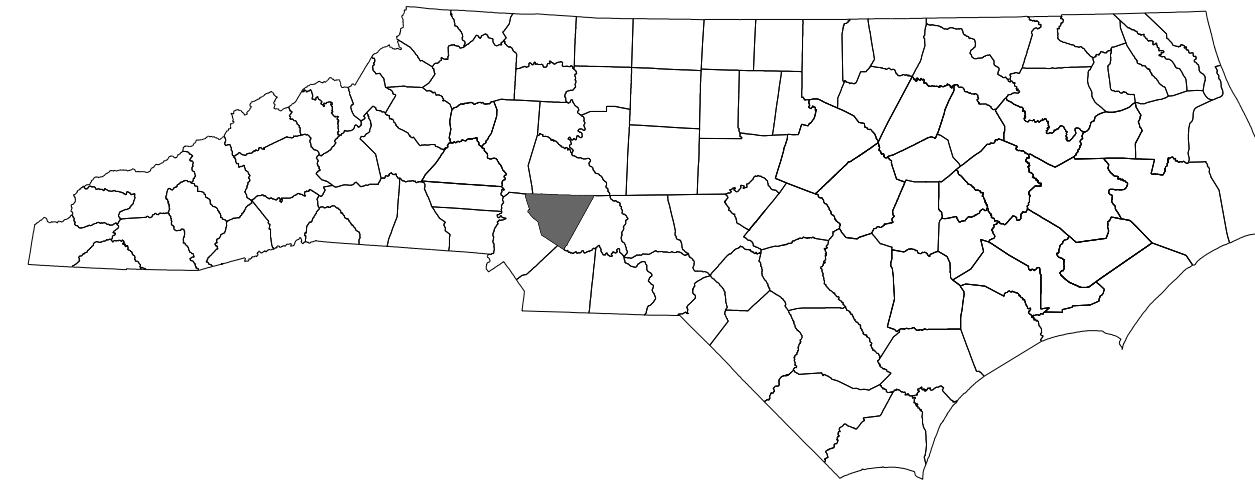
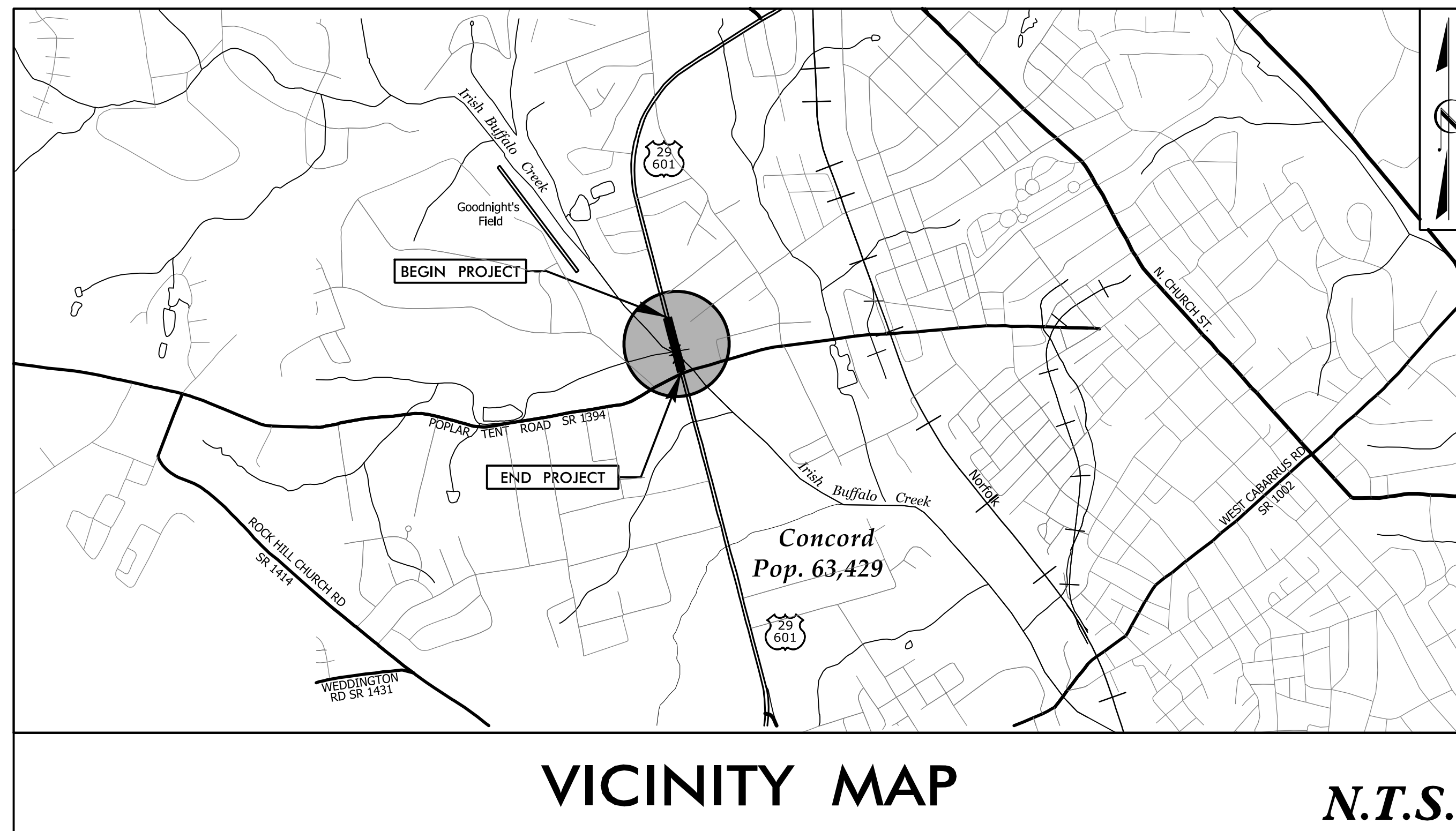


STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

TRANSPORTATION MANAGEMENT PLAN
CABARRUS COUNTY



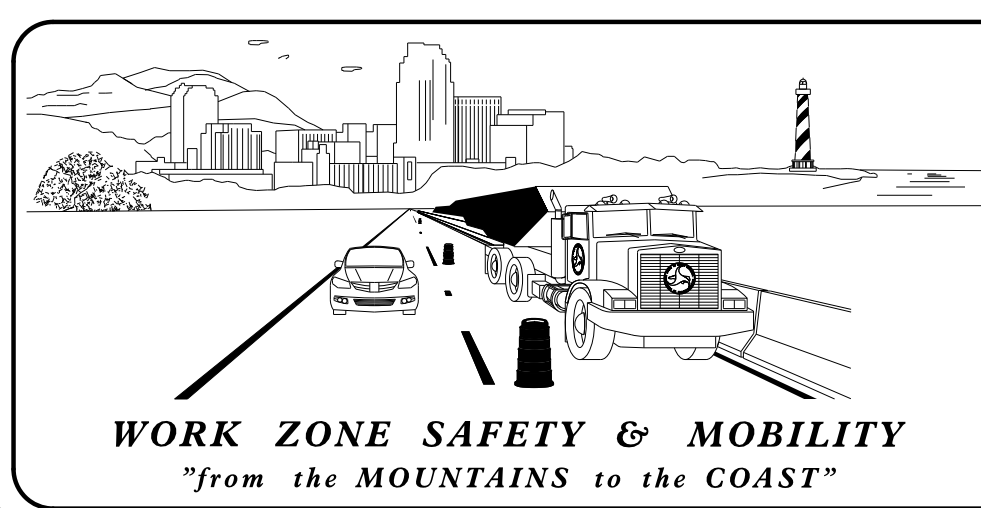
LOCATION: BRIDGES #057 & #059 OVER IRISH BUFFALO CREEK
TYPE OF WORK: GRADING, DRAINAGE, PAVING & STRUCTURES



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	PORTABLE CONCRETE BARRIER AT SHORING LOCATIONS
TMP-2A	PROJECT NOTES
TMP-2B	PROJECT NOTES
TMP-3	PROJECT PHASING
TMP-4	TEMPORARY TRAFFIC CONTROL PHASE I DETAILS
TMP-5	TEMPORARY TRAFFIC CONTROL PHASE II DETAILS
TMP-6	TEMPORARY TRAFFIC CONTROL PHASE III DETAILS
TMP-7	TEMPORARY TRAFFIC CONTROL PHASE IV DETAILS

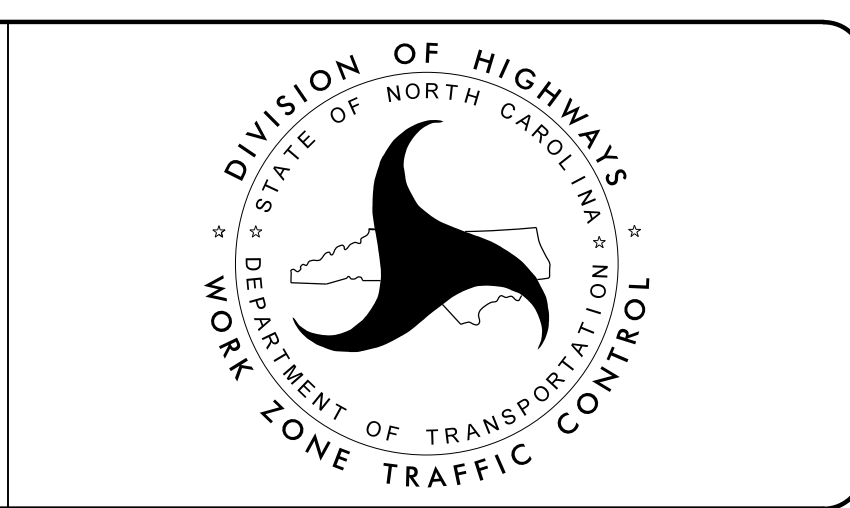
SHEET NO.
TMP-1

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2/10/2023



PLANS PREPARED BY:
NIKKI T. HONEYCUTT, PE
TRAFFIC ENGINEER
MAAMOON K. ABDELAZIZ
TRANSPORTATION DESIGNER

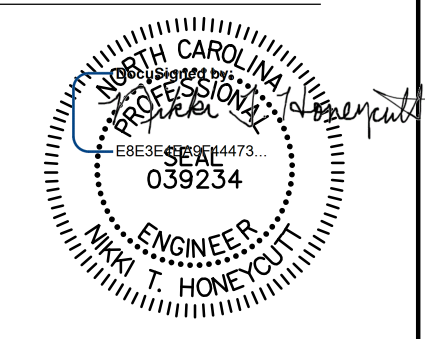
NCDOT CONTACTS:
ZACHARY CLARK, PE
PROJECT ENGINEER
KARMEN DAIS, PE
PROJECT DESIGN ENGINEER



STV 100 Years
STV Engineers, Inc.
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Charlotte, NC 28202
NC License Number F-0991

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APPROVED: _____
DATE: 3/3/2023



TIP PROJECT: B-5808




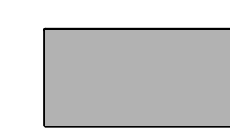
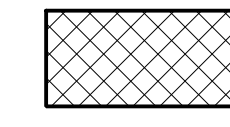
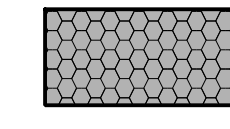
ROADWAY STANDARD DRAWINGS

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:

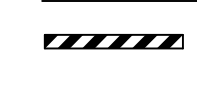




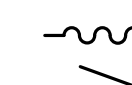
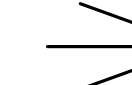
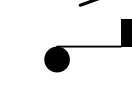
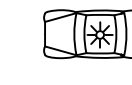
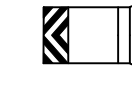
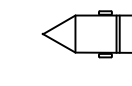
STD. NO.	TITLE
1101.01	WORK ZONE WARNING SIGNS
1101.02	TEMPORARY LANE CLOSURES
1101.04	TEMPORARY SHOULDER CLOSURES
1101.05	WORK ZONE VEHICLE ACCESSES
1101.11	TRAFFIC CONTROL DESIGN TABLES
1110.01	STATIONARY WORK ZONE SIGNS
1110.02	PORTABLE WORK ZONE SIGNS
1130.01	DRUM
1135.01	CONES
1145.01	BARRICADES - TYPE-III
1150.01	FLAGGING DEVICES
1160.01	TEMPORARY CRASH CUSHION
1165.01	TRUCK MOUNTED ATTENUATOR
1170.01	PORTABLE CONCRETE BARRIER
1180.01	SKINNY DRUM
1205.01	PAVEMENT MARKINGS - LINE TYPES AND OFFSETS
1205.02	PAVEMENT MARKINGS - TWO LANE AND MULTILANE ROADWAYS
1205.10	PAVEMENT MARKINGS - BRIDGES
1261.01	GUARDRAIL & BARRIER DELINEATOR SPACING
1261.02	GUARDRAIL & BARRIER DELINEATOR TYPES
1262.01	GUARDRAIL END DELINEATION

LEGEND


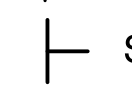

GENERAL

-  DIRECTION OF TRAFFIC FLOW
-  DIRECTION OF PEDESTRIAN TRAFFIC FLOW
- EXIST. PVMT.
-  NORTH ARROW
- PROPOSED PVMT.
-  WORK AREA
-  REMOVAL/BREAKING OF PAVEMENT
-  TEMPORARY PAVEMENT

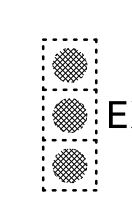
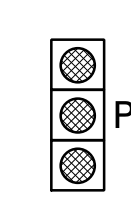
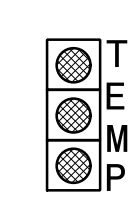
TRAFFIC CONTROL DEVICES

-  BARRICADE (TYPE III)
-  CONE
-  DRUM
-  SKINNY DRUM
-  TUBULAR MARKER
-  TEMPORARY CRASH CUSHION
-  FLASHING ARROW PANEL (TYPE C)
-  FLAGGER
-  LAW ENFORCEMENT
-  TRUCK MOUNTED IMPACT ATTENUATOR (TMIA)
-  CHANGEABLE MESSAGE SIGN

TEMPORARY SIGNING

-  PORTABLE SIGN
-  STATIONARY SIGN
-  STATIONARY OR PORTABLE SIGN

SIGNALS

-  EXISTING
-  PROPOSED
-  TEMPORARY

TEMPORARY PAVEMENT MARKING

- PAINT 24"
- P61 WHITE STOPBAR
- PAINT 4"
- P1 WHITE EDGELINE
- P2 WHITE LANE LINE
- P3 10FT. WHITE SKIP
- P4 3FT.-9FT./SP WHITE MINISKIP
- P5 2FT.-6FT./SP WHITE MINISKIP
- P10 YELLOW EDGE LINE
- P40 WHITE SOLID EDGE LINE
- P41 WHITE SOLID EDGE LINE
- PAINT 8"
- P40 WHITE GORELINE
- P41 WHITE DIAGONAL
- P42 YELLOW DIAGONAL

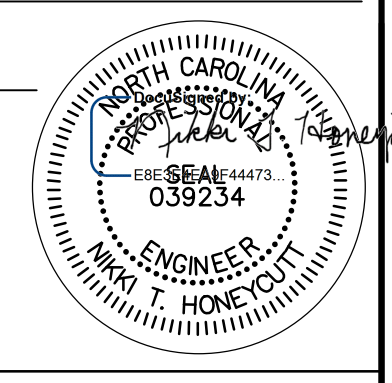

PAVEMENT MARKINGS

- EXISTING LINES
- TEMPORARY LINES

PAVEMENT MARKING SYMBOLS

-  PAVEMENT MARKING SYMBOLS

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APPROVED: _____			<p>ROADWAY STANDARD DRAWINGS & LEGEND</p>
DATE: 3/3/2023			
<p>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</p>			

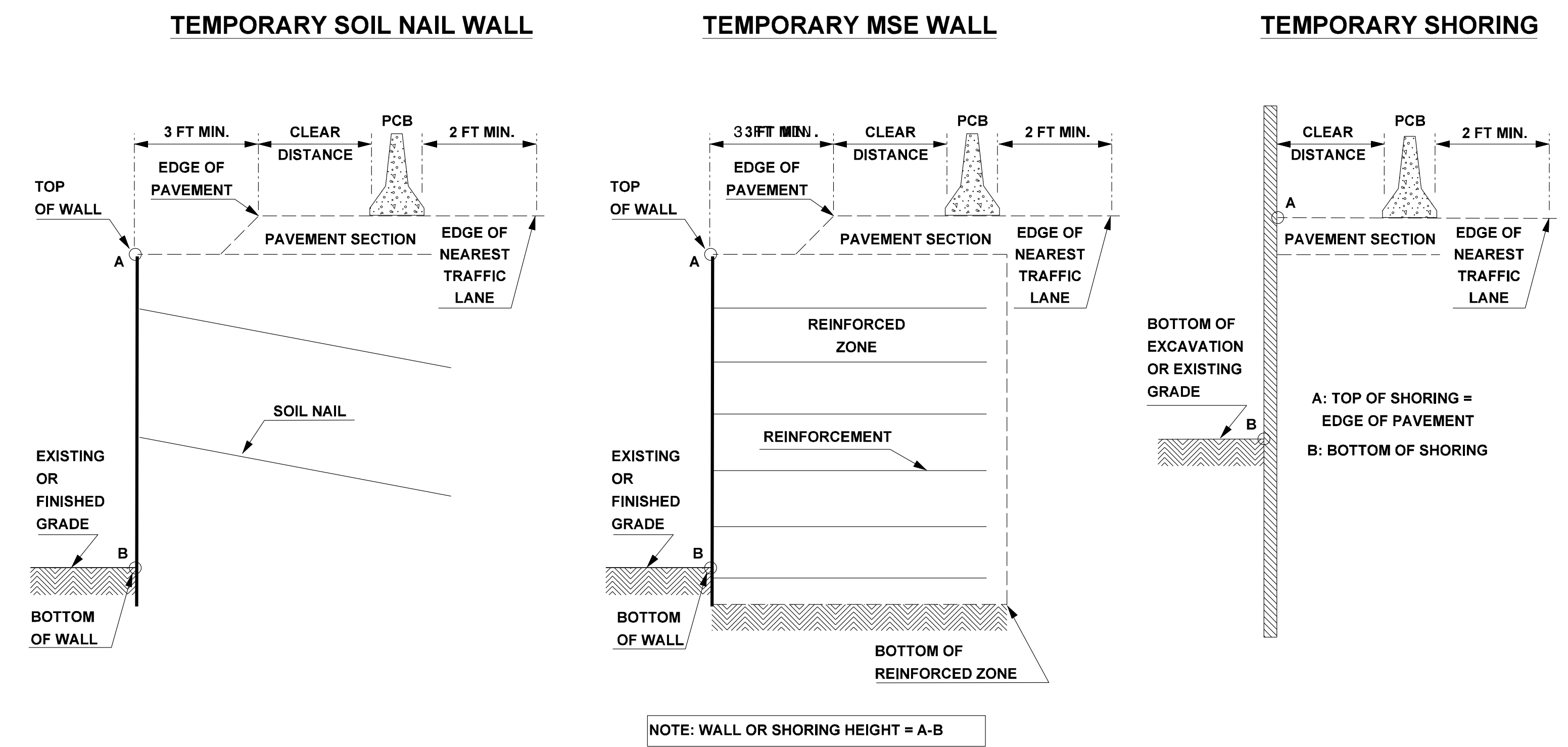


FIGURE A

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/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 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/WALL 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 AND OR AS 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 THESE 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	
Anchored PCB	Asphalt	All Offsets	24 for All Design Speeds					
		Concrete (including bridge approach slabs)	All Offsets	12 for All Design Speeds				

* See Figure Below

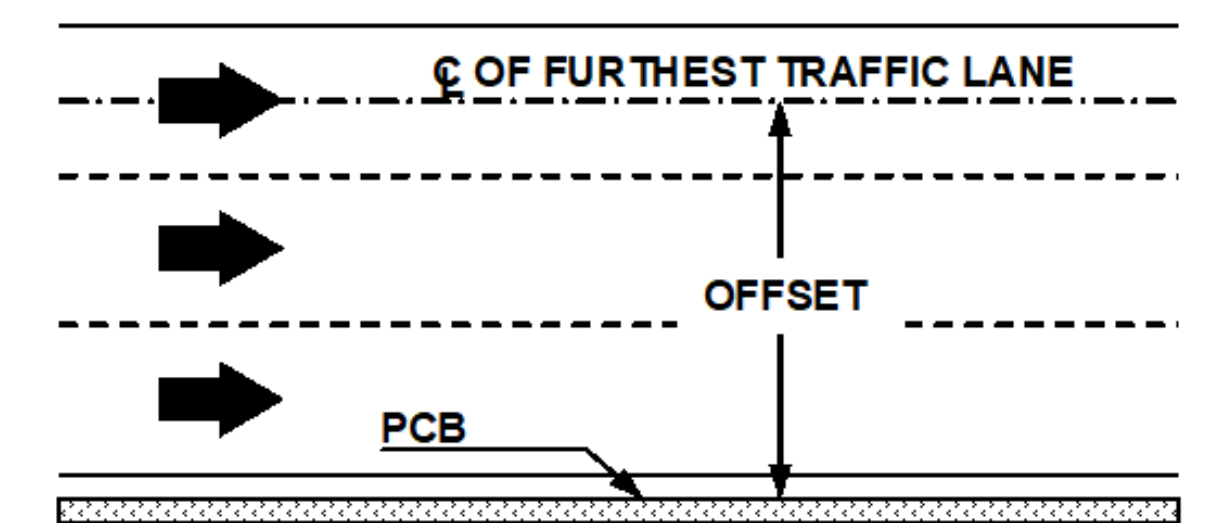


FIGURE B

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APPROVED: _____ DATE: 3/3/2023 SEAL 		PORTABLE CONCRETE BARRIER AT TEMPORARY SHORING LOCATIONS
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SHORING LOCATION No.	BEGIN STATION & OFFSET	END STATION & OFFSET	ESTIMATED AVERAGE HEIGHT	ESTIMATED MAXIMUM HEIGHT	SHORING LOCATION TYPE
No. 1	-XSB- STA 19+80± 18.0' RT	-XSB- STA 20+22± 18.0' RT	6.3 FT	8.2 FT	STRUCTURE
No. 2	-XSB- STA 19+76± 16.8' RT	-XSB- STA 20+05± 16.8' RT	4.9 FT	8.6 FT	STRUCTURE
No. 3	-XSB- STA 21+77± 18.0' RT	-XSB- STA 22+18± 18.0' RT	6.3 FT	8.4 FT	STRUCTURE
No. 4	-XSB- STA 21+95± 16.8' RT	-XSB- STA 22+24± 16.7' RT	4.9 FT	8.6 FT	STRUCTURE
No. 5	-L- STA 19+32± 13.5' RT	-L- STA 19+74± 13.5' RT	5.8 FT	8.0 FT	STRUCTURE
No. 6	-L- STA 19+31± 9.6' RT	-L- STA 19+60± 9.6' RT	5.2 FT	9.1 FT	STRUCTURE
No. 7	-L- STA 21+28± 13.5' RT	-L- STA 21+70± 13+5' RT	6.6 FT	9.2 FT	STRUCTURE
No. 8	-L- STA 21+50± 9.6' RT	-L- STA 21+79± 9.6' RT	5.5 FT	9.6 FT	STRUCTURE

SHORING LOCATION NO. 1,3,5, & 7

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 LOCATION NOS. 1, 3, 5, AND 7 FOR THE FOLLOWING ASSUMED SOIL PARAMETERS AND GROUNDWATER ELEVATION:

UNIT WEIGHT (γ)= 115 PCF
 FRICTION ANGLE (ϕ)= 28 DEGREES
 COHESION (c) = 0 PSF
 GROUNDWATER ELEVATION = 588.0 FT

LIMITED SUBSURFACE INFORMATION IS AVAILABLE IN THE VICINITY OF TEMPORARY SHORING LOCATION NOS. 1, 3, 5, AND 7. 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 LOCATION NOS. 1 AND 5 AND MAY NOT PENETRATE BELOW ELEVATION 587 FT DUE TO OBSTRUCTIONS, VERY DENSE OR HARD SOIL, BOULDERS OR WEATHERED OR HARD ROCK.

DRIVEN PILING FOR TEMPORARY SHORING LOCATION NOS. 3 AND 7 AND MAY NOT PENETRATE BELOW ELEVATION 580 FT DUE TO OBSTRUCTIONS, VERY DENSE OR HARD SOIL, BOULDERS OR WEATHERED OR HARD ROCK.

IT MAY BE PREFERRED TO USE A TEMPORARY SOIL NAIL WALL FOR TEMPORARY SHORING LOCATION NOS. 1, 3, 5, AND 7. FOR TEMPORARY SOIL NAIL WALLS, SEE TEMPORARY SOIL NAIL WALLS PROVISION.

SHORING LOCATION NO. 2,4,6, & 8

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

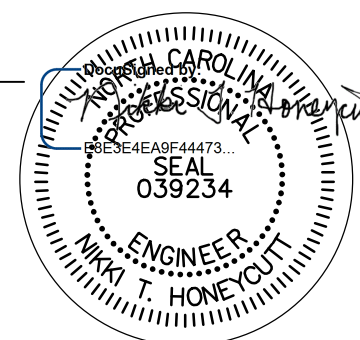

BEFORE BEGINNING TEMPORARY SHORING DESIGN OR CONSTRUCTION, SURVEY EXISTING GROUND ELEVATIONS IN THE VICINITY OF SHORING LOCATIONS TO DETERMINE ACTUAL SHORING HEIGHTS.

DESIGN TEMPORARY SHORING LOCATION NOS. 2, 4, 6, AND 8, FOR THE FOLLOWING ASSUMED SOIL PARAMETERS AND GROUNDWATER ELEVATION:

UNIT WEIGHT (γ)= 120 PCF
 FRICTION ANGLE (ϕ)= 30 DEGREES
 COHESION (c) = 0 PSF
 GROUNDWATER ELEVATION = 588.1 FT

LIMITED SUBSURFACE INFORMATION IS AVAILABLE IN THE VICINITY OF TEMPORARY SHORING LOCATION NOS. 2, 4, 6, AND 8. THE INFORMATION

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PROJECT NOTES

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 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:

<u>ROAD NAMES</u>	<u>DAY AND TIME RESTRICTIONS</u>
US 29/US 601 CONCORD PKWY (-L-)	MONDAY THRU FRIDAY 6:00 A.M TO 9:00 P.M. AND SATURDAY AND SUNDAY 9:00 A.M. TO 9:00 P.M.
POPLAR TENT RD/McGILL AVE	MONDAY THRU FRIDAY 7:00 A.M TO 9:00 A.M. AND 3:00 P.M. TO 6:00 P.M.

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

ROAD NAMES

US 29/US 601 CONCORD PKWY (-L-)

HOLIDAYS & EVENTS

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

IF INDEPENDENCE DAY IS ON A FRIDAY, SATURDAY, SUNDAY OR MONDAY, THEN BETWEEN THE HOURS OF 6:00 AM THE THURSDAY BEFORE INDEPENDENCE DAY AND 6:00 PM THE TUESDAY AFTER INDEPENDENCE DAY.
- FOR LABOR DAY, BETWEEN THE HOURS OF 6:00 AM FRIDAY TO 6:00 PM TUESDAY.
- FOR THANKSGIVING DAY, BETWEEN THE HOURS OF 6:00 AM TUESDAY TO 6:00 PM MONDAY.
- FOR CHRISTMAS, BETWEEN THE HOURS OF 6:00 AM THE FRIDAY BEFORE THE WEEK OF CHRISTMAS DAY AND 6:00 PM THE FOLLOWING TUESDAY AFTER THE WEEK OF CHRISTMAS DAY.
- FOR COCA COLA WORLD 600 RACE AT THE CHARLOTTE MOTOR SPEEDWAY, BETWEEN THE HOURS OF 9:00 AM THE FRIDAY BEFORE THE COCA COLA WORLD 600 RACE AND 9:00 AM THE FOLLOWING MONDAY AFTER THE COCA COLA WORLD 600 RACE.
- FOR BANK OF AMERICA ROVAL 400 AT THE CHARLOTTE MOTOR SPEEDWAY, BETWEEN THE HOURS OF 9:00 AM THE FRIDAY BEFORE THE COCA COLA WORLD 600 RACE AND 9:00 AM THE FOLLOWING MONDAY AFTER THE BANK OF AMERICA ROVAL 400.

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 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.

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

TRAFFIC PATTERN ALTERATIONS

- J) NOTIFY THE ENGINEER THIRTY (30) CALENDAR 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 BARRIER

- M) INSTALL TEMPORARY BARRIER ACCORDING TO THE TRAFFIC CONTROL 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 TRAFFIC CONTROL 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 TRAFFIC CONTROL 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.

- N) 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 IMPACT 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:

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

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PROJECT NOTES

TRAFFIC CONTROL DEVICES

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

PAVEMENT MARKINGS AND MARKERS

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

<u>ROAD NAME</u>	<u>MARKING</u>	<u>MARKER</u>
US 29/US 601 CONCORD PKWY (-L-)	PAINT	NONE

- S) 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.
- T) TIE PROPOSED PAVEMENT MARKING LINES TO EXISTING PAVEMENT MARKING LINES.
- U) REMOVE/REPLACE ANY CONFLICTING/DAMAGED PAVEMENT MARKINGS AND MARKERS BY THE END OF EACH DAY'S OPERATION.

MISCELLANEOUS

- V) IN THE EVENT A TIE-IN CANNOT BE MADE IN ONE DAY'S TIME, BRING THE TIE-IN AREA TO AN APPROPRIATE ROADWAY ELEVATION AS DETERMINED BY THE ENGINEER. PLACE BLACK ON ORANGE "LOOSE GRAVEL" SIGNS (W8-7) AND BLACK ON ORANGE "PAVEMENT ENDS" SIGNS (W8-3) 100 FT AND 200 FT RESPECTIVELY IN ADVANCE OF THE UNEVEN AREAS. USE DRUMS TO DELINEATE THE EDGE OF ROADWAY ALONG UNPAVED AREAS.

LOCAL NOTES

1. CONTACT CABARRUS COUNTY EMERGENCY SERVICES AND SCHOOLS AT LEAST ONE MONTH PRIOR TO CONSTRUCTION.
2. THE CONTRACTOR SHALL BUILD AS MUCH AS POSSIBLE AWAY FROM TRAFFIC.

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APPROVED: _____ DATE: 3/3/2023 <div style="text-align: center; margin-top: 20px;">  SEAL </div>		<h3 style="margin: 0;">TRANSPORTATION OPERATIONS PLAN</h3>
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PROJ. REFERENCE NO.	SHEET NO.
B-5808	TMP-3



PROJECT PHASING

PHASE I

- STEP 1: INSTALL WORK ZONE ADVANCE WARNING SIGNS ON ALL ROADS ACCORDING TO RSD NO. 1101.01, SHEETS 1 THRU 3.
- STEP 2: AWAY FROM TRAFFIC CONSTRUCT SOUTHBOUND CONCORD PARKWAY ROADWAY ALIGNMENT (-XSB-) AND STAGE 1 OF PROPOSED BRIDGE AS SHOWN ON TMP-4. AWAY FROM TRAFFIC, REMOVE 5' OF THE EXISTING CONCRETE ISLAND AT THE CONCORD PARKWAY / POPLAR TENT ROAD INTERSECTION, PATCH ASPHALT AS NECESSARY, AND REPLACE EXISTING SIGNS. MAINTAIN NORTHBOUND AND SOUTHBOUND TRAFFIC ON THE EXISTING ALIGNMENT.
- STEP 3: USING TEMPORARY LANE CLOSURES AS NECESSARY TO CONSTRUCT TIE-INS, PLACE TEMPORARY GUARDRAIL, TEMPORARY SHORING, AND PLACE TEMPORARY PAVEMENT MARKINGS AS SHOWN ON TMP-4.

PHASE II

- STEP 1: AWAY FROM TRAFFIC, REMOVE 62' OF THE EXISTING CONCRETE ISLAND AT THE CONCORD PARKWAY / POPLAR TENT ROAD INTERSECTION, PATCH ASPHALT AS NECESSARY, REPLACE EXISTING SIGNS, AND USE TEMPORARY STEEL PLATES TO PROTECT DRAINAGE STRUCTURES #0403 AND #0404. MODIFY TRAFFIC SIGNALS AT THE CONCORD PARKWAY / POPLAR TENT ROAD INTERSECTION AND THE SOUTHBOUND U-TURN. USING PORTABLE CONCRETE BARRIER, SHIFT THE SOUTHBOUND CONCORD PARKWAY TRAFFIC ONTO THE -XSB- ROADWAY ALIGNMENT MAINTAINING TWO SOUTHBOUND LANES AND U-TURNS. CONTINUE TO MAINTAIN NORTHBOUND TRAFFIC ON THE EXISTING ALIGNMENT.
- STEP 2: AWAY FROM TRAFFIC, PLACE TEMPORARY SHORING AND CONSTRUCT STAGE 2 OF THE PROPOSED BRIDGE AND NORTHBOUND CONCORD PARKWAY TRAFFIC (-XNB-) AS SHOWN ON TMP-5. REMOVE TEMPORARY SHORING INSTALLED IN PHASE I AS PHASE II IS CONSTRUCTED.

PHASE III

- STEP 1: MODIFY TRAFFIC SIGNALS AT THE CONCORD PARKWAY / POPLAR TENT ROAD INTERSECTION AND THE SOUTHBOUND U-TURN. USING PORTABLE CONCRETE BARRIER, SHIFT THE NORTHBOUND CONCORD PARKWAY TRAFFIC ONTO THE NEWLY CONSTRUCTED PORTION OF THE BRIDGE AND ROADWAY ALIGNMENT MAINTAINING TWO SOUTHBOUND LANE AND U-TURNS ON THE -XSB- AND -XNB- ALIGNMENTS AS SHOWN ON TMP-6.
- STEP 2: AWAY FROM TRAFFIC STAGE CONSTRUCT STAGE 3 OF THE PROPOSED BRIDGE AND SECTION OF THE PROPOSED ROADWAY ALIGNMENT AS SHOWN ON TMP-6. REMOVE TEMPORARY SHORING INSTALLED IN PHASE II AS PHASE III IS CONSTRUCTED.

PHASE IV

- STEP 1: MODIFY TRAFFIC SIGNALS AT THE CONCORD PARKWAY / POPLAR TENT ROAD INTERSECTION AND THE SOUTHBOUND U-TURN. PLACE TEMPORARY PAVEMENT MARKINGS IN THE FINAL PATTERN, SHIFT THE NORTH AND SOUTHBOUND CONCORD PARKWAY TRAFFIC ONTO THE NEWLY CONSTRUCTED BRIDGE.
- STEP 2: USING TEMPORARY LANE CLOSURES, REMOVE TEMPORARY PAVEMENT, CONSTRUCT CURB TIE INS, MEDIANS, SIDEWALK ON LEFT SIDE OF BRIDGE, UNPLUG LEFT SIDE OF DECK DRAINS, INSTALL PERMANENT GLANDS IN BRIDGE JOINTS, FINAL LAYER OF PAVEMENT, AND FINAL PAVEMENT MARKINGS. OPEN ALL LANES TO THE FINAL PATTERN.
- STEP 3: REMOVE ALL TRAFFIC CONTROL DEVICES.

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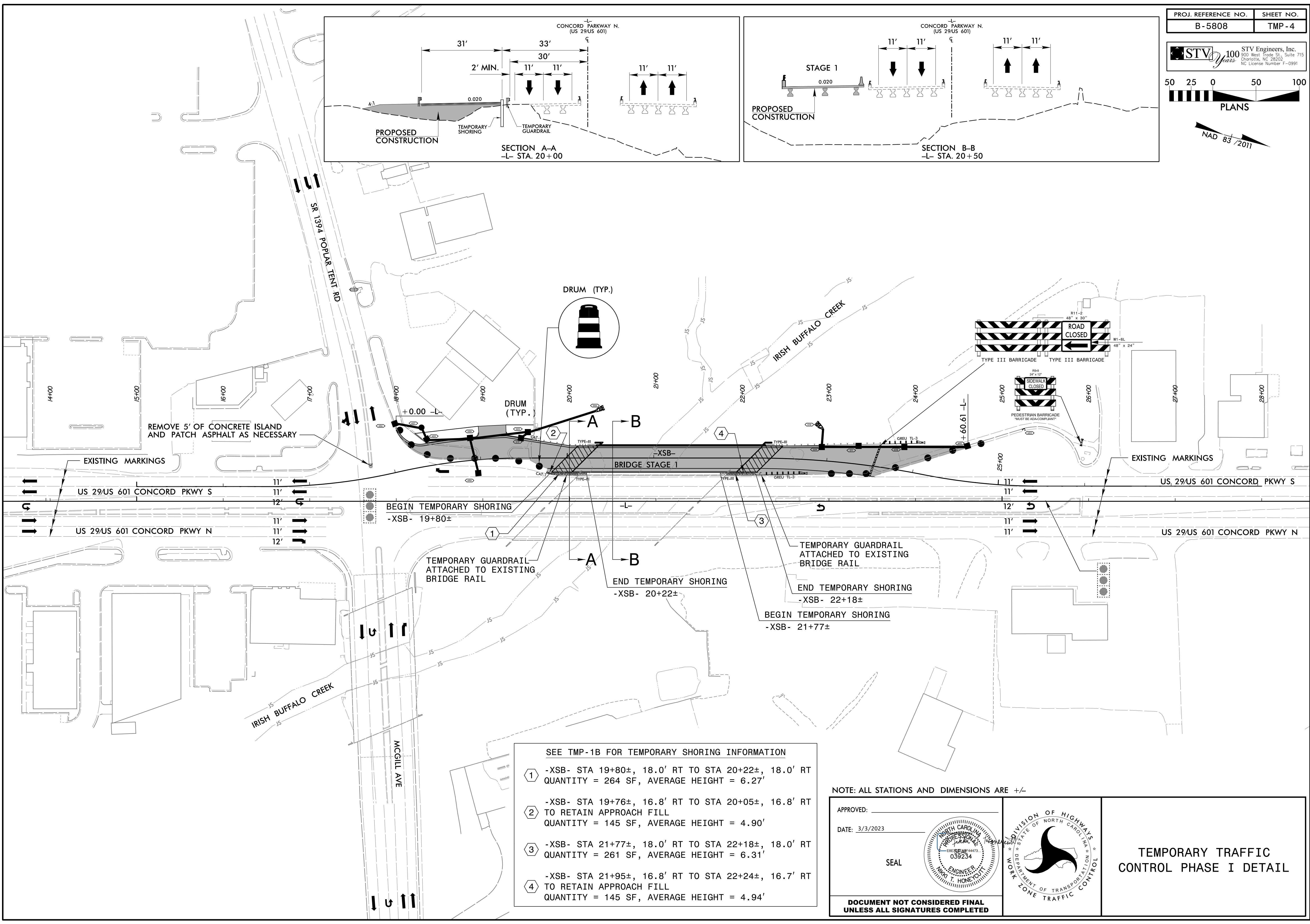
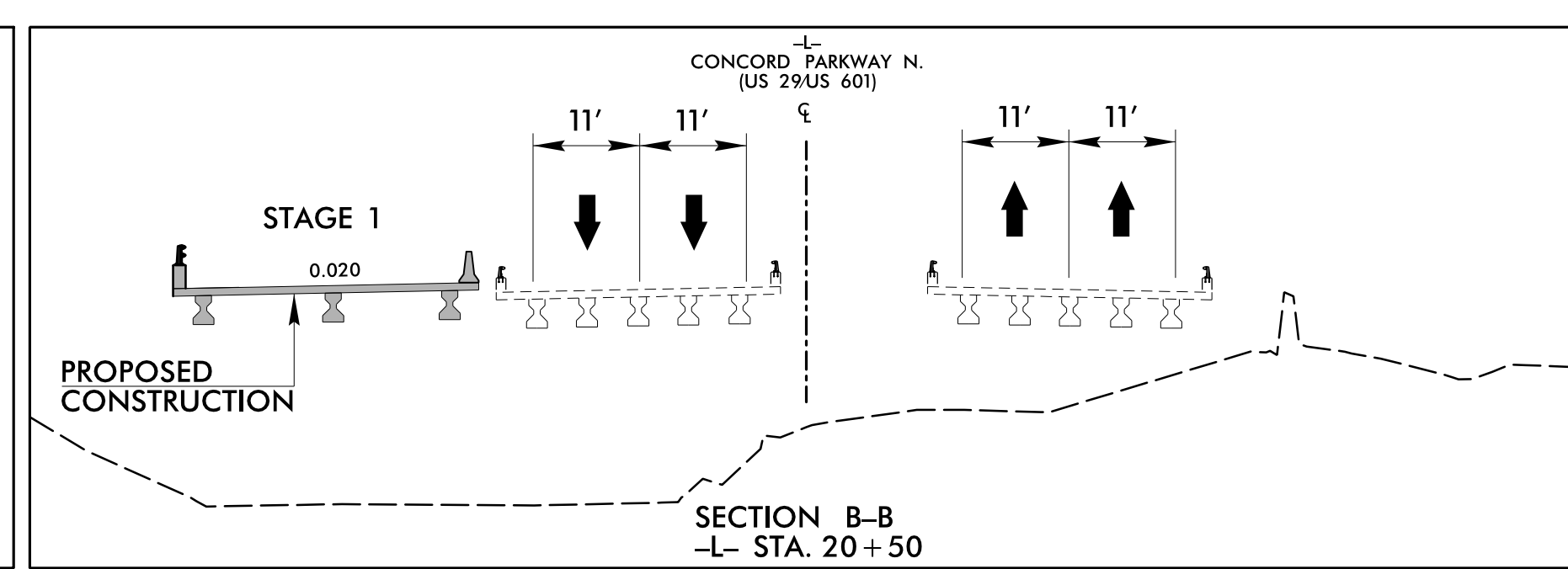
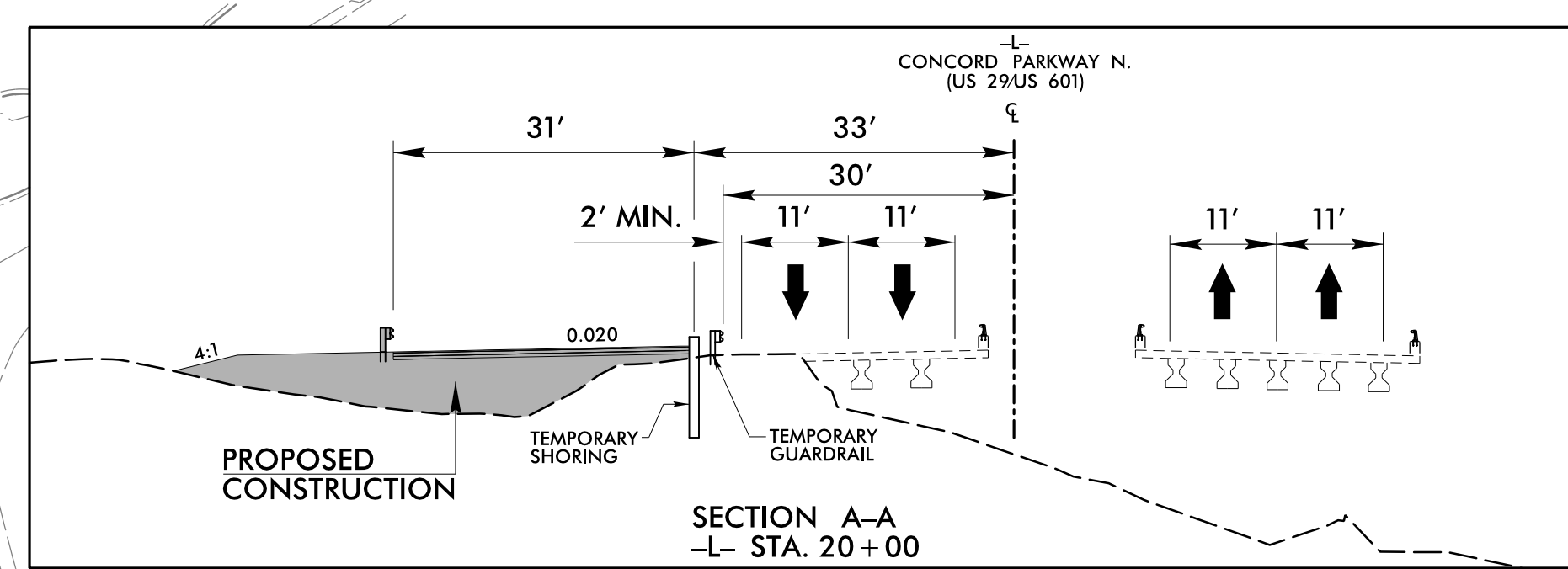
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PROJ. REFERENCE NO. B-5808	SHEET NO. TMP-4
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STV 100 STV Engineers, Inc.
900 West Trade St., Suite 715
Charlotte, NC 28202
NC License Number F-0991

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PLANS

NAD 83 / 2011



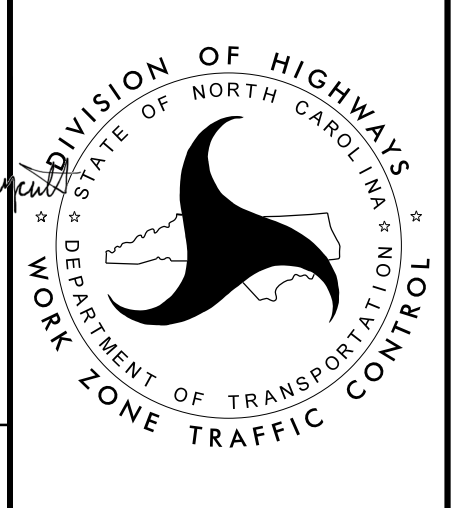
- SEE TMP-1B FOR TEMPORARY SHORING INFORMATION
- ① -XSB- STA 19+80±, 18.0' RT TO STA 20+22±, 18.0' RT QUANTITY = 264 SF, AVERAGE HEIGHT = 6.27'
 - ② -XSB- STA 19+76±, 16.8' RT TO STA 20+05±, 16.8' RT TO RETAIN APPROACH FILL QUANTITY = 145 SF, AVERAGE HEIGHT = 4.90'
 - ③ -XSB- STA 21+77±, 18.0' RT TO STA 22+18±, 18.0' RT QUANTITY = 261 SF, AVERAGE HEIGHT = 6.31'
 - ④ -XSB- STA 21+95±, 16.8' RT TO STA 22+24±, 16.7' RT TO RETAIN APPROACH FILL QUANTITY = 145 SF, AVERAGE HEIGHT = 4.94'

NOTE: ALL STATIONS AND DIMENSIONS ARE +/-

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DATE: 3/3/2023

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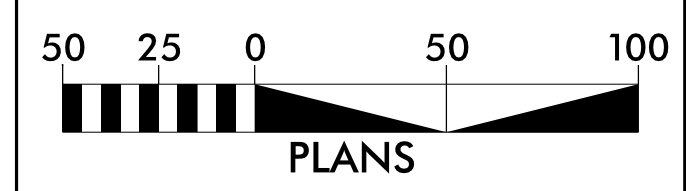
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DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
WORK ZONE TRAFFIC CONTROL

TEMPORARY TRAFFIC CONTROL PHASE I DETAIL

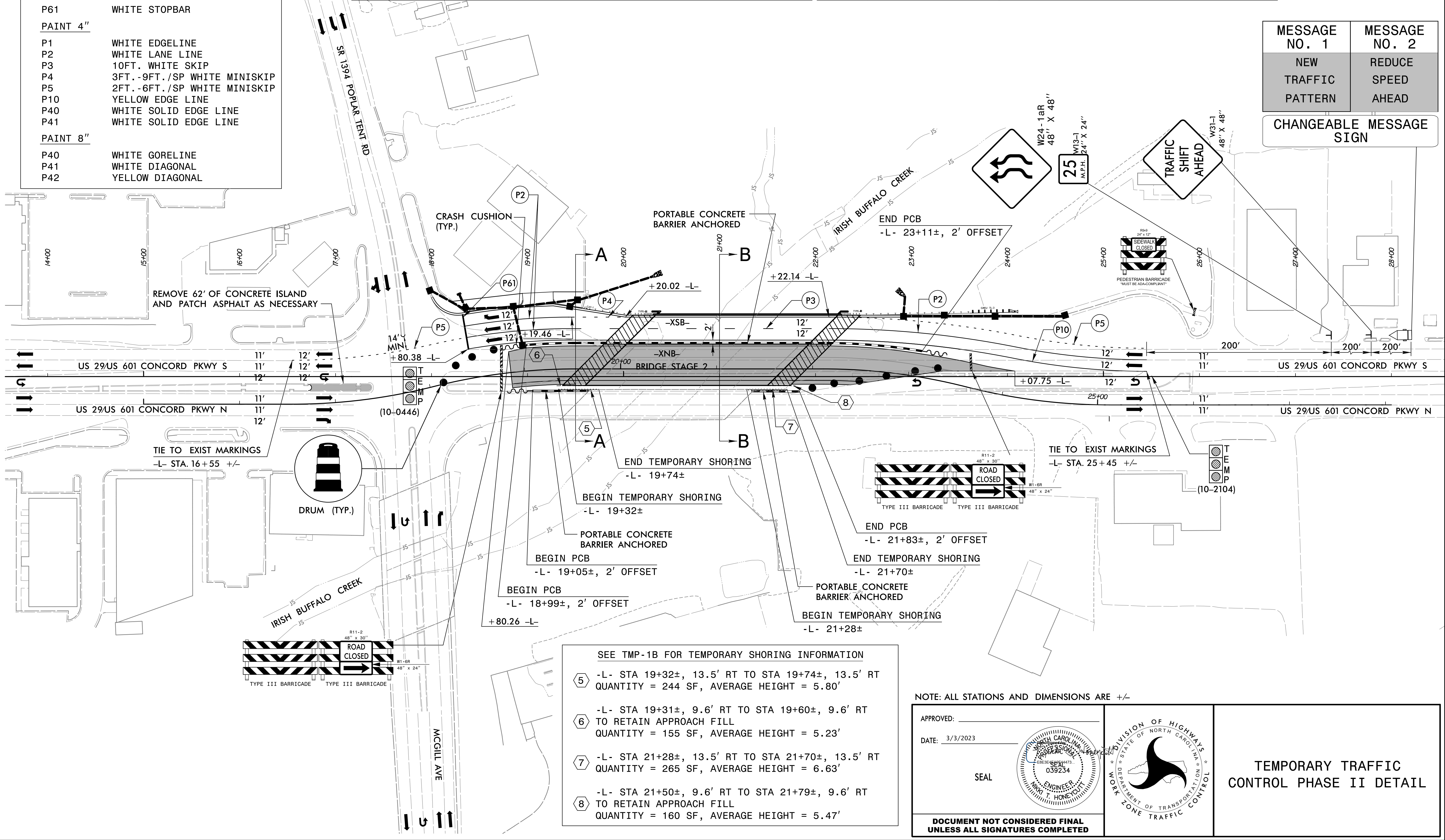
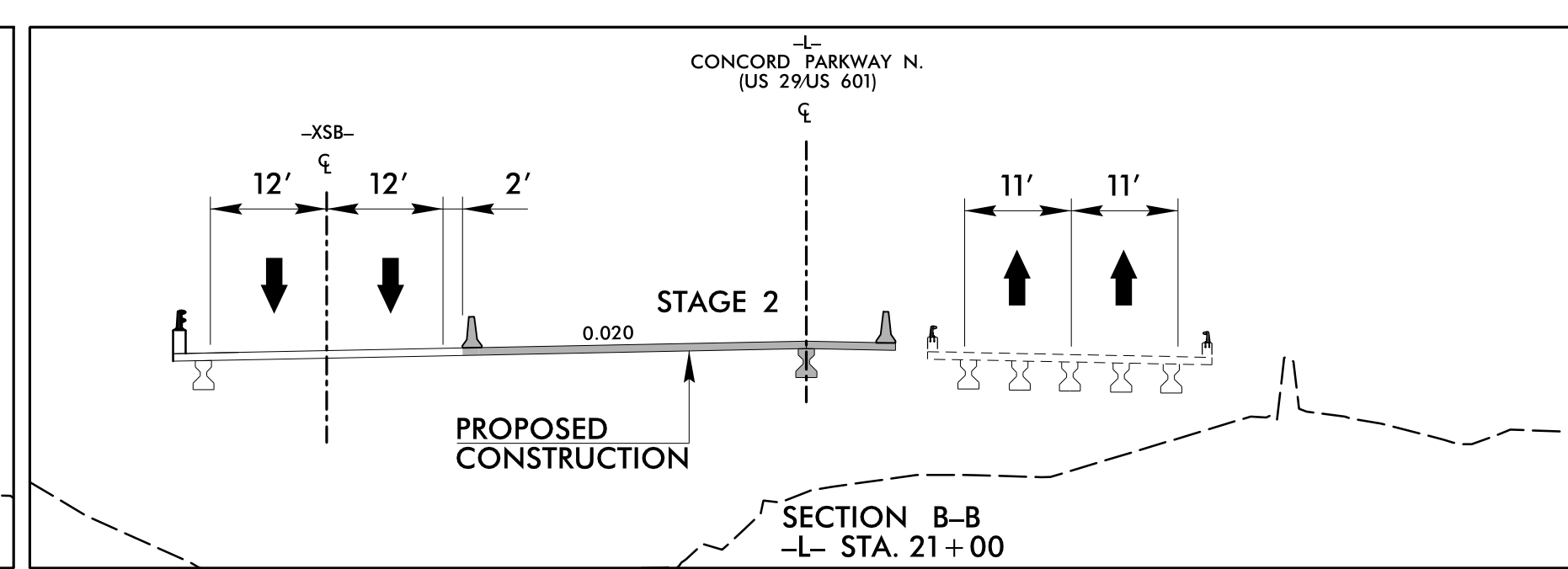
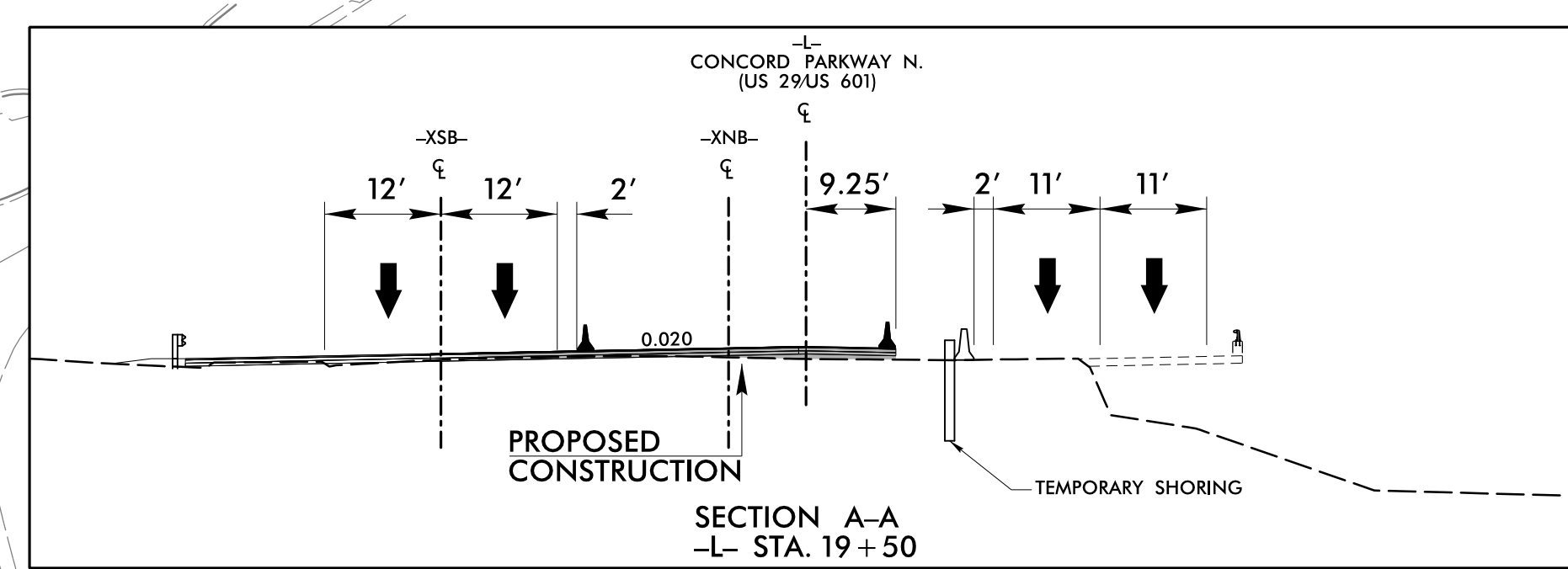
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TEMPORARY PAVEMENT MARKING

PAINT 24"	
P61	WHITE STOPBAR
PAINT 4"	
P1	WHITE EDGELINE
P2	WHITE LANE LINE
P3	10FT. WHITE SKIP
P4	3FT. - 9FT. /SP WHITE MINISKIP
P5	2FT. - 6FT. /SP WHITE MINISKIP
P10	YELLOW EDGE LINE
P40	WHITE SOLID EDGE LINE
P41	WHITE SOLID EDGE LINE
PAINT 8"	
P40	WHITE GORELINE
P41	WHITE DIAGONAL
P42	YELLOW DIAGONAL

MESSAGE NO. 1	MESSAGE NO. 2
NEW TRAFFIC PATTERN	REDUCE SPEED AHEAD
CHANGEABLE MESSAGE SIGN	



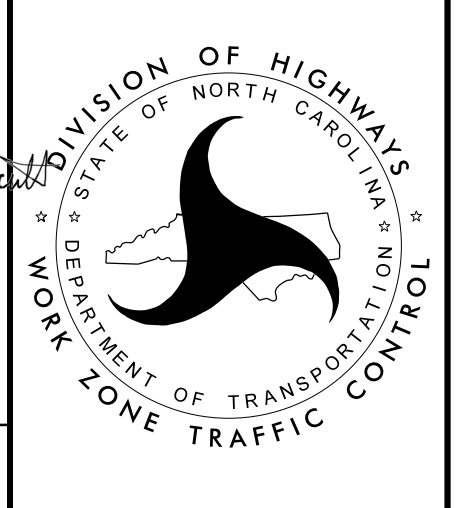
- SEE TMP-1B FOR TEMPORARY SHORING INFORMATION
- 5 -L- STA 19+32±, 13.5' RT TO STA 19+74±, 13.5' RT QUANTITY = 244 SF, AVERAGE HEIGHT = 5.80'
 - 6 -L- STA 19+31±, 9.6' RT TO STA 19+60±, 9.6' RT TO RETAIN APPROACH FILL QUANTITY = 155 SF, AVERAGE HEIGHT = 5.23'
 - 7 -L- STA 21+28±, 13.5' RT TO STA 21+70±, 13.5' RT QUANTITY = 265 SF, AVERAGE HEIGHT = 6.63'
 - 8 -L- STA 21+50±, 9.6' RT TO STA 21+79±, 9.6' RT TO RETAIN APPROACH FILL QUANTITY = 160 SF, AVERAGE HEIGHT = 5.47'

NOTE: ALL STATIONS AND DIMENSIONS ARE +/-

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 DATE: 3/3/2023

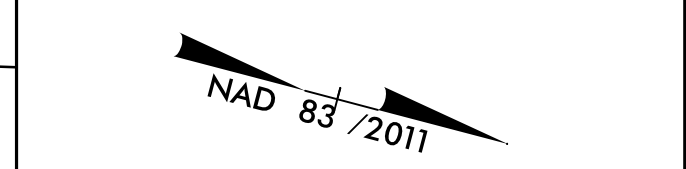
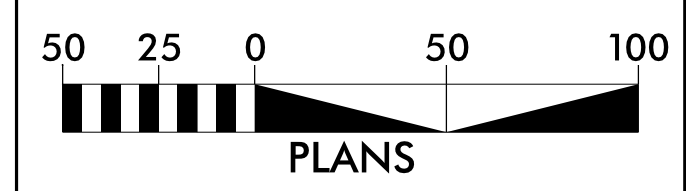
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TEMPORARY TRAFFIC CONTROL PHASE II DETAIL

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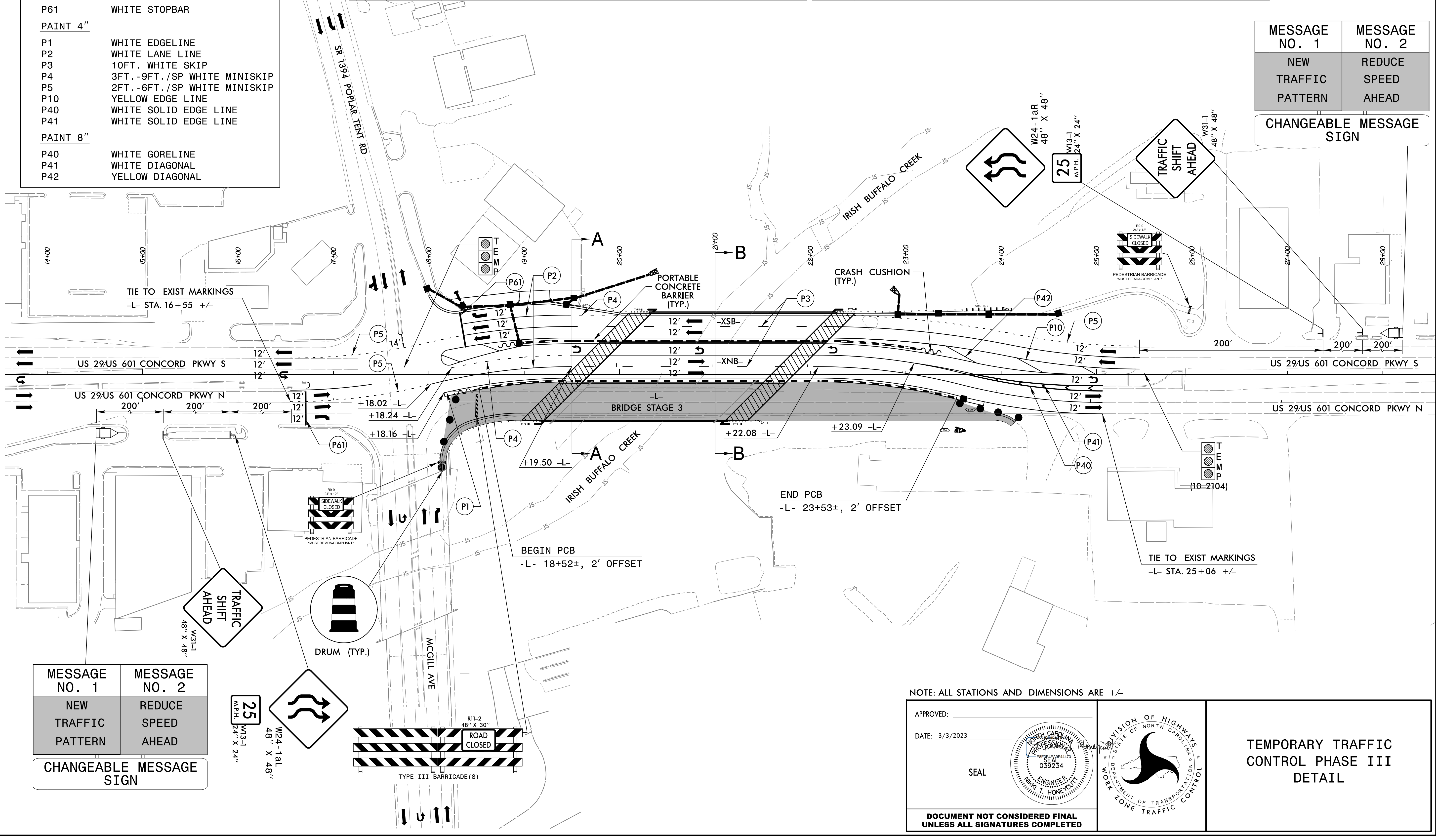
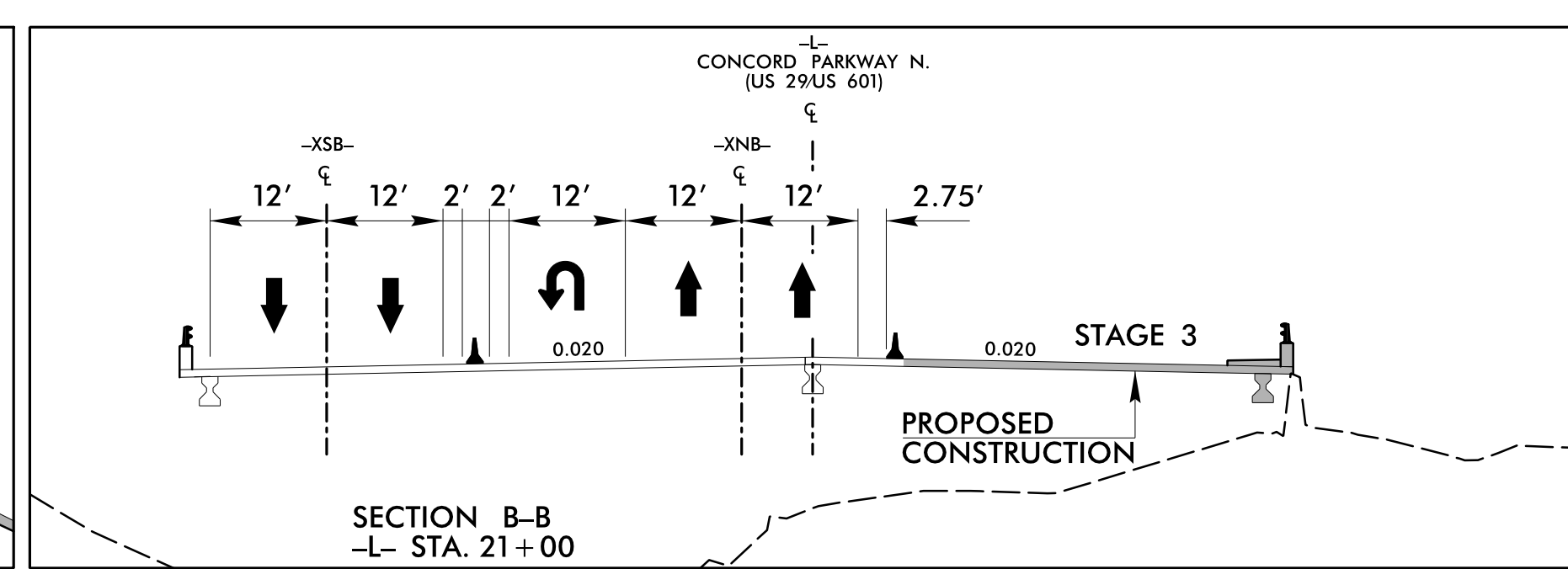
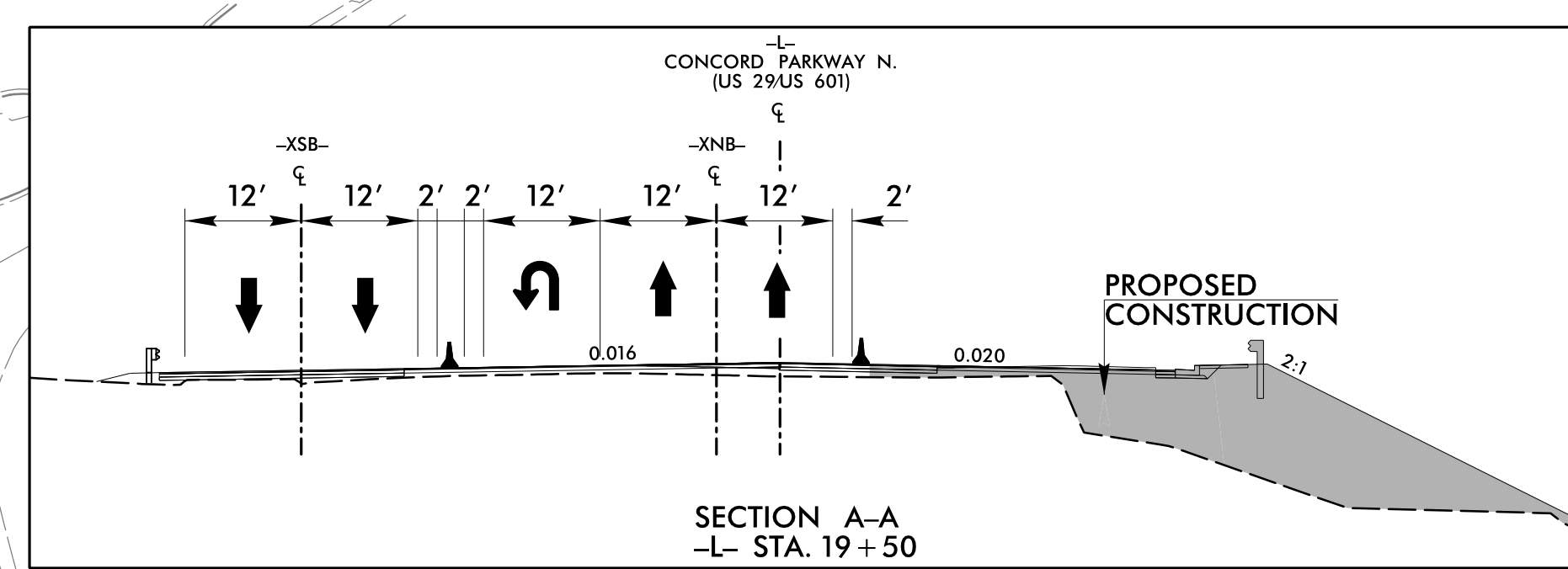
TEMPORARY PAVEMENT MARKING

PAINT 24"
 P61 WHITE STOPBAR

PAINT 4"
 P1 WHITE EDGELINE
 P2 WHITE LANE LINE
 P3 10FT. WHITE SKIP
 P4 3FT.-9FT./SP WHITE MINISKIP
 P5 2FT.-6FT./SP WHITE MINISKIP
 P10 YELLOW EDGE LINE
 P40 WHITE SOLID EDGE LINE
 P41 WHITE SOLID EDGE LINE

PAINT 8"
 P40 WHITE GORELINE
 P41 WHITE DIAGONAL
 P42 YELLOW DIAGONAL

MESSAGE NO. 1	MESSAGE NO. 2
NEW TRAFFIC PATTERN	REDUCE SPEED AHEAD
CHANGEABLE MESSAGE SIGN	

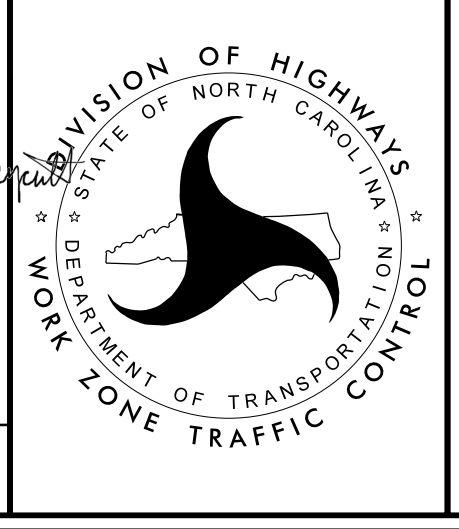


NOTE: ALL STATIONS AND DIMENSIONS ARE +/-

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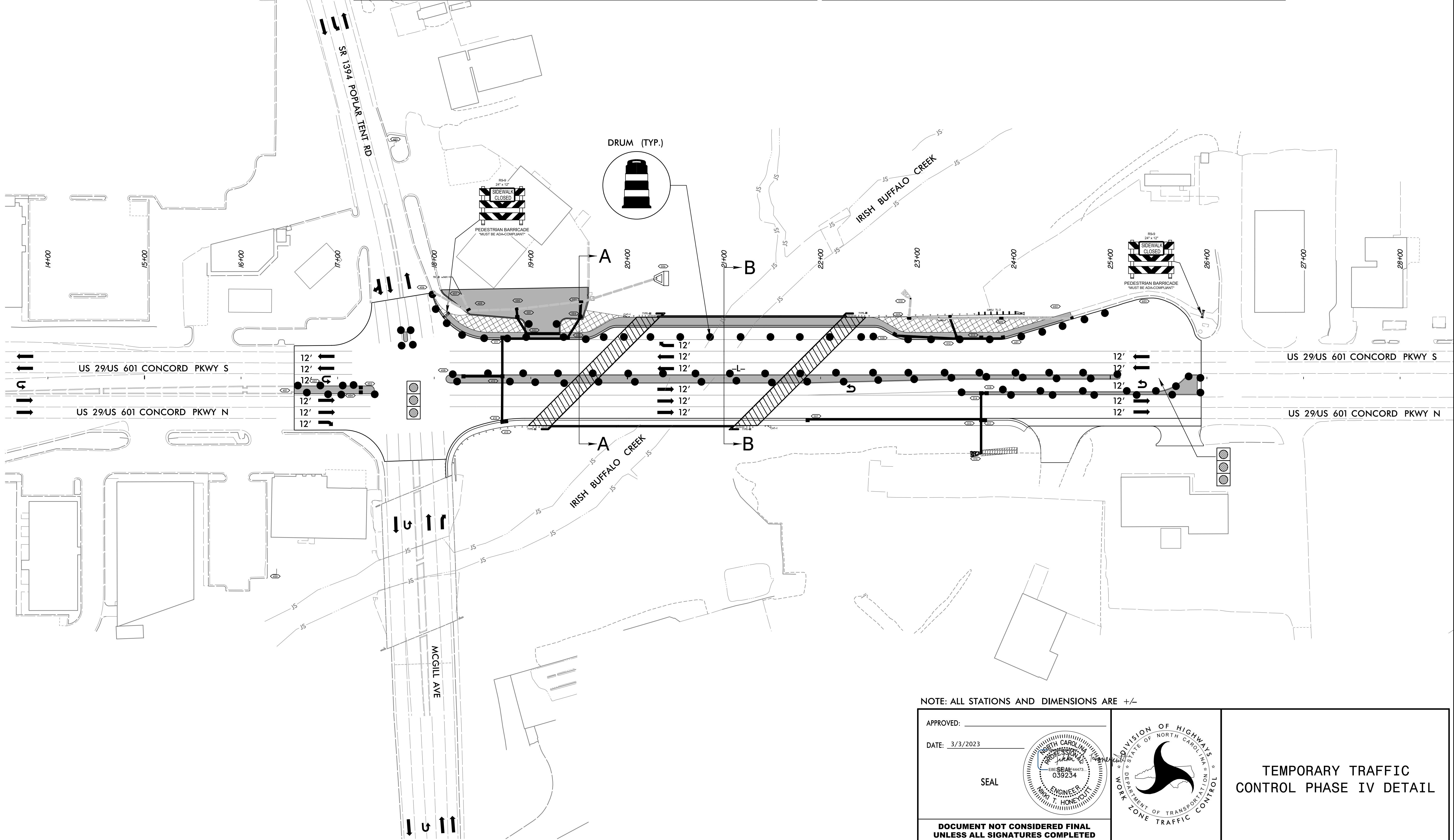
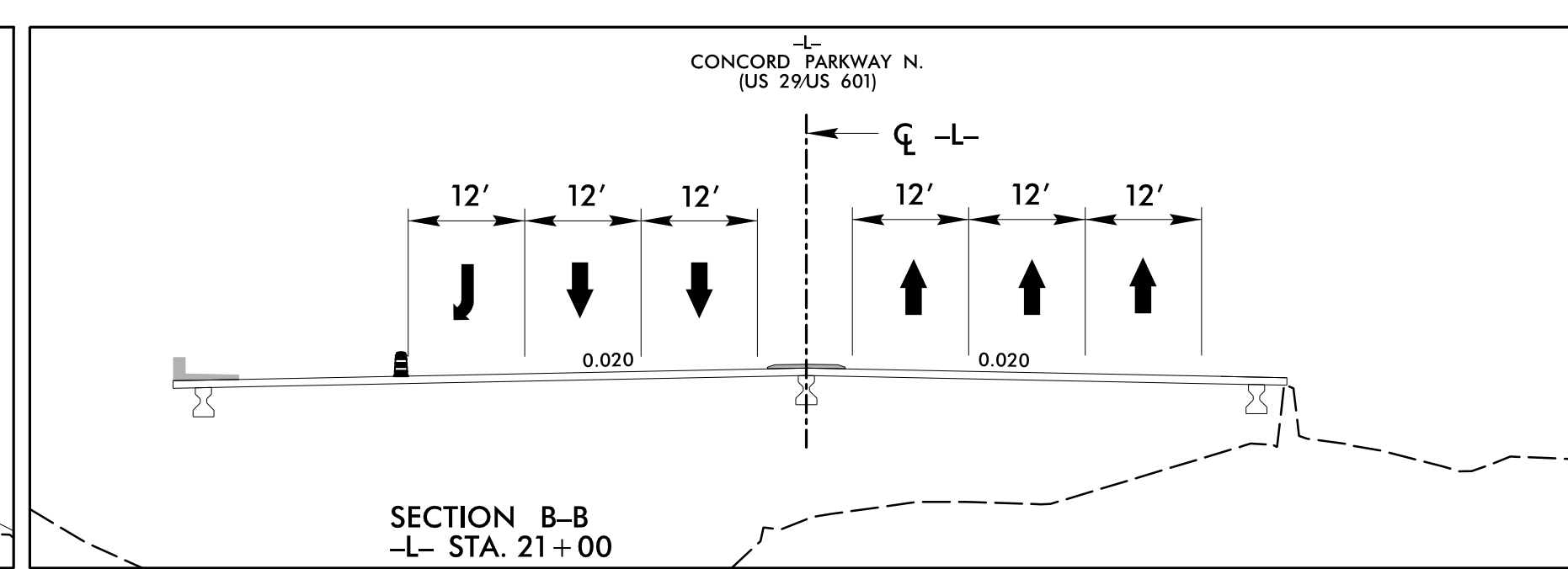
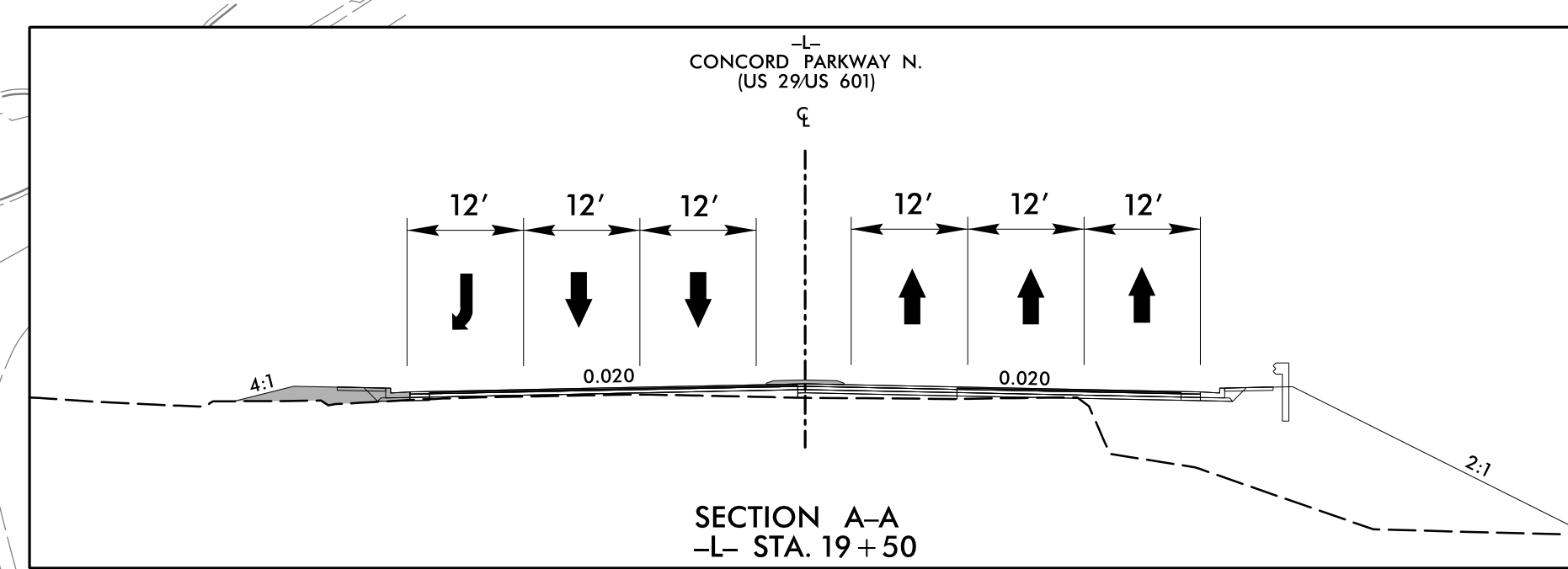
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TEMPORARY TRAFFIC CONTROL PHASE III DETAIL

DEPARTMENT OF TRANSPORTATION
 WORK ZONE TRAFFIC CONTROL

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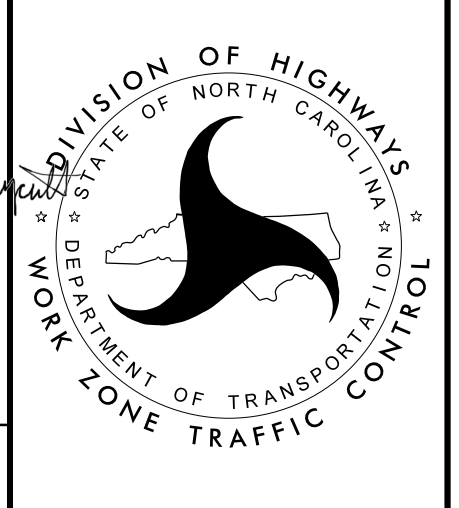


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DIVISION OF HIGHWAYS
 STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 WORK ZONE TRAFFIC CONTROL

TEMPORARY TRAFFIC CONTROL PHASE IV DETAIL

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 mbb@stvdz.com