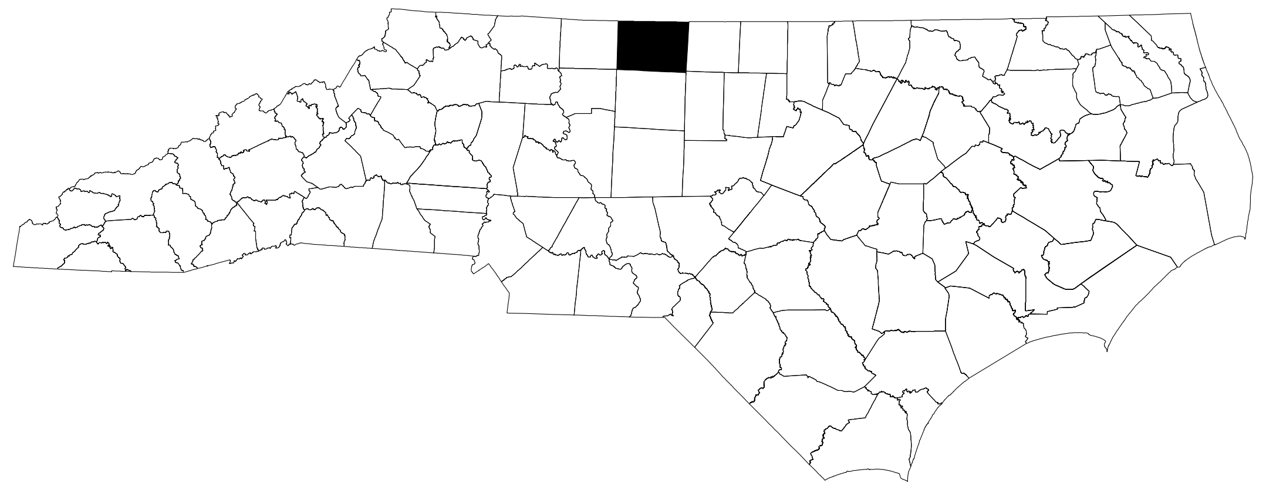
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

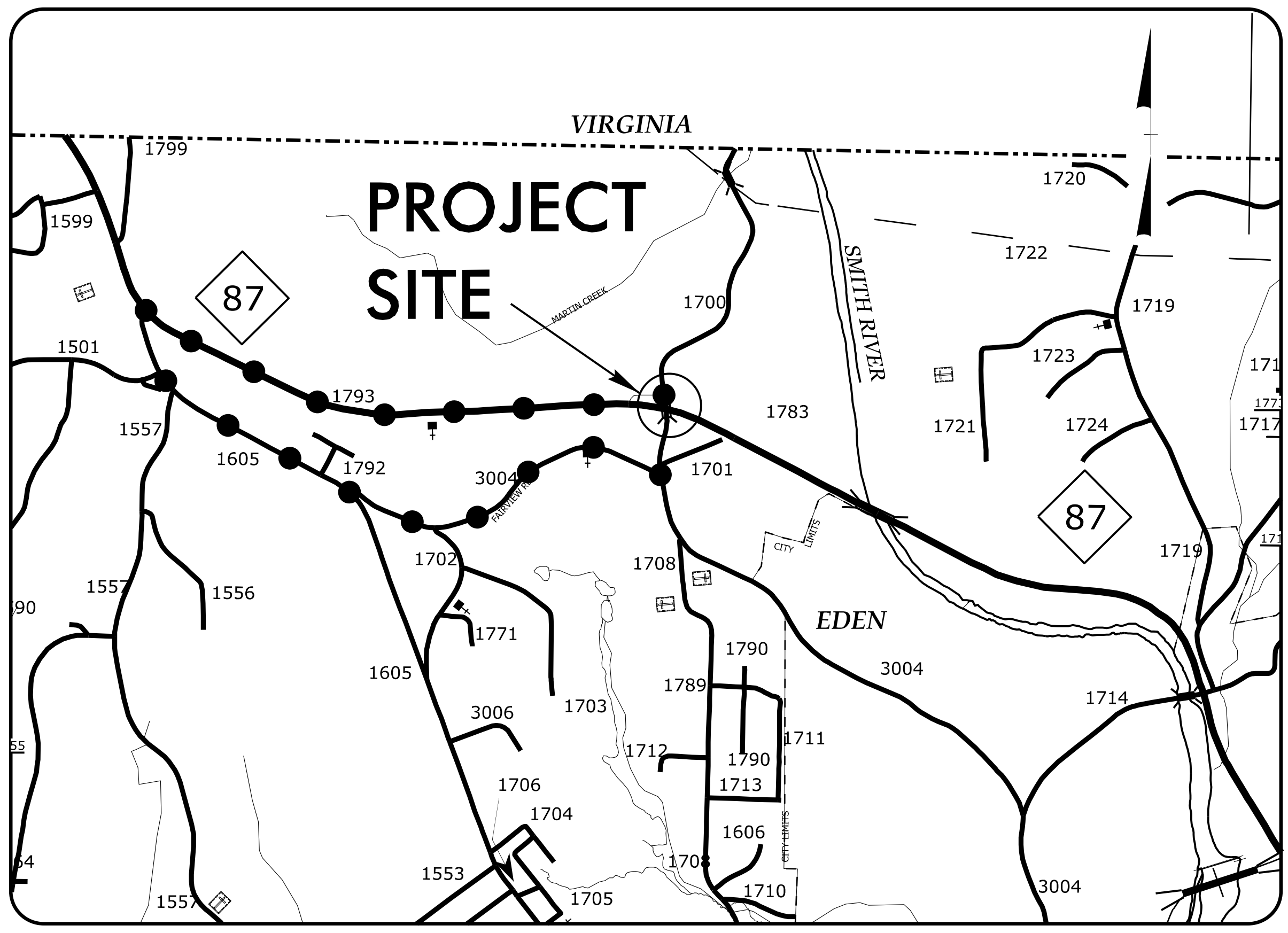
TRANSPORTATION MANAGEMENT PLAN

ROCKINGHAM COUNTY



LOCATION: REPLACE BRIDGE 780176 ON SR 1700 (FISHER HILL RD.) OVER NC 14/NC 87

TYPE OF WORK: GRADING, STRUCTURES, PAVING, AND DRAINAGE



VICINITY MAP (NTS)

OFF SITE DETOUR ●—●—●—●

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 to 1C	TRANSPORTATION OPERATIONS PLAN: (MANAGEMENT STRATEGIES, GENERAL NOTES, & TEMPORARY TRAFFIC CONTROL PHASING)
TMP-1D	TEMPORARY SHORING NOTES
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WORK ZONE SAFETY & MOBILITY
"from the MOUNTAINS to the COAST"

PLANS PREPARED BY:

MATTHEW AKLILU

NCDOT CONTACTS:

KENNETH C. THORNEWELL, P.E.
PROJECT ENGINEER

MICHAEL STEELMAN
PROJECT DESIGN ENGINEER

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
WORK ZONE TRAFFIC CONTROL

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DATE: 09/30/2025

SEAL

SEAL 044089 KENNETH C. THORNEWELL, JR.

SHEET NO.
TMP-1

TIP PROJECT: BR-0096

9/30/2025
pw://ncdot-pw.bentley.com:ncdot-pw-01/Documents/Division_07/BR-0096 Rockingham 176/Work Zone Traffic Control/BR-0096-TC-TMP-01
User:maaklilu

PROJ. REFERENCE NO.	SHEET NO.
BR-0096	TMP-1A

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
1101.06	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	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
1205.03	PAVEMENT MARKINGS - EXITS AND ENTRANCE RAMPS
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

SIGNALS

EXISTING

PROPOSED

TEMP — TEMPORARY

PORT — PORTABLE

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

PAINT

P1 - WHITE EDGELINE (4")

P61 - WHITE STOPBAR (24")

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KENNETH C. THORNEWELL, JR.

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DIVISION OF HIGHWAYS
WORK ZONE TRAFFIC CONTROL

ROADWAY STANDARD
DRAWINGS & LEGEND

MANAGEMENT STRATEGIES

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

RECOMMENDED STRATEGIES:

TRAFFIC MANAGEMENT STRATEGIES:
- FULL ROADWAY CLOSURES
- ROLLING ROADBLOCK
- LANE SHIFTS OR CLOSURES
- SHOULDER CLOSURES
- ONE-LANE, TWO WAY OPERATION (FLAGGING)
- NIGHT WORK
- WORK HOUR RESTRICTIONS FOR PEAK TRAVEL
- PEDESTRIAN / BICYCLE ACCOMMODATIONS
- OFF-SITE DETOURS / USE OF ALTERNATIVE ROUTES

GENERAL NOTES / LOCAL NOTES

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

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

TIME RESTRICTIONS

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

ROAD NAME	DAY AND TIME RESTRICTIONS
NC 14/87	MONDAY-FRIDAY 6AM-9AM, 4PM-7PM

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

ROAD NAME

NC 14/87

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 7:00 P.M. JANUARY 2ND. IF NEW YEAR'S DAY IS ON A FRIDAY, SATURDAY, SUNDAY, OR MONDAY THEN UNTIL 7:00 P.M. THE FOLLOWING TUESDAY.

3. FOR EASTER, BETWEEN THE HOURS OF 6:00 A.M. THURSDAY AND 7:00 P.M. MONDAY.

4. FOR MEMORIAL DAY, BETWEEN THE HOURS OF 6:00 A.M. FRIDAY TO 7:00 P.M. TUESDAY.

5. FOR INDEPENDENCE DAY, BETWEEN THE HOURS OF 6:00 A.M. THE DAY BEFORE INDEPENDENCE DAY AND 7:00 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 7:00 P.M. THE TUESDAY AFTER INDEPENDENCE DAY.

6. FOR LABOR DAY, BETWEEN THE HOURS OF 6:00 A.M. FRIDAY AND 7:00 P.M. TUESDAY.

7. FOR THANKSGIVING DAY, BETWEEN THE HOURS OF 6:00 A.M. TUESDAY TO 7:00 P.M. MONDAY.

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

C) DO NOT STOP TRAFFIC AS FOLLOWS:

ROAD NAME	DAY AND TIME RESTRICTIONS	DURATION AND OPERATION
NC 14/87	MONDAY-SUNDAY 6AM-11PM	30 MINS FOR GIRDER INSTALLATION AND BRIDGE DEMOLITION

D) 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

E) 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.

F) 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.

G) 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.

H) 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.

I) 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.

J) PROVIDE TRAFFIC CONTROL FOR APPROPRIATE LANE CLOSURES FOR SURVEYING DONE BY THE DEPARTMENT.

PAVEMENT EDGE DROP OFF REQUIREMENTS

K) 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.

L) 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) 350 FT IN ADVANCE AND A MINIMUM OF EVERY HALF MILE THROUGHOUT THE UNEVEN AREA.

TRAFFIC PATTERN ALTERATIONS

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

SIGNING

N) 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.

O) PROVIDE SIGNING AND DEVICES REQUIRED TO CLOSE THE ROAD ACCORDING TO THE ROADWAY STANDARD DRAWINGS AND TRAFFIC CONTROL PLANS.

PROVIDE SIGNING REQUIRED FOR THE OFF-SITE DETOUR ROUTE AS SHOWN IN THE TRAFFIC CONTROL PLANS.

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

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

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

TRAFFIC BARRIER

R) 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.

GENERAL NOTES CONTINUED ON TMP-1C

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DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
WORK ZONE TRAFFIC CONTROL

TRANSPORTATION
OPERATIONS PLAN

PROJ. REFERENCE NO.	SHEET NO.
BR-0096	TMP-1C

GENERAL NOTES / LOCAL NOTES CONTINUED

S) 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

T) 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.

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

PAVEMENT MARKINGS AND MARKERS

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

ROAD NAME	MARKING	MARKER
ALL ROADS	PAINT	N/A

W) 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.

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

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

TRAFFIC CONTROL PHASING

WHEN A LANE CLOSURE IS REQUIRED TO PERFORM WORK, USE RSD 1101.02, SHEET 1.

WHEN A SHORT DURATION TEMPORARY ROAD CLOSURE IS REQUIRED TO PERFORM WORK, USE RSD 1101.03, SHEET 8.

PHASE I

STEP 1 - INSTALL ADVANCE WARNING SIGNS PER RSD 1101.01, SHEET 3.

STEP 2 - A. INSTALL OFFSITE DETOUR STATIONARY SIGNS AS SHOWN ON TMP-2.

B. USING LANE CLOSURES, INSTALL THE TEMPORARY STOP BAR AND TEMPORARY STOP SIGN ON -L- AS SHOWN ON TMP-3.

C. INSTALL ROAD CLOSURE SIGNING AND TYPE III BARRICADES AS SHOWN ON TMP-2 & 3 TO CLOSE AND DETOUR FISHER HILL RD TRAFFIC OFFSITE.

D. AWAY FROM TRAFFIC, BEGIN CONSTRUCTION ON THE PROPOSED -L- AND -Y1-.

STEP 3 - USING LANE CLOSURES, INSTALL TEMPORARY PAVEMENT MARKINGS ON -Y- TO SHIFT TRAFFIC TO THE TEMPORARY PATTERN SHOWN ON TMP-3.

STEP 4 - A. USING LANE CLOSURES AS NEEDED, INSTALL SHOULDER CLOSURE SIGNS, DRUMS, AND PORTABLE CONCRETE BARRIER AS SHOWN ON TMP-3.

B. USING SHORT DURATION TEMPORARY ROAD CLOSURES AND SHORT TERM CMS AS NEEDED, REMOVE THE EXISTING BRIDGE SUPERSTRUCTURE.

STEP 5 - BEHIND BARRIER, INSTALL TEMPORARY SHORING AS SHOWN ON TMP-3 & 4, AND THEN REMOVE THE SUBSTRUCTURE OF THE EXISTING BRIDGE.

STEP 6 - BEHIND BARRIER, CONSTRUCT THE PROPOSED BRIDGE SUBSTRUCTURE, THEN CONSTRUCT THE PERMANENT PRECAST REINFORCED CONCRETE BARRIER AND THE ASSOCIATED GUARDRAIL END PROTECTION. CONSTRUCT AS MUCH OF THE -Y- WIDENING AS POSSIBLE. REMOVE TEMPORARY SHORING ONCE PROPOSED EARTH FILL IS BROUGHT UP TO SAFE UP THE EXISTING PAVEMENT STRUCTURE. (SEE TMP-3 & 4)

PHASE II

STEP 1 - USING LANE CLOSURES AS NEEDED, COMPLETE THE FOLLOWING:

A. REMOVE THE PORTABLE CONCRETE BARRIER AND THE SHOULDER CLOSURE SIGNS INSTALLED IN PHASE I, STEP 4.

B. COMPLETE -Y- PAVING UP TO BUT NOT INCLUDING THE FINAL LAYER OF SURFACE COURSE, THEN INSTALL TEMPORARY PAVEMENT MARKINGS IN THE FINAL PATTERN ON -Y- AS SHOWN ON THE PAVEMENT MARKING PLANS.

STEP 2 - USING SHORT DURATION TEMPORARY ROAD CLOSURES AND SHORT TERM CMS AS NEEDED, CONSTRUCT THE PROPOSED BRIDGE SUPERSTRUCTURE.

STEP 3 - USING LANE CLOSURES AS NEEDED, COMPLETE CONSTRUCTION OF -L- & -Y1-, INSTALLING FINAL SURFACE COURSE AND FINAL PAVEMENT MARKINGS. THEN REMOVE BARRICADES, TEMPORARY STOP SIGN, ROAD CLOSURE AND OFFSITE DETOUR STATIONARY SIGNS INSTALLED IN PHASE I, STEP 2 TO REOPEN FISHER HILL RD.

- USING LANE CLOSURES, COMPLETE CONSTRUCTION OF -Y-, INSTALLING FINAL SURFACE COURSE AND FINAL PAVEMENT MARKINGS.

STEP 4 - REMOVE ALL TEMPORARY TRAFFIC CONTROL DEVICES.

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WORK ZONE TRAFFIC CONTROL

TRANSPORTATION
OPERATIONS PLAN

9/30/2025
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User:maakillu

PROJ. REFERENCE NO.	SHEET NO.
BR-0096	TMP-1D

Temporary Shoring No. 1 Notes on Plans

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

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 16+06 +/- -Y-, 18.5 FT. LT. TO STATION 16+92 +/- -Y-, 18.5 FT. LT, FOR THE FOLLOWING ASSUMED SOIL PARAMETERS AND GROUNDWATER ELEVATION:

UNIT WEIGHT OF SOIL ABOVE WATER TABLE, γ = 120 PCF
UNIT WEIGHT OF SOIL BELOW WATER TABLE, γ' = 60 PCF
FRICTION ANGLE, φ = 30
COHESION, c = 0 PSF
GROUNDWATER ELEVATION = 679 FT

LIMITED SUBSURFACE INFORMATION IS AVAILABLE IN THE VICINITY OF TEMPORARY SHORING FROM STATION 16+06 +/- -Y-, 18.5 FT. LT. TO STATION 16+92 +/- -Y-, 18.5 FT. LT. THE INFORMATION PROVIDED FOR TEMPORARY SHORING DESIGN WAS ASSUMED AND MAY NOT BE APPLICABLE TO THE ACTUAL SITE CONDITIONS ENCOUNTERED DURING CONSTRUCTION.

AT THE CONTRACTOR'S OPTION, USE STANDARD TEMPORARY SHORING FOR TEMPORARY SHORING FROM STATION 16+06 +/- -Y-, 18.5 FT. LT. TO STATION 16+92 +/- -Y-, 18.5 FT. LT. SEE GEOTECHNICAL STANDARD DETAIL NO. 1801.01 FOR STANDARD TEMPORARY SHORING.

Temporary Shoring No. 2 Notes on Plans

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

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 16+20 +/- -Y-, 16.5 FT. RT. TO STATION 17+06 +/- -Y-, 16.5 FT. RT, FOR THE FOLLOWING ASSUMED SOIL PARAMETERS AND GROUNDWATER ELEVATION:

UNIT WEIGHT OF SOIL ABOVE WATER TABLE, γ = 120 PCF
UNIT WEIGHT OF SOIL BELOW WATER TABLE, γ' = 60 PCF
FRICTION ANGLE, φ = 30
COHESION, c = 0 PSF
GROUNDWATER ELEVATION = 679 FT

LIMITED SUBSURFACE INFORMATION IS AVAILABLE IN THE VICINITY OF TEMPORARY SHORING FROM STATION 16+20 +/- -Y-, 16.5 FT. RT. TO STATION 17+06 +/- -Y-, 16.5 FT. RT. THE INFORMATION PROVIDED FOR TEMPORARY SHORING DESIGN WAS ASSUMED AND MAY NOT BE APPLICABLE TO THE ACTUAL SITE CONDITIONS ENCOUNTERED DURING CONSTRUCTION.

AT THE CONTRACTOR'S OPTION, USE STANDARD TEMPORARY SHORING FOR TEMPORARY SHORING FROM STATION 16+20 +/- -Y-, 16.5 FT. RT. TO STATION 17+06 +/- -Y-, 16.5 FT. RT. SEE GEOTECHNICAL 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 WZTC SECTION ON 6/5/2025 AND SEALED BY A PROFESSIONAL ENGINEER, DANIEL PAUL GALLO, LICENSE #052028.

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TEMPORARY SHORING NOTES

9/30/2025
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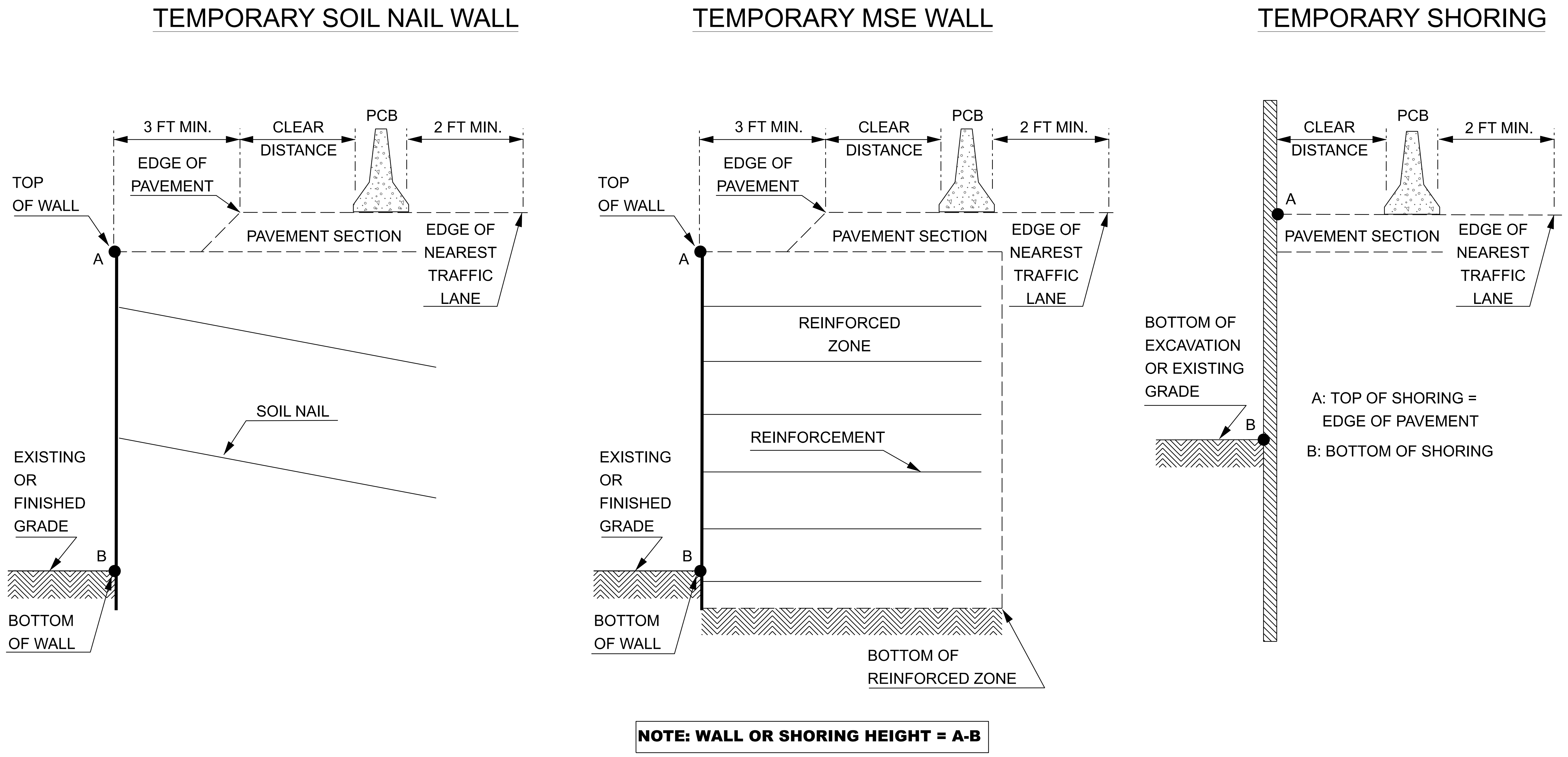
PROJ. REFERENCE NO.	SHEET NO.
BR-0096	TMP-1E



NOTE: WALL OR SHORING HEIGHT = A-B

FIGURE A

NOTES

1- REFER TO THE TRAFFIC CONTROL PLANS FOR TEMPORARY SHORING LOCATIONS AND NOTES.

2- REFER TO THE "TEMPORARY SHORING" STANDARD PROVISION FOR INFORMATION ABOUT TEMPORARY SHORING AND PORTABLE CONCRETE BARRIER (PCB).

3- 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).

4- 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.

5- 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.

6- USE NCDOT PORTABLE CONCRETE BARRIER (PCB) IN ACCORDANCE WITH ROADWAY STANDARD DRAWING NO. 1170.01 AND SECTION 1170 OF THE STANDARD SPECIFICATIONS.

7- 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.

8- 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.

9- 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
		44-50	31	35	41	43	46	49
		50-56	32	36	42	44	47	50
		>56	32	36	42	45	47	51
	Concrete	<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
		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	Asphalt	All Offsets	24 for All Design Speeds					
Anchored PCB	Concrete (including bridge approach slabs)	All Offsets	12 for All Design Speeds					

* See Figure Below

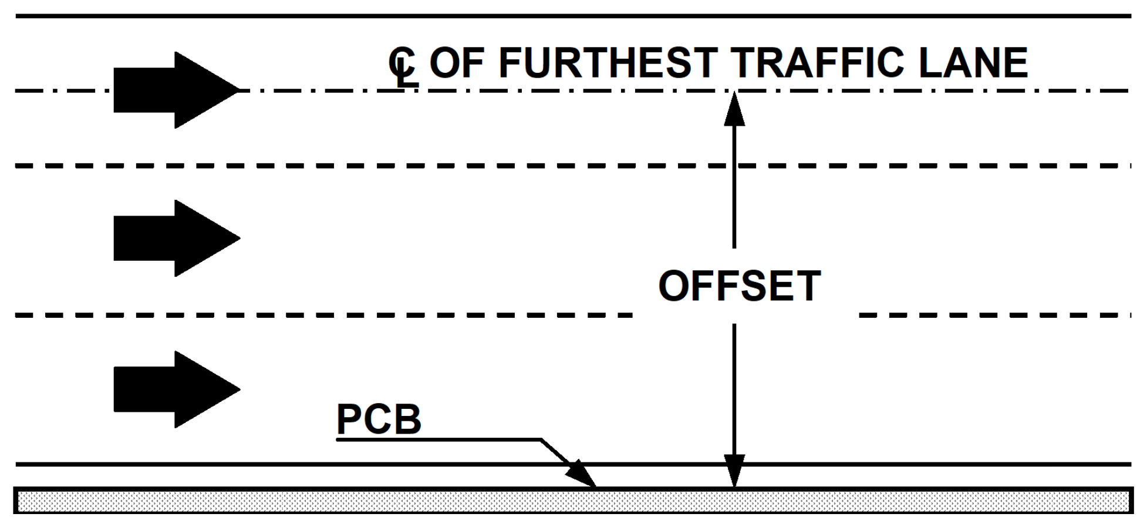


FIGURE B

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DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
WORK ZONE TRAFFIC CONTROL

PORTABLE CONCRETE BARRIER
AT
TEMPORARY SHORING LOCATIONS

9/30/2025
pw://ncdot-pw.bentley.com:ncdot-pw-01/Documents/Division_07/BR-0096 Rockingham 176/Work Zone Traffic Control/BR-0096-TC-TMP-01E
User:maaklilu

PROJ. REFERENCE NO.	SHEET NO.
BR-0096	TMP-1F

SIGN NUMBER: SP25254
TYPE: STATIONARY
QUANTITY: SEE PLANS

SIGN WIDTH: 3'-6"
HEIGHT: 2'-6"
TOTAL AREA: 8.75 Sq.Ft.

BORDER TYPE: INSET
RECESS: 0-3/8"
WIDTH: 0-5/8"
RADII: 1-1/2"

NO. Z BARS:
LENGTH:

BACKG COLOR: Fluorescent Orange
COPY COLOR: Black

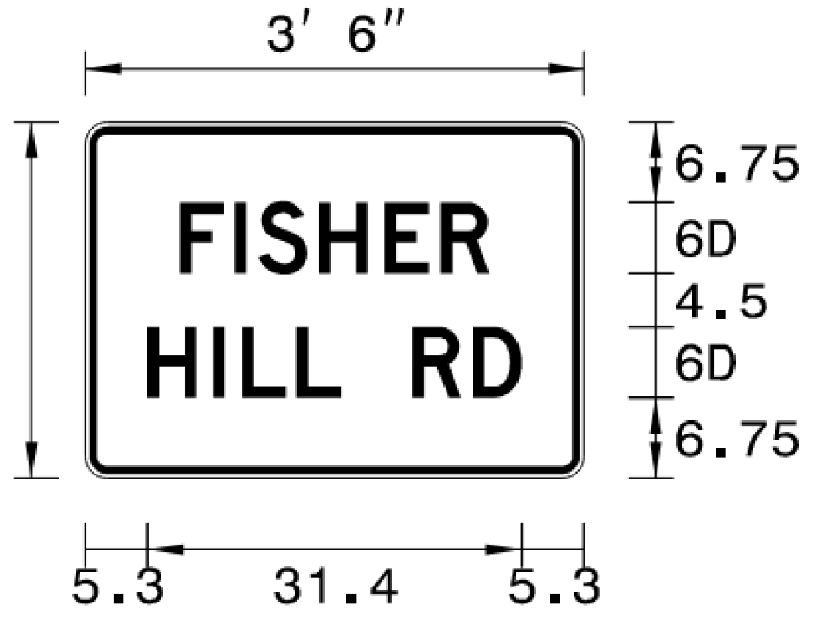
SYMBOL	X	Y	WID	HT

MAT'L: 0.080" (2.0 mm) ALUMINUM

DESIGN BY: J.Navarrete
CHECKED BY:
Aug 01, 2025
PROJECT ID: ID
LOCATION:
DIV: 7

USE NOTES:

1. Legend and border shall be direct applied black non-reflective sheeting.
2. Background shall be NC GRADE B fluorescent orange retroreflective sheeting.



BORDER
R=1.5 in
TH=0.625 in
IN=0.375 in

Spacing Factor is 1 unless specified otherwise

LETTER POSITIONS

Letter spacings are to start of next letter

																											Series/Size Text Length
		F	I	S	H	E	R																				D 2000
	8	4.625	2	5.1	5.5	4.75	4.1	8																			26
		H	I	L	L		R	D																			D 2000
	5.3	5.5	2.4	4.625	3.7	6	5.1	4.1	5.3																		31.4

Notice To Paddlers
NORTH CAROLINA D.O.T. SIGN DETAIL

10/1/2025
U:\Projects\2025 Sign Designs\Div 07\BR-0096\BR-0096-TC-TMP-01F_seal.dgn
User:jgmartinez

APPROVED: DocuSigned by: Jose G. Martinez
4A7DB418C886461...
DATE: 10/01/2025
SEAL
SEAL 046786
JOSE G. MARTINEZ

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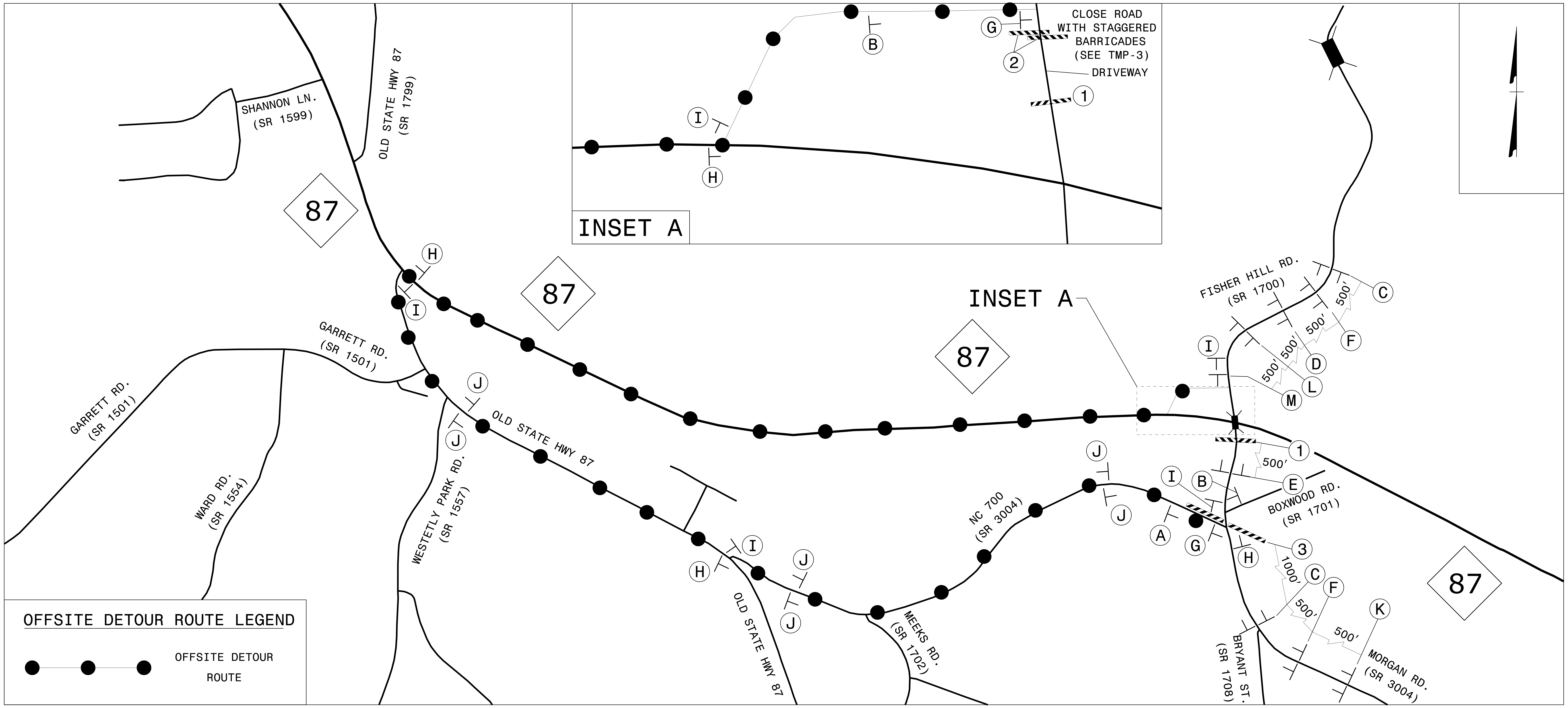
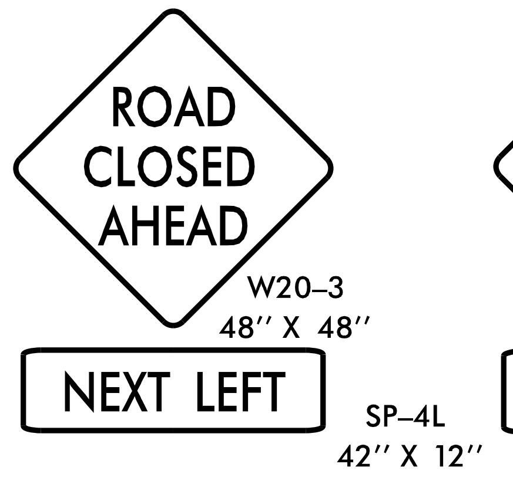
SPECIAL SIGN
DESIGN

PROJ. REFERENCE NO.	SHEET NO.
BR-0096	TMP-2





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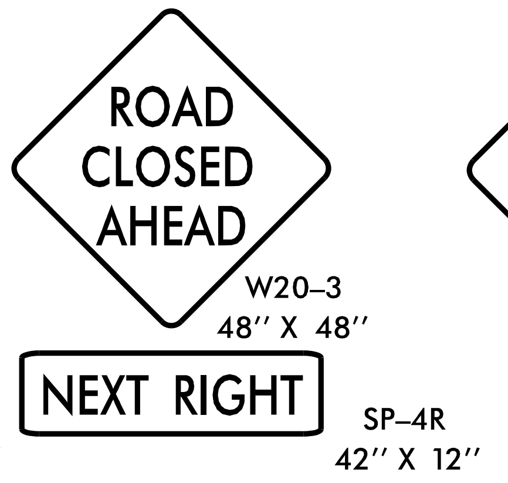

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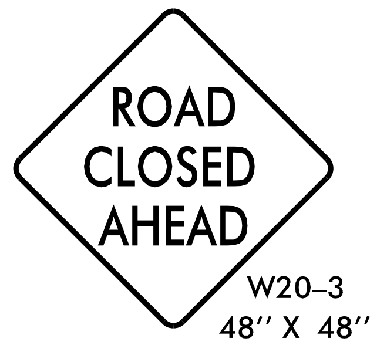

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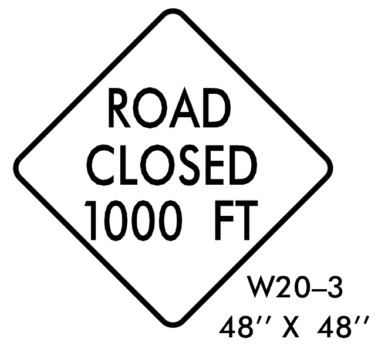

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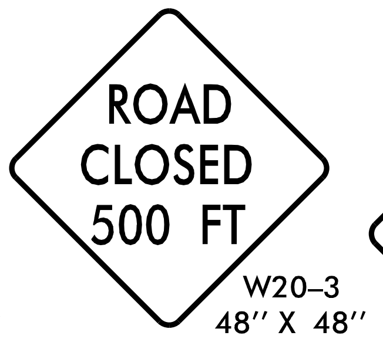

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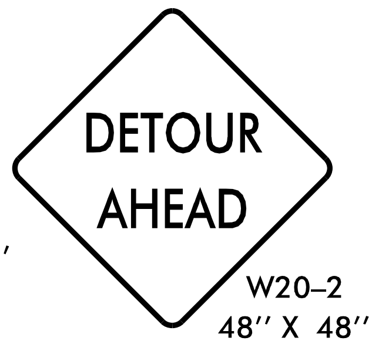

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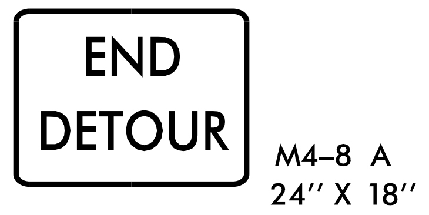

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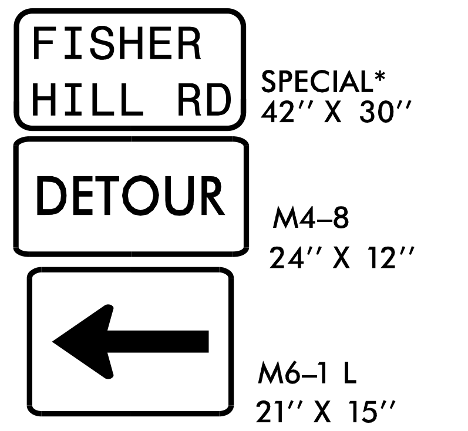

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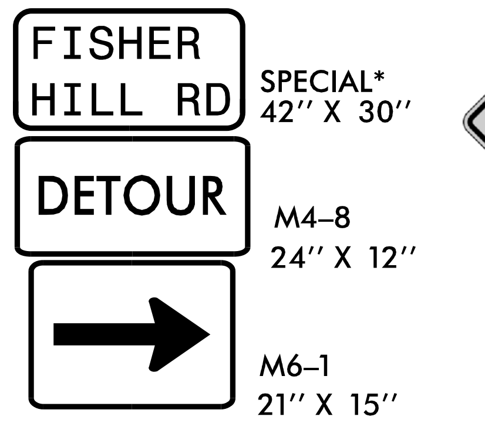

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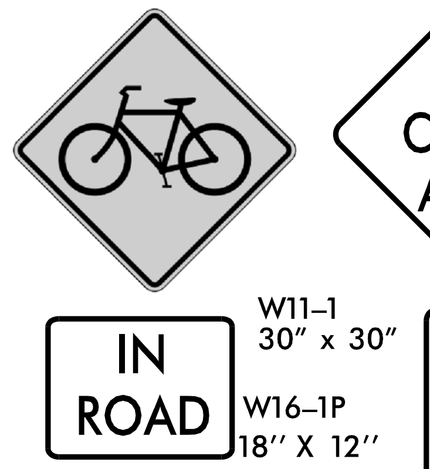

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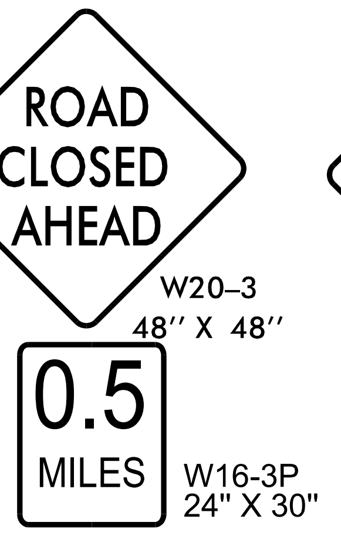

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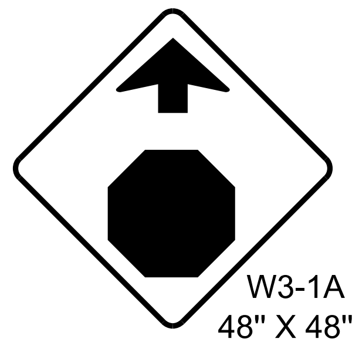

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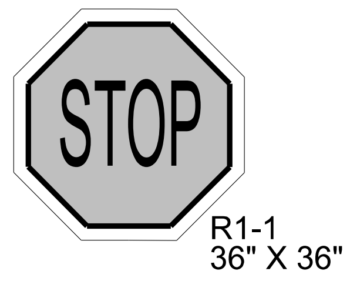

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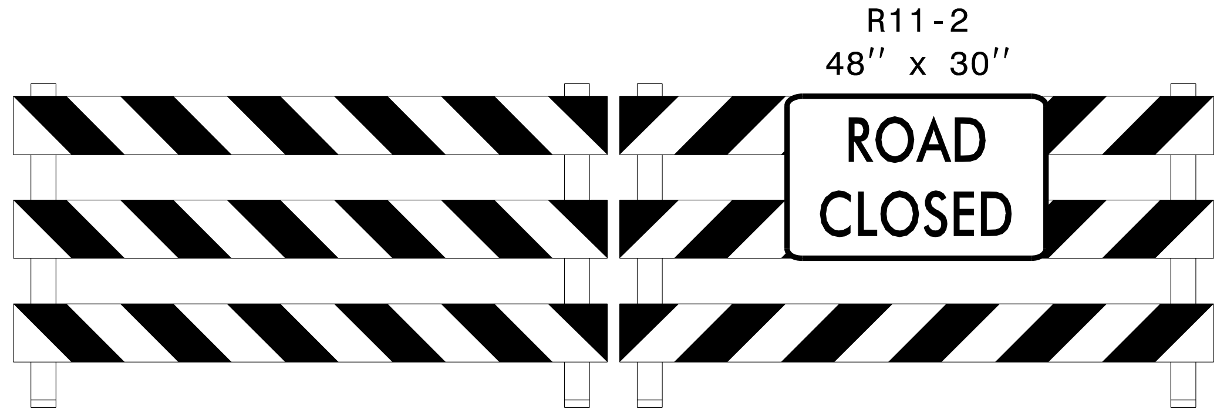

TYPE III BARRICADE(S)

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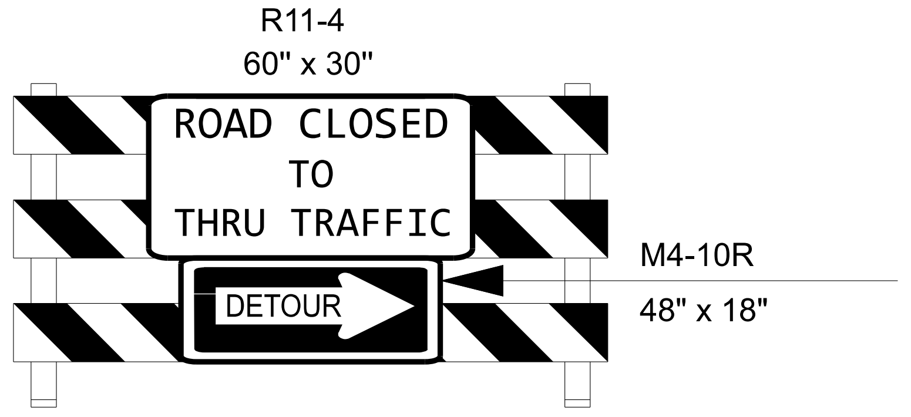

TYPE III BARRICADE

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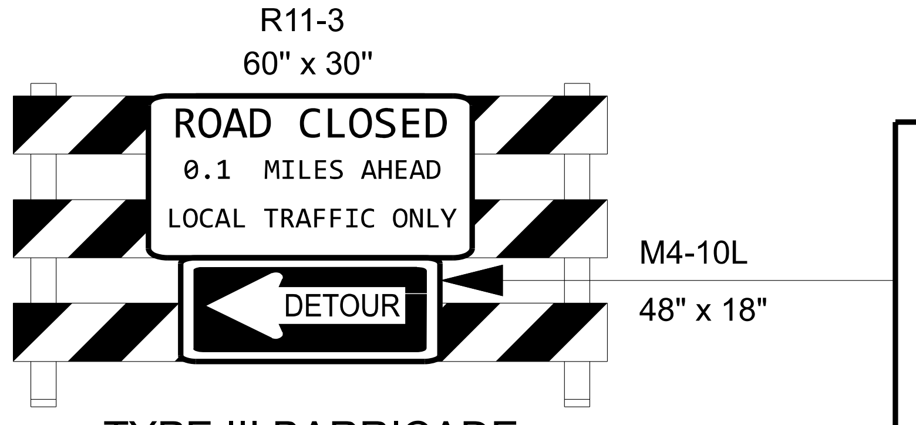

TYPE III BARRICADE

3

*SEE TMP-1F FOR SPECIAL SIGN DESIGN

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DEPARTMENT OF TRANSPORTATION
WORK ZONE TRAFFIC CONTROL

OFFSITE DETOUR
DETAILS

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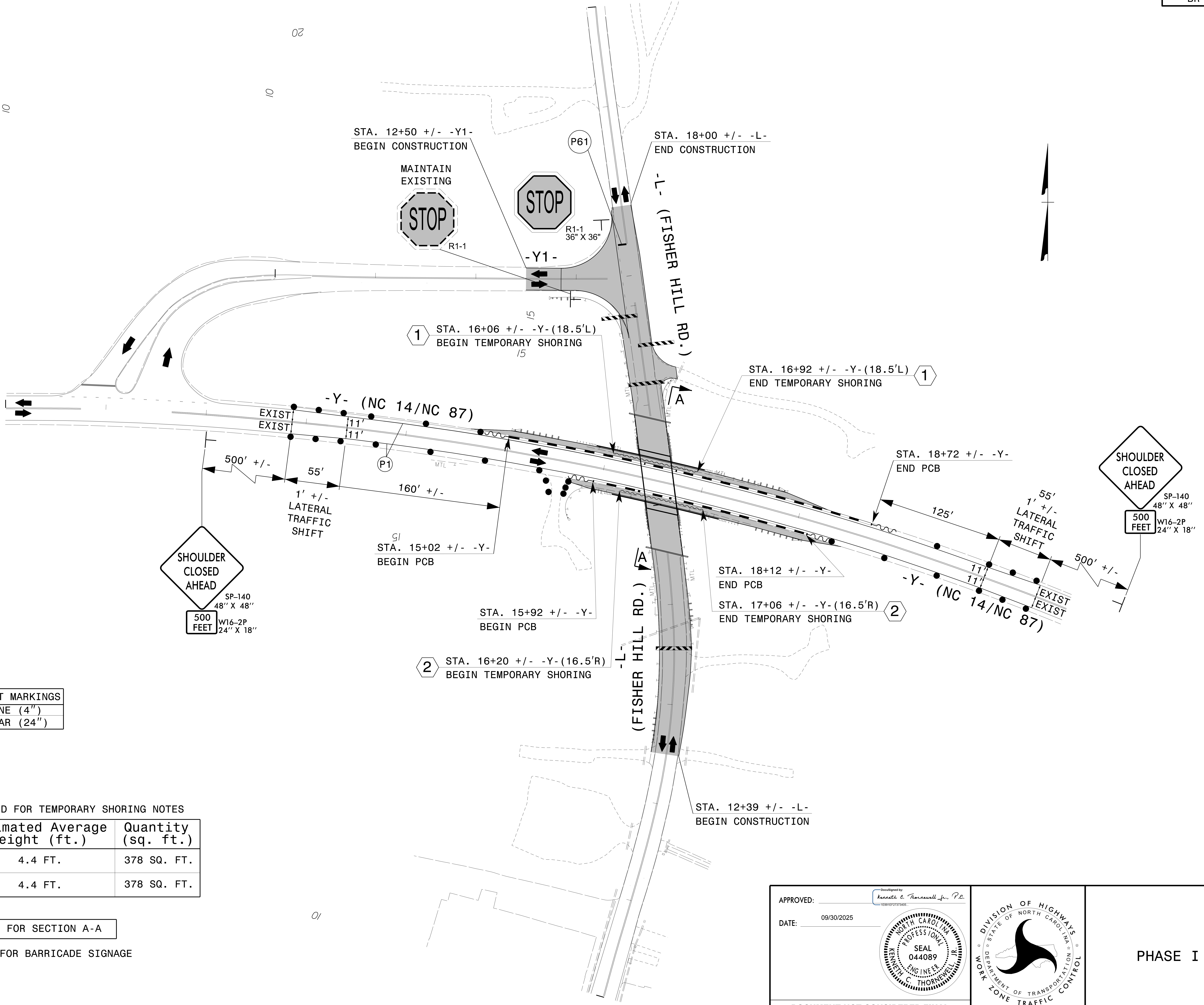
User:maakiilu

PROJ. REFERENCE NO.	SHEET NO.
BR-0096	TMP-3



TEMPORARY PAVEMENT MARKINGS
P1 - WHITE EDGELINE (4")
P61 - WHITE STOPBAR (24")

REFER TO TMP-1D FOR TEMPORARY SHORING NOTES

Shoring I.D. No.	Estimated Average Height (ft.)	Quantity (sq. ft.)
①	4.4 FT.	378 SQ. FT.
②	4.4 FT.	378 SQ. FT.

REFER TO TMP-4 FOR SECTION A-A

REFER TO TMP-2 FOR BARRICADE SIGNAGE

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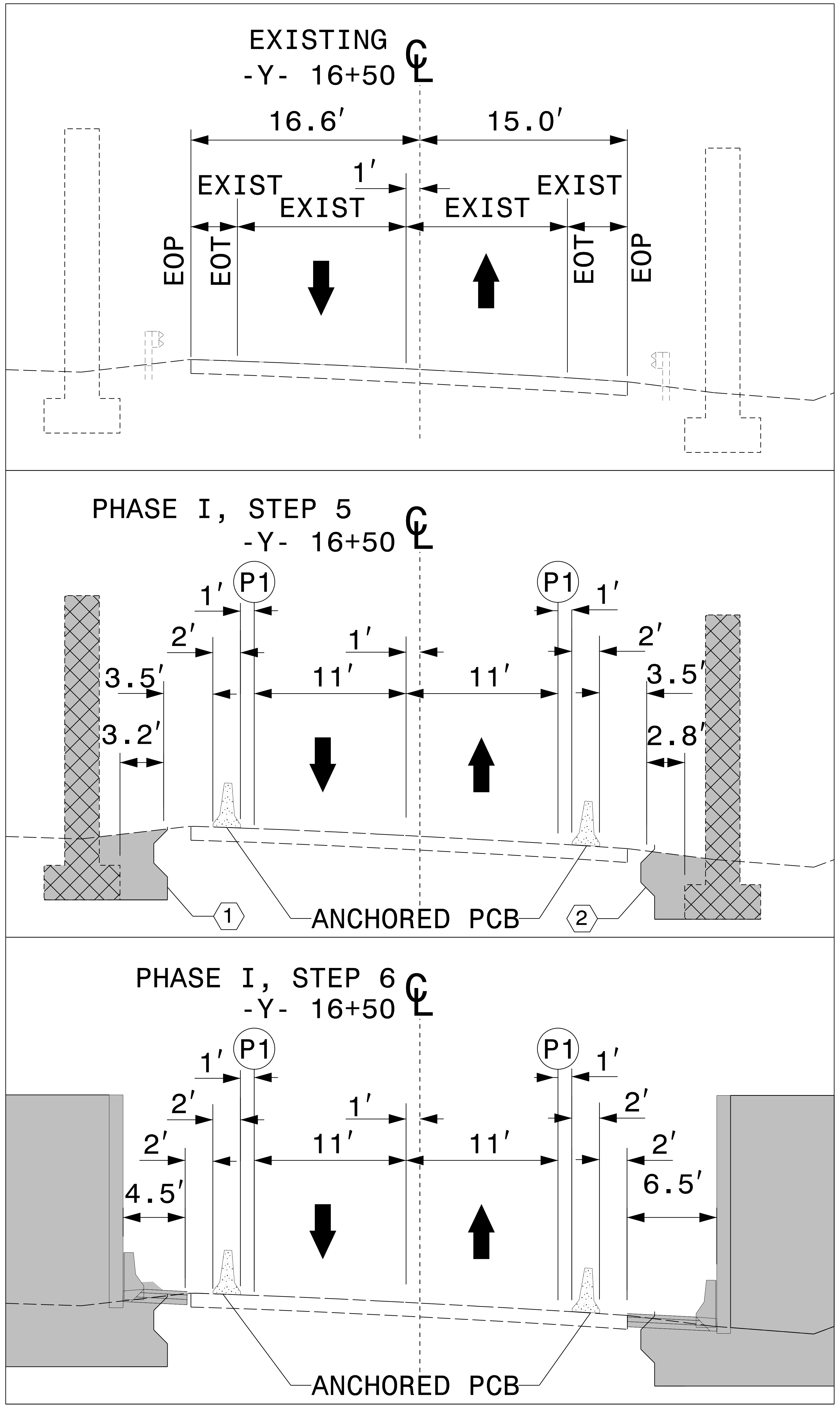
PHASE I DETAILS

PROJ. REFERENCE NO.	SHEET NO.
BR-0096	TMP-4



TEMPORARY PAVEMENT MARKINGS
P1 - WHITE EDGELINE (4″)

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SECTION A-A
XSC DETAILS

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