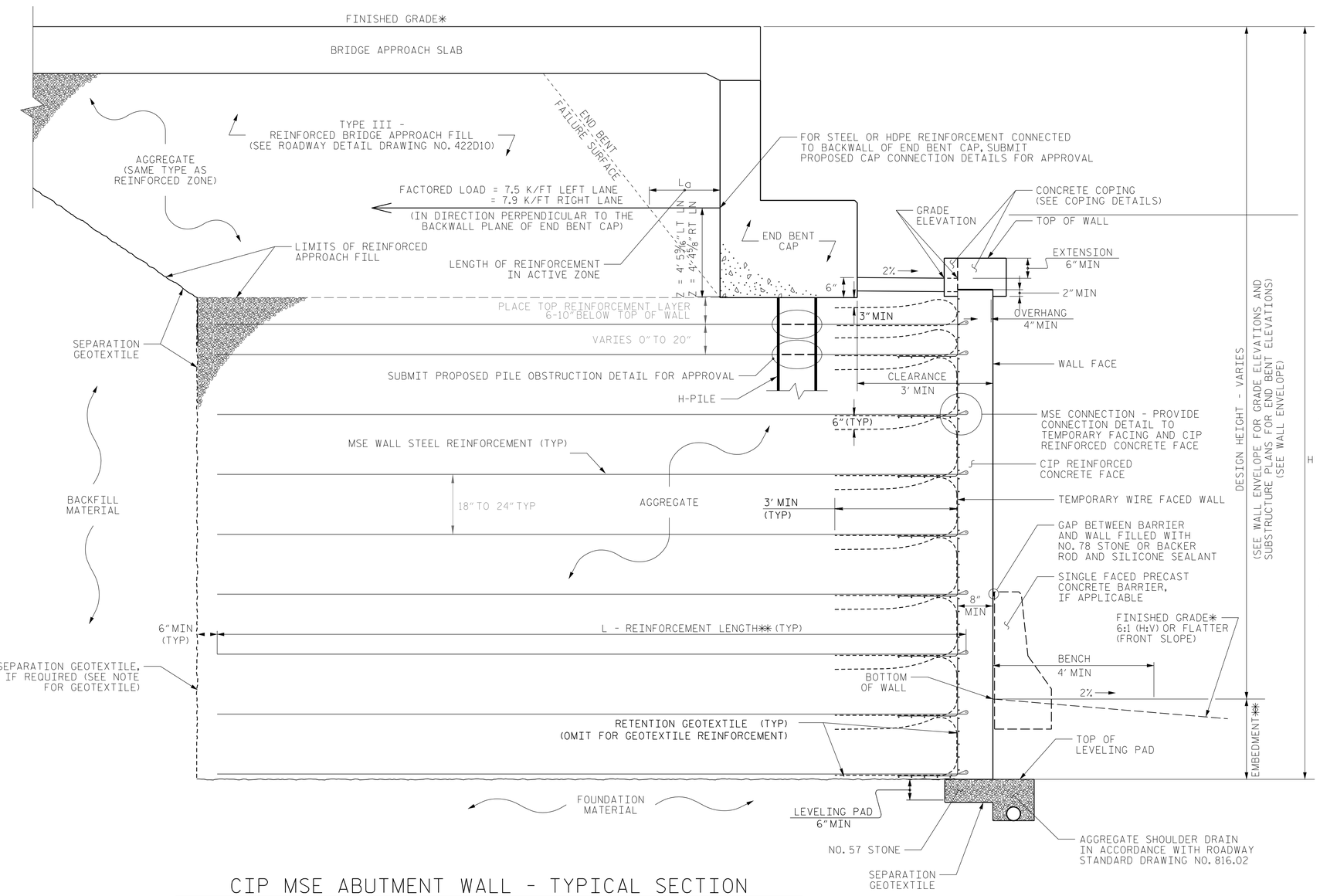
DocuSigned by: Elmer Riggs Jr. C2F6ACA84D274B1... 11/11/2026

SIGNATURE DATE

ENGINEER

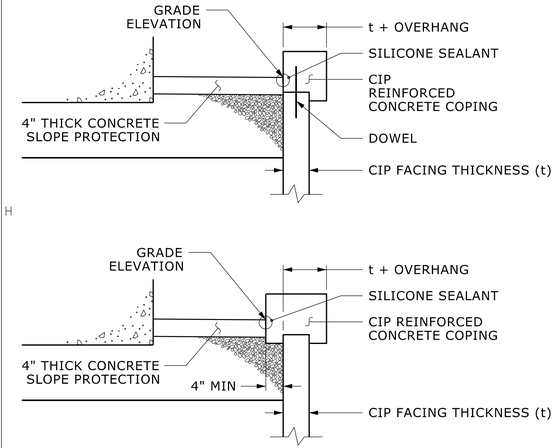
SIGNATURE DATE

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



CIP MSE ABUTMENT WALL - TYPICAL SECTION

*SEE ROADWAY PLANS FOR FINISHED GRADE DETAILS.
**SEE MSE RETAINING WALLS PROVISION AND IF APPLICABLE, MSE WALL NOTES FOR EMBEDMENT AND REINFORCEMENT LENGTH REQUIREMENTS.



COPING DETAILS

AT THE CONTRACTOR'S OPTION, CONNECT COPING TO CIP FACING WITH DOWELS OR EXTEND COPING DOWN BACK OF CIP FACING.

PROJECT NO.: 34165.1.6 (I-2513AC)

BUNCOMBE COUNTY

STATION: STA. 10+49.50 TO 14+07.93 -WALL24-

SHEET 3 OF 5 WALL ID RW-24

PREPARED BY: ALMULLA, H.	DATE: 04/14/2026
REVIEWED BY: RIGGS, Jr., A. F.	DATE: 04/14/2026

Prepared in the Office of:

Terracon

3150 SPRING FOREST ROAD, SUITE 100
RALEIGH, NORTH CAROLINA 27616
NC REGISTERED ENGINEERING FIRM: F-0869
NC REGISTERED GEOLOGIC FIRM: C-367

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS

GEOTECHNICAL ENGINEERING UNIT

RETAINING WALL NO.24
CIP MECHANICALLY STABILIZED EARTH WALL
TYPICAL AND COPING DETAILS

REVISIONS

NO.	BY	DATE	NO.	BY	DATE
1	FIELDS, W. D.	5/4/26	4	FIELDS, W. D.	6/8/26
2	FIELDS, W. D.	5/12/26	5	FIELDS, W. D.	5/26/26
3	FIELDS, W. D.	5/26/26	6	FIELDS, W. D.	6/17/26

SHEET NO.

Docusign Envelope ID: 8ACF9891-8BBE-867A-828F-B541DB936E4E

PROJECT REFERENCE NO.	SHEET NO.
I-2513AC	W-62

ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 014155 ENGINEER ELMER F. RIGGS, JR.

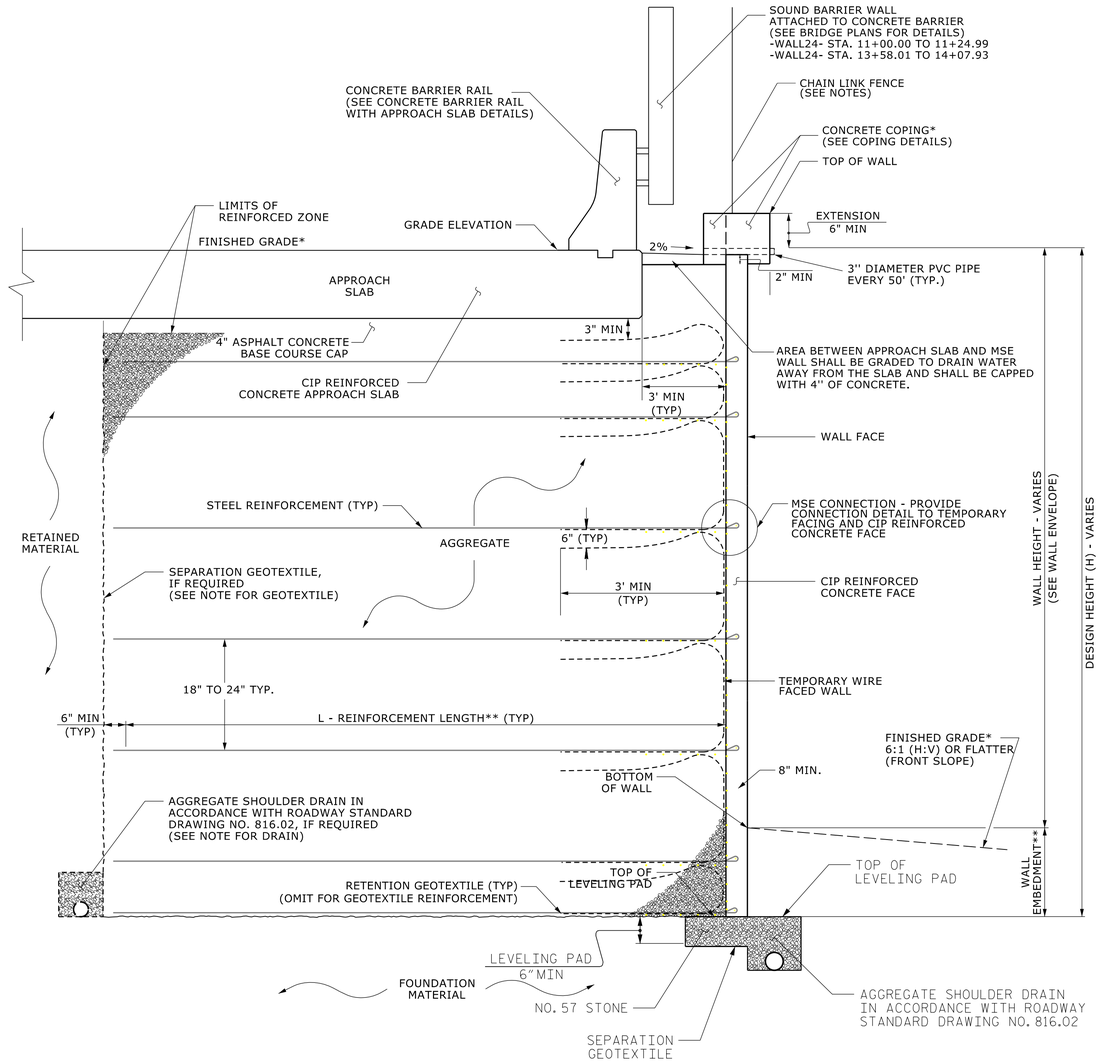
DocuSigned by: Elmer Riggs Jr. C2F6ACA84D274B1... 11/11/2026

SIGNATURE DATE

ENGINEER

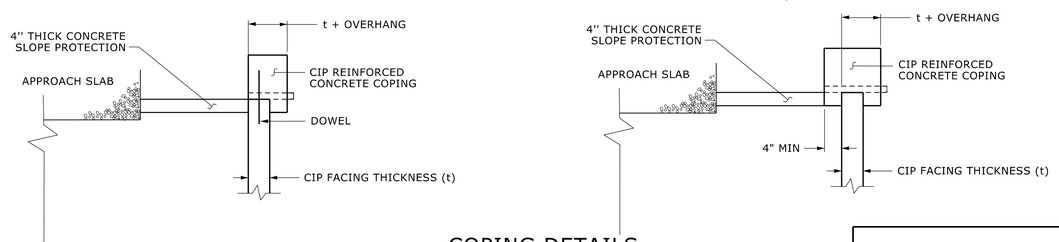
SIGNATURE DATE

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



CIP MSE WALL - TYPICAL SECTION

*SEE ROADWAY PLANS FOR FINISHED GRADE DETAILS.
**SEE MSE RETAINING WALLS PROVISION AND IF APPLICABLE, MSE WALL NOTES FOR EMBEDMENT AND REINFORCEMENT LENGTH REQUIREMENTS.



COPING DETAILS

AT THE CONTRACTOR'S OPTION, CONNECT COPING TO CIP FACING WITH DOWELS OR EXTEND COPING DOWN BACK OF CIP FACING.

PROJECT NO.: 34165.1.6 (I-2513AC)

BUNCOMBE COUNTY

STATION: STA. 10+49.50 TO 14+07.93 -WALL24-

SHEET 4 OF 5 WALL ID RW-24

PREPARED BY: ALMULLA, H.	DATE: 04/14/2026
REVIEWED BY: RIGGS, JR., A. F.	DATE: 04/14/2026

Prepared in the Office of:

Terracon

3150 SPRING FOREST ROAD, SUITE 100
RALEIGH, NORTH CAROLINA 27616
NC REGISTERED ENGINEERING FIRM: P-0869
NC REGISTERED GEOLOGIC FIRM: C-367

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

GEOTECHNICAL ENGINEERING UNIT

RETAINING WALL NO. 24
CIP MECHANICALLY STABILIZED
EARTH WALL
TYPICAL SECTION AND NOTES

REVISIONS

NO.	BY	DATE	NO.	BY	DATE
1	FIELDS, W. D.	5/4/26	5	FIELDS, W. D.	5/26/26
2	FIELDS, W. D.	5/12/26	4	FIELDS, W. D.	6/8/26
3	FIELDS, W. D.	5/26/26	6	FIELDS, W. D.	6/17/26

SHEET NO.

Docusign Envelope ID: 5E30A5B3-3012-8CAE-826C-82DE289BE50E

PROJECT REFERENCE NO.	SHEET NO.
I-2513AC	W-63

GEOTECHNICAL ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 014155 ENGINEER F. RIGGS, JR.

DocuSigned by: Ilmer Riggs Jr. 11/11/2026
C2F6ACBA4D274B1...
SIGNATURE DATE

ENGINEER

SIGNATURE DATE

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

NOTES:

FOR MECHANICALLY STABILIZED EARTH (MSE) RETAINING WALLS, SEE MECHANICALLY STABILIZED EARTH RETAINING WALLS PROVISION.

FOR TYPE 2 BRIDGE APPROACH FILL, SEE BRIDGE APPROACH FILLS PROVISION AND ROADWAY STANDARD DRAWING NO. 423.03.

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

A CONCRETE BARRIER RAIL WITH MOMENT SLAB IS REQUIRED ABOVE RETAINING WALL NO. 24. SEE PLANS FOR CONCRETE BARRIER RAIL WITH MOMENT SLAB DETAILS.

REINFORCEMENT FOR MSE WALL SHALL BE STEEL, OTHER REINFORCEMENT TYPES ARE NOT PERMITTED ON THIS WALL

CIP REINFORCED CONCRETE COPING AND FACING IS REQUIRED FOR RETAINING WALL NO 24.

AN ARCHITECTURAL CONCRETE SURFACE TREATMENT IS REQUIRED FOR RETAINING WALL NO. 24. SEE "ARCHITECTURAL CONCRETE SURFACE TREATMENT" SPECIAL PROVISION

CLOSE COORDINATION WITH STRUCTURAL PLANS IS REQUIRED. SEE BRIDGE PLANS FOR ADDITIONAL DETAILS FOR REQUIRED WALL AESTHETICS AND GEOMETRIC TIE-IN BETWEEN MSE WALL, CAST-IN-PLACE FACING, AND CAST-IN-PLACE COPINGS THAT ACHIEVE THE DESIRED AESTHETIC RESULT AS DEPICTED IN THE STRUCTURAL PLAN DETAILS. THESE DETAILS SHALL BE APPROVED BY THE ENGINEER BEFORE BEGINNING CONSTRUCTION OF THE BRIDGE WALLS. THE COST FOR ACHIEVING THE PLAN - INDICATED GEOMETRIC AESTHETIC RESULT, INCLUDING CUSTOM COPING, TOOLED JOINT LINES, AND ALL ASSOCIATED LABOR AND MATERIALS, SHALL BE INCIDENTAL TO THE COST OF "MSE RETAINING WALL NO. 24".

CAST-IN-PLACE FACING AND CORNER COPINGS AT THE BRIDGE END BENT SHALL NOT BE INSTALLED UNTIL AFTER A MINIMUM PERIOD OF 30 DAYS SINCE PLACING THE LAST BRIDGE APPROACH FILL OR SETTLEMENT HAS REACHED 90% OF THE MAXIMUM ANTICIPATED LONG-TERM SETTLEMENT.

THE BRIDGE END BENT SHALL BE BUILT IN ITS ENTIRETY BEFORE INSTALLING THE CIP FACING.

THE CIP FACING SHALL BE INSTALLED CONTINOUSLY BETWEEN LEFT AND RIGHT LANE BRIDGES WITH NO STAGED CONSTRUCTION JOINT.

A SEPARATION GEOTEXTILE IS REQUIRED AT THE BACK OF THE REINFORCED ZONE FOR RETAINING WALL NO. 24.

A DRAIN IS REQUIRED FOR RETAINING WALL NO. 24.

BEFORE BEGINNING MSE WALL DESIGN FOR RETAINING WALL NO. 24, SURVEY WALL LOCATION AND SUBMIT A REVISED WALL PROFILE VIEW (WALL ENVELOPE) FOR REVIEW. DO NOT START WALL DESIGN OR CONSTRUCTION UNTIL THE REVISED WALL ENVELOPE IS ACCEPTED.

DESIGN RETAINING WALL NO. 24 FOR THE FOLLOWING:
1) DESIGN HEIGHT (H) = WALL HEIGHT + WALL EMBEDMENT
2) DESIGN LIFE = 100 YEARS
3) MAXIMUM FACTORED VERTICAL PRESSURE ON FOUNDATION MATERIAL = 4,340PSF
4) MINIMUM REINFORCEMENT LENGTH (L) = 0.7(H) OR 6.0 FT, WHICHEVER IS LONGER
5) MINIMUM EMBEDMENT ELEVATION = 2.5 FT
6) REINFORCED ZONE AGGREGATE PARAMETERS:

AGGREGATE TYPE*	UNIT WEIGHT (γ) PCF	FRICTION ANGLE (φ) DEGREES	COHESION (c) PSF
COARSE	110	38	0
*SEE MSE RETAINING WALLS PROVISION FOR COARSE AND FINE AGGREGATE MATERIAL REQUIREMENTS.			

7) IN-SITU ASSUMED MATERIAL PARAMETERS:

MATERIAL TYPE	UNIT WEIGHT (γ) PCF	FRICTION ANGLE (φ) DEGREES	COHESION (c) PSF
RETAINED	120	30	0
FOUNDATION	115	30	0

THE WALL SITE FOR RETAINING WALL NO. 24 LOCATED AT END BENT NO. 1 IS CLASSIFIED AS AASHTO SITE CLASS D.

DESIGN RETAINING WALL NO. 24 FOR A LIVE LOAD (TRAFFIC) SURCHARGE.

DESIGN RETAINING WALL NO. 24 TO ACCOUNT FOR WIND EXPOSURE CATAGORY B (WIND PRESSURE = 27 PSF) WHERE SOUND BARRIER WALL IS ATTACHED TO THE CONCRETE BARRIER WALL (-WALL24- STA. 10+49.50 TO 11+00.00).

DESIGN REINFORCEMENT CONNECTED TO END BENT CAPS FOR FACTORED LOAD AND LENGTH OF REINFORCEMENT IN ACTIVE ZONE (L) SHOWN. CAST REINFORCEMENT OR CONNECTORS INTO CAP BACKWALL FOR END BENT NO. 1 LOCATED AT STATION 105+03 -L-. MAINTAIN A CLEARANCE OF AT LEAST 3" BETWEEN REINFORCEMENT OR CONNECTORS AND REINFORCING STEEL IN CAP.

FOUNDATIONS FOR SIGNS, LIGHTING or SIGNALS WILL BE LOCATED BEHIND RETAINING WALL NO. 24 AND MAY INTERFERE WITH REINFORCEMENT. BEFORE BEGINNING MSE WALL CONSTRUCTION, SUBMIT PROPOSED CONSTRUCTION METHODS FOR THESE FOUNDATIONS FOR APPROVAL.

EXISTING OR FUTURE OBSTRUCTIONS SUCH AS FOUNDATIONS, GUARDRAIL, FENCE OR HANDRAIL POSTS, PAVEMENTS, PIPES, INLETS OR UTILITIES MAY INTERFERE WITH REINFORCEMENT FOR RETAINING WALL NO. 24.

FOUNDATIONS FOR END BENT NO. 1 LOCATED AT STATION 105+03 -L- MAY INTERFERE WITH REINFORCEMENT FOR RETAINING WALL NO. 24. SEE "FOUNDATION LAYOUT" SHEET FOR FOUNDATION LOCATIONS.

DO NOT PLACE LEVELING PAD CONCRETE, AGGREGATE OR REINFORCEMENT FOR RETAINING WALL NO. 24 UNTIL EXCAVATION DIMENSIONS AND FOUNDATION MATERIAL ARE APPROVED.

DESIGN RETAINING WALL NO. 24 TO INCORPORATE DRAIN DROP INLET STRUCTURES AND PIPES WITHIN REINFORCED ZONE OF WALL NO. 24 INCLUDE DETAILS IN MSE DESIGN SUBMITTAL.

"TEMPORARY SHORING" IS REQUIRED FOR RETAINING WALL NO. 24 IN ACCORDANCE WITH THE TEMPORARY SHORING PROVISION. SEE ROADWAY, STRUCTURE or TRAFFIC CONTROL PLANS.

48" BLACK VINYL COATED CHAIN LINK FENCE IS REQUIRED FULL LENGTH OF WALL, WHERE NOT UNDER BRIDGE. SEE ROADWAY STANDARD 866.06 (ROADWAY DETAIL AND PAY ITEM).

CONDUIT EMBEDDED IN CIP WALL FACE, SEE LIGHTING PLANS

PROJECT NO.: 34165.1.6 (I-2513AC)

BUNCOMBE COUNTY

STATION: STA. 10+49.50 TO 14+07.93 -WALL24-

SHEET 5 OF 5 WALL ID RW-24

PREPARED BY: ALMULLA, H.	DATE: 04/14/2026
REVIEWED BY: RIGGS, Jr., A. F.	DATE: 04/14/2026

Prepared in the Office of:

Terracon

3150 SPRING FOREST ROAD, SUITE 100 RALEIGH, NORTH CAROLINA 27616 NC REGISTERED ENGINEERING FIRM: F-0869 NC REGISTERED GEOLOGIC FIRM: C-367

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS

GEOTECHNICAL ENGINEERING UNIT

RETAINING WALL NO. 24
CIP MECHANICALLY STABILIZED EARTH WALL
LEVELING PAD STEP DETAIL AND NOTES

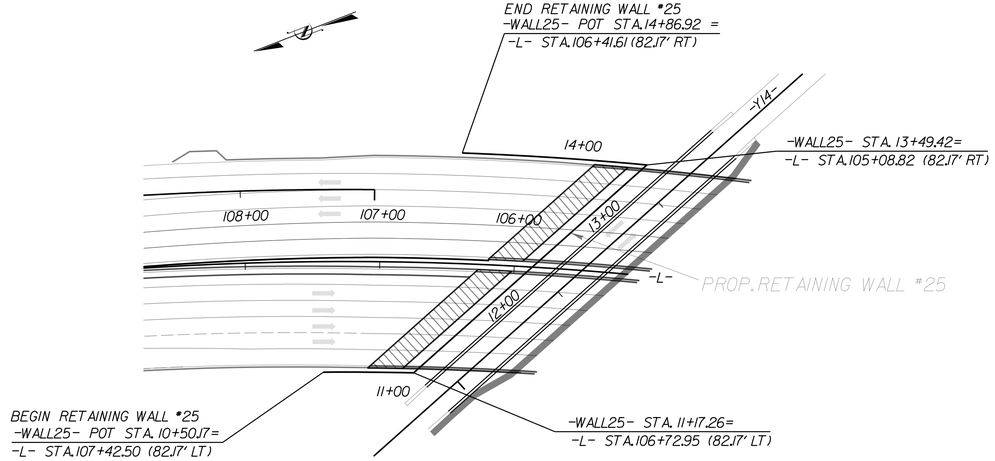
REVISIONS

NO.	BY	DATE	NO.	BY	DATE
1	FIELDS, W. D.	5/4/26	4	FIELDS, W. D.	6/8/26
2	FIELDS, W. D.	5/12/26	5	FIELDS, W. D.	5/26/26
3	FIELDS, W. D.	5/26/26	6	FIELDS, W. D.	6/17/26

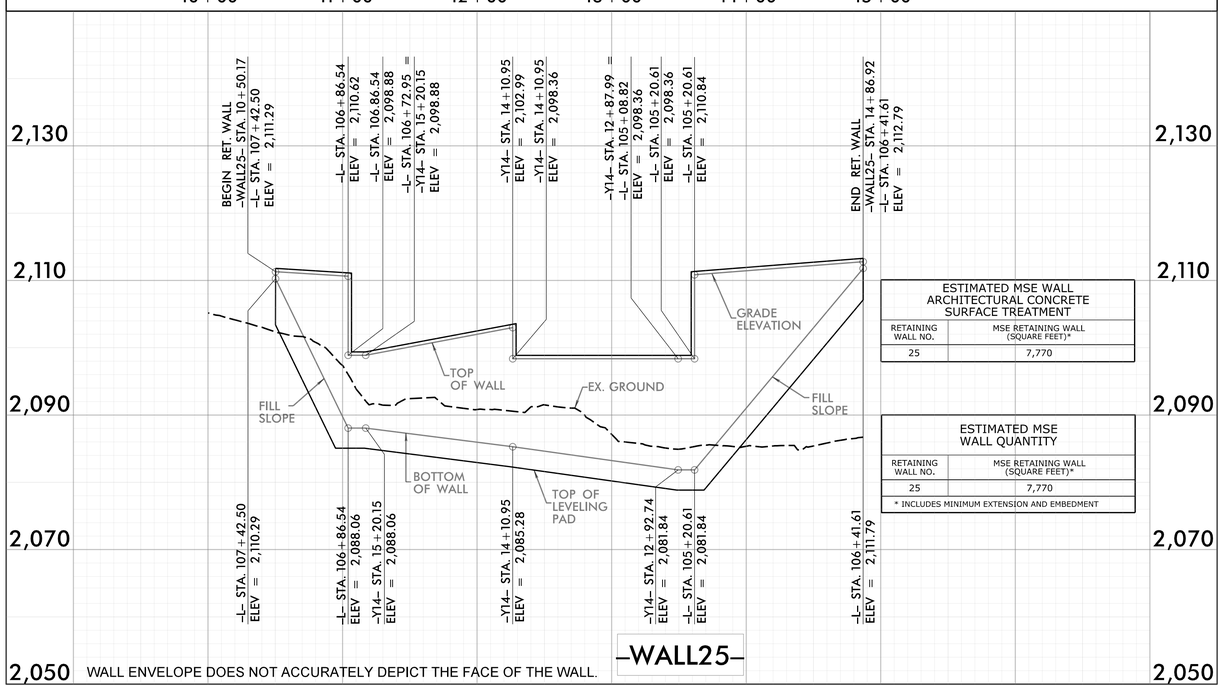
SHEET NO.

Docusign Envelope ID: 445A3896-C7B8-8FF4-82D1-7AE6069118DE

MSE RETAINING WALL NO.25 PLAN



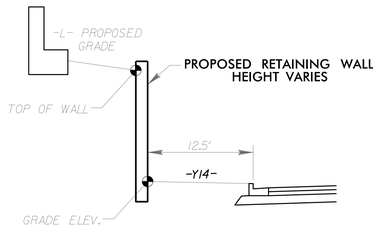
MSE RETAINING WALL NO.25 ENVELOPE



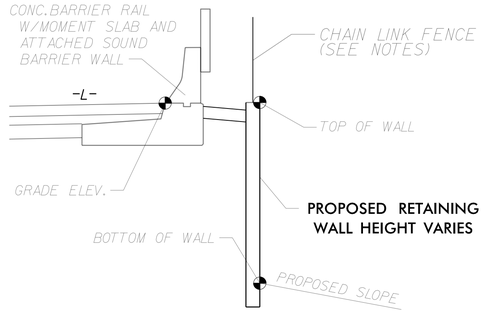
ESTIMATED MSE WALL ARCHITECTURAL CONCRETE SURFACE TREATMENT	
RETAINING WALL NO.	MSE RETAINING WALL (SQUARE FEET)*
25	7,770

ESTIMATED MSE WALL QUANTITY	
RETAINING WALL NO.	MSE RETAINING WALL (SQUARE FEET)*
25	7,770

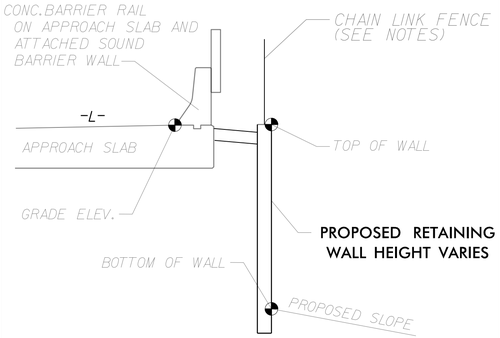
* INCLUDES MINIMUM EXTENSION AND EMBEDMENT



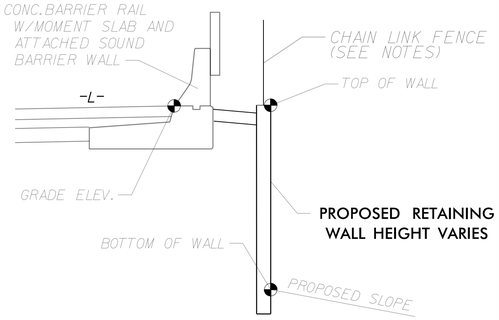
RETAINING WALL TYPICAL SECTION
–WALL25– STA. 11+17.26 TO STA. 13+49.42



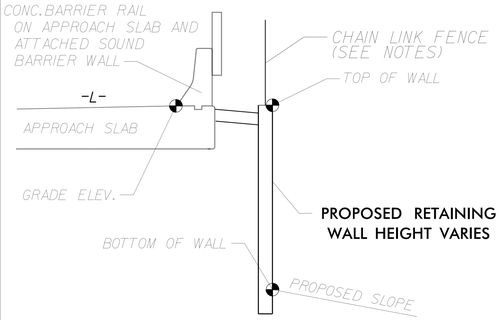
RETAINING WALL TYPICAL SECTION
–WALL25– STA. 13+87.41 TO 14+86.92



RETAINING WALL TYPICAL SECTION
–WALL25– STA. 13+49.42 TO 13+87.41



RETAINING WALL TYPICAL SECTION
–WALL25– STA. 10+50.17 TO 10+83.77



RETAINING WALL TYPICAL SECTION
–WALL25– STA. 10+83.77 TO 11+17.26

PROJECT REFERENCE NO.	SHEET NO.
I-2513AC	W-64

GEOTECHNICAL ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 014155 ENGINEER ELMER F. RIGGS, JR.

DocuSigned by: Elmer Riggs Jr. C2F6ACA84D274B1... 11/11/2026

SIGNATURE DATE

ENGINEER

DATE

SIGNATURE DATE

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

PROJECT NO.: 34165.1.6 (I-2513AC)

BUNCOMBE COUNTY

STATION: STA. 10+50.17 TO 14+86.92 -WALL25-

SHEET 1 OF 5 WALL ID RW-25

PREPARED BY: ALMULLA, H.	DATE: 04/14/2026
REVIEWED BY: RIGGS, JR., A. F.	DATE: 04/14/2026

Prepared in the Office of:

Terracon

3150 SPRING FOREST ROAD, SUITE 100
RALEIGH, NORTH CAROLINA 27616
NC REGISTERED ENGINEERING FIRM: F-0869
NC REGISTERED GEOLOGIC FIRM: C-367

RETAINING WALL NO. 25
CIP MECHANICALLY STABILIZED EARTH WALL
PLAN AND ENVELOPE

REVISIONS

NO.	BY	DATE	NO.	BY	DATE
1	FIELDS, W. D.	6/8/26	3		
2			4		

SHEET NO.

Docusign Envelope ID: 40F6FA73-FDBB-8658-8048-619B9BEC0162

PROJECT REFERENCE NO.	SHEET NO.
I-2513AC	W-65

ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 014155 ENGINEER ALMER F. RIGGS, JR.

DocuSigned by: Almer Riggs Jr. C2F6ACA84D274B1...

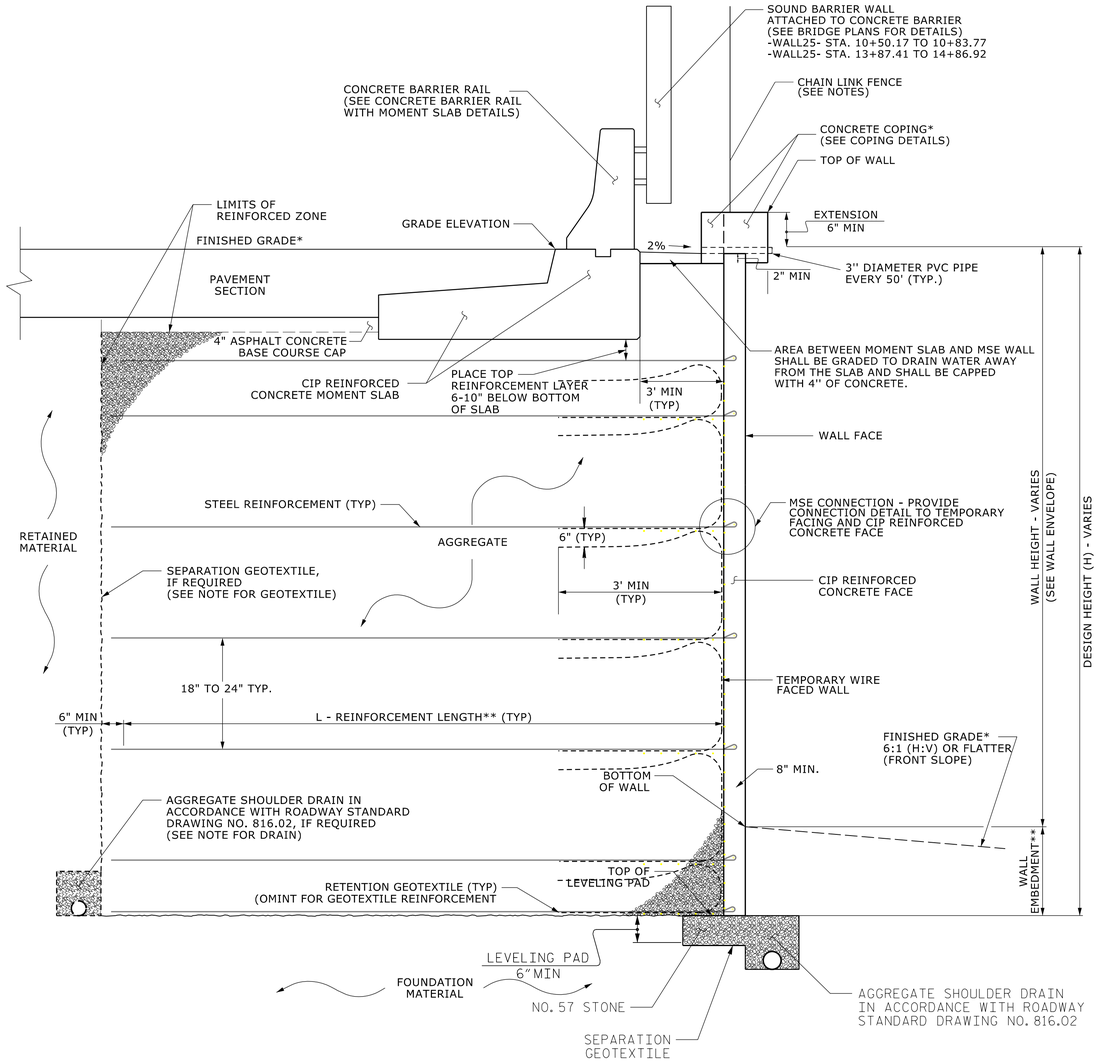
11/11/2026

SIGNATURE DATE

ENGINEER

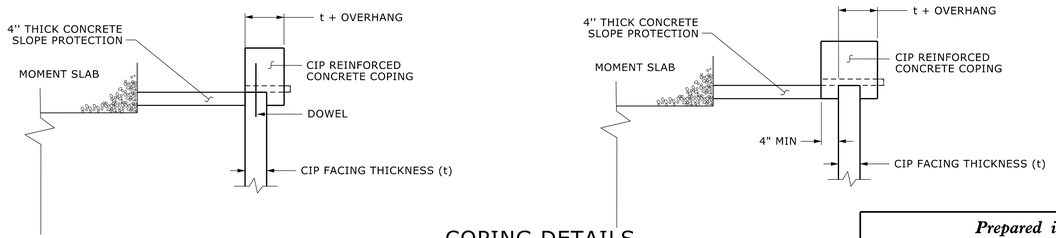
SIGNATURE DATE

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



CIP MSE WALL - TYPICAL SECTION

*SEE ROADWAY PLANS FOR FINISHED GRADE DETAILS.
**SEE MSE RETAINING WALLS PROVISION AND IF APPLICABLE, MSE WALL NOTES FOR EMBEDMENT AND REINFORCEMENT LENGTH REQUIREMENTS.



COPING DETAILS

AT THE CONTRACTOR'S OPTION, CONNECT COPING TO CIP FACING WITH DOWELS OR EXTEND COPING DOWN BACK OF CIP FACING.

PROJECT NO.: 34165.1.6 (I-2513AC)

BUNCOMBE COUNTY

STATION: STA. 10+50.17 TO 14+86.92 -WALL25-

SHEET 2 OF 5 WALL ID RW-25

PREPARED BY: ALMULLA, H.	DATE: 04/14/2026
REVIEWED BY: RIGGS, JR., A. F.	DATE: 04/14/2026

Prepared in the Office of:

Terracon

3150 SPRING FOREST ROAD, SUITE 100 RALEIGH, NORTH CAROLINA 27616 NC REGISTERED ENGINEERING FIRM: P-0869 NC REGISTERED GEOLOGIC FIRM: C-367

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS

GEOTECHNICAL ENGINEERING UNIT

RETAINING WALL NO. 25
CIP MECHANICALLY STABILIZED EARTH WALL
TYPICAL SECTION AND NOTES

REVISIONS

NO.	BY	DATE	NO.	BY	DATE
1	FIELDS, W. D.	5/4/26	4	FIELDS, W. D.	6/8/26
2	FIELDS, W. D.	5/12/26	5	FIELDS, W. D.	5/26/26
3	FIELDS, W. D.	5/26/26	6	FIELDS, W. D.	6/17/26

SHEET NO.

Docusign Envelope ID: 05D9A564-01A8-8221-8030-6AAE70AE08AA

PROJECT REFERENCE NO.	SHEET NO.
I-2513AC	W-66

GEOTECHNICAL ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 014155 ENGINEER ALMER F. RIGGS JR

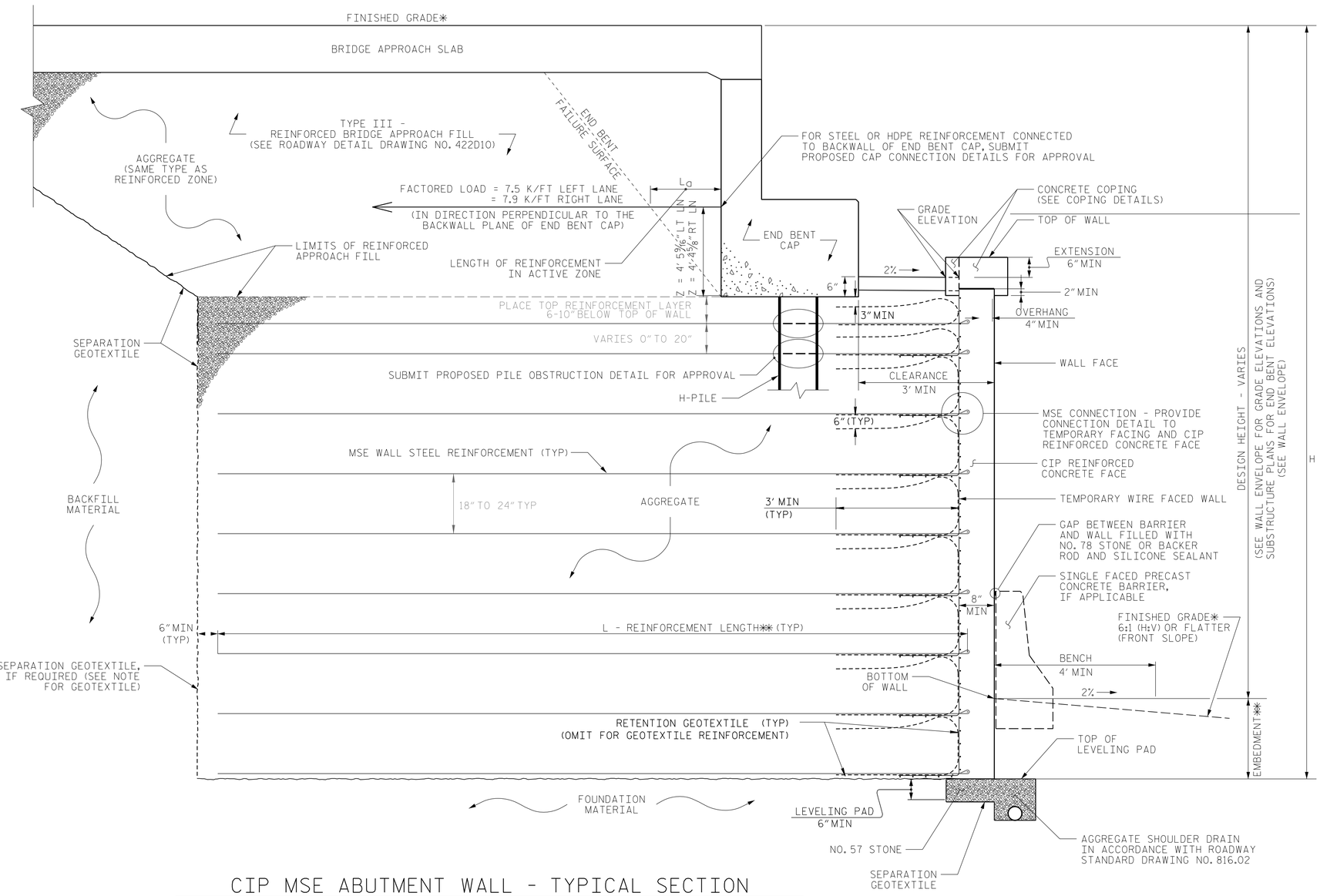
DocuSigned by: Almer Riggs Jr. C2F6ACA84D2748B1... 11/11/2026

SIGNATURE DATE

ENGINEER

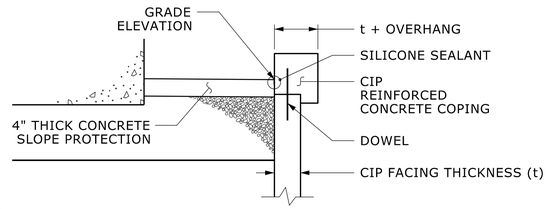
SIGNATURE DATE

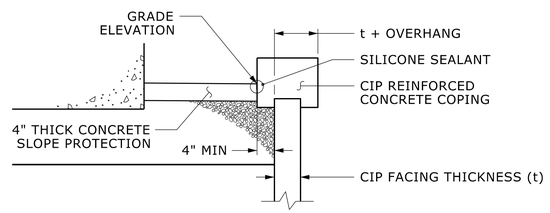
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



CIP MSE ABUTMENT WALL - TYPICAL SECTION

*SEE ROADWAY PLANS FOR FINISHED GRADE DETAILS.
**SEE MSE RETAINING WALLS PROVISION AND IF APPLICABLE, MSE WALL NOTES FOR EMBEDMENT AND REINFORCEMENT LENGTH REQUIREMENTS.





COPING DETAILS

AT THE CONTRACTOR'S OPTION, CONNECT COPING TO CIP FACING WITH DOWELS OR EXTEND COPING DOWN BACK OF CIP FACING.

PROJECT NO.: 34165.1.6 (I-2513AC)

BUNCOMBE COUNTY

STATION: STA. 10+50.17 TO 14+86.92 -WALL25-

SHEET 3 OF 5 WALL ID RW-25

PREPARED BY: ALMULLA, H.	DATE: 04/14/2026
REVIEWED BY: RIGGS, Jr., A. F.	DATE: 04/14/2026

Prepared in the Office of:

Terracon

3150 SPRING FOREST ROAD, SUITE 100
RALEIGH, NORTH CAROLINA 27616
NC REGISTERED ENGINEERING FIRM: F-0869
NC REGISTERED GEOLOGIC FIRM: C-367

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS

GEOTECHNICAL ENGINEERING UNIT

RETAINING WALL NO.25
CIP MECHANICALLY STABILIZED EARTH WALL
TYPICAL AND COPING DETAILS

REVISIONS

NO.	BY	DATE	NO.	BY	DATE
1	FIELDS, W. D.	5/4/26	4	FIELDS, W. D.	6/8/26
2	FIELDS, W. D.	5/12/26	5	FIELDS, W. D.	5/26/26
3	FIELDS, W. D.	5/26/26	6	FIELDS, W. D.	6/17/26

SHEET NO.

Docusign Envelope ID: 8D5B50F9-DB01-8901-80B7-31686D83DD83

PROJECT REFERENCE NO.	SHEET NO.
I-2513AC	W-67

ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 014155 ENGINEER ELMER F. RIGGS, JR.

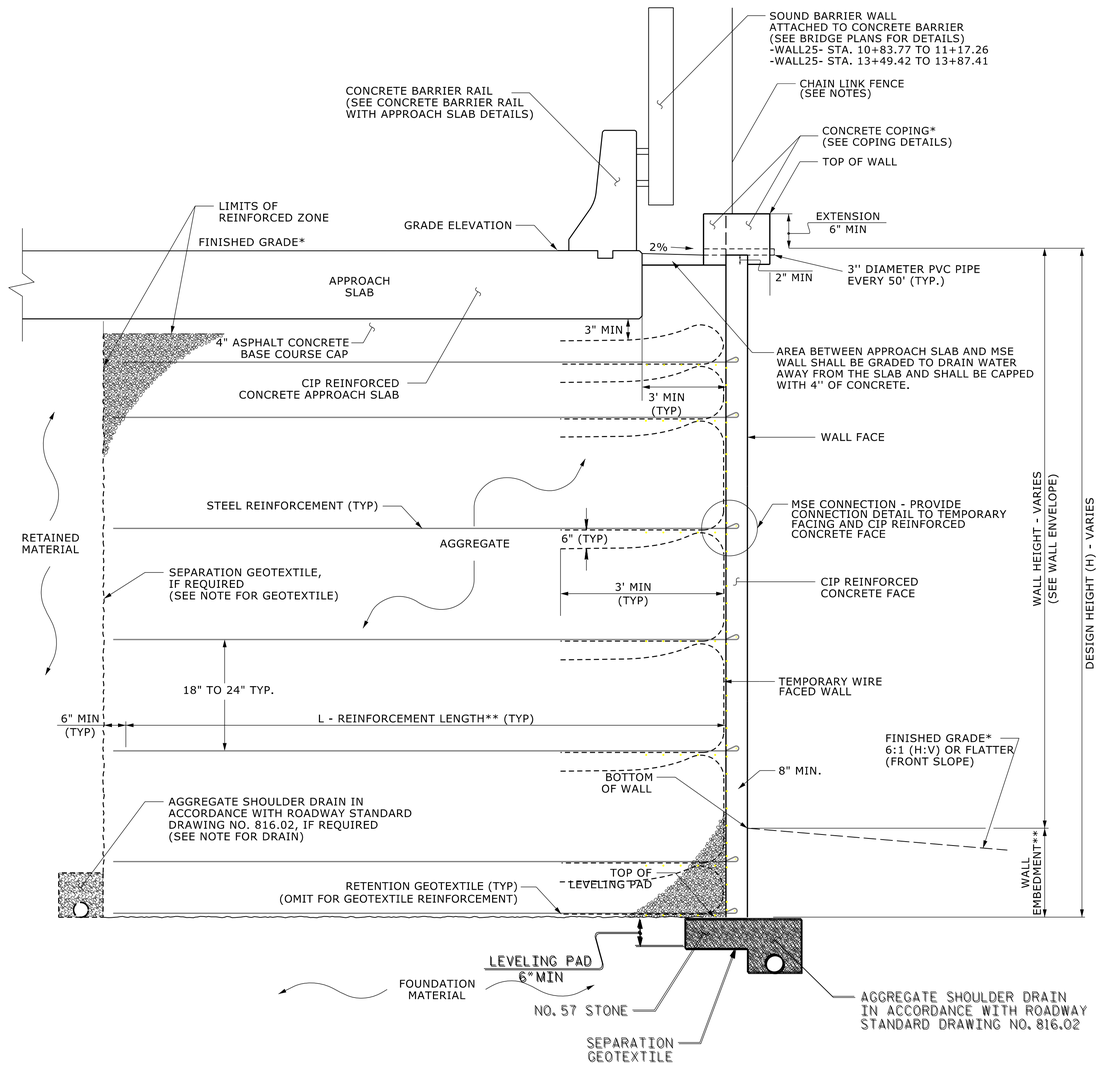
DocuSigned by: Elmer Riggs Jr. C2F6ACA84D274B1... 11/11/2026

SIGNATURE DATE

ENGINEER

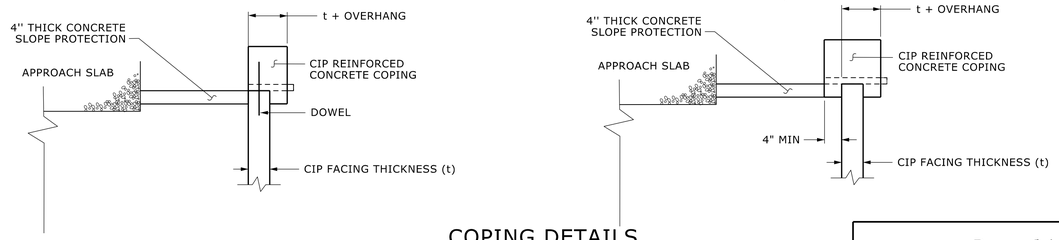
SIGNATURE DATE

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



CIP MSE WALL - TYPICAL SECTION

*SEE ROADWAY PLANS FOR FINISHED GRADE DETAILS.
**SEE MSE RETAINING WALLS PROVISION AND IF APPLICABLE, MSE WALL NOTES FOR EMBEDMENT AND REINFORCEMENT LENGTH REQUIREMENTS.



COPING DETAILS

AT THE CONTRACTOR'S OPTION, CONNECT COPING TO CIP FACING WITH DOWELS OR EXTEND COPING DOWN BACK OF CIP FACING.

PROJECT NO.: 34165.1.6 (I-2513AC)

BUNCOMBE COUNTY

STATION: STA. 10+50.17 TO 14+86.92 -WALL25-

SHEET 4 OF 5 WALL ID RW-25

PREPARED BY: ALMULLA, H.	DATE: 04/14/2026
REVIEWED BY: RIGGS, JR., A. F.	DATE: 04/14/2026

Prepared in the Office of:

Terracon

3150 SPRING FOREST ROAD, SUITE 100
RALEIGH, NORTH CAROLINA 27616
NC REGISTERED ENGINEERING FIRM: F-0869
NC REGISTERED GEOLOGIC FIRM: C-367

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS

GEOTECHNICAL ENGINEERING UNIT

RETAINING WALL NO. 25
CIP MECHANICALLY STABILIZED EARTH WALL
TYPICAL SECTION AND NOTES

REVISIONS

NO.	BY	DATE	NO.	BY	DATE
1	FIELDS, W. D.	5/4/26	5	FIELDS, W. D.	5/26/26
2	FIELDS, W. D.	5/12/26	4	FIELDS, W. D.	6/8/26
3	FIELDS, W. D.	5/26/26	6	FIELDS, W. D.	6/17/26

SHEET NO.

Docusign Envelope ID: EB746202-A09B-8331-83B6-C2AB5D139D24

PROJECT REFERENCE NO.	SHEET NO.
I-2513AC	W-68

GEOTECHNICAL ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 014155 ENGINEER F. RIGGS JR.

DocuSigned by: Almer Riggs Jr. C2F8ACA84D274B1... 11/11/2026

SIGNATURE DATE

ENGINEER

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DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

NOTES:

FOR MECHANICALLY STABILIZED EARTH (MSE) RETAINING WALLS, SEE MECHANICALLY STABILIZED EARTH RETAINING WALLS PROVISION.

FOR TYPE 2 BRIDGE APPROACH FILL, SEE BRIDGE APPROACH FILLS PROVISION AND ROADWAY STANDARD DRAWING NO. 423.03.

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

A CONCRETE BARRIER RAIL WITH MOMENT SLAB IS REQUIRED ABOVE RETAINING WALL NO. 25. SEE PLANS FOR CONCRETE BARRIER RAIL WITH MOMENT SLAB DETAILS.

REINFORCEMENT FOR MSE WALL SHALL BE STEEL, OTHER REINFORCEMENT TYPES ARE NOT PERMITTED ON THIS WALL

CIP REINFORCED CONCRETE COPING AND FACING IS REQUIRED FOR RETAINING WALL NO 25.

AN ARCHITECTURAL CONCRETE SURFACE TREATMENT IS REQUIRED FOR RETAINING WALL NO. 25. SEE "ARCHITECTURAL CONCRETE SURFACE TREATMENT" SPECIAL PROVISION

CLOSE COORDINATION WITH STRUCTURAL PLANS IS REQUIRED. SEE BRIDGE PLANS FOR ADDITIONAL DETAILS FOR REQUIRED WALL AESTHETICS AND GEOMETRIC TIE-IN BETWEEN MSE WALL, CAST-IN-PLACE FACING, AND CAST-IN-PLACE COPINGS THAT ACHIEVE THE DESIRED AESTHETIC RESULT AS DEPICTED IN THE STRUCTURAL PLAN DETAILS. THESE DETAILS SHALL BE APPROVED BY THE ENGINEER BEFORE BEGINNING CONSTRUCTION OF THE BRIDGE WALLS. THE COST FOR ACHIEVING THE PLAN - INDICATED GEOMETRIC AESTHETIC RESULT, INCLUDING CUSTOM COPING, TOOLED JOINT LINES, AND ALL ASSOCIATED LABOR AND MATERIALS, SHALL BE INCIDENTAL TO THE COST OF "MSE RETAINING WALL NO. 25".

CAST-IN-PLACE FACING AND CORNER COPINGS AT THE BRIDGE END BENT SHALL NOT BE INSTALLED UNTIL AFTER A MINIMUM PERIOD OF 30 DAYS SINCE PLACING THE LAST BRIDGE APPROACH FILL OR SETTLEMENT HAS REACHED 90% OF THE MAXIMUM ANTICIPATED LONG-TERM SETTLEMENT.

THE BRIDGE END BENT SHALL BE BUILT IN ITS ENTIRETY BEFORE INSTALLING THE CIP FACING.

THE CIP FACING SHALL BE INSTALLED CONTINOUSLY BETWEEN LEFT AND RIGHT LANE BRIDGES WITH NO STAGED CONSTRUCTION JOINT.

A SEPARATION GEOTEXTILE IS REQUIRED AT THE BACK OF THE REINFORCED ZONE FOR RETAINING WALL NO. 25.

A DRAIN IS REQUIRED FOR RETAINING WALL NO. 25.

BEFORE BEGINNING MSE WALL DESIGN FOR RETAINING WALL NO. 25, SURVEY WALL LOCATION AND SUBMIT A REVISED WALL PROFILE VIEW (WALL ENVELOPE) FOR REVIEW. DO NOT START WALL DESIGN OR CONSTRUCTION UNTIL THE REVISED WALL ENVELOPE IS ACCEPTED.

DESIGN RETAINING WALL NO. 25 FOR THE FOLLOWING:
1) DESIGN HEIGHT (H) = WALL HEIGHT + WALL EMBEDMENT
2) DESIGN LIFE = 100 YEARS
3) MAXIMUM FACTORED VERTICAL PRESSURE ON FOUNDATION MATERIAL = 5,820 PSF
4) MINIMUM REINFORCEMENT LENGTH (L) = 0.7(H) OR 6.0 FT, WHICHEVER IS LONGER
5) MINIMUM EMBEDMENT ELEVATION = 3.0 FT
6) REINFORCED ZONE AGGREGATE PARAMETERS:

AGGREGATE TYPE*	UNIT WEIGHT (γ) PCF	FRICTION ANGLE (φ) DEGREES	COHESION (c) PSF
COARSE	110	38	0
*SEE MSE RETAINING WALLS PROVISION FOR COARSE AND FINE AGGREGATE MATERIAL REQUIREMENTS.			

7) IN-SITU ASSUMED MATERIAL PARAMETERS:

MATERIAL TYPE	UNIT WEIGHT (γ) PCF	FRICTION ANGLE (φ) DEGREES	COHESION (c) PSF
RETAINED	120	30	0
FOUNDATION	115	30	0

THE WALL SITE FOR RETAINING WALL NO. 25 LOCATED AT END BENT NO. 1 IS CLASSIFIED AS AASHTO SITE CLASS D.

DESIGN RETAINING WALL NO. 25 FOR A LIVE LOAD (TRAFFIC) SURCHARGE.

DESIGN RETAINING WALL NO. 25 TO ACCOUNT FOR WIND EXPOSURE CATAGORY B (WIND PRESSURE = 27 PSF) WHERE SOUND BARRIER WALL IS ATTACHED TO THE CONCRETE BARRIER WALL (-WALL25- STA. 10+50.17 TO 110+83.77 AND -WALL25- STA. 13+87.41 TO 14+86.92).

DESIGN REINFORCEMENT CONNECTED TO END BENT CAPS FOR FACTORED LOAD AND LENGTH OF REINFORCEMENT IN ACTIVE ZONE (L) SHOWN. CAST REINFORCEMENT OR CONNECTORS INTO CAP BACKWALL FOR END BENT NO. 1 LOCATED AT STATION 105+97 -L-. MAINTAIN A CLEARANCE OF AT LEAST 3" BETWEEN REINFORCEMENT OR CONNECTORS AND REINFORCING STEEL IN CAP.

FOUNDATIONS FOR SIGNS, LIGHTING or SIGNALS WILL BE LOCATED BEHIND RETAINING WALL NO. 25 AND MAY INTERFERE WITH REINFORCEMENT. BEFORE BEGINNING MSE WALL CONSTRUCTION, SUBMIT PROPOSED CONSTRUCTION METHODS FOR THESE FOUNDATIONS FOR APPROVAL.

EXISTING OR FUTURE OBSTRUCTIONS SUCH AS FOUNDATIONS, GUARDRAIL, FENCE OR HANDRAIL POSTS, PAVEMENTS, PIPES, INLETS OR UTILITIES MAY INTERFERE WITH REINFORCEMENT FOR RETAINING WALL NO. 25.

FOUNDATIONS FOR END BENT NO. 1 LOCATED AT STATION 105+97 -L- MAY INTERFERE WITH REINFORCEMENT FOR RETAINING WALL NO. 25. SEE "FOUNDATION LAYOUT" SHEET FOR FOUNDATION LOCATIONS.

DO NOT PLACE LEVELING PAD CONCRETE, AGGREGATE OR REINFORCEMENT FOR RETAINING WALL NO. 25 UNTIL EXCAVATION DIMENSIONS AND FOUNDATION MATERIAL ARE APPROVED.

DESIGN RETAINING WALL NO. 25 TO INCORPORATE DRAIN DROP INLET STRUCTURES AND PIPES WITHIN REINFORCED ZONE OF WALL NO. 25 INCLUDE DETAILS IN MSE DESIGN SUBMITTAL.

"TEMPORARY SHORING" IS REQUIRED FOR RETAINING WALL NO. 25 IN ACCORDANCE WITH THE TEMPORARY SHORING PROVISION. SEE ROADWAY, STRUCTURE or TRAFFIC CONTROL PLANS.

48" BLACK VINYL COATED CHAIN LINK FENCE IS REQUIRED FULL LENGTH OF WALL, WHERE NOT UNDER BRIDGE. SEE ROADWAY STANDARD 866.06 (ROADWAY DETAIL AND PAY ITEM).

CONDUIT EMBEDDED IN CIP WALL FACE, SEE LIGHTING PLANS

PROJECT NO.: 34165.1.6 (I-2513AC)

BUNCOMBE COUNTY

STATION: STA. 10+50.17 TO 14+86.92 -WALL25-

SHEET 5 OF 5 WALL ID RW-25

PREPARED BY: ALMULLA, H.	DATE: 04/14/2026
REVIEWED BY: RIGGS, Jr., A. F.	DATE: 04/14/2026

Prepared in the Office of:

Terracon

3150 SPRING FOREST ROAD, SUITE 100 RALEIGH, NORTH CAROLINA 27616 NC REGISTERED ENGINEERING FIRM: F-0869 NC REGISTERED GEOLOGIC FIRM: C-367

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS

GEOTECHNICAL ENGINEERING UNIT

RETAINING WALL NO. 25
CIP MECHANICALLY STABILIZED EARTH WALL
LEVELING PAD STEP DETAIL AND NOTES

REVISIONS

NO.	BY	DATE	NO.	BY	DATE
1	FIELDS, W. D.	5/4/26	4	FIELDS, W. D.	6/8/26
2	FIELDS, W. D.	5/12/26	5	FIELDS, W. D.	5/26/26
3	FIELDS, W. D.	5/26/26	6	FIELDS, W. D.	6/17/26

SHEET NO.