# STATE OF NORTH CAROLINA DIVISION OF HIGHWAYS

STATE PROJECT REFERENCE NO. B-3869 TCP-1

# PLAN FOR PROPOSED TRAFFIC CONTROL, MARKING & DELINEATION

# MADISON COUNTY

# ROADWAY STANDARD DRAWINGS

THE FOLLOWING ROADWAY STANDARDS AS APPEAR IN "ROADWAY STANDARD DRAWINGS"-PROJECT SERVICES UNIT-N.C. DEPARTMENT OF TRANSPORTATION-RALEIGH, N.C., DATED JULY 18, 2006 ARE APPLICABLE TO THIS PROJECT AND BY REFERENCE HEREBY ARE CONSIDERED A PART OF THESE PLANS:

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STD. NO.	<u>TITLE</u>
1101.02	TEMPORARY LANE CLOSURES
1101.04	TEMPORARY SHOULDER CLOSURES
1101.05	WORK ZONE VEHICLE ACCESSES
1101.11	TRAFFIC CONTROL DESIGN TABLES
1110.01	STATIONARY WORK ZONE SIGNS
1110.02	PORTABLE WORK ZONE SIGNS
1130.01	DRUMS
1135.01	CONES
1145.01	BARRICADES
1150.01	FLAGGING DEVICES
1180.01	SKINNY DRUMS
1205.01	PAVEMENT MARKINGS - LINE TYPES & OFFSETS
1205.02	PAVEMENT MARKINGS - 2 LANE & MULTILANE ROADWAYS
1205.04	PAVEMENT MARKINGS - INTERSECTIONS
1205.12	PAVEMENT MARKINGS - BRIDGES
1250.01	PAVEMENT MARKER SPACING
1251.01	RAISED PAVEMENT MARKERS- TEMPORARY AND PERMANENT
1261.01	GUARDRAIL & BARRIER DELINEATOR SPACING
1261.02	GUARDRAIL & BARRIER DELINEATOR TYPES
1262.01	GUARDRAIL END DELINEATION

### TEMPORARY PAVEMENT MARKING SCHEDULE

PAY ITEM/

SYMBOL DESCRIPTION

QUANTITY **BREAKDOWN** 

TOTAL QUANTITY

PAVEMENT MARKING LINES PAINT (4")

PA WHITE EDGE LINE (2X)

PD 2 FT. WHITE MINISKIP (2X) 28 LF

PI YELLOW DOUBLE CENTER (2X) 1300 LF

TOTAL = 3528 LF

TEMPORARY RAISED PAVEMENT MARKERS

ML CRYSTAL & CRYSTAL

AND 3X IMPLIES THREE APPLICATIONS.

TOTAL = 25 EA

NOTE: FOR EACH PAINT PAVEMENT MARKING APPLICATION, 1X IMPLIES A SINGLE APPLICATION, 2X IMPLIES A DOUBLE APPLICATION,

> PLACE PA (WHITE EDGE LINE) ALONG BOTH EDGES OF NEW PAVEMENT ACCORDING TO RSD 1205.01 AND TIE TO EXISTING EDGE LINES. (SEE SHEET TCP-5).

25 EA

# INDEX OF SHEETS

### SHEET NO. TITLE LIST OF APPLICABLE ROADWAY STANDARD DRAWINGS, TCP-1 TEMPORARY PAVEMENT MARKING SCHEDULE, LEGEND, AND INDEX OF SHEETS TCP-2 PROJECT NOTES PHASING TCP-3 PHASE I DETAIL TCP-4 TCP-5 PHASE II DETAIL TCP-5A PHASE II CUT SECTIONS TCP-6 PHASE III DETAIL AND FINAL PAVEMENT MARKING SCHEDULE

## **LEGEND**

### **GENERAL**

DIRECTION OF TRAFFIC FLOW

PROPOSED PVMT. ----- EXIST. PVMT.

**WORK AREA** 

REMOVAL OF EXISTING PAVEMENT

### TRAFFIC CONTROL DEVICES

T TYPE I BARRICADE

TYPE III BARRICADE

CONE

FLASHING ARROW PANEL (TYPE C)

TYPE 'B' WARNING LIGHT

— STATIONARY SIGN

PORTABLE SIGN

STATIONARY OR PORTABLE SIGN

WARNING FLAGS

\_\_\_ CRASH CUSHION

CHANGEABLE MESSAGE SIGN

TRUCK MOUNTED IMPACT ATTENUATOR (TMIA)

FLAGGER

### PAVEMENT MARKINGS

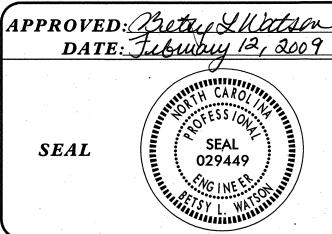
CRYSTAL/CRYSTAL PAVEMENT MARKER

YELLOW/YELLOW PAVEMENT MARKER

CRYSTAL/RED PAVEMENT MARKER

↑ ↑ ↑ PAVEMENT MARKING SYMBOLS







JOHN L. HENNEKES

TRAFFIC CONTROL ENGINEER

BETSY L. WATSON, PE TRAFFIC CONTROL PROJECT ENGINEER

TRAFFIC CONTROL DESIGNER

OJ. REFERENCE NO.	SHEET NO.
B-3869	TCP-2
	107-2

### 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 CONDUCT ANY WORK AS FOLLOWS:

ROAD NAME

DAY AND TIME RESTRICTIONS

ALL ROADS

SUNDAY 8:00 AM TO 2:00 PM

#### 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 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 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.
- 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

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.

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

#### TRAFFIC PATTERN ALTERATIONS

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

#### SIGNING

- J) 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.
- STATE FORCES WILL BE RESPONSIBLE FOR PERMANENT SIGNING.
- ENSURE ALL NECESSARY SIGNING IS IN PLACE PRIOR TO ALTERING ANY TRAFFIC PATTERN.
- INSTALL BLACK ON ORANGE "DIP" SIGNS (W8-2) AND/OR "BUMP" SIGNS (W8-1) IN ADVANCE OF THE UNEVEN AREA, OR AS DIRECTED BY THE ENGINEER.

#### TRAFFIC CONTROL DEVICES

- SPACE CHANNELIZING DEVICES IN WORK AREAS NO GREATER THAN TWICE THE POSTED SPEED LIMIT (MPH), EXCEPT 10 FT ON-CENTER IN RADII, AND 3 FT OFF THE EDGE OF AN OPEN TRAVELWAY, WHEN LANE CLOSURES ARE NOT IN EFFECT. WHEN SKINNY DRUMS ARE ALLOWED, REFER TO SECTION 1180 OF STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES OR AS SHOWN IN THE PLANS.
- 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 PAVEMENT MARKINGS AND PAVEMENT MARKERS ON THE FINAL SURFACE AS FOLLOWS:

ROAD NAME	MARKING	MARKER
BIG PINE ROAD	PAINT	NONE
SOUTH FORK ROAD	PAINT	NONE

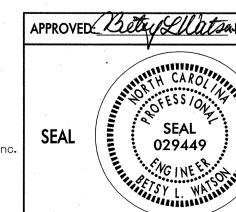
INSTALL TEMPORARY PAVEMENT MARKINGS AND TEMPORARY PAVEMENT MARKERS ON INTERIM LAYERS OF PAVEMENT AS FOLLOWS:

ROAD NAME	MARKING	MARKER	
BIG PINE ROAD	PAINT	NONE	
SOUTH FORK ROAD	PAINT	NONE	
TEMP DETOUR STRUCTURE	PAINT	CRYSTAL/ CRYSTAI	L

- PLACE TWO APPLICATIONS OF PAINT PAVEMENT MARKINGS ON THE FINAL WEARING SURFACE. PLACE THE SECOND APPLICATION OF PAINT UPON SUFFICIENT DRYING TIME OF THE FIRST.
- 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.
- TIE PROPOSED PAVEMENT MARKING LINES TO EXISTING PAVEMENT MARKING LINES.
- U) REMOVE/REPLACE ANY CONFLICTING/DAMAGED PAVEMENT MARKINGS AND MARKERS BY THE END OF EACH DAY'S OPERATION.

### GENERAL NOTES FOR ADVANCE WORK ZONE WARNING SIGNS

- -USE FLUORESCENT ORANGE SHEETING (TYPE VII OR HIGHER) ON ALL ADVANCE WORK ZONE SIGNS.
- -DO NOT INSTALL ADVANCE WARNING SIGNS MORE THAN 3 DAYS PRIOR TO BEGINNING OF WORK.
- -ALL SIGN SPACING DIMENSIONS AS SHOWN ON SHEET TCP-4 ARE APPROXIMATE: FIELD ADJUST AS NECESSARY OR AS DIRECTED.
- -USE 3LB STEEL U-CHANNEL POST OR 4" X 4" WOOD POST FOR ALL WORK ZONE SIGNS. 3LB STEEL U-CHANNEL POSTS MUST MEET THE REQUIREMENTS OF STANDARD SPECIFICATION SECTION 1094-1(B), MAY BE GALVANIZED STEEL, OR MAY BE PAINTED GREEN BY THE POST MANUFACTURER. SQUARE STEEL TUBING POSTS HAVING EQUIVALENT STRENGTH OF THE 3 LB STEEL U-CHANNEL POST ARE ALSO ACCEPTABLE FOR USE. ERECT SIGNS PER ROADWAY STANDARD DRAWING 1110.01. PAYMENT FOR WOOD POSTS. 3LB STEEL U-CHANNEL AND SQUARE STEEL TUBING POSTS WITH SIGNS WILL BE MADE ACCORDING TO STANDARD SPECIFICATION "WORK ZONE SIGNS" SECTION 1110.
- -WHEN NECESSARY, USE SPLICING IN ACCORDANCE WITH ROADWAY STANDARD DRAWING NO. 1110.01. REMOVE ENTIRE POST WHEN REMOVING SIGNS WITH SPLICED POSTS.
- -DO NOT BACK BRACE SIGN SUPPORTS.



APPROVED: Bity LUbtsadate: 8/3/09 DWG. BY:

# PROJECT NOTES

NONE DATE: OCT. 2008 JLH DESIGN BY: BLW REVIEWED BY: BLW

**REVISIONS** CADD ....\TCP\b3869\_tc\_tcp\_02.dg

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#### PROJ. REFERENCE NO. SHEET NO. B-3869 TCP-3

# PROJECT PHASING

### PHASE I

FOR THE WORK REQUIRED IN PHASE I, MAINTAIN TRAFFIC ON EXISTING SR 1151 (BIG PINE ROAD) AND SR 1158 (SOUTH FORK ROAD) IN ITS CURRENT TWO-LANE, TWO-WAY PATTERN. USE RSD 1101.02, SHEET 1 OF 9, AS NECESSARY FOR STEPS 1 THROUGH 6. RETURN TRAFFIC TO TWO-LANE, TWO-WAY PATTERN ON EXISTING ROADWAYS AT THE END OF EACH WORK PERIOD.

- STEP 1: INSTALL WORK ZONE ADVANCE WARNING SIGNS ON SR 1151 (BIG PINE ROAD), SR 1158 (SOUTH FORK ROAD), AND SR 1159 (NORTH FORK ROAD) AS SHOWN ON SHEET TCP-4.
- STEP 2: CONSTRUCT THE TEMPORARY ON-SITE DETOUR ALIGNMENT AS SHOWN ON SHEET TCP-4. THIS WORK INCLUDES THE FOLLOWING:
  - -CONSTRUCTION OF -DETOUR- STA. 10+10 TO 10+58, EXCLUDING TIE-IN BETWEEN -DETOUR- AND -L-
  - -CONSTRUCTION OF THE TEMPORARY STRUCTURE: -DETOUR- STA. 10+58 TO 11+13 -CONSTRUCTION OF -DETOUR- STA. 11+13 TO 11+47, EXLUDING TIE-IN BETWEEN -DETOUR- AND -Y-
  - -INSTALLATION OF GUARDRAIL ON THE LEFT SIDE OF -DETOUR- STA. 10+20 TO

WORK IN A CONTINUOUS MANNER TO COMPLETE STEPS 3 THROUGH 6.

- STEP 3: COMPLETE TIE-INS BETWEEN -DETOUR- AND -L-, AND -DETOUR- AND -Y-, AS SHOWN ON SHEET TCP-4.
- STEP 4: REMOVE CONFLICTING PAVEMENT MARKINGS AND PLACE TEMPORARY PAVEMENT MARKINGS ON -Y- AND -L-. PLACE TEMPORARY RAISED CRYSTAL/ CRYSTAL MARKERS ON THE TEMPORARY DETOUR. AS SHOWN ON SHEET TCP-5.
- STEP 5: SHIFT TRAFFIC ONTO TEMPORARY ON-SITE DETOUR ALIGNMENT. AS SHOWN ON SHEET TCP-5.
- STEP 6: INSTALL GUARDRAIL ON RIGHT SIDE OF -DETOUR- FROM STA. 10+41 -L- TO 10+55 -DETOUR-, AS SHOWN ON SHEET TCP-5, COMPLETE ANY OTHER REMAINING WORK ON THE RIGHT SIDE OF -DETOUR-.

### PHASE II

FOR THE WORK REQUIRED IN PHASE II, USE RSD 1101.02, SHEET 1 OF 9, AS NECESSARY. AT THE END OF EACH WORK PERIOD, RETURN TRAFFIC TO THE TEMPORARY PATTERN SHOWN IN TRAFFIC CONTROL PLANS FOR PHASE II: TWO-LANE, TWO-WAY PATTERN ON BIG PINE ROAD AND SOUTH FORK ROAD, WITH EXCEPTION OF THE BRIDGE, WHERE TRAFFIC IS MAINTAINED ON TEMPORARY STRUCTURE IN ONE-LANE, TWO-WAY PATTERN.

- STEP 1: CONSTRUCT THE FINAL ALIGNMENT, UP TO BUT NOT INCLUDING FINAL SURFACE COURSE, FROM -L- STA. 10+00 TO 11+51 AS SHOWN ON SHEET TCP-5. THIS WORK INCLUDES THE FOLLOWING:
  - -CONSTRUCTION OF -L- STA. 10+00 TO 10+97, EXCLUDING TIE-IN BETWEEN -L- AND -DETOUR-
  - -CONSTRUCTION OF THE FINAL STRUCTURE: -L- STA. 10+97 TO 11+37 -INSTALLATION OF GUARDRAIL ON THE RIGHT SIDE OF -L- FROM STA. 10+41 TO
  - -CONSTRUCTION OF L- STA. 11+37 TO 11+51, EXCLUDING TIE-IN BETWEEN -L- AND -Y-

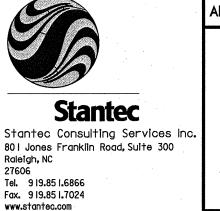
WORK IN A CONTINUOUS MANNER TO COMPLETE STEPS 2 THROUGH 5.

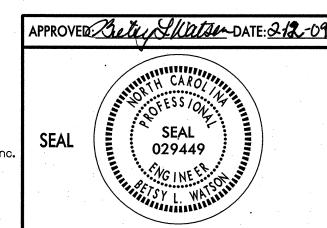
- STEP 2: COMPLETE TIE-INS BETWEEN -L- AND -DETOUR-, AND -L- AND -Y-. SEE SHEET TCP-5.
- STEP 3: PLACE TEMPORARY PAVEMENT MARKINGS IN THE FINAL PATTERN ON ALL ROADS AS SHOWN ON SHEET TCP-6.
- STEP 4: SHIFT TRAFFIC ONTO FINAL ALIGNMENT ON THE NEW STRUCTURE. SEE SHEET TCP-6.
- STEP 5: INSTALL GUARDRAIL ON LEFT SIDE OF -L- FROM STA. 10+80 TO 11+00 AND FROM STA. 11+40 -L- (LEFT SIDE) TO 11+30 -Y- (RIGHT SIDE).

### PHASE III

FOR THE WORK REQUIRED IN PHASE III, USE RSD 1101.02, SHEET 1 OF 9, AS NECESSARY. AT THE END OF EACH WORK PERIOD, RETURN TRAFFIC TO ITS FINAL PATTERN AS SHOWN ON SHEET TCP-6: TWO-LANE, TWO-WAY PATTERN ON BIG PINE ROAD AND SOUTH FORK ROAD, WITH TRAFFIC ON FINAL STRUCTURE.

- STEP 1: REMOVE TEMPORARY DETOUR STRUCTURE AND TEMPORARY DETOUR ALIGNMENT AS SHOWN IN ROADWAY PLANS AND ON SHEET TCP-6.
- STEP 2: COMPLETE ANY OTHER REMAINING WORK ON THE LEFT SIDE OF -L-. SEE SHEET TCP-6.
- STEP 3: PLACE FINAL SURFACE COURSE OF ASPHALT ON -L- STA. 10+00 TO 11+51 AND ON -Y- STA. 11+30 TO 12+65. PLACE FINAL PAVEMENT MARKINGS AS SHOWN ON SHEET TCP-6.
- STEP 4: REMOVE ALL REMAINING TRAFFIC CONTROL DEVICES.



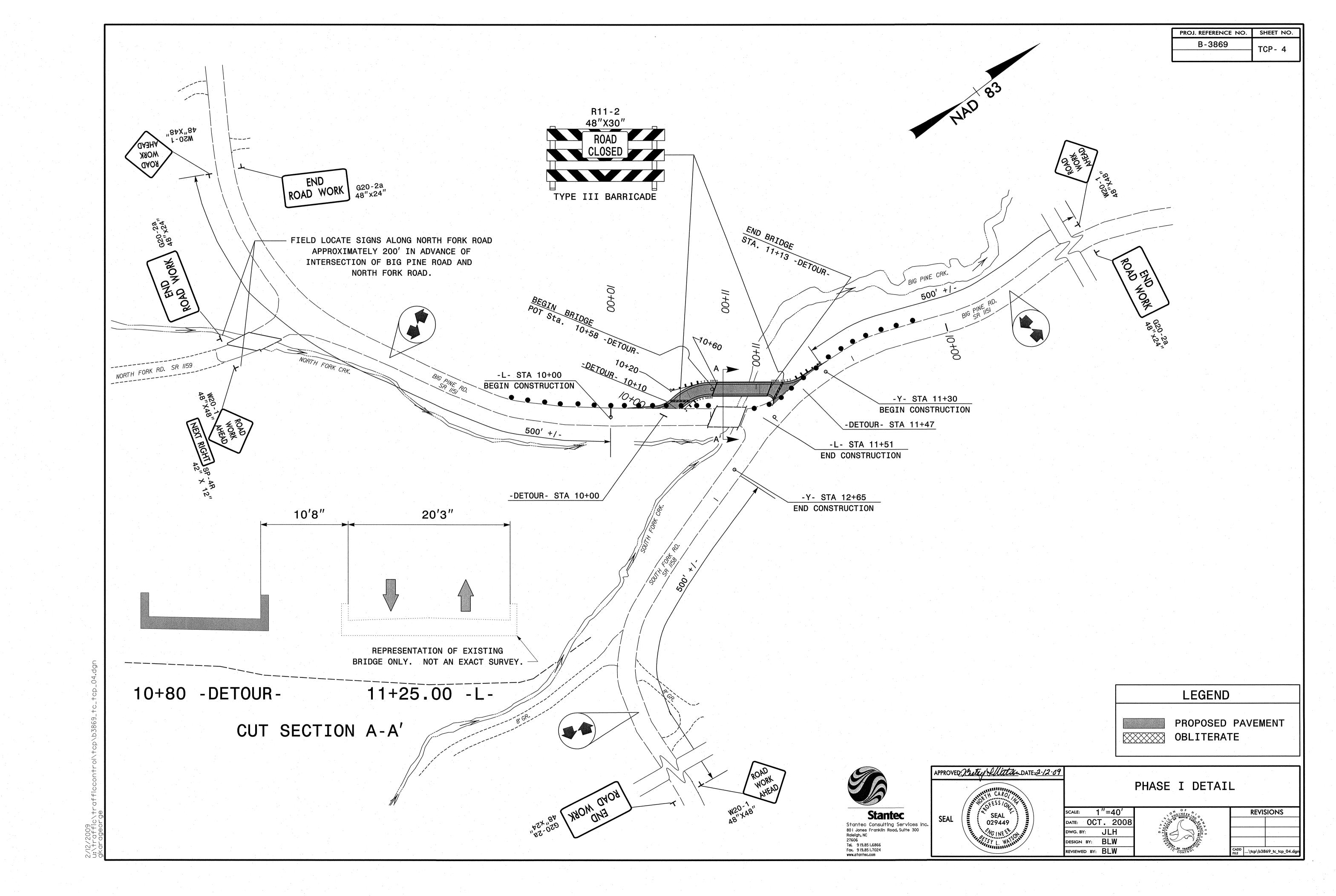


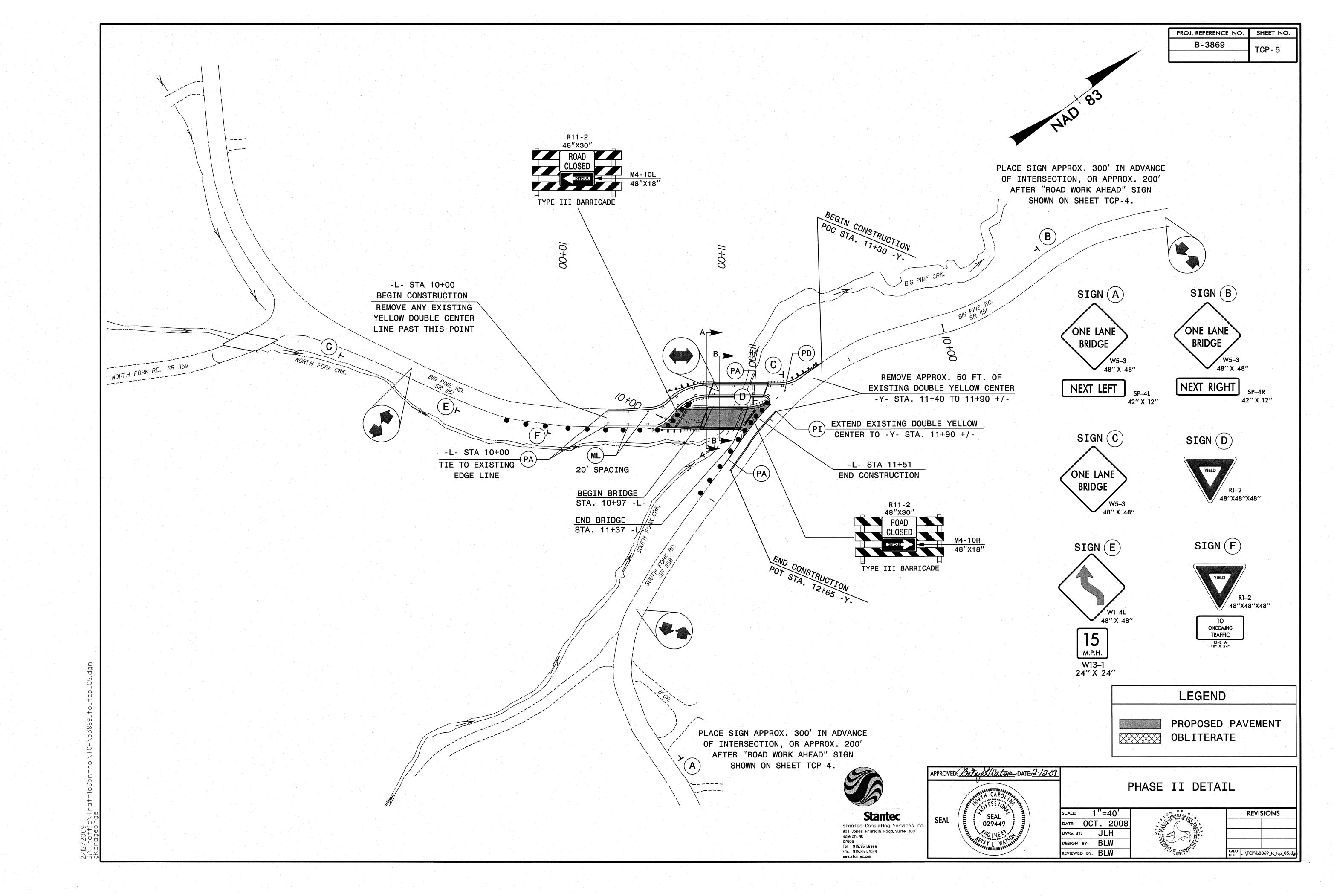
## PHASING

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design by: BLW	THE STATE OF THE S
REVIEWED BY: BLW	CONTROL

**REVISIONS** 

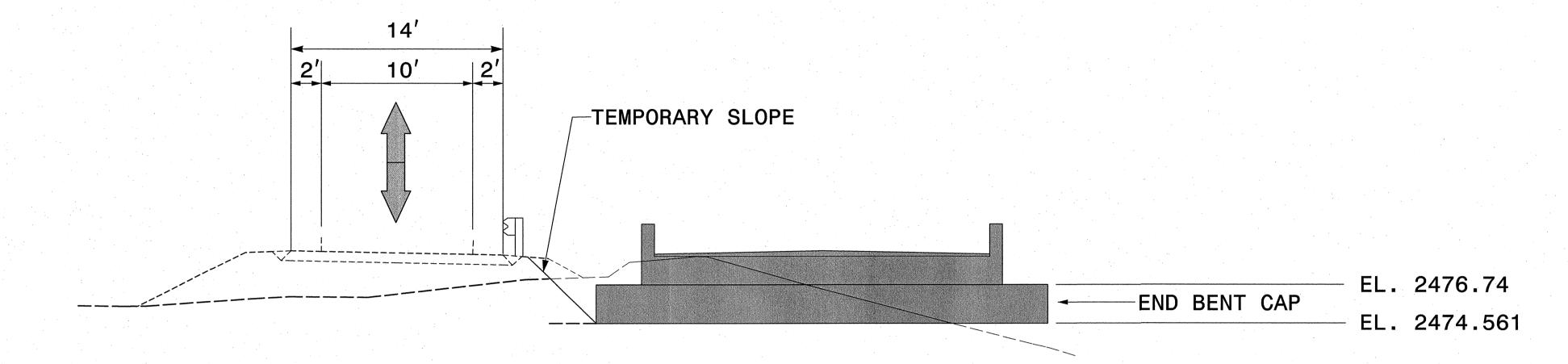
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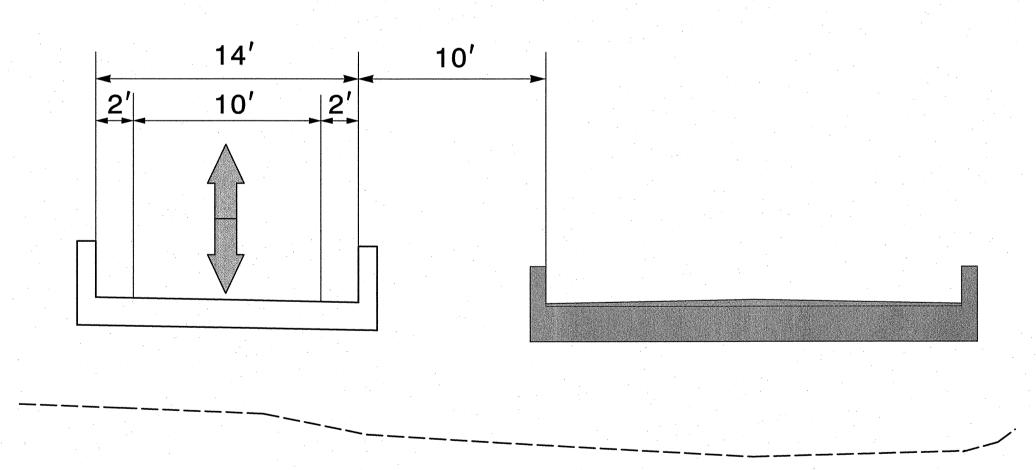
# CUT SECTION A-A'



10+58 - DETOUR -

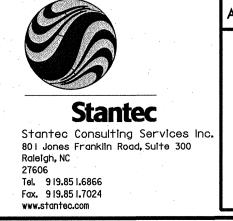
11+04 -L-

# CUT SECTION B-B'



10+80 - DETOUR -

11+25.00 -L-



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# PHASE II CUT SECTIONS

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