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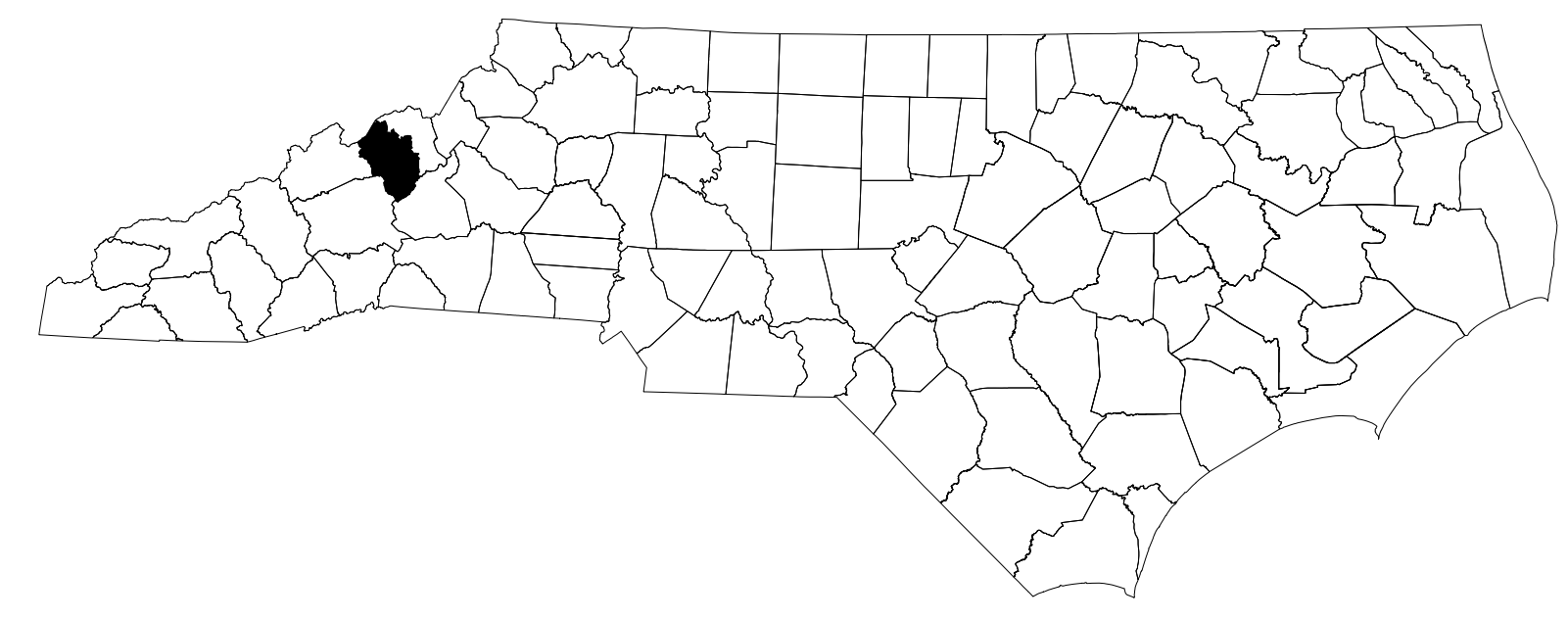
PROJECT: 18313.1100047.PR

CONTRACT: DM00486

12/9/2025 X:\ngb01\Div 13 Bridge Repairs - Helene\Yancey 990009\Plans\DCNs\DM00486\_Rdy\_1.sh.dgn User:cpruett

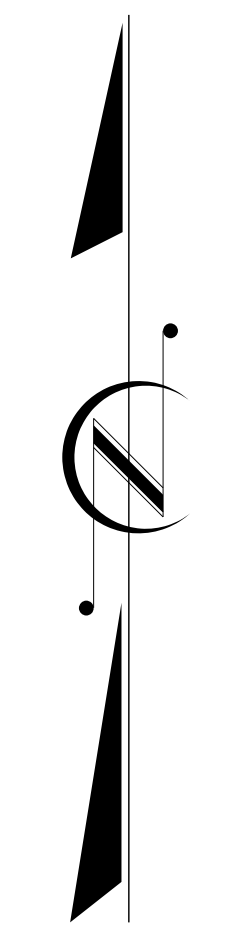
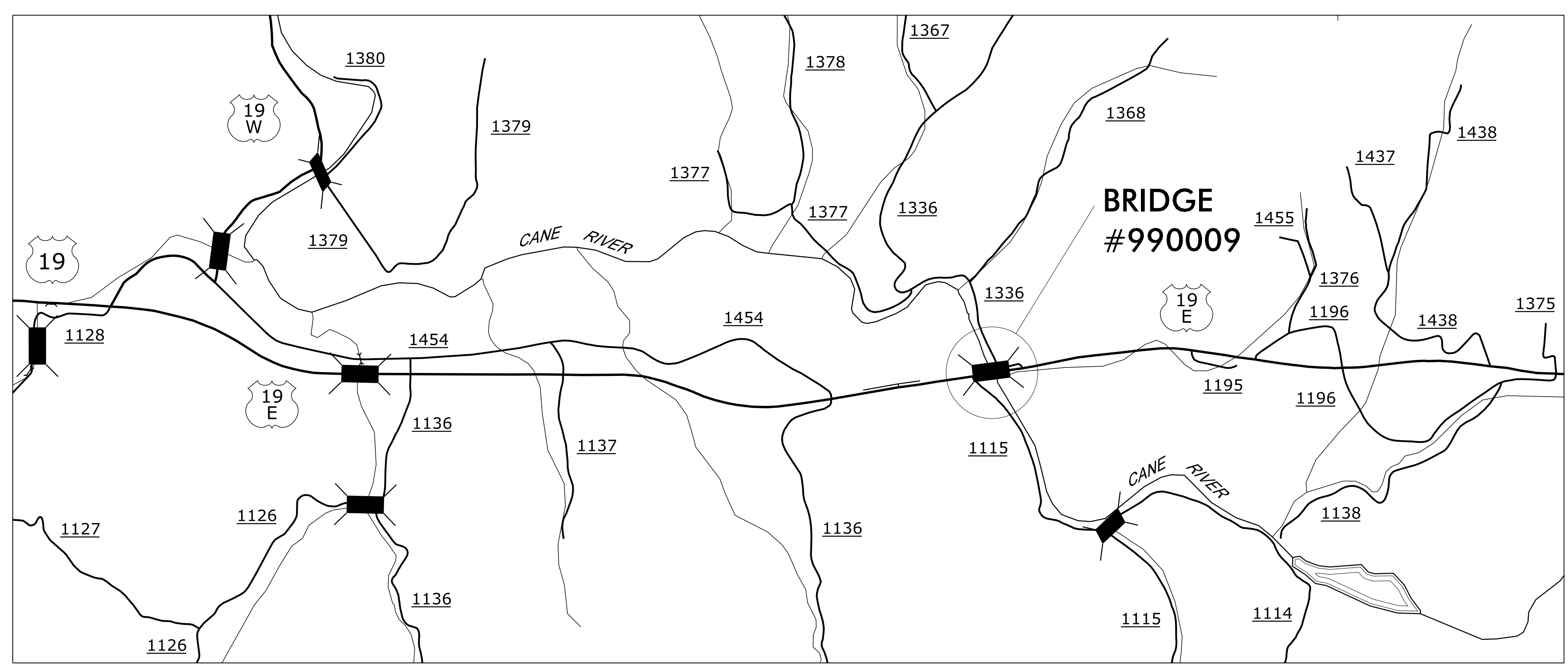
STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

**YANCEY COUNTY**

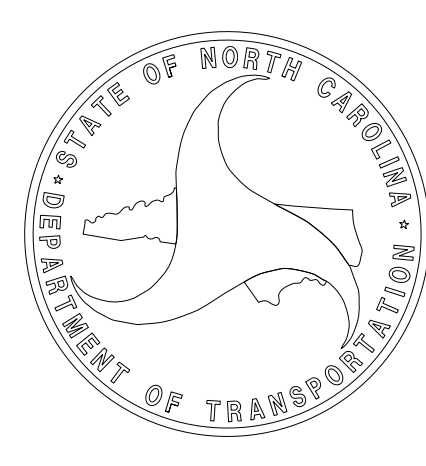


LOCATION: BRIDGE #990009 ON US 19 OVER CANE RIVER  
TYPE OF WORK: BRIDGE REPAIR

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	18313.1100047.PR	1	21
STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION	
18313.1100047.PR	NA	BRIDGE 990009	



DOCUMENT NOT CONSIDERED FINAL  
UNLESS ALL SIGNATURES COMPLETED



**INDEX OF SHEETS**

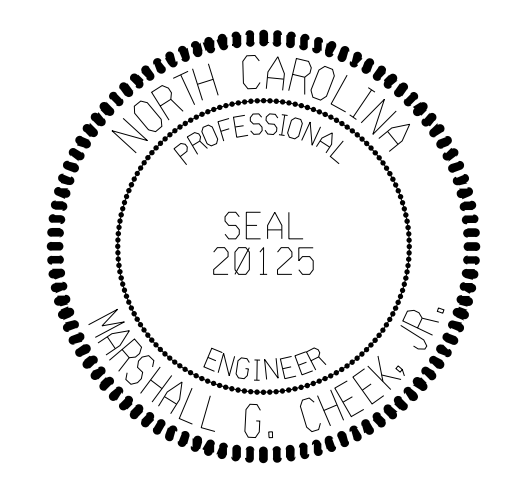
SHEET NUMBER	SHEET TITLE
1	TITLE SHEET
TMP-1 THRU TMP-7	TRAFFIC MANAGEMENT PLANS
S-1 THRU S-8	STRUCTURE PLANS
STRUCTURE STANDARD NOTES	

NCDOT CONTACT: JOEL M. DAVIS	
PLANS PREPARED BY: TGS ENGINEERS 201 W. MARION ST. STE 200 SHELBY, NC 28150 PH (704) 476-0003 CORP. LICENSE NO.: C-0275	PLANS PREPARED FOR: NORTH CAROLINA DEPARTMENT OF TRANSPORTATION DIVISION 13 20 Old 74 Asheville, NC 28803
LETTING DATE: JANUARY 21, 2026	MARSHALL G. CHEEK, JR., PE PROJECT ENGINEER
2024 STANDARD SPECIFICATIONS	

STRUCTURAL ENGINEER

12/10/2025

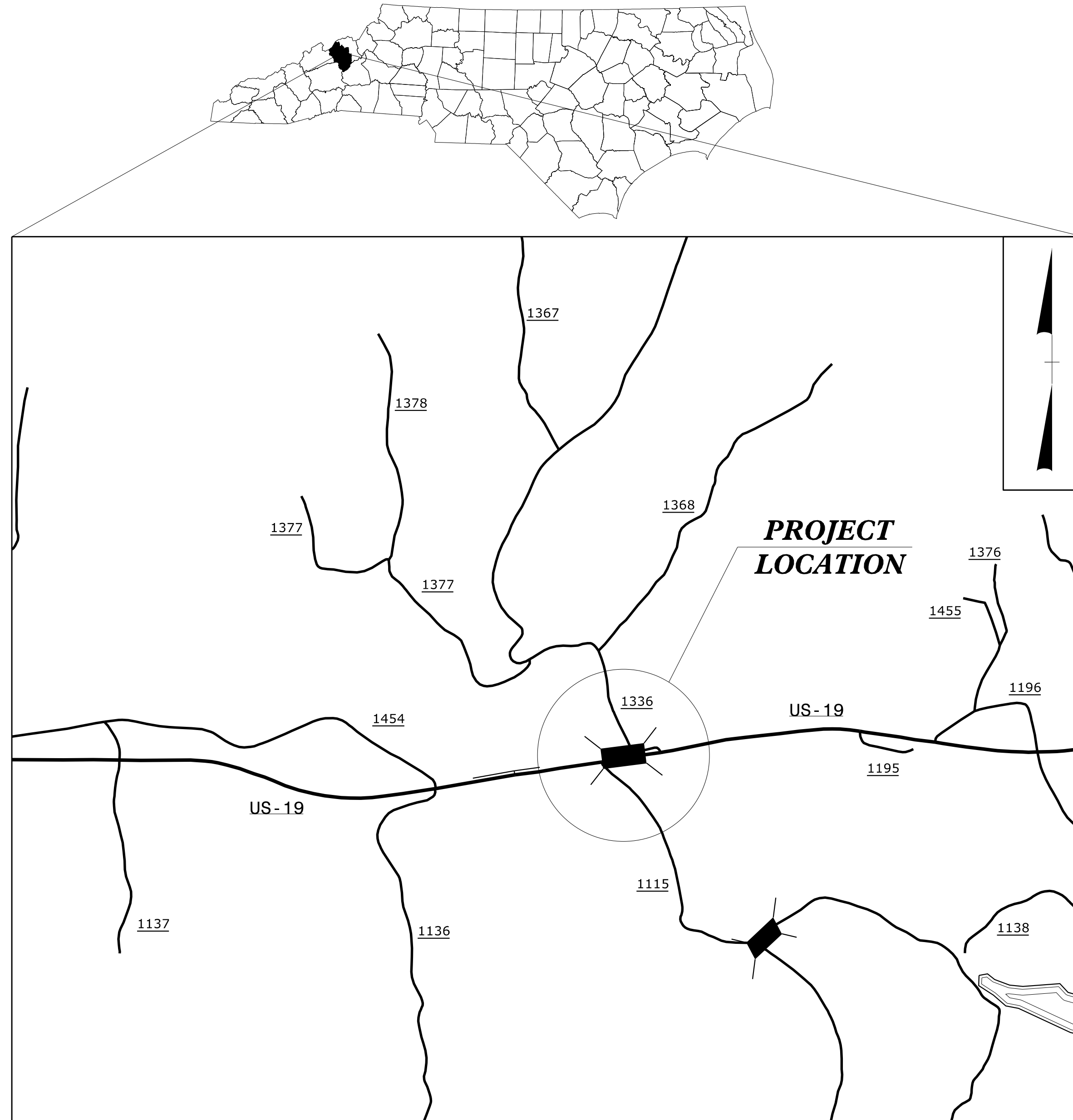
Signed by:  
Marshall G. Cheek, Jr.  
SIGNATURE: P.E.



STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

**TRANSPORTATION MANAGEMENT PLAN**

**YANCEY COUNTY**



VICINITY MAP

**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)
TMP-2	TEMPORARY TRAFFIC CONTROL PHASING
TMP-3	TEMPORARY TRAFFIC CONTROL APPROACH SLAB REPAIR SECTION VIEWS
TMP-3A THRU TMP-6	TEMPORARY TRAFFIC CONTROL STAGE I DETAIL
TMP-7	TEMPORARY TRAFFIC CONTROL STAGE II DETAIL

SHEET NO.  
TMP-1

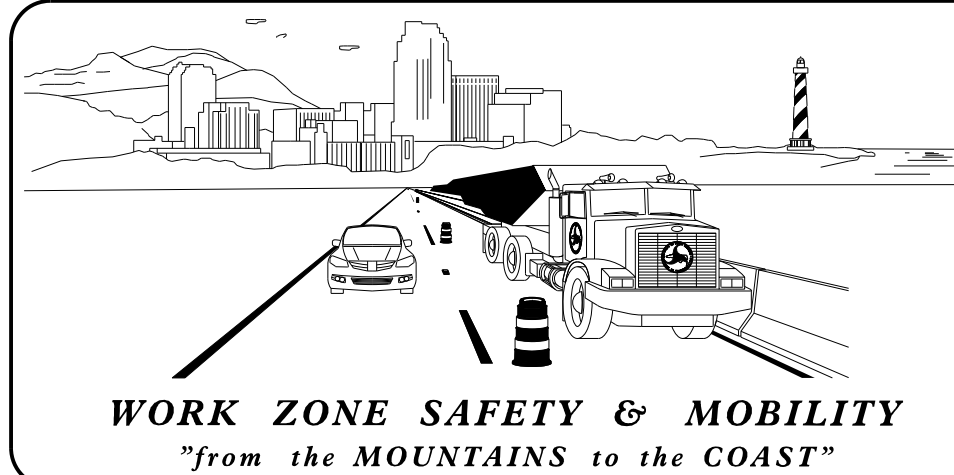
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APPROVED: Don A. Parker  
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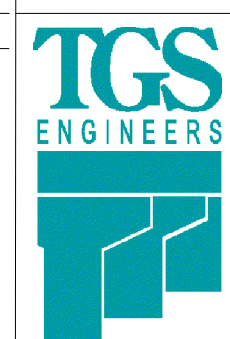
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3/7/2025  
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User: tbrannan



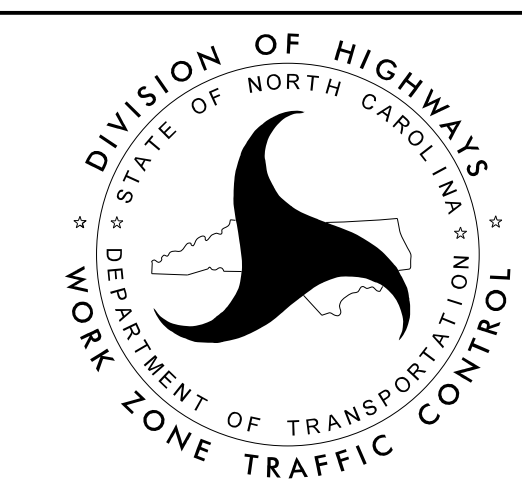
PLANS PREPARED FOR N.C.D.O.T. BY:



TGS ENGINEERS  
706 HILLSBOROUGH ST. SUITE 200  
RALEIGH, NC 27603  
PH (919) 773-8887  
CORP. LICENSE NO.: C-0275

DON A. PARKER, P.E.  
PROJECT ENGINEER

CODA BRANNAN, E.I.  
DESIGN ENGINEER



**TIP PROJECT: 18313.1100047.PR**







# 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
1101.03	TEMPORARY ROAD 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
1145.01	BARRICADES
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
1205.05	PAVEMENT MARKINGS - TURN LANES
1205.08	PAVEMENT MARKINGS - SYMBOLS AND WORD MESSAGES
1205.09	PAVEMENT MARKINGS - PAINTED ISLANDS
1205.12	PAVEMENT MARKINGS - BRIDGES
1250.01	RAISED PAVEMENT MARKERS - INSTALLATION SPACING
1251.01	RAISED PAVEMENT MARKERS - (PERMANENT AND TEMPORARY)
1264.01	OBJECT MARKERS - TYPES
1264.02	OBJECT MARKERS - INSTALLATION

# LEGEND

## GENERAL




-  DIRECTION OF TRAFFIC FLOW
-  DIRECTION OF PEDESTRIAN TRAFFIC FLOW
-  EXIST. PVMT.
-  NORTH ARROW
-  PROPOSED PVMT.
-  TEMP. SHORING (LOCATION PURPOSES ONLY)

 WORK AREA

 REMOVAL

 WEDGING







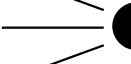


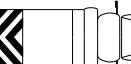

## SIGNALS

-  EXISTING
-  PROPOSED
-  TEMPORARY




## PAVEMENT MARKINGS

-  EXISTING LINES
-  TEMPORARY LINES

## TRAFFIC CONTROL DEVICES

-  BARRICADE (TYPE III)
-  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

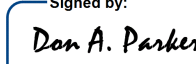
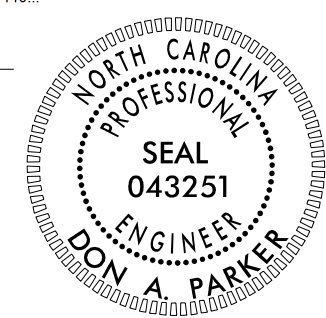
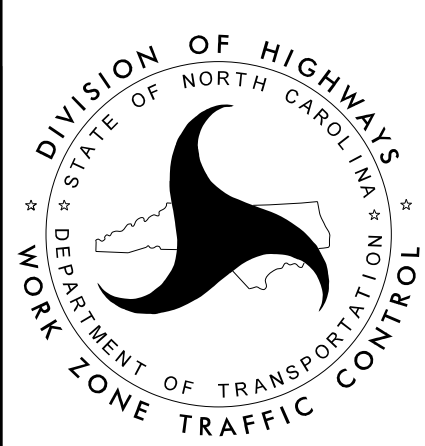
## PAVEMENT MARKING SYMBOLS

-  PAVEMENT MARKING SYMBOLS

## TEMPORARY PAVEMENT MARKING

COLD APPLIED PLASTIC (TYPE IV) MARKINGS	DESCRIPTION
C1	WHITE EDGELINE (4")
C2	WHITE SOLID LANE LINE (4")
C10	YELLOW EDGELINE (4")

3/7/2025  
 X:\NC001\Div 13 Bridge Repairs - Helene\Yancey 990009\TMP\dgn\990009\_TC\_TWP\_01A.dgn  
 User: tbrannan

APPROVED:  DATE: 3/7/2025			ROADWAY STANDARD DRAWINGS & LEGEND
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED			

# GENERAL NOTES

PROJ. REFERENCE NO.	SHEET NO.
18313.1100047.PR	TMP-1B
TGS ENGINEERS 706 HILLSBOROUGH ST., SUITE 200 RALEIGH, NC 27603 PH (919) 773-8887 CORP. LICENSE NO.: C-0275	

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.

**A) DO NOT STOP TRAFFIC AS FOLLOWS:**

ROAD NAME	DAY AND TIME RESTRICTIONS	DURATION AND OPERATION
US 19	MONDAY TRHU SUNDAY 5:30 AM TO 9:00 PM	20 MINUTES FOR TRAFFIC SHIFTS AND PCB INSTALLATION/REMOVAL/RESET

**B) 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**

**C) 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.**

**D) 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.**

**E) WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING WITHIN 5 FT OF AN OPEN TRAVEL LANE ON AN UNDIVIDED FACILITY, 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 WITHIN 10 FT OF AN OPEN TRAVEL LANE ON A DIVIDED FACILITY, CLOSE THE NEAREST OPEN TRAVEL LANE USING ROADWAY STANDARD DRAWING NO. 1101.02 UNLESS THE WORK AREA IS PROTECTED BY BARRIER OR GUARDRAIL.

**F) 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.**

**G) 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.**

**H) USE SEQUENTIAL FLASHING WARNING LIGHTS ON DRUMS USED FOR THE MERGING TAPERS OF NIGHTTIME LANE CLOSURES IN ACCORDANCE WITH SECTION 1140 IN THE STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES.**

**I) NOTIFY THE NCDOT STATEWIDE TRANSPORTATION OPERATIONS CENTER (STOC) AT 877-627-7862 APPROXIMATELY 30 MINUTES PRIOR TO INSTALLING AND WITHIN 15 MINUTES AFTER REMOVING LANE CLOSURES ON INTERSTATES, FREEWAYS, CONTROLLED ACCESS FACILITIES, AND US ROUTES.**

**PAVEMENT EDGE DROP OFF REQUIREMENTS**

**J) 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.

**K) 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**

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

**SIGNING**

**M) 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.**

**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 BARRIER**

**P) INSTALL TEMPORARY BARRIER ACCORDING TO THE TRANSPORTATION MANAGEMENT PLANS A MAXIMUM OF TWO (2) WEEKS PRIOR TO BEGINNING WORK IN ANY LOCATION. ONCE TEMPORARY BARRIER IS INSTALLED AT ANY LOCATION PROCEED IN A CONTINUOUS MANNER TO COMPLETE THE PROPOSED WORK IN THAT LOCATION UNLESS OTHERWISE STATED IN THE TRANSPORTATION MANAGEMENT PLANS OR AS DIRECTED BY THE ENGINEER.**

DO NOT PLACE BARRIER DIRECTLY ON ANY SURFACE OTHER THAN ASPHALT OR CONCRETE.

ONCE TEMPORARY BARRIER IS INSTALLED AT ANY LOCATION AND NO WORK IS PERFORMED BEHIND THE TEMPORARY BARRIER FOR A PERIOD LONGER THAN TWO (2) MONTHS, REMOVE / RESET TEMPORARY BARRIER AT NO COST TO THE DEPARTMENT UNLESS OTHERWISE STATED IN THE TRANSPORTATION MANAGEMENT PLANS, TEMPORARY BARRIER IS PROTECTING A HAZARD, OR AS DIRECTED BY THE ENGINEER.

INSTALL TEMPORARY BARRIER WITH THE TRAFFIC FLOW BEGINNING WITH THE UPSTREAM SIDE OF TRAFFIC. REMOVE TEMPORARY BARRIER AGAINST THE TRAFFIC FLOW BEGINNING WITH THE DOWNSTREAM SIDE OF TRAFFIC.

INSTALL AND SPACE DRUMS NO GREATER THAN TWICE THE POSTED SPEED LIMIT (MPH) TO CLOSE OR KEEP THE SECTION OF THE ROADWAY CLOSED UNTIL THE TEMPORARY BARRIER CAN BE PLACED OR AFTER THE TEMPORARY BARRIER IS REMOVED.

**Q) PROTECT THE APPROACH END OF MOVABLE/PORTABLE CONCRETE BARRIER AT ALL TIMES DURING THE INSTALLATION AND REMOVAL OF THE BARRIER BY EITHER A TRUCK MOUNTED ATTENUATOR (MAXIMUM 72 HOURS) OR A TEMPORARY CRASH CUSHION.**

PROTECT THE APPROACH END OF MOVABLE/PORTABLE CONCRETE BARRIER FROM ONCOMING TRAFFIC AT ALL TIMES BY A TEMPORARY CRASH CUSHION UNLESS THE APPROACH END OF MOVABLE/PORTABLE CONCRETE BARRIER IS OFFSET FROM ONCOMING TRAFFIC AS FOLLOWS OR AS SHOWN IN THE PLANS: (SEE ALSO 1101.05)

POSTED SPEED LIMIT	MINIMUM OFFSET
40 OR LESS	15 FT
45 - 50	20 FT
55	25 FT
60 MPH or HIGHER	30 FT

**TRAFFIC CONTROL DEVICES**

**R) 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.**

**S) PLACE TYPE III BARRICADES, WITH "ROAD CLOSED" SIGN R11-2 ATTACHED, OF SUFFICIENT LENGTH TO CLOSE ENTIRE ROADWAY.**

**T) 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**

**U) INSTALL TEMPORARY PAVEMENT MARKINGS AND TEMPORARY PAVEMENT MARKERS AS FOLLOWS:**

ROAD NAME	MARKING	MARKER
US 19 CONCRETE SURFACE AND ASPHALT SURFACE	COLD APPLIED PLASTIC (TYPE 4)	NONE

**V) INSTALL PERMANENT PAVEMENT MARKINGS AND PERMANENT PAVEMENT MARKERS AS FOLLOWS:**

ROAD NAME	MARKING	MARKER
US 19 CONCRETE AND ASPHALT SURFACE	PAINT	NONE

**W) TIE PROPOSED PAVEMENT MARKING LINES TO EXISTING PAVEMENT MARKING LINES.**

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


**MISCELLANEOUS**

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

3/7/2025 X:\NCDOT\Div 13 Bridge Repair.s - Helene\Yancey 990009\TMP\dgn\990009\_TC\_TMP\_01B.dgn User:brannon

APPROVED: DATE: 3/7/2025 		<h2 style="margin: 0;">TRANSPORTATION OPERATIONS PLAN</h2>
<b>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</b>		

# PHASING

PROJ. REFERENCE NO.	SHEET NO.
18313.1100047.PR	TMP-2
 TGS ENGINEERS 706 HILLSBOROUGH ST., SUITE 200 RALEIGH, NC 27603 PH (919) 773-8887 CORP. LICENSE NO.: C-0275	

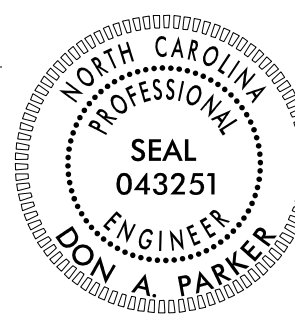

## STAGE I

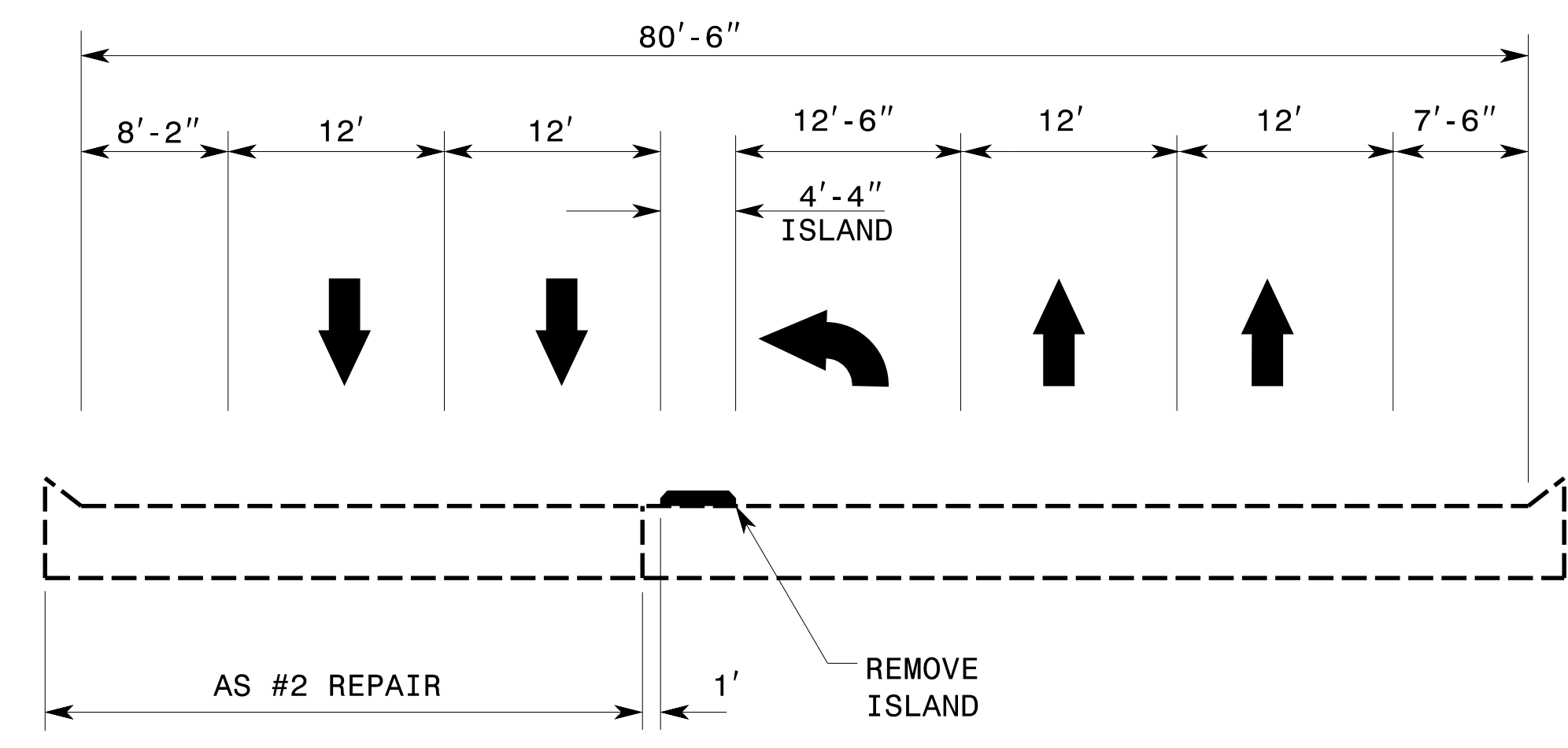
- STEP 1 -- PRIOR TO BEGINNING CONSTRUCTION, INSTALL ADVANCE WARNING SIGNS IN ACCORDANCE WITH RSD 1101.01 AND TMP-3A THRU 6 FOR SIGNS W20-1, SP-11299, AND G20-2C. INSTALL AND COVER STATIONARY SIGNING FOR LONG TERM LANE CLOSURES.
- PRIOR TO BEGINNING CONSTRUCTION, CONTRACTOR SHALL RECORD LOCATION OF EXISTING PAVEMENT MARKINGS AND EXISTING CONCRETE ISLAND TO BE REMOVED.
- STEP 2 -- SHIFT TRAFFIC TO STAGE I PATTERN ON THE WB SIDE AS FOLLOWS:
- A. INSTALL LONG TERM RIGHT LANE CLOSURE ON WB DIRECTION DETAILED ON SHEETS TMP-5 AND 6 WITHOUT THE 330' WEAVE (THRU TRAFFIC SHIFTED INTO EXISTING LEFT LANE)
  - B. BEHIND LANE CLOSURE INSTALL STAGE I PAVEMENT MARKINGS AND ANCHORED PCB.
  - C. USING 20 MINUTE TRAFFIC STOPS AND LAW ENFORCEMENT, INSTALL 330' WEAVE (TMP-5) AND PACE WB TRAFFIC INTO THE STAGE I PATTERN.
- STEP 3 -- SHIFT TRAFFIC TO STAGE I PATTERN ON THE EB SIDE AS FOLLOWS:
- A. INSTALL LONG TERM LEFT LANE CLOSURE ON EB DIRECTION DETAILED ON SHEETS TMP-3A THRU 5 (TRAFFIC SHIFTED INTO THE RIGHT LANE) EXTEND LANE CLOSURE TOWARDS EB STOPBAR AS NEEDED TO INSTALL PCB.
  - B. BEHIND LANE CLOSURE, INSTALL STAGE I PAVEMENT MARKINGS AND UN-ANCHORED PCB ADJACENT TO EB TRAVEL LANES.
  - C. ADJUST LANE CLOSURE BACK TO ALLOW FOR DEDICATED LEFT TURN LANE AND OPEN EB DIRECTION TO STAGE I PATTERN.
- STEP 4 -- BEHIND PCB, REMOVE EXISTING CONCRETE ISLAND FROM BRIDGE AS SHOWN ON TMP-5 AND PERFORM STAGE I APPROACH SLAB REPLACEMENT IN ACCORDANCE WITH STRUCTURE PLANS.

## STAGE II

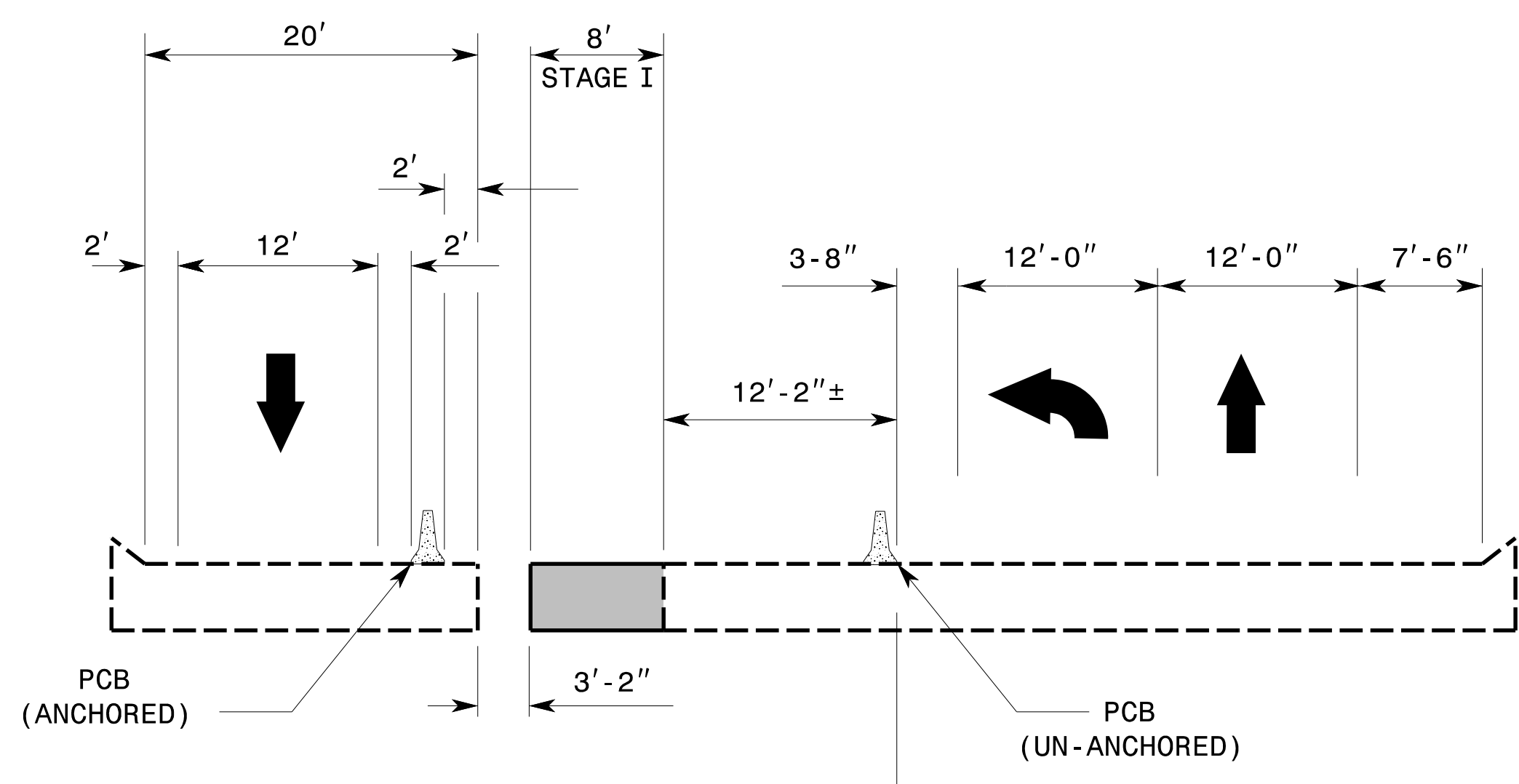
- STEP 1 -- SHIFT TRAFFIC TO STAGE II PATTERN ON THE WB SIDE AS FOLLOWS:
- A. WITH TRAFFIC IN STAGE I PATTERN, INSTALL AS MUCH OF THE STAGE II PAVEMENT MARKINGS AS POSSIBLE (SEE TMP-7)
  - B. USING 20 MINUTE TRAFFIC STOPS AND LAW ENFORCEMENT AS NEEDED, REMOVE AND RESET ANCHORED PCB.
  - C. USING 20 MINUTE TRAFFIC STOPS AND LAW ENFORCEMENT, COMPLETE REMAINING STAGE II PAVEMENT MARKINGS, REMOVE 330' WEAVE AND PACE TRAFFIC INTO STAGE II PATTERN.
- STEP 2 -- BEHIND PCB, PERFORM STAGE II APPROACH SLAB REPLACEMENT IN ACCORDANCE WITH STRUCTURE PLANS.
- STEP 3 -- RESTORE EXISTING WB RIGHT LANE AND SHIFT TRAFFIC INTO RIGHT LANE AS FOLLOWS:
- A. BEHIND PCB, REMOVE TEMPORARY MARKINGS AND INSTALL AS MUCH OF THE PERMANENT PAVEMENT MARKING (EDGE AND SKIP LINE) AS POSSIBLE TO RESTORE THE RIGHT LANE.
  - B. USING 20 MINUTE TRAFFIC STOPS AND LAW ENFORCEMENT, REMOVE ANCHORED PCB AND COMPLETE PERMANENT MARKING INSTALLATION TO RESTORE LEFT LANE.
  - C. USING 20 MINUTE TRAFFIC STOPS AND LAW ENFORCEMENT AS NEEDED, REINSTALL 330' WEAVE AS SHOWN ON SHEET TMP-5 AND PACE TRAFFIC INTO RIGHT LANE FOR UPCOMING JOINT REPLACEMENT.
- RESTORE EXISTING EB LEFT LANE AND LEFT TURN AS FOLLOWS:
- A. EXTEND LANE CLOSURE TOWARDS EB STOPBAR AS NEEDED TO REMOVE PCB AND INSTALL PERMANENT MARKINGS.
  - B. RE-ADJUST LANE CLOSURE TO ALLOW FOR DEDICATED LEFT TURN WITH THRU TRAFFIC IN RIGHT LANE.
- STEP 4 -- COMPLETE JOINT REPLACEMENT AS FOLLOWS:
- A. WITH WB TRAFFIC IN THE RIGHT LANE, PERFORM JOINT REPLACEMENT IN THE LEFT LANE.
  - B. USING A 20 MINUTE TRAFFIC STOP AND LAW ENFORCENT AS NEEDED, REMOVE THE 330' WEAVE AND PACE TRAFFIC INTO THE LEFT LANE. THEN, PERFORM JOINT REPLACEMENT IN THE WB RIGHT LANE. UPON COMPLETION, REINSTALL 330' WEAVE SHIFTING TRAFFIC BACK TO THE RIGHT LANE TO PERFORM UPCOMING EB JOINT REPLACEMENT.
  - C. WITH BOTH WB AND EB TRAFFIC IN THE RESPECTIVE RIGHT LANE, PERFORM JOINT REPLACEMENT IN THE EB LEFT LANE AND LEFT TURN LANE.
  - D. USING A 20 MINUTE TRAFFIC STOP AND LAW ENFORCENT AS NEEDED, INSTALL 330' WEAVE AND PACE TRAFFIC INTO THE LEFT LANE. THEN, PERFORM JOINT REPLACEMENT IN THE EB RIGHT LANE. UPON COMPLETION, REMOVE 330' WEAVE AND SHIFT EB TRAFFIC BACK TO THE RIGHT LANE FOR UPCOMING ISLAND RECONSTRUCTION.
- STEP 5 -- BEHIND WB AND EB LEFT LANE CLOSURE, RECONSTRUCT MONOLITHIC CONCRETE ISLAND (STRUCTURE PAY ITEM).
- STEP 6 -- REMOVE LANE CLOSURES AND RESTORE EXISTING TRAFFIC PATTERNS.
- STEP 7 -- REMOVE ALL TRAFFIC CONTROL DEVICES.

5/14/2025  
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 User: tbrannan

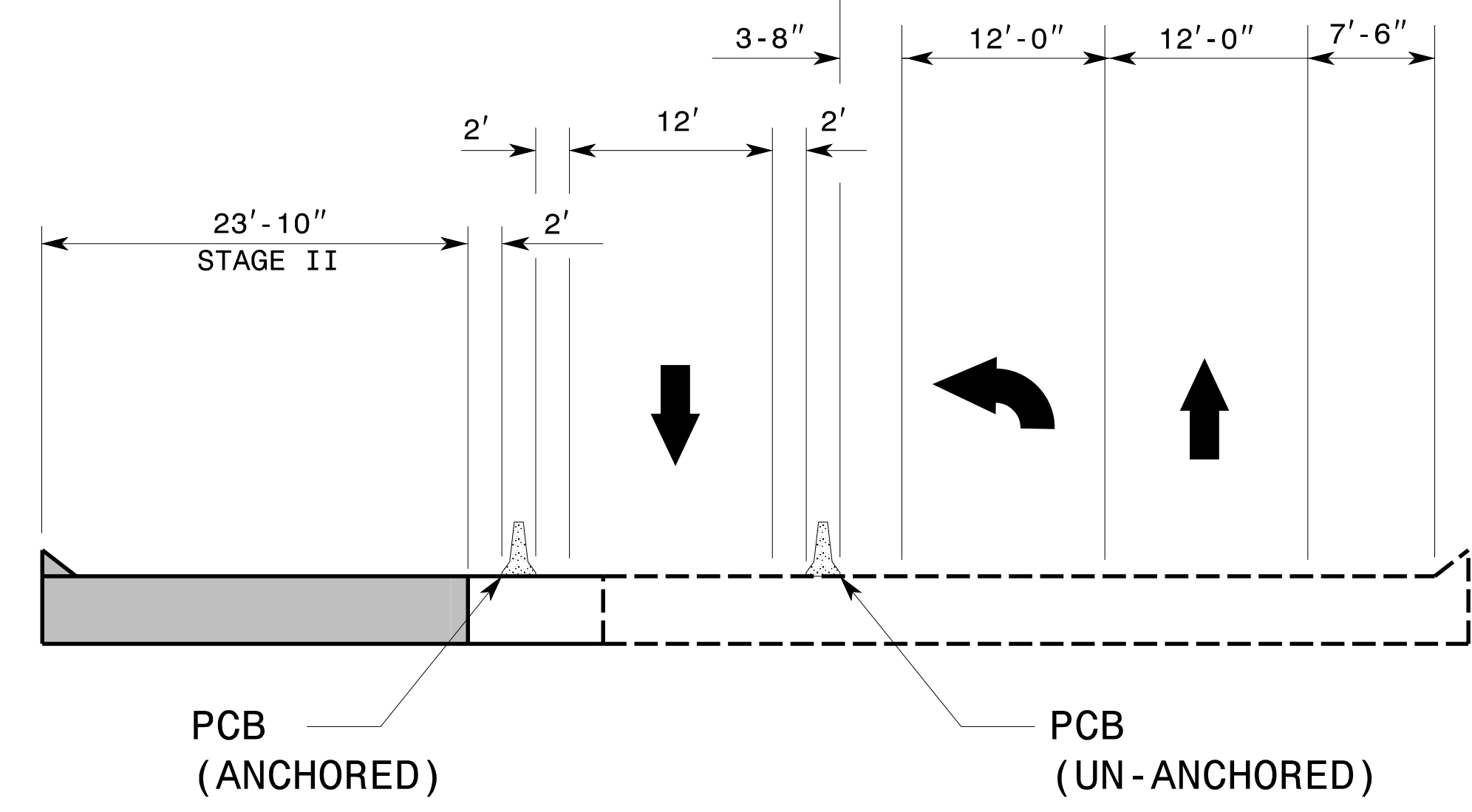
APPROVED: <u>Don A. Parker</u> <small>75CB8E90ADE440...</small>	DATE: 5/15/2025			<h1 style="font-size: 2em; margin: 0;">PHASING</h1>
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**EXISTING**

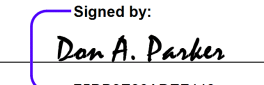
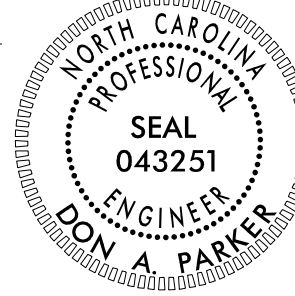


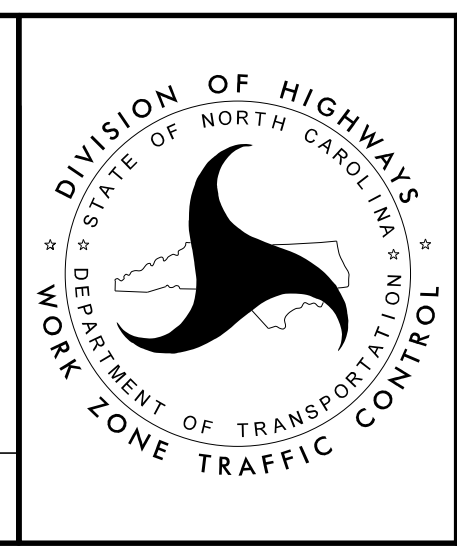
**STAGE I**  
(SEE TMP-3A THRU 6)



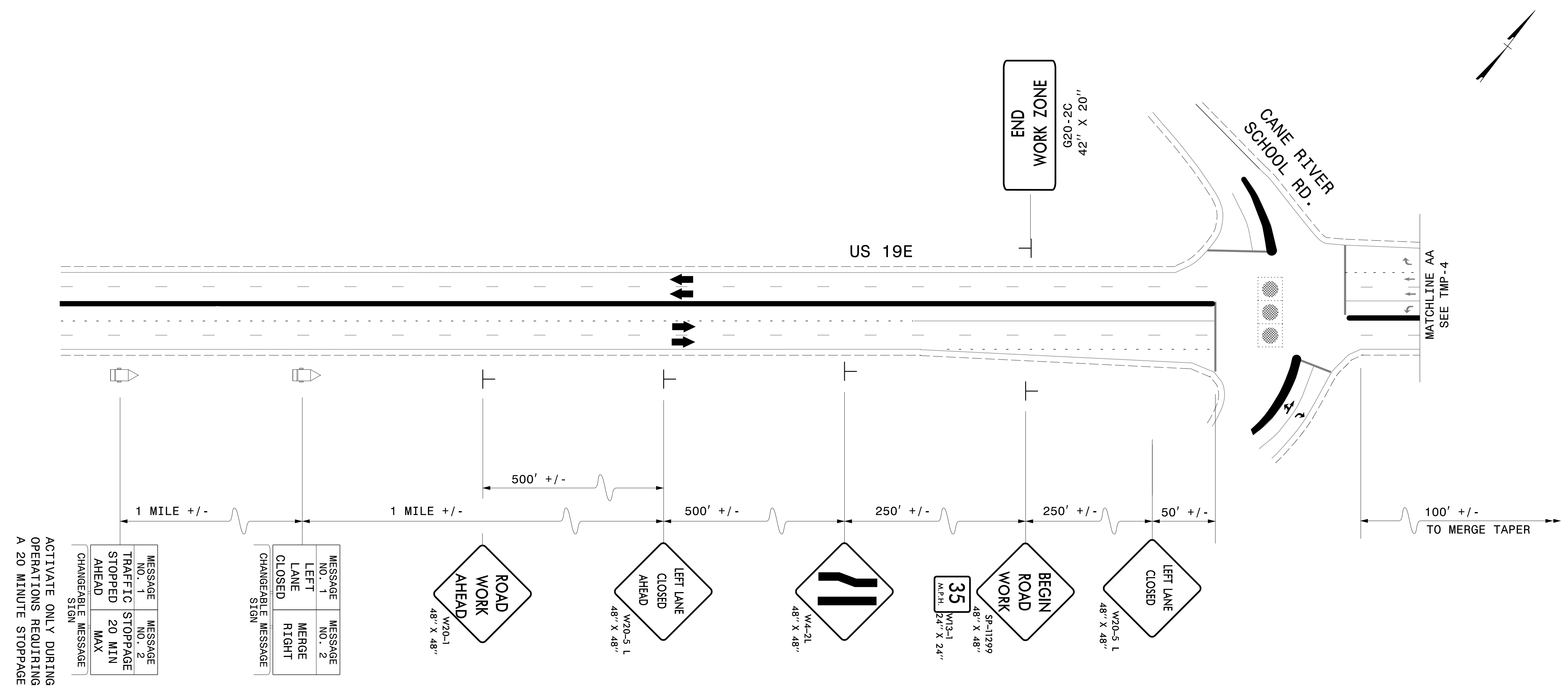
**STAGE 2**  
(SEE TMP-7)

5/14/2025  
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User: tbrannan

APPROVED:  Signed by: Don A. Parker  
 DATE: 5/15/2025  
  
**DOCUMENT NOT CONSIDERED FINAL  
UNLESS ALL SIGNATURES COMPLETED**



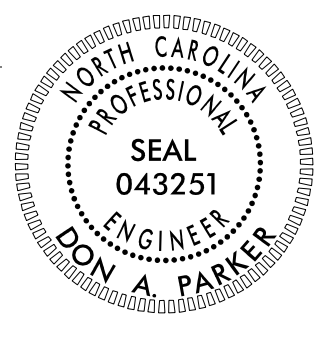

**TEMPORARY TRAFFIC CONTROL  
APPROACH SLAB REPAIR  
SECTION VIEWS**

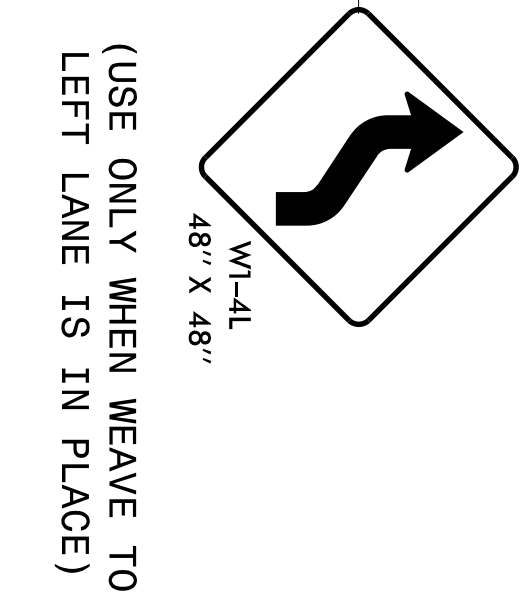
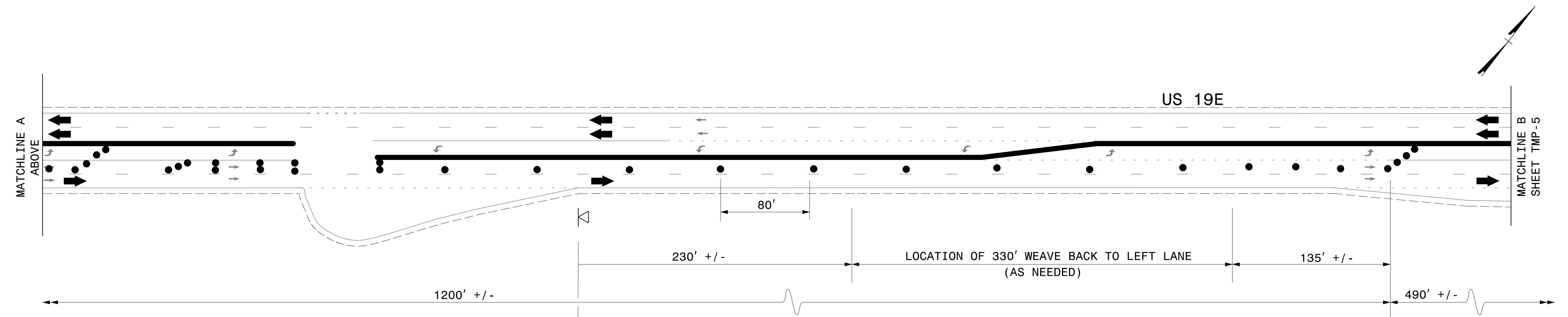
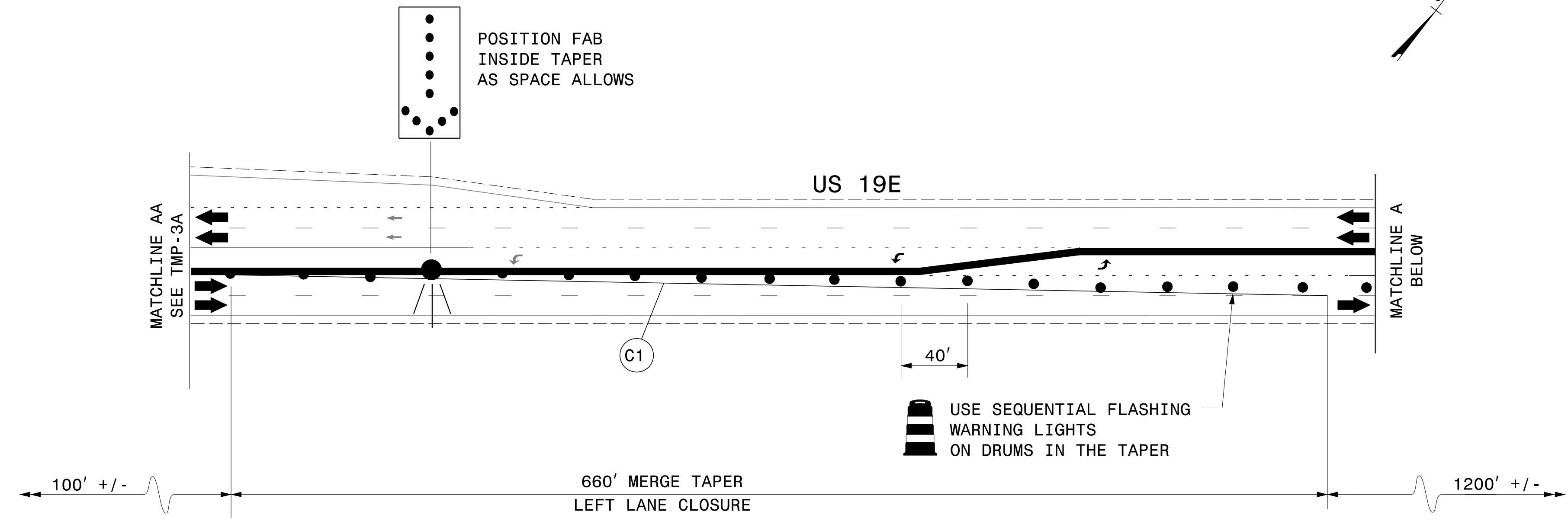


CHANGEABLE MESSAGE SIGN	MESSAGE NO. 1	MESSAGE NO. 2
CHANGEABLE MESSAGE SIGN	LEFT LANE CLOSED	MERGE RIGHT
CHANGEABLE MESSAGE SIGN	ROAD WORK AHEAD	TRAFFIC STOPPED 20 MIN MAX

ACTIVATE ONLY DURING OPERATIONS REQUIRING A 20 MINUTE STOPPAGE

3/7/2025  
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 User: tbrannon

APPROVED: <i>Don A. Parker</i> DATE: 3/7/2025 		TEMPORARY TRAFFIC CONTROL STAGE I DETAIL
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED		

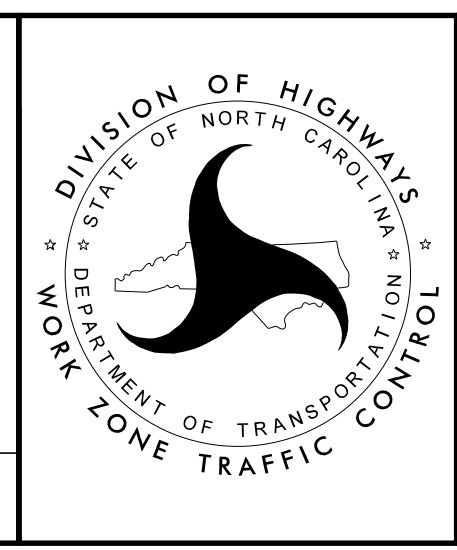


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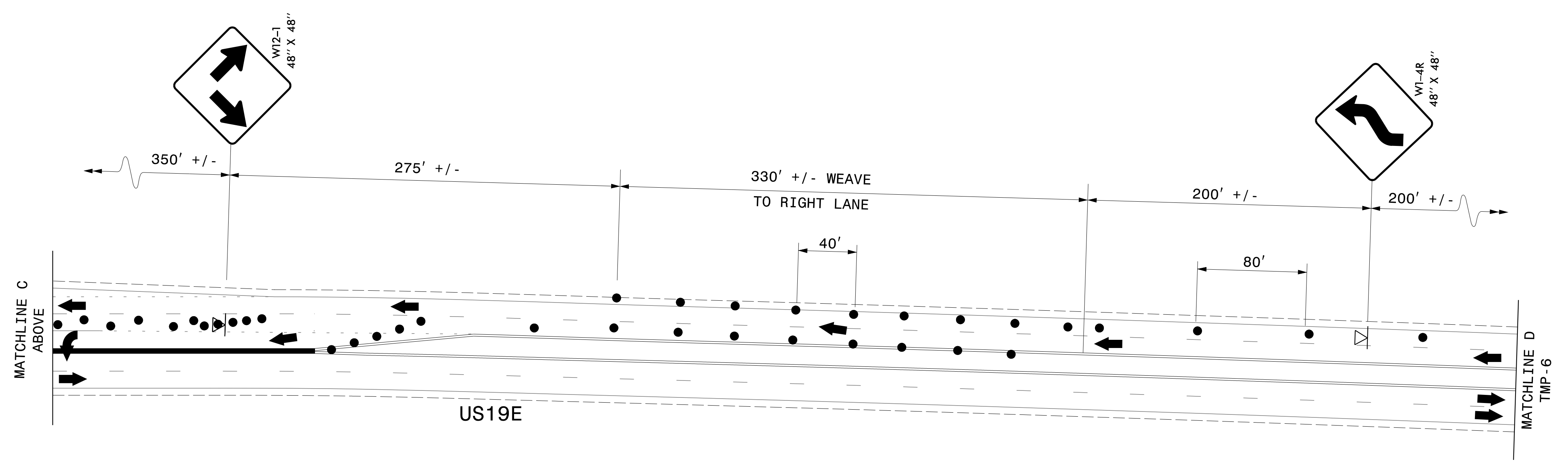
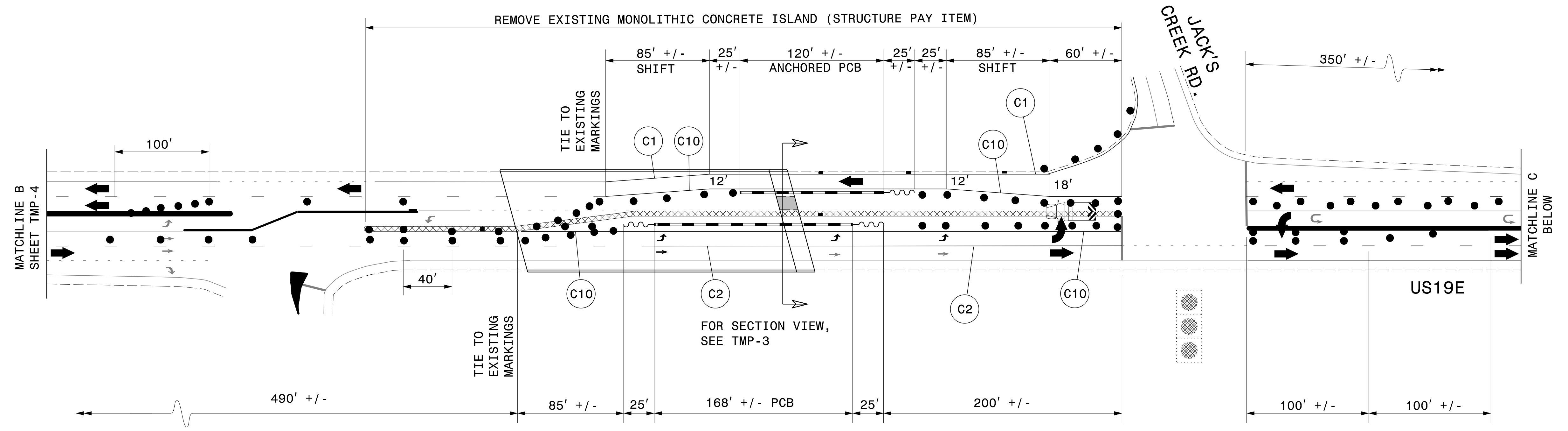
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750BR69ADEF440

DATE: 3/7/2025

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**TEMPORARY TRAFFIC CONTROL  
 STAGE I  
 DETAIL**

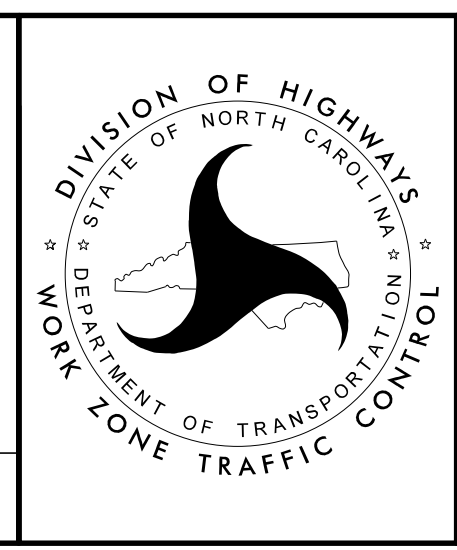


3/7/2025  
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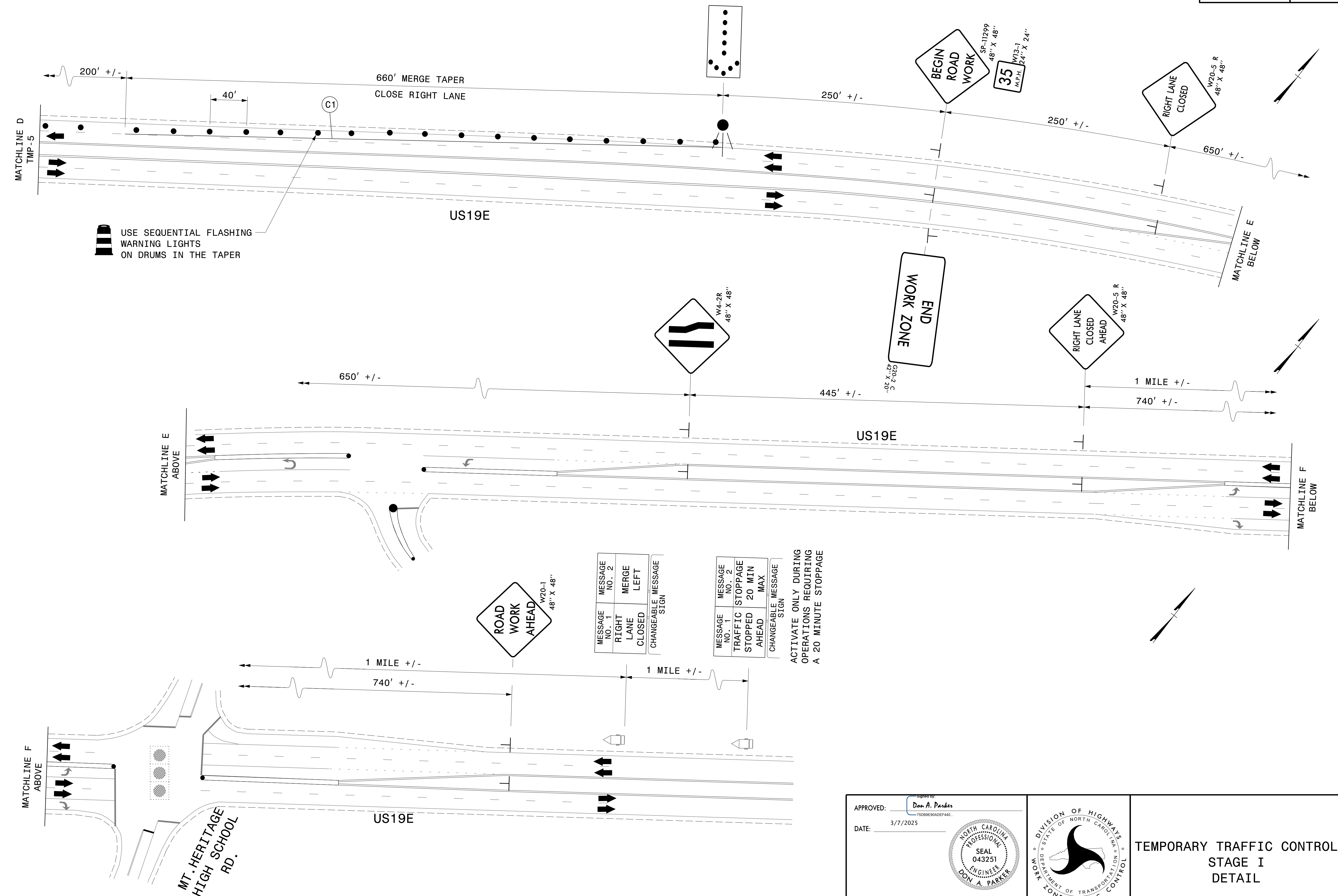
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DATE: 3/7/2025

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**TEMPORARY TRAFFIC CONTROL  
STAGE I  
DETAIL**



3/7/2025  
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 User: tbrannan

MESSAGE NO. 1	RIGHT LANE CLOSED	CHANGEABLE MESSAGE SIGN
MESSAGE NO. 2	MERGE LEFT	CHANGEABLE MESSAGE SIGN
MESSAGE NO. 1	TRAFFIC STOPPED 20 MIN AHEAD	CHANGEABLE MESSAGE SIGN
MESSAGE NO. 2	STOPPED 20 MIN AHEAD MAX	CHANGEABLE MESSAGE SIGN

ACTIVATE ONLY DURING OPERATIONS REQUIRING A 20 MINUTE STOPPAGE

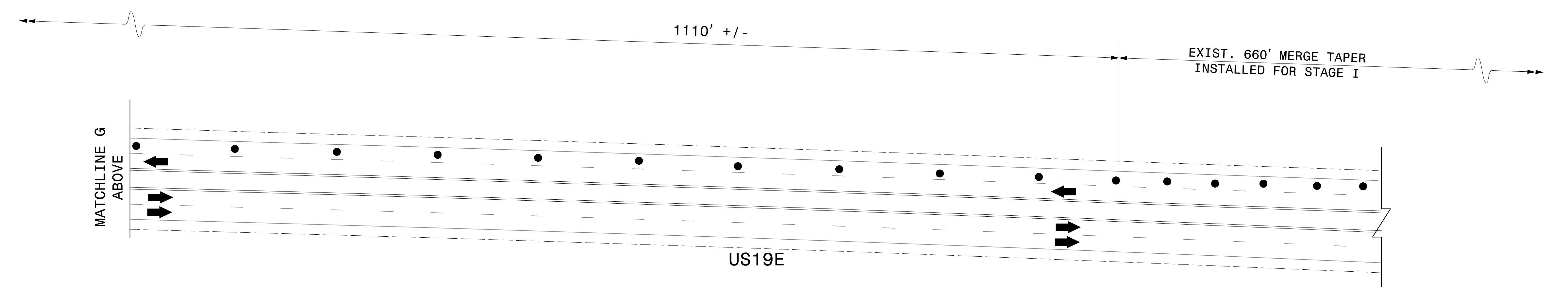
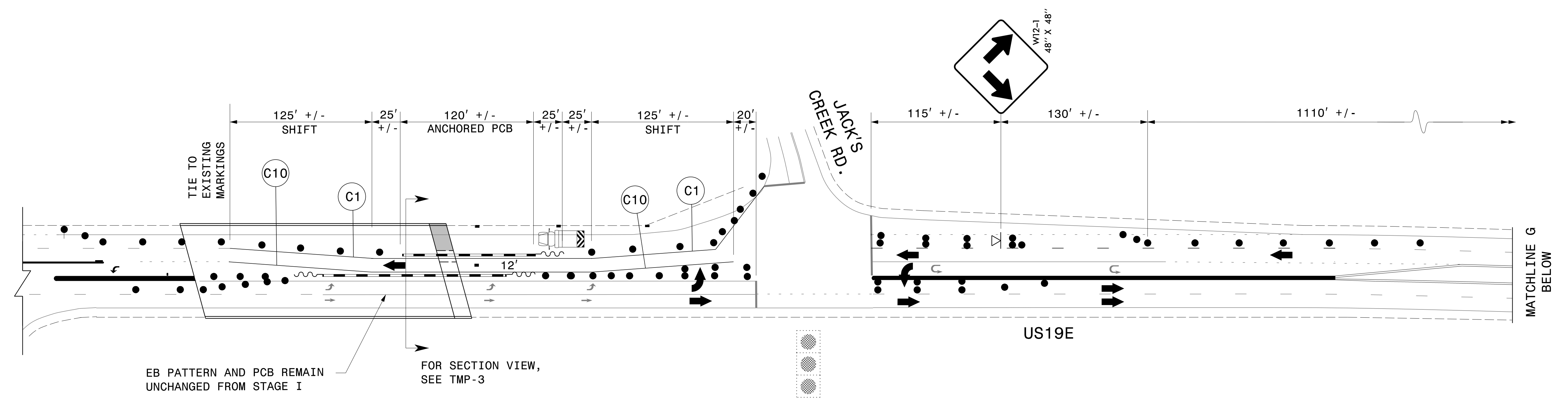
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75DB9E90ADEF440...

DATE: 3/7/2025

**DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED**



**TEMPORARY TRAFFIC CONTROL  
STAGE I  
DETAIL**



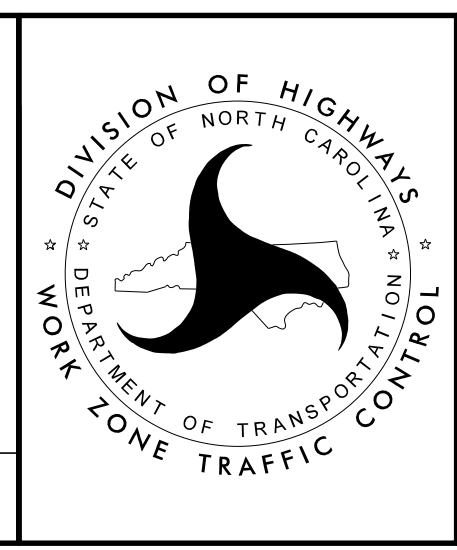
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APPROVED: *Don A. Parker*  
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DATE: 3/7/2025

**NORTH CAROLINA PROFESSIONAL ENGINEER SEAL**  
 043251  
 DON A. PARKER

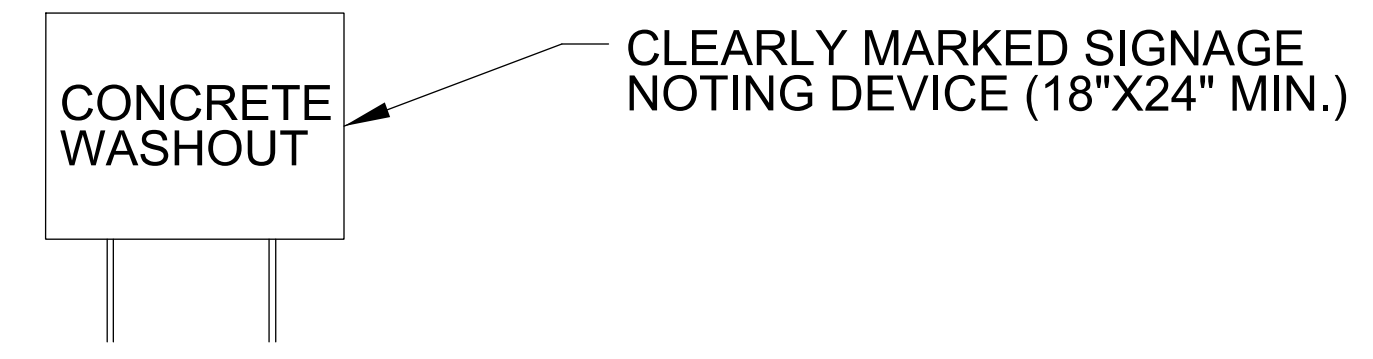
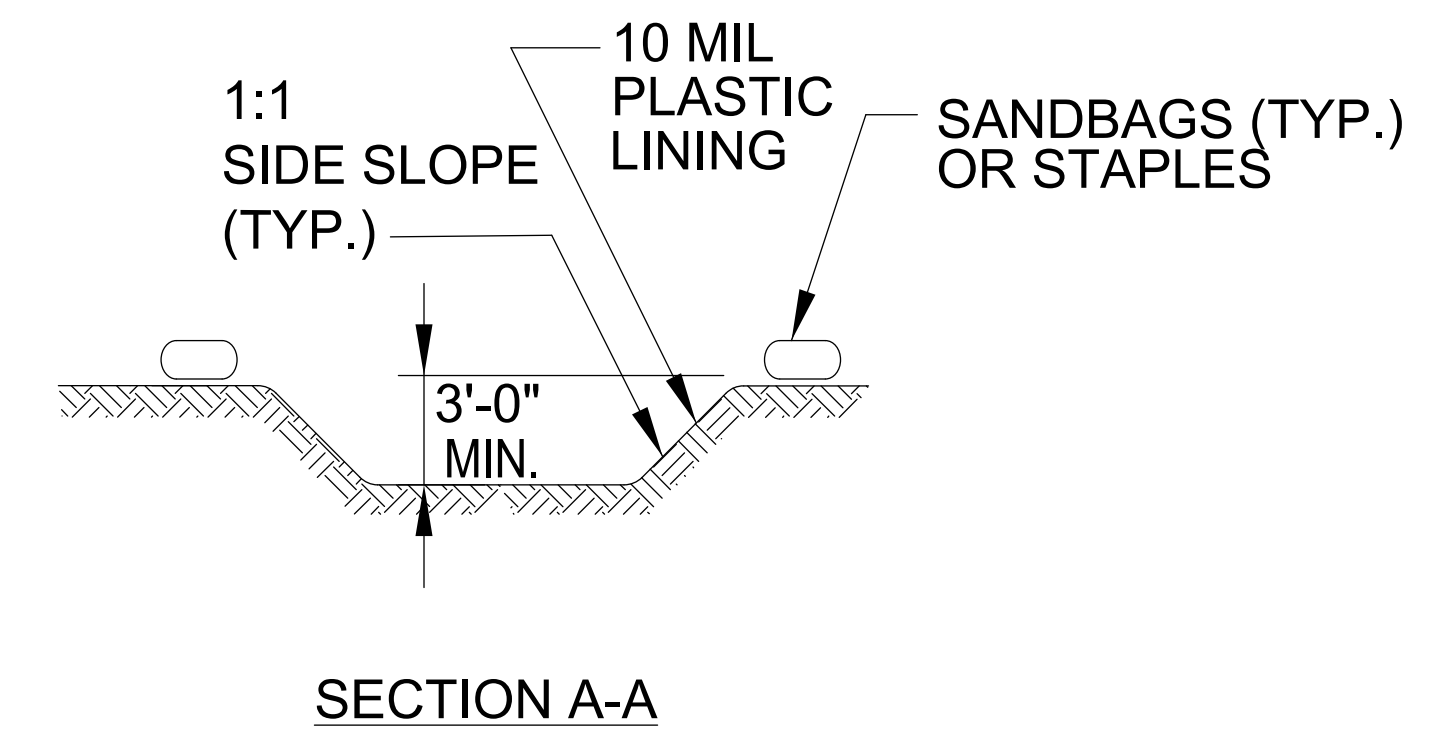
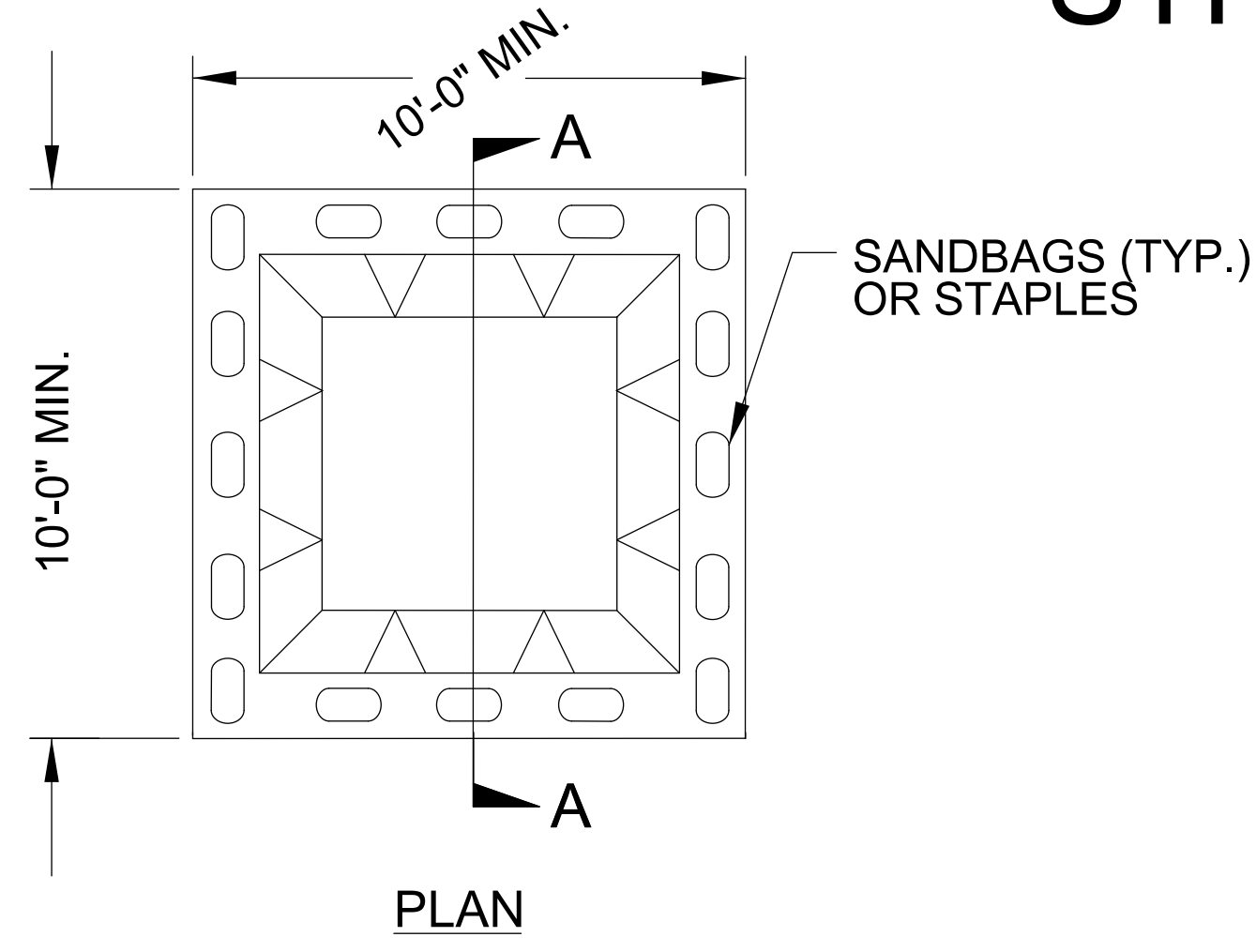
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**TEMPORARY TRAFFIC CONTROL  
 STAGE II  
 DETAIL**

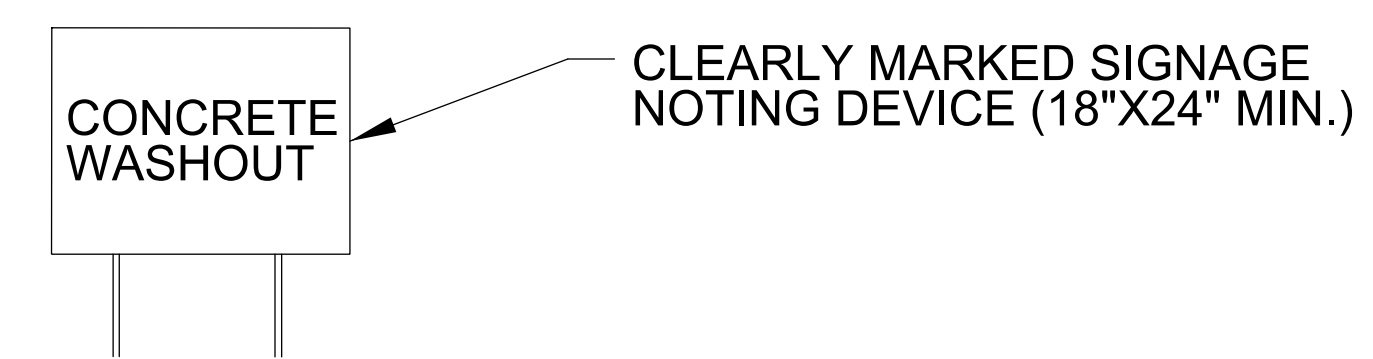
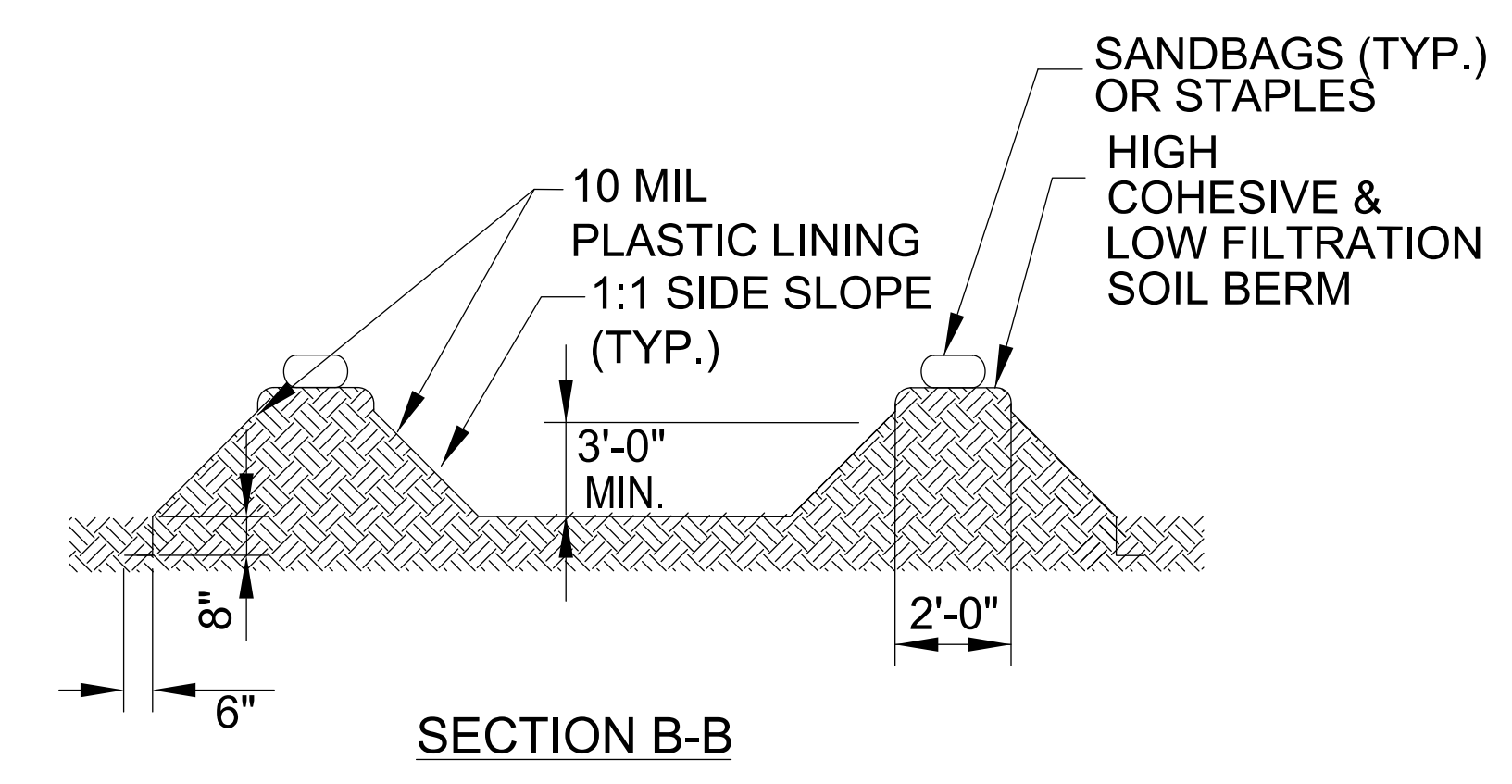
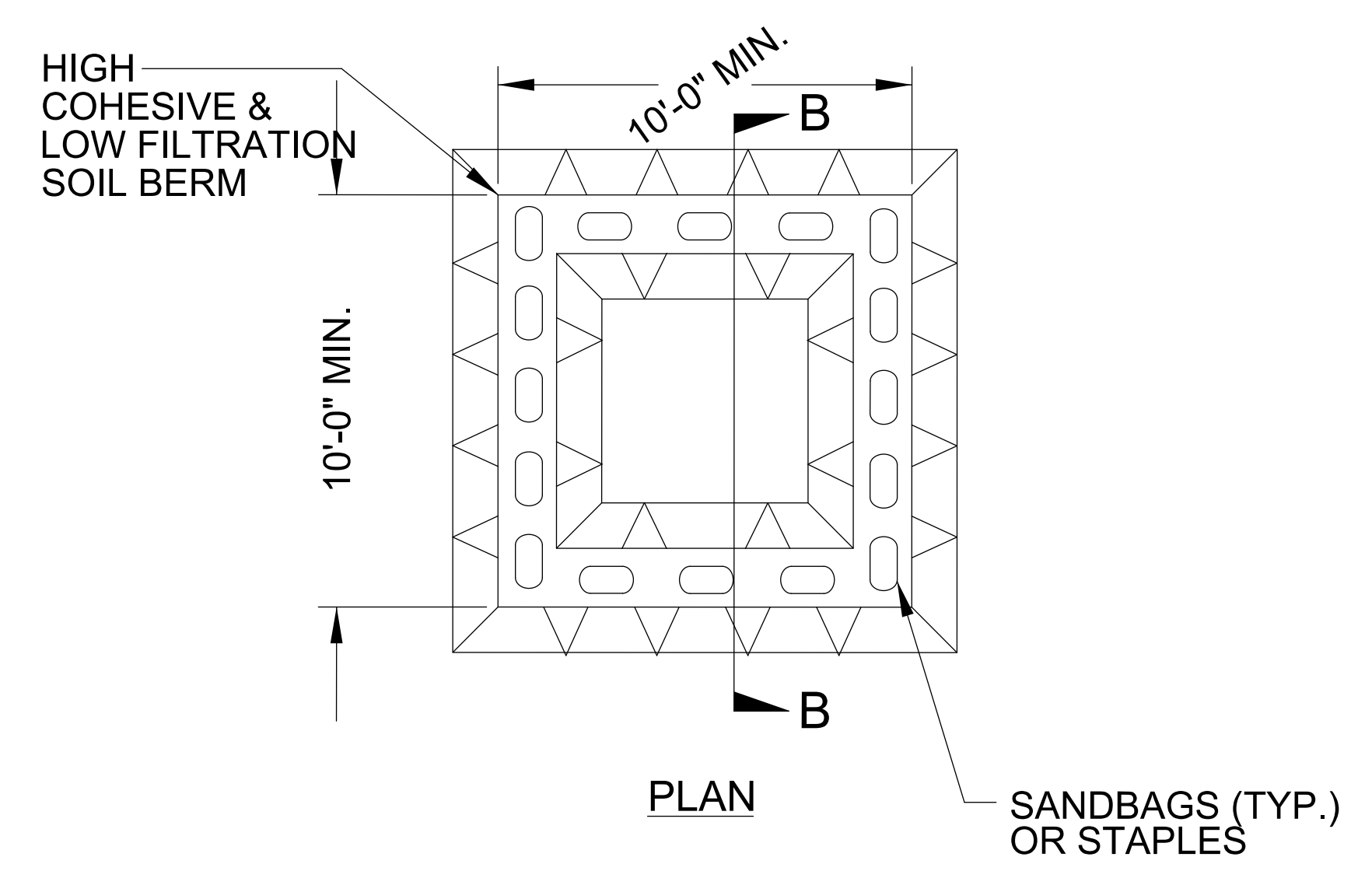
PROJECT REFERENCE NO. 18313.1100047.PR	SHEET NO. EC-2A
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

# ONSITE CONCRETE WASHOUT STRUCTURE WITH LINER



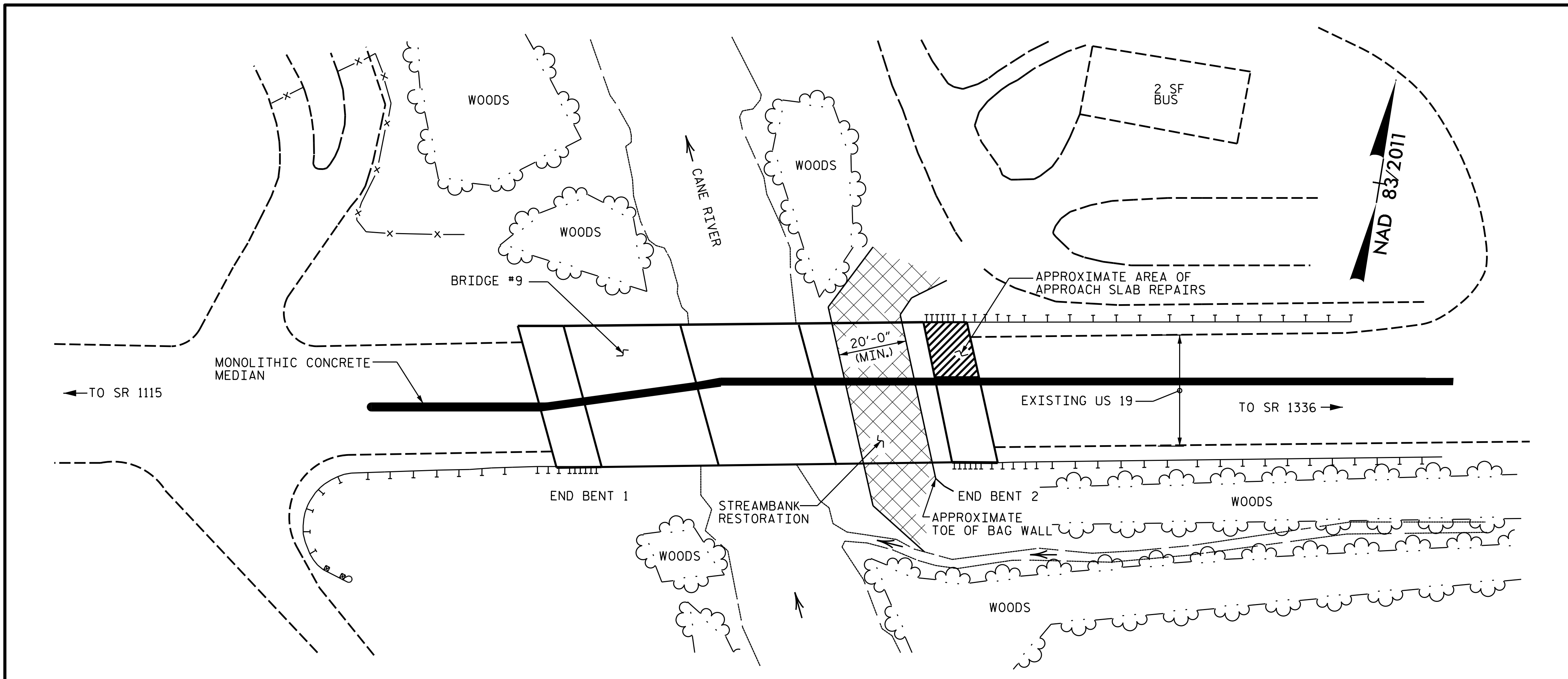
**BELOW GRADE WASHOUT STRUCTURE**  
NOT TO SCALE

- 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.



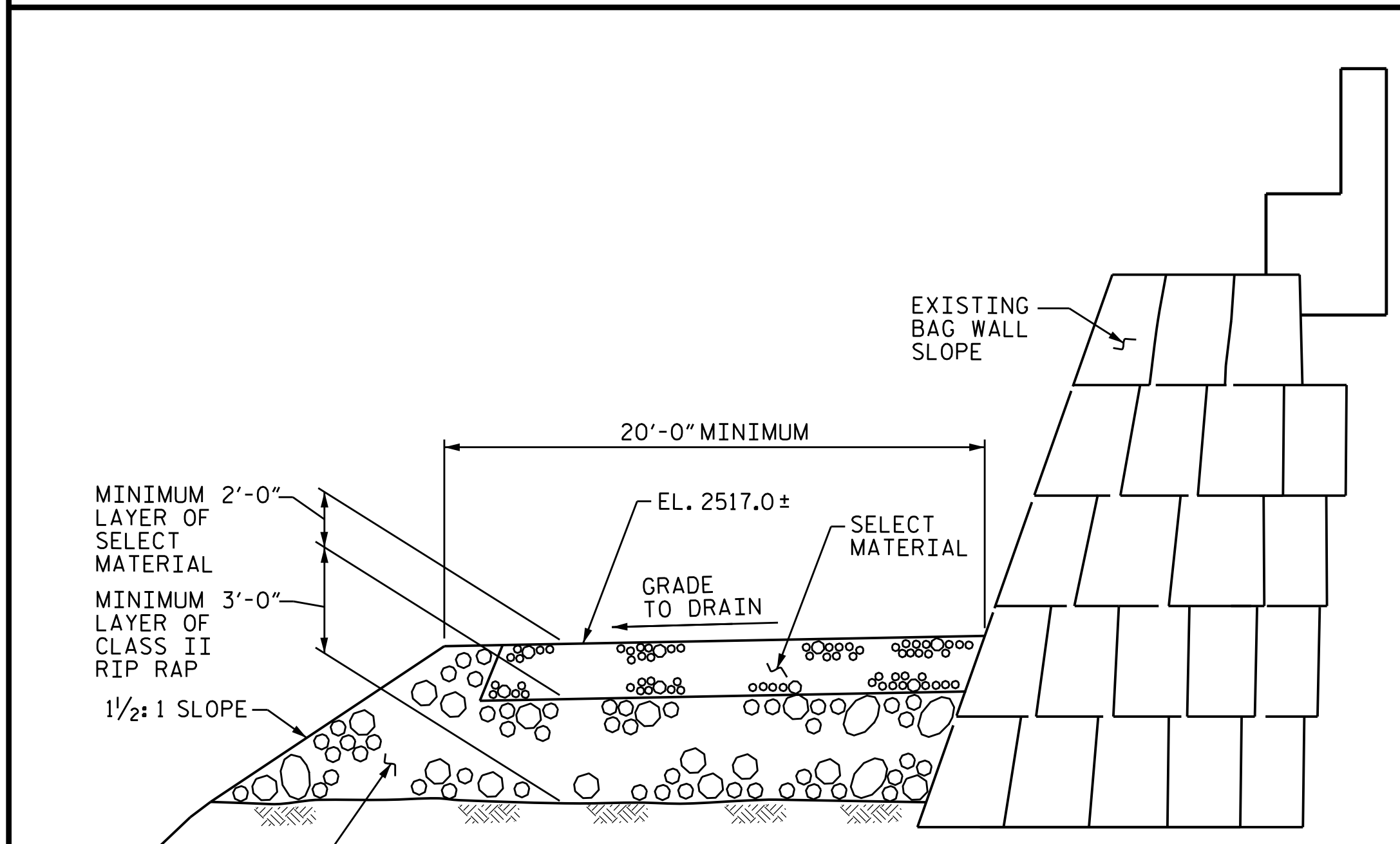
LOCATION SKETCH

NOTES

- EXISTING DIMENSIONS AND BRIDGE CONDITIONS ARE FROM THE BEST INFORMATION AVAILABLE. THE CONTRACTOR SHALL FIELD VERIFY THE INFORMATION SHOWN ON THE PLANS AND NOTIFY THE ENGINEER IF ACTUAL DIMENSIONS AND CONDITIONS DIFFER. THE CONTRACTOR SHALL HAVE NO CLAIM WHATSOEVER AGAINST THE DEPARTMENT OF TRANSPORTATION FOR ANY DELAYS OR ADDITIONAL COST INCURRED BASED ON DIFFERENCES BETWEEN THAT SHOWN ON THE PLANS AND THE ACTUAL CONDITIONS AT THE PROJECT SITE.
- BRIDGE ORIENTATION CONFORMS TO EXISTING BRIDGE PLANS.
- IT IS THE CONTRACTOR'S RESPONSIBILITY TO FOLLOW ALL STATE AND FEDERAL SAFETY REQUIREMENTS.
- UNLESS OTHERWISE NOTED, ALL WORK SHOWN SHALL BE IN ACCORDANCE WITH NCDOT STANDARD SPECIFICATIONS FOR ROADS AND BRIDGES, JANUARY 2024.
- FOR OTHER DESIGN DATA, SEE STANDARD NOTES SHEET.
- FOR TRAFFIC PHASING, SEE TRAFFIC CONTROL PLANS.
- FOR SUBMITTAL OF WORKING DRAWINGS, SEE SPECIAL PROVISIONS.
- FOR FALSEWORK AND FORMWORK, SEE SPECIAL PROVISIONS.
- FOR CRANE SAFETY, SEE SPECIAL PROVISIONS.
- FOR GROUT FOR STRUCTURES, SEE SPECIAL PROVISIONS.
- FOR PARTIAL REMOVAL OF EXISTING STRUCTURE, SEE SPECIAL PROVISIONS.
- FOR APPROACH SLAB, SEE APPROACH SLAB SPECIAL PROVISION.
- FOR PAVEMENT BRACKET, SEE SPECIAL PROVISIONS.
- FOR MONOLITHIC CONCRETE MEDIAN, SEE SPECIAL PROVISIONS.
- FOR LIMITS OF MONOLITHIC CONCRETE MEDIAN, SEE TRAFFIC CONTROL PLANS.
- FOR STREAMBANK RESTORATION, SEE SPECIAL PROVISIONS.
- FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

I HEREBY CERTIFY THESE PLANS ARE THE AS-BUILT PLANS.

SEAL



STREAMBANK RESTORATION DETAIL AT END BENT 2

CLASS II RIP RAP AT THE PROJECT SITE SHALL BE STOCKPILED FOR USE FOLLOWING THE SCOUR REPAIR. THE EXISTING RIP RAP SHALL BE SUPPLEMENTED WITH ADDITIONAL CLASS II RIP RAP AS NECESSARY. THE ENTIRE WORK TO STOCKPILE AND REPLACE THE EXISTING RIP RAP SHALL BE INCLUDED IN THE LUMP SUM PRICE BID FOR FOUNDATION EXCAVATION. RIP RAP SHALL BE PLACED TO A LEVEL OF 1 FOOT ABOVE THE BOTTOM OF THE END BENT CAP OR AS DIRECTED BY THE ENGINEER.

TOTAL BILL OF MATERIAL									
ITEM	MOBILIZATION	GROOVING BRIDGE FLOORS	APPROACH SLAB	FOAM JOINT SEALS	SHOTCRETE REPAIRS	PARTIAL REMOVAL OF EXISTING STRUCTURE	PAVEMENT BRACKET	MONOLITHIC CONCRETE MEDIAN	STREAMBANK RESTORATION
	LUMP SUM	SO. FT.	LUMP SUM	LUMP SUM	CU. FT.	LUMP SUM	LUMP SUM	LUMP SUM	LUMP SUM
TOTALS	LUMP SUM	305	LUMP SUM	LUMP SUM	7.0	LUMP SUM	LUMP SUM	LUMP SUM	LUMP SUM

SCOPE OF WORK

- REMOVE EXISTING CONCRETE MEDIAN AND INSTALL TRAFFIC CONTROL MEASURES.
- REMOVE EXISTING APPROACH SLAB REPAIRS AND BACKFILL MATERIAL IN THE AREA AND TO THE LIMITS AS NOTED ON THE PLANS.
- CONSTRUCT NEW APPROACH SLAB PAVEMENT BRACKET.
- CONSTRUCT NEW BRIDGE APPROACH FILL AND NEW APPROACH SLAB AS DETAILED IN THE PLANS.
- REMOVE EXISTING ARMORED EVAZOTE JOINT SEALS AND ADJACENT ELASTOMERIC CONCRETE HEADERS.
- FORM AND PLACE NEW ELASTOMERIC CONCRETE & INSTALL NEW FOAM JOINT SEALS.
- CONSTRUCT NEW MONOLITHIC CONCRETE MEDIAN AS DETAILED ON THE PLANS.
- CONSTRUCT STREAMBANK RESTORATION.
- PERFORM SHOTCRETE REPAIRS ON COLUMN.

PROJECT NO. 18313.1100047.PR  
 YANCEY COUNTY  
 BRIDGE NO. 9

SHEET 1 OF 8

STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

BRIDGE #9 ON US 19  
 OVER CANE RIVER  
 BETWEEN SR 1115 AND SR 1336

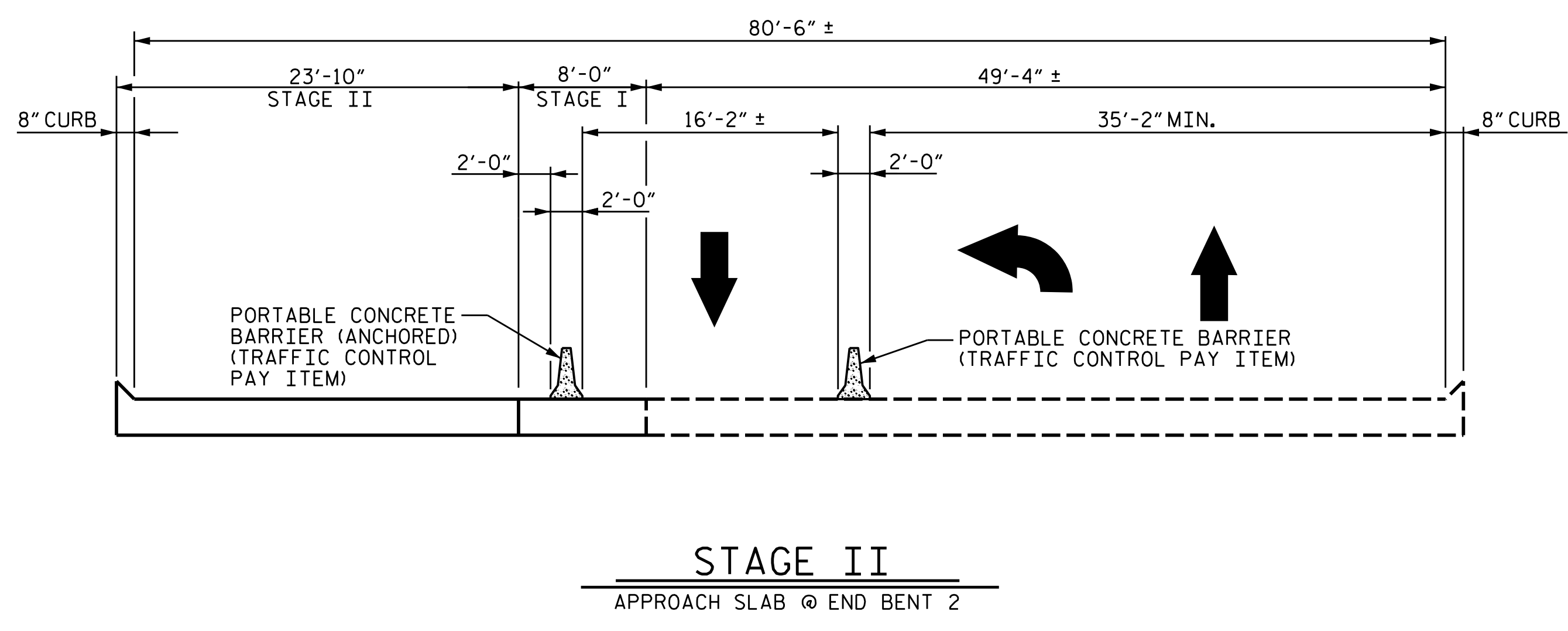
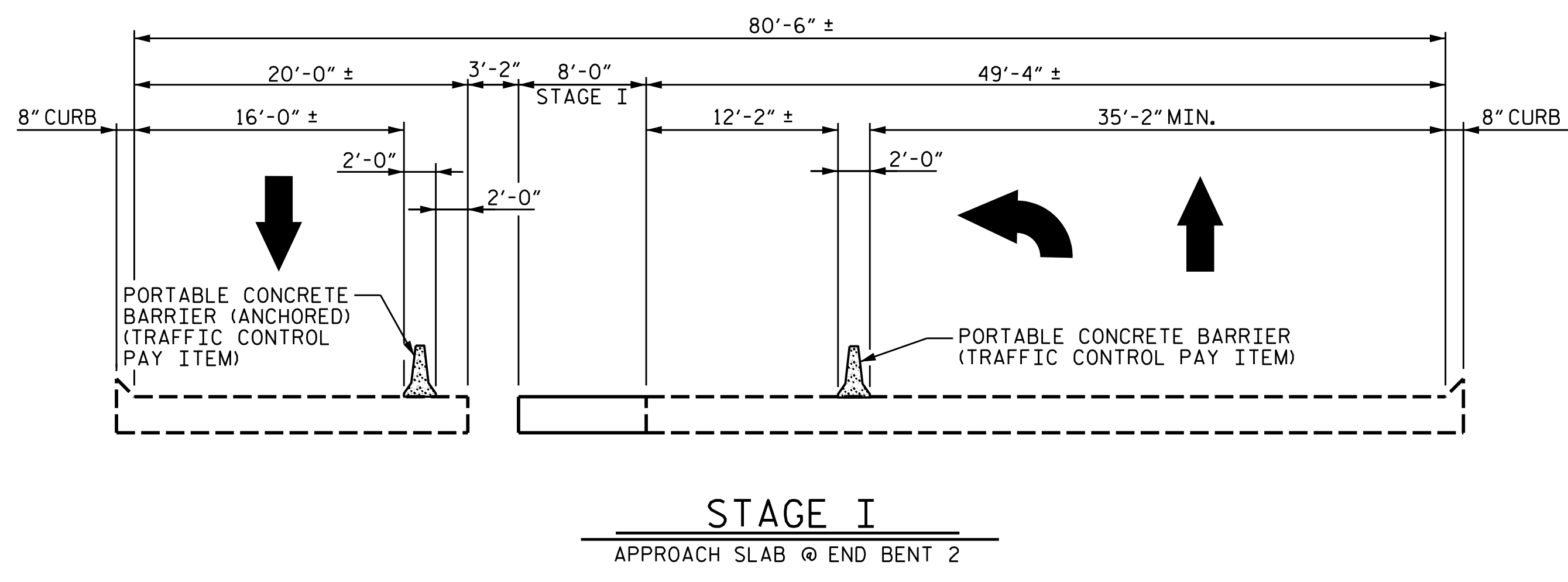
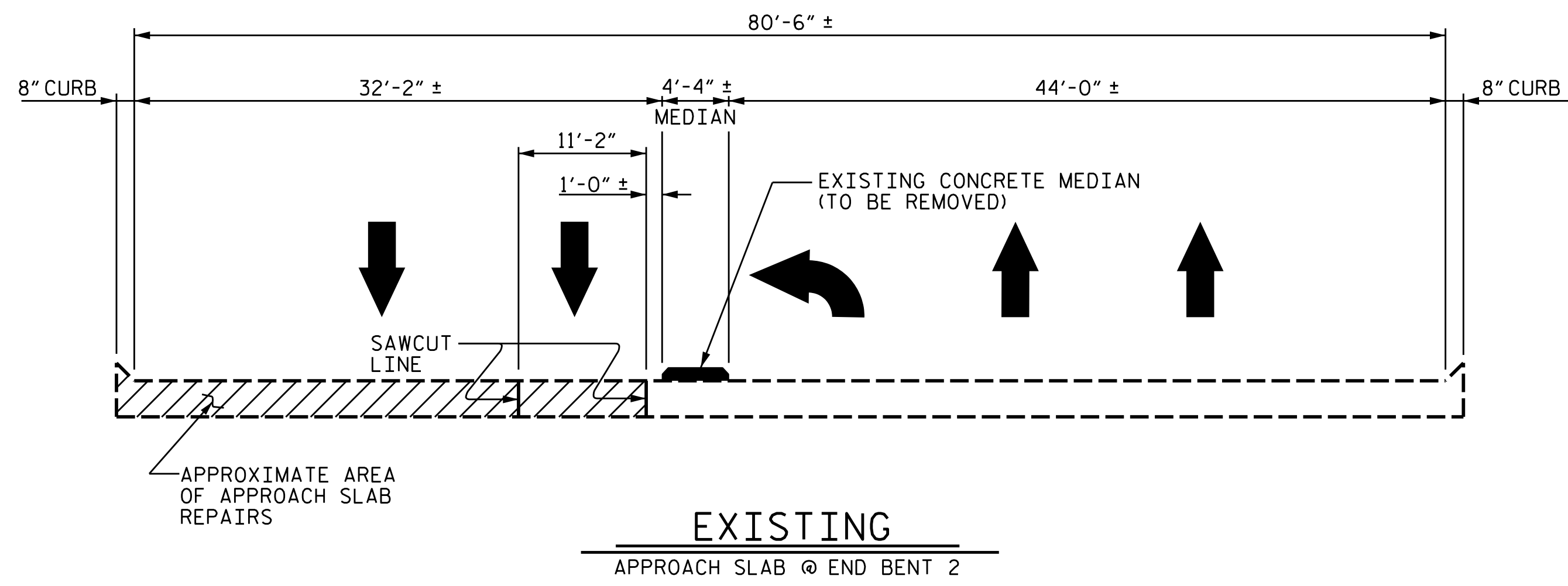
12/11/2025

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

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-1
1			3			TOTAL SHEETS
2			4			8

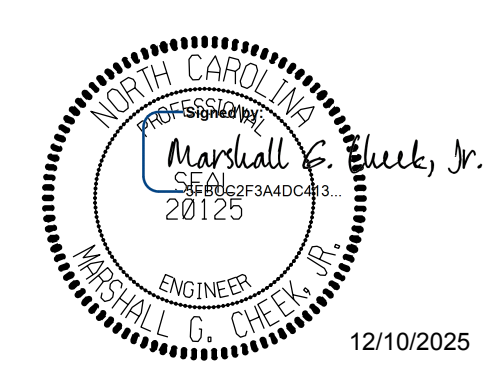
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 CHECKED BY : MGC DATE : 2/25



**NOTES**

FOR MAINTENANCE OF TRAFFIC, SEE TRAFFIC CONTROL PLANS.  
SEE TRAFFIC CONTROL PLANS FOR LOCATION AND PAY LIMITS OF PORTABLE CONCRETE BARRIER.  
PRIOR TO BEGINNING CONSTRUCTION, THE CONTRACTOR SHALL RECORD THE LOCATION OF THE EXISTING PAVEMENT MARKINGS AND EXISTING CONCRETE MEDIAN. FOR PAVEMENT MARKINGS, SEE TRAFFIC CONTROL PLANS.

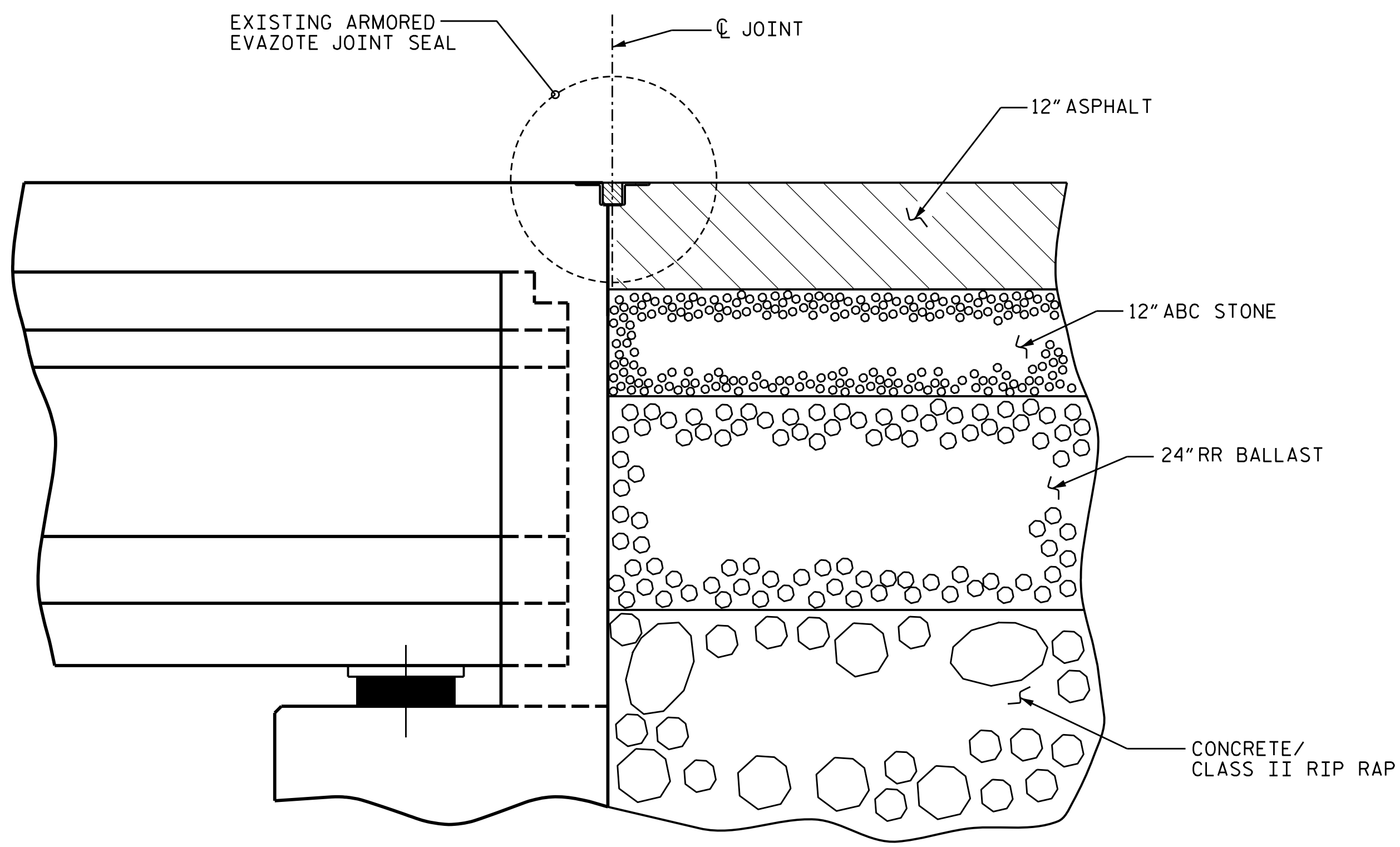
PROJECT NO. 18313.1100047.PR  
YANCEY COUNTY  
BRIDGE NO. 9  
SHEET 2 OF 8



STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION  
RALEIGH  
**BRIDGE #9 ON US 19  
OVER CANE RIVER  
BETWEEN SR 1115 AND SR 1336**

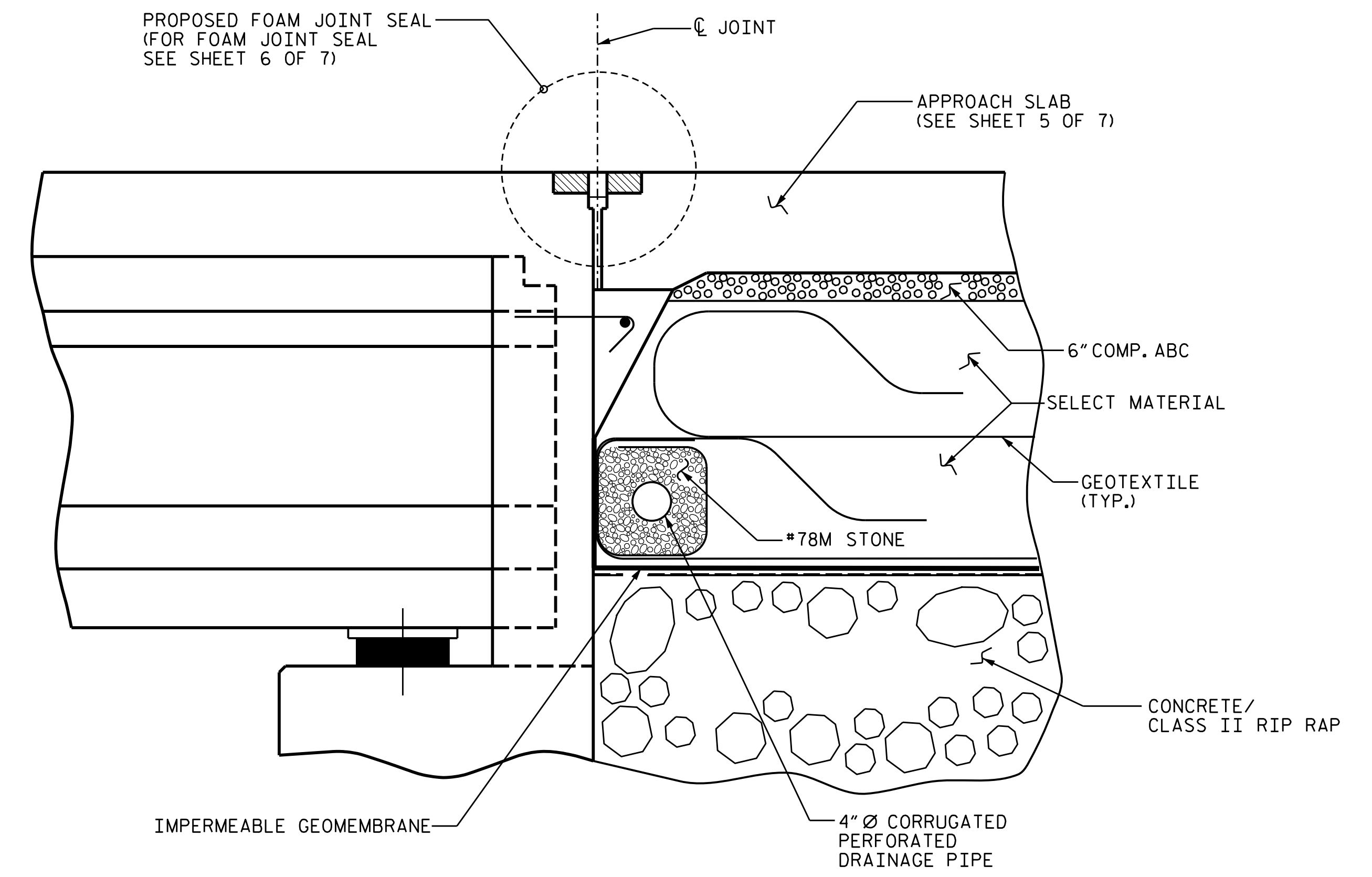
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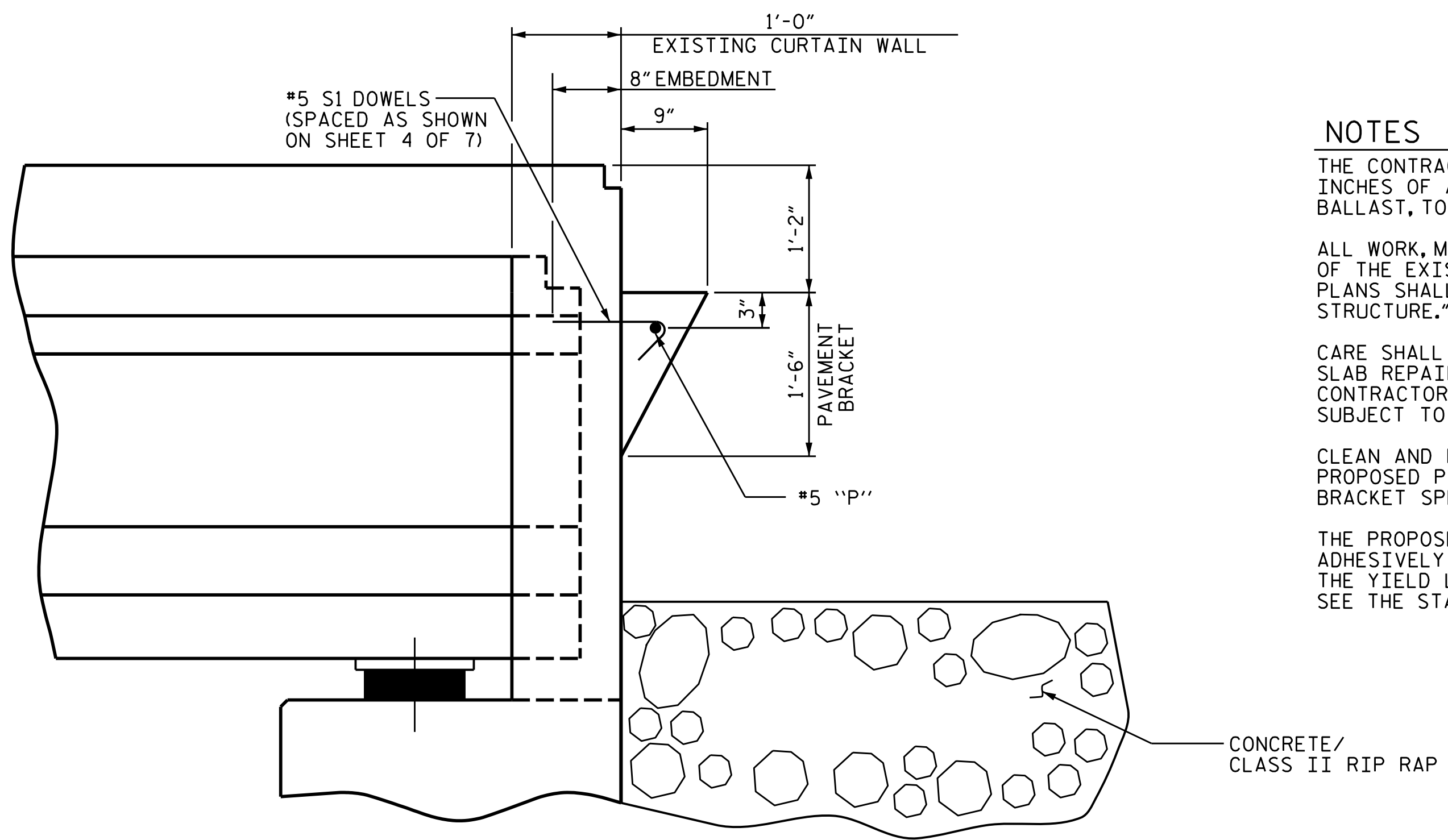


**EXISTING SECTION**

THRU APPROACH SLAB REPAIRS



**FINAL SECTION**



**EXISTING SECTION**

SHOWING APPROACH SLAB REPAIRS REMOVAL & NEW PAVEMENT BRACKET

**NOTES**

THE CONTRACTOR SHALL REMOVE THE APPROACH SLAB REPAIRS, INCLUDING APPROXIMATELY 12 INCHES OF ASPHALT, APPROXIMATELY 12 INCHES OF ABC, AND APPROXIMATELY 24 INCHES OF RAILROAD BALLAST, TO THE TOP OF THE RIP RAP/CONCRETE LAYER AS DIRECTED BY THE ENGINEER.

ALL WORK, MATERIALS, EQUIPMENT, AND INCIDENTALS REQUIRED FOR THE REMOVAL AND DISPOSAL OF THE EXISTING BACKFILL MATERIALS IN THE APPROACH SLAB REPAIR AREA AS DESIGNATED ON THE PLANS SHALL BE INCLUDED IN THE LUMP SUM PRICE BID FOR "PARTIAL REMOVAL OF EXISTING STRUCTURE."

CARE SHALL BE TAKEN DURING THE REMOVAL OF THE EXISTING BACKFILL MATERIALS IN THE APPROACH SLAB REPAIR AREA. ANY DAMAGE TO THE EXISTING STRUCTURE SHALL BE REPAIRED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE DEPARTMENT. THE METHOD OF REPAIR SHALL BE SUBJECT TO THE APPROVAL OF THE ENGINEER.

CLEAN AND REMOVE ANY LOOSE CONCRETE FROM THE CURTAIN WALL PRIOR TO CONSTRUCTION OF THE PROPOSED PAVEMENT BRACKET. REPAIR ANY AREAS DEEMED NECESSARY BY THE ENGINEER. SEE PAVEMENT BRACKET SPECIAL PROVISIONS.

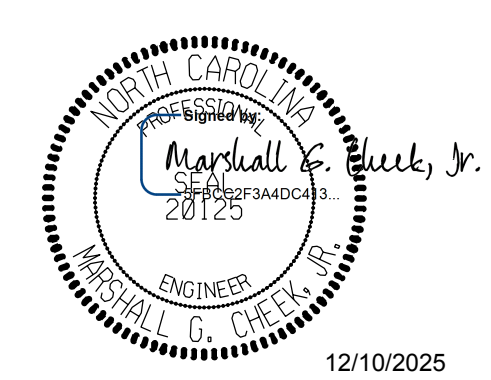
THE PROPOSED PAVEMENT BRACKET SHALL BE ATTACHED TO THE EXISTING CURTAIN WALL USING ADHESIVELY ANCHORED REINFORCING STEEL AS SHOWN. LEVEL ONE FIELD TESTING IS REQUIRED AND THE YIELD LOAD FOR THE REINFORCING STEEL IS 16.7 KIPS. FOR ADHESIVELY ANCHORED REINFORCING, SEE THE STANDARD SPECIFICATIONS.

PROJECT NO. 18313.1100047.PR

YANCEY COUNTY

BRIDGE NO. 9

SHEET 3 OF 8



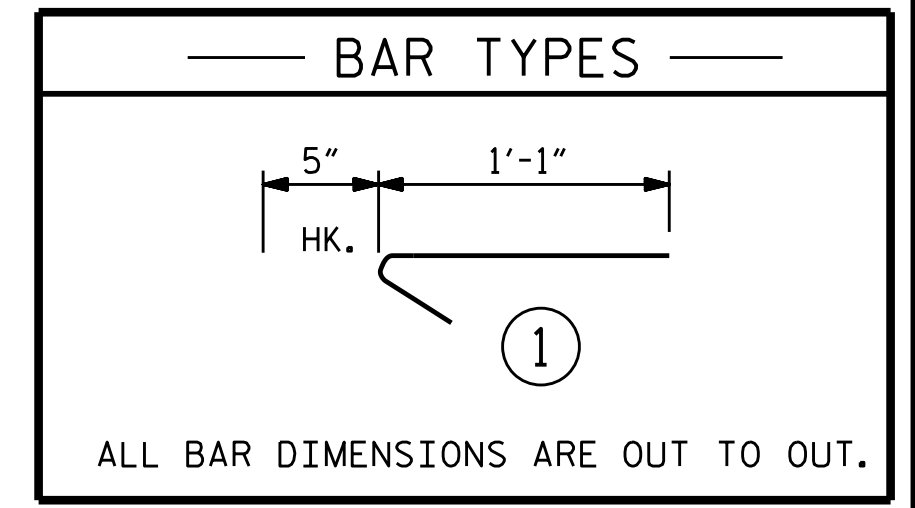
STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION  
RALEIGH  
  
BRIDGE #9 ON US 19  
OVER CANE RIVER  
BETWEEN SR 1115 AND SR 1336

DRAWN BY : NMW DATE : 2/25  
CHECKED BY : MCC DATE : 2/25

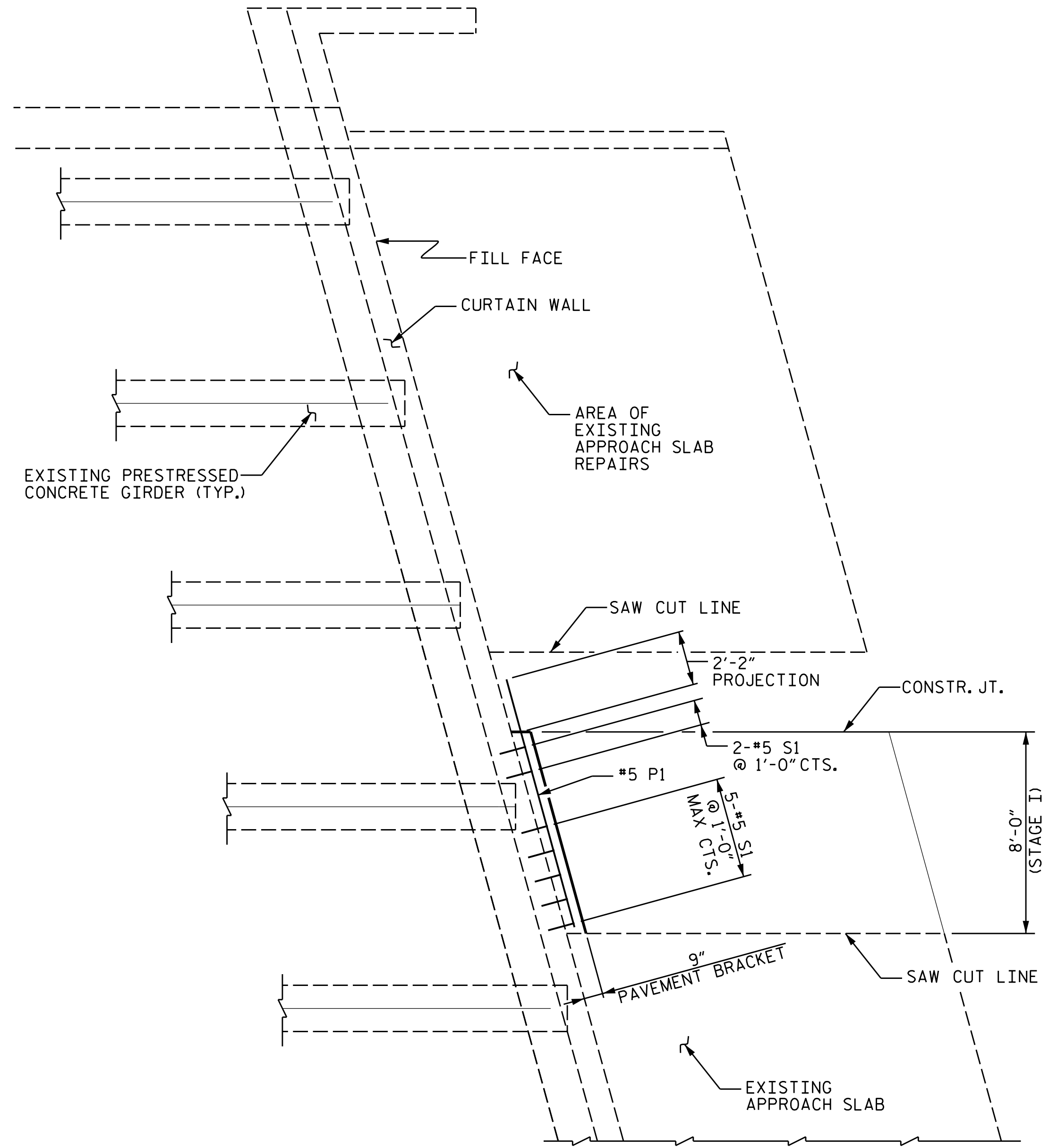
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TGS ENGINEERS 201 W. MARION ST STE 200 SHELBY, NC 28150 PH (704) 476-0003 CORP. LICENSE NO.: C-0275						NO.	BY:	DATE:	NO.	BY:	DATE:	S-3
						1			3			TOTAL SHEETS
						2			4			8

SPLICE LENGTHS		
BAR SIZE	EPOXY COATED	UNCOATED
#4	1'-11"	1'-7"
#5	2'-5"	2'-0"
#6	3'-7"	2'-5"

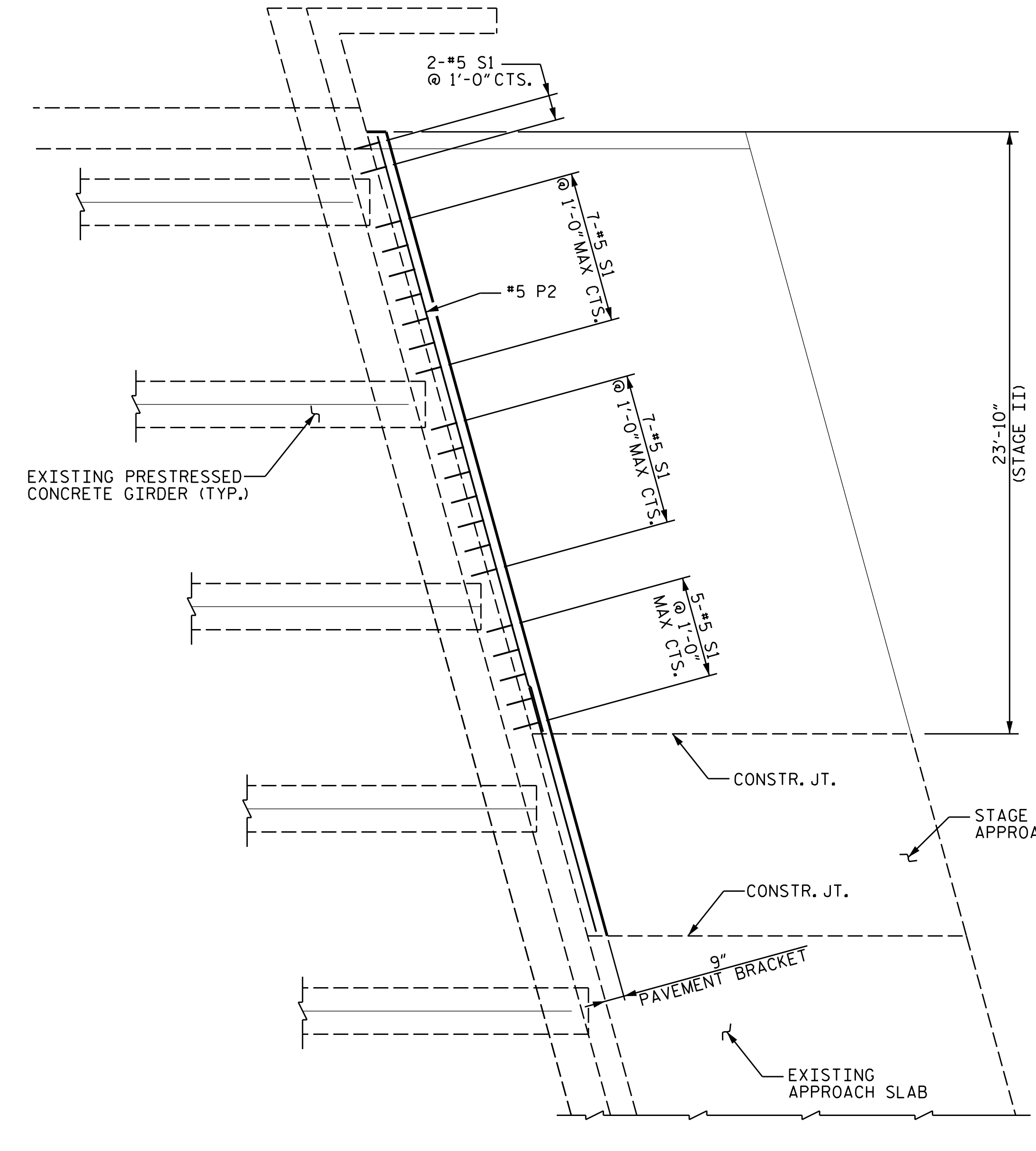
BILL OF MATERIAL					
PAVEMENT BRACKET					
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
P1	1	#5	STR	10'-3"	11
P2	1	#5	STR	24'-5"	25
S1	28	#5	1	1'-6"	44
REINFORCING STEEL					80 LBS.
CLASS AA CONCRETE					0.7 CU. YD.



REINFORCING STEEL AND CLASS AA CONCRETE QUANTITIES ARE BASED ON ESTIMATED REPAIRS. THE CONTRACTOR SHALL ADJUST QUANTITIES AS NECESSARY BASED ON ACTUAL CONDITIONS.



PLAN - PAVEMENT BRACKET @ END BENT 2  
STAGE I



PLAN - PAVEMENT BRACKET @ END BENT 2  
STAGE II

NOTE: THE CONTRACTOR SHALL TAKE CARE TO AVOID DRILLING INTO CONCRETE GIRDERS EMBEDDED IN CURTAIN WALL.

PROJECT NO. 18313.1100047.PR  
YANCEY COUNTY  
BRIDGE NO. 9  
SHEET 4 OF 8

STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION  
RALEIGH

BRIDGE #9 ON US 19  
OVER CANE RIVER  
BETWEEN SR 1115 AND SR 1336

12/10/2025

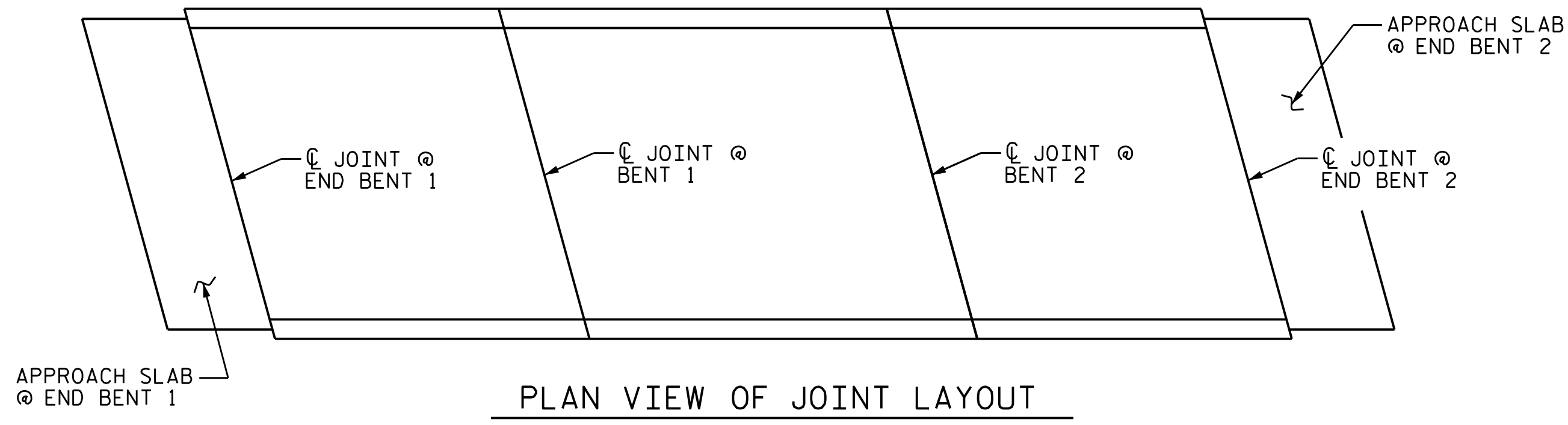
DOCUMENT NOT CONSIDERED FINAL  
UNLESS ALL SIGNATURES COMPLETED

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

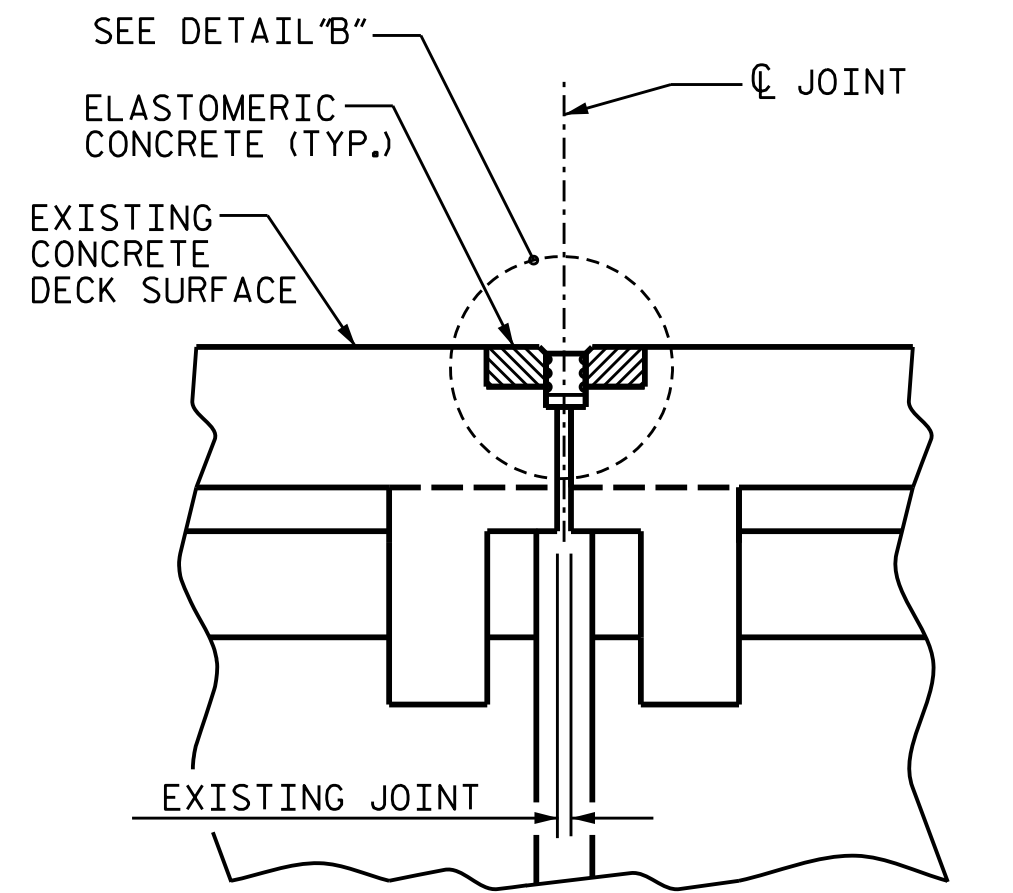
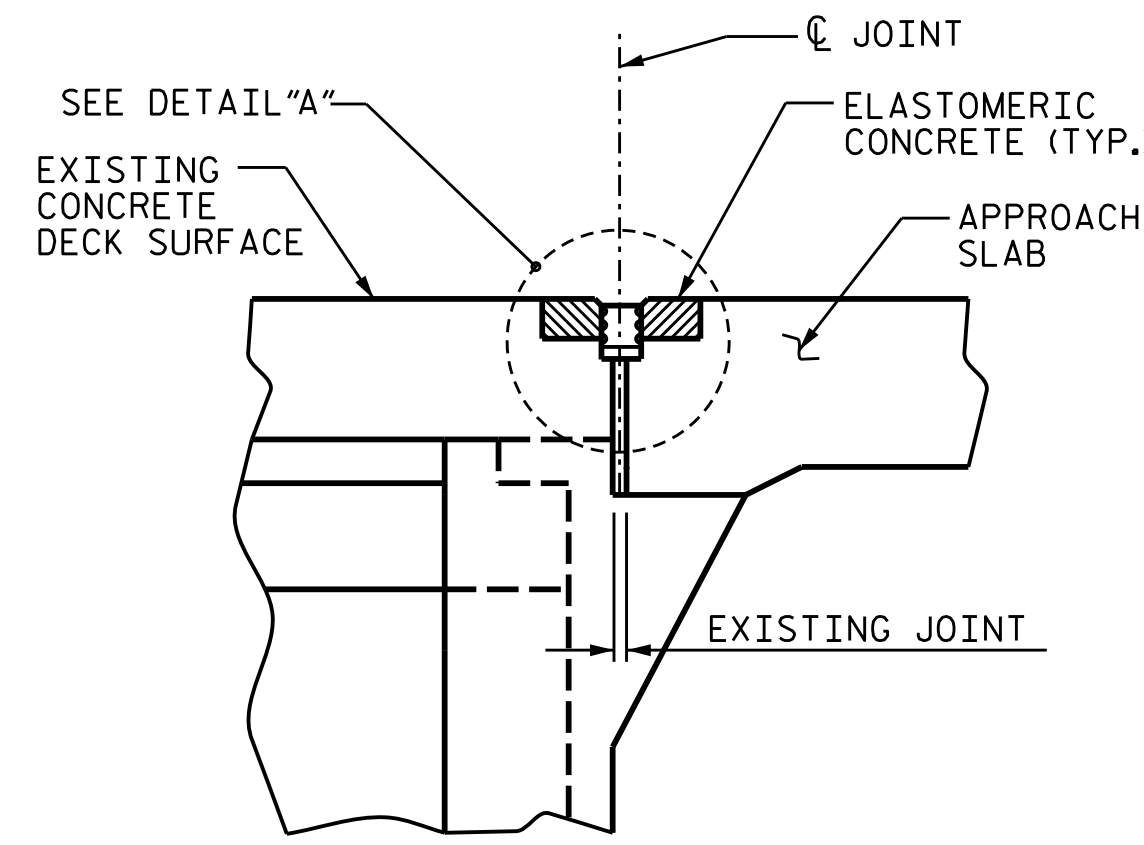
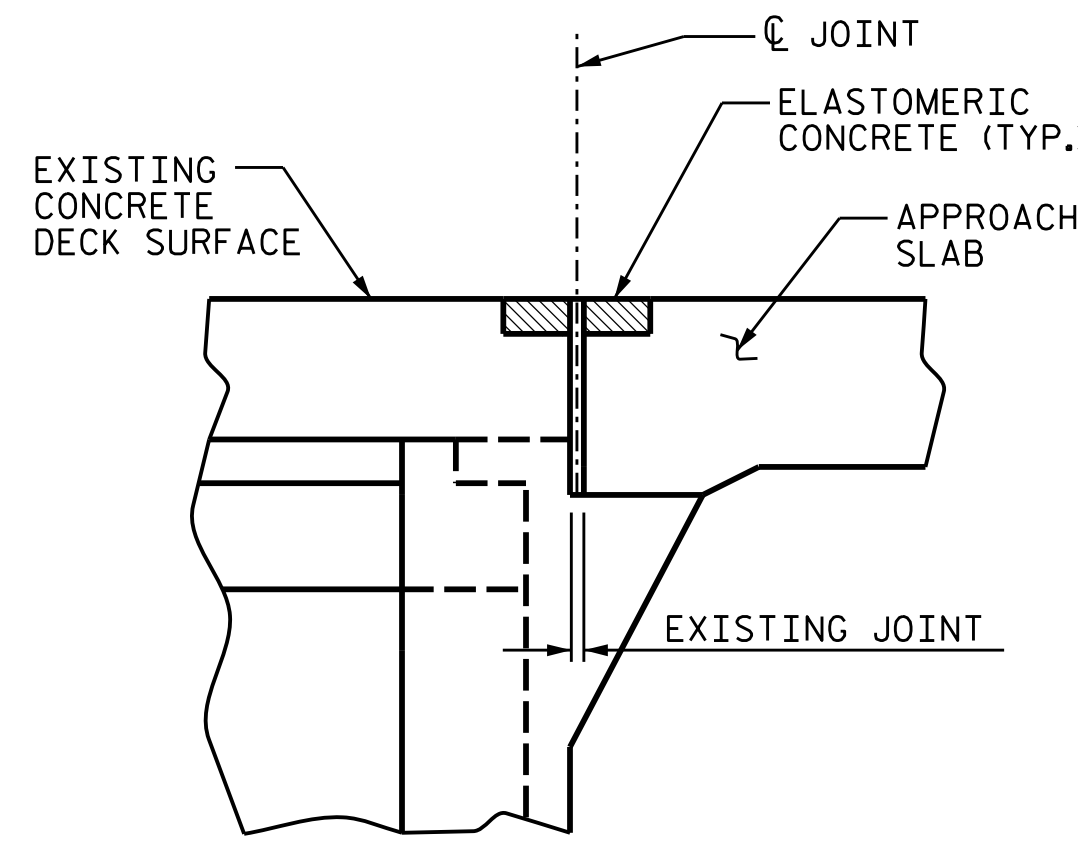
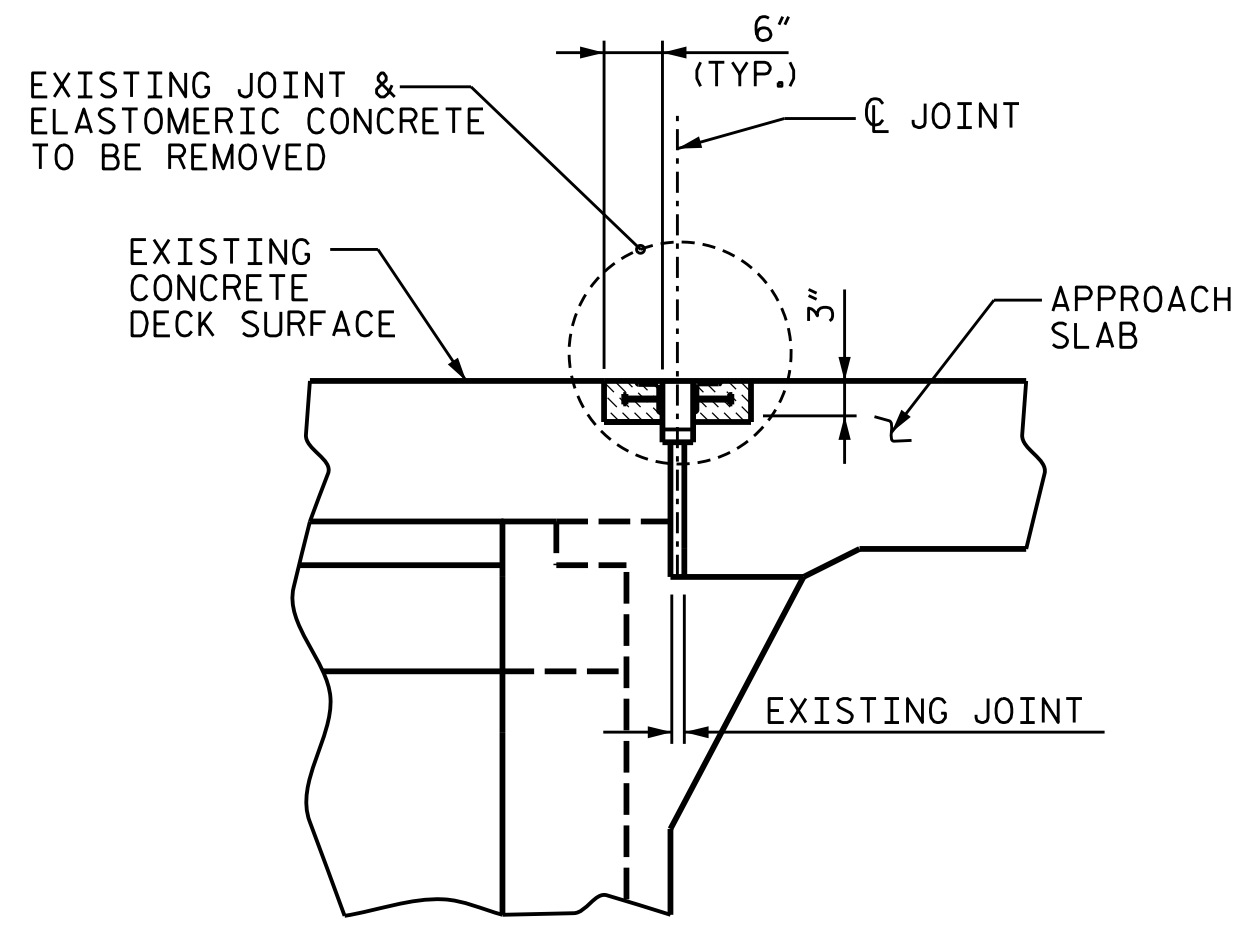
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-4
1			3			TOTAL SHEETS
2			4			8

DRAWN BY : ZCS DATE : 3/25  
CHECKED BY : MGC DATE : 3/25



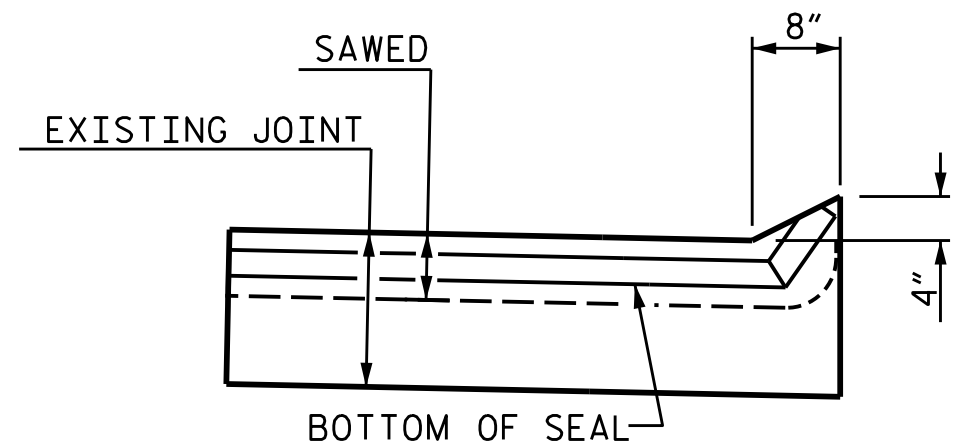
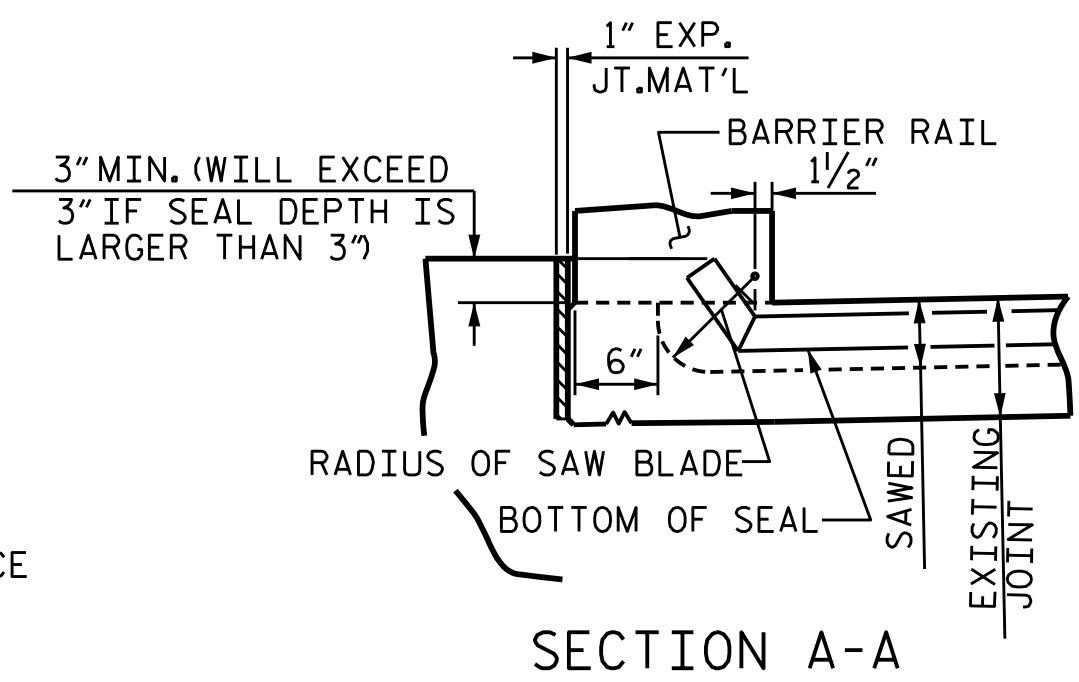
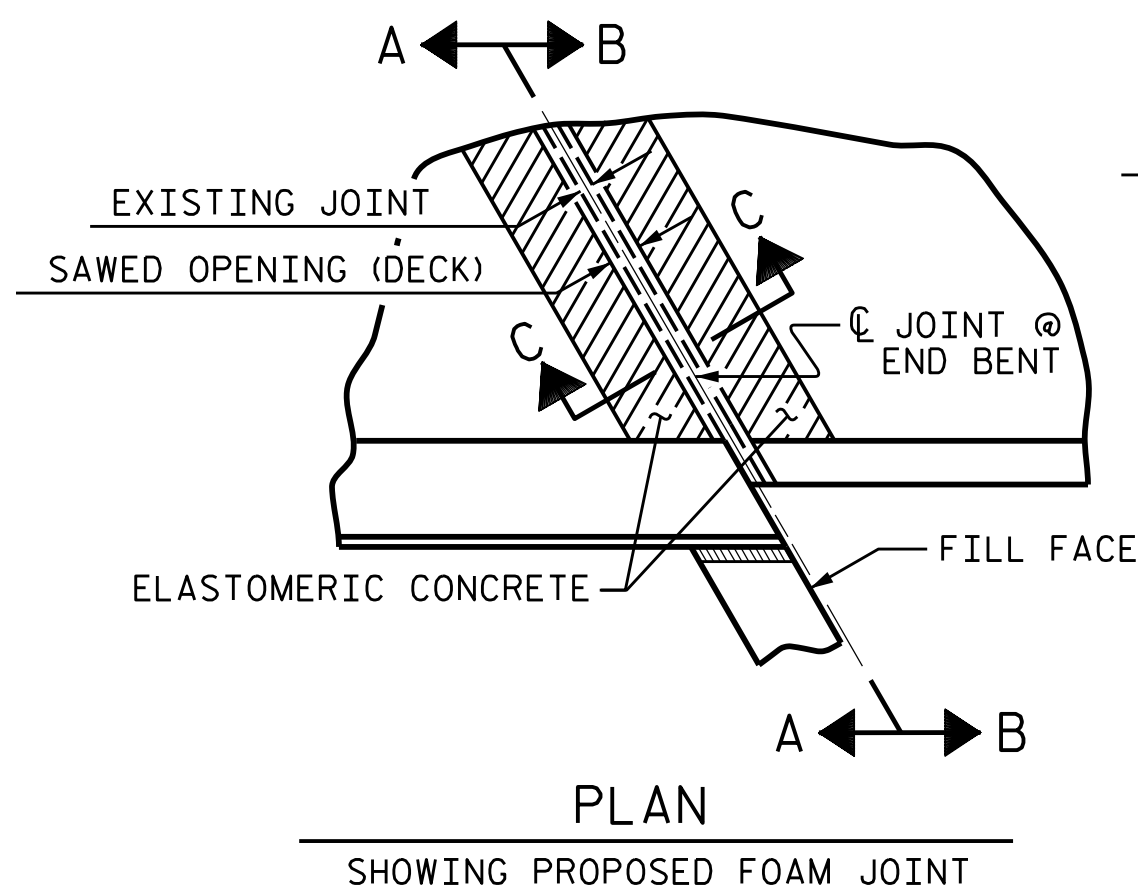


BILL OF MATERIAL		
LOCATION	ELASTOMERIC CONCRETE * (CY.YD.)	TOTAL LENGTH OF FOAM JOINT (FT.)
END BENT 1	0.8	84'-6"
BENT 1	0.8	84'-6"
BENT 2	0.8	84'-6"
END BENT 2	0.8	84'-6"



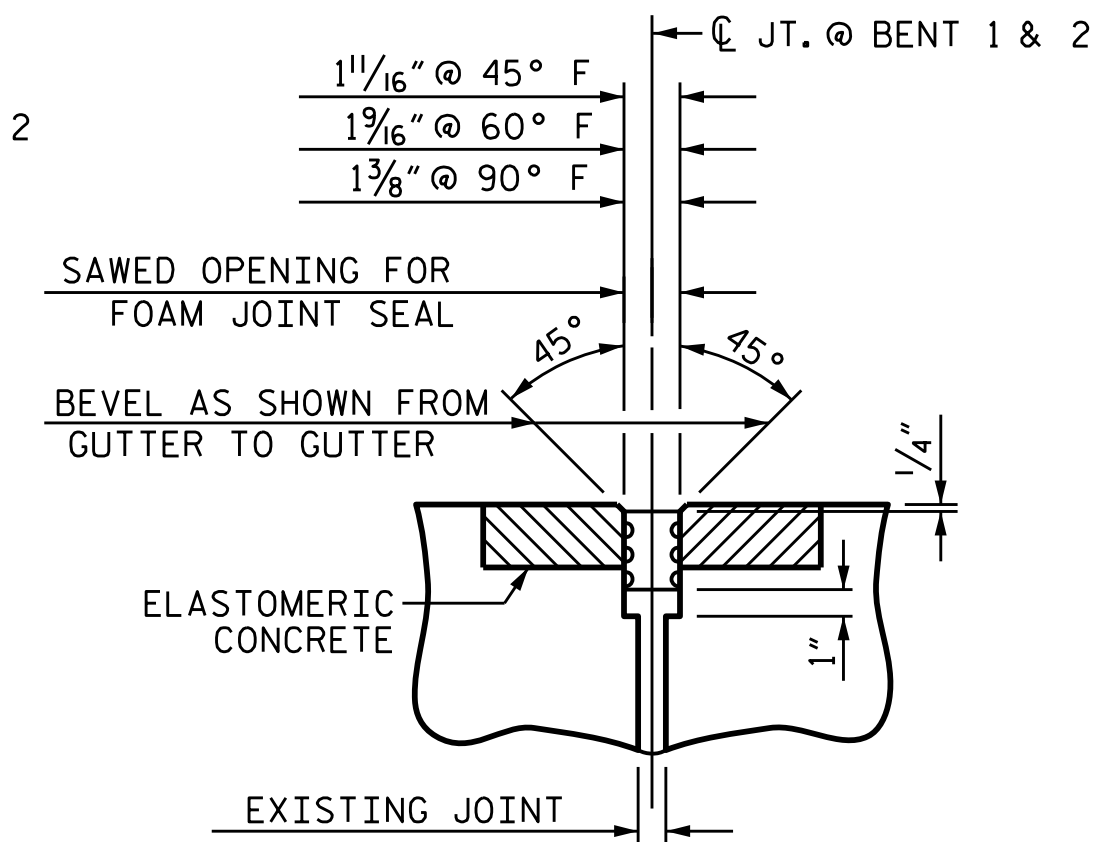
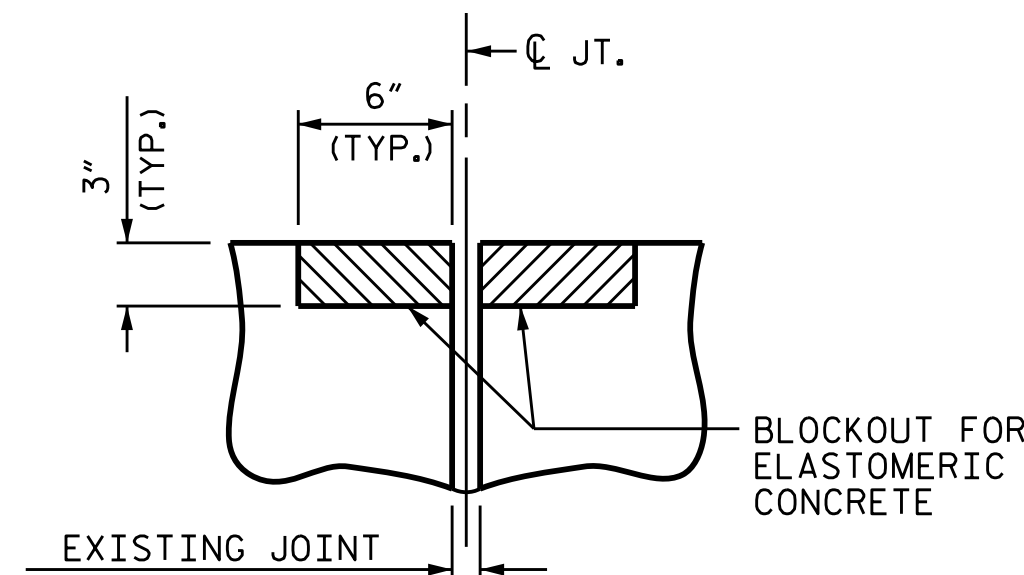
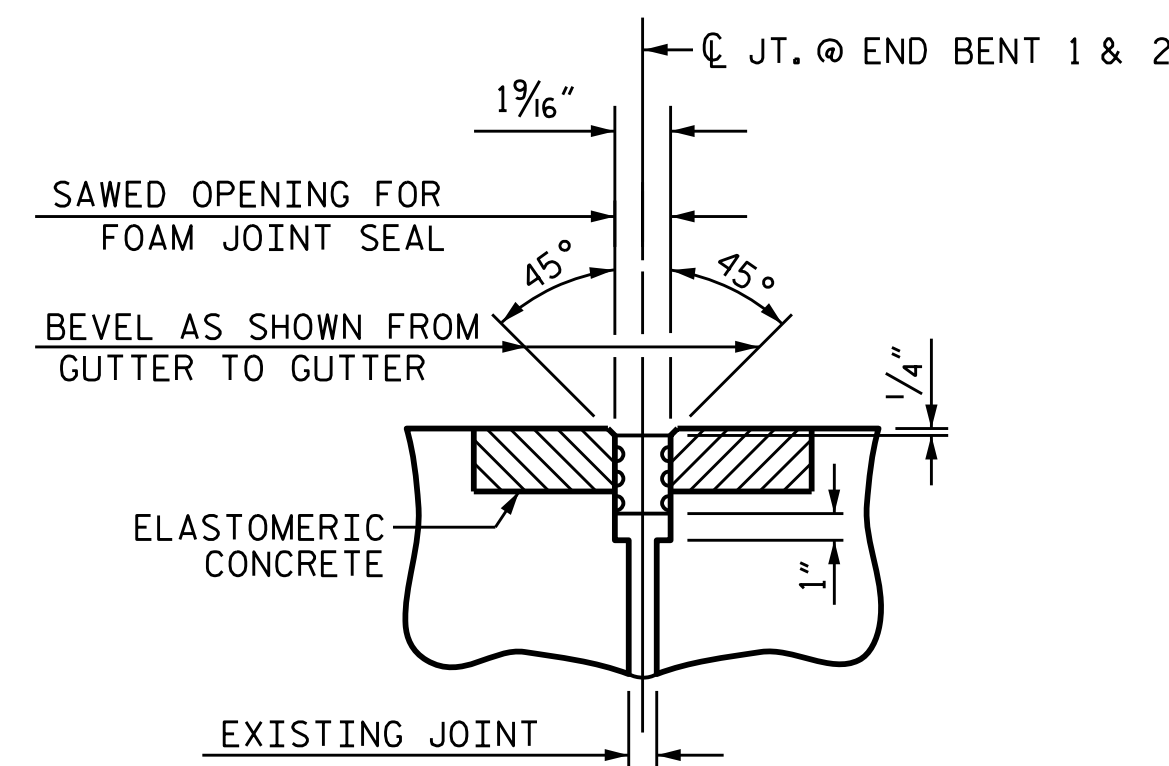
**NOTES**

- FOR FOAM JOINT SEALS, SEE FOAM JOINT SEAL REPLACEMENT SPECIAL PROVISION.
- FOR ELASTOMERIC CONCRETE, SEE SPECIAL PROVISIONS.
- THE INSTALLED FOAM JOINT SEALS SHALL BE WATERTIGHT.
- NOMINAL UNCOMPRESSED SEAL WIDTH OF FOAM JOINT SHALL BE 2".
- THE CONTRACTOR WILL NOT BE PERMITTED TO FORM THE JOINT FOR THE FOAM JOINT SEAL IN LIEU OF SAWING THE JOINT.
- THE REMOVAL OF THE EXISTING ARMORED EVAZOTE JOINT SEALS AND EXISTING ELASTOMERIC CONCRETE HEADERS, PLACEMENT OF ELASTOMERIC CONCRETE AND INSTALLATION OF THE FOAM JOINT SEALS SHALL BE INCLUDED IN THE LUMP SUM PRICE BID FOR FOAM JOINT SEALS.
- FOR SAWING THE ELASTOMERIC CONCRETE BLOCKOUT IN THE EXISTING DECK AND APPROACH SLABS, SEE FOAM JOINT SEAL REPLACEMENT SPECIAL PROVISION.
- FOR REMOVAL OF CONCRETE IN THE EXISTING DECK AND APPROACH SLABS, SEE BRIDGE JOINT DEMOLITION SPECIAL PROVISION.



**FOAM JOINT SEAL DETAILS @ END BENT**

FOAM JOINT SEAL TO BE CUT, HEAT WELDED AND TURNED UP PARALLEL TO SLOPED FACE OF THE CURB.



PROJECT NO. 18313.1100047.PR  
YANCEY COUNTY

BRIDGE NO. 9

SHEET 6 OF 8

STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION  
RALEIGH

BRIDGE #9 ON US 19  
OVER CANE RIVER  
BETWEEN SR 1115 AND SR 1336

12/10/2025

ENGINEER  
MARSHALL G. CHECK, JR.

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

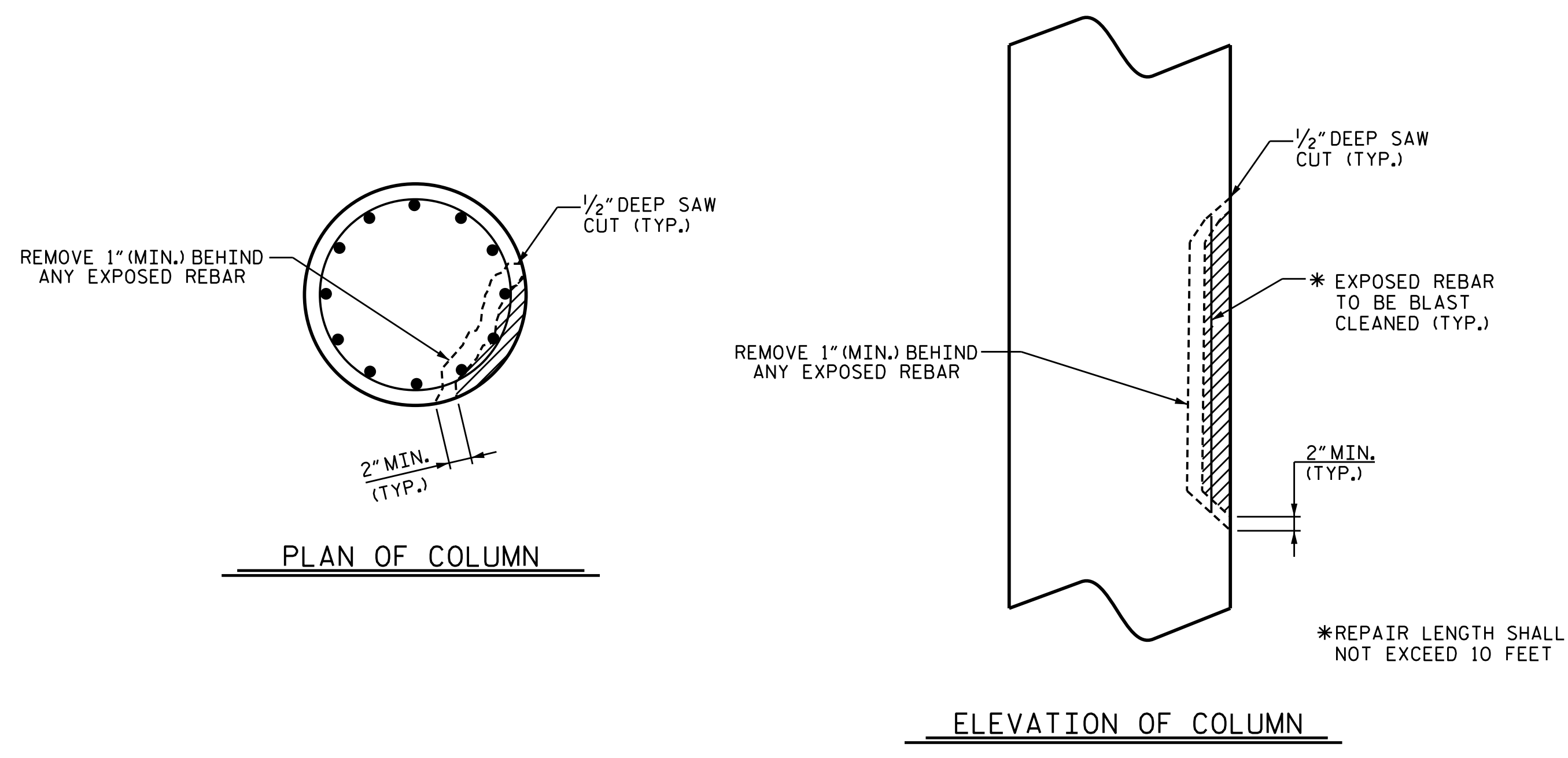
TGS ENGINEERS

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REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-6
1			3			TOTAL SHEETS 8
2			4			

DRAWN BY : NMW DATE : 2/25  
CHECKED BY : MGC DATE : 2/25





COLUMN REPAIR

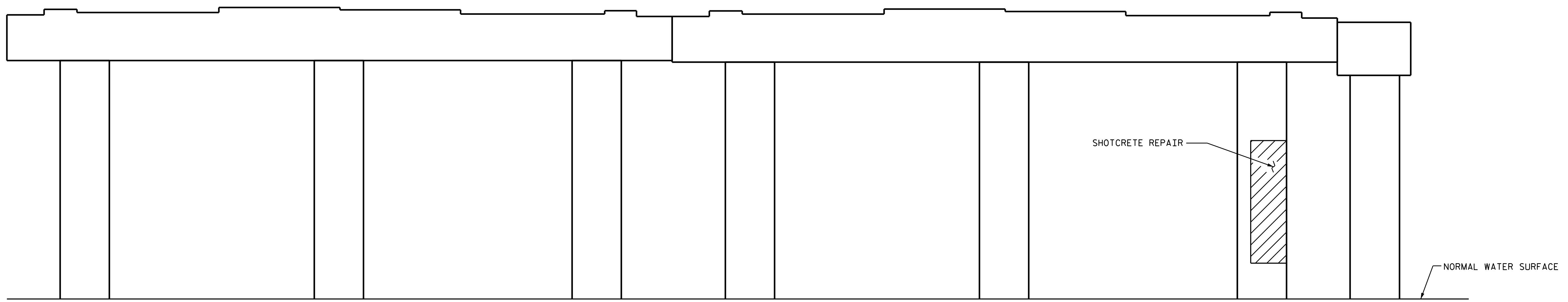
NOTES

REPAIR LOCATIONS AND ESTIMATE OF QUANTITIES ARE BASED ON THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE ENGINEER, THE ENGINEER WILL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATION AND DESCRIPTION OF THE REPAIRS AND ENTER THE ACTUAL QUANTITIES INTO THE AS-BUILT REPAIR QUANTITY TABLE.

CONCRETE REPAIRS MAY BE SUBSTITUTED IN LIEU OF SHOTCRETE REPAIRS WITH THE APPROVAL OF THE ENGINEER.

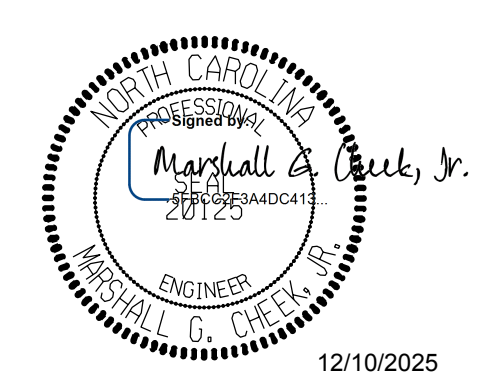
BENT 1	QUANTITIES			
	ESTIMATE		ACTUAL	
	AREA SQ. FT.	VOLUMN CU. FT.	AREA SQ. FT.	VOLUMN CU. FT.
SHOTCRETE REPAIRS				
COLUMNS	28.0	7.0		

VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MINIMUM OF 1" BEHIND REBAR AND MINIMUM 2" CLEARANCE TO SAWCUT. SEE "COLUMN REPAIR" DETAIL.



BENT 1 ELEVATION

PROJECT NO. 18313.1100047.PR  
YANCEY COUNTY  
 BRIDGE NO. 9  
 SHEET 8 OF 8



STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH  
 BRIDGE #9 ON US 19  
 OVER CANE RIVER  
 BETWEEN SR 1115 AND SR 1336

DRAWN BY : NMW DATE : 6/25  
 CHECKED BY : MGC DATE : 6/25

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED						REVISIONS						SHEET NO.	
TGS ENGINEERS 201 W. MARION ST STE 200 SHELBY, NC 28150 PH (704) 476-0003 CORP. LICENSE NO.: C-0275						NO.	BY:	DATE:	NO.	BY:	DATE:	S-8	
						1			3			TOTAL SHEETS	
						2			4			8	

## STANDARD NOTES

DESIGN DATA:

SPECIFICATIONS .....	AASHTO (CURRENT)
LIVE LOAD .....	SEE PLANS
IMPACT ALLOWANCE .....	SEE AASHTO
STRESS IN EXTREME FIBER OF STRUCTURAL STEEL - AASHTO M270 GRADE 36 .....	20,000 LBS. PER SQ. IN.
- AASHTO M270 GRADE 50W ...	27,000 LBS. PER SQ. IN.
- AASHTO M270 GRADE 50 .....	27,000 LBS. PER SQ. IN.
REINFORCING STEEL IN TENSION - GRADE 60 .....	24,000 LBS. PER SQ. IN.
CONCRETE IN COMPRESSION .....	1,200 LBS. PER SQ. IN.
CONCRETE IN SHEAR .....	SEE AASHTO
STRUCTURAL TIMBER - TREATED OR UNTREATED EXTREME FIBER STRESS .....	1,800 LBS. PER SQ. IN.
COMPRESSION PERPENDICULAR TO GRAIN OF TIMBER .....	375 LBS. PER SQ. IN.
EQUIVALENT FLUID PRESSURE OF EARTH .....	30 LBS. PER CU. FT. (MINIMUM)

MATERIAL AND WORKMANSHIP:

EXCEPT AS MAY OTHERWISE BE SPECIFIED ON PLANS OR IN THE SPECIAL PROVISIONS, ALL MATERIAL AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE 2024 "STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES" OF THE N. C. DEPARTMENT OF TRANSPORTATION.

STEEL SHEET PILING FOR PERMANENT OR TEMPORARY APPLICATIONS SHALL BE HOT ROLLED.

CONCRETE:

UNLESS OTHERWISE REQUIRED ON PLANS, CLASS A CONCRETE SHALL BE USED FOR ALL PORTIONS OF ALL STRUCTURES WITH THE EXCEPTION THAT: CLASS AA CONCRETE SHALL BE USED IN BRIDGE SUPERSTRUCTURES, ABUTMENT BACKWALLS, AND APPROACH SLABS; AND CLASS B CONCRETE SHALL BE USED FOR SLOPE PROTECTION AND RIP RAP.

CONCRETE CHAMFERS:

UNLESS OTHERWISE NOTED ON THE PLANS, ALL EXPOSED CORNERS ON STRUCTURES SHALL BE CHAMFERED 3/4" WITH THE FOLLOWING EXCEPTIONS: TOP CORNERS OF CURBS MAY BE ROUNDED TO 1 1/2" RADIUS WHICH IS BUILT INTO CURB FORMS; CORNERS OF TRANSVERSE FLOOR EXPANSION JOINTS SHALL BE ROUNDED WITH A 1/4" FINISHING TOOL UNLESS OTHERWISE REQUIRED ON PLANS; AND CORNERS OF EXPANSION JOINTS IN THE ROADWAY FACES AND TOPS OF CURBS AND SIDEWALKS SHALL BE ROUNDED TO A 3/4" RADIUS WITH A FINISHING STONE OR TOOL UNLESS OTHERWISE REQUIRED ON PLANS.

DOWELS:

DOWELS WHEN INDICATED ON PLANS AS FOR CULVERT EXTENSIONS, SHALL BE EMBEDDED AT LEAST 12" INTO THE OLD CONCRETE AND GROUTED INTO PLACE WITH 1:2 CEMENT MORTAR.

ALLOWANCE FOR DEAD LOAD DEFLECTION, SETTLEMENT, ETC. IN CASTING SUPERSTRUCTURES:

BRIDGES SHALL BE BUILT ON THE GRADE OR VERTICAL CURVE SHOWN ON PLANS. SLABS, CURBS AND PARAPETS SHALL CONFORM TO THE GRADE OR CURVE.

ALL DIMENSIONS WHICH ARE GIVEN IN SECTION AND ARE AFFECTED BY DEAD LOAD DEFLECTIONS ARE DIMENSIONS AT CENTER LINE OF BEARING UNLESS OTHERWISE NOTED ON PLANS. IN SETTING FORMS FOR STEEL BEAM BRIDGES AND PRESTRESSED CONCRETE GIRDER BRIDGES, ADJUSTMENTS SHALL BE MADE DUE TO THE DEAD LOAD DEFLECTIONS FOR THE ELEVATIONS SHOWN. WHERE BLOCKS ARE SHOWN OVER BEAMS FOR BUILDING UP TO THE SLAB, THE VERTICAL DIMENSIONS OF THE BLOCKS SHALL BE ADJUSTED BETWEEN BEARINGS TO COMPENSATE FOR DEAD LOAD DEFLECTIONS, VERTICAL CURVE ORDINATE, AND ACTUAL BEAM CAMBER. WHERE BOTTOM OF SLAB IS IN LINE WITH BOTTOM OF TOP FLANGES, DEPTH OF SLAB BETWEEN BEARINGS SHALL BE ADJUSTED TO COMPENSATE FOR DEAD LOAD DEFLECTION, VERTICAL CURVE ORDINATE, AND ACTUAL BEAM CAMBER.

IN SETTING FALSEWORK AND FORMS FOR REINFORCED CONCRETE SPANS, AN ALLOWANCE SHALL BE MADE FOR DEAD LOAD DEFLECTIONS, SETTLEMENT OF FALSEWORK, AND PERMANENT CAMBER WHICH SHALL BE PROVIDED FOR IN ADDITION TO THE ELEVATIONS SHOWN. AFTER REMOVAL OF THE FALSEWORK, THE FINISHED STRUCTURES SHALL CONFORM TO THE PROFILE AND ELEVATIONS SHOWN ON THE PLANS AND CONSTRUCTION ELEVATIONS FURNISHED BY THE ENGINEER.

DETAILED DRAWINGS FOR FALSEWORK OR FORMS FOR BRIDGE SUPERSTRUCTURE AND ANY STRUCTURE OR PARTS OF A STRUCTURE AS NOTED ON THE PLANS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL BEFORE CONSTRUCTION OF THE FALSEWORK OR FORMS IS STARTED.

REINFORCING STEEL:

ALL REINFORCING STEEL SHALL BE DEFORMED. DIMENSIONS RELATIVE TO PLACEMENT OF REINFORCING ARE TO CENTERS OF BARS UNLESS OTHERWISE INDICATED IN THE PLANS. DIMENSIONS ON BAR DETAILS ARE TO CENTERS OF BARS OR ARE OUT TO OUT AS INDICATED ON PLANS.

WIRE BAR SUPPORTS SHALL BE PROVIDED FOR REINFORCING STEEL WHERE INDICATED ON THE PLANS. WHEN BAR SUPPORT PIECES ARE PLACED IN CONTINUOUS LINES, THEY SHALL BE SO PLACED THAT THE ENDS OF THE SUPPORTING WIRES SHALL BE LAPPED TO LOCK LEGS ON ADJOINING PIECES.

STRUCTURAL STEEL:

AT THE CONTRACTOR'S OPTION, HE MAY SUBSTITUTE 7/8" Ø SHEAR STUDS FOR THE 3/4" Ø STUDS SPECIFIED ON THE PLANS. THIS SUBSTITUTION SHALL BE MADE AT THE RATE OF 3 - 7/8" Ø STUDS FOR 4 - 3/4" Ø STUDS, AND STUD SPACING CHANGES SHALL BE MADE AS NECESSARY TO PROVIDE THE SAME EQUIVALENT NUMBER OF 7/8" Ø STUDS ALONG THE BEAM AS SHOWN FOR 3/4" Ø STUDS BASED ON THE RATIO OF 3 - 7/8" Ø STUDS FOR 4 - 3/4" Ø STUDS. STUDS OF THE LENGTH SPECIFIED ON THE PLANS MUST BE PROVIDED. THE MAXIMUM SPACING SHALL BE 2'-0".

EXCEPT AT THE INTERIOR SUPPORTS OF CONTINUOUS BEAMS WHERE THE COVER PLATE IS IN CONTACT WITH BEARING PLATE, THE CONTRACTOR MAY, AT HIS OPTION, SUBSTITUTE FOR THE COVER PLATES DESIGNATED ON THE PLANS COVER PLATES OF THE EQUIVALENT AREA PROVIDED THESE PLATES ARE AT LEAST 5/16" IN THICKNESS AND DO NOT EXCEED A WIDTH EQUAL TO THE FLANGE WIDTH LESS 2" OR A THICKNESS EQUAL TO 2 TIMES THE FLANGE THICKNESS. THE SIZE OF FILLET WELDS SHALL CONFORM TO THE REQUIREMENTS OF THE CURRENT ANSI/AASHTO/AWS "BRIDGE WELDING CODE". ELECTROSLAG WELDING WILL NOT BE PERMITTED.

WITH THE SOLE EXCEPTION OF EDGES AT SURFACES WHICH BEAR ON OTHER SURFACES, ALL SHARP EDGES AND ENDS OF SHAPES AND PLATES SHALL BE SLIGHTLY ROUNDED BY SUITABLE MEANS TO A RADIUS OF APPROXIMATELY 1/16" OR EQUIVALENT FLAT SURFACE AT A SUITABLE ANGLE PRIOR TO PAINTING, GALVANIZING, OR METALLIZING.

HANDRAILS AND POSTS:

METAL STANDARDS AND FACES OF THE CONCRETE END POSTS FOR THE METAL RAIL SHALL BE SET NORMAL TO THE GRADE OF THE CURB, UNLESS OTHERWISE SHOWN ON PLANS. THE METAL RAIL AND TOPS OF CONCRETE POSTS USED WITH THE ALUMINUM RAIL SHALL BE BUILT PARALLEL TO THE GRADE OF THE CURB.

METAL HANDRAILS SHALL BE IN ACCORDANCE WITH THE PLANS. RAILS SHALL BE AS MANUFACTURED FOR BRIDGE RAILING. CASTINGS SHALL BE OF A UNIFORM APPEARANCE. FINIS AND OTHER DEFORMATIONS RESULTING FROM CASTING OR OTHERWISE SHALL BE REMOVED IN A MANNER SO THAT A UNIFORM COLORING OF THE COMPLETED CASTING SHALL BE OBTAINED. CASTINGS WITH DISCOLORATIONS OR OF NON-UNIFORM COLORING WILL NOT BE ACCEPTED. CERTIFIED MILL REPORTS ARE REQUIRED FOR METAL RAILS AND POSTS.

SPECIAL NOTES:

GENERALLY, IN CASE OF DISCREPANCY, THIS STANDARD SHEET OF NOTES SHALL GOVERN OVER THE SPECIFICATIONS, BUT THE REMAINDER OF THE PLANS SHALL GOVERN OVER NOTES HEREON, AND SPECIAL PROVISIONS SHALL GOVERN OVER ALL. SEE SPECIFICATIONS ARTICLE 105-4.