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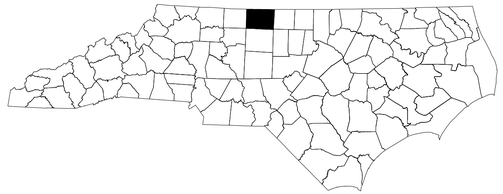
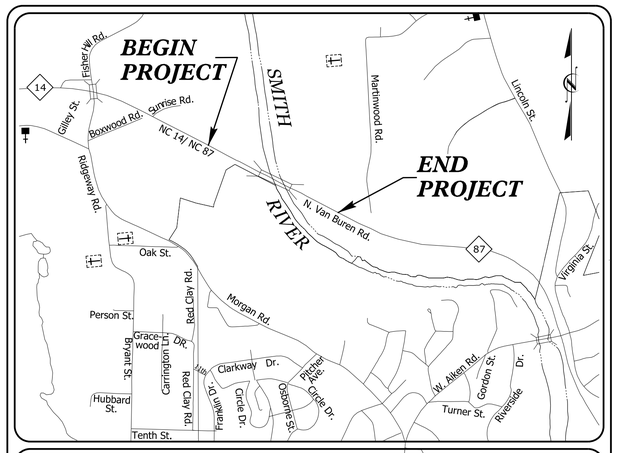
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

TRANSPORTATION MANAGEMENT PLAN

ROCKINGHAM COUNTY





VICINITY MAP
NOT TO SCALE

LOCATION: BRIDGE NO. 168 ON NC 14/NC 87 (N. VAN BUREN ROAD) OVER SMITH RIVER

INDEX OF SHEETS

SHEET NO.
TMP-1

BR-0044

TIP PROJECT:

WORK ZONE SAFETY & MOBILITY
"from the MOUNTAINS to the COAST"

PLANS PREPARED BY:

GREG COLS, P.E.
PROJECT ENGINEER

NEIL J. DEAN, P.E.
PROJECT DESIGN ENGINEER

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

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DATE: 4/8/2022

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NORTH CAROLINA PROFESSIONAL SEAL 026453 ENGINEER NEIL J. DEAN

4/6/2022
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joanna.mccormack

PROJ. REFERENCE NO.	SHEET NO.
BR-0044	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 2018 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
1101.11	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 ATTENTUATOR
1170.01	PORTABLE CONCRETE BARRIER
1205.01	PAVEMENT MARKINGS - LINE TYPES AND OFFSETS
1205.02	PAVEMENT MARKINGS - TWO-LANE AND MULTI-LANE ROADWAYS
1205.12	PAVEMENT MARKINGS - BRIDGES
1205.13	PAVEMENT MARKINGS - LANE REDUCTIONS
1250.01	RAISED PAVEMENT MARKERS - INSTALLATION SPACING
1251.01	RAISED PAVEMENT MARKERS - PERMANENT AND TEMPORARY

LEGEND

GENERAL

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

SIGNALS

EXISTING PROPOSED TEMPORARY (TEMP)

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

4" PAINT

P1 WHITE EDGELINE

P13 YELLOW DOUBLE CENTERLINE

4" COLD APPLIED PLASTIC

C1 WHITE EDGELINE

C13 YELLOW DOUBLE CENTERLINE

TEMPORARY RAISED PAVEMENT MARKERS

MH YELLOW & YELLOW

APPROVED: DocuSigned by: Neil Dean 68B1499BEFD2467...

DATE: 4/8/2022

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ROADWAY STANDARD DRAWINGS & LEGEND

4/6/2022
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PROJ. REFERENCE NO.	SHEET NO.
BR-0044	TMP-1B

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 THROUGH SUNDAY 6:00 A.M. TO 9:00 A.M. AND 4:00 P.M. TO 7:00 P.M.

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 A.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.

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

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

F) WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING WITHIN A LANE OF TRAVEL OF AN UNDIVIDED/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 SIDE OF AN OPEN TRAVELWAY, RAMP, OR LOOP WITHIN THE SAME LOCATION UNLESS PROTECTED WITH GUARDRAIL OR BARRIER.

PAVEMENT EDGE DROP OFF REQUIREMENTS

H) 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 ROADWAY WITH POSTED SPEED LIMITS OF 45 MPH OR GREATER.

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

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

I) 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) 500 FT IN ADVANCE AND A MINIMUM OF EVERY HALF MILE THROUGHOUT THE UNEVEN AREA.

TRAFFIC PATTERN ALTERATIONS

J) NOTIFY THE ENGINEER 30 DAYS PRIOR TO ANY TRAFFIC PATTERN ALTERATION.

SIGNING

K) 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.

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

TRAFFIC CONTROL DEVICES

M) 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.

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

O) 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

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

ROAD NAME	MARKING	MARKER
NC 14/87	PAINT	TEMPORARY RAISED
NC 14/87 (CONCRETE BRIDGE)	COLD APPLIED PLASTIC, TYPE IV	TEMPORARY RAISED

Q) 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.

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

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

MISCELLANEOUS

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

MANAGEMENT STRATEGIES

1. THIS PROJECT IS TO BE CONSTRUCTED USING A STAGED CONSTRUCTION PROCESS WITH NC 14/87 TRAFFIC BEING MAINTAINED ON THE EXISTING ROADWAY UNTIL PROPOSED BRIDGE AND ROADWAY IS CONSTRUCTED.

2. DRIVEWAY ACCESS WILL BE MAINTAINED THROUGHOUT THE PROJECT.

PROJECT NOTES

1. ACCESS TO THE COMMERCIAL PROPERTY GREATLAND RETRIEVERS, LLC (-L- STA 30+90 +/-) MUST BE MAINTAINED DURING CONSTRUCTION.

APPROVED: Neil Dean
DATE: 4/8/2022
SEAL

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 026453 NEIL J. DEAN

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TRANSPORTATION OPERATIONS PLAN

4/6/2022
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PROJ. REFERENCE NO.	SHEET NO.
BR-0044	TMP-2A

TEMPORARY SHORING DATA

TEMPORARY SHORING LOCATION NO 1 (SEE TMP-4)

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

DESIGN TEMPORARY SHORING FROM FROM STATION 19+10 +/- -L-, 22 FEET, RT TO STATION 19+65 +/- -L-, 22 FEET, 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, $\emptyset$ = 30
COHESION, c = 0 PSF
GROUNDWATER ELEVATION = 553 FEET

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

LIMITED SUBSURFACE INFORMATION IS AVAILABLE IN THE VICINITY OF TEMPORARY SHORING FROM STATION 19+10 +/- -L-, 22 FEET RT, TO STATION 19+65 +/- -L- 22 FEET RT. THE INFORMATION PROVIDED FOR TEMPORARY SHORING DESIGN WAS ASSUMED AND MAY NOT BE APPLICABLE TO THE ACTUAL SITE CONDITIONS ENCOUNTERED DURING CONSTRUCTION.

DRIVEN PILING FOR TEMPORARY SHORING FROM STATION 19+10 +/- -L-, 22 FEET RT, TO STATION 19+65 +/- -L- 22 FEET RT MAY NOT PENETRATE BELOW ELEVATION 558 FEET DUE TO OBSTRUCTIONS, VERY DENSE OR HARD SOIL, BOULDERS, OR WEATHERED OR HARD ROCK.

AT THE CONTRACTOR'S OPTION, USE STANDARD TEMPORARY SHORING FOR TEMPORARY SHORING FROM STATION 19+10 +/- -L-, 22 FEET RT, TO STATION 19+65 +/- -L- 22 FEET RT. SEE GEOTECHNICAL STANDARD DETAIL 1801.01 FOR STANDARD TEMPORARY SHORING.

TEMPORARY SHORING LOCATION NO 2 (SEE TMP-4)

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

DESIGN TEMPORARY SHORING FROM FROM STATION 24+70 +/- -L-, 22 FEET, RT TO STATION 25+30 +/- -L-, 22 FEET, 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, $\emptyset$ = 30
COHESION, c = 0 PSF
GROUNDWATER ELEVATION = 538 FEET

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

LIMITED SUBSURFACE INFORMATION IS AVAILABLE IN THE VICINITY OF TEMPORARY SHORING FROM STATION 24+70 +/- -L-, 22 FEET RT, TO STATION 25+30 +/- -L- 22 FEET RT. THE INFORMATION PROVIDED FOR TEMPORARY SHORING DESIGN WAS ASSUMED AND MAY NOT BE APPLICABLE TO THE ACTUAL SITE CONDITIONS ENCOUNTERED DURING CONSTRUCTION.

DRIVEN PILING FOR TEMPORARY SHORING FROM STATION 24+70 +/- -L-, 22 FEET RT, TO STATION 25+30 +/- -L- 22 FEET RT MAY NOT PENETRATE BELOW ELEVATION 538 FEET DUE TO OBSTRUCTIONS, VERY DENSE OR HARD SOIL, BOULDERS, OR WEATHERED OR HARD ROCK.

AT THE CONTRACTOR'S OPTION, USE STANDARD TEMPORARY SHORING FOR TEMPORARY SHORING FROM STATION 24+70 +/- -L-, 22 FEET RT, TO STATION 25+30 +/- -L- 22 FEET RT. SEE GEOTECHNICAL STANDARD DETAIL 1801.01 FOR STANDARD TEMPORARY SHORING.

APPROVED: Docusigned by: Neil Dean 68B14998EFD2467...
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TEMPORARY TRAFFIC CONTROL
TEMPORARY SHORING NOTES

4/6/2022
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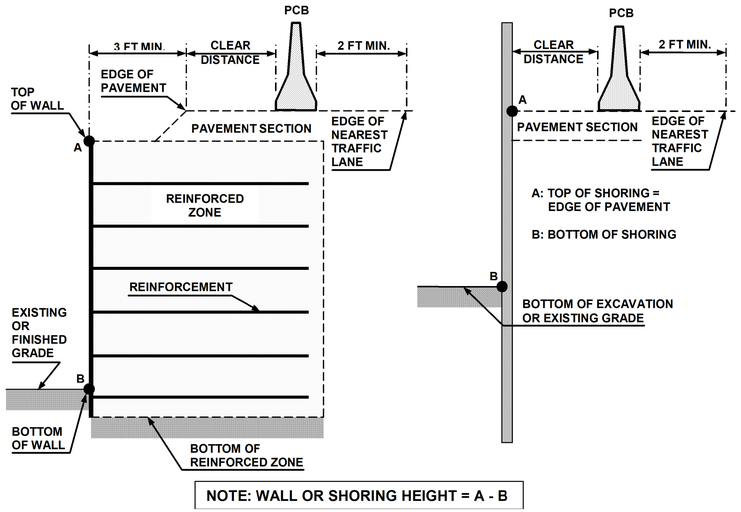

NOTE: WALL OR SHORING HEIGHT = A - B

FIGURE A

NOTES

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

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

3- PCB IS REQUIRED IF TEMPORARY SHORING 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 UNIT 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 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- PCB REQUIREMENTS FOR TEMPORARY WALLS APPLY TO TEMPORARY MECHANICALLY STABILIZED EARTH (MSE) WALLS AND TEMPORARY SOIL NAIL WALLS.

8- 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 AND OR AS APPROVED BY THE ENGINEER.

9- 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 THESE MINIMUM REQUIRED DISTANCES ARE NOT AVAILABLE, CONTACT THE ENGINEER.

10- TABLE SHOWN IN FIGURE B IS BASED ON NCDOT RESEARCH PROJECT NO. 2005-010 WITH VEHICLE TYPE USED FOR NCHRP 350 CRASH TESTS. BARRIER DEFLECTIONS AND RESULTING MINIMUM REQUIRED CLEAR DISTANCES MIGHT VARY SIGNIFICANTLY FOR LARGER HEAVIER VEHICLES, RUNS OF BARRIER LESS THAN 200 FT IN LENGTH AND WET OR DRY PAVEMENT.

PROJ. REFERENCE NO.	SHEET NO.
BR-0044	TMP-2B

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

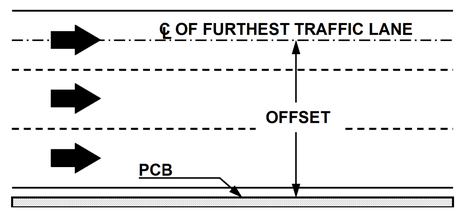

FIGURE B

APPROVED: Neil Dean (DocuSigned by: 68B14998EFD2467...)
DATE: 4/8/2022
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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

PROJECT PHASING NOTES

PROJ. REFERENCE NO.	SHEET NO.
BR-0044	TMP-3

PHASE I

STEP 1: INSTALL WORK ZONE ADVANCE WARNING SIGNS ON ALL ROADWAYS AS SHOWN ON ROADWAY STANDARD DRAWING NO. 1101.01.

STEP 2: USING RSD 1101.02, SHEET 1 OF 14 AND FLAGGERS AS NEEDED, REMOVE EXISTING PAVEMENT MARKINGS AND INSTALL TEMPORARY PAVEMENT MARKINGS AND MARKERS ON -L- FROM STA 10+75+/- TO STA 33+30+/- AND SHIFT TRAFFIC IN THE PATTERN SHOWN ON TMP-4.

STEP 3: USING RSD 1101.02, SHEET 1 OF 14 AS NEEDED, INSTALL PORTABLE CONCRETE BARRIER ON -L- FROM STA 15+40+/- TO STA 28+65+/-.

STEP 4: BEGIN CONSTRUCTION OF THE FOLLOWING PROPOSED BRIDGE AND ROADWAY SECTIONS UP TO, BUT NOT INCLUDING, THE FINAL LAYER OF SURFACE COURSE:

-L- STA 10+75+/- TO -L- STA 33+30+/-

USING RSD 1101.02, SHEET 1 OF 14, CONDUCT THE FOLLOWING OPERATIONS IN A CONTINUOUS MANNER:

A - REMOVE EXISTING GUARDRAIL ON THE LEFT SIDE OF -L- (NC14/87).
B - CONSTRUCT PROPOSED PAVEMENT UP TO EDGE AND ELEVATION OF EXISTING PAVEMENT (SEE TMP-4, TMP-5 AND ROADWAY PLANS).
C - INSTALL PROPOSED GUARDRAIL ON THE LEFT SIDE OF NC14/87.
D - INSTALL TEMPORARY SHORING LOCATIONS 1 AND 2 AS SHOWN ON TMP-4.
E - INSTALL PROPOSED GUARDRAIL AND TEMPORARY GUARDRAIL ANCHOR UNITS ON THE RIGHT SIDE OF -L- FROM STA 16+04+/- RT TO STA 19+29+/- RT AND FROM STA 24+96+/- RT TO STA 27+96+/- RT.

PHASE II

STEP 1: USING RSD 1101.02, SHEET 1 OF 14, PERFORM THE FOLLOWING, IN A CONTINUOUS MANNER AS SHOWN ON SHEETS TMP-5

A - COMPLETE CONSTRUCTION OF THE PROPOSED ROADWAY SECTION, WITH TEMPORARY SLOPES WHERE PROPOSED UP TO, BUT NOT INCLUDING, THE FINAL SURFACE LAYER.
B - PLACE TEMPORARY PAVEMENT MARKINGS AND PAVEMENT MARKERS IN THE FINAL PATTERN AND REMOVE CONFLICTING MARKINGS.
C - PLACE TRAFFIC CONTROL DEVICES AS SHOWN AND SHIFT TRAFFIC TO THE FINAL PATTERN.

STEP 2: USING RSD 1101.02, SHEET 1 OF 14 AS NEEDED, COMPLETE THE FOLLOWING:

A - REMOVE THE EXISTING STRUCTURE AND TEMPORARY SHORING LOCATIONS 1 AND 2.
B - REMOVE EXISTING PAVEMENT AS INDICATED IN THE ROADWAY PLANS.
C - REMOVE EXISTING GUARDRAIL ON THE RIGHT SIDE OF NC14/87.
D - COMPLETE ALL PROPOSED ROADWAY CONSTRUCTION UP TO BUT NOT INCLUDING THE FINAL SURFACE LAYER.
E - INSTALL PROPOSED GUARDRAIL ON THE RIGHT SIDE OF NC14/87.
F - REMOVE TEMPORARY GUARDRAIL ANCHOR UNITS ON THE RIGHT SIDE OF -L- INSTALL PROPOSED GUARDRAIL FROM STA 13+51+/- TO STA 16+04+/- AND STA 27+96+/- TO STA 30+69+/-.

STEP 3: USING RSD 1101.02, SHEET 1 OF 14, COMPLETE THE FOLLOWING:

A - PLACE THE FINAL LAYER OF SURFACE COURSE.
B - PLACE THE FINAL PAVEMENT MARKINGS AND MARKERS AS SHOWN IN THE PAVEMENT MARKING PLANS.

STEP 4: REMOVE ALL TRAFFIC CONTROL DEVICES.

APPROVED: DocuSigned by: Neil Dean 68B14998EFD2487

DATE: 4/8/2022

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 026453 ENGINEER NEIL J. DEAN

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

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

PHASING

4/6/2022
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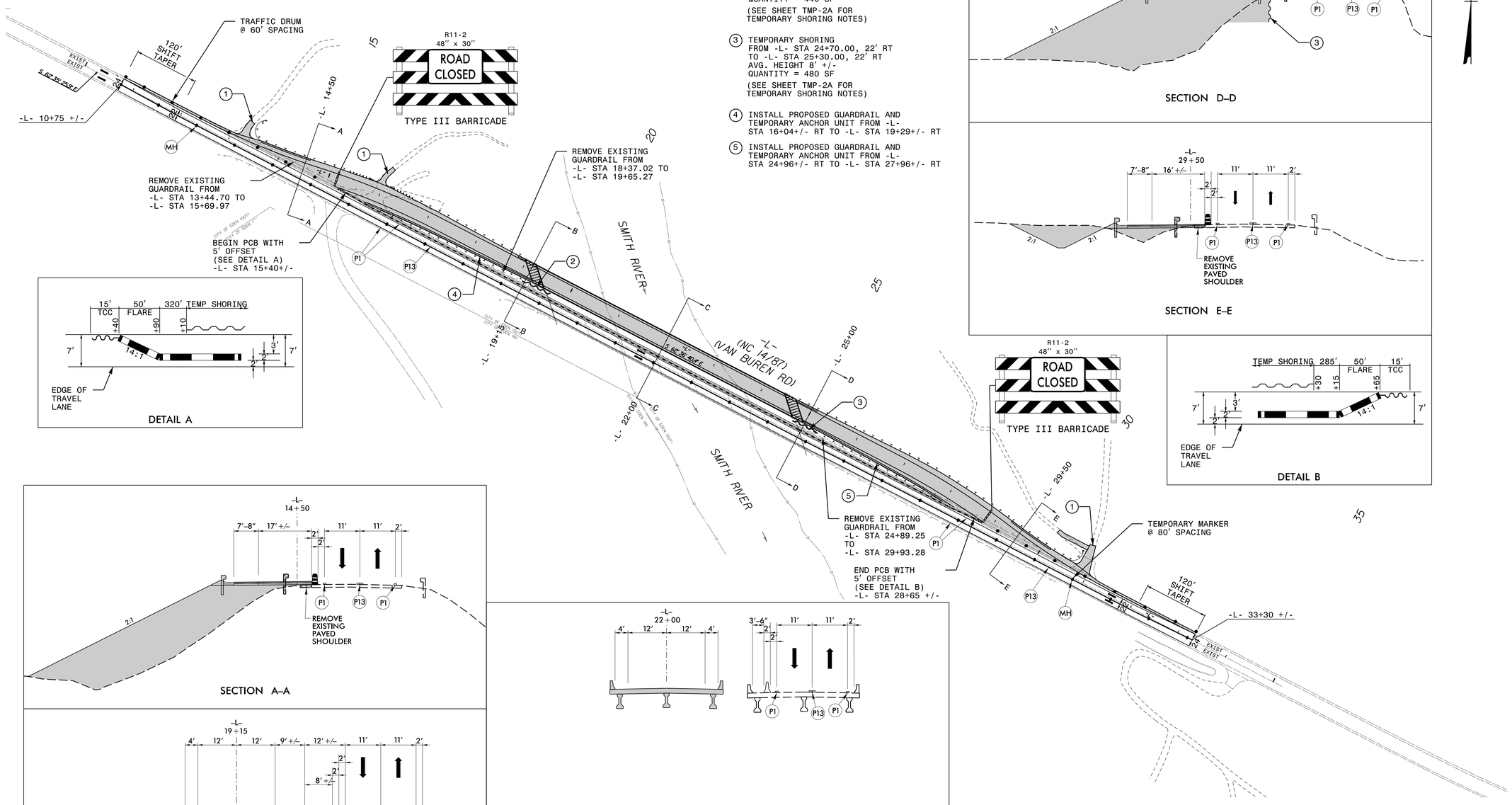
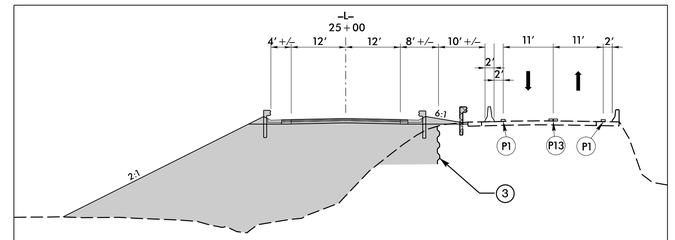
joanna.mccormack

PROJ. REFERENCE NO.	SHEET NO.
BR-0044	TMP-4

1. CONTRACTOR SHALL MAINTAIN AND COORDINATE ACCESS WITH OWNER AND ENGINEER
2. TEMPORARY SHORING FROM -L- STA 19+10.00, 22' RT TO -L- STA 19+65.00, 22' RT AVG. HEIGHT 8' +/- QUANTITY = 440 SF (SEE SHEET TMP-2A FOR TEMPORARY SHORING NOTES)
3. TEMPORARY SHORING FROM -L- STA 24+70.00, 22' RT TO -L- STA 25+30.00, 22' RT AVG. HEIGHT 8' +/- QUANTITY = 480 SF (SEE SHEET TMP-2A FOR TEMPORARY SHORING NOTES)
4. INSTALL PROPOSED GUARDRAIL AND TEMPORARY ANCHOR UNIT FROM -L- STA 16+04+/- RT TO -L- STA 19+29+/- RT
5. INSTALL PROPOSED GUARDRAIL AND TEMPORARY ANCHOR UNIT FROM -L- STA 24+96+/- RT TO -L- STA 27+96+/- RT



DETAIL A

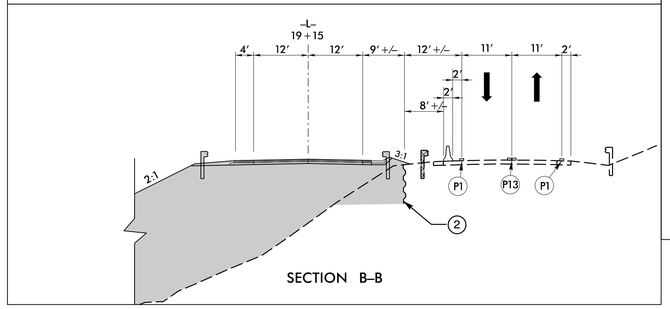


SECTION D–D

SECTION E–E

DETAIL B

SECTION A–A



SECTION B–B

SECTION C–C

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

APPROVED: DocuSigned by: Neil Dean 68B1409BEFD3467...

DATE: 4/8/2022

SEAL

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TEMPORARY TRAFFIC CONTROL PHASE I DETAIL

4/6/2022
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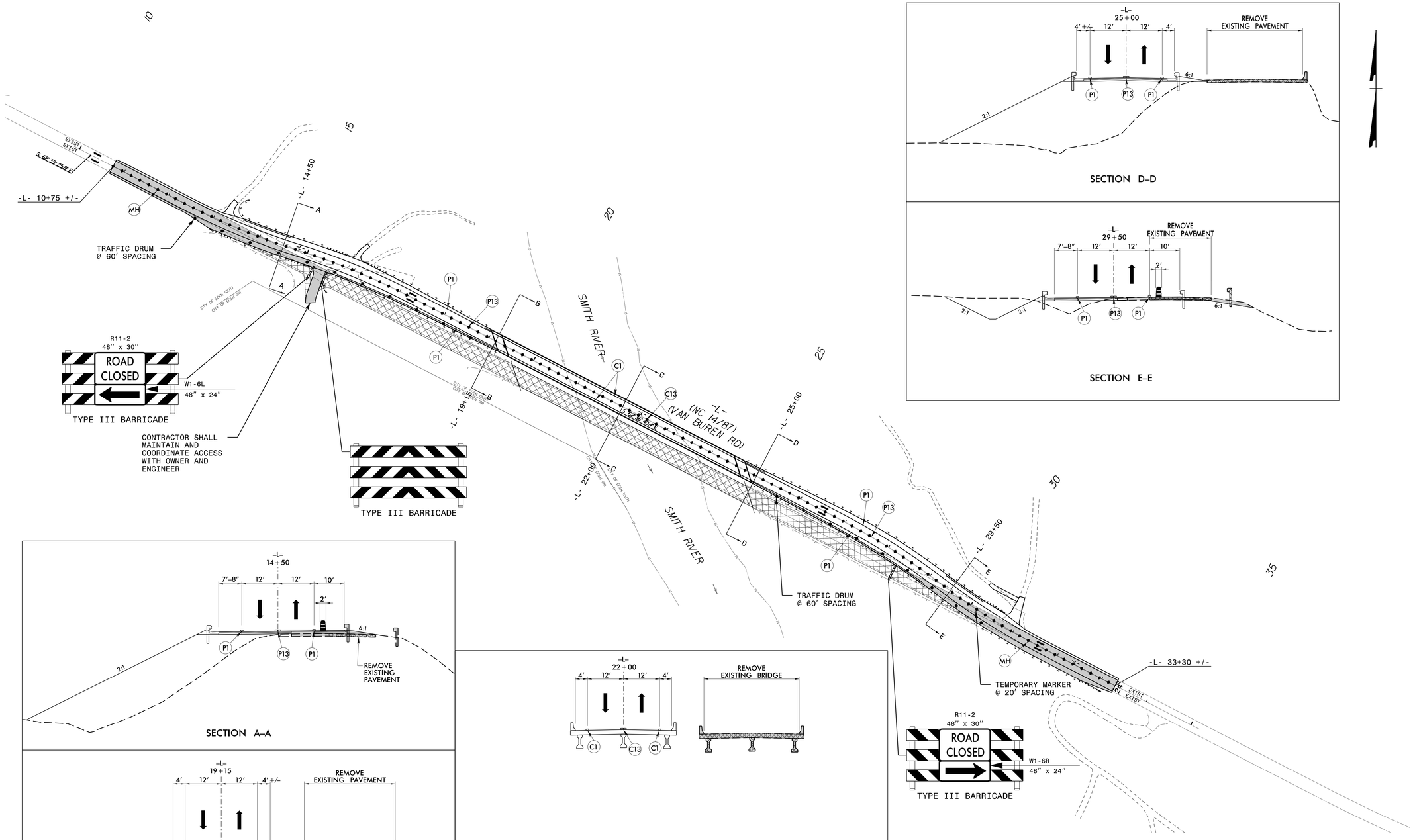
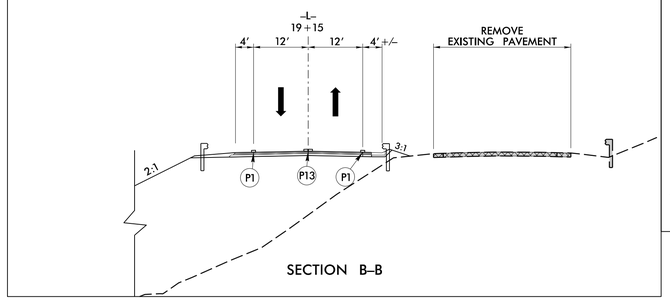
PROJ. REFERENCE NO.	SHEET NO.
BR-0044	TMP-5



SECTION D–D

SECTION E–E

SECTION A–A



SECTION B–B

SECTION C–C

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TEMPORARY TRAFFIC CONTROL PHASE II DETAIL

4/6/2022
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