

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

STATE PROJECT REFERENCE NO.	SHEET NO.
B-3343	TCP-1

**PLAN FOR PROPOSED
TRAFFIC CONTROL, MARKING & DELINEATION**

HAYWOOD COUNTY

B-3343

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 2006 ARE APPLICABLE TO THIS PROJECT AND BY REFERENCE HEREBY ARE CONSIDERED A PART OF THESE PLANS:

STD. NO.	TITLE
1101.02	TEMPORARY LANE CLOSURES
1101.03	TEMPORARY ROAD CLOSURES
1101.04	TEMPORARY SHOULDER CLOSURES
1101.11	TRAFFIC CONTROL DESIGN TABLES
1110.01	STATIONARY WORK ZONE SIGNS
1110.02	PORTABLE WORK ZONE SIGNS
1130.01	DRUM
1145.01	BARRICADES
1150.01	FLAGGING DEVICES
1180.01	SKINNY-DRUM
1205.01	PAVEMENT MARKINGS - LINE TYPES & OFFSETS
1205.02	PAVEMENT MARKINGS - 2 LANE & MULTILANE ROADWAYS
1205.04	PAVEMENT MARKINGS - INTERSECTIONS
1205.08	PAVEMENT MARKINGS - SYMBOLS & WORD MESSAGES
1205.12	PAVEMENT MARKINGS - BRIDGES
1261.01	GUARDRAIL & BARRIER DELINEATOR SPACING
1261.02	GUARDRAIL & BARRIER DELINEATOR TYPES
1262.01	GUARDRAIL END DELINEATION

INDEX OF SHEETS

SHEET NO.	TITLE
TCP-1	LIST OF APPLICABLE ROADWAY STANDARD DRAWINGS, LEGEND, INDEX OF SHEETS AND PAVEMENT MARKING SCHEDULE
TCP-2	PROJECT NOTES
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TCP-3A	TEMPORARY SHORING RECOMMENDATIONS
TCP-4 AND TCP-5	PHASE I
TCP-6 AND TCP-7	PHASE II
TCP-8	ADVANCED WARNING SIGNS
PM-1	FINAL PAVEMENT MARKING PLAN

LEGEND

- GENERAL**
- DIRECTION OF TRAFFIC FLOW
 - NORTH ARROW
 - PROPOSED PVMT. EXIST. PVMT.
 - WORK AREA
 - REMOVAL OF EXISTING PAVEMENT
- TRAFFIC CONTROL DEVICES**
- TYPE I BARRICADE
 - TYPE II BARRICADE
 - TYPE III BARRICADE
 - CONE
 - DRUM SKINNY DRUM
 - FLASHING ARROW PANEL (TYPE C)
 - STATIONARY SIGN
 - PORTABLE SIGN
 - STATIONARY OR PORTABLE SIGN
 - CRASH CUSHION
 - CHANGEABLE MESSAGE SIGN
 - TRUCK MOUNTED IMPACT ATTENUATOR (TMIA)
 - POLICE
 - FLAGGER
- PAVEMENT MARKINGS**
- CRYSTAL/CRYSTAL PAVEMENT MARKER
 - YELLOW/YELLOW PAVEMENT MARKER
 - CRYSTAL/RED PAVEMENT MARKER
 - PAVEMENT MARKING SYMBOLS

PAVEMENT MARKING SCHEDULE

SYMBOL	DESCRIPTION	PAY ITEM QUANTITY	TOTAL
Pavement Marking Schedule TIP Project # B-3343			
PAVEMENT MARKINGS			
P4	WHITE STOPBAR (2X)	PAINT(24") 81 LF	
		TOTAL	81 LF
PA PI	WHITE EDGELINE (2X) YELLOW DOUBLE CENTER (2X)	PAINT(4") 4770 LF 6816 LF	
		TOTAL	11,586 LF

NOTE: FOR EACH PAINT PAVEMENT MARKING ITEM, 1X IMPLIES A SINGLE APPLICATION, 2X IMPLIES TWO APPLICATIONS, AND 3X IMPLIES THREE APPLICATIONS.

APPROVED: DATE:	PLAN PREPARED BY: N.C.D.O.T. WORK ZONE TRAFFIC CONTROL UNIT
	J. S. BOURNE, PE TRAFFIC CONTROL ENGINEER
	J. ISHAK, PE TRAFFIC CONTROL PROJECT ENGINEER
	J. L. PORTANOVA, PE TRAFFIC CONTROL PROJECT DESIGN ENGINEER
	J. L. FUTRELL TRAFFIC CONTROL DESIGN ENGINEER

TIP PROJECT:

PROJECT 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 UNDESIRE 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.

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.
- F) PROVIDE TRAFFIC CONTROL FOR APPROPRIATE LANE CLOSURES FOR SURVEYING DONE BY THE DEPARTMENT.

PAVEMENT EDGE DROP OFF REQUIREMENTS

- G) 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.
- K) STATE FORCES WILL BE RESPONSIBLE FOR PERMANENT SIGNING.
- L) PROVIDE DETOUR SIGNING WITHIN AND OFF THE PROJECT LIMITS.
- M) COVER OR REMOVE ALL DETOUR SIGNS WITHIN AND OFF THE PROJECT LIMITS WHEN A DETOUR IS NOT IN OPERATION.
- N) ENSURE ALL NECESSARY SIGNING IS IN PLACE PRIOR TO ALTERING ANY TRAFFIC PATTERN.
- O) INSTALL BLACK ON ORANGE "DIP" SIGNS (W8-2) AND/OR "BUMP" SIGNS (W8-1) 100 FT IN ADVANCE OF THE UNEVEN AREA, OR AS DIRECTED BY THE ENGINEER.

TRAFFIC CONTROL DEVICES

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

PAVEMENT MARKINGS AND MARKERS

- R) INSTALL PAVEMENT MARKINGS AND PAVEMENT MARKERS ON THE FINAL SURFACE AS FOLLOWS:

ROAD NAME	MARKING	MARKER
HEMPHILL RD. (SR 1318)	PAINT	N/A
POT LEG RD. (SR 1315)	PAINT	N/A

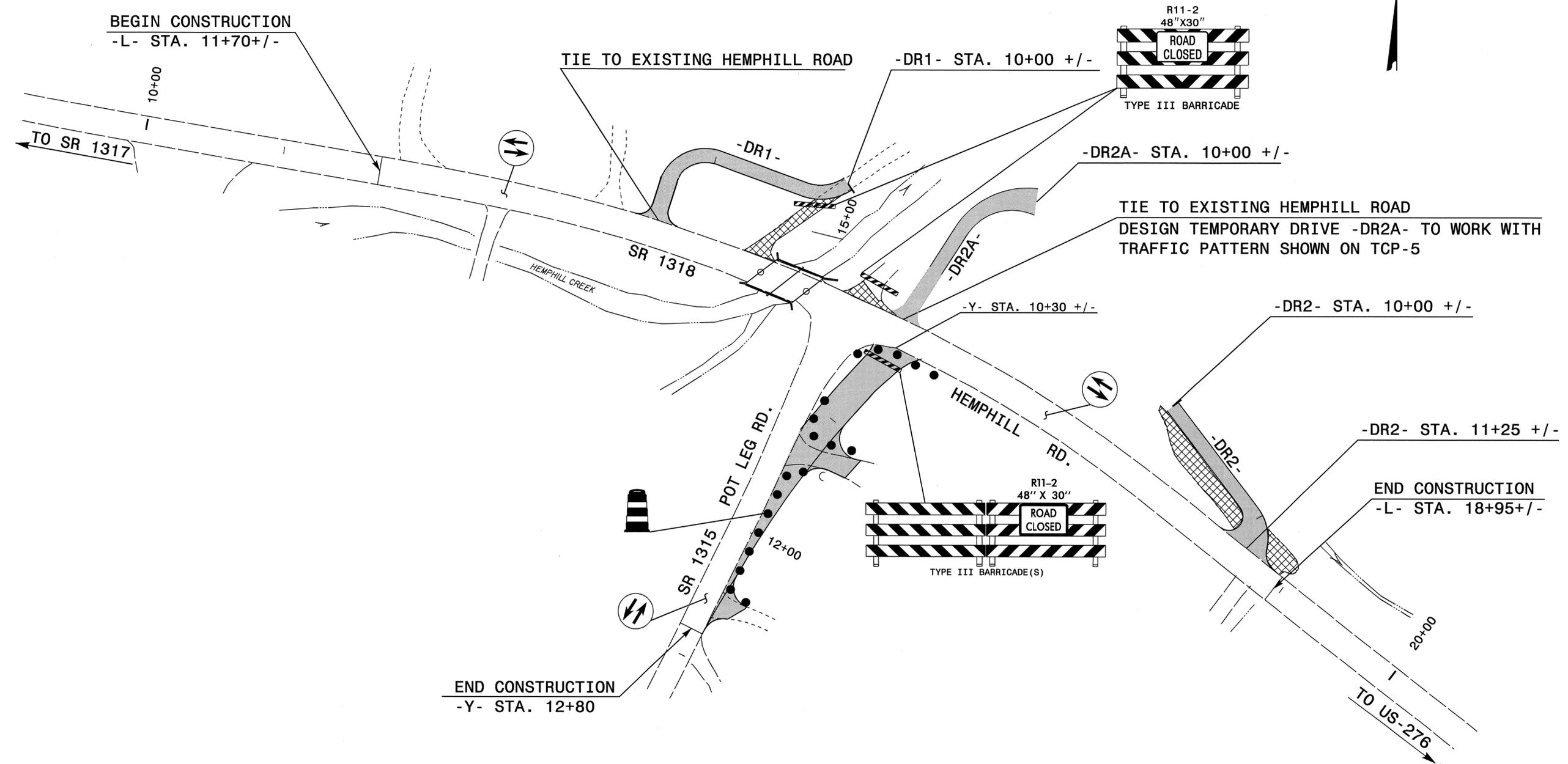
INSTALL TEMPORARY PAVEMENT MARKINGS AND TEMPORARY PAVEMENT MARKERS ON THE INTERIM LAYERS OF PAVEMENT AS FOLLOWS:

ROAD NAME	MARKING	MARKER
HEMPHILL RD. (SR 1318)	PAINT	N/A
POT LEG RD. (SR 1315)	PAINT	N/A

- S) 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.
- T) 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.
- U) TIE PROPOSED PAVEMENT MARKING LINES TO EXISTING PAVEMENT MARKING LINES.

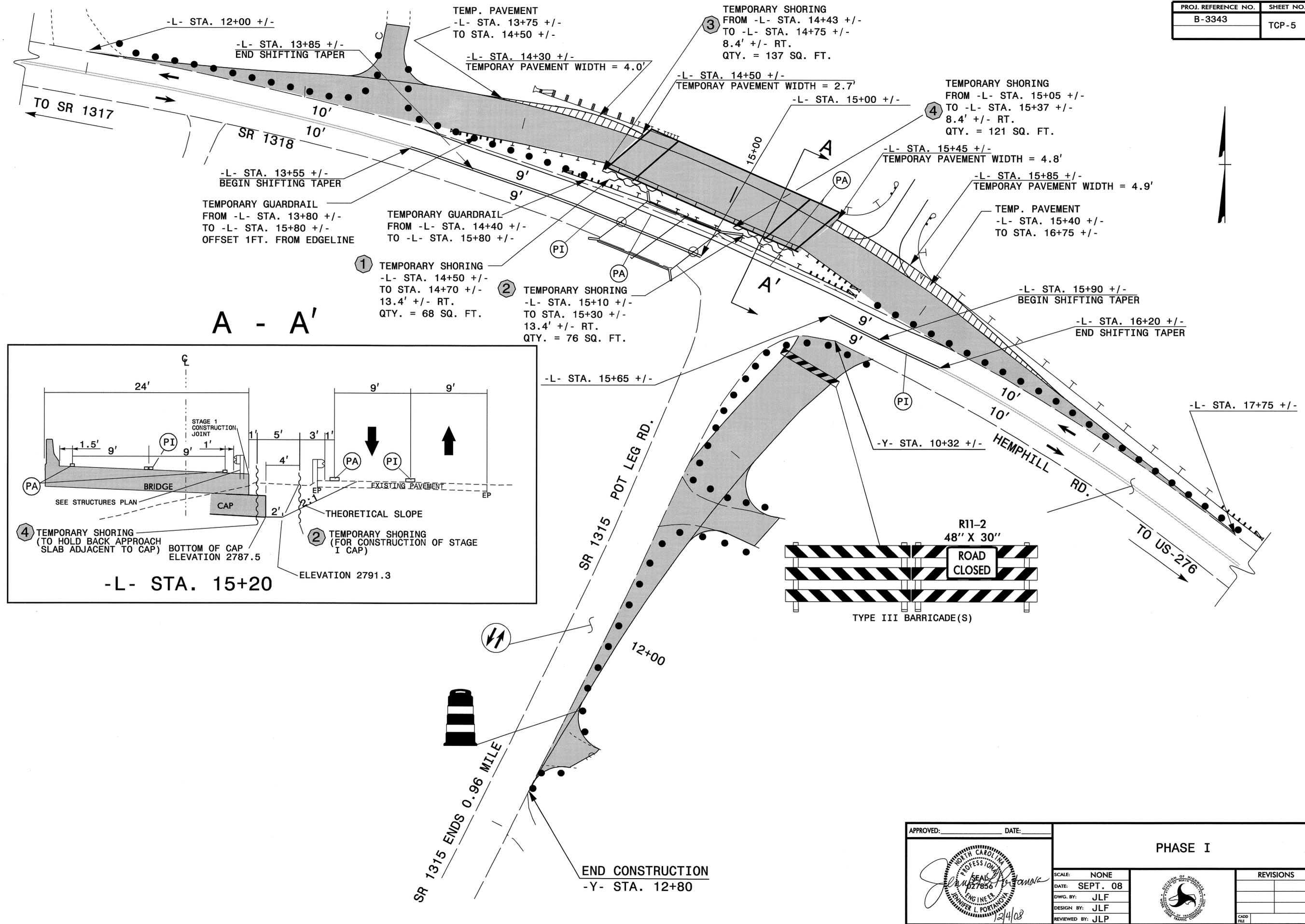
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APPROVED: _____	DATE: _____	PROJECT NOTES	
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	DATE: OCT. 08		
	DWG. BY: JLF		
	DESIGN BY: JLF		
REVIEWED BY: JLP			

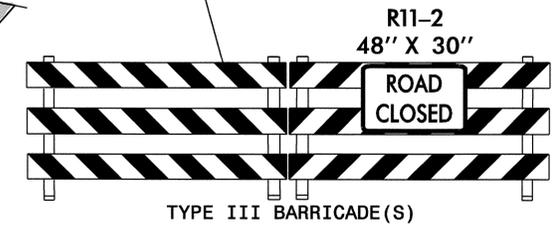
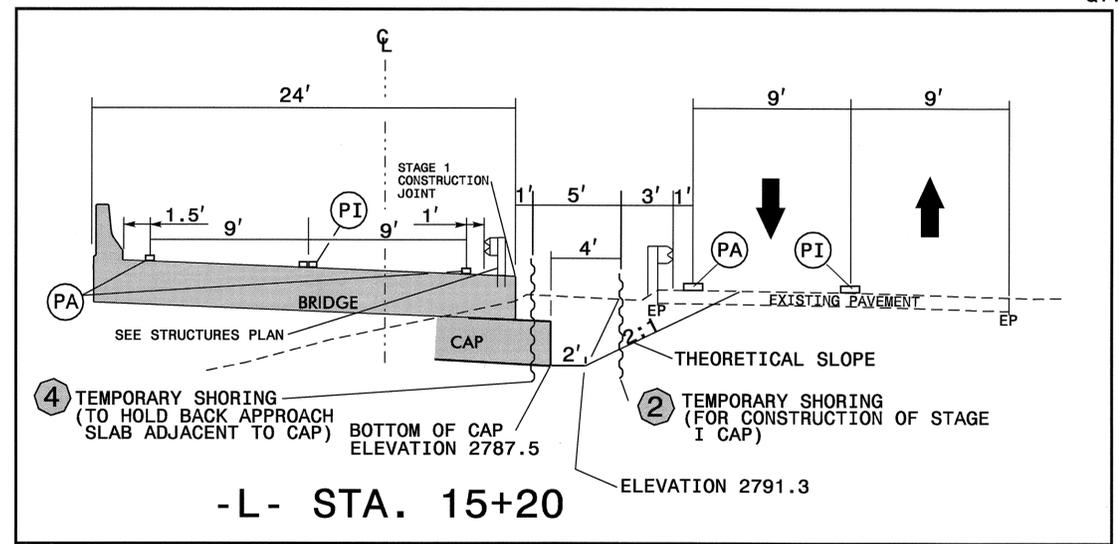


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REVIEWED BY:	JLP		CADD FILE

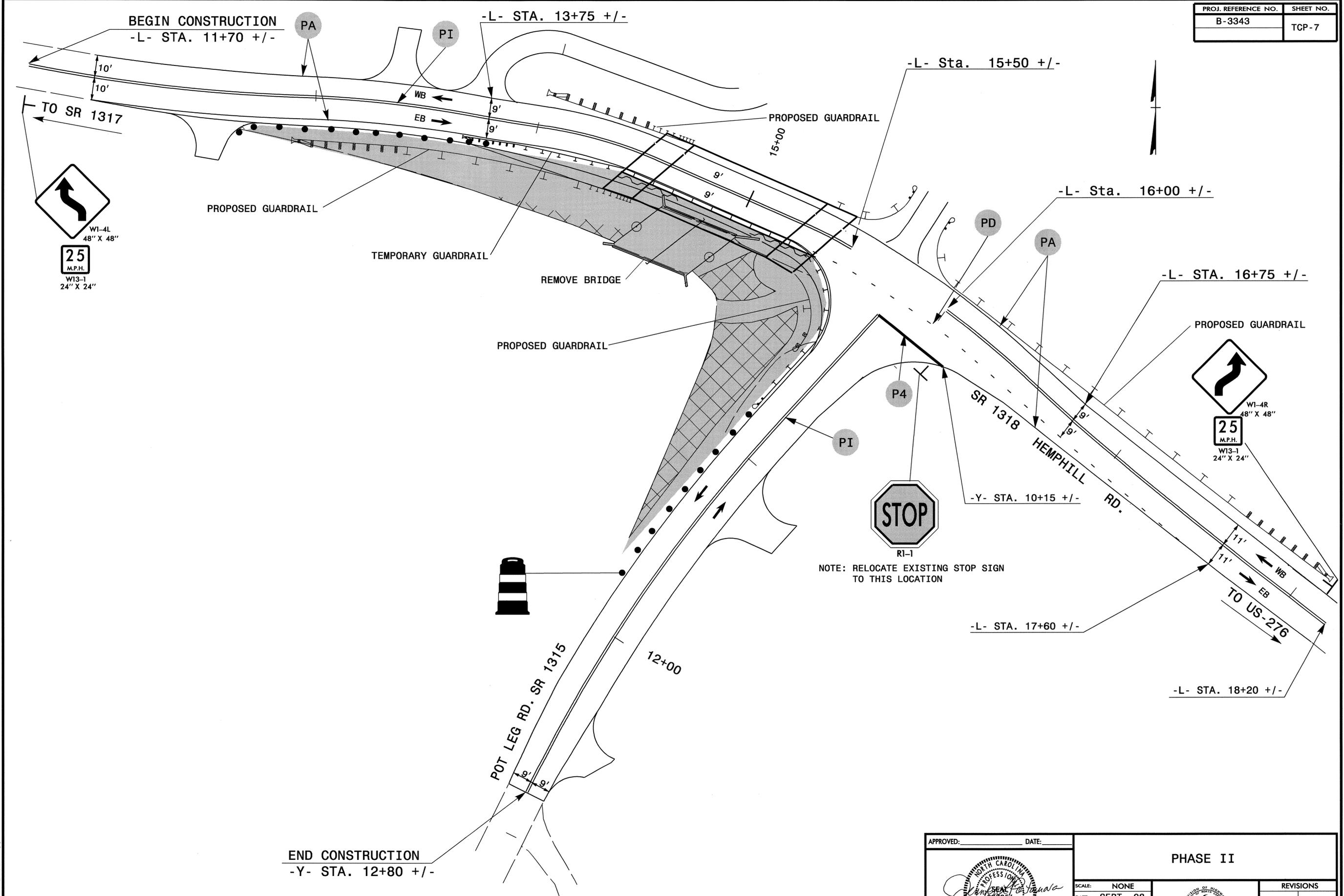


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APPROVED:	DATE:	PHASE I	
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DESIGN BY:	JLF		
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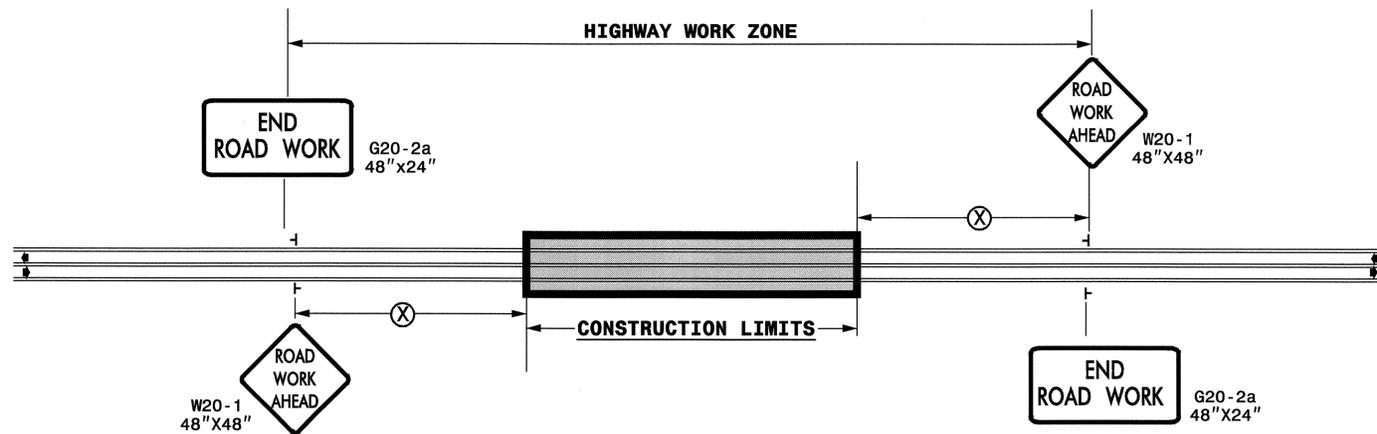
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	DATE: SEPT. 08		REVISIONS
	DWG. BY: JLF		
	DESIGN BY: JLF		
REVIEWED BY: JLP			

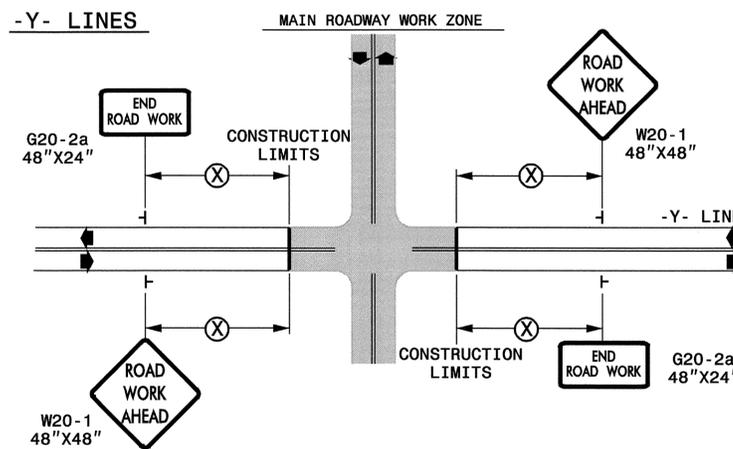
TWO-WAY UNDIVIDED ** (L-LINES)



POSTED SPEED LIMIT (M.P.H.)	RECOMMENDED MINIMUM SIGN SPACING
≤ 50	500'
≥ 55	1000'

STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

ROADWAYS INTERSECTING ALONG 2 WAY UNDIVIDED WORK ZONE (Y-LINES)



DETAIL DRAWING FOR
TWO-WAY UNDIVIDED
WORK ZONE WARNING SIGNS

GENERAL NOTES

- USE FLUORESCENT ORANGE SHEETING (TYPE VII OR HIGHER) ON ALL ADVANCED WORK ZONE SIGNS.
- DO NOT INSTALL ADVANCE WARNING SIGNS MORE THAN 3 DAYS PRIOR TO BEGINNING OF WORK.
- SIGNS SHOWN ARE REQUIRED FOR WORK ZONES THAT WILL REMAIN IN EFFECT OVERNIGHT. FOR SHORT-TERM DAILY MAINTENANCE TYPE OPERATIONS, THIS SIGNING APPLICATION IS OPTIONAL; MAY USE ONLY APPLICABLE ROADWAY STANDARD DRAWINGS INSTEAD. HOWEVER, IF THIS SIGNING APPLICATION IS USED, SIGNS MAY BE PORTABLE MOUNTED.
- ALL SIGN SPACING DIMENSIONS 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.
- ** TWO-WAY UNDIVIDED ADVANCE WARNING SIGN CONFIGURATION MAY BE USED ON URBAN MULTI-LANE FACILITIES WHERE CONDITIONS LIMIT THE USE OF DUAL MOUNTED SIGNS AS DETERMINED BY THE ENGINEER.

LEGEND

└ STATIONARY SIGN

◀ DIRECTION OF TRAFFIC FLOW

SHEET 1 OF 1

APPROVED: _____	DATE: _____	DETAIL DRAWING FOR TWO-WAY UNDIVIDED AND URBAN FREEWAYS ADVANCED WORK ZONE WARNING SIGNS			
	SCALE: NONE				
	DATE: SEPT. 08			REVISIONS	
	DWG. BY: JLF			7-98	10/01
	DESIGN BY: JLF			10-98	03/04
REVIEWED BY: JLP	01/01	11/04			