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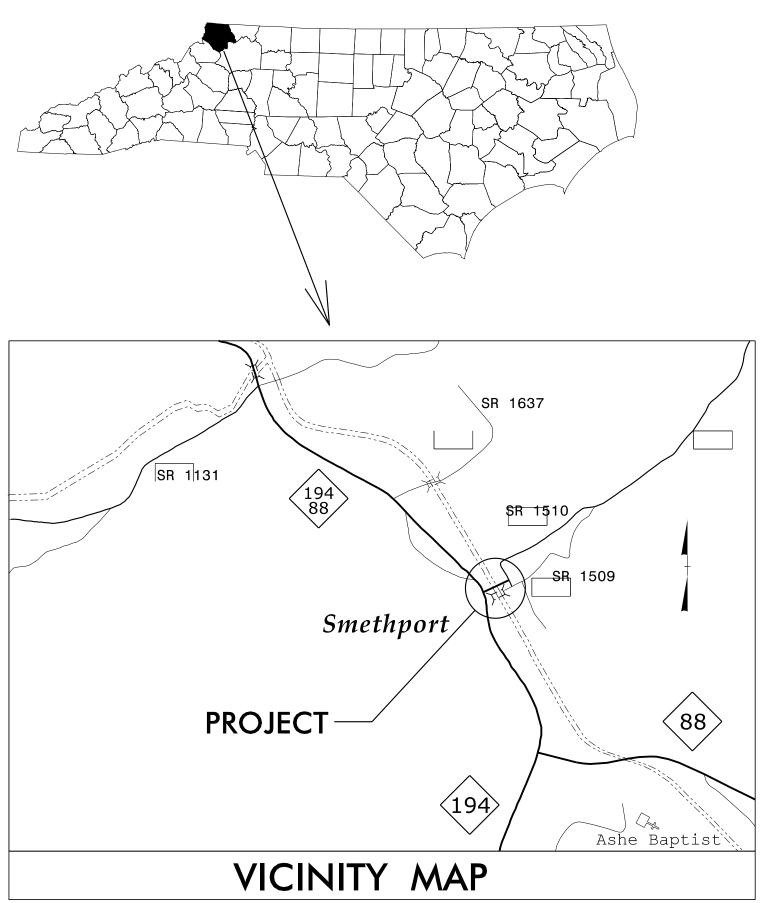
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STATE OF NORTH CAROLINA DIVISION OF HIGHWAYS

TRANSPORTATION MANAGEMENT PLAN

ASHE COUNTY



INDEX OF SHEETS

SHEET NO. TITLE

TMP - 1 TITLE SHEET, VICINITY MAP, AND INDEX OF SHEETS

LIST OF APPLICABLE ROADWAY STANDARD DRAWINGS, MANAGEMENT STRATEGIES, LEGEND AND PHASING TMP-1A

GENERAL NOTES TMP-2

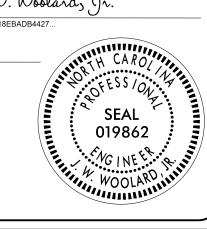
TEMPORARY SHORING NOTES TMP-2A

PHASE I PLAN TMP-3 PHASE II PLAN TMP-4

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APPROVED:_ DATE: 2/10/2016

SEAL



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

N.C.D.O.T. WORK ZONE TRAFFIC CONTROL

1561 MAIL SERVICE CENTER (MSC) RALEIGH, NC 27699-1561

750 N. GREENFIELD PARKWAY, GARNER, NC 27529 (DELIVERY)

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KEN BROADWELL TRAFFIC CONTROL DESIGN ENGINEER

TMP-1

B

ROADWAY STANDARD DRAWINGS

THE FOLLOWING ROADWAY STANDARDS AS SHOWN IN "ROADWAY STANDARD DRAWINGS" -PROJECT SERVICES UNIT - N.C. DEPARTMENT OF TRANSPORTATION - RALEIGH, N.C., DATED JANUARY 2012 ARE APPLICABLE TO THIS PROJECT AND BY REFERENCE HEREBY ARE CONSIDERED A PART OF THESE PLANS:

STD. NO.	TITLE
1101.01	WORK ZONE ADVANCE WARNING SIGNS
1101.02	TEMPORARY LANE CLOSURES
1101.11	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
1150.01	FLAGGING DEVICES
1170.01	POSITIVE PROTECTION
1180.01	SKINNY-DRUM
1205.01	PAVEMENT MARKINGS - LINE TYPES AND OFFSETS
1205.02	PAVEMENT MARKINGS - TWO-LANE AND MULTI-LANE ROADWAYS
1205.04	PAVEMENT MARKINGS - INTERSECTIONS
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

MANAGEMENT STRATEGIES

THE SCOPE OF THIS PROJECT IS TO REPLACE AN EXISTING BRIDGE WITH A NEW REINFORCED DOUBLE CONCRETE BOX CULVERT ON A NEW ALIGNMENT PARRALLEL TO THE EXISTING ALIGNMENT. IT WILL INCLUDE PAVEMENT TIE INS TO EXISTING ROADWAYS INCLUDING THE NEW ALIGNMENT INTERSECTION WITH NC 88 / 194.

THIS PROJECT WILL INCLUDE WORK ZONE ADVANCE WARNING SIGNS.

TRAFFIC WILL BE MAINTAINED ON THE EXISTING ALIGNMENT TO CONSTRUCT THE NEW DOUBLE CONCRETE BOX CULVERT AND THE NEW ROADWAY. FLAGGING WILL BE UTILIZED TO CONSTRUCT TIE INS TO THE EXISTING ROADWAYS. A LANE CLOSURE ICT WILL BE UTILIZED TO PROHIBIT FLAGGING/LANE CLOSURES ON NC 88 / 194 DURING MORNINGS AND AFTERNOONS MONDAY THRU FRIDAY.

DRUMS AND WATER FILLED BARRIER WILL BE UTILIZED TO SEPARATE TRAFFIC FROM CONSTRUCTION AREAS. TYPE III BARRICADES WILL BE UTILIZED TO ENSURE TRAFFIC STAYS OFF ROADS UNDER CONSTRUCTION AND/OR ANY CLOSED ROAD.

THE EXISTING BRIDGE WILL BE DEMOLISHED AND REMOVED AWAY FROM TRAFFIC.

FLAGGING/LANE CLOSURES WILL BE UTILIZED TO PLACE SURFACE COURSE AND PAVEMENT MARKINGS/MARKERS.

LEGEND

TRAFFIC CONTROL DEVICES BARRICADE (TYPE III) WATER FILLED BARRIER (WFB)

CONE

SKINNY DRUM

FLAGGER

— STATIONARY SIGN

STATIONARY OR PORTABLE SIGN

TEMPORARY SIGNING

PORTABLE SIGN

PHASING

PHASE I

GENERAL

----- EXIST. PVMT.

NORTH ARROW

— PROPOSED PVMT.

WORK AREA

TEMPORARY SHORING

REMOVAL

PAVEMENT MARKINGS

——EXISTING LINES

——TEMPORARY LINES

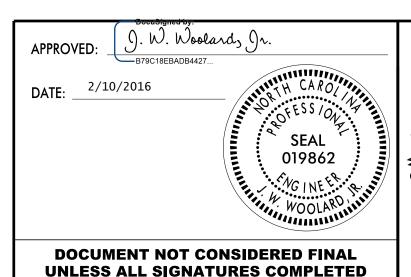
- STEP 1: PLACE ADVANCE WORK ZONE WARNING SIGNS ALONG NC 88 / 194, SR 1509 AND SR 1510 IN ACCORDANCE WITH ROADWAY STANDARD DRAWING NO. 1101.01, SHEET 3 OF 3.
- STEP 2: INSTALL DRUMS ALONG THE EXISTING SHOULDERS OF NC 88 / 194, SR 1509 AND SR 1510 AS SHOWN ON SHEET TMP-3.

DIRECTION OF TRAFFIC FLOW

- STEP 3: AWAY FROM TRAFFIC AND USING FLAGGING OPERATIONS PER ROADWAY STANDARD DRAWING NO. 1101.02 SHEET 1 OF 9 AS NECESSARY:
 - A. -- INSTALL NEW REINFORCED CONCRETE BOX CULVERTS (2@9'X8'). SEE SHEET TMP-3.
 - B. -- CONSTRUCT THE NEW -L- ROADWAY AND THE RIGHT SIDE DRIVE TURN OUT UP TO BUT NOT INCLUDING THE FINAL LAYER OF SURFACE COURSE.
- STEP 4 AWAY FROM TRAFFIC AND USING FLAGGING OPERATIONS PER ROADWAY STANDARD DRAWING NO. 1101.02, SHEET 1 OF 9 AS NECESSARY:
 - A. -- PLACE TEMPORARY PAVEMENT MARKINGS/MARKERS ALONG -L- AND -EY1- (CLAYBANK ROAD) IN THE FINAL PATTERN. SEE TMP-4 AND FINAL PAVEMENT MARKING PLANS.
 - B. -- OBLITERATE ANY EXISTING MARKINGS ALONG -EY- (NC 88 / 194) CONFLICTING WITH THE FINAL PATTERN DEPICTED ON TMP-4 AND FINAL PAVMENT MARKING PLANS.
- STEP 5 SIMULTANEOUSLY RELOCATE THE TYPE III BARRICADES TO CLOSE EXISTING -EY1-(CLAYBANK ROAD) AT NC 88 / 194, REMOVE DRUMS AND WATER FILLED BARRIER AS NECESSARY THEN OPEN TRAFFIC TO THE FINAL TRAFFIC PATTERN.

PHASE II

- STEP 1: USING FLAGGING OPERATIONS PER ROADWAY STANDARD DRAWING NO. 1101.02 SHEET 1 OF 9 COMPLETE CONSTRUCTION OF THE -L- TIE INS UP TO BUT NOT INCLUDING THE FINAL LAYER OF SURFACE COURSE.
- STEP 2: AWAY FROM TRAFFIC DEMO/REMOVE THE EXISTING BRIDGE (SEE SHEET TMP-4).
- STEP 3: USING FLAGGING OPERATIONS PER ROADWAY STANDARD DRAWING NO. 1101.02, SHEET 1 OF 9 INSTALL THE FINAL LAYER OF SURFACE COURSE ON -L- AND -EY- (NC 88 / 194) AS NECESSARY, INSTALL THE REMAINING GUARDRAIL AND INSTALL THE FINAL PAVEMENT MARKINGS AS SHOWN ON THE FINAL PAVEMENT MARKING PLANS THEN OPEN TO THE FINAL TRAFFIC PATTERN.
- STEP 4: REMOVE ANY REMAINING TRAFFIC CONTROL SIGNS AND DEVICES.





ROADWAY STANDARD DRAWINGS, MANAGEMENT STRATEGIES, LEGEND AND PHASING

SHEET NO.

TMP-1A

PROJ. REFERENCE NO.

B-5147

PROJ. REFERENCE NO.	SHEET NO.
B-5147	TMP-2

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

DAY AND TIME RESTRICTIONS

NC 88/194 (ARTHUR G. CAUDILL RD)

MONDAY THRU FRIDAY 6:00AM - 9:00AM 3:00PM - 6:00PM

LANE AND SHOULDER CLOSURE REQUIREMENTS

- B) 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.
- 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.
- D) 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.

E) 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.

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.

TRAFFIC PATTERN ALTERATIONS

G) NOTIFY THE ENGINEER TWENTY ONE (21) CALENDAR DAYS PRIOR TO ANY TRAFFIC PATTERN ALTERATION.

SIGNING

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

TRAFFIC BARRIER

J) 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.

TRAFFIC CONTROL DEVICES

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

PAVEMENT MARKINGS AND MARKERS

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

ROAD NAME

MARKING

MARKER

CLAYBANK RD (-L-)

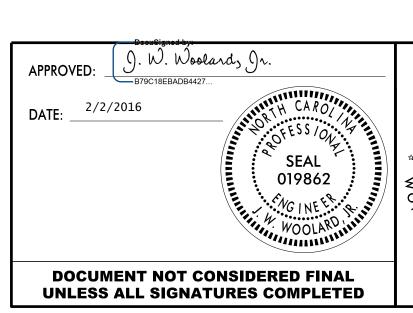
PAINT

TEMPORARY RAISED

- N) 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.
- O) TIE PROPOSED PAVEMENT MARKING LINES TO EXISTING PAVEMENT MARKING
- P) REMOVE/REPLACE ANY CONFLICTING/DAMAGED PAVEMENT MARKINGS AND MARKERS BY THE END OF EACH DAY'S OPERATION.

MISCELLANEOUS

Q) 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) AND RESPECTIVELY IN ADVANCE OF THE UNEVEN AREAS. USE DRUMS TO DELINEATE THE EDGE OF ROADWAY ALONG UNPAVED AREAS.





GENERAL NOTES

TEMPORARY SHORING NOTES

Shoring Location No. 1

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 -EL- 10+56±, 13.56 FT LEFT, TO STATION -EL- 10+63±, 13.63 FT LEFT, FOR THE FOLLOWING ASSUMED SOIL PARAMETERS AND GROUNDWATER ELEVATION:

UNIT WEIGHT (γ) = 120 LB/CF FRICTION ANGLE (ϕ) = 30 DEGREES COHESION (C) = 0 LB/SF GROUNDWATER ELEVATION = 2015 FT

LIMITED SUBSURFACE INFORMATION IS AVAILABLE IN THE VICINITY OF TEMPORARY SHORING FROM STATION -EL- 10+56±, 13.56 FT LEFT, TO STATION -EL- 10+63±, 13.63 FT LEFT. 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 -EL- 10+56±, 13.56 FT LEFT, TO STATION -EL- 10+63±, 13.63 FT LEFT WILL NOT PENETRATE BELOW ELEVATION 2809 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 FROM STATION -EL- 10+56±, 13.56 FT LEFT, TO STATION -EL- 10+63±, 13.63 FT LEFT. FOR TEMPORARY SOIL NAIL WALLS, SEE TEMPORARY SOIL NAIL WALLS PROVISION.

Shoring Location No. 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 -EL- 10+81±, 14.36 FT LEFT, TO STATION -EL- 10+96 ±, 14.14 FT LEFT, FOR THE FOLLOWING ASSUMED SOIL PARAMETERS AND GROUNDWATER ELEVATION:

UNIT WEIGHT (γ) = 120 LB/CF FRICTION ANGLE (ϕ) = 30 DEGREES COHESION (C) = 0 LB/SF GROUNDWATER ELEVATION = 2815 FT

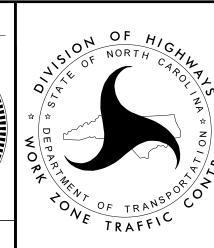
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DRIVEN PILING FOR TEMPORARY SHORING FROM STATION -EL- 10+81±, 14.36 FT LEFT, TO STATION -EL- 10+96 ±, 14.14 FT LEFT WILL NOT PENETRATE BELOW ELEVATION 2809 FT DUE TO OBSTRUCTIONS, VERY DENSE OR HARD SOIL, BOULDERS OR WEATHERED OR HARD ROCK.

IT MAY BE PREFERRED TO USE A TEMPORARY SOIL NAIL WALL FOR TEMPORARY SHORING FROM STATION -EL- 10+81±, 14.36 FT LEFT, TO STATION -EL- 10+96±, 14.14 FT LEFT. FOR TEMPORARY SOIL NAIL WALLS, SEE TEMPORARY SOIL NAIL WALLS PROVISION.

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TEMPORARY SHORING NOTES

