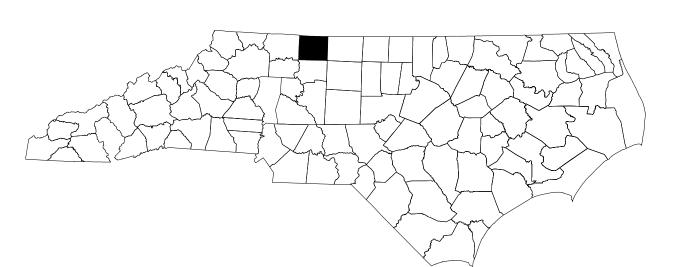
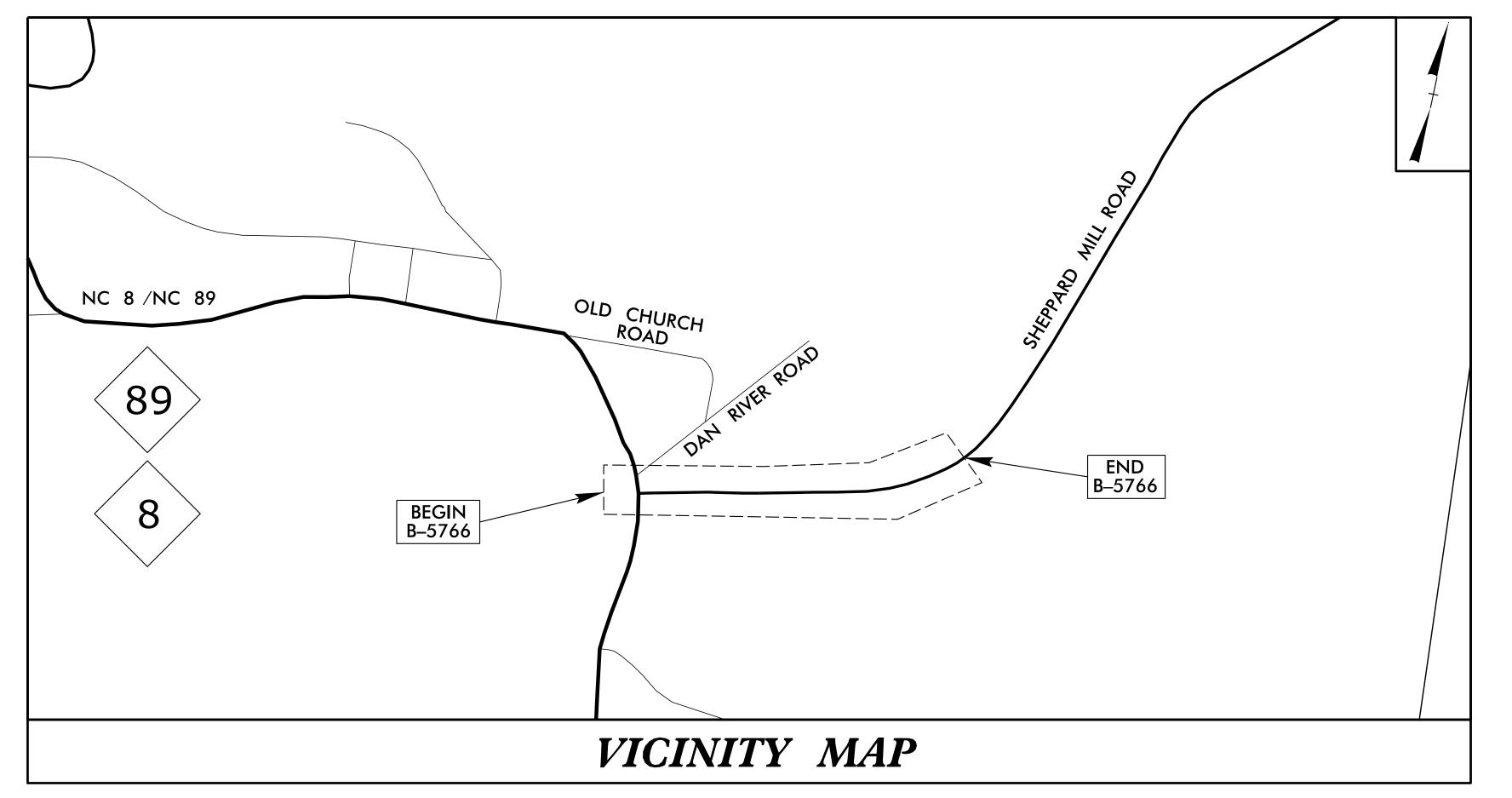
TRANSPORTATION MANAGEMENT PLAN

STOKES COUNTY

LOCATION: BRIDGE REPLACEMENT OF BRIDGE NO. 840082 OVER DAN RIVER NEAR NC 8 /NC 89 AND SR 1674 (SHEPPARD MILL ROAD)



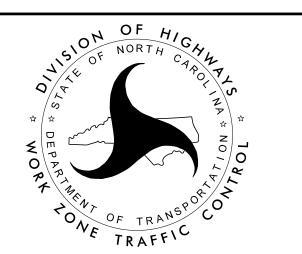


WORK ZONE SAFETY & MOBILITY "from the MOUNTAINS to the COAST"

PLANS PREPARED BY:

ZACHARY M. ESPOSITO, PE, TCDS PROJECT ENGINEER

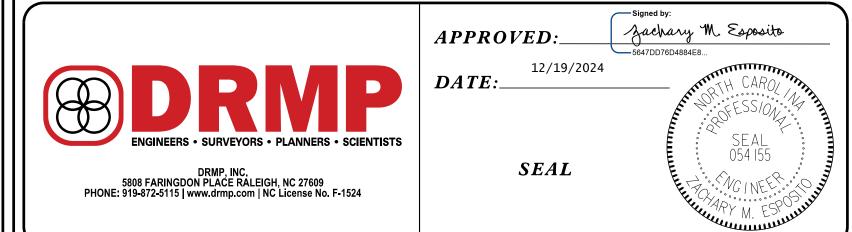
MIKAYLA M. LINDSEY, EI PROJECT DESIGN ENGINEER



INDEX OF SHEETS

SHEET NO.	<u>TITLE</u>						
TMP - 1	TITLE SHEET AND INDEX OF SHEETS						
TMP-1A	ROADWAY STANDARD DRAWINGS AND LEGEND						
TMP-2A-2B	GENERAL NOTES						
TMP-3A	SIGN DESIGN						
TMP-3B	PORTABLE CONCRETE BARRIER AT TEMPORARY SHORING LOCATIONS						
TMP-3C	TEMPORARY SHORING NOTES						
TMP-4A-4B	TRANSPORTATION MANAGEMENT STRATEGIES AND PHASING PLAN						
TMP-5A	TEMPORARY TRAFFIC CONTROL PHASE I - STEP A2						
TMP-5B	TEMPORARY TRAFFIC CONTROL PHASE I - STEP A3						
TMP-6	TEMPORARY TRAFFIC CONTROL PHASE I - STEP A4						
TMP-7	TEMPORARY TRAFFIC CONTROL PHASE I - STEP B						
TMP-8	TEMPORARY TRAFFIC CONTROL PHASE II						
TMP-9	TEMPORARY TRAFFIC CONTROL PHASE III - STEP A						
TMP - 10	TEMPORARY TRAFFIC CONTROL PHASE III - STEP B						
TMP - 11	TEMPORARY TRAFFIC CONTROL PHASE IV						
TMP-12	DETOUR ROUTE						

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



ROADWAY STANDARD DRAWINGS

THE FOLLOWING ROADWAY STANDARDS AS APPEAR 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
1101.11	TRAFFIC CONTROL DESIGN TABLES
1110.02	PORTABLE WORK ZONE SIGNS
1130.01	DRUMS
1145.01	BARRICADES
1150.01	FLAGGERS
1160.01	TEMPORARY CRASH CUSHIONS
1170.01	PORTABLE CONCRETE BARRIER
1180.01	SKINNY DRUMS
1205.01	PAVEMENT MARKINGS - LINE TYPES AND OFFSETS
1205.02	PAVEMENT MARKINGS - TWO-LANE AND MULTI-LANE ROADWAYS
1205.04	PAVEMENT MARKINGS - INTERSECTIONS
1205.12	PAVEMENT MARKINGS - BRIDGES
1250.01	RAISED PAVEMENT MARKERS - INSTALLATION SPACING
1251.01	RAISED PAVEMENT MARKERS - (PERMANENT AND TEMPORARY)

LEGEND

PROJ. REFERENCE NO. SHEET NO. B-5766 TMP-1A

GENERAL

DIRECTION OF TRAFFIC FLOW

DIRECTION OF PEDESTRIAN TRAFFIC FLOW

----- EXIST. PVMT.

NORTH ARROW

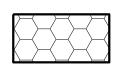
PROPOSED PVMT.

TEMP. SHORING (LOCATION PURPOSES ONLY)

WORK AREA

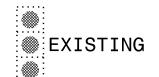
REMOVAL

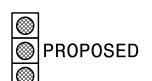
WEDGING



TEMPORARY PAVEMENT

SIGNALS







PAVEMENT MARKINGS

- ——EXISTING LINES
- ——TEMPORARY LINES

TRAFFIC CONTROL DEVICES

BARRICADE (TYPE III)

DRUM SKINNY DRUM © TUBULAR MARKER

TEMPORARY CRASH CUSHION

FLASHING ARROW BOARD

FLAGGER

LAW ENFORCEMENT

TRUCK MOUNTED ATTENUATOR (TMA)

PORTABLE CONCRETE BARRIER (PCB)

CHANGEABLE MESSAGE SIGN

TEMPORARY SIGNING

PORTABLE SIGN

STATIONARY SIGN

STATIONARY OR PORTABLE SIGN

PAVEMENT MARKERS

CRYSTAL/CRYSTAL

CRYSTAL/RED

YELLOW/YELLOW

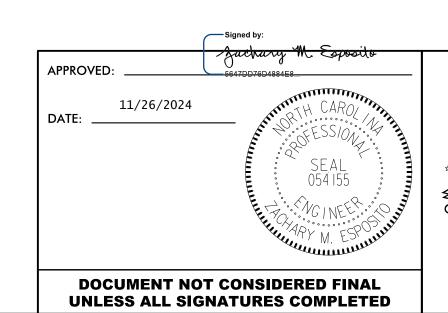
PAVEMENT MARKING SYMBOLS

PAINT (24") LF

PAVEMENT MARKING SYMBOLS

TEMPORARY PAVEMENT MARKING

P1	WHITE EDGE LINE	PAINT (4")	LF
(P5)	2 FT 6 FT./SP WHITE MINISKIP	PAINT (4")	LF
P13	YELLOW DOUBLE YELLOW	PAINT (4")	LF



ROADWAY STANDARD DRAWINGS & LEGEND

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:

ROAD NAME NC 8/NC 89 DAY AND TIME RESTRICTIONS MONDAY-FRIDAY 6AM-9AM AND 4PM-6PM

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

ROAD NAME NC 8/NC 89 SHEPPARD MILL ROAD

HOLIDAY

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

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

- 6. FOR LABOR DAY. BETWEEN THE HOURS OF 6:00 A.M. FRIDAY AND 6:00 P.M. TUESDAY.
- 7. FOR THANKSGIVING DAY, BETWEEN THE HOURS OF 6:00 A.M. TUESDAY TO 6:00 P.M. MONDAY.
- 8. FOR CHRISTMAS, BETWEEN THE HOURS OF 6:00 A.M. THE FRIDAY BEFORE THE WEEK OF CHRISTMAS DAY AND 6:00 P.M. THE FOLLOWING TUESDAY AFTER THE WEEK OF CHRISTMAS.
- 9. FOR "STOKES STOMP FESTIVAL ON THE DAN", BETWEEN THE HOURS OF 6 A.M. THE FRIDAY PRIOR TO THE SECOND SATURDAY IN SEPTEMBER AND 6 P.M. THE MONDAY AFTER THE SECOND SATURDAY IN SEPTEMBER.
- C) 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.

PROJ. REFERENCE NO. SHEET NO. B-5766

TMP-2A



NC LICENSE NO. F-1524

LANE AND SHOULDER CLOSURE REQUIREMENTS

- D) REMOVE LANE CLOSURE DEVICES FROM THE LANE WHEN WORK IS NOT BEING PERFORMED BEHIND THE LANE CLOSURE OR WHEN A LANE CLOSURE IS NO LONGER NEEDED OR AS DIRECTED BY THE ENGINEER.
- E) WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING WITHIN 15 FT OF AN OPEN TRAVEL LANE, CLOSE THE NEAREST OPEN SHOULDER USING ROADWAY STANDARD DRAWING NO. 1101.04 UNLESS THE WORK AREA IS PROTECTED BY BARRIER OR GUARDRAIL OR A LANE CLOSURE IS INSTALLED.
- F) WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING 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.
- G) WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING WITHIN A LANE OF TRAVEL OF AN UNDIVIDED OR DIVIDED FACILITY. CLOSE THE LANE ACCORDING TO THE TRAFFIC CONTROL PLANS, ROADWAY STANDARD DRAWINGS, OR AS DIRECTED BY THE ENGINEER. CONDUCT THE WORK SO THAT ALL PERSONNEL AND/OR EQUIPMENT REMAIN WITHIN THE CLOSED TRAVEL LANE.
- H) DO NOT WORK SIMULTANEOUSLY WITHIN 15 FT ON BOTH SIDES OF AN OPEN TRAVELWAY, RAMP, OR LOOP WITHIN THE SAME LOCATION UNLESS PROTECTED WITH GUARDRAIL OR BARRIER.
- I) DO NOT INSTALL MORE THAN ONE LANE CLOSURE IN ANY ONE DIRECTION ON NC 8/NC 89 AND/OR SHEPPARD MILL ROAD.

PAVEMENT EDGE DROP OFF REQUIREMENTS

J) 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

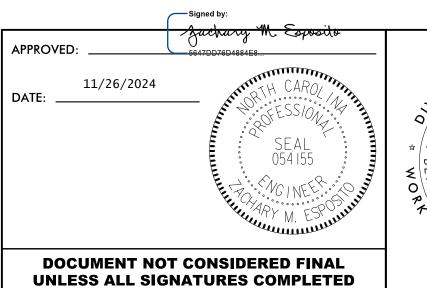
BACKFILL DROP-OFFS THAT EXCEED 3 INCHES ON ROADWAYS WITH POSTED SPEED LIMITS LESS THAN 45 MPH.

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

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) 200FT IN ADVANCE AND A MINIMUM OF EVERY HALF MILE THROUGHOUT THE UNEVEN AREA.

TRAFFIC PATTERN ALTERATIONS

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





GENERAL NOTES

GENERAL NOTES

SIGNING

- M) 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.
- N) 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.

- O) COVER OR REMOVE ALL SIGNS AND DEVICES REQUIRED TO CLOSE THE ROAD WHEN ROAD CLOSURE IS NOT IN OPERATION.
- P) ENSURE ALL NECESSARY SIGNING IS IN PLACE PRIOR TO ALTERING ANY TRAFFIC PATTERN.
- Q) INSTALL BLACK ON ORANGE "DIP" SIGNS (W8-2) AND/OR "BUMP" SIGNS (W8-1) 200FT IN ADVANCE OF THE UNEVEN AREA, OR AS DIRECTED BY THE ENGINEER.

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.

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 OFFSE
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) TIE PROPOSED PAVEMENT MARKING LINES TO EXISTING PAVEMENT MARKING LINES.
- W) REMOVE/REPLACE ANY CONFLICTING/DAMAGED PAVEMENT MARKINGS AND MARKERS BY THE END OF EACH DAY'S OPERATION.
- X) INSTALL TEMPORARY PAVEMENT MARKINGS AND TEMPORARY PAVEMENT MARKERS ON INTERIM LAYERS OF PAVEMENT AS FOLLOWS:

ROAD NAMEMARKINGMARKERNC 8/NC 89PAINTTEMPORARY RAISEDSHEPPARD MILL ROADPAINTNONE

Y) 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.

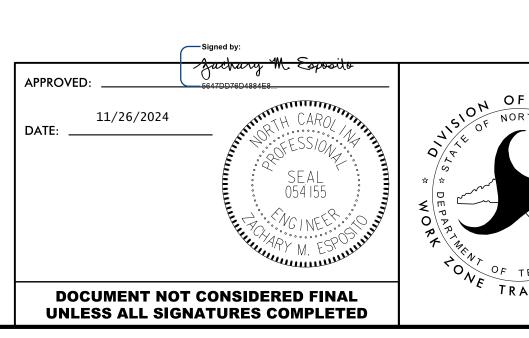
MISCELLANEOUS

- 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) 200FT AND 200FT RESPECTIVELY IN ADVANCE OF THE UNEVEN AREAS. USE DRUMS TO DELINEATE THE EDGE OF ROADWAY ALONG UNPAVED AREAS.
- AA) ALL CURB RAMP LOCATIONS SHALL BE DERIVED FROM STATIONING SHOWN ON PAVEMENT MARKING PLANS OR AS DIRECTED BY THE ENGINEER IN COORDINATION WITH THE SIGNING AND DELINEATION UNIT.



SHEET NO.

PROJ. REFERENCE NO.



GENERAL NOTES

PROJ. REFERENCE NO.

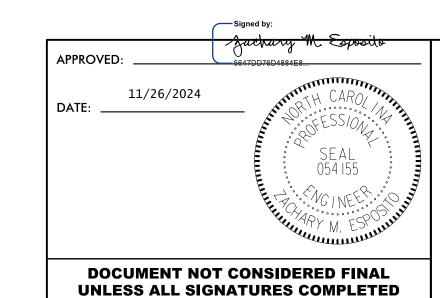
B-5766

TMP-3A

NC LICENSE NO. F-1524 www.drmp.com

BACKG COLOR: Fluorescent Orange SIGN NUMBER: SD-1 CHECKED BY: ZME DESIGN BY: Sep 18, 2024 COPY COLOR: Black TYPE: D PROJECT ID: B-5766 **LOCATION:** DIV: 9 QUANTITY: 12 X Y WID HT SYMBOL SIGN WIDTH: 4'-0" **HEIGHT:** 2'-6" TOTAL AREA: 10 Sq.Ft. **BORDER TYPE: FLUSH RECESS:** WIDTH: **RADII:** 1.5" MAT'L: 0.125" (3.2 mm) ALUMINUM NO. Z BARS: LENGTH: USE NOTES: Legend and border shall be directed applied black non-reflective sheeting.
 Background shall be NC Grade B fluorescent orange reflective sheeting. BORDER R=1.5" 34.2" Spacing Factor is 1 unless specified otherwise LETTER POSITIONS Series/Size Letter locations are panel edge to lower left corner Text Length C 2000 6.9 | 11.28 | 15.96 | 20.04 | 24.6 | 28.68 | 33.36 | 37.74 | C 2000 9.51 | 14.79 | 16.95 | 20.85 | 24.09 | 30.75 | 35.13 28.98

FILENAME: B5766_TC_SIGN DESIGN



NORTH CAROLINA D.O.T. SIGN DETAIL



SIGN DESIGN

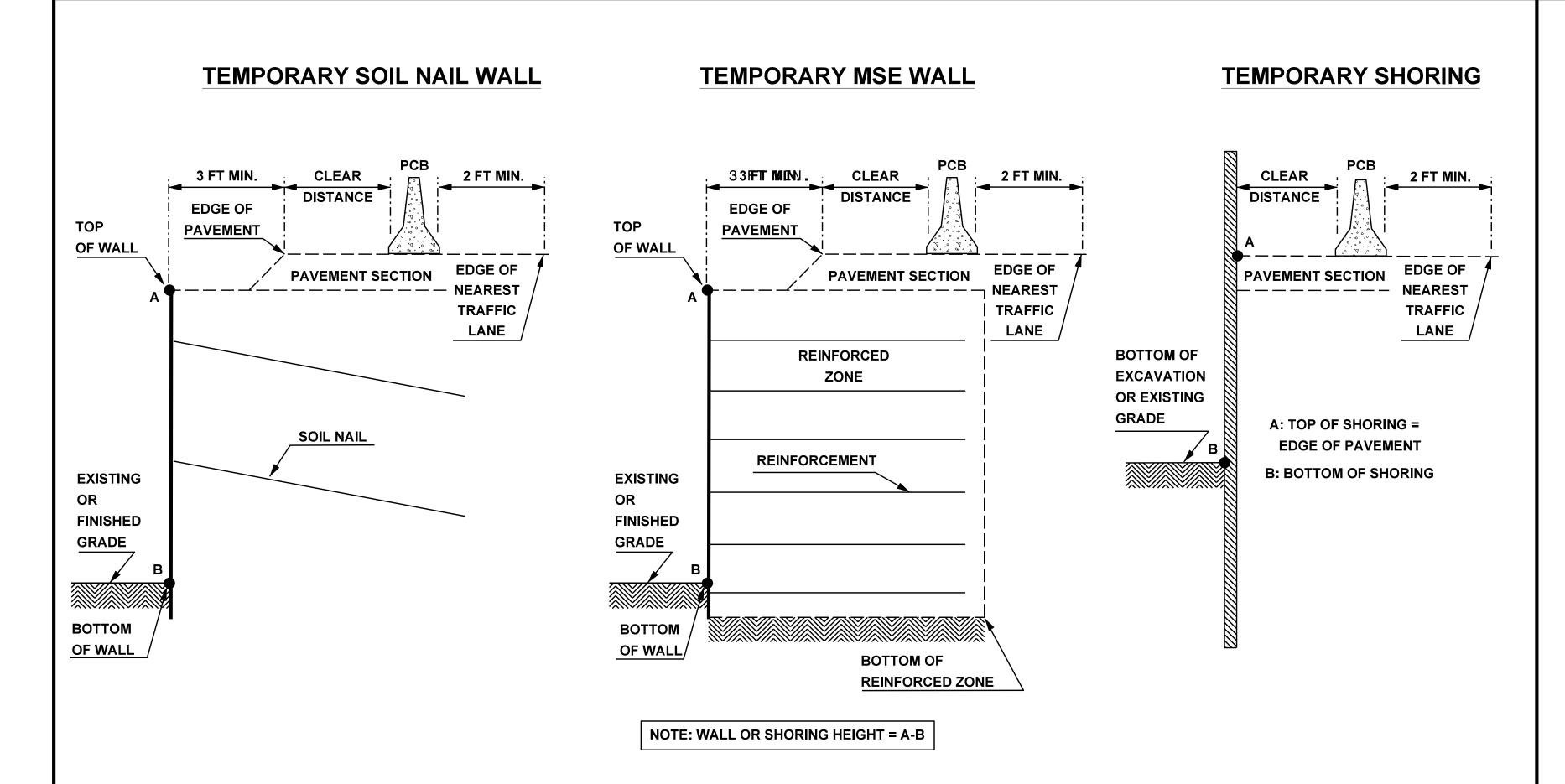


FIGURE A

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.

PROJ. REFERENCE NO. SHEET NO. TMP-3B



MINIMUM REQUIRED CLEAR DISTANCE, inches

Barrier	Pavement	Offset *	Design Speed, mph					
Type	Type	ft	<30	31-40	41-50	51-60	61-70	71-80
		<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
	Asphalt	26-32	29	32	36	39	42	45
		32-38	30	34	38	41	43	46
a		38-44	31	34	41	43	45	48
PCB		44-50	31	35	41	43	46	49
		50-56	32	36	42	44	47	50
Unanchored		>56	32	36	42	45	47	51
l l		<8	17	18	21	22	25	26
nc		8-14	19	20	23	25	26	29
na		14-20	22	22	24	26	28	31
n		20-26	23	24	26	27	30	34
	Concrete	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

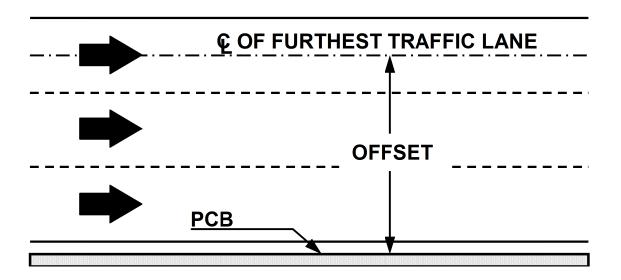
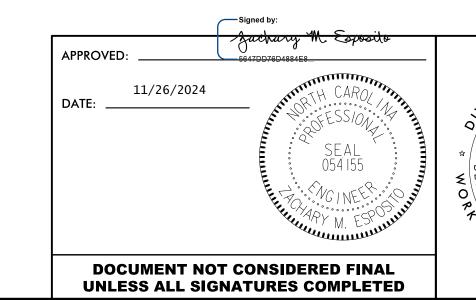


FIGURE B



PORTABLE CONCRETE
BARRIER AT TEMPORARY
SHORING LOCATIONS

PROJ. REFERENCE NO. B-5766

TMP-3C

SHEET NO.



NC LICENSE NO. F-1524

TEMPORARY SHORING NOTES

TEMPORARY SHORING 1

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

TEMPORARY SHORING IS REQUIRED FOR END BENT CONSTRUCTION FROM STATION 12+90± 12.3± FT LT OF -L-TO STATION 13+26± 12.3± FT LT OF -L-.

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+90± 12.3± FT LT OF -L- TO STATION 13+26± 12.3± FT LT OF -L-. FOR THE FOLLOWINGS ASSUMED SOIL PARAMETERS AND GROUNDWATER ELEVATION:

UNIT WEIGHT = 115 LB/CF FRICTION ANGLE (F) = 28 DEGREES COHESION (C) = 0 LB/SFGROUNDWATER ELEVATION = 695 FT

DRIVEN PILING FOR TEMPORARY SHORING FROM STATION 12+90± 12.3± FT LT OF -L- TO STATION 13+26± 12.3± FT LT OF -L- MAY NOT PENETRATE BELOW ELEVATION 682 FT DUE TO OBSTRUCTIONS, VERY DENSE OR HARD SOIL, BOULDERS OR WEATHERED OR HARD ROCK.

DO NOT USE A TEMPORARY WALL FOR TEMPORARY SHORING FROM STATION 12+90± 12.3± FT LT OF -L- TO STATION 13+26± 12.3± FT LT OF -L-.

AT THE CONTRACTOR'S OPTION, USE STANDARD TEMPORARY SHORING FOR TEMPORARY SHORING FROM STATION 12+90± 12.3± FT LT OF -L- TO STATION 13+26± 12.3± FT LT OF -L-. SEE STANDARD DETAIL NO. 1801.01 FOR STANDARD TEMPORARY SHORING.

IT MAY BE PREFERRED TO USE A TEMPORARY SOIL NAIL WALL FOR TEMPORARY SHORING FROM STATION 12+90± 12.3± FT LT OF -L- TO STATION 13+26± 12.3± FT LT OF -L-. FOR TEMPORARY SOIL NAIL WALLS, SEE TEMPORARY SOIL NAIL WALLS PROVISION.

|TEMPORARY SHORING 2|

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

TEMPORARY SHORING IS REQUIRED FOR THE END BENT CONSTRUCTION FROM STATION 16+67± 12.3± FT LT OF -L-TO STATION 17+03± 12.3± FT LT OF -L-.

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+67± 12.3± FT LT OF -L- TO STATION 17+03± 12.3± FT LT OF -L-, FOR THE FOLLOWINGS ASSUMED SOIL PARAMETERS AND GROUNDWATER ELEVATION:

UNIT WEIGHT = 115 LB/CF FRICTION ANGLE (F) = 28 DEGREES COHESION (C) = O LB/SFGROUNDWATER ELEVATION = 685 FT

DRIVEN PILING FOR TEMPORARY SHORING FROM STATION 16+67± 12.3± FT LT OF -L- TO STATION 17+03± 12.3± FT LT OF -L- MAY NOT PENETRATE BELOW ELEVATION 674 FT DUE TO OBSTRUCTIONS, VERY DENSE OR HARD SOIL, BOULDERS OR WEATHERED ROCK OR HARD ROCK.

DO NOT USE A TEMPORARY WALL FOR TEMPORARY SHORING FROM STATION 16+67± 12.3± FT LT OF -L- TO STATION 17+03± 12.3± FT LT OF -L-.

AT THE CONTRACTOR'S OPTION, USE STANDARD TEMPORARY SHORING FOR TEMPORARY SHORING FROM STATION 16+67± 12.3± FT LT OF -L- TO STATION 17+03± 12.3± FT LT OF -L-. SEE STANDARD DETAIL NO. 1801.01 FOR STANDARD TEMPORARY SHORING.

IT MAY BE PREFERRED TO USE A TEMPORARY SOIL NAIL WALL FOR TEMPORARY SHORING FROM STATION 16+67± 12.3 ± FT LT OF -L- TO STATION 17+03± 12.3± FT LT OF -L-. FOR TEMPORARY SOIL NAIL WALLS, SEE TEMPORARY SOIL NAIL WALLS PROVISION.

|TEMPORARY SHORING 3|

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

TEMPORARY SHORING IS REQUIRED FOR THE END BENT CONSTRUCTION FROM STATION 12+90± 10.0± FT LT OF -L-TO STATION 13+26± 10.0± FT LT OF -L-.

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+90± 10.0± FT LT OF -L- TO STATION 13+26± 10.0± FT LT OF -L-, FOR THE FOLLOWINGS ASSUMED SOIL PARAMETERS AND GROUNDWATER ELEVATION:

UNIT WEIGHT = 115 LB/CF FRICTION ANGLE (F) = 28 DEGREES COHESION (C) = 0 LB/SFGROUNDWATER ELEVATION = 695 FT

AT THE CONTRACTOR'S OPTION, USE A STANDARD TEMPORARY WALL FOR TEMPORARY SHORING FROM STATION 12+90± 10.0± FT LT OF -L- TO STATION 13+26± 10.0± FT LT OF -L-. 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.

|TEMPORARY SHORING 4|

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

TEMPORARY SHORING IS REQUIRED FOR THE END BENT CONSTRUCTION FROM STATION 16+67± 10.0± FT LT OF -L-TO STATION 17+03± 10.1± FT LT OF -L-.

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+67± 10.0± FT LT OF -L- TO STATION 17+03± 10.1± FT LT OF -L-, FOR THE FOLLOWINGS ASSUMED SOIL PARAMETERS AND GROUNDWATER ELEVATION:

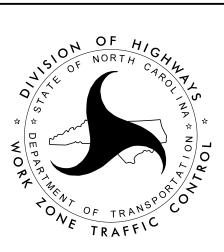
UNIT WEIGHT = 120 LB/CF FRICTION ANGLE (F) = 30 DEGREES COHESION (C) = 0 LB/SFGROUNDWATER ELEVATION = 685 FT

AT THE CONTRACTOR'S OPTION, USE A STANDARD TEMPORARY WALL FOR TEMPORARY SHORING FROM STATION 16+67± 10.0± FT LT OF -L- TO STATION 17+03± 10.1± FT LT OF -L-. SEE GEOTECHNICAL STANDARD DETAIL NO. 1801.02 FOR STANDARD TEMPORARY SHORING.

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

THE SOIL PARAMETERS SHOWN ON THIS SHEET WERE PROVIDED IN A SEALED DOCUMENT FROM THE GEOTECHNICAL ENGINEER. THE DOCUMENT WAS SUBMITTED TO THE WZTC GROUP BY MICHAEL A. WANG ON 09/25/2024 AND SEALED BY SHIPING YANG, PHD, PE, LICENSE NUMBER 031361

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



TEMPORARY SHORING **NOTES**

TRANSPORTATION MANAGEMENT STRATEGIES

PHASING PLAN

B-5766 TMP-4A

SHEET NO.

PROJ. REFERENCE NO.

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

TRAFFIC MANAGEMENT STRATEGIES:

- -FULL ROADWAY CLOSURES
- -ONE-LANE, TWO WAY OPERATION (FLAGGING)

-WORK HOUR RESTRICTIONS FOR PEAK TRAVEL
-OFF-SITE DETOURS / USE OF ALTERNATIVE ROUTES

GENERAL TRAFFIC CONTROL NOTES

BEFORE BEGINNING ANY CONSTRUCTION ACTIVITIES, THE CONTRACTOR SHALL INSTALL ALL ADVANCE WARNING SIGNS AND TRAFFIC CONTROL DEVICES (RSD 1101.01). FIELD VERIFY LOCATIONS WITH THE ENGINEER PRIOR TO INSTALLATION.

MAINTAIN VEHICULAR ACCESS TO ALL RESIDENCES, SCHOOLS, BUS STOPS, EMERGENCY SERVICES, AND BUSINESSES DURING THE LIFE OF THE CONTRACT, PRIOR TO INCORPORATION, OBTAIN WRITTEN APPROVAL FROM THE ENGINEER ON METHOD TO MAINTAIN ACCESS.

COMPLETE ANY PROPOSED OR TEMPORARY WIDENING IN SUCH A MANNER THAT NO PONDING OF WATER WILL OCCUR WITHIN THE TRAVEL LANE.

WHEN USING LANE CLOSURES (RSD 1101.02), RETURN TRAFFIC TO EXISTING AND/OR TEMPORARY TRAFFIC PATTERN UPON ACTIVITIES COMPLETION, UNLESS OTHERWISE NOTED IN THE PHASING PLANS.

WHEN PHASING STATES TO USE LANE CLOSURES, REFER TO THE FOLLOWING FOR ALL EXISTING AND PROPOSED ROADS:

-ALL TWO-LANE/TWO-WAY FACILITIES SEE RSD 1101.02 SHEET 1 OF 19

COMPLETE PAVING UP TO, BUT NOT INCLUDING, THE FINAL LAYER OF SURFACE COURSE UNTIL STATED TO PLACE FINAL LAYER IN THE PHASING PLANS.

WHEN WEDGING OVER EXISTING PAVEMENT, WEDGE TO PROPOSED ELEVATION (LESS THE FINAL LAYER OF SURFACE COURSE), OR WEDGE AS NEEDED TO MAINTAIN TRAFFIC. MAINTAIN POSITIVE DRAINAGE AND MAINTAIN A MAXIMUM 0.04 ROLLOVER IN BOTH EXISTING AND/OR TEMPORARY TRAVEL LANES.

TRAFFIC CONTROL NOTE 1:

FOR THE DURATION OF CONSTRUCTION, ENSURE ALL DRIVEWAY ACCESS IS MAINTAINED.

TRAFFIC CONTROL NOTE 2:

REPLACE MARKINGS AND RETURN TRAFFIC TO THE CURRENT TRAFFIC PATTERN AT THE END OF EACH WORK PERIOD UNLESS OTHERWISE NOTED IN THE PHASING OR DIRECTED BY THE ENGINEER.

TRAFFIC CONTROL NOTE 3:

ENSURE ANCHORED PORTABLE CONCRETE BARRIER (PCB) IS INSTALLED AS SHOWN ON PLANS. 12" OF CLEAR ZONE ON BRIDGE DECKS AND 24" OF CLEAR ZONE EVERYWHERE ELSE IS REQUIRED THROUGHOUT CONSTRUCTION.

TRAFFIC CONTROL NOTE 4:

CONTRACTOR MAY ADJUST FLAGGERS, AS NECESSARY, BASED ON FIELD CONDITIONS.

PHASE I - STEP A

STEP A1:

PRIOR TO THE WEEKEND ICT AND ROAD CLOSURE, INSTALL WORK ZONE ADVANCE WARNING SIGNS (RSD 1101.01) AND ROAD CLOSURE AND DETOUR SIGNAGE FOR -L- SHEPPARD MILL ROAD. ONCE INSTALLED, COVER ROAD CLOSURE AND DETOUR SIGNAGE UNTIL SHIFTING INTO PHASE I - STEP A2 TRAFFIC PATTERN. SEE TMP-12 FOR DETOUR SIGNAGE.

STEP A2: (SEE TMP-5A)

ICT NOTE:

CONTRACTOR SHALL COMPLETE THE WORK REQUIRED OF PHASE I - STEP A2 IN SIXTY (60) CONSECUTIVE HOURS (FRIDAY 6PM TO MONDAY 6AM). ALL NECESSARY WORK ZONE ADVANCE WARNING SIGNS AND DETOUR SIGNAGE SHALL BE INSTALLED PRIOR TO THE WEEKEND ICT. SEE INTERMEDIATE CONTRACT TIME AND LIQUIDATED DAMAGES FOR MORE DETAILS.

UNCOVER ROAD CLOSURE AND DETOUR SIGNAGE. BEHIND BARRICADES AND AWAY FROM TRAFFIC, ONCE SHIFTED INTO THE PHASE I - STEP A2 TRAFFIC PATTERN, BEGIN EARTHWORK AND COMPLETE PAVING AND PCB INSTALLATION TO THE FOLLOWING STATIONS:

-L- STA. 10+17 +/- TO -L- STA. 13+21 +/-

(SEE TMP-5A)

AT THE COMPLETION OF PHASE I - STEP A2, REMOVE ALL BARRICADES AND COVER SIGNAGE ASSOCIATED WITH DETOUR -L-SHEPPARD MILL ROAD AND OPEN ROAD TO TRAFFIC.

PCB NOTE:

CONTRACTOR SHALL INSTALL PCB ONCE PAVEMENT INSTALLATION IS COMPLETE IN THE SAME WORK PERIOD. CONTRACTOR TO ENSURE THAT PCB IS INSTALLED AND EXISTING GUARDRAIL IS ADJUSTED BY THE END OF THE FIRST WEEKEND CLOSURE.

STEP A3: (SEE TMP-5B)

ICT NOTE:

CONTRACTOR SHALL COMPLETE THE WORK REQUIRED OF PHASE I - STEP A3 IN SIXTY (60) CONSECUTIVE HOURS (FRIDAY 6PM TO MONDAY 6AM) THE NEXT WEEKEND FOLLOWING PHASE I - STEP A2. SEE INTERMEDIATE CONTRACT TIME AND LIQUIDATED DAMAGES FOR MORE DETAILS.

THE WEEKEND FOLLOWING PHASE I - STEP A2, UNCOVER ROAD CLOSURE SIGNS AND DETOUR SIGNAGE FOR -L- SHEPPARD MILL ROAD.

BEHIND BARRICADES AND AWAY FROM TRAFFIC, ONCE SHIFTED INTO THE PHASE I - STEP A3 TRAFFIC PATTERN, BEGIN EARTHWORK AND COMPLETE PAVING AND PCB INSTALLATION TO THE FOLLOWING STATIONS:

-L- STA. 16+72 +/- TO -L- STA. 20+20 +/-

(SEE TMP-5B)

AT THE COMPLETION OF PHASE I - STEP A3, REMOVE ALL BARRICADES AND SIGNAGE ASSOCIATED WITH DETOUR -L- SHEPPARD MILL ROAD AND SHIFT TRAFFIC TO PHASE I - STEP A4 TRAFFIC PATTERN.

PCB NOTE:

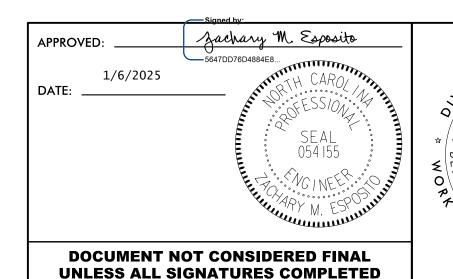
CONTRACTOR SHALL INSTALL PCB ONCE PAVEMENT INSTALLATION IS COMPLETE IN THE SAME WORK PERIOD. CONTRACTOR TO ENSURE THAT PCB IS INSTALLED BY THE END OF THE WEEKEND CLOSURE.

STEP A4: (SEE TMP-6)

ONCE SHIFTED, INSTALL TEMPORARY SHORING AS SHOWN ON TMP-6. BEHIND BARRIERS, BEGIN CONSTRUCTION (INCLUDING DRAINAGE), TO THE FOLLOWING STATIONS:

-L- STA. 10+12 +/- TO -L- STA. 19+61 +/- (SEE TMP-6)

-Y- STA. 102+10 +/- TO -Y- STA. 103+10 +/- (SEE TMP-6)





TRANSPORTATION

MANAGEMENT STRATEGIES

AND PHASING PLAN

PHASING PLAN

B-5766 TMP-4B

PROJ. REFERENCE NO.

NC LICENSE NO. F-1524

SHEET NO.

PHASE I - STEP B

STEP B: (SEE TMP-7)

MAINTAIN NECESSARY WORK ZONE ADVANCE WARNING SIGNS (RSD 1101.01).

USING LANE CLOSURES AND FLAGGERS AS NEEDED, RESET NECESSARY PCB. SHIFT TRAFFIC TO THE PHASE I -STEP B TRAFFIC PATTERN.

ONCE SHIFTED, CONTINUE CONSTRUCTION, USING FLAGGERS, TO THE FOLLOWING STATIONS:

-L- STA. 19+00 +/- TO -L- STA. 20+50 +/- (SEE TMP-7)

PHASE II

STEP 1: (SEE TMP-8)

REMOVE AND RESET NECESSARY WORK ZONE ADVANCE WARNING SIGNS (RSD 1101.01).

USING LANE CLOSURES AND FLAGGERS AS NEEDED, RESET NECESSARY ANCHORED PCB AND INSTALL TEMPORARY SHORING AS SHOWN ON TMP-8. AFTER PCB INSTALLATION, INSTALL TEMPORARY PAINT ALONG NEWLY ALIGNED SHEPPARD MILL ROAD AND SHIFT TO PHASE II TRAFFIC PATTERN.

ONCE SHIFTED, CONTINUE CONSTRUCTION, BEHIND BARRIERS, TO THE FOLLOWING STATIONS:

-L- STA. 13+09 +/- TO -L- STA. 16+83 +/- (SEE TMP-8)

PHASE III - STEP A

STEP A: (SEE TMP-9)

MAINTAIN NECESSARY WORK ZONE ADVANCE WARNING SIGNS (RSD 1101.01).

USING LANE CLOSURES AND FLAGGERS AS NEEDED, RESET NECESSARY PCB AND REMOVE SHORING AS SHOWN ON TMP-9. AFTER PCB INSTALLATION, SHIFT TRAFFIC TO THE PHASE III - STEP A TRAFFIC PATTERN.

ONCE SHIFTED, CONTINUE CONSTRUCTION (INCLUDING DRAINAGE), BEHIND DRUMS AND AWAY FROM TRAFFIC, TO THE FOLLOWING STATIONS:

-L- STA. 10+12 +/- TO -L- STA. 17+03 +/- (SEE TMP-9) -Y- STA. 103+16 +/- TO -Y- STA. 103+83 +/- (SEE TMP-9)

PHASE III - STEP B

STEP B: (SEE TMP-10)

MAINTAIN NECESSARY WORK ZONE ADVANCE WARNING SIGNS (RSD 1101.01).

USING LANE CLOSURES AND FLAGGERS AS NEEDED, REMOVE ALL PCB AND SHIFT TRAFFIC TO THE PHASE III -STEP B TRAFFIC PATTERN.

ONCE SHIFTED, CONTINUE CONSTRUCTION (INCLUDING DRAINAGE), BEHIND DRUMS AND AWAY FROM TRAFFIC, TO THE FOLLOWING STATIONS:

-L- STA. 17+03 +/- TO -L- STA. 19+14 +/- (SEE TMP-10)

PHASE IV

STEP 1: (SEE TMP-11)

MAINTAIN NECESSARY WORK ZONE ADVANCE WARNING SIGNS (RSD 1101.01).

USING LANE CLOSURES AND FLAGGERS AS NEEDED, INSTALL TEMPORARY PAINT ALONG NC 8 AND 89 AND SHEPPARD MILL ROAD. ONCE TEMPORARY PAINT IS INSTALLED, SHIFT TRAFFIC TO PHASE IV TRAFFIC PATTERN.

ONCE SHIFTED, CONTINUE CONSTRUCTION AND COMPLETE DEMOLITION, BEHIND DRUMS AND AWAY FROM TRAFFIC, TO THE FOLLOWING STATIONS:

-L- STA. 11+85 +/- TO -L- STA. 18+05 +/- (SEE TMP-11)

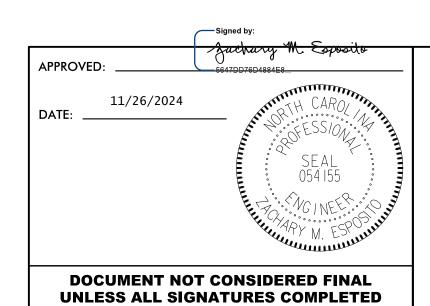
PHASE V

STEP 1:

MAINTAIN NECESSARY WORK ZONE ADVANCE WARNING SIGNS (RSD 1101.01).

AFTER DEMOLITION OF OLD SHEPPARD MILL ROAD, USING LANE CLOSURES AND FLAGGERS AS NEEDED, COMPLETE PAVING, INCLUDING FINAL SURFACE COURSE AND INSTALL FINAL PAVEMENT MARKINGS AND MARKERS.

REMOVE ALL REMAINING TEMPORARY TRAFFIC CONTROL DEVICES AND ALLOW NORMAL TRAFFIC OPERATION.





TRANSPORTATION MANAGEMENT STRATEGIES AND PHASING PLAN

