

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
1101.03	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 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
- CONSTRUCT UNDER TRAFFIC
- REMOVAL

SIGNALS

- EXISTING
- PROPOSED
- DS 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

- P1 PAINT - WHITE EDGELINE - (4")
- P4 PAINT - WHITE 3FT- 9FT/SP MINISKIP - (4")
- P13 PAINT - YELLOW DOUBLE CENTER - (4")
- P14 PAINT - WHITE 2FT- 6FT/SP MINISKIP - (4")
- P61 PAINT - WHITE STOP BAR - (24")

3/13/2023 P:\p\Projects-B\B5893\TrafficControl\TCP\B5893_TC_GEN_TMP01A_RSD_Legend.dgn User:tmkelly

APPROVED: DATE: 04/05/2023 		ROADWAY STANDARD DRAWINGS & LEGEND
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED		

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 UNDESIRABLE 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 STOP TRAFFIC AS FOLLOWS:

ROAD NAME	DAY AND TIME RESTRICTIONS	DURATION AND OPERATION
NC 226	MONDAY THROUGH FRIDAY 7:00 AM TO 9:00 AM AND 3:00 PM TO 5:00 PM	20 MINUTES (MAXIMUM) FOR ROCK BLASTING

LANE AND SHOULDER CLOSURE REQUIREMENTS

- A) 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.
- B) 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.
- C) 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.
- D) 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.
- E) 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

- F) 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.
- G) DO NOT EXCEED A DIFFERENCE OF 2 INCHES IN ELEVATION BETWEEN OPEN LANES 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

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

SIGNING

- I) 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.
- J) ENSURE ALL NECESSARY SIGNING IS IN PLACE PRIOR TO ALTERING ANY TRAFFIC PATTERN.

TRAFFIC BARRIER

- K) 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.

- L) 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

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

PAVEMENT MARKINGS AND MARKERS

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

ROAD NAME	MARKING	MARKER
NC 226 (-L-)	PAINT	TEMPORARY
SR 1300 (-Y-)	PAINT	N/A

- O) 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.
- P) TIE PROPOSED PAVEMENT MARKING LINES TO EXISTING PAVEMENT MARKING LINES.
- Q) REMOVE/REPLACE ANY CONFLICTING/DAMAGED PAVEMENT MARKINGS AND MARKERS BY THE END OF EACH DAY'S OPERATION.
- R) INSTALL PAVEMENT MARKINGS AND PAVEMENT MARKERS ON THE FINAL SURFACE AS SHOWN IN FINAL PAVEMENT MARKING PLAN.

PHASING

NOTE: BEFORE BEGINNING CONSTRUCTION THE CONTRACTOR SHALL PLACE ADVANCE WORK ZONE WARNING SIGNS ALONG -L- LINE (NC 226) AND -Y- LINE, SR 1300 (CUB CREEK RD.), (SEE RSD 1101.01, SHEET 3 OF 3)

PHASE I

- STEP 1. USING RSD NO. 1101.02 (SHEET 1 OF 14), PLACE TEMPORARY SIGNAL SIGNAGE AND TEMPORARY PORTABLE SIGNALS (SEE TMP-3):
- SHIFT TRAFFIC FROM A TWO-LANE, TWO WAY PATTERN TO A ONE-LANE, TWO WAY PATTERN ON NC 226 AS SHOWN ON TMP-3.
 - COVER/REMOVE EXISTING STOP SIGNS.
 - PLACE TEMPORARY PAVEMENT MARKINGS AND MARKERS, AS FOLLOWS (SEE TMP-3):
 - STA. 9+25+/- -L- TO STA. 18+20+/- -L-
 - STA. 9+87+/- -Y- TO STA. 10+57+/- -Y-
 - ACTIVATE TEMPORARY PORTABLE SIGNALS
 - PLACE ANCHORED PCB AS FOLLOWS (SEE TMP-3).
 - STA. 12+40+/- -L- TO STA. 13+35+/- -L-
- STEP 2. USING RSD NO. 1101.06 (SHEET 1 OF 1), AWAY FROM TRAFFIC AND USING FLAGGERS AS NECESSARY, COMPLETE ROCK BLASTING AS FOLLOWS (SEE ROADWAY PLANS)
- STA. 10+00+/- -L- TO STA. 10+50+/- -L-
 - STA. 12+65+/- -L- TO STA. 18+02+/- -L-
- AWAY FROM TRAFFIC, REMOVE EXISTING WINGWALLS AND CONSTRUCT TEMPORARY SHORING AS SHOWN ON TMP-3. CONSTRUCT -L-, INCLUDING STAGE I OF THE PROPOSED BRIDGE, UP TO BUT NOT INCLUDING THE FINAL LAYER OF SURFACE COURSE AS FOLLOWS (SEE ROADWAY PLANS AND TMP-3):
- STA. 12+40+/- -L- TO STA. 16+50+/- -L-
- AWAY FROM TRAFFIC AND USING FLAGGERS AS NECESSARY, WIDEN AND WEDGE -L- AND -Y-, UP TO EXISTING EDGE OF PAVEMENT ELEVATIONS AS FOLLOWS (SEE ROADWAY PLANS AND TMP-3)
- STA. 10+00+/- -L- TO STA. 12+40+/- -L-
 - STA. 16+50+/- -L- TO STA. 18+02+/- -L-
 - STA. 10+11+/- -Y- TO STA. 10+57+/- -Y-
- STEP 3. USING RSD NO. 1101.02 (SHEET 1 OF 14), REMOVE ANCHORED PCB AND CRASH CUSHIONS.

PHASE II

- STEP 1. AWAY FROM TRAFFIC, PLACE TEMPORARY PAVEMENT MARKINGS AND MARKERS, AS FOLLOWS (SEE TMP-4):
- STA. 9+65+/- -L- TO STA. 18+20+/- -L-
 - STA. 10+21+/- -Y- TO STA. 10+57+/- -Y-
- INSTALL TEMPORARY GUARDRAIL (STRUCTURE) AS FOLLOWS (SEE TMP-4):
- STA. 11+98+/- -L- TO STA. 13+50+/- -L-
- RELOCATE EXISTING DRIVEWAY SIGNALS AS SHOWN ON TMP-4.
- SHIFT TRAFFIC FROM A ONE-LANE, TWO WAY PATTERN ON EXISTING NC 226 TO A ONE-LANE, TWO WAY PATTERN ON -L- LINE AS SHOWN ON TMP-4.
- STEP 2. AWAY FROM TRAFFIC, REMOVE EXISTING BRIDGE/WINGWALLS AND COMPLETE CONSTRUCTION OF PROPOSED BRIDGE, UP TO BUT NOT INCLUDING THE FINAL LAYER OF SURFACE COURSE AS FOLLOWS (SEE ROADWAY PLANS AND TMP-4):
- AWAY FROM TRAFFIC AND USING FLAGGERS AS NECESSARY WIDEN AND WEDGE -L- UP TO BUT NOT INCLUDING THE FINAL LAYER OF SURFACE COURSE AS FOLLOWS (SEE ROADWAY PLANS AND TMP-4):
 - STA. 10+00+/- -L- TO STA. 11+98+/- -L-
 - STA. 13+25+/- -L- TO STA. 13+95+/- -L-
 - STA. 15+76+/- -L- TO STA. 18+02+/- -L-
- USING FLAGGERS AS NECESSARY, CONSTRUCT DRIVEWAY AND REMOVE PAVEMENT AS SHOWN (SEE ROADWAY PLANS AND TMP-4):

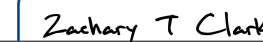
PHASE III

- STEP 1. USING RSD NO. 1101.02 (SHEET 1 OF 14), REMOVE TEMPORARY GUARDRAIL (STRUCTURE) AS FOLLOWS (SEE TMP-4):
- STA. 11+98+/- -L- TO STA. 13+50+/- -L-
- REMOVE TEMPORARY SIGNAL SIGNAGE AND TEMPORARY PORTABLE SIGNALS AND CONFLICTING MARKINGS AND RETURN TRAFFIC TO TWO-LANE, TWO-WAY PATTERN.
- STEP 2. USING RSD NO. 1101.02 (SHEET 1 OF 14), PAVE THE FINAL LAYER OF SURFACE COURSE AS FOLLOWS:
- STA. 10+00+/- -L- TO STA. 18+02+/- -L-
 - STA. 10+00+/- -Y- TO STA. 10+57+/- -Y-
 - DRIVEWAYS
- STEP 3. USING RSD NO. 1101.02 (SHEET 1 OF 14), PLACE FINAL PAVEMENT MARKINGS AND SIGNING FOR -L- LINE (SEE FINAL PAVEMENT MARKINGS AND SIGNING PLANS), UNCOVER/RESTORE STOP SIGNS, REMOVE ALL TRAFFIC CONTROL DEVICES AND OPEN ROADWAY TO TRAFFIC.

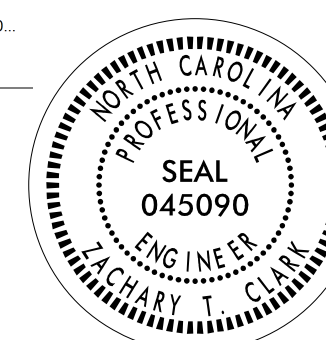
MANAGEMENT STRATEGIES

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

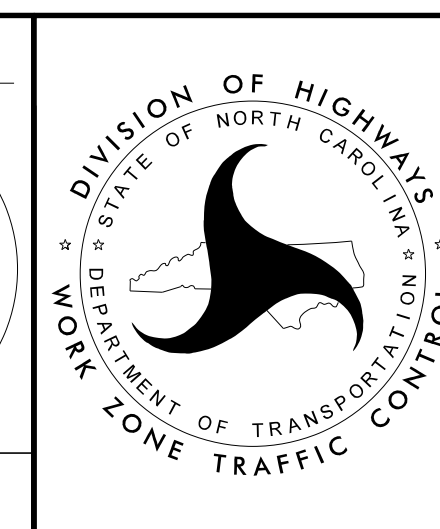
- ONE-LANE, TWO WAY OPERATION (FLAGGING)
- ONE-LANE, TWO WAY OPERATION (SIGNALIZED)
- PEAK HOUR WORK RESTRICTIONS

APPROVED: 
DocuSigned by: Zachary T. Clark
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DATE: 04/05/2023



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



**TRANSPORTATION
OPERATIONS
PLAN**

TEMPORARY SHORING NOTES

SHORING LOCATION NO. 1 AND 2

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 12+42.4 -L-, 10 FT (RT) TO STATION 12+77.5 -L-, 10 FT (RT) AND FROM STATION 13+01.9 -L-, 10 FT (RT) TO STATION 13+37.6 -L-, 10 FT (RT) FOR THE FOLLOWING ASSUMED SOIL PARAMETERS AND GROUNDWATER ELEVATION:

UNIT WEIGHT (γ) = 115 PCF
 FRICTION (ϕ) = 28 DEGREES
 COHESION (c) = 0 PSF
 GROUNDWATER ELEVATION = 2,359.0 FT

LIMITED SUBSURFACE INFORMATION IS AVAILABLE IN THE VICINITY OF TEMPORARY SHORING FROM STATION 12+42.4 -L-, 10 FT (RT) TO STATION 12+77.5 -L-, 10 FT (RT) AND FROM STATION 13+01.9 -L-, 10 FT (RT) TO STATION 13+37.6 -L-, 10 FT (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 12+42.4 -L-, 10 FT (RT) TO STATION 12+77.5 -L-, 10 FT (RT) AND FROM STATION 13+01.9 -L-, 10 FT (RT) TO STATION 13+37.6 -L-, 10 FT (RT) WILL NOT PENETRATE BELOW ELEVATION 2,360 FT DUE TO OBSTRUCTIONS, VERY DENSE OR HARD SOIL, BOULDERS OR WEATHERED OR HARD ROCK.

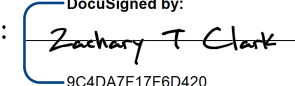
DO NOT USE CANTILEVER SHORING FOR TEMPORARY SHORING FROM STATION 12+42.4 -L-, 10 FT (RT) TO STATION 12+77.5 -L-, 10 FT (RT) AND FROM STATION 13+01.9 -L-, 10 FT (RT) TO STATION 13+37.6 -L-, 10 FT (RT).

DO NOT USE A TEMPORARY WALL FOR TEMPORARY SHORING FROM STATION 12+42.4 -L-, 10 FT (RT) TO STATION 12+77.5 -L-, 10 FT (RT) AND FROM STATION 13+01.9 -L-, 10 FT (RT) TO STATION 13+37.6 -L-, 10 FT (RT).

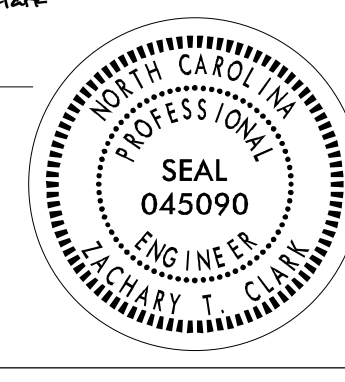
IT MAY BE PREFERRED TO USE A TEMPORARY SOIL NAIL WALL FOR TEMPORARY SHORING FROM STATION 12+42.4 -L-, 10 FT (RT) TO STATION 12+77.5 -L-, 10 FT (RT) AND FROM STATION 13+01.9 -L-, 10 FT (RT) TO STATION 13+37.6 -L-, 10 FT (RT). FOR TEMPORARY SOIL NAIL WALLS, SEE TEMPORARY SOIL NAIL WALLS PROVISION.

SHORING LOCATION NO.	BEGIN STATION AND OFFSET	END STATION AND OFFSET	ESTIMATED AVERAGE HEIGHT	ESTIMATED MAXIMUM HEIGHT	SHORING LOCATION TYPE
NO. 1	STA. 12+42.4 +/- -L- 10 FT RT.	STA. 12+77.5 +/- -L- 10 FT RT.	8.8 FT	16.3 FT	STRUCTURE
NO. 2	STA. 13+01.9 +/- -L- 10 FT RT.	STA. 13+37.6 +/- -L- 10 FT RT.	8.9 FT	16.4 FT	STRUCTURE

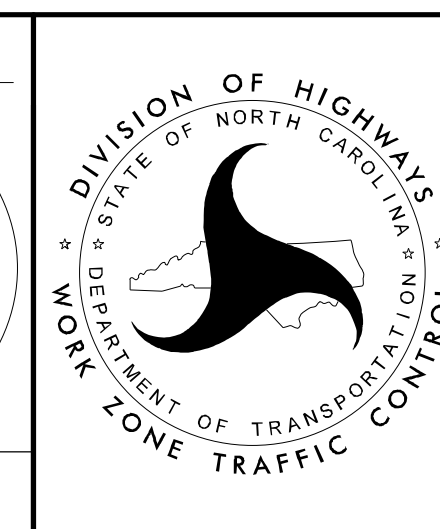
THE TEMPORARY SHORING NOTES SHOWN ON THIS SHEET WERE PROVIDED THROUGH A SEALED DOCUMENT FROM THE GEOTECHNICAL ENGINEERING UNIT. THE DOCUMENT WAS SUBMITTED TO THE WZTCU ON (3-13-2023) AND SEALED BY A PROFESSIONAL ENGINEER, MICHAEL STEPHENS, LICENSE # 028893.

APPROVED: 
 DATE: 04/21/2023

SEAL



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TEMPORARY SHORING NOTES

TEMPORARY SHORING NOTES

SHORING LOCATION NO. 3 AND 4

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 12+53.5 -L-, 8 FT (RT), TO STATION 12+68.4 -L-, 8 FT (RT) AND FROM STATION 13+10.6 -L-, 8 FT (RT), TO STATION 13+25.5 -L-, 8 FT (RT) FOR THE FOLLOWING ASSUMED SOIL PARAMETERS AND GROUNDWATER ELEVATION:

UNIT WEIGHT (γ) = 115 PCF
 FRICTION (ϕ) = 28 DEGREES
 COHESION (c) = 0 PSF
 GROUNDWATER ELEVATION = 2,359.0 FT

LIMITED SUBSURFACE INFORMATION IS AVAILABLE IN THE VICINITY OF TEMPORARY SHORING FROM STATION 12+53.5 -L-, 8 FT (RT), TO STATION 12+68.4 -L-, 8 FT (RT) AND FROM STATION 13+10.6 -L-, 8 FT (RT), TO STATION 13+25.5 -L-, 8 FT (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 12+53.5 -L-, 8 FT (RT), TO STATION 12+68.4 -L-, 8 FT (RT) AND FROM STATION 13+10.6 -L-, 8 FT (RT), TO STATION 13+25.5 -L-, 8 FT (RT) WILL NOT PENETRATE BELOW ELEVATION 2,360.0 FT DUE TO OBSTRUCTIONS, VERY DENSE OR HARD SOIL, BOULDERS OR WEATHERED OR HARD ROCK.

AT THE CONTRACTOR'S OPTION, USE A STANDARD TEMPORARY WALL FOR TEMPORARY SHORING FROM STATION 12+53.5 -L-, 8 FT (RT), TO STATION 12+68.4 -L-, 8 FT (RT) AND FROM STATION 13+10.6 -L-, 8 FT (RT), TO STATION 13+25.5 -L-, 8 FT (RT). SEE GEOTECHNICAL STANDARD DETAIL NO. 1801.02 FOR STANDARD TEMPORARY WALLS.

WHEN BACKFILL FOR BRIDGE APPROACH FILLS OVERLAPS WITH THE REINFORCED ZONE OF TEMPORARY WALLS, USE SHORING BACKFILL OR BACKFILL MATERIAL REQUIRED FOR BRIDGE APPROACH FILLS, WHICHEVER IS BETTER, IN THE REINFORCED ZONE OF TEMPORARY WALLS.

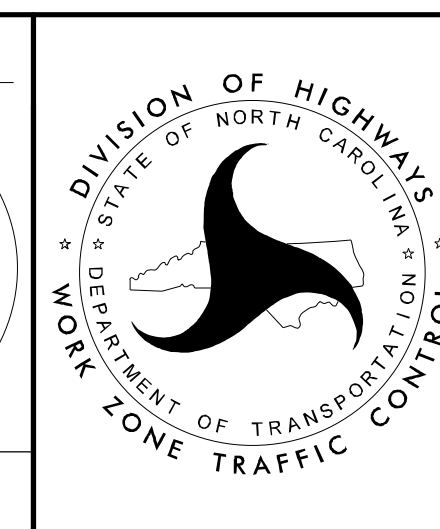
SHORING LOCATION NO.	BEGIN STATION AND OFFSET	END STATION AND OFFSET	ESTIMATED AVERAGE HEIGHT	ESTIMATED MAXIMUM HEIGHT	SHORING LOCATION TYPE
NO. 3	STA. 12+53.5 +/- -L- 8 FT RT.	STA. 12+68.4 +/- -L- 8 FT RT.	4.3 FT	7.6 FT	STRUCTURE
NO. 4	STA. 13+10.6 +/- -L- 8 FT. RT.	STA. 13+25.5 +/- -L- 8 FT RT.	4.9 FT	8.5 FT	STRUCTURE

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 (3-13-2023) AND SEALED BY A PROFESSIONAL ENGINEER, MICHAEL STEPHENS, LICENSE # 028893.

APPROVED: *DocuSigned by: Zachary T. Clark*
 DATE: 04/21/2023

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**TEMPORARY SHORING NOTES
(CONT.)**

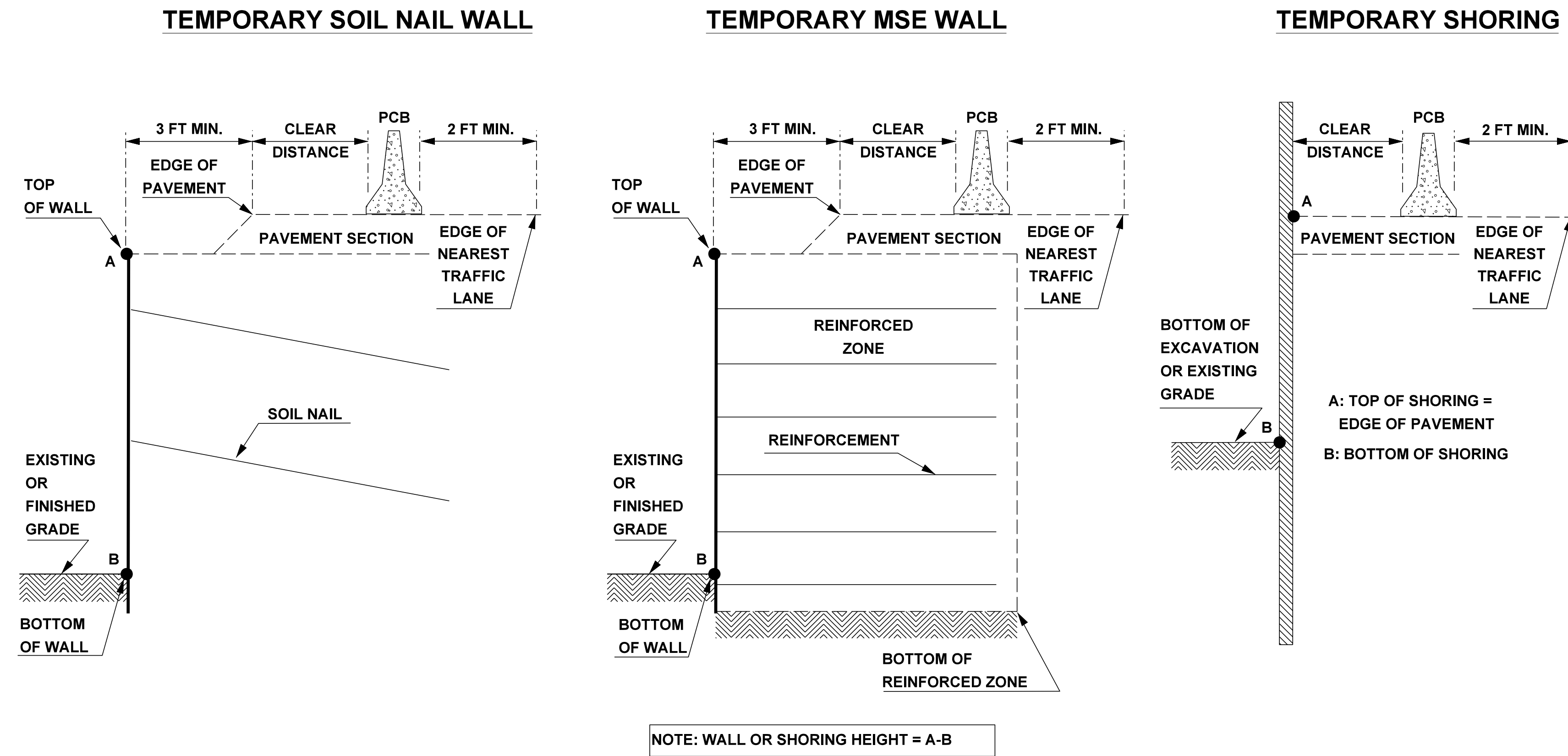


FIGURE A

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

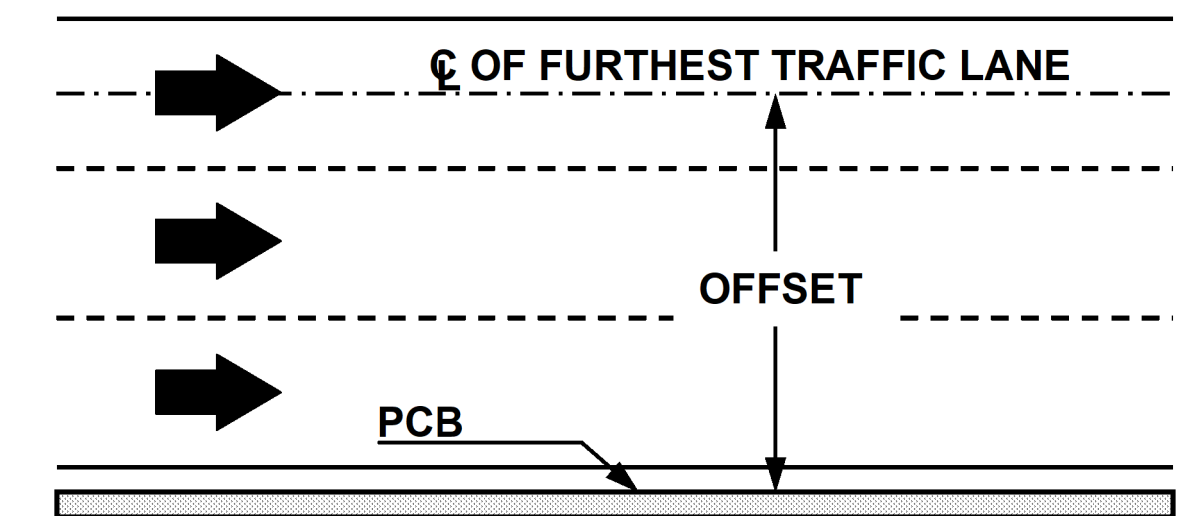
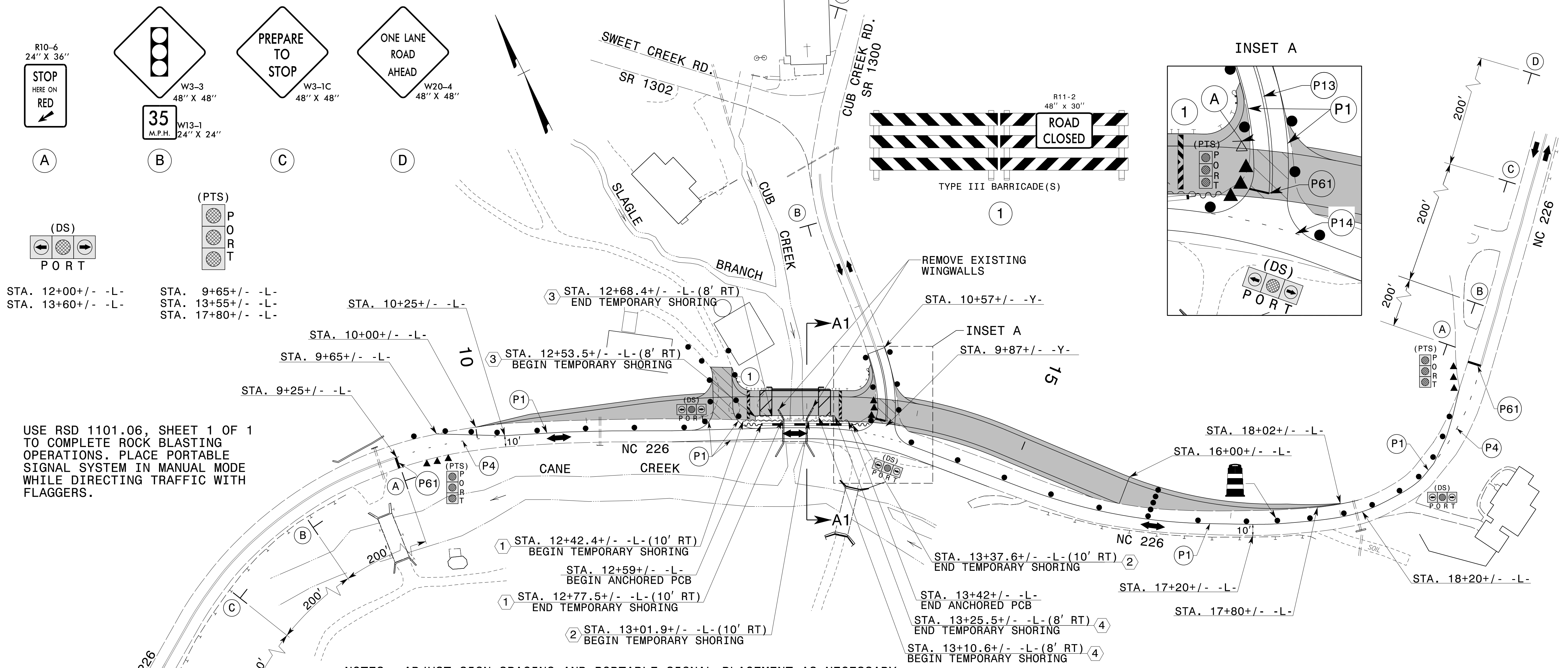


FIGURE B

APPROVED: <i>Zachary T. Clark</i> <small>Professional Engineer</small> DATE: 04/05/2023 		PORTABLE CONCRETE BARRIER AT TEMPORARY SHORING LOCATIONS
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED		



STA. 12+00 +/- -L-
STA. 13+60 +/- -L-

STA. 9+65 +/- -L-
STA. 13+55 +/- -L-
STA. 17+80 +/- -L-

STA. 10+25 +/- -L-

③ STA. 12+68.4 +/- -L- (8' RT)
END TEMPORARY SHORING

③ STA. 12+53.5 +/- -L- (8' RT)
BEGIN TEMPORARY SHORING

STA. 9+25 +/- -L-

REMOVE EXISTING WINGWALLS
STA. 10+57 +/- -Y-

INSET A
STA. 9+87 +/- -Y-

STA. 18+02 +/- -L-

STA. 16+00 +/- -L-

① STA. 12+42.4 +/- -L- (10' RT)
BEGIN TEMPORARY SHORING

STA. 12+59 +/- -L-
BEGIN ANCHORED PCB

① STA. 12+77.5 +/- -L- (10' RT)
END TEMPORARY SHORING

② STA. 13+01.9 +/- -L- (10' RT)
BEGIN TEMPORARY SHORING

STA. 13+37.6 +/- -L- (10' RT) ②
END TEMPORARY SHORING

STA. 13+42 +/- -L-
END ANCHORED PCB

STA. 13+25.5 +/- -L- (8' RT) ④
END TEMPORARY SHORING

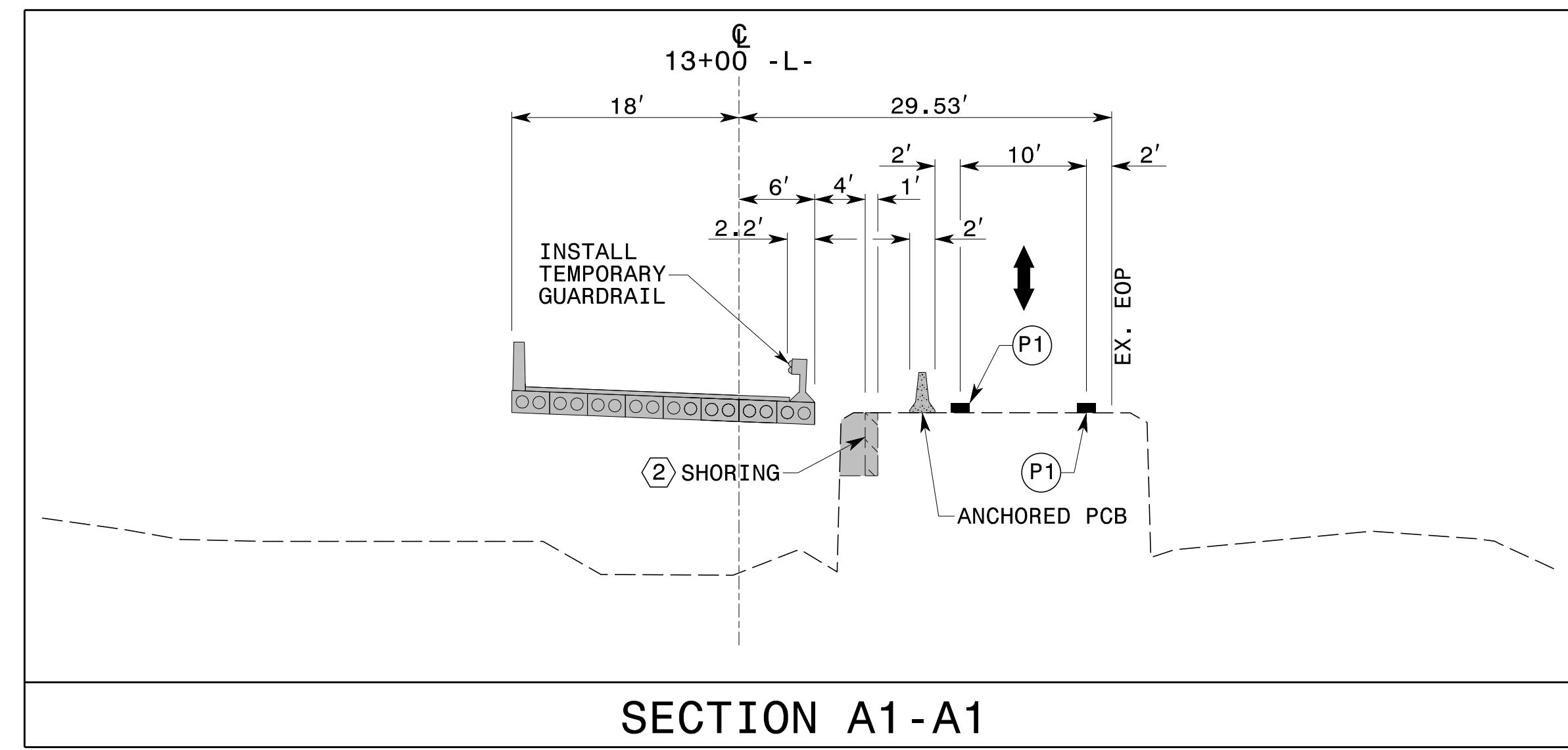
STA. 13+10.6 +/- -L- (8' RT) ④
BEGIN TEMPORARY SHORING

STA. 17+20 +/- -L-

STA. 17+80 +/- -L-

USE RSD 1101.06, SHEET 1 OF 1 TO COMPLETE ROCK BLASTING OPERATIONS. PLACE PORTABLE SIGNAL SYSTEM IN MANUAL MODE WHILE DIRECTING TRAFFIC WITH FLAGGERS.

NOTES: ADJUST SIGN SPACING AND PORTABLE SIGNAL PLACEMENT AS NECESSARY TO MEET FIELD CONDITIONS. MAINTAIN DRIVEWAY ACCESS AT ALL TIMES.

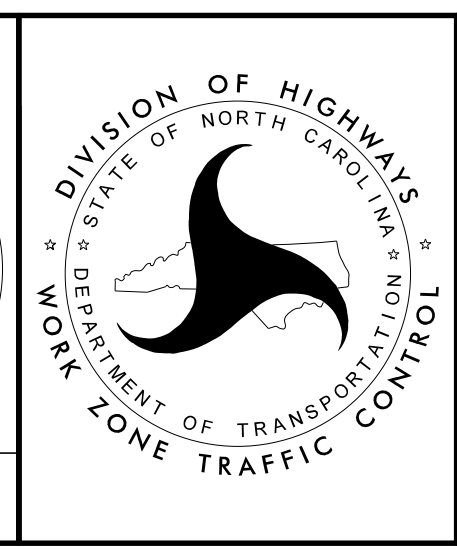


Shoring I.D. No.	Estimated Average Height (ft.)	Quantity (sq. ft.)
①	8.8 FT	308.88 SQ. FT.
②	8.9 FT	317.73 SQ. FT.
③	4.3 FT	64.07 SQ. FT.
④	4.9 FT	73.01 SQ. FT.

APPROVED: *Zachary T. Clark*
DATE: 04/05/2023

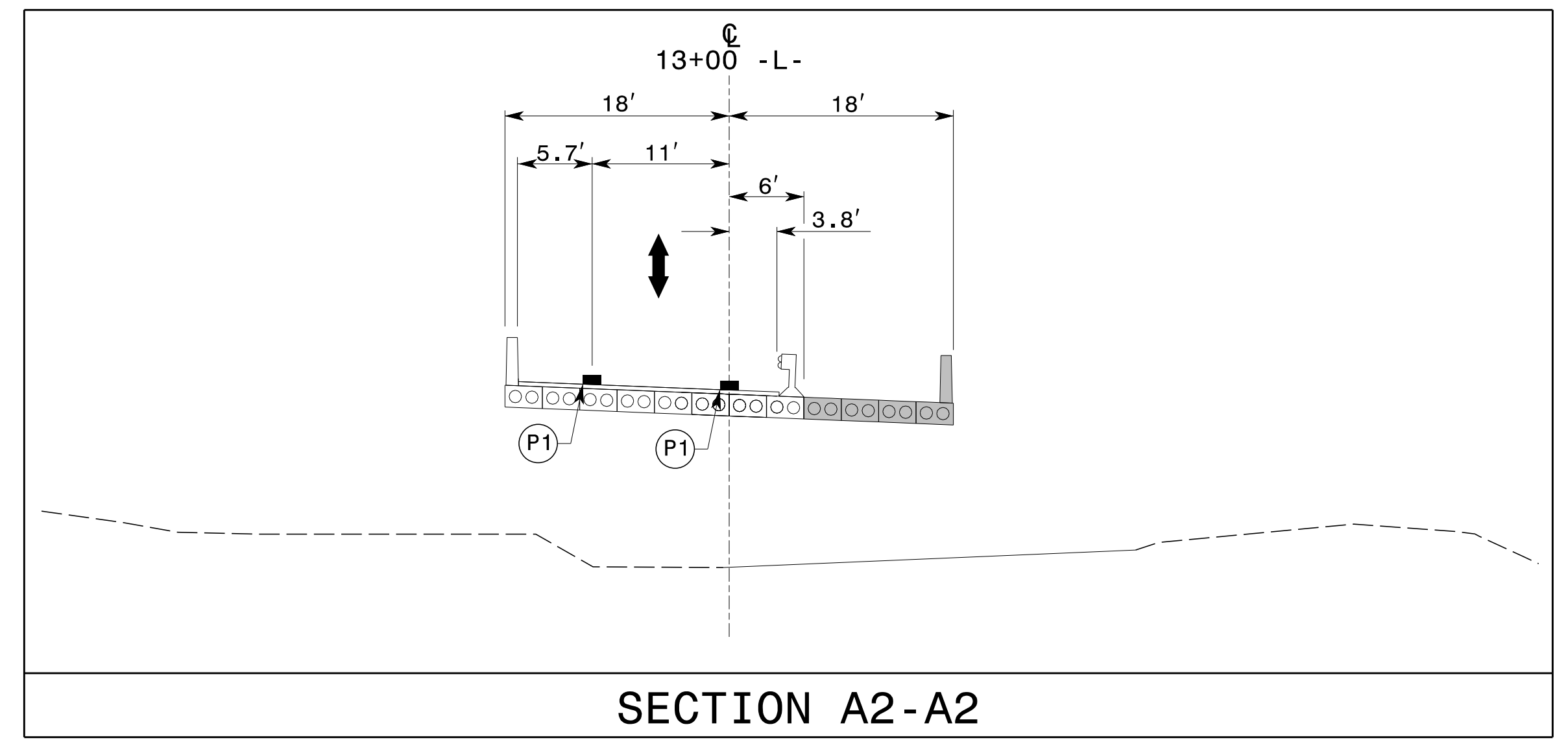
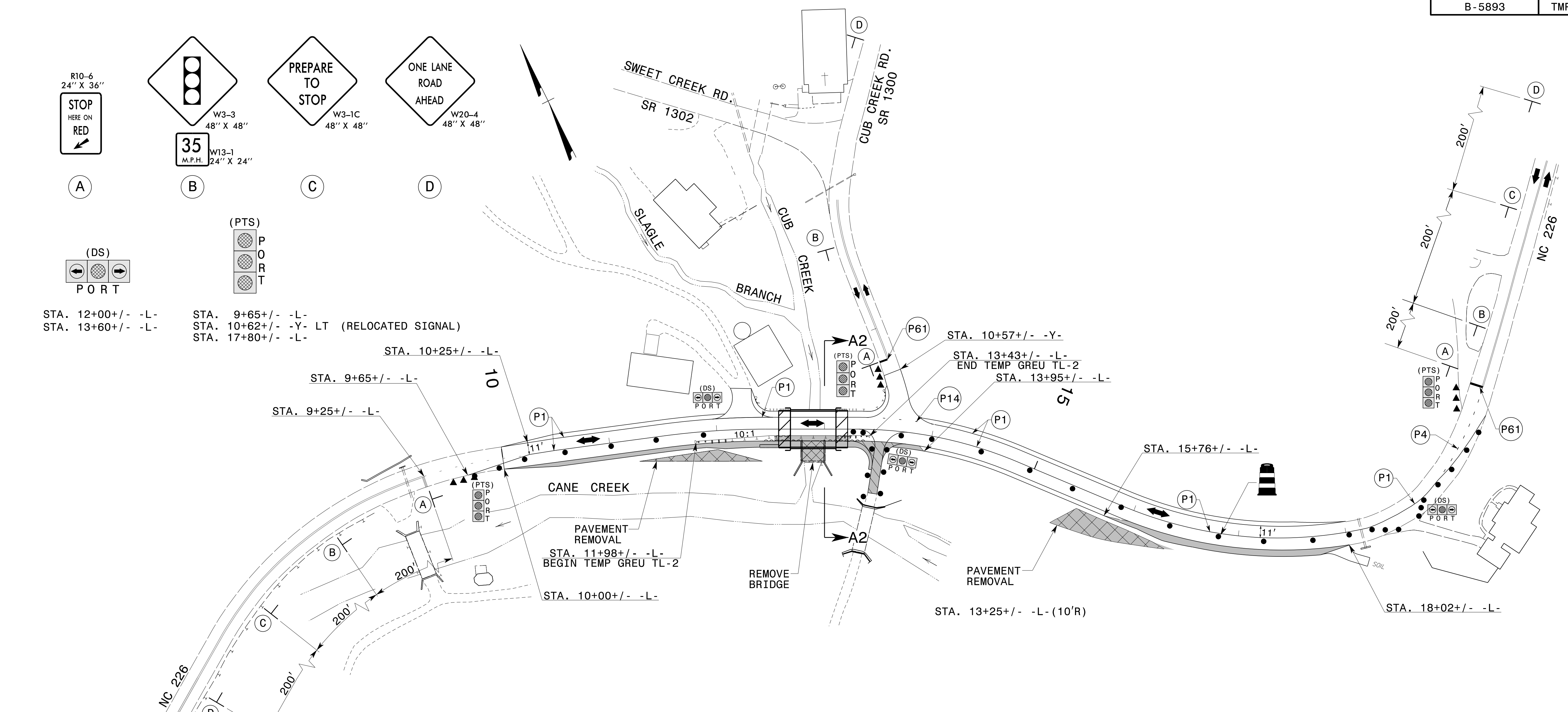
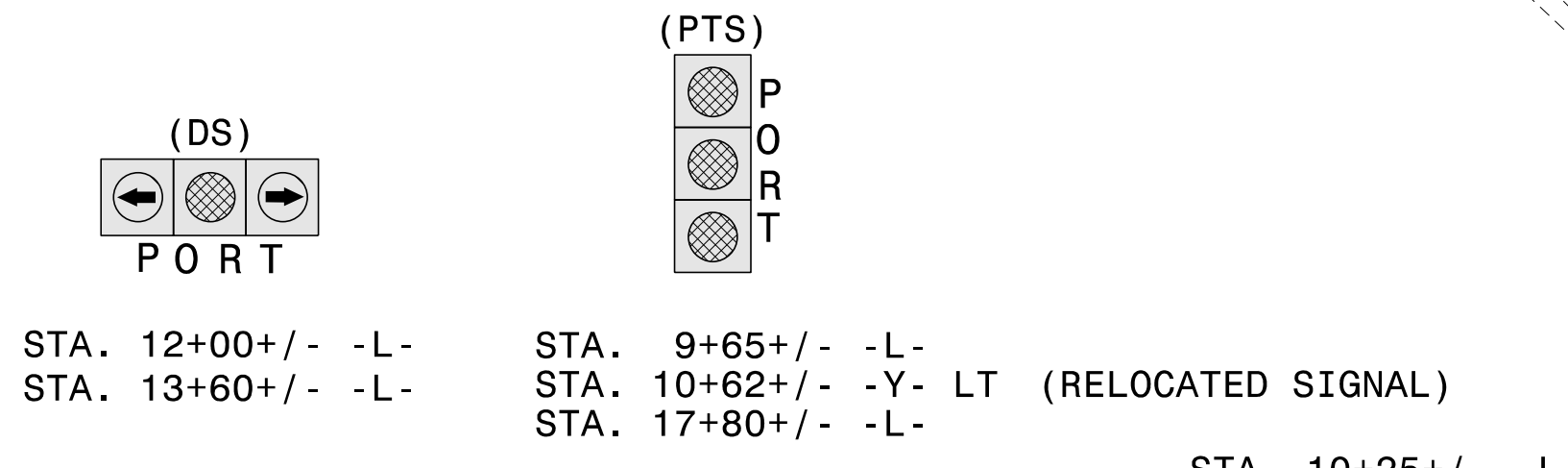
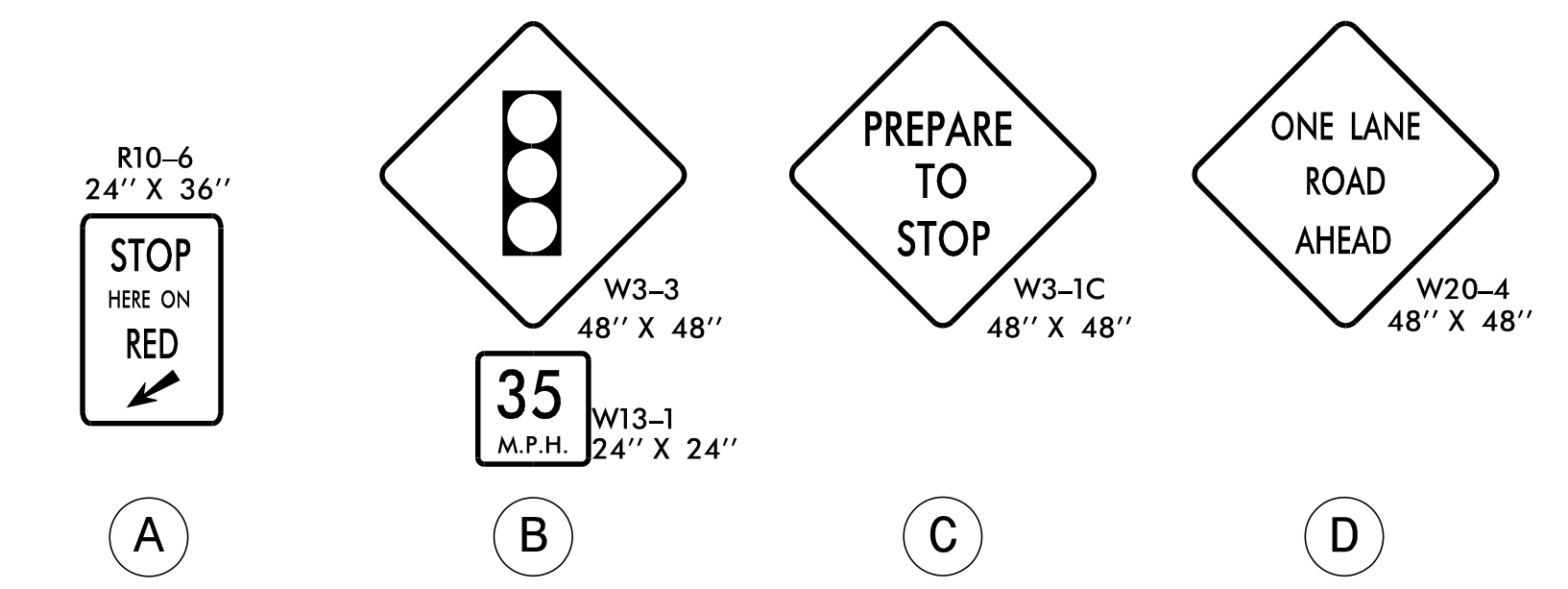
Seal: Zachary T. Clark, Professional Engineer, No. 045090, State of North Carolina.

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PHASE I DETAILS

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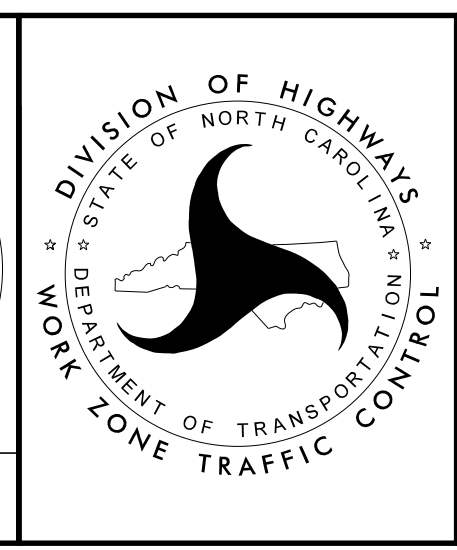


NOTES: ADJUST SIGN SPACING AND PORTABLE SIGNAL PLACEMENT AS NECESSARY TO MEET FIELD CONDITIONS. MAINTAIN DRIVEWAY ACCESS AT ALL TIMES.

4/12/2023
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 User:tmkelly

APPROVED: *Zachary T. Clark*
 DATE: 04/13/2023

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



PHASE II DETAILS