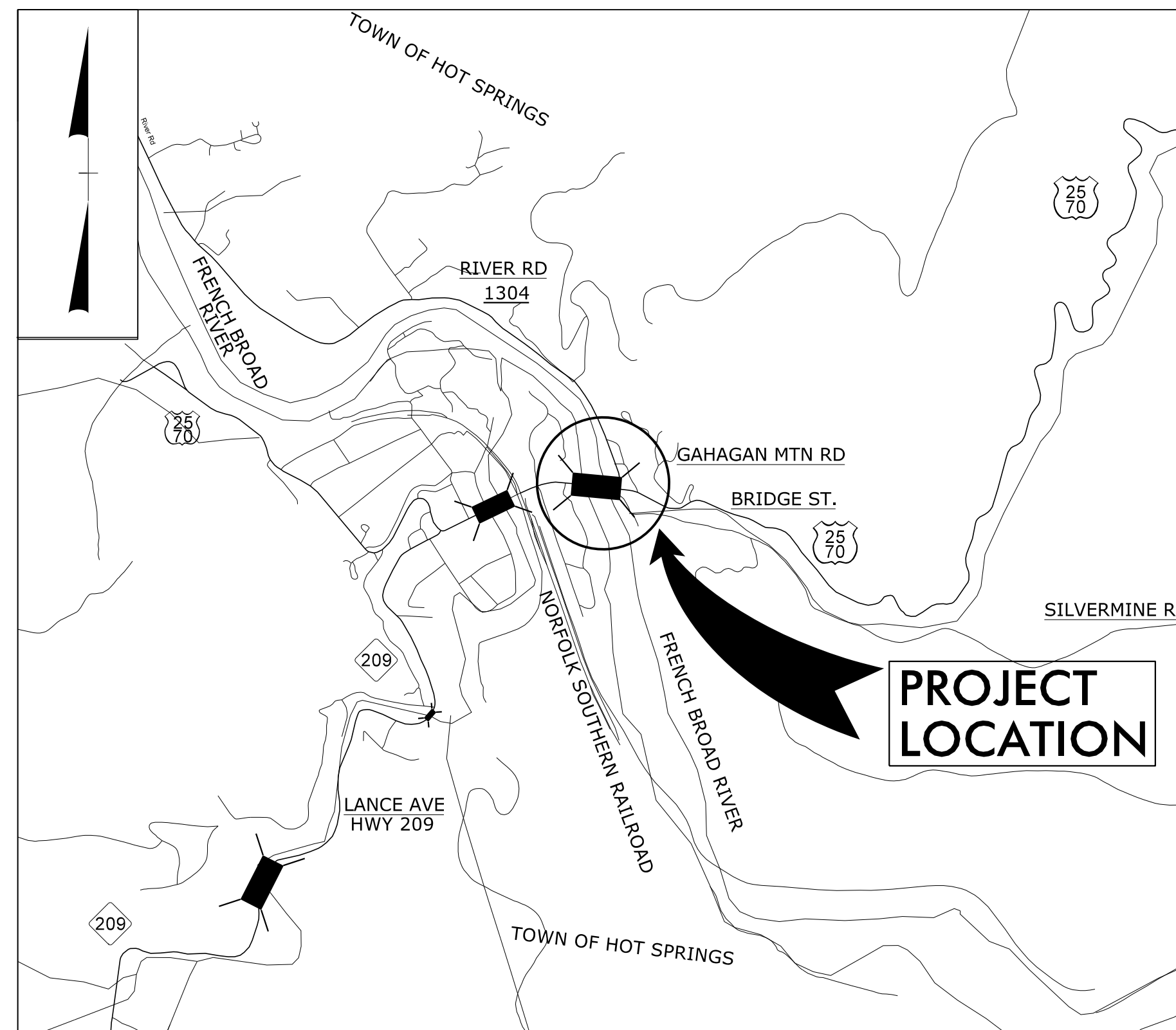
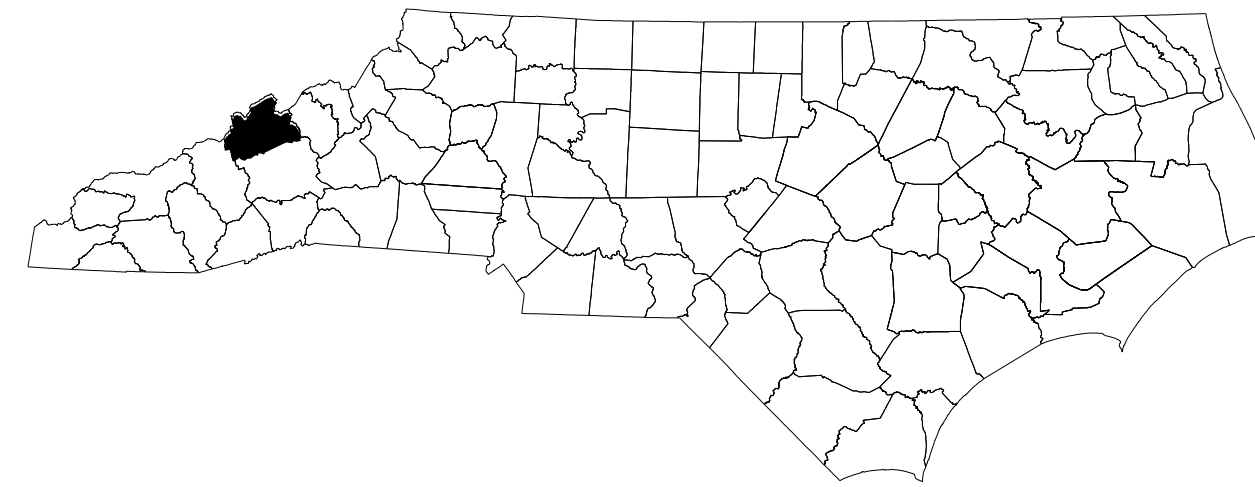


STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

TRANSPORTATION MANAGEMENT PLAN

MADISON COUNTY



LOCATION: REPLACE EXISTING BRIDGE NO. 67 OVER FRENCH BROAD RIVER ON US 25/US 70

TYPE OF WORK: GRADING, DRAINAGE, PAVING, RETAINING WALL, & STRUCTURE

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-1C	GENERAL NOTES (CONT'D)
TMP-2	TEMPORARY SHORING DATA
TMP-2A	PORTABLE CONCRETE BARRIER AT TEMPORARY SHORING LOCATIONS
TMP-3	TEMPORARY TRAFFIC CONTROL PHASING
TMP-4 - TMP-5	TEMPORARY TRAFFIC CONTROL PHASE I DETAILS
TMP-6 - TMP-7	TEMPORARY TRAFFIC CONTROL PHASE II DETAILS

SHEET NO.

TMP-1

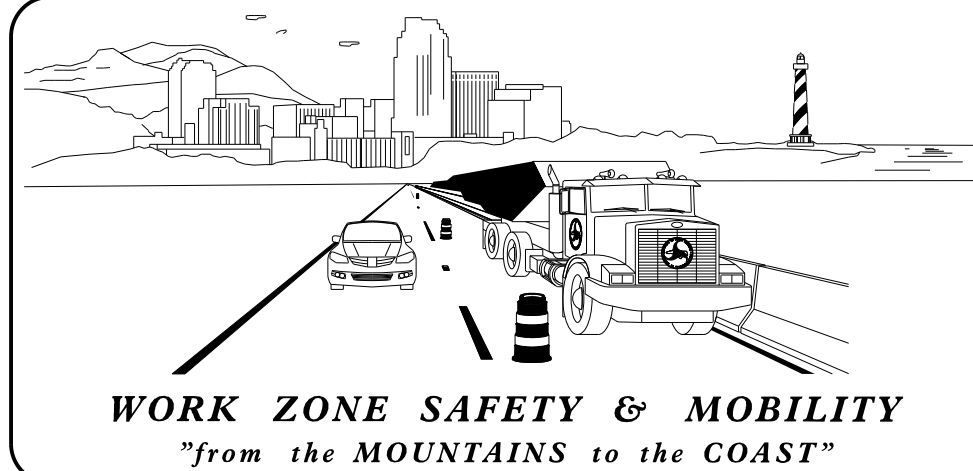
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TIP PROJECT:

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

APPROVED: Zachary T. Clark

DATE: 01/08/2025



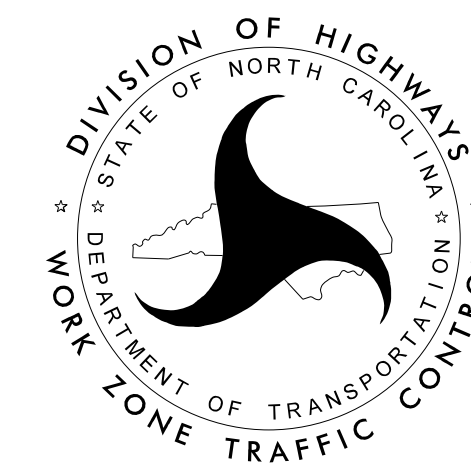
PLANS PREPARED BY:

D. REED DUDLEY, E.I.
DESIGN ENGINEER

NCDOT CONTACTS:

ZACHARY T. CLARK, P.E.
PROJECT ENGINEER

SHEENA N. GREEN
PROJECT DESIGN ENGINEER



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 ADVANCE WARNING SIGNS
1101.02	TEMPORARY LANE CLOSURES
1101.03	TEMPORARY ROAD CLOSURES
1101.04	TEMPORARY SHOULDER CLOSURES
1101.05	WORK ZONE VEHICLE ACCESSES
1101.06	WARNING SIGNS FOR BLASTING ZONES
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	FLAGGERS
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
1205.03	PAVEMENT MARKINGS - EXITS AND ENTRANCE RAMP
1205.04	PAVEMENT MARKINGS - INTERSECTIONS
1205.05	PAVEMENT MARKINGS - TURN LANES
1205.06	PAVEMENT MARKINGS - LANE DROPS
1205.07	PAVEMENT MARKINGS - PEDESTRIAN CROSSWALKS
1205.08	PAVEMENT MARKINGS - SYMBOLS AND WORD MESSAGES
1205.09	PAVEMENT MARKINGS - PAINTED ISLANDS
1205.10	PAVEMENT MARKINGS - SCHOOL AREAS
1205.11	PAVEMENT MARKINGS - RAILROAD CROSSINGS
1205.12	PAVEMENT MARKINGS - BRIDGES
1205.13	PAVEMENT MARKINGS - LANE REDUCTIONS
1205.14	PAVEMENT MARKINGS - ROUNDABOUTS
1205.15	PAVEMENT MARKINGS - SUPERSTREETS
1250.01	RAISED PAVEMENT MARKERS - INSTALLATION SPACING
1251.01	RAISED PAVEMENT MARKERS - (PERMANENT AND TEMPORARY)
1261.01	GUARDRAIL AND BARRIER DELINEATORS - INSTALLATION SPACING
1261.02	GUARDRAIL AND BARRIER DELINEATORS - TYPES AND MOUNTING
1262.01	GUARDRAIL END DELINEATION
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
- TEMPORARY PAVEMENT

SIGNALS

- EXISTING
- PROPOSED
- TEMPORARY

PAVEMENT MARKINGS

- EXISTING LINES
- TEMPORARY LINES

TRAFFIC CONTROL DEVICES

- BARRICADE (TYPE III)
- PORTABLE CONCRETE BARRIER
- PEDESTRIAN CHANNELIZATION DEVICE
- 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

PAINT

- P1 - WHITE EDGELINE (4")
- P5 - 2FT. - 6FT. / SP WHITE MINISKIP (4")
- P13- YELLOW DOUBLE CENTER (4")
- P61- WHITE STOPBAR (24")

COLD APPLIED PLASTIC

- C1 - WHITE EDGELINE (4")
- C13- YELLOW DOUBLE CENTER (4")

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APPROVED: DATE: 01/08/2025			<h3>ROADWAY STANDARD DRAWINGS & LEGEND</h3>
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED			

MANAGEMENT STRATEGIES

THE FOLLOWING LISTED WORK ZONE STRATEGIES ARE RECOMMENDED FOR INCLUSION WITHIN THIS TRANSPORTATION MANAGEMENT PLAN (TMP).

RECOMMENDED STRATEGIES:

- LANE SHIFTS OR CLOSURES
- SHOULDER CLOSURES
- ONE-LANE, TWO WAY OPERATION (FLAGGING)
- PEDESTRIAN / BICYCLE ACCOMMODATIONS

GENERAL NOTES

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

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

TIME RESTRICTIONS

(EXCEPT AS ALLOWED BY PHASE I, STEP 5)

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

ROAD NAME	DAY AND TIME RESTRICTIONS
US-25/US-70	MONDAY THRU FRIDAY 6:00 AM - 9:00 AM AND 4:00 PM - 6:00 PM

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

ROAD NAME
US-25/US-70

HOLIDAY

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

IF INDEPENDENCE DAY IS ON A FRIDAY, SATURDAY, SUNDAY OR MONDAY THEN BETWEEN THE HOURS OF 6:00 A.M. THE THURSDAY BEFORE INDEPENDENCE DAY AND 6:00 P.M. THE TUESDAY AFTER INDEPENDENCE DAY.

6. FOR LABOR DAY, BETWEEN THE HOURS OF 6:00 A.M. FRIDAY AND 6:00 P.M. TUESDAY.
7. FOR THANKSGIVING DAY, BETWEEN THE HOURS OF 6:00 A.M. TUESDAY TO 6:00 P.M. MONDAY.
8. FOR CHRISTMAS, BETWEEN THE HOURS OF 6:00 A.M. THE FRIDAY BEFORE THE WEEK OF CHRISTMAS DAY AND 6:00 P.M. THE FOLLOWING TUESDAY AFTER THE WEEK OF CHRISTMAS.

C) DO NOT STOP TRAFFIC AS FOLLOWS:

ROAD NAME	DAY AND TIME RESTRICTIONS	DURATION AND OPERATION	SIGNING
ALL ROADS	MONDAY THRU SUNDAY 6:00 AM - 9:00 AM 4:00 PM - 6:00 PM	30 MINUTES FOR GIRDER OPERATIONS & BRIDGE DEMOLITION	L) INSTALL ADVANCE WORK ZONE WARNING SIGNS WHEN WORK IS WITHIN 40 FT FROM THE EDGE OF TRAVEL LANE AND NO MORE THAN THREE (3) DAYS PRIOR TO THE BEGINNING OF CONSTRUCTION.

LANE AND SHOULDER CLOSURE REQUIREMENTS

- D) REMOVE LANE CLOSURE DEVICES FROM THE LANE WHEN WORK IS NOT BEING PERFORMED BEHIND THE LANE CLOSURE OR WHEN A LANE CLOSURE IS NO LONGER NEEDED OR AS DIRECTED BY THE ENGINEER.
- E) WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING WITHIN 15 FT OF AN OPEN TRAVEL LANE, CLOSE THE NEAREST OPEN SHOULDER USING ROADWAY STANDARD DRAWING NO. 1101.04 UNLESS THE WORK AREA IS PROTECTED BY BARRIER OR GUARDRAIL OR A LANE CLOSURE IS INSTALLED.
- F) WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING 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.

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

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

PAVEMENT EDGE DROP OFF REQUIREMENTS

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

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

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

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

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

TRAFFIC PATTERN ALTERATIONS

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

SIGNING

- L) INSTALL ADVANCE WORK ZONE WARNING SIGNS WHEN WORK IS WITHIN 40 FT FROM THE EDGE OF TRAVEL LANE AND NO MORE THAN THREE (3) DAYS PRIOR TO THE BEGINNING OF CONSTRUCTION.
- M) ENSURE ALL NECESSARY SIGNING IS IN PLACE PRIOR TO ALTERING ANY TRAFFIC PATTERN.
- N) INSTALL BLACK ON ORANGE "DIP" SIGNS (W8-2) AND/OR "BUMP" SIGNS (W8-1) 200 FT. IN ADVANCE OF THE UNEVEN AREA, OR AS DIRECTED BY THE ENGINEER.

TRAFFIC BARRIER

- O) 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.

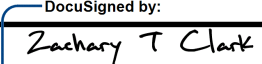
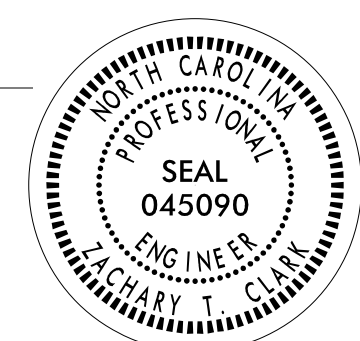

INSTALL TEMPORARY BARRIER WITH THE TRAFFIC FLOW BEGINNING WITH THE UPSTREAM SIDE OF TRAFFIC. REMOVE TEMPORARY BARRIER AGAINST THE TRAFFIC FLOW BEGINNING WITH THE DOWNSTREAM SIDE OF TRAFFIC.

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.

- P) 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

APPROVED:  DATE: 01/17/2025 SEAL			<h1 style="margin: 0;">TRANSPORTATION OPERATIONS PLAN</h1>
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED			

GENERAL NOTES (CONT'D)

TRAFFIC CONTROL DEVICES

- Q) 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.
- R) PLACE TYPE III BARRICADES, WITH "ROAD CLOSED" SIGN R11-2 ATTACHED, OF SUFFICIENT LENGTH TO CLOSE ENTIRE ROADWAY.
- S) PLACE ADDITIONAL SETS OF THREE CHANNELIZING DEVICES (DRUMS) PERPENDICULAR TO THE EDGE OF TRAVELWAY ON 500 FT CENTERS WHEN UNOPENED LANES ARE CLOSED TO TRAFFIC.

PAVEMENT MARKINGS AND MARKERS

- T) INSTALL TEMPORARY PAVEMENT MARKINGS AND TEMPORARY PAVEMENT MARKERS ON INTERIM LAYERS OF PAVEMENT AS FOLLOWS:

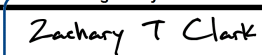

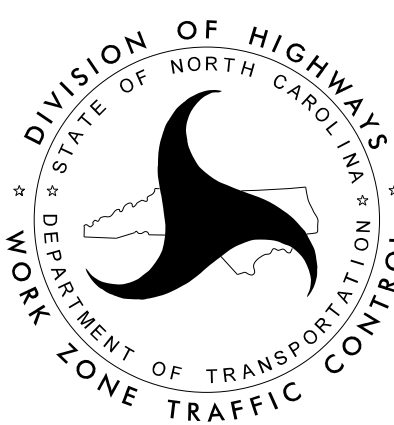
ROAD NAME	MARKING	MARKER
US 25 / US 70 (-L-)	PAINT	TEMPORARY RAISED
BRIDGE DECK	COLD APPLIED PLASTIC (TYPE IV REMOVABLE TAPE)	(YELLOW/YELLOW)

- U) PLACE ONE APPLICATION OF PAINT FOR TEMPORARY TRAFFIC PATTERNS. PLACE A SECOND APPLICATION OF PAINT SIX (6) MONTHS AFTER THE INITIAL APPLICATION AND EVERY SIX MONTHS AS DIRECTED BY THE ENGINEER.
- V) TIE PROPOSED PAVEMENT MARKING LINES TO EXISTING PAVEMENT MARKING LINES.
- W) INSTALL PAVEMENT MARKINGS AND PAVEMENT MARKERS ON THE FINAL SURFACE AS SHOWN ON FINAL PAVEMENT MARKING PLAN.
- X) REMOVE/REPLACE ANY CONFLICTING/DAMAGED PAVEMENT MARKINGS AND MARKERS BY THE END OF EACH DAY'S OPERATION.

MISCELLANEOUS

- Y) CONTRACTOR SHALL MAINTAIN SIDEWALK AND APPALACHIAN TRAIL ACCESS AT ALL TIMES AS STATED IN THE PHASING. CONTRACTOR SHALL BE RESPONSIBLE TO PROVIDE TEMPORARY SIDEWALKS (CONCRETE, ASPHALT, OR OTHER SUITABLE MATERIAL AS APPROVED BY THE ENGINEER) AT ALL LOCATIONS WHERE THE OPEN PEDESTRIAN TRAVELWAY HAS BEEN REMOVED FOR CONSTRUCTION OPERATIONS (UTILITIES, DRAINAGE, ETC.).
- Z) USING RSD 1101.02 SHEET 1 OF 19, INSTALL TEMPORARY LANE CLOSURE AND/OR FLAGGERS AT SB NC 208 APPROACHING US 25/US 70 AND CROSS STREET APPROACHES ALONG US 25/US 70 AS NECESSARY DURING BRIDGE GIRDER DELIVERY.

5/24/2024
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<p>APPROVED:  <small>DocuSigned by: Zachary T. Clark 9C4DA7E37F6D42D</small></p> <p>DATE: 01/08/2025</p>  <p>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</p>		<p align="center">TRANSPORTATION OPERATIONS PLAN</p>
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The GEU recommends the following notes on plans for the proposed shoring locations:

Shoring Location No. 1

FOR TEMPORARY SHORING AND POSITIVE PROTECTION FOR TEMPORARY SHORING, SEE PLANS AND TEMPORARY SHORING PROVISION.

TEMPORARY SHORING IS REQUIRED FOR THE BRIDGE END BENT CONSTRUCTION FROM STATION -L- STA. 17+21 +/-, 24' LT, TO STATION -L- STA. 17+76 +/-, 24' LT.

BEFORE BEGINNING TEMPORARY SHORING DESIGN OR CONSTRUCTION, SURVEY EXISTING GROUND ELEVATIONS IN THE VICINITY OF SHORING LOCATIONS TO DETERMINE ACTUAL SHORING HEIGHTS.

DESIGN TEMPORARY SHORING FROM STATION -L- STA. 17+21 +/-, 24' LT, TO STATION -L- STA. 17+76 +/-, 24' LT, FOR THE FOLLOWING ASSUMED SOIL PARAMETERS AND GROUNDWATER ELEVATION:

UNIT WEIGHT (γ)= 120 LB/CF
 FRICTION ANGLE (ϕ)= 30 DEGREES
 COHESION (c) = 0 LB/SF
 GROUNDWATER ELEVATION = 1315 FT

DO NOT USE A TEMPORARY WALL FOR TEMPORARY SHORING FROM STATION -L- STA. 17+21 +/-, 24' LT, TO STATION -L- STA. 17+76 +/-, 24' LT.

AT THE CONTRACTOR'S OPTION, USE STANDARD TEMPORARY SHORING FOR TEMPORARY SHORING FROM STATION -L- STA. 17+21 +/-, 24' LT, TO STATION -L- STA. 17+76 +/-, 24' LT. SEE STANDARD DETAIL NO. 1801.01 FOR STANDARD TEMPORARY SHORING.

Shoring Location No. 2

FOR TEMPORARY SHORING AND POSITIVE PROTECTION FOR TEMPORARY SHORING, SEE PLANS AND TEMPORARY SHORING PROVISION.

TEMPORARY SHORING IS REQUIRED FOR THE BRIDGE END BENT CONSTRUCTION FROM STATION -L- STA. 22+84 +/-, 24' LT, TO STATION -L- STA. 23+48 +/-, 23' LT.

BEFORE BEGINNING TEMPORARY SHORING DESIGN OR CONSTRUCTION, SURVEY EXISTING GROUND ELEVATIONS IN THE VICINITY OF SHORING LOCATIONS TO DETERMINE ACTUAL SHORING HEIGHTS.

DESIGN TEMPORARY SHORING FROM STATION -L- STA. 22+84 +/-, 24' LT, TO STATION -L- STA. 23+48 +/-, 23' LT, FOR THE FOLLOWING ASSUMED SOIL PARAMETERS AND GROUNDWATER ELEVATION:

UNIT WEIGHT (γ)= 120 LB/CF
 FRICTION ANGLE (ϕ)= 30 DEGREES
 COHESION (c) = 0 LB/SF
 GROUNDWATER ELEVATION = 1310 FT

DO NOT USE A TEMPORARY WALL FOR TEMPORARY SHORING FROM STATION -L- STA. 22+84 +/-, 24' LT, TO STATION -L- STA. 23+48 +/-, 23' LT.

AT THE CONTRACTOR'S OPTION, USE STANDARD TEMPORARY SHORING FOR TEMPORARY SHORING FROM STATION -L- STA. 22+84 +/-, 24' LT, TO STATION -L- STA. 23+48 +/-, 23' LT. SEE STANDARD DETAIL NO. 1801.01 FOR STANDARD TEMPORARY SHORING.

Shoring Location No. 3

FOR TEMPORARY SHORING AND POSITIVE PROTECTION FOR TEMPORARY SHORING, SEE PLANS AND TEMPORARY SHORING PROVISION.

TEMPORARY SHORING IS REQUIRED FOR THE BRIDGE END BENT CONSTRUCTION FROM STATION -L- STA. 23+48 +/-, 23' LT, TO STATION -L- STA. 27+23 +/-, 4' RT.

BEFORE BEGINNING TEMPORARY SHORING DESIGN OR CONSTRUCTION, SURVEY EXISTING GROUND ELEVATIONS IN THE VICINITY OF SHORING LOCATIONS TO DETERMINE ACTUAL SHORING HEIGHTS.



DESIGN TEMPORARY SHORING FROM STATION -L- STA. 23+48 +/-, 23' LT, TO STATION -L- STA. 27+23 +/-, 4' RT, FOR THE FOLLOWING ASSUMED SOIL PARAMETERS AND GROUNDWATER ELEVATION:

UNIT WEIGHT (γ)= 120 LB/CF
 FRICTION ANGLE (ϕ)= 30 DEGREES
 COHESION (c) = 0 LB/SF
 GROUNDWATER ELEVATION = 1310 FT

DO NOT USE A TEMPORARY WALL FOR TEMPORARY SHORING FROM STATION -L- STA. 23+48 +/-, 23' LT, TO STATION -L- STA. 27+23 +/-, 4' RT.

AT THE CONTRACTOR'S OPTION, USE STANDARD TEMPORARY SHORING FOR TEMPORARY SHORING FROM STATION -L- STA. 23+48 +/-, 23' LT, TO STATION -L- STA. 27+23 +/-, 4' RT. SEE STANDARD DETAIL NO. 1801.01 FOR STANDARD TEMPORARY SHORING.

* The temporary shoring notes shown on this sheet were provided through a sealed document from the Geotechnical Engineering Unit. The document was submitted to the WZTCU on March 21, 2023 and sealed by a Professional Engineer, Shiping Yang, Ph.D, P.E., license # (03136)*.

<p>APPROVED: <i>Zachary T. Clark</i> <small>SC42A7E13F6D42D</small></p> <p>DATE: 01/08/2025</p>  <p>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</p>		<p>TEMPORARY SHORING NOTES</p>
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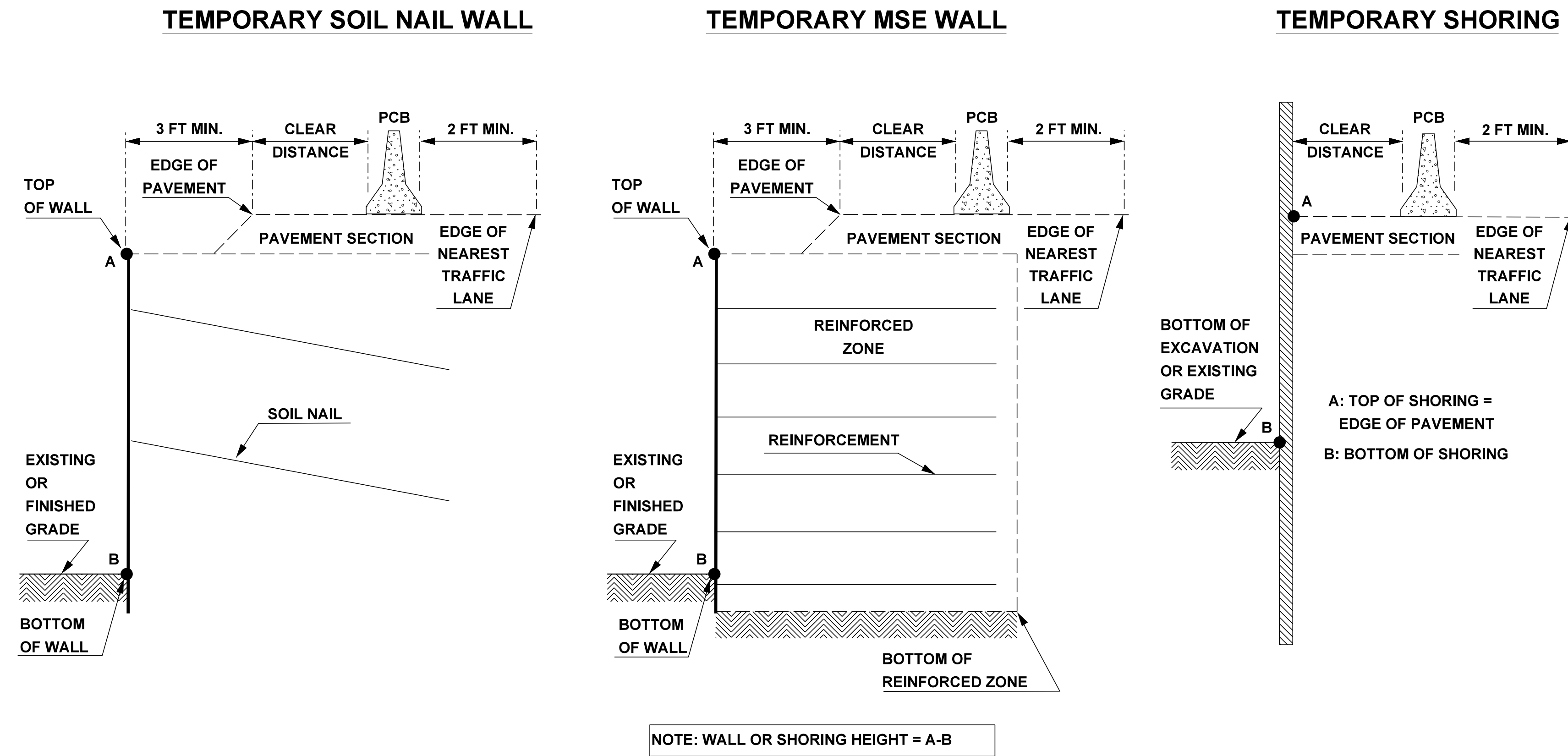


FIGURE A

NOTES

- REFER TO THE TRAFFIC CONTROL PLANS FOR TEMPORARY SHORING LOCATIONS AND NOTES.
- REFER TO THE "TEMPORARY SHORING" STANDARD PROVISION FOR INFORMATION ABOUT TEMPORARY SHORING AND PORTABLE CONCRETE BARRIER (PCB).
- PCB IS REQUIRED IF TEMPORARY SHORING/WALL IS LOCATED WITHIN THE CLEAR ZONE IN ACCORDANCE WITH THE AASHTO ROADSIDE DESIGN GUIDE. DO NOT PLACE BARRIER DIRECTLY ON ANY SURFACE OTHER THAN ASPHALT OR CONCRETE. (CONTACT NCDOT PAVEMENT MANAGEMENT FOR APPLICABLE PAVEMENT DESIGN).
- BASED ON THE CLEAR DISTANCE, OFFSET, DESIGN SPEED AND PAVEMENT TYPE, CHOOSE AN UNANCHORED OR ANCHORED PCB FROM THE TABLE SHOWN IN FIGURE B. CLEAR DISTANCE IS DEFINED AS SHOWN IN FIGURE A AND OFFSET IS DEFINED AS SHOWN IN FIGURE B.
- AT THE CONTRACTOR'S OPTION OR IF THE MINIMUM REQUIRED CLEAR DISTANCE IS NOT AVAILABLE, SET PCB NEXT TO AND UP AGAINST THE TRAFFIC SIDE OF THE TEMPORARY SHORING/WALLS EXCEPT FOR BARRIER ABOVE TEMPORARY WALLS. PCB WITH THE MINIMUM REQUIRED CLEAR DISTANCE IS REQUIRED ABOVE TEMPORARY WALLS.
- USE NCDOT PORTABLE CONCRETE BARRIER (PCB) IN ACCORDANCE WITH ROADWAY STANDARD DRAWING NO. 1170.01 AND SECTION 1170 OF THE STANDARD SPECIFICATIONS.
- SET PCB WITH A MINIMUM HORIZONTAL DISTANCE OF 2 FT BETWEEN THE FRONT FACE OF THE BARRIER AND THE EDGE OF THE NEAREST TRAFFIC LANE AS SHOWN IN FIGURE A UNLESS OTHERWISE SHOWN IN THE PLANS OR APPROVED BY THE ENGINEER.
- FOR PCB ABOVE AND BEHIND TEMPORARY WALLS, PROVIDE A MINIMUM DISTANCE OF 3 FT BETWEEN THE EDGE OF PAVEMENT AND THE WALL FACE AS SHOWN IN FIGURE A. IF THIS MINIMUM REQUIRED DISTANCE IS NOT AVAILABLE, CONTACT THE ENGINEER.
- TABLE SHOWN IN FIGURE B IS BASED ON NCDOT RESEARCH PROJECT NO. 2005-010 WITH VEHICLE TYPE USED FOR NCHRP 350 CRASH TESTS.

MINIMUM REQUIRED CLEAR DISTANCE, inches

Barrier Type	Pavement Type	Offset * ft	Design Speed, mph					
			<30	31-40	41-50	51-60	61-70	71-80
Unanchored PCB	Asphalt	<8	24	26	29	32	36	40
		8-14	26	28	31	35	38	42
		14-20	27	29	34	36	39	43
		20-26	28	31	35	38	40	44
		26-32	29	32	36	39	42	45
		32-38	30	34	38	41	43	46
		38-44	31	34	41	43	45	48
	Concrete	44-50	31	35	41	43	46	49
		50-56	32	36	42	44	47	50
		>56	32	36	42	45	47	51
		<8	17	18	21	22	25	26
		8-14	19	20	23	25	26	29
		14-20	22	22	24	26	28	31
		20-26	23	24	26	27	30	34
Anchored PCB	Asphalt	26-32	24	25	27	28	32	35
		32-38	24	26	27	30	33	36
		38-44	25	26	28	30	34	37
		44-50	26	26	28	32	35	37
		50-56	26	26	28	32	35	38
		>56	26	27	29	32	36	38
		Anchored PCB	Concrete (including bridge approach slabs)	All Offsets	24 for All Design Speeds			
All Offsets	12 for All Design Speeds							

* See Figure Below

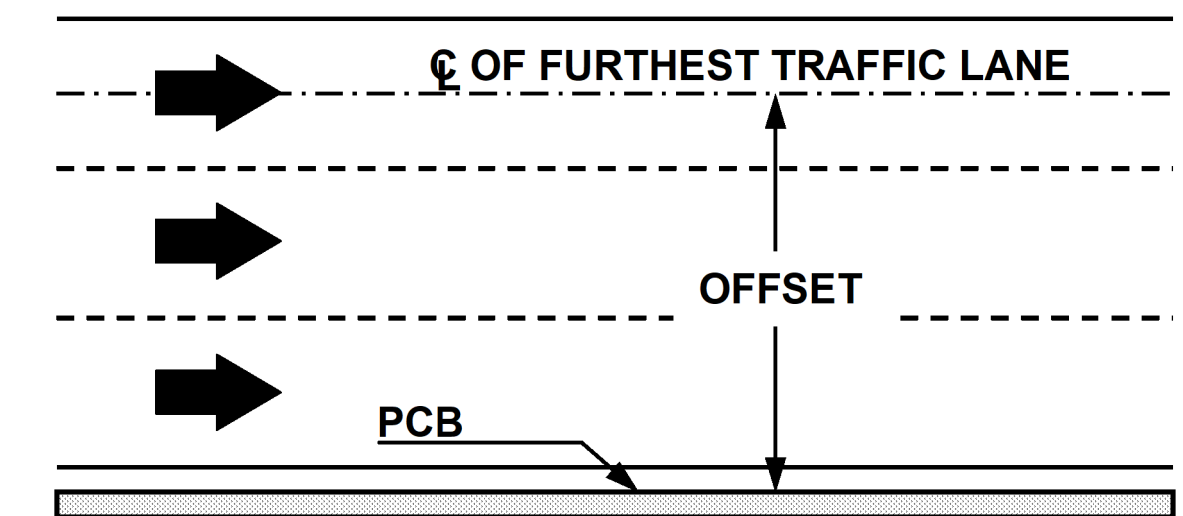


FIGURE B

APPROVED:  DATE: 01/08/2025 		PORTABLE CONCRETE BARRIER AT TEMPORARY SHORING LOCATIONS
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED		

TEMPORARY TRAFFIC CONTROL PHASING

NOTE: BEFORE BEGINNING CONSTRUCTION THE CONTRACTOR SHALL PLACE ADVANCE WORK ZONE WARNING SIGNS ALONG -L- LINE (US 25/70), AND -Y- LINE. (SEE RSD 1101.01, SHEET 3 OF 3)

PHASE I

STEP 1:

- AWAY FROM TRAFFIC AND USING RSD 1101.02 SHEET 1 OF 19 AS NECESSARY, PERFORM THE FOLLOWING:
 - * CONSTRUCT NEW PEDESTRIAN STAIRS FROM SILVERMINE RD TO A POINT BEHIND EXISTING GUARDRAIL THAT PEDESTRIANS CAN UTILIZE THEM AS SHOWN ON TMP-5.
 - * CUT AND ANCHOR EXISTING GUARDRAIL AS SHOWN ON TMP-5 TO ALLOW ACCESS TO NEW PEDESTRIAN STAIRS VIA DETOUR.
- UPON COMPLETION OF PEDESTRIAN STAIRS TO A POINT THAT PEDESTRIANS CAN UTILIZE THEM, PERFORM THE FOLLOWING:
 - * MAINTAIN PEDESTRIAN TRAFFIC CROSSING THE BRIDGE.
 - * USING PEDESTRIAN BARRICADES, REDIRECT PEDESTRIANS TO NEW PATH AND CLOSE EXISTING PEDESTRIAN PATH FROM SILVERMINE RD UP TO US-25 (BRIDGE ST).

STEP 2:

- AWAY FROM TRAFFIC AND USING RSD 1101.02 SHEET 1 OF 19 AS NECESSARY, INSTALL SIGNAGE AT INTERSECTION OF ANDREWS AVE AND US 25.
- AWAY FROM TRAFFIC AND USING RSD 1101.02 SHEET 1 OF 19 AS NECESSARY, WIDEN VARIOUS CURVES ALONG US 25/US 70 AS NECESSARY IN ADVANCE OF BRIDGE GIRDER DELIVERY.

STEP 3:

- USING RSD 1101.02 (SHEET 1 OF 19) AS NECESSARY, AND SHEETS TMP-4 & TMP-5, PERFORM THE FOLLOWING:
 - * INSTALL TEMPORARY PAVEMENT, PCB AND CRASH CUSHION FROM -L- STA. 16+40 +/- TO -L- STA. 17+63 +/- . REFER TO TEMPORARY ANCHOR UNIT TYPE W-BEAM DRAWING ON ROADWAY SHEET 2C-6 FOR CONNECTION OF PCB TO EXISTING BRIDGE RAIL.
 - * CLOSE THE GAP/OPENING IN THE EXISTING GUARDRAIL LEFT OF PROPOSED -L- AT -L- STA. 23+50.

STEP 4:

- BEHIND PCB AND EXISTING GUARDRAIL, INSTALL TEMPORARY SHORING AS FOLLOWS:
 - FROM -L- STA. 17+21 +/- TO -L- STA. 17+76 +/- AND
 - FROM -L- STA. 22+84 +/- TO -L- STA. 23+48 +/- .
- USING RSD 1101.02, SHEET 1 OF 19, AND USING RSD 1101.03, SHEET 8 OF 9 AS NECESSARY, BEGIN CONSTRUCTION OF PROPOSED -L- (INCLUDING BRIDGE APPROACH/END BENT #1 AT -L- STA. 17+50 +/-, DRAINAGE, TEMPORARY INLET ALONG WITH PIPE CONNECTING TO DRAINAGE STRUCTURE 0401, TEMPORARY SLOPE DRAIN AND GUARDRAIL, LEFT SIDE OF -L-), UP TO BUT NOT INCLUDING FINAL LAYER OF SURFACE COURSE FROM -L- STA. 15+00 +/- TO -L- STA. 25+25 +/- .
- BEGIN CONSTRUCTION OF -L- UP TO EDGE AND ELEVATION OF EXISTING PAVEMENT AS FOLLOWS:
 - FROM -L- STA. 12+69 +/- TO -L- STA. 15+00 +/-, AND
 - FROM -L- STA. 25+25 +/- TO -L- STA. 28+75 +/- .
- CONSTRUCT DRIVEWAYS (1, 2 & 3) RIGHT SIDE OF -L- AND DRIVEWAY 4 LEFT SIDE OF -L- .
(NOTE: MAINTAIN ACCESS TO HOT SPRINGS CAMPGROUND THRU DRIVEWAY 1).

STEP 5:

- USING RSD 1101.02 (SHEETS 1 & 17 OF 19) AS NECESSARY, AND SHEET TMP-5, PERFORM THE FOLLOWING IN A CONTINUOUS MANNER:
- INSTALL TEMPORARY PORTABLE SIGNALS, TEMPORARY STOP BARS / PAINT, RELATED SIGNINGS, AND PLACE TRAFFIC IN 1L/2W TEMPORARY TRAFFIC PATTERN.
 - INSTALL PCB AND CRASH CUSHION FROM -L- STA. 22+90 +/- TO -L- STA. 27+37 +/- .
 - BEHIND PCB PERFORM THE FOLLOWING TO EXISTING GUARDRAIL LEFT OF PROPOSED -L- :
 - * REMOVE EXISTING GUARDRAIL FROM -L- STA. 23+48 TO -L- STA. 28+75.
 - BEHIND PCB INSTALL TEMPORARY SHORING # 3, FOR RETAINING WALL CONSTRUCTION, FROM -L- STA. 23+48 +/- TO -L- STA. 27+23 +/- .
 - CONSTRUCT PROPOSED RETAINING WALL LOCATED RIGHT SIDE OF -L- .
 - COMPLETE CONSTRUCTION OF PROPOSED -L- (INCLUDING BRIDGE, APPROACHES, DRAINAGE, AND GUARDRAIL), UP TO BUT NOT INCLUDING FINAL LAYER OF SURFACE COURSE FROM -L- STA. 15+00 +/- TO -L- STA. 25+25 +/- .

PHASE II

USING RSD 1101.02 (SHEET 1 OF 19), AND TMP-6 & TMP-7, PERFORM THE FOLLOWING:

STEP 1:

- REMOVE TEMPORARY SHORING, PCB, AND TEMPORARY PORTABLE SIGNALS INSTALLED IN PHASE I.
- WHILE MAINTAINING PEDESTRIAN TRAFFIC THROUGH BREAK IN GUARDRAIL ON TEMPORARY PATH FROM PHASE I AND USING TMP-7, PERFORM THE FOLLOWING:
 - * REMOVE EXISTING GUARDRAIL ON LEFT SIDE OF -L- .
 - * INSTALL PEDESTRIAN CHANNELIZATION DEVICES FROM WEST END OF EXISTING US-52 (BRIDGE ST) SIDEWALK TO -Y- STA. 11+80 +/- .
 - * COMPLETE CONSTRUCTION OF NEW PEDESTRIAN STAIRS.

USING PEDESTRIAN CHANNELIZATION DEVICES, MAINTAIN EXISTING SIDEWALK FROM WEST END OF EXISTING US-25 (BRIDGE ST) SIDEWALK TO THE STAIRS LEADING TO SILVERMINE RD UNTIL PROPOSED SIDEWALK IS COMPLETED AND OPENED.

- FILL TEMPORARY PIPE CONNECTED TO DRAINAGE STRUCTURE 0401 WITH FLOWABLE FILL AND ABANDON/REMOVE TEMPORARY INLET INSTALLED IN PHASE I.
- PLACE TEMPORARY PAVEMENT MARKINGS AND MARKERS, AND SHIFT TRAFFIC TO A TEMPORARY 2L-2W TRAFFIC PATTERN ON CONSTRUCTED ROADWAY AS SHOWN ON SHEETS TMP-6 & TMP-7.
- COMPLETE FINAL DRAINAGE, INCLUDING DRAINAGE STRUCTURES 0408 AND 0412, AND REMOVE TEMPORARY SLOPE DRAIN.
- COMPLETE CONSTRUCTION OF PROPOSED SIDEWALK.
- REMOVE PEDESTRIAN CHANNELIZATION DEVICES AND OPEN PROPOSED SIDEWALK TO PEDESTRIANS.

STEP 2:

USING RSD 1101.02 (SHEET 1 OF 19), AND TMP-6 & TMP-7, PERFORM THE FOLLOWING:

- UNDER TRAFFIC, WEDGE UP TO BUT NOT INCLUDING FINAL LAYER OF SURFACE COURSE AS FOLLOWS:
 - * -L- FROM -L- STA. 11+75 +/- TO -L- STA. 15+00 +/- AND FROM -L- STA. 25+25 +/- TO -L- STA. 28+75 +/-
 - * -Y- FROM -Y- STA. 10+15 +/- TO -Y- STA. 11+80 +/- .
- REMOVE EXISTING BRIDGE AND ROADWAY AS SHOWN IN ROADWAY PLANS.
- INSTALL PROPOSED GUARDRAIL ON LEFT SIDE OF -L- .
- PLACE FINAL LAYER OF SURFACE COURSE AND INSTALL FINAL PAVEMENT MARKINGS AND MARKERS THROUGHOUT THE PROJECT LIMITS. SEE FINAL PAVEMENT MARKING PLANS.

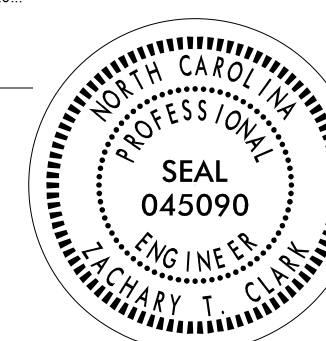
STEP 3:

- USING RSD 1101.02 SHEET 1 OF 19 AS NECESSARY, REMOVE ALL REMAINING TEMPORARY TRAFFIC CONTROL DEVICES AND OPEN PROJECT TO FINAL TRAFFIC PATTERN.

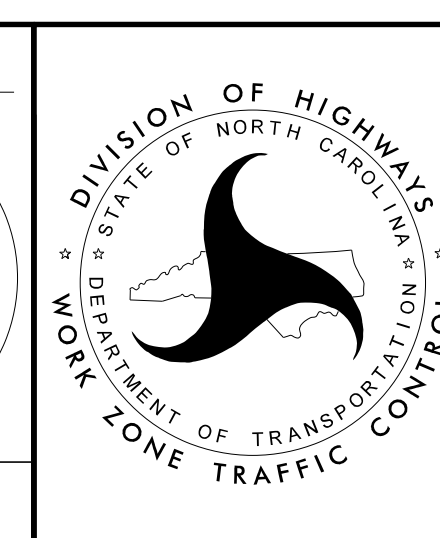
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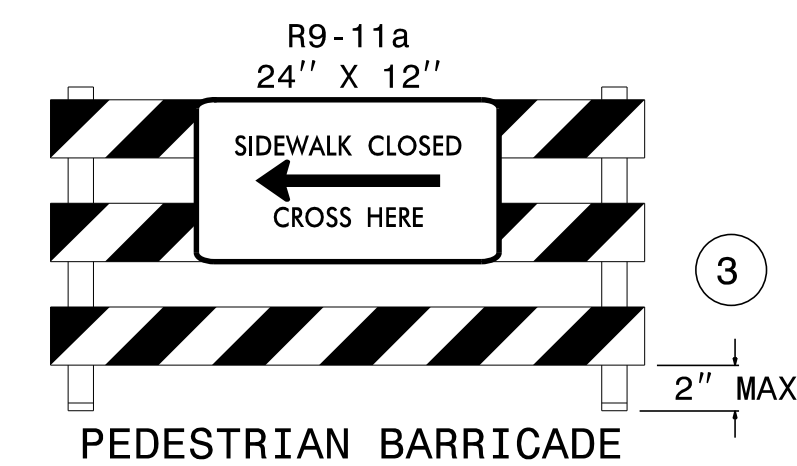
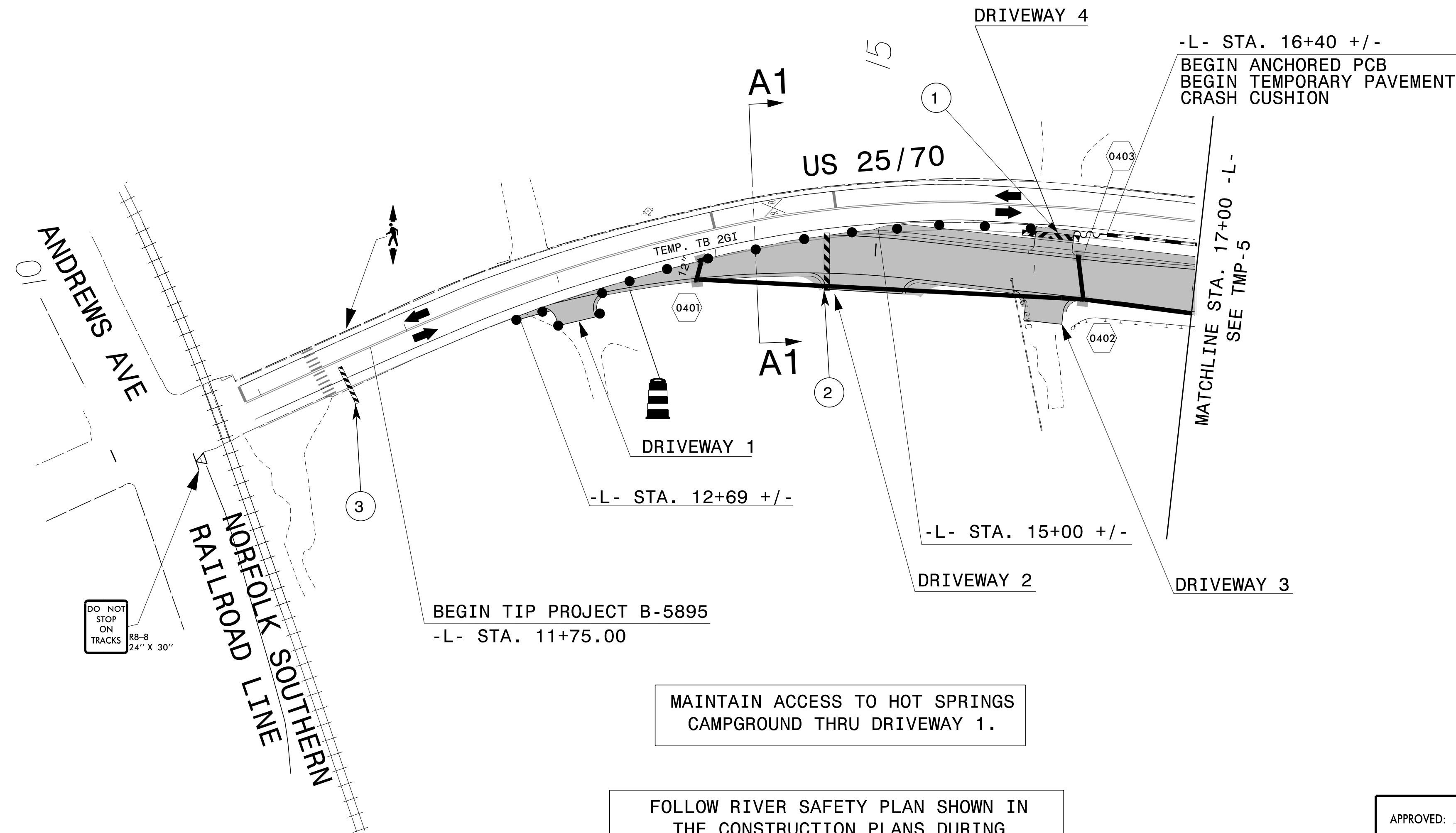
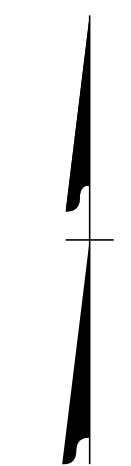
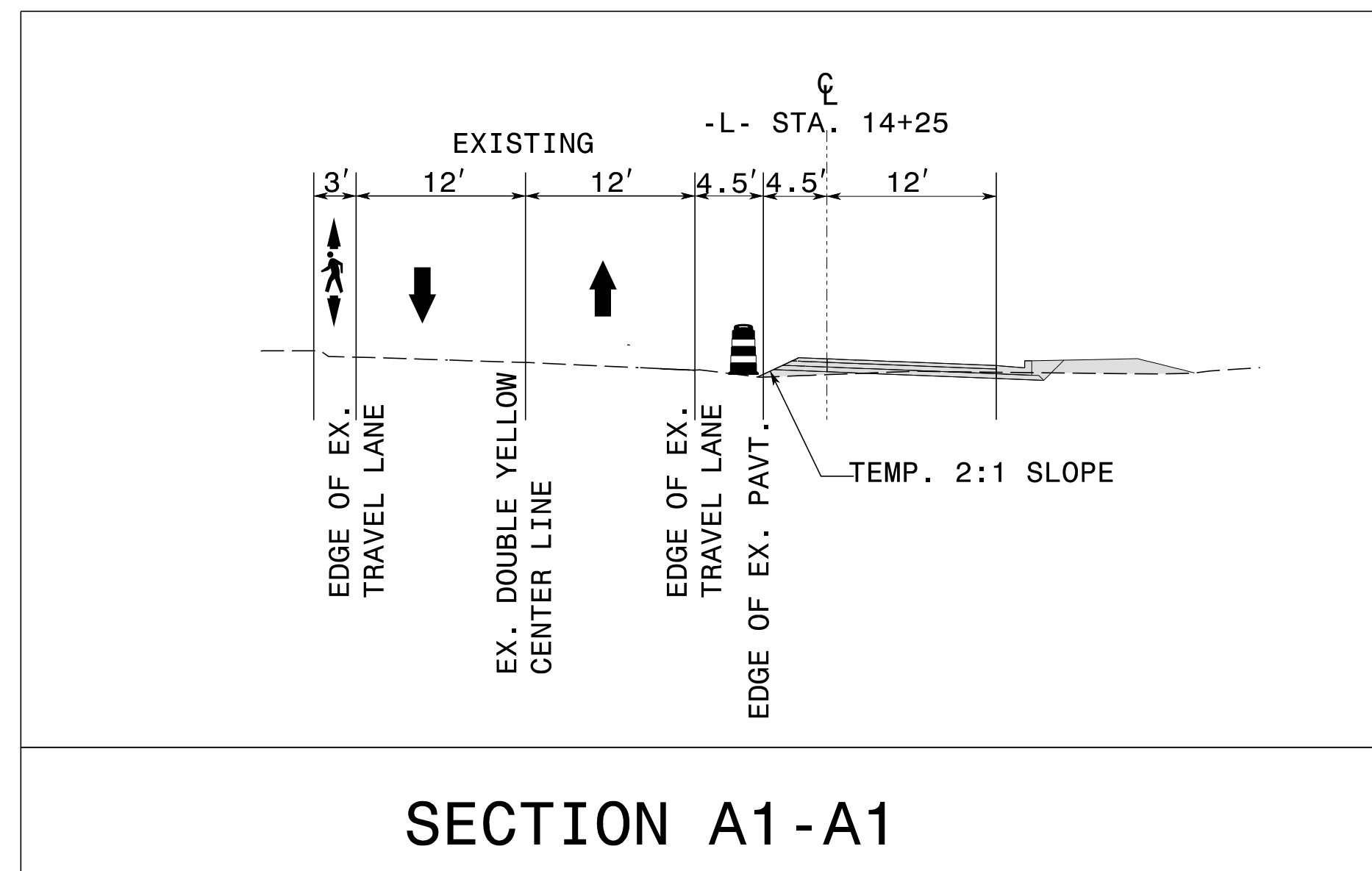
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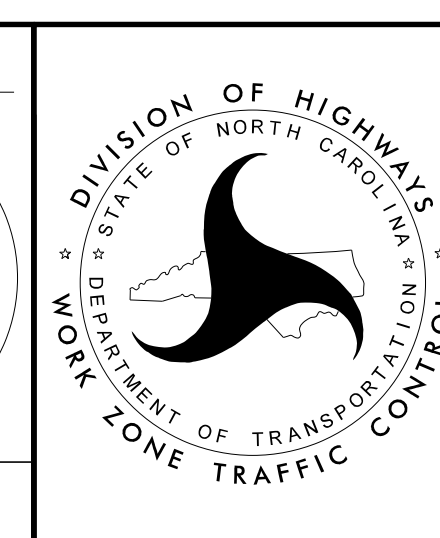
TEMPORARY TRAFFIC CONTROL PHASING



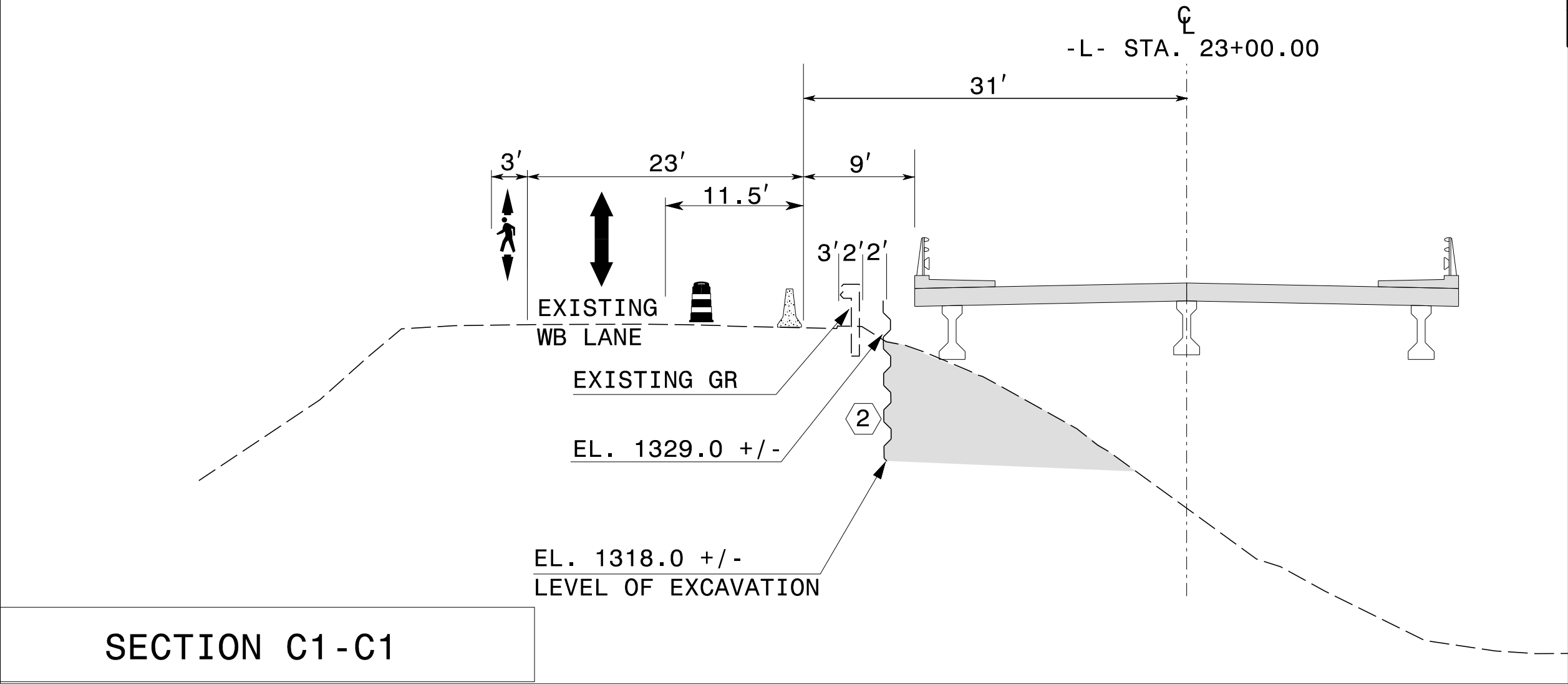
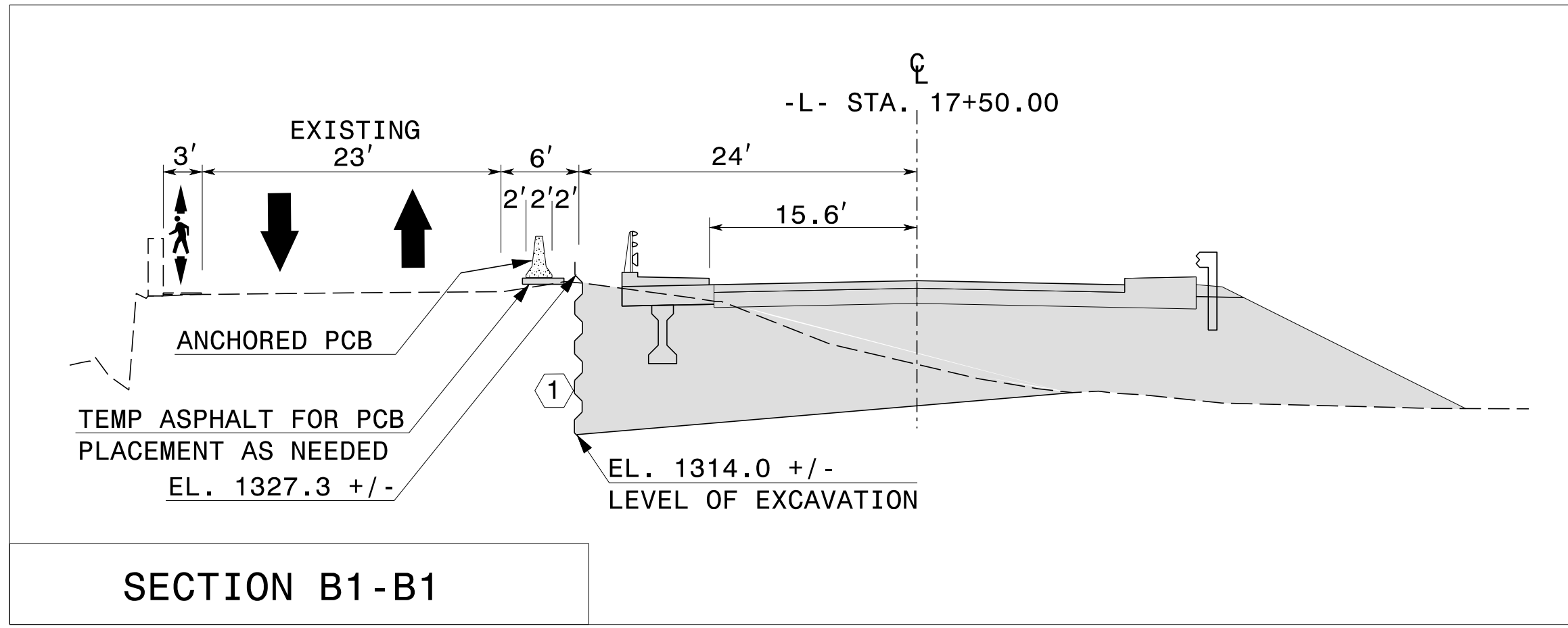
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 DATE: 02/03/2025

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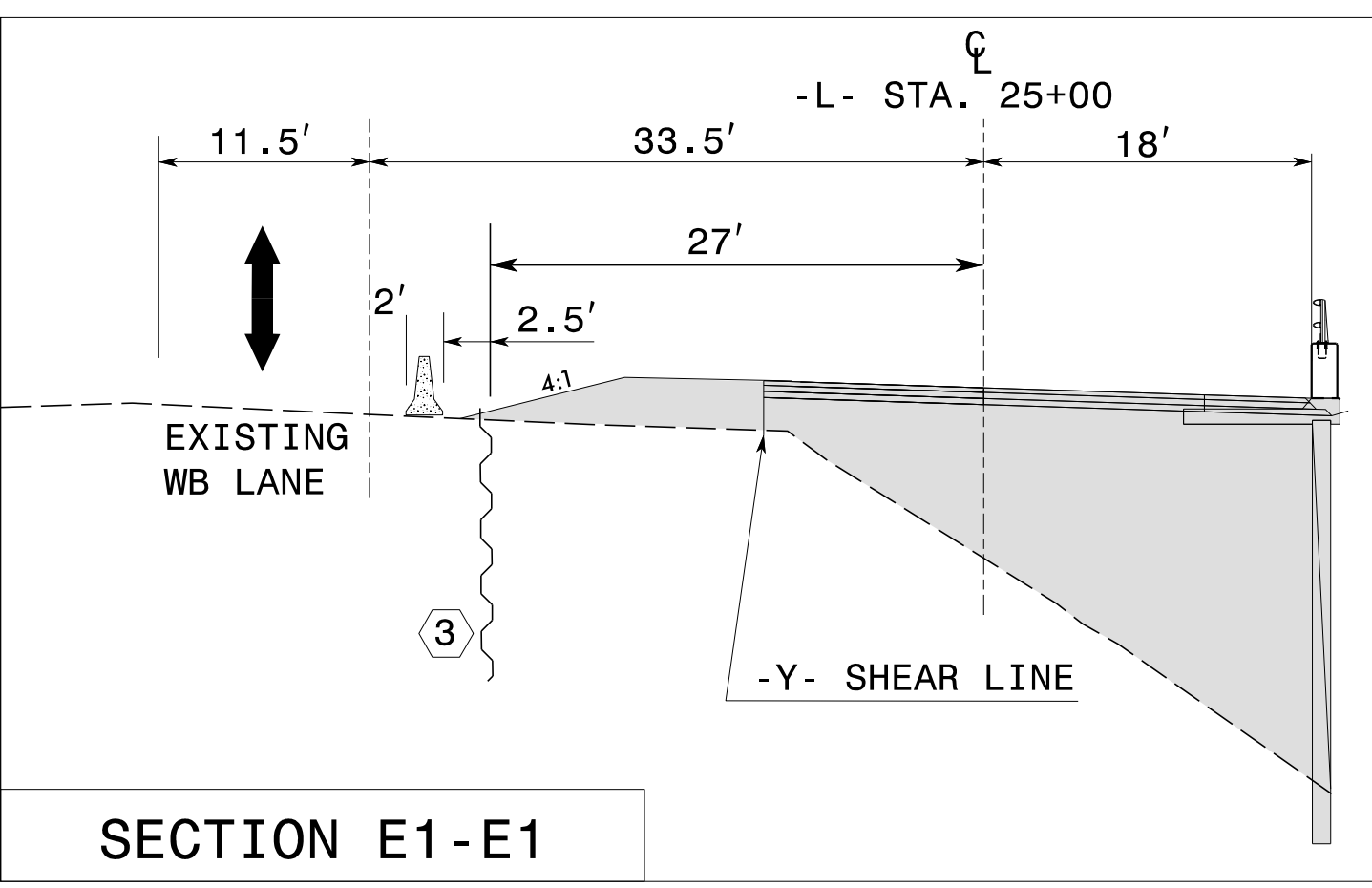
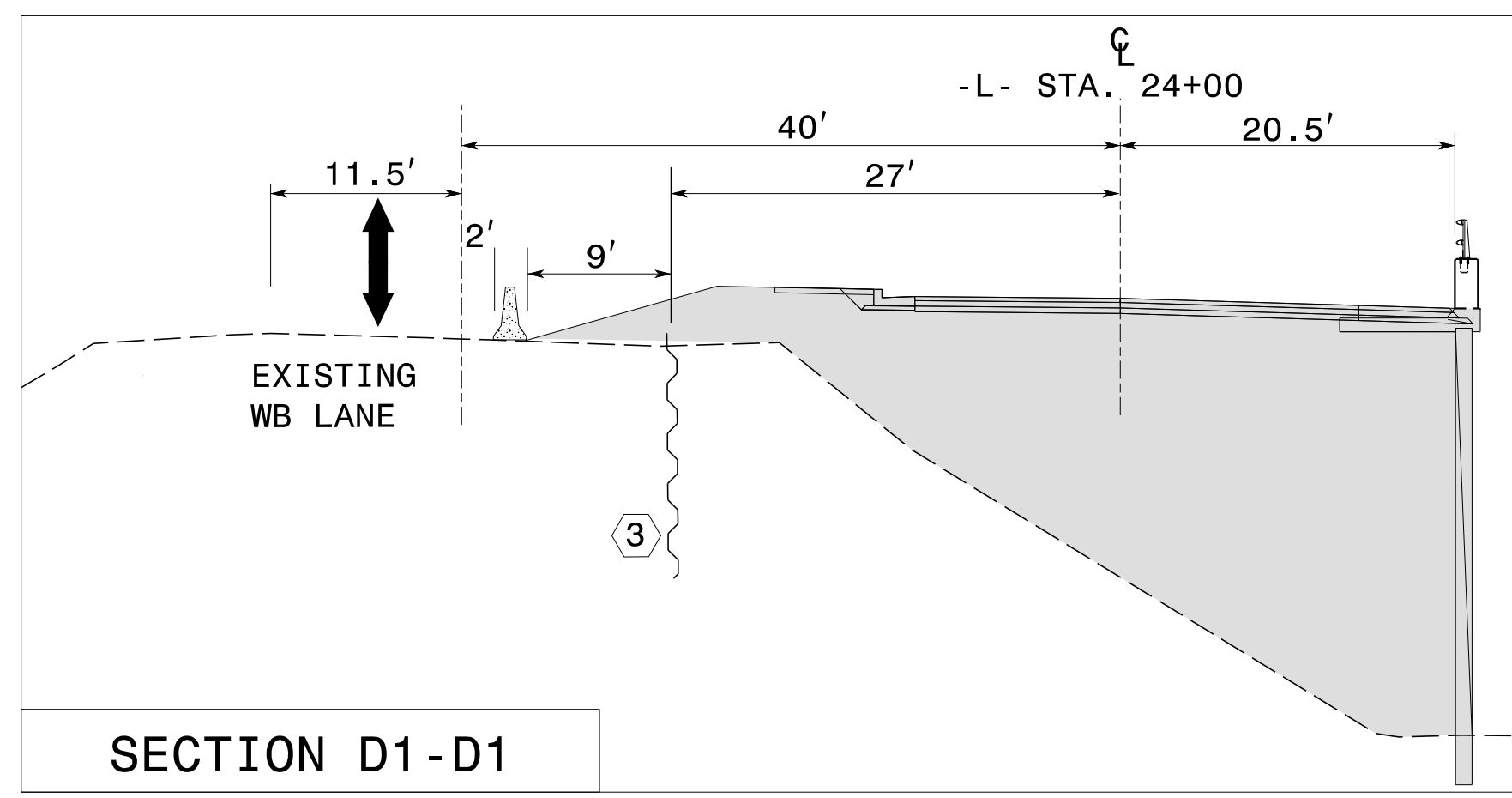
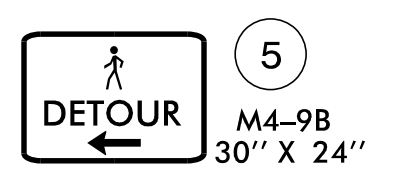
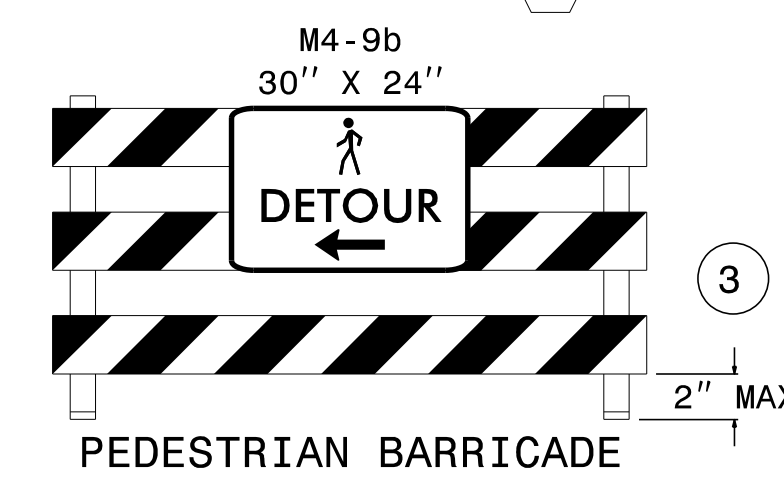
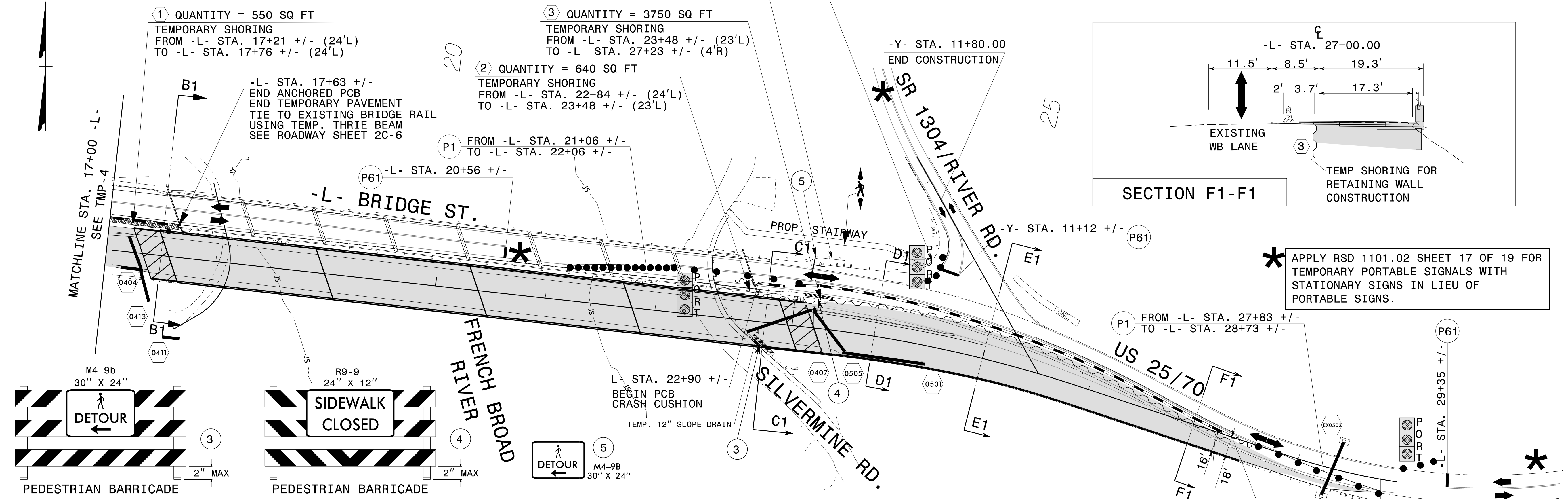


PHASE I DETAILS



PROVIDE TEMPORARY ACCESS TO THESE STAIRS THROUGH EXISTING GUARDRAIL UNTIL THE PROPOSED GUARDRAIL IS INSTALLED. INSTALL A GREU TL-2 ADJACENT TO TRAFFIC AND A TERMINAL SECTION BEHIND.

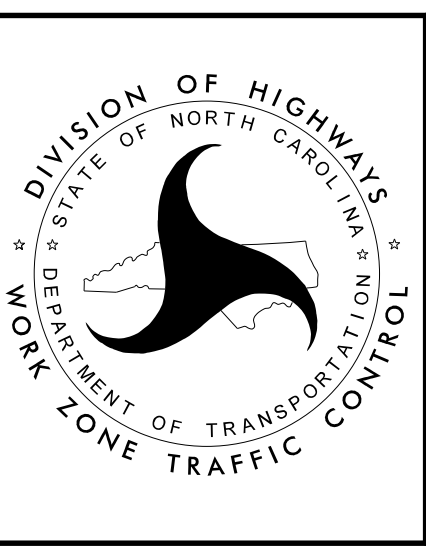
CONTRACTOR TO CONSTRUCT STAIRS TO A POINT BEHIND EXISTING GUARDRAIL WHERE PEDESTRIANS WILL HAVE DETOUR ACCESS.



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DATE: 02/03/2025

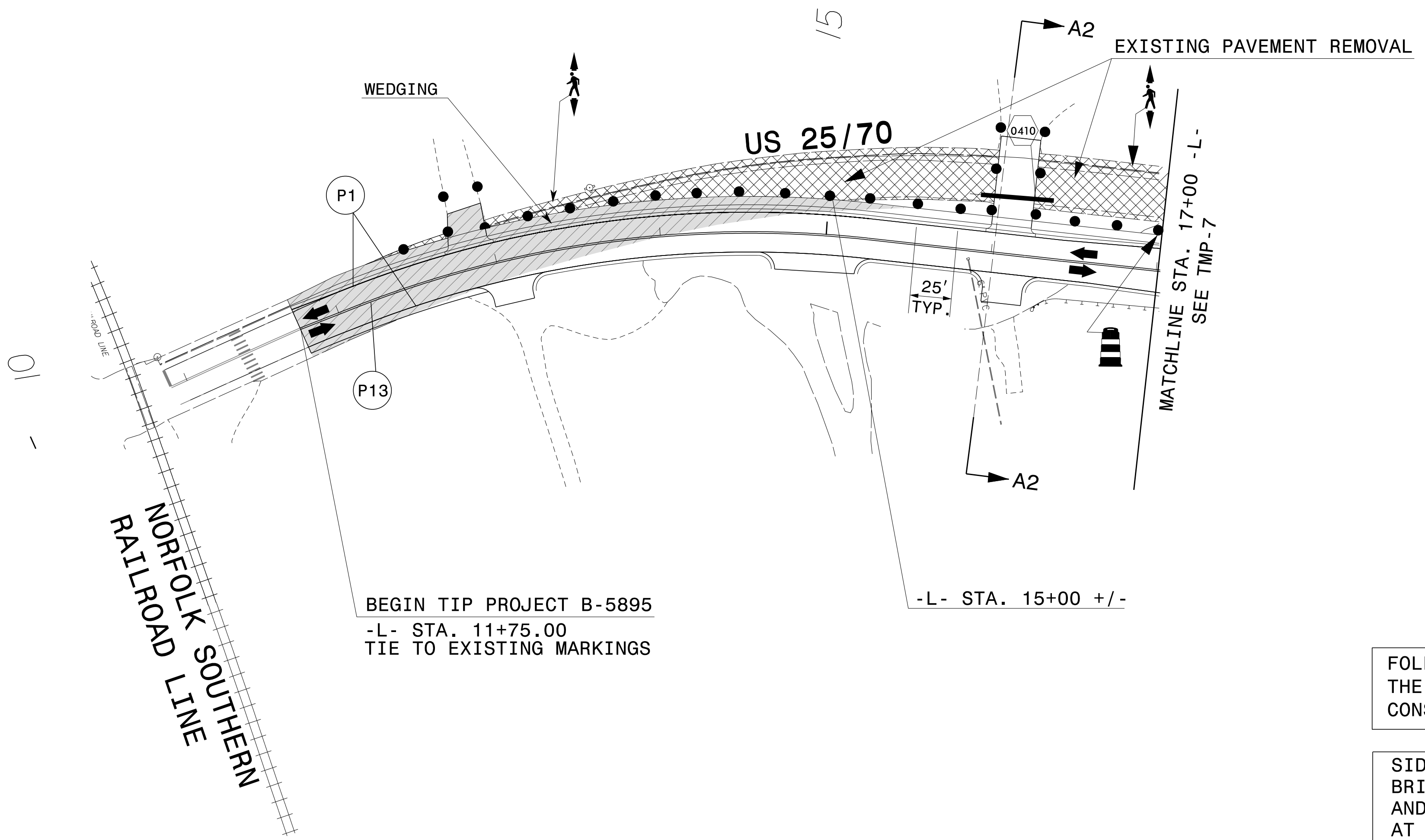
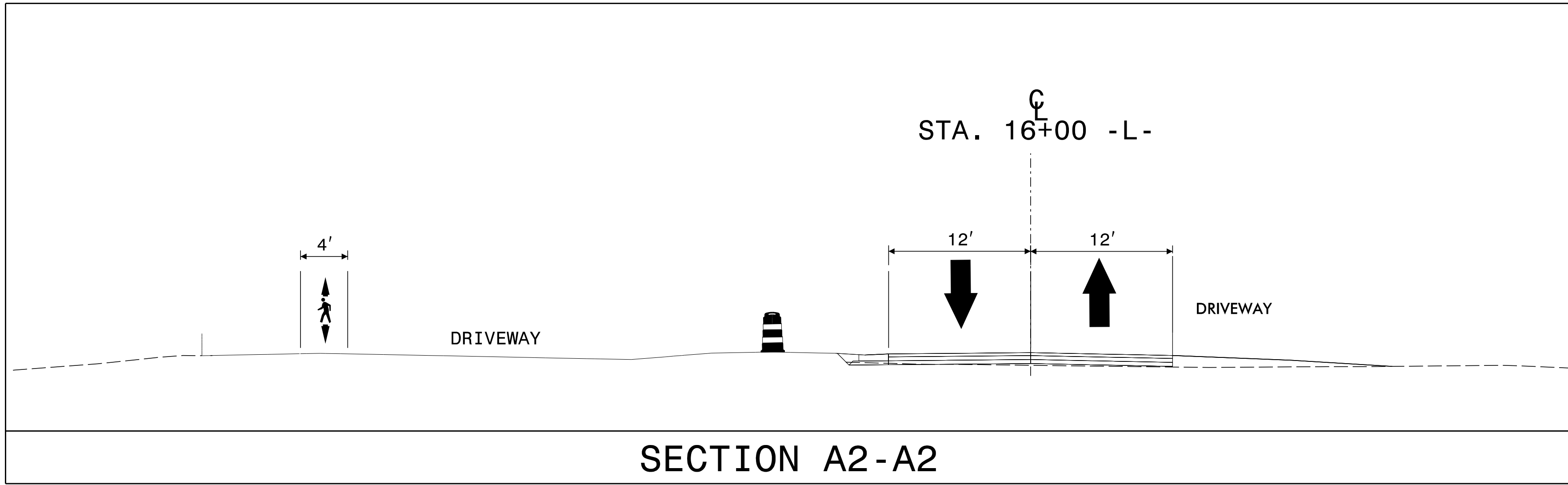
SEAL 045090
ZACHARY T. CLARK
ENGINEER

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PHASE I DETAILS

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BEGIN TIP PROJECT B-5895
 -L- STA. 11+75.00
 TIE TO EXISTING MARKINGS

FOLLOW RIVER SAFETY PLAN SHOWN IN THE CONSTRUCTION PLANS DURING CONSTRUCTION OF THE PROPOSED STRUCTURE.

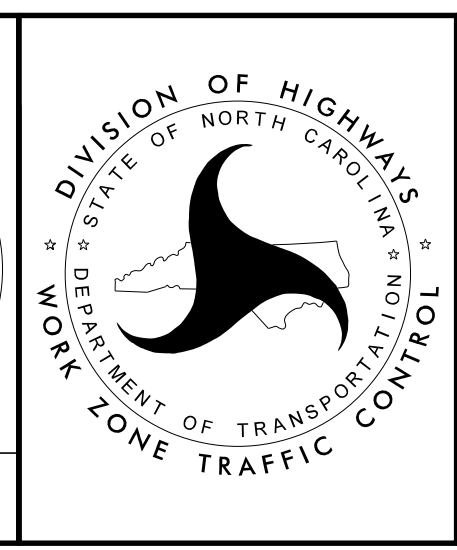
SIDEWALK WILL REMAIN ON THE EXISTING BRIDGE UNTIL THE WEDGING OF -Y- LINE AND THE REMAINDER OF PROPOSED SIDEWALK AT THAT AREA IS COMPLETED. (PHASE II, STEP-1)

10/10/2024
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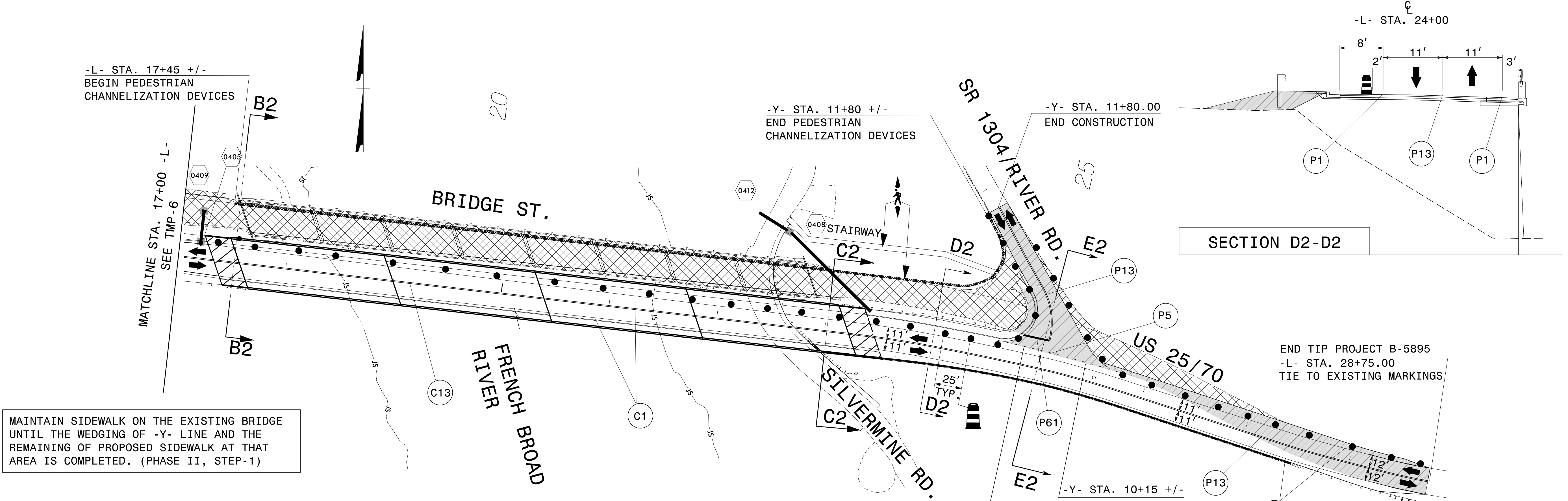
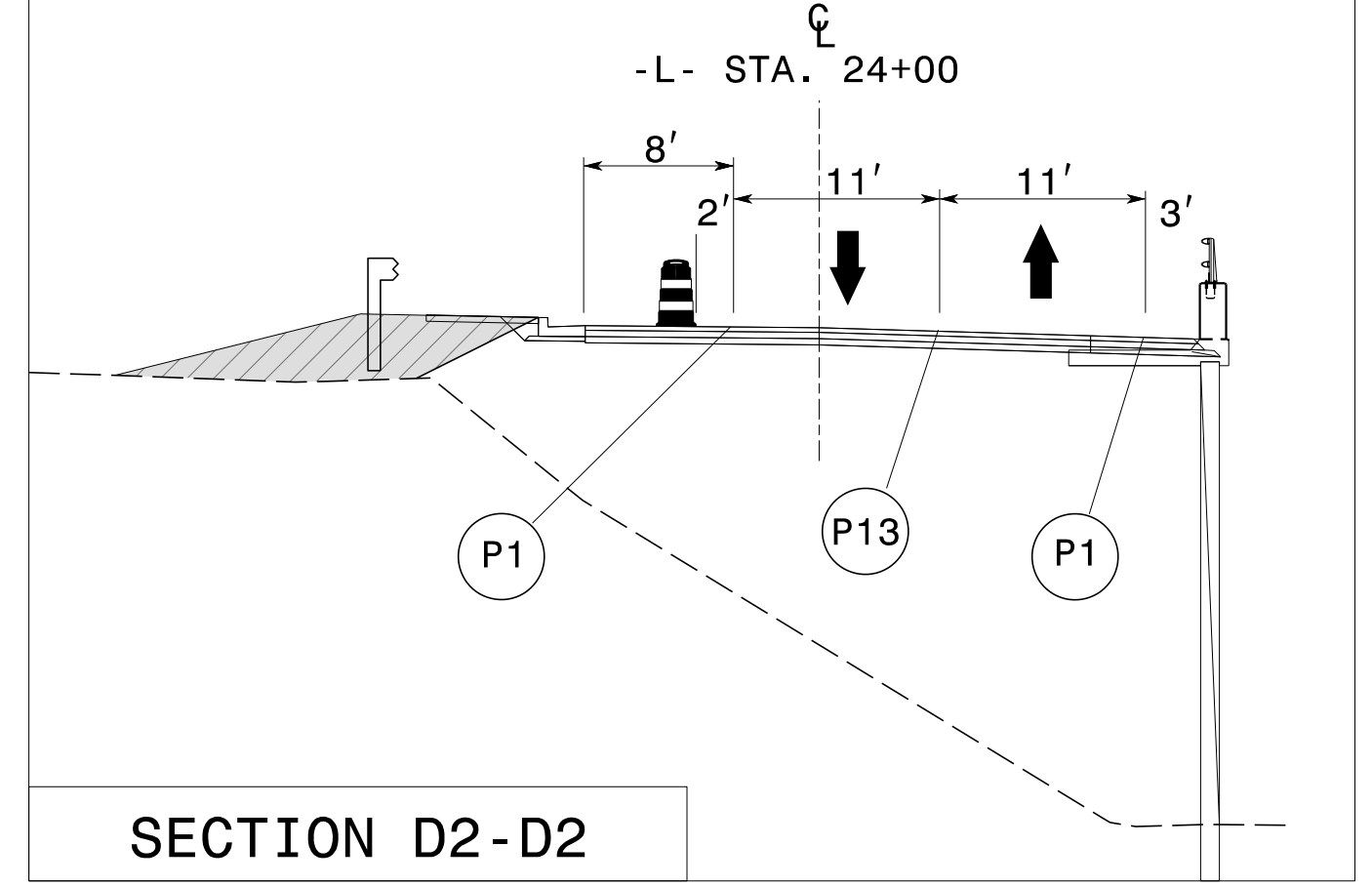
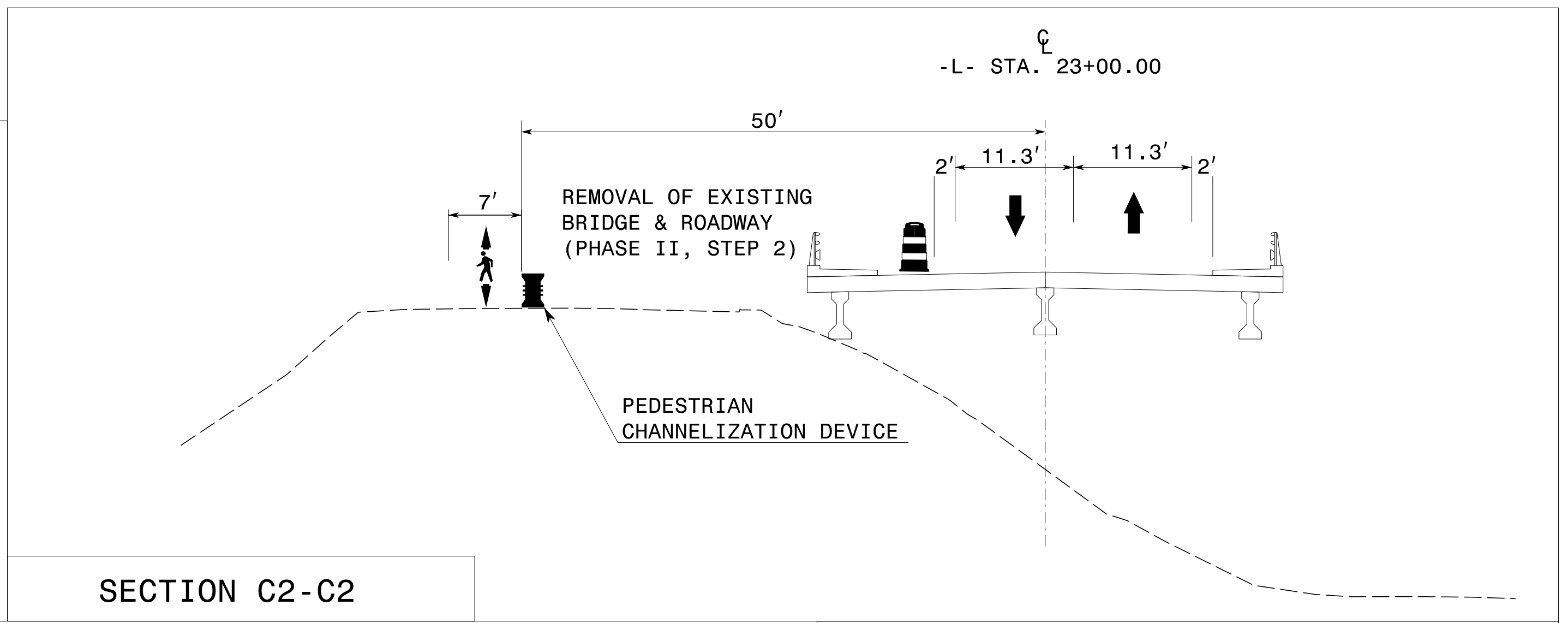
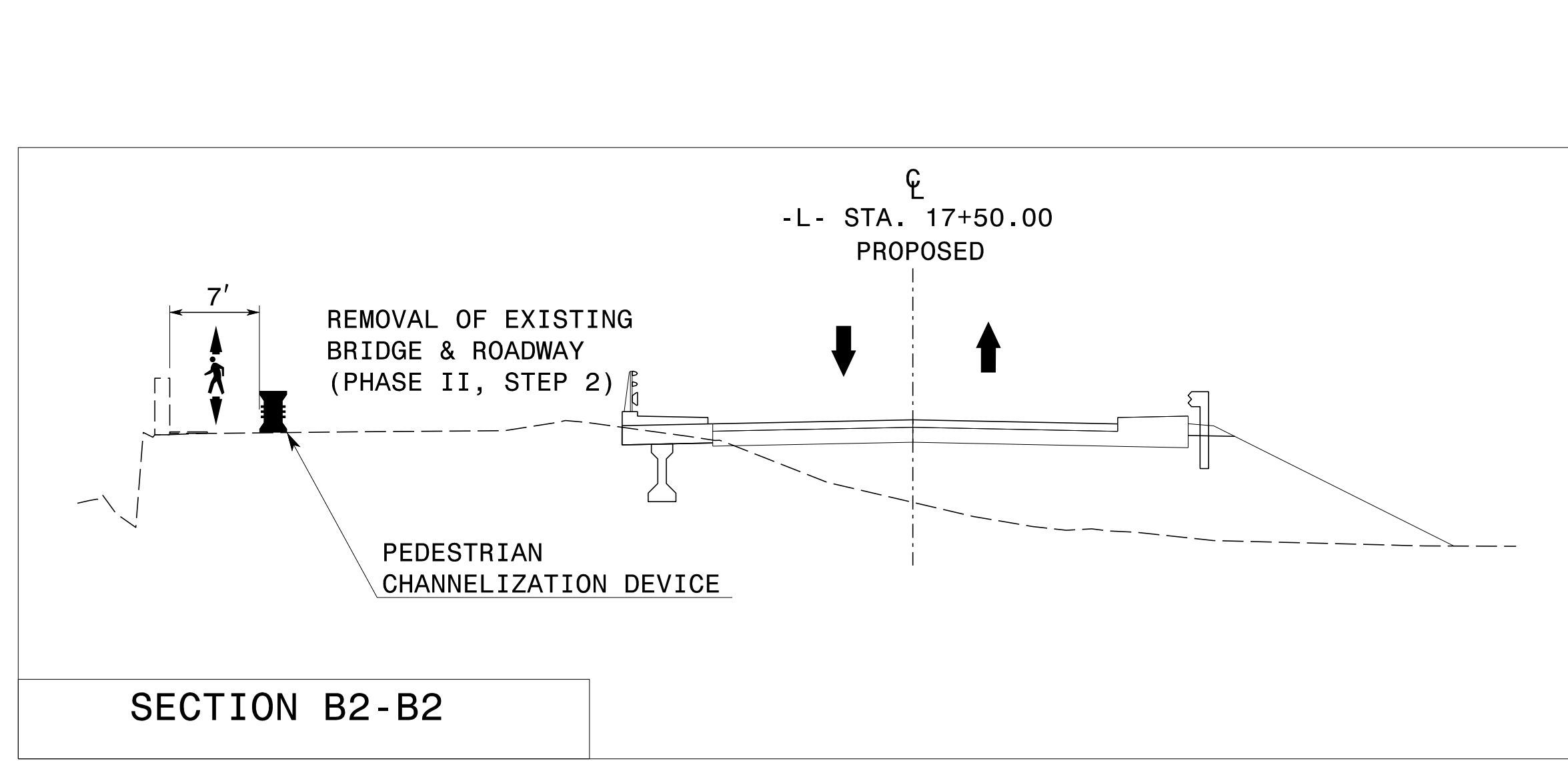
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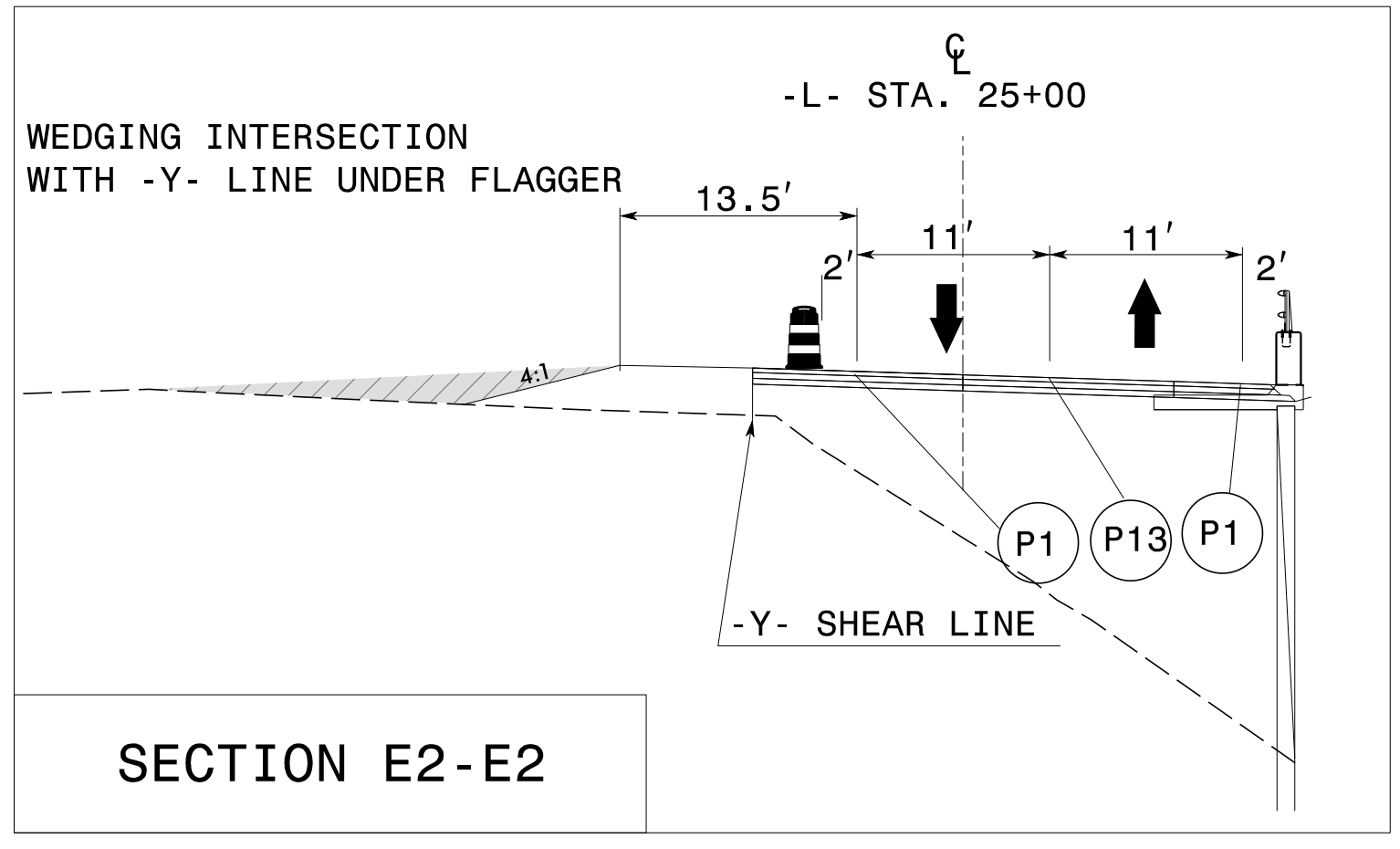
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PHASE II DETAILS



MAINTAIN SIDEWALK ON THE EXISTING BRIDGE UNTIL THE WEDGING OF -Y- LINE AND THE REMAINING OF PROPOSED SIDEWALK AT THAT AREA IS COMPLETED. (PHASE II, STEP-1)

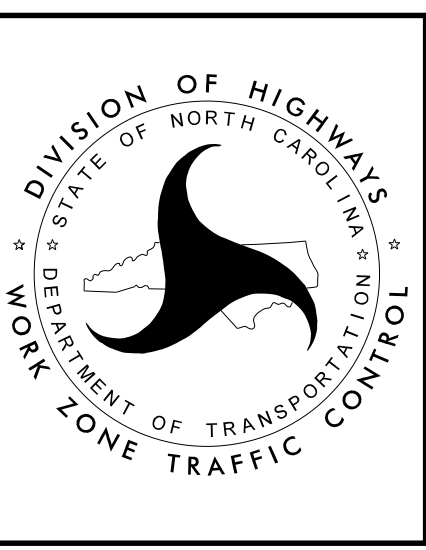


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DATE: 01/08/2025

SEAL 045090
 ENGINEER
 ZACHARY T. CLARK

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PHASE II DETAILS

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