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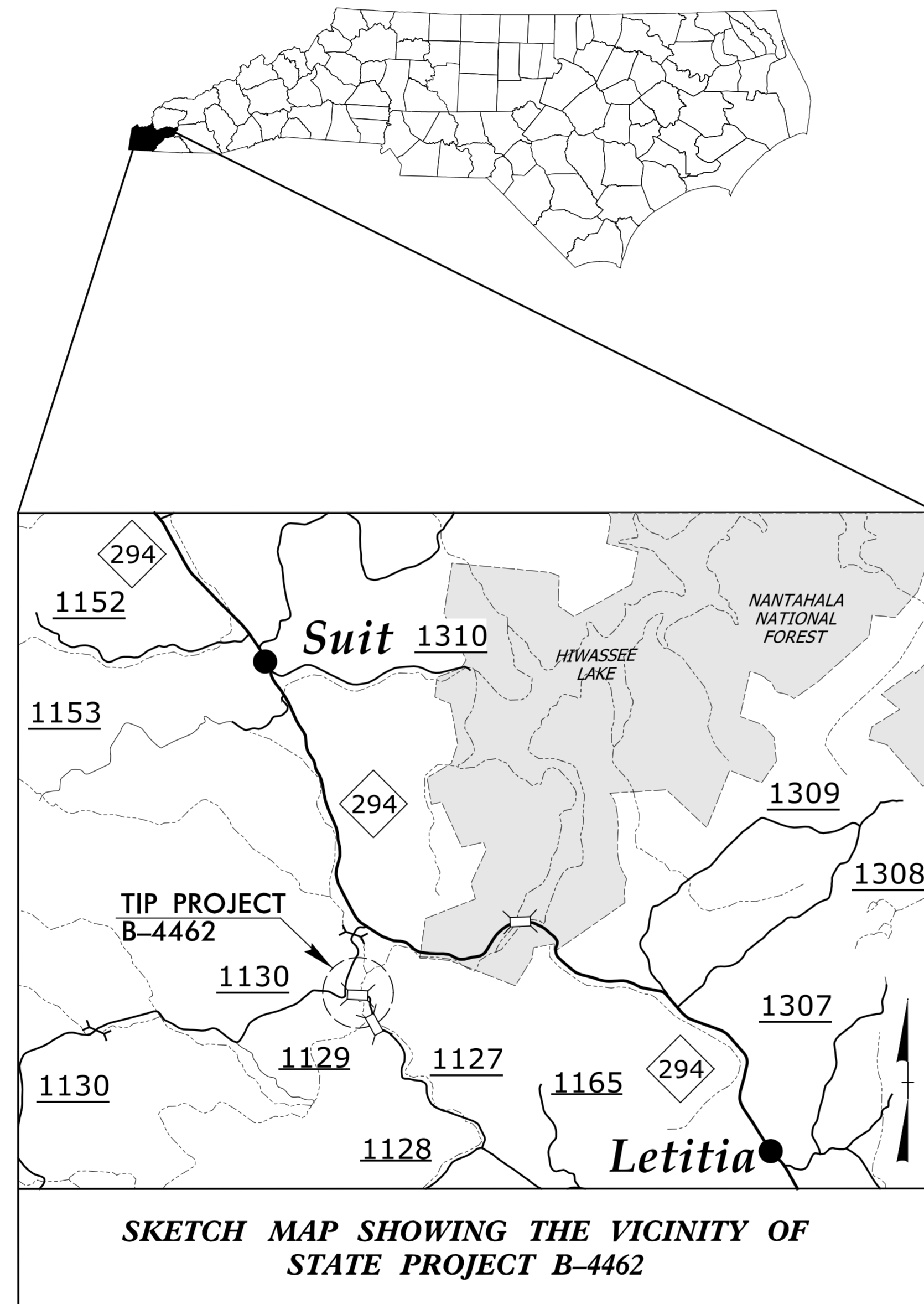
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STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

TRANSPORTATION MANAGEMENT PLAN

CHEROKEE COUNTY



SKETCH MAP SHOWING THE VICINITY OF
STATE PROJECT B-4462

LOCATION: BRIDGE NO. 148 OVER PERSIMMON CREEK ON
SR 1127 (BELL HILL RD)

TYPE OF WORK: GRADING, DRAINAGE, PAVING & STRUCTURE

INDEX OF SHEETS

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SHEET NO.
TMP-1

B-4462

TIP PROJECT:

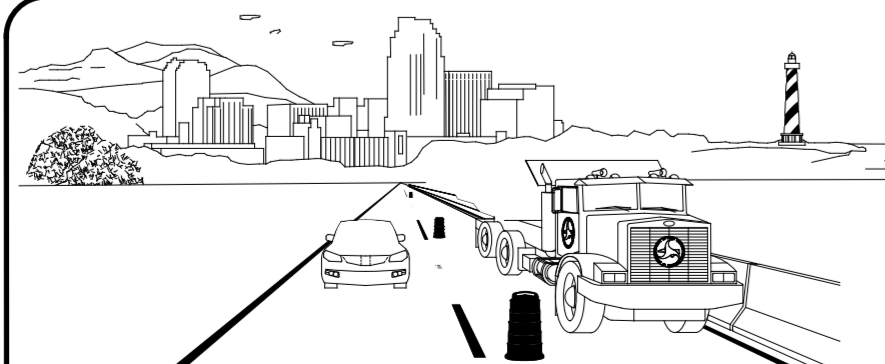
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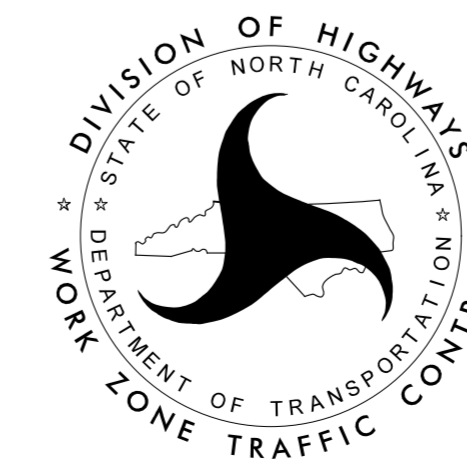
ICA Engineering, Inc.
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WORK ZONE SAFETY & MOBILITY
"from the MOUNTAINS to the COAST"

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)
PHONE: (919) 814-5000 FAX: (919) 771-2745

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- K. DAIS TRAFFIC CONTROL DESIGN ENGINEER



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
1101.05	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
1150.01	FLAGGING DEVICES
1180.01	SKINNY-DRUM
1205.01	PAVEMENT MARKINGS - LINE TYPES AND OFFSETS
1205.02	PAVEMENT MARKINGS - TWO-LANE AND MULTI-LANE ROADWAYS
1205.12	PAVEMENT MARKINGS - BRIDGES
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

LEGEND

GENERAL

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

- WORK AREA
- CONTINUING CONSTRUCTION
- TEMPORARY PAVEMENT
- REMOVAL

SIGNALS

- EXISTING
- PROPOSED
- PORTABLE
- DRIVEWAY

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

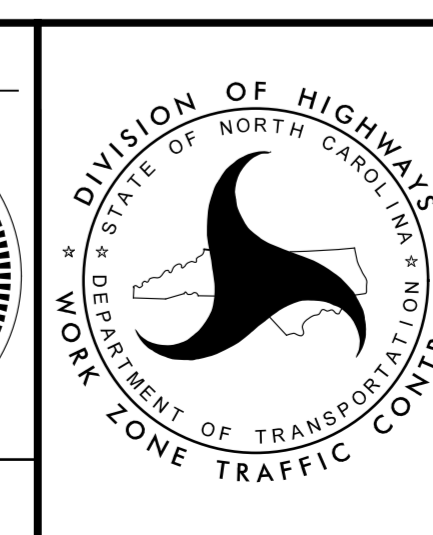
PAVEMENT MARKING SYMBOLS

- PAVEMENT MARKING SYMBOLS

TEMPORARY PAVEMENT MARKING

SYMBOL	DESCRIPTION
	<u>PAINT (4")</u>
P8	2 FT.-6 FT./ SP WHITE MINI-SKIP
PA	WHITE EDGELINE
PI	DOUBLE YELLOW CENTERLINE
	<u>PAINT (24")</u>
P2	WHITE STOPBAR
	<u>COLD APPLIED PLASTIC (24")</u>
C2	WHITE STOP BAR (TYPE 4 REMOVABLE TAPE)
	<u>TEMPORARY RAISED MARKERS</u>
MH	YELLOW & YELLOW

APPROVED:
DATE: 9/18/2017
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ROADWAY STANDARD DRAWINGS, LEGEND & TEMPORARY PAVEMENT MARKING SCHEDULE

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.

- A) 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.

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.
- C) 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.
- F) 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.
- G) DO NOT INSTALL MORE THAN ONE LANE CLOSURE IN ANY ONE DIRECTION ON BELL HILL ROAD.

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

TRAFFIC PATTERN ALTERATIONS

- J) NOTIFY THE ENGINEER TWENTY ONE (21) 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.
- M) INSTALL BLACK ON ORANGE "DIP" SIGNS (W8-2) AND/OR "BUMP" SIGNS (W8-1) 200 FEET IN ADVANCE OF THE UNEVEN AREA, OR AS DIRECTED BY THE ENGINEER.

TRAFFIC CONTROL DEVICES

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

PAVEMENT MARKINGS AND MARKERS

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

ROAD NAME	MARKING	MARKER
SR 1127	PAINT	TEMPORARY RAISED

- Q) PLACE ONE APPLICATION OF PAINT FOR TEMPORARY TRAFFIC PATTERNS. PLACE A SECOND APPLICATION OF PAINT SIX (6) MONTHS AFTER THE INITIAL APPLICATION AND EVERY SIX MONTHS AS DIRECTED BY THE ENGINEER.
- R) TIE PROPOSED PAVEMENT MARKING LINES TO EXISTING PAVEMENT MARKING LINES.
- S) REMOVE/REPLACE ANY CONFLICTING/DAMAGED PAVEMENT MARKINGS AND MARKERS BY THE END OF EACH DAY'S OPERATION.

MANAGEMENT STRATEGIES

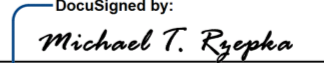
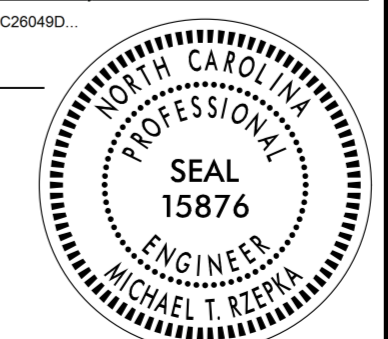

THE PROJECT CONSISTS OF REPLACING BRIDGE NO. 148 AND REALIGNING SR 1127 (BELL HILL RD.). DURING CONSTRUCTION, TRAFFIC WILL REMAIN IN PLACE IN A TWO-LANE, TWO-WAY PATTERN ON EXISTING SR 1127 FOR BRIDGE AND REALIGNMENT CONSTRUCTION PERFORMED AWAY FROM TRAFFIC.

FOR TIE-IN CONSTRUCTION OF -L- TO EXISTING BELL HILL ROAD, PORTABLE SIGNALS AND ONE-LANE, TWO-WAY PATTERN WILL BE UTILIZED ON SR 1127 (BELL HILL RD.) AND FOR TWO DRIVEWAYS THAT RESIDE WITHIN THE ONE-LANE PATTERN LIMITS.

TEMPORARY SHORING AND WATER-FILLED BARRIER INSTALLATION, TIE-IN CONSTRUCTION, TEMPORARY WIDENING, TRAFFIC SHIFTS, AND PLACEMENT OF FINAL SURFACE COURSE AND PAVEMENT MARKINGS WILL BE PERFORMED USING FLAGGER OPERATIONS.

ACCESS FOR LOCAL TRAFFIC, INCLUDING DRIVEWAYS, MUST BE PROVIDED AT ALL TIMES WITHIN THE PROJECT LIMITS.

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APPROVED:  DATE: 9/18/2017 <div style="text-align: center;">  SEAL </div>		<h1 style="margin: 0;">TRANSPORTATION OPERATIONS PLAN</h1>
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TEMPORARY SHORING NOTES

(SEE SHEET TMP-4)

Temporary Shoring 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 12+75±-L-, 20 FT (RT), TO STATION 13+15±-L-, 20 FT (RT), FOR THE FOLLOWING ASSUMED SOIL PARAMETERS AND GROUNDWATER ELEVATION:

- UNIT WEIGHT (γ) = 115 LB/CF
- FRICTION ANGLE (ϕ) = 28 DEGREES
- COHESION (c) = 0 LB/SF
- GROUNDWATER ELEVATION = 1545 FT

LIMITED SUBSURFACE INFORMATION IS AVAILABLE IN THE VICINITY OF TEMPORARY SHORING FROM STATION 12+75±-L-, 20 FT (RT), TO STATION 13+15±-L-, 20 FT (RT). THE INFORMATION PROVIDED FOR TEMPORARY SHORING DESIGN WAS ASSUMED AND MAY NOT BE APPLICABLE TO THE ACTUAL SITE CONDITIONS ENCOUNTERED DURING CONSTRUCTION.

AT THE CONTRACTOR'S OPTION, USE STANDARD TEMPORARY SHORING FOR TEMPORARY SHORING FROM STATION 12+75±-L-, 20 FT (RT), TO STATION 13+15±-L-, 20 FT (RT). SEE STANDARD DETAIL NO. 1801.01 FOR STANDARD TEMPORARY SHORING.

(SEE SHEET TMP-4)

Temporary Shoring 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 13+50±-L-, 20 FT (RT), TO STATION 13+75±-L-, 20 FT (RT), FOR THE FOLLOWING ASSUMED SOIL PARAMETERS AND GROUNDWATER ELEVATION:

- UNIT WEIGHT (γ) = 115 LB/CF
- FRICTION ANGLE (ϕ) = 28 DEGREES
- COHESION (c) = 0 LB/SF
- GROUNDWATER ELEVATION = 1545 FT

LIMITED SUBSURFACE INFORMATION IS AVAILABLE IN THE VICINITY OF TEMPORARY SHORING FROM STATION 13+50±-L-, 20 FT (RT), TO STATION 13+75±-L-, 20 FT (RT). THE INFORMATION PROVIDED FOR TEMPORARY SHORING DESIGN WAS ASSUMED AND MAY NOT BE APPLICABLE TO THE ACTUAL SITE CONDITIONS ENCOUNTERED DURING CONSTRUCTION.

AT THE CONTRACTOR'S OPTION, USE STANDARD TEMPORARY SHORING FOR TEMPORARY SHORING FROM STATION 13+50±-L-, 20 FT (RT), TO STATION 13+75±-L-, 20 FT (RT). SEE STANDARD DETAIL NO. 1801.01 FOR STANDARD TEMPORARY SHORING.

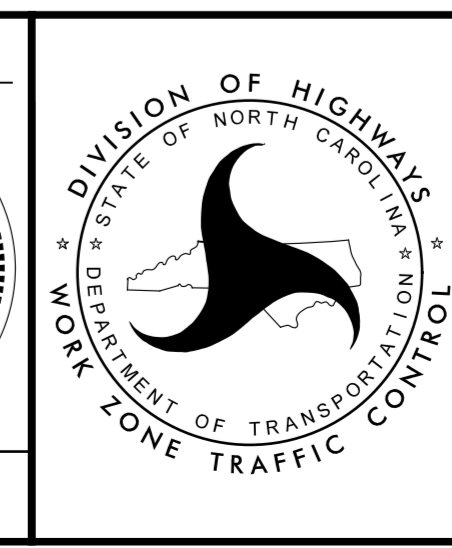
THE TEMPORARY SHORING NOTES SHOWN ON THIS SHEET WERE PROVIDED THROUGH A SEALED DOCUMENT FROM GEOTECHNICAL ENGINEERING UNIT. THE DOCUMENT WAS SUBMITTED ON 04-05-2017 AND SEALED BY A PROFESSIONAL ENGINEER, MICHAEL H. STEPHENS PE, LICENSE #028893.

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DocuSigned by: Michael T. Rzepka 01B3480C26049D

DATE: 10/19/2017

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TEMPORARY SHORING NOTES

10/19/2017
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PHASING

NOTES: - 'RSD' REFERS TO NCDOT ROADWAY STANDARD DRAWINGS
 - PROPOSD ASPHALT CONSTRUCTION IN PHASE I THROUGH PHASE II, STEP 1 ARE UP TO, BUT NOT INCLUDING, THE FINAL LAYER OF SURFACE COURSE.

PHASE I

STEP 1

INSTALL WORK ZONE ADVANCE WARNING SIGNS ON BELL HILL ROAD AND SUNNY POINT ROAD (SEE RSD 1101.01, SHEET 3 OF 3).

STEP 2

USING RSD 1101.02 (SHEET 1 OF 15), INSTALL TEMPORARY SHORING AND PLACE WATER-FILLED BARRIER (WFB) . BEHIND WFB AND USING RSD 1101.02 (SHEET 1 OF 15), BEGIN CONSTRUCTION OF PROPOSED STRUCTURE (SEE SHEET TMP-4).

USING RSD 1101.02 (SHEET 1 OF 15), BEGIN CONSTRUCTION OF PROPOSED -L- FROM STA 10+09± (TIE TO EXISTING SUNNY POINT RD.) TO STA 15+00± (SEE SHEET TMP-4).

USING RSD 1101.02 (SHEET 1 OF 15), CONSTRUCT TEMPORARY WIDENING OF EXISTING BELL HILL RD. FROM -L- STA 15+11± TO STA 17+07± (SEE SHEET TMP-4).

STEP 3

USING RSD 1101.02 (SHEET 1 OF 15) AND FLAGGING, INSTALL PORTABLE SIGNALS AND SIGNS, CHANNELIZATION AND STOP BARS. PLACE TRAFFIC IN A ONE-LANE/TWO-WAY PATTERN AND ACTIVATE PORTABLE SIGNALS (SEE SHEET TMP-5).

BEHIND DRUMS OR USING FLAGGING, CONSTRUCT PROPOSED PAVEMENT FROM -L- STA 15+00± TO STA 16+15± AND PROPOSED WIDENING FROM STA 16+15± TO STA 17+24± (SEE SHEET TMP-5).

COMPLETE CONSTRUCTION BEGUN IN PHASE I, STEP 2.

STEP 4

USING 1101.02 (SHEET 1 OF 15) AND FLAGGING, PERFORM THE FOLLOWING:

- MAINTAIN TRAFFIC PATTERN IN PHASE I, STEP 3, DEACTIVATE SIGNALS AND REMOVE SIGNS.
- PAVE TIES BETWEEN -L- AND EXISTING BELL HILL ROAD
- PLACE TEMPORARY PAVEMENT MARKINGS AND MARKERS ALONG -L- IN THE FINAL PATTERN (SEE SHEET TMP-6 AND FINAL PAVEMENT MARKING PLANS). REMOVE STOP BAR AT -L- STA 17+50± (SEE SHEET TMP-5).
- SHIFT TRAFFIC TO PROPOSED PATTERN ON -L- AS SHOWN ON SHEET TMP-6.

PHASE II

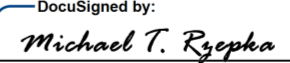
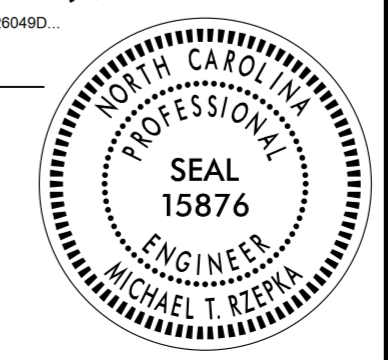

STEP 1

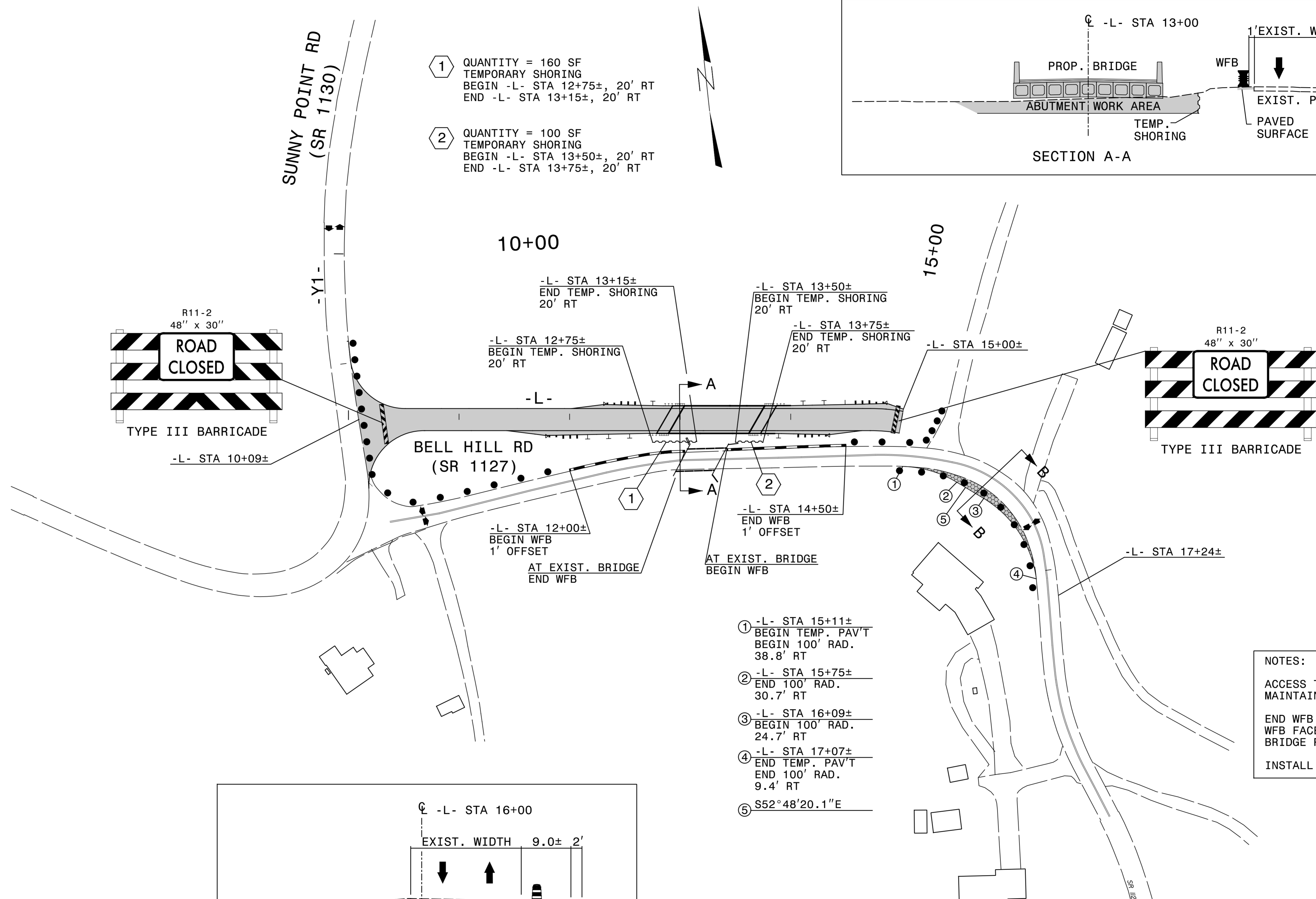
AWAY FROM TRAFFIC AND USING 1101.02 (SHEET 1 OF 15), REMOVE ABANDONED BELL HILL ROAD AND EXISTING BRIDGE AND GRADE PROPOSED SHOULDERS TO FINAL CONDITION (SEE SHEET TMP-6).

STEP 2

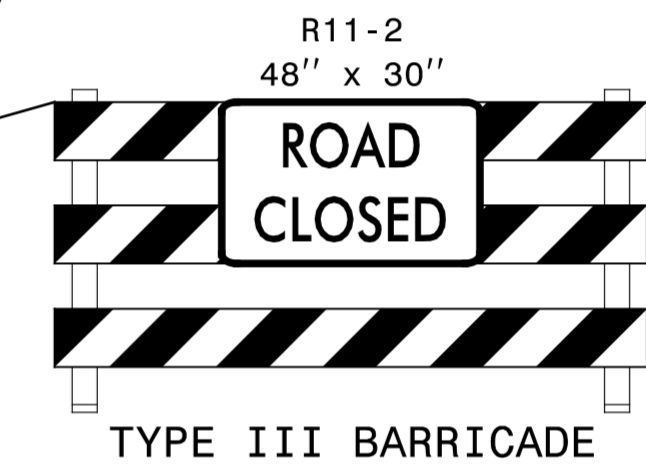
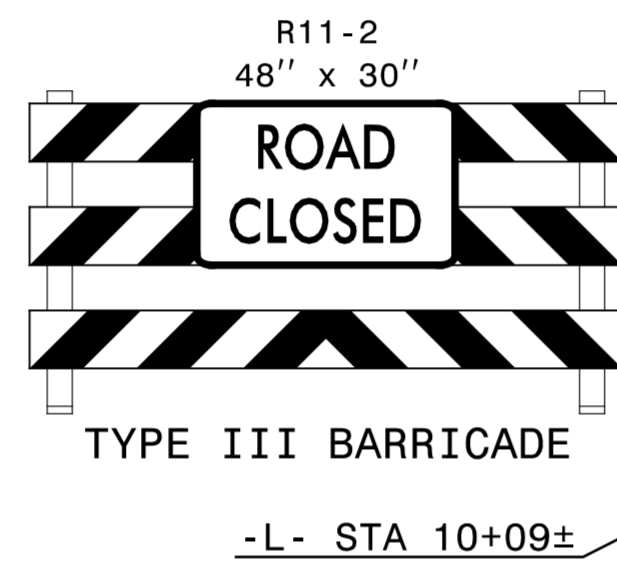
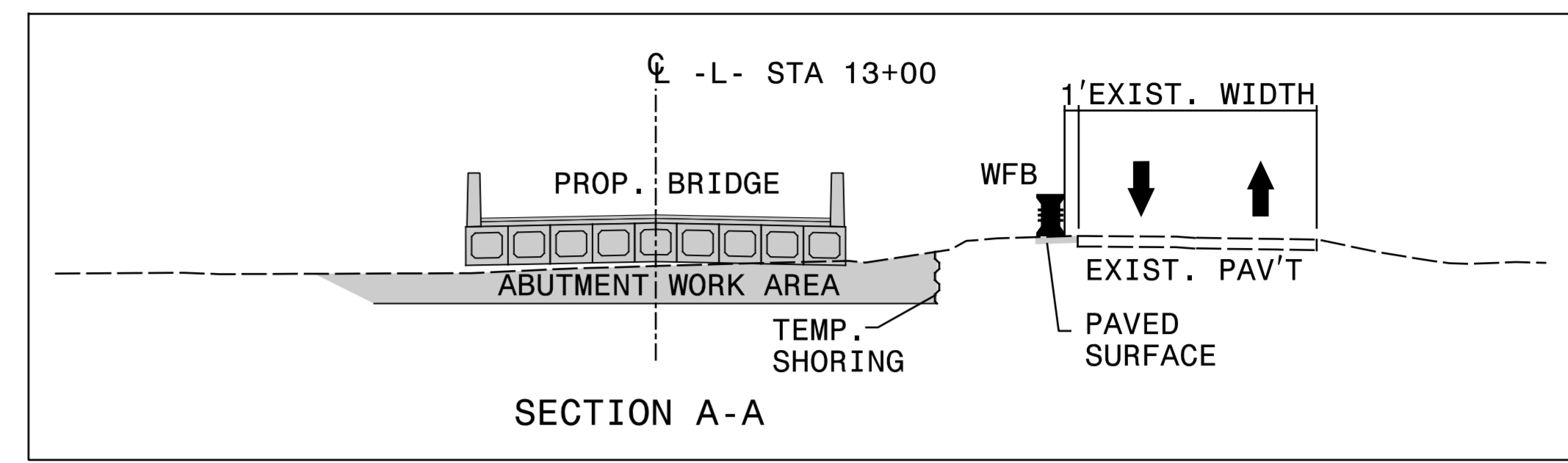
USING 1101.02 (SHEET 1 OF 15), PAVE FINAL LAYER OF SURFACE COURSE ON -L-, AND PLACE FINAL PAVEMENT MARKINGS AND MARKERS (SEE FINAL PAVEMENT MARKING PLANS). REMOVE REMAINING TRAFFIC CONTROL DEVICES.

9/18/2017
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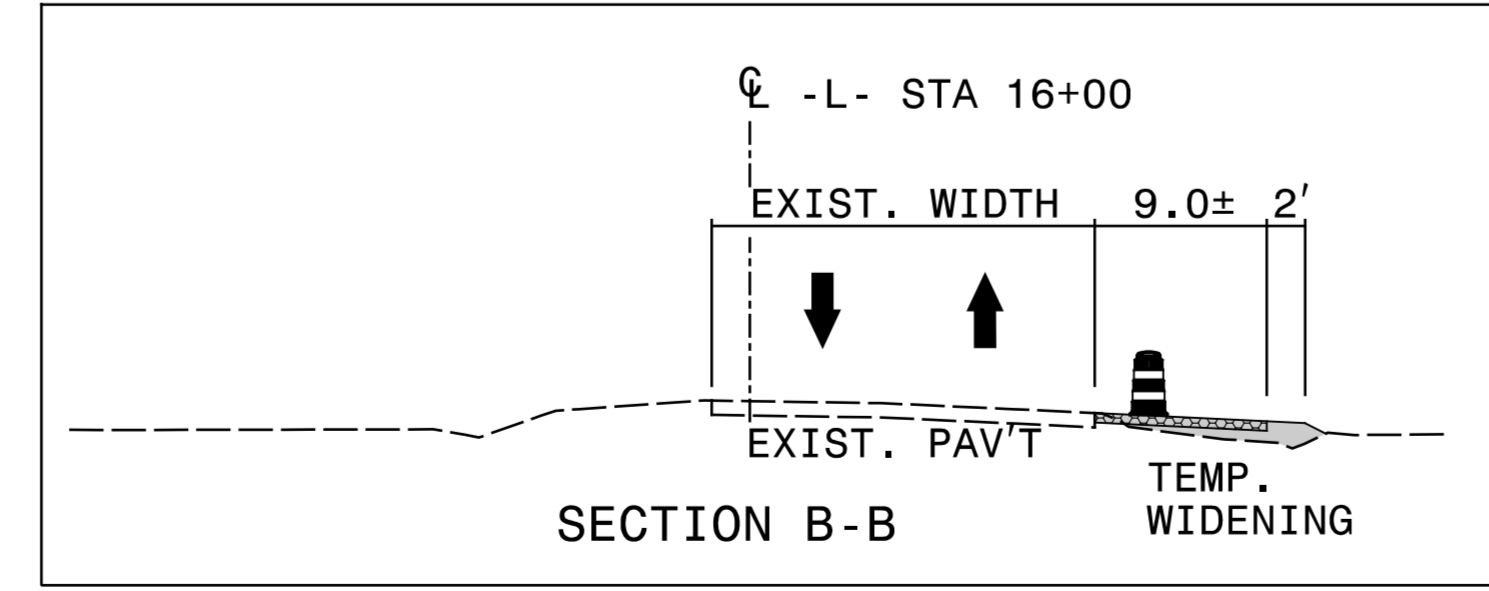


- ① QUANTITY = 160 SF
TEMPORARY SHORING
BEGIN -L- STA 12+75±, 20' RT
END -L- STA 13+15±, 20' RT
- ② QUANTITY = 100 SF
TEMPORARY SHORING
BEGIN -L- STA 13+50±, 20' RT
END -L- STA 13+75±, 20' RT



- ① -L- STA 15+11±
BEGIN TEMP. PAV'T
BEGIN 100' RAD.
38.8' RT
- ② -L- STA 15+75±
END 100' RAD.
30.7' RT
- ③ -L- STA 16+09±
BEGIN 100' RAD.
24.7' RT
- ④ -L- STA 17+07±
END TEMP. PAV'T
END 100' RAD.
9.4' RT
- ⑤ S52° 48' 20.1" E

NOTES:
ACCESS TO DRIVEWAYS MUST BE MAINTAINED AT ALL TIMES.
END WFB AT EXISTING BRIDGE WITH WFB FACE FLUSH WITH OR BEHIND BRIDGE RAIL.
INSTALL WFB ON PAVED SURFACE.



APPROVED: *Michael T. Rzepka*
DATE: 9/18/2017

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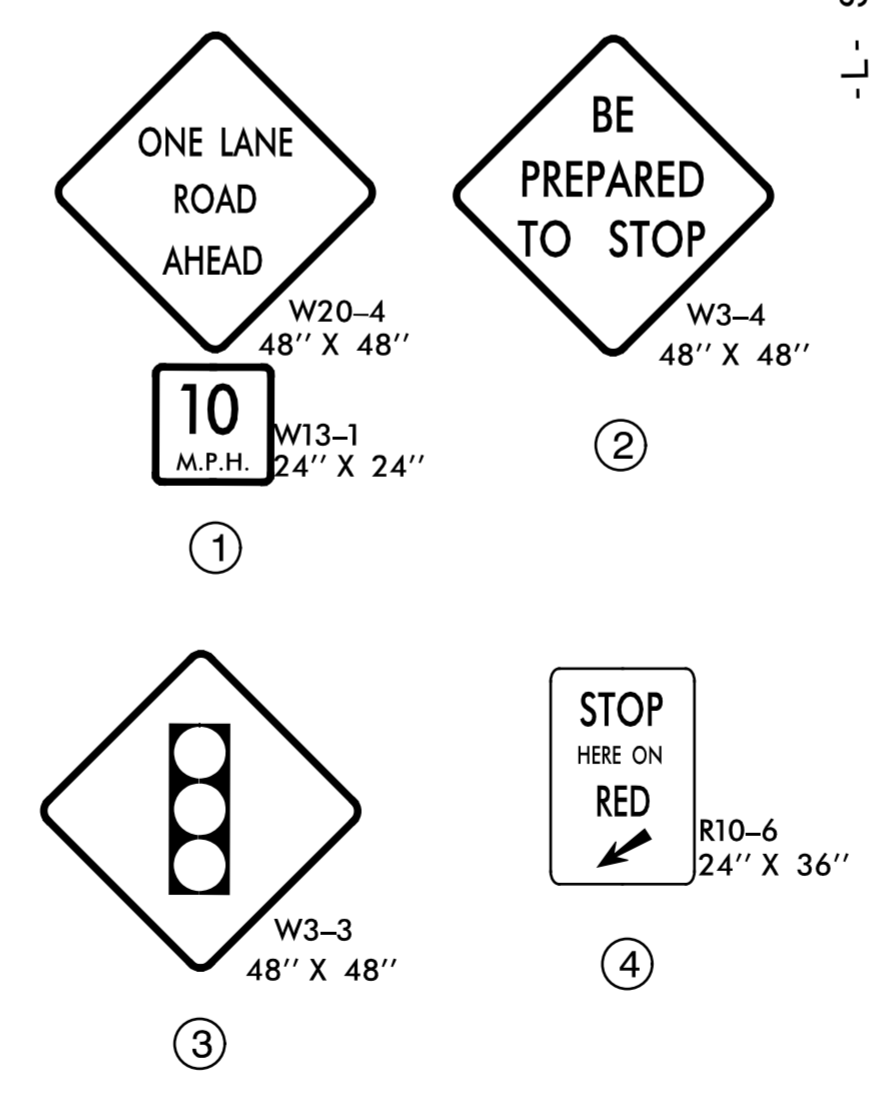
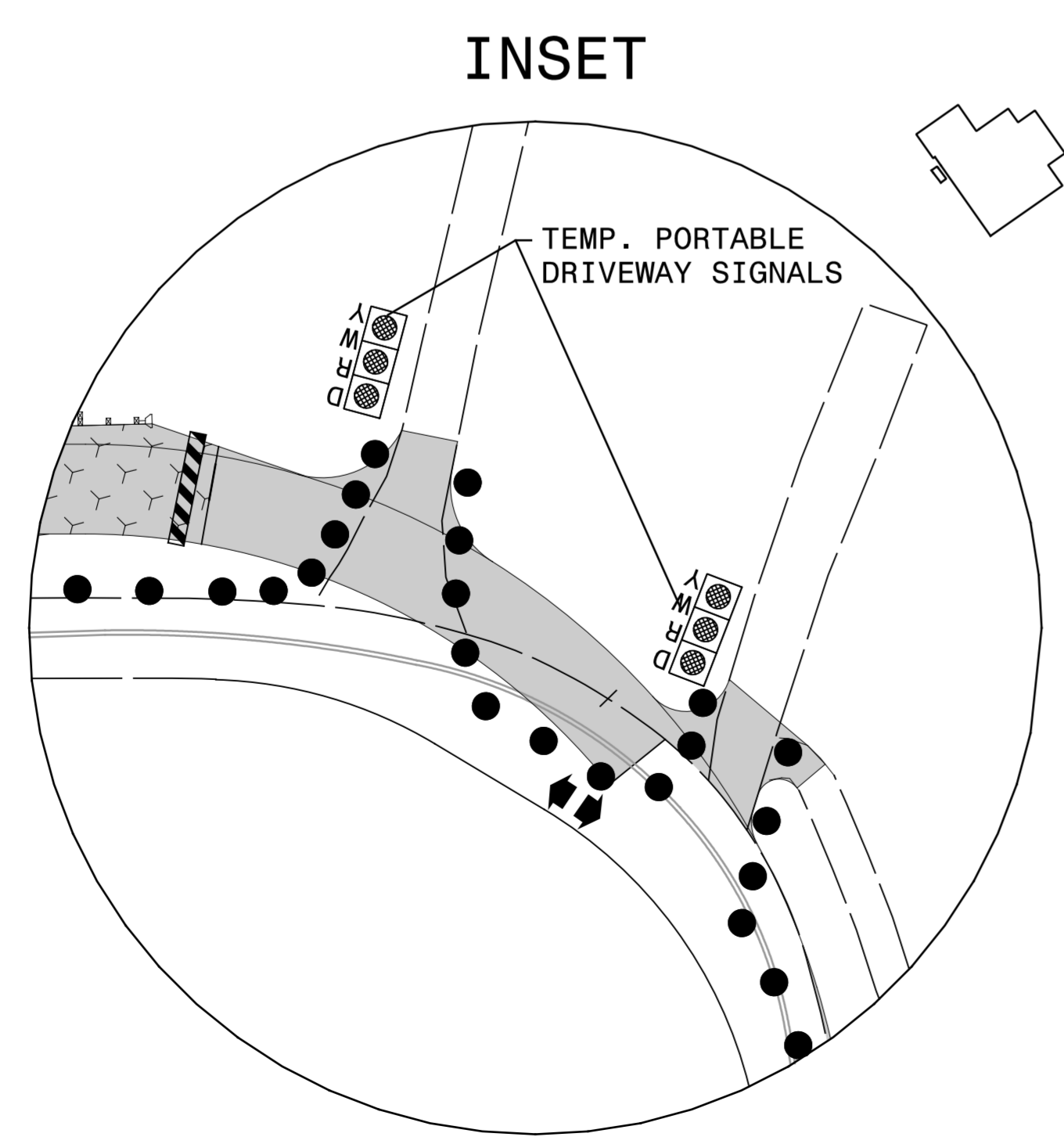
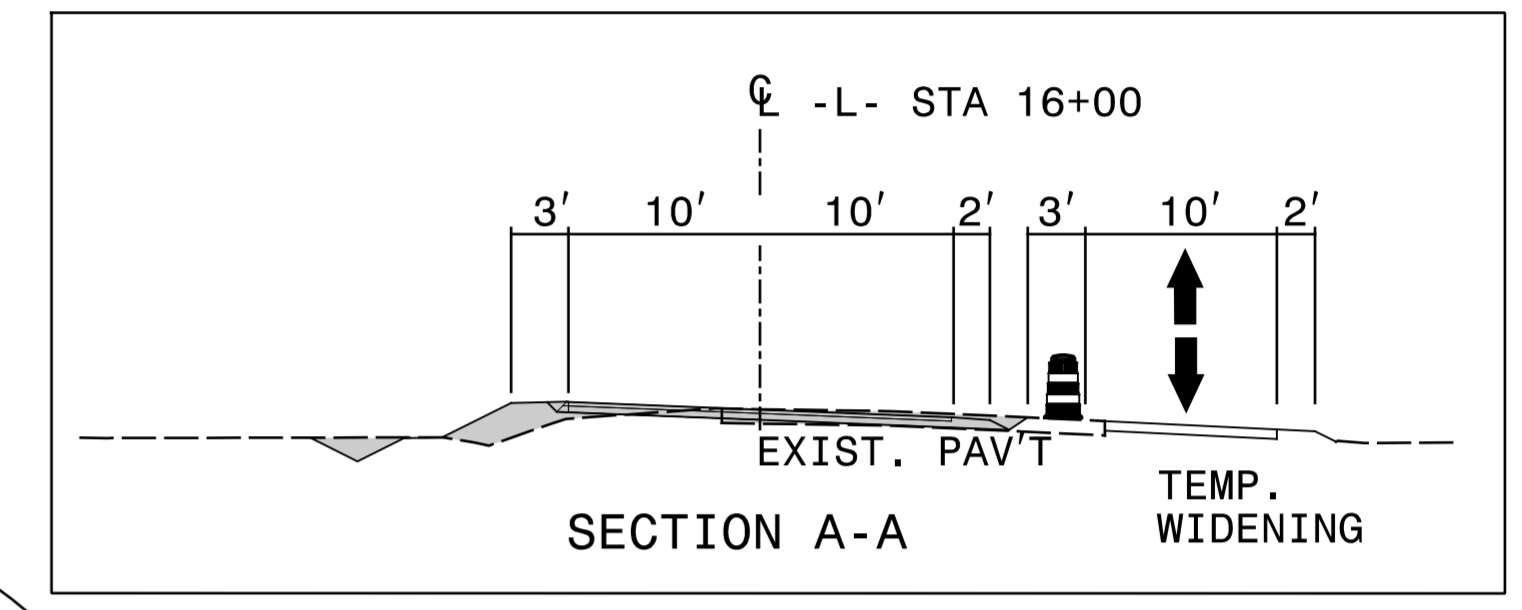
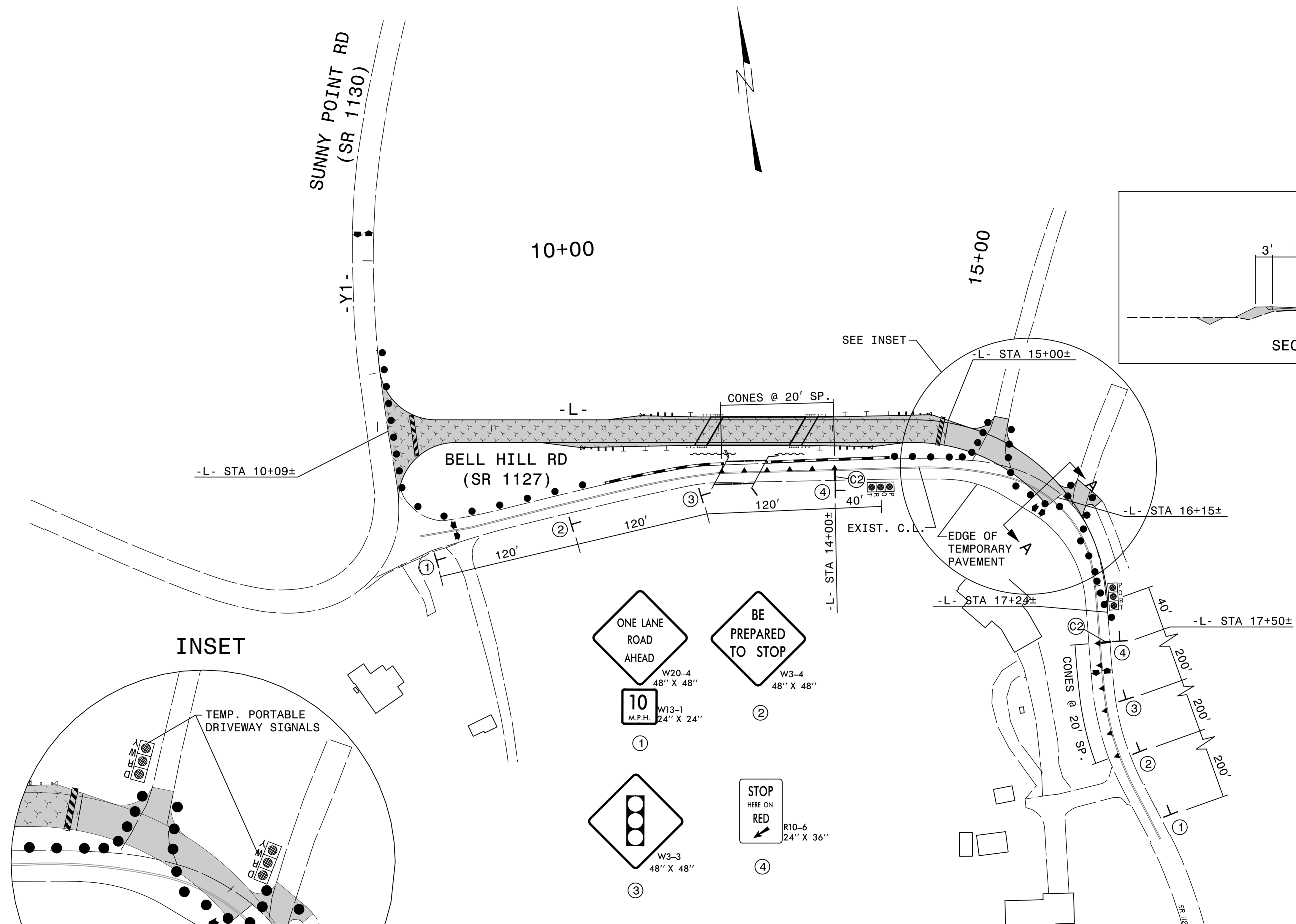
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PHASE I, STEP 2 DETAIL

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

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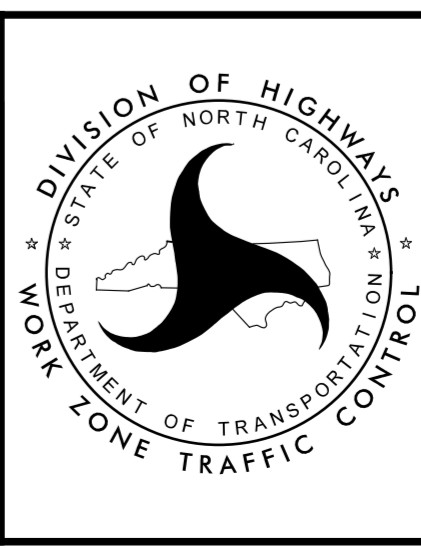
NOTE:

- ACCESS TO DRIVEWAYS MUST BE MAINTAINED AT ALL TIMES.
- FOR [Signal Symbols] AND [Signal Symbols] SIGNAL SYSTEM SETUP REQUIREMENTS SEE SPECIAL PROVISION AND AS DIRECTED BY THE ENGINEER.

APPROVED: *Michael T. Roepka*
DATE: 9/18/2017

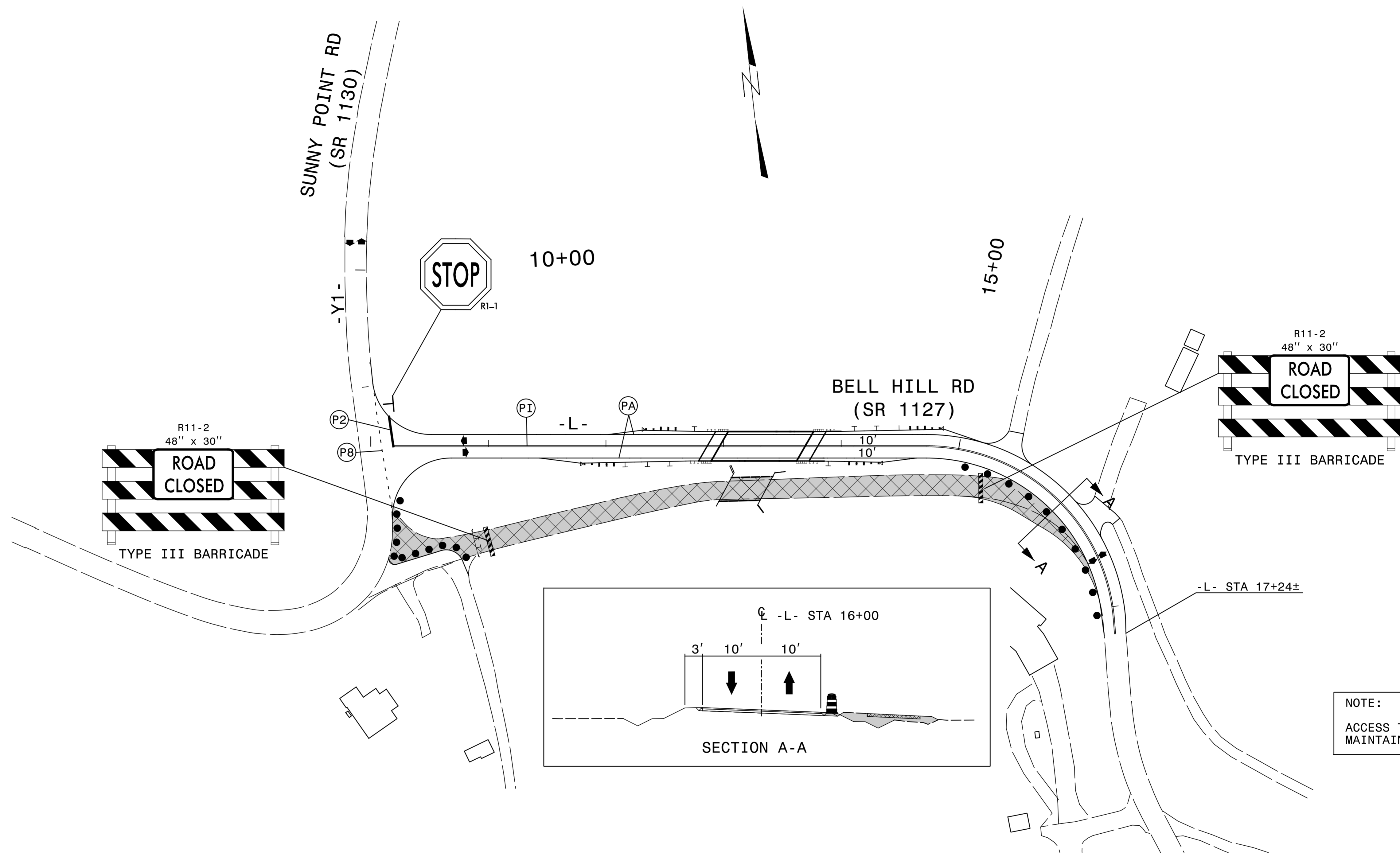
SEAL

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PHASE I, STEP 3 DETAIL

9/18/2017
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 ICA Engineering



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 ICA Engineering

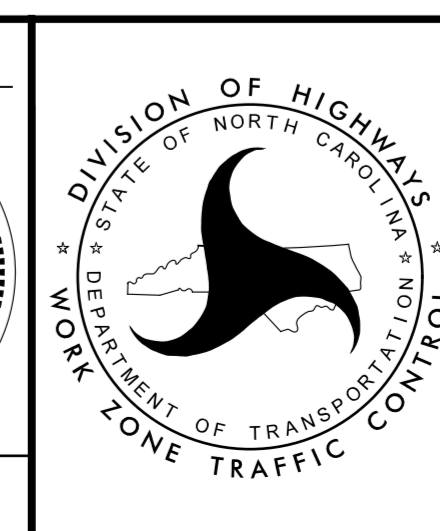
APPROVED: *Michael T. Rzepka*
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DATE: 9/18/2017

SEAL

PROFESSIONAL ENGINEER
 SEAL 15876
 MICHAEL T. RZEPKA

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PHASE II DETAIL