

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

STATE PROJECT REFERENCE NO.	SHEET NO.
B-3677	TCP-1

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

B-3677

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
1101.05	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
1160.01	TEMPORARY CRASH CUSHION
1170.01	PORTABLE CONCRETE BARRIER
1205.01	PAVEMENT MARKINGS - LINE TYPES & OFFSETS
1205.02	PAVEMENT MARKINGS - 2 LANE & MULTILANE ROADWAYS
1205.12	PAVEMENT MARKINGS - BRIDGES
1250.01	PAVEMENT MARKER SPACING
1251.01	RAISED PAVEMENT MARKERS (TEMPORARY & PERMANENT)
1261.01	GUARDRAIL & BARRIER DELINEATOR SPACING
1261.02	GUARDRAIL & BARRIER DELINEATOR TYPES

INDEX OF SHEETS

SHEET NO.	TITLE
TCP-1	LIST OF APPLICABLE ROADWAY STANDARD DRAWINGS, LEGEND, TEMPORARY PAVEMENT MARKING SCHEDULE AND INDEX OF SHEETS
TCP-2	PROJECT NOTES
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TCP-6	PHASE III
TCP-7	OFFSITE DETOURS. DETAILS 1 AND 2
TCP-8	ADVANCED WORK ZONE WARNING SIGNS
TCP-9	TEMPORARY SHORING RECOMMENDATIONS

TEMPORARY PAVEMENT MARKING SCHEDULE

SYMBOL	DESCRIPTION	PAVEMENT MARKINGS	PAY ITEM QUANTITY BREAKDOWN	TOTAL
PA	WHITE EDGE LINE (2X)	PAINT (4")	6000 FT	12000 FT
PI	DOUBLE YELLOW CENTER LINE (2X)	PAINT (4")	3600 FT	14400 FT
			TOTAL:	26400 FT
PV	YELLOW DIAGONAL (X2)	PAINT (8")	150 FT	300 FT
			TOTAL:	300 FT
MARKERS				
MH	YELLOW & YELLOW	TEMPORARY RAISED PAVEMENT MARKERS	30 EA	30 EA
			TOTAL:	30 EA

NOTES:

- FOR EACH PAINT PAVEMENT MARKING ITEM, 1X IMPLIES A SINGLE APPLICATION, 2X IMPLIES TWO APPLICATIONS, AND 3X IMPLIES THREE APPLICATIONS.
- AS DIRECTED BY THE ENGINEER, TEMPORARY PAVEMENT MARKING (PAINT) MAY BE USED TO STRIPE THE FINAL TRAFFIC PATTERN ON -L-. THE TEMPORARY PAVEMENT MARKING SCHEDULE INCLUDES QUANTITIES FOR PLACING TWO APPLICATIONS OF PAINT ON THE FINAL SURFACE OF NEW ASPHALT WITH PERMANENT TRAFFIC PATTERN WHICH REMAIN IN PLACE UNTIL THE PROPOSED FINAL PAVEMENT MARKING (THERMOPLASTIC) IS APPLIED.

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

APPROVED: _____ DATE: _____	PLAN PREPARED BY: N.C.D.O.T. WORK ZONE TRAFFIC CONTROL UNIT
	STUART BOURNE, PE TRAFFIC CONTROL ENGINEER
	JOSEPH ISHAK, PE TRAFFIC CONTROL PROJECT ENGINEER
	J. L. PORTANOVA, PE TRAFFIC CONTROL PROJECT DESIGN ENGINEER
	ALLA LYUDMIRSKAYA 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 UNDESIRABLE 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
-L- (LEBANON RD.)	MONDAY THROUGH FRIDAY FROM 7:00 AM TO 9:00 AM AND FROM 4:00 PM TO 6:00 PM

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

ROAD NAME
-L- (LEBANON RD.)

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 P.M. DECEMBER 31st TO 7:00 A.M. JANUARY 2ND. IF NEW YEAR'S DAY IS ON A FRIDAY, SATURDAY, SUNDAY, OR MONDAY THEN UNTIL 7:00 A.M. THE FOLLOWING TUESDAY.
3. FOR EASTER, BETWEEN THE HOURS OF 6:00 P.M. THURSDAY AND 7:00 A.M. MONDAY.
4. FOR MEMORIAL DAY, BETWEEN THE HOURS OF 6:00 P.M. FRIDAY TO 7:00 A.M. TUESDAY.
5. FOR INDEPENDENCE DAY, BETWEEN THE HOURS OF 6:00 P.M. THE DAY BEFORE INDEPENDENCE DAY AND 7:00 A.M. THE DAY AFTER INDEPENDENCE DAY.

IF INDEPENDENCE DAY IS ON A FRIDAY, SATURDAY, SUNDAY OR MONDAY THEN BETWEEN THE HOURS OF 6:00 P.M. THE THURSDAY BEFORE INDEPENDENCE DAY AND 7:00 A.M. THE TUESDAY AFTER INDEPENDENCE DAY.

6. FOR LABOR DAY, BETWEEN THE HOURS OF 6:00 P.M. FRIDAY AND 7:00 P.M. TUESDAY.
7. FOR THANKSGIVING DAY, BETWEEN THE HOURS OF 6:00 P.M. TUESDAY TO 7:00 A.M. MONDAY.
8. FOR CHRISTMAS, BETWEEN THE HOURS OF 6:00 P.M. THE FRIDAY BEFORE THE WEEK OF CHRISTMAS DAY AND 7:00 A.M. THE FOLLOWING TUESDAY AFTER THE WEEK OF CHRISTMAS.

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.

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.

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.

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 LEBANON RD..

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

PAVEMENT EDGE DROP OFF REQUIREMENTS

K) 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.

L) 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

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

SIGNING

N) 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.

O) PROVIDE PERMANENT SIGNING.

P) PROVIDE DETOUR SIGNING WITHIN THE PROJECT LIMITS.

Q) STATE FORCES WILL BE RESPONSIBLE FOR DETOUR SIGNING OFF THE PROJECT LIMITS.

R) COVER OR REMOVE ALL DETOUR SIGNS WITHIN THE PROJECT LIMITS WHEN A DETOUR IS NOT IN OPERATION.

S) STATE FORCES WILL COVER OR REMOVE ALL DETOUR SIGNS OFF THE PROJECT LIMITS WHEN A DETOUR IS NOT IN OPERATION.

T) ENSURE ALL NECESSARY SIGNING IS IN PLACE PRIOR TO ALTERING ANY TRAFFIC PATTERN.

TRAFFIC BARRIER

U) INSTALL TEMPORARY BARRIER ACCORDING TO THE TRAFFIC CONTROL 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 TRAFFIC CONTROL 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 TRAFFIC CONTROL 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.

V) 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 IMPACT 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:

POSTED SPEED LIMIT	MINIMUM OFFSET
40 OR LESS	15 FT
45 - 50	20 FT
55	25 FT
60 MPH OR HIGHER	30 FT

TRAFFIC CONTROL DEVICES

W) 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 11800F STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES OR AS SHOWN IN THE PLANS.

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

Y) PLACE ADDITIONAL SETS OF THREE CHANNELIZING DEVICES DRUMS PERPENDICULAR TO THE EDGE OF TRAVELWAY ON 500 FT CENTERS WHEN UNOPENED LANES ARE CLOSED TO TRAFFIC.

PAVEMENT MARKINGS AND MARKERS

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

ROAD NAME	MARKING	MARKER
-L- (LEBANON RD.)	PAINT	TEMPORARY RAISED

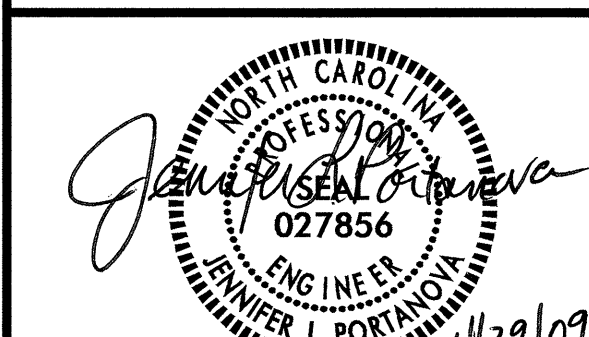

AA) PLACE ONE APPLICATION OF PAINT FOR TEMPORARY TRAFFIC PATTERNS. PLACE A SECOND APPLICATION OF PAINT SIX (6) MONTHS AFTER THE INITIAL APPLICATION AND EVERY SIX MONTHS AS DIRECTED BY THE ENGINEER.

BB) TIE PROPOSED PAVEMENT MARKING LINES TO EXISTING PAVEMENT MARKING LINES.

CC) REMOVE/REPLACE ANY CONFLICTING/DAMAGED PAVEMENT MARKINGS AND MARKERS BY THE END OF EACH DAY'S OPERATION.

LOCAL NOTES

DD) USE TEMPORARY DRAINAGE BARRIER AS DIRECTED BY THE ENGINEER.

APPROVED: _____	DATE: _____	PROJECT NOTES	
		SCALE: NONE	REVISIONS
		DATE: MAR-09	
		DWG. BY: AYL	
		DESIGN BY: AYL	
		REVIEWED BY: JLP	
			CADD FILE

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PHASING

MAINTAIN VEHICULAR ACCESS TO DRIVEWAYS AT ALL TIMES DURING CONSTRUCTION UNLESS OTHERWISE NOTED IN THE PHASING OR DIRECTED BY THE ENGINEER

PHASE I

STEP 1:

- USING RSD 1101.02, SHEET 1 OF 9, INSTALL ADVANCED WORK ZONE WARNING SIGNS AS SHOWN ON SHEET TCP-8

- USING SHEET TCP-7, DETAIL 1 AND DETAIL 2, CONTACT THE STATE FORCES TO INSTALL AND COVER DETOUR SIGNS.

STEP 2:

USING RSD 1101.02, SHEET 1 OF 9, CONSTRUCT PROPOSED DRAINAGE FROM -L- STA.16+50+/- TO -L- STA.19+00+/- (CB # 2, 4, 5 AND 6 SHALL BE INSTALLED AS TRAFFIC BEARING AND AT ELEVATION SUITABLE FOR PHASE II TRAFFIC) BUT NOT INCLUDING CURB AND GUTTERS. SEE ROADWAY AND HYDRAULICS PLANS.

COMPLETE THE WORK REQUIRED OF PHASE I, STEP 3 IN SEVENTY-TWO (72) CONSECUTIVE HOURS. SEE INTERMEDIATE CONTRACT TIME AND LIQUIDATED DAMAGES

STEP 3:

1. USING SHEET TCP-7, DETAIL 2, CONTACT STATE FORCES TO UNCOVER DETOUR SIGNS INSTALLED IN PHASE I, STEP 1, PLACE TYPE III BARRICADES TO CLOSE SINGLETREE RD. TO THROUGH TRAFFIC, AND DETOUR TRAFFIC OFFSITE VIA SADDLEWOOD LN. AND HIDDEN HILLS LN.

2. AWAY FROM TRAFFIC, INSTALL PROPOSED 36" PIPE UNDER SINGLETREE RD. (SR 4141).

3. REMOVE TYPE III BARRICADES AND CONTACT STATE FORCES TO REMOVE DETOUR SIGNS. OPEN SINGLETREE RD. TO EXISTING TRAFFIC PATTERN.

STEP 4:

1. USING RSD 1101.02, SHEET 1 OF 9, PERFORM THE FOLLOWING:
AT THE END OF EACH WORK PERIOD RETURN TRAFFIC TO THE EXISTING PATTERN UNLESS OTHERWISE NOTED IN THE PHASING OR DIRECTED BY THE ENGINEER.
SEE ROADWAY AND HYDRAULICS PLANS.

1) INSTALL TEMPORARY ASPHALT PAD FOR PCB FROM -L- STA.18+08+/- TO -L- STA.20+97+/-

2) INSTALL TEMPORARY PORTABLE CONCRETE BARRIER (PCB) AND CRASH CUSHIONS FROM -L- STA.18+08+/- TO -L- STA.20+97+/- AS SHOWN ON SHEET TCP-4.

2. BEHIND TEMPORARY PCB, PERFORM THE FOLLOWING:
SEE SHEET TCP-4, ROADWAY AND STRUCTURE PLANS.

1)- INSTALL THE FOLLOWING:
* TEMPORARY SHORING No.1 FROM -L- STA.19+16+/- TO -L- STA.19+51+/-
* TEMPORARY SHORING No.2 FROM -L- STA.19+91+/- TO -L- STA.20+29+/-

2) CONSTRUCT THE FOLLOWING:
- STAGE I OF PROPOSED STRUCTURE (EXCEPT SIDEWALK)
- TEMPORARY SHORING AT THE FOLLOWING LOCATIONS:
* No.3 - FROM -L- STA.19+16+/- TO -L- STA.19+25+/-
* No.4 - FROM -L- STA.20+21+/- TO -L- STA.20+29+/-
- APPROACHES UP TO BUT NOT INCLUDING FINAL LAYER OF SURFACE COURSE FROM -L- STA.16+50+/- TO -L- STA.19+25+/- AND FROM -L- STA.20+20+/- TO -L- STA.22+50+/-
- TEMPORARY PAVEMENT AT THE FOLLOWING LOCATIONS:
* No.1 - FROM -L- STA.17+35+/- TO -L- STA.18+90+/-
* No.2 - FROM -L- STA.20+35+/- TO -L- STA.22+70+/-.

STEP 5:

USING RSD 1101.02, SHEET 1 OF 9, BEGIN WORK REQUIRED TO SHIFT TRAFFIC TO PHASE II.

COMPLETE THE WORK REQUIRED OF PHASE I, STEP 6 WITHIN ONE WEEKEND FROM 6:00 P.M. ON FRIDAY TO 7:00 A.M. THE FOLLOWING MONDAY. SEE INTERMEDIATE CONTRACT TIME AND LIQUIDATED DAMAGES

STEP 6:

1. USING SHEET TCP-7, DETAIL 1, CONTACT STATE FORCES TO UNCOVER DETOUR SIGNS INSTALLED IN PHASE I, STEP 1, PLACE TYPE III BARRICADES TO CLOSE LEBANON RD. TO THROUGH TRAFFIC, AND DETOUR TRAFFIC OFFSITE VIA NC 51, IDLEWILD RD. AND MARGARET WALLACE RD.

2. AWAY FROM TRAFFIC, COMPLETE THE TIE IN FOR THE TRAFFIC SHIFT TO PHASE II, AS FOLLOWS:
SEE SHEET TCP-5.

- 1) REMOVE TEMPORARY PCB AND CRASH CUSHIONS FROM -L- STA.18+08+/- TO -L- STA.18+28+/- AND FROM -L- STA.20+77+/- TO -L- STA.20+97+/-
- 2) CONSTRUCT WEDGING AND PAVEMENT IN PCB OVERLAP FROM -L- STA.18+08+/- TO -L- STA.18+28+/- AND FROM -L- STA.20+77+/- TO -L- STA.20+97+/-, AND AT TEMPORARY DRAINAGE DITCH AREAS
- 3)- RESET TEMPORARY PCB FROM -L- STA.18+28+/- TO -L- STA.20+77+/- (INSTALLED IN STEP 4) TO NEW LOCATION FROM -L- STA.17+97+/- TO -L- STA.20+46+/-
- INSTALL TEMPORARY PCB FROM -L- STA.20+46+/- TO -L- STA.21+08+/-
- INSTALL CRASH CUSHIONS AT -L- STA.17+97+/- AND -L- STA.21+08+/-

3. AWAY FROM TRAFFIC AND USING RSD 1101.02, SHEET 1 OF 9, AS NEEDED, PLACE TEMPORARY PAVEMENT MARKINGS (PAINT) AND TEMPORARY PAVEMENT MARKERS (TEMPORARY RAISED) FROM -L- STA.15+00+/- TO -L- STA.25+00+/- AS SHOWN ON SHEET TCP-5.

4. REMOVE TYPE III BARRICADES AND CONTACT STATE FORCES TO REMOVE DETOUR SIGNS. OPEN LEBANON RD. AND PLACE TRAFFIC ON THE WEST OF -L- FROM -L- STA.15+00+/- TO -L- STA.25+00+/- IN TWO-LANE, TWO-WAY TEMPORARY TRAFFIC PATTERN AS SHOWN ON SHEET TCP-5. INSTALL TYPE III BARRICADES TO CLOSE EXISTING NB OF LEBANON RD. TO THROUGH TRAFFIC.

PHASE II

STEP 1:

BEHIND TEMPORARY PCB, PERFORM THE FOLLOWING:
SEE SHEET TCP-5, ROADWAY AND STRUCTURE PLANS.

- REMOVE TEMPORARY ASPHALT PAD INSTALLED IN PHASE I, STEP 4, FROM -L- STA.18+08+/- TO -L- STA.20+97+/-

- REMOVE TEMPORARY SHORING INSTALLED IN PHASE I, STEP 4, AS FOLLOWS:

- * No.1 - FROM -L- STA.19+16+/- TO -L- STA.19+51+/-
- * No.2 - FROM -L- STA.19+91+/- TO -L- STA.20+29+/-

- REMOVE EXISTING BRIDGE AND CONSTRUCT STAGE II OF PROPOSED STRUCTURE AND APPROACHES UP TO BUT NOT INCLUDING FINAL LAYER OF SURFACE COURSE FROM -L- STA.16+50+/- TO -L- STA.22+50+/-

- CONSTRUCT PROPOSED SIDEWALK ALONG NB OF -L- FROM -L- STA.15+00+/- TO -L- STA.19+01+/-, INCLUDING CURB AND GUTTERS

STEP 2:

USING RSD 1101.02, SHEET 1 OF 9, PLACE TEMPORARY PAVEMENT MARKING (PAINT) AND TEMPORARY PAVEMENT MARKERS (TEMPORARY RAISED) ON -L- FROM STA.16+50+/- TO STA.25+00+/-, AND SHIFT TRAFFIC ON THE EAST OF -L- IN TWO-LANE, TWO-WAY TRAFFIC PATTERN AS SHOWN ON SHEET TCP-6.

PHASE III

STEP 1:

USING RSD 1101.02, SHEET 1 OF 9, PERFORM THE FOLLOWING:
SEE SHEET TCP-6, ROADWAY AND STRUCTURE PLANS.

- REMOVE TEMPORARY PCB AND CRASH CUSHIONS, INSTALLED IN PHASE I, STEP 6, FROM -L- STA.17+97+/- TO -L- STA.21+08+/-.

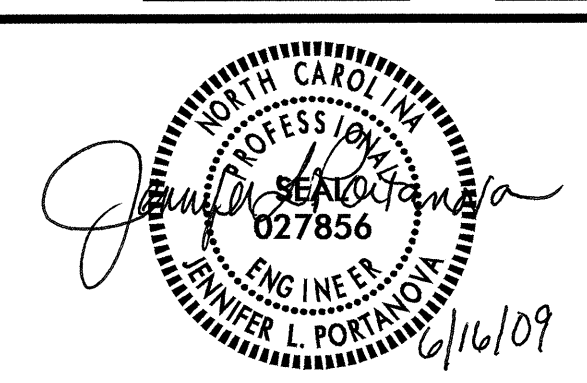
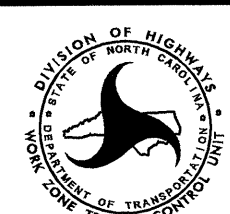
- REMOVE TEMPORARY PAVEMENT No.1 AND No.2, INSTALLED IN PHASE I, STEP 4, FROM -L- STA.17+35+/- TO -L- STA.18+90+/- AND FROM -L- STA.20+35+/- TO -L- STA.22+70+/-, COMPLETE DRAINAGE WORK AND CONSTRUCTION OF PROPOSED -L- INCLUDING SIDEWALK AND CURB AND GUTTERS ALONG SB OF -L- FROM -L- STA.16+50+/- LT 50' TO -L- STA.19+01+/-.

STEP 2:

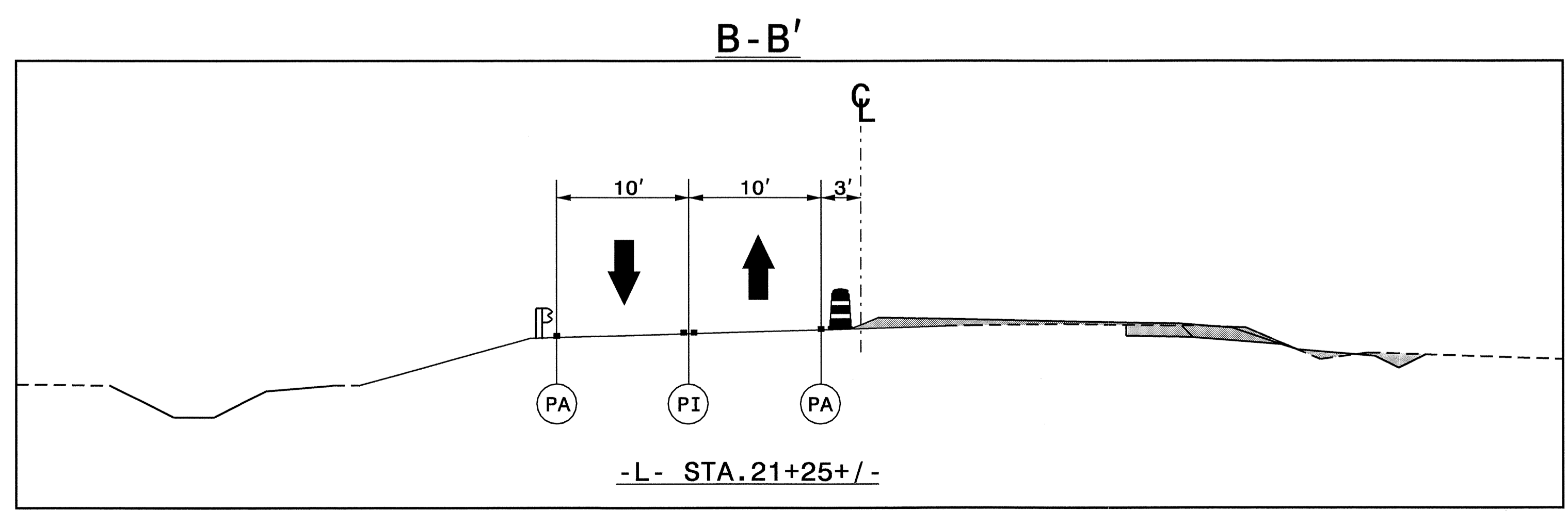
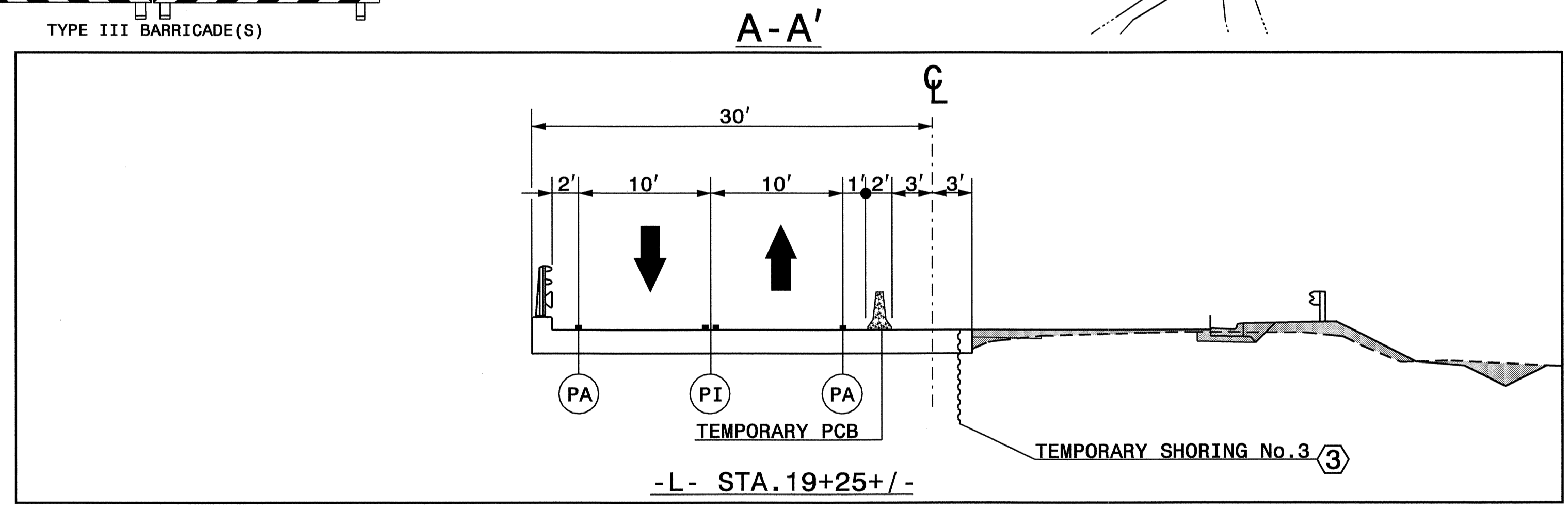
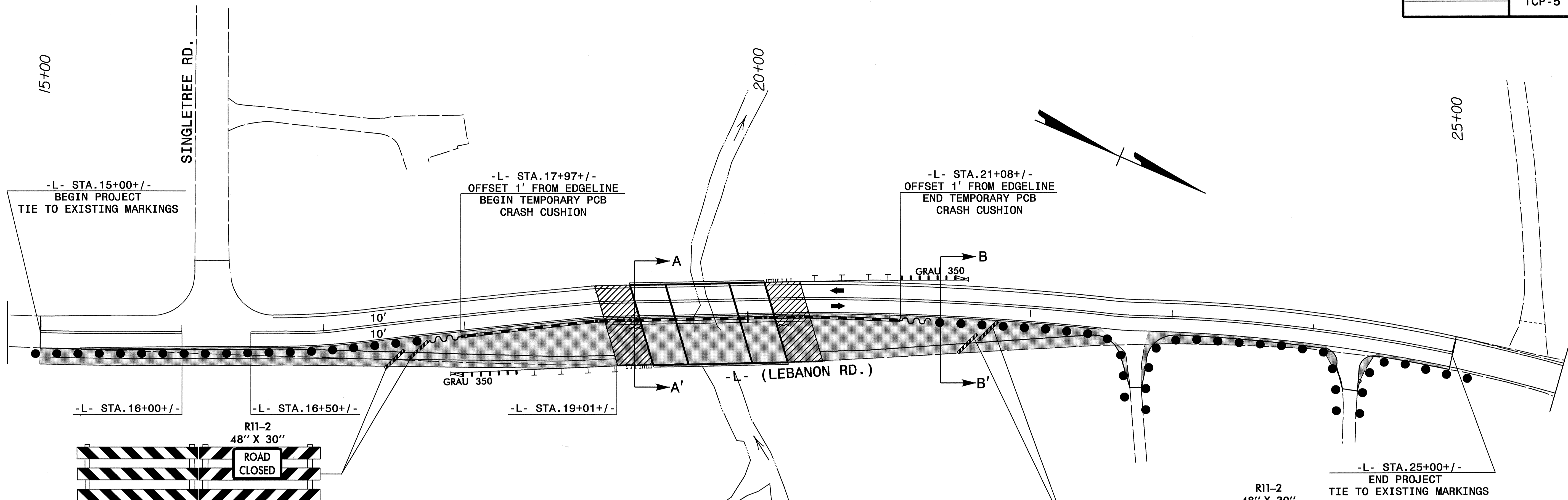
USING RSD 1101.02, SHEET 1 OF 9, AND FINAL PAVEMENT MARKING PLANS, PLACE FINAL SURFACE COURSE AND FINAL PAVEMENT MARKING AND MARKERS ON -L- FROM STA.15+00+/- TO STA.25+00+/-, PLACE TRAFFIC ON -L- IN FINAL TWO-LANE, TWO-WAY PATTERN AS SHOWN ON THE FINAL PAVEMENT MARKING PLANS.

STEP 3:

REMOVE ALL TRAFFIC CONTROL DEVICES.

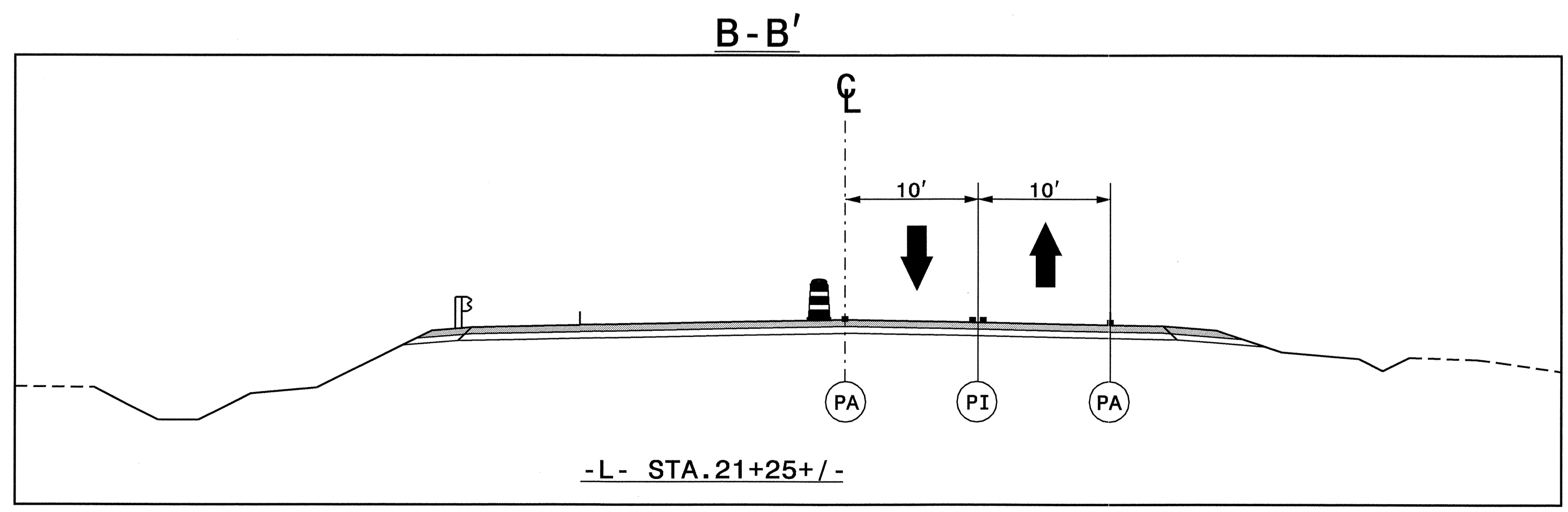
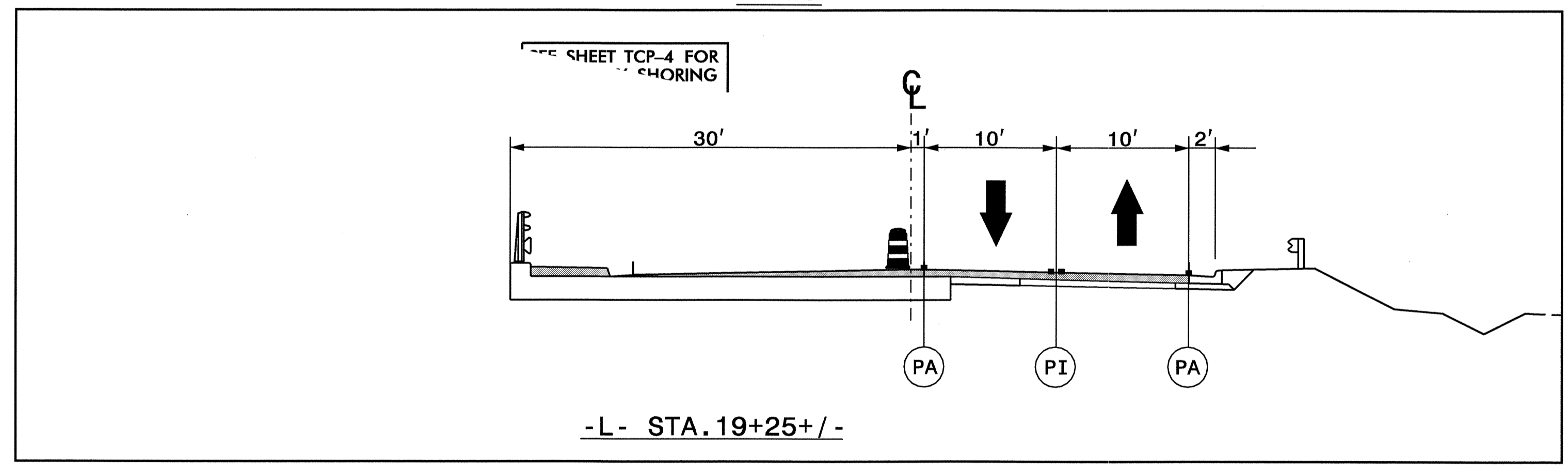
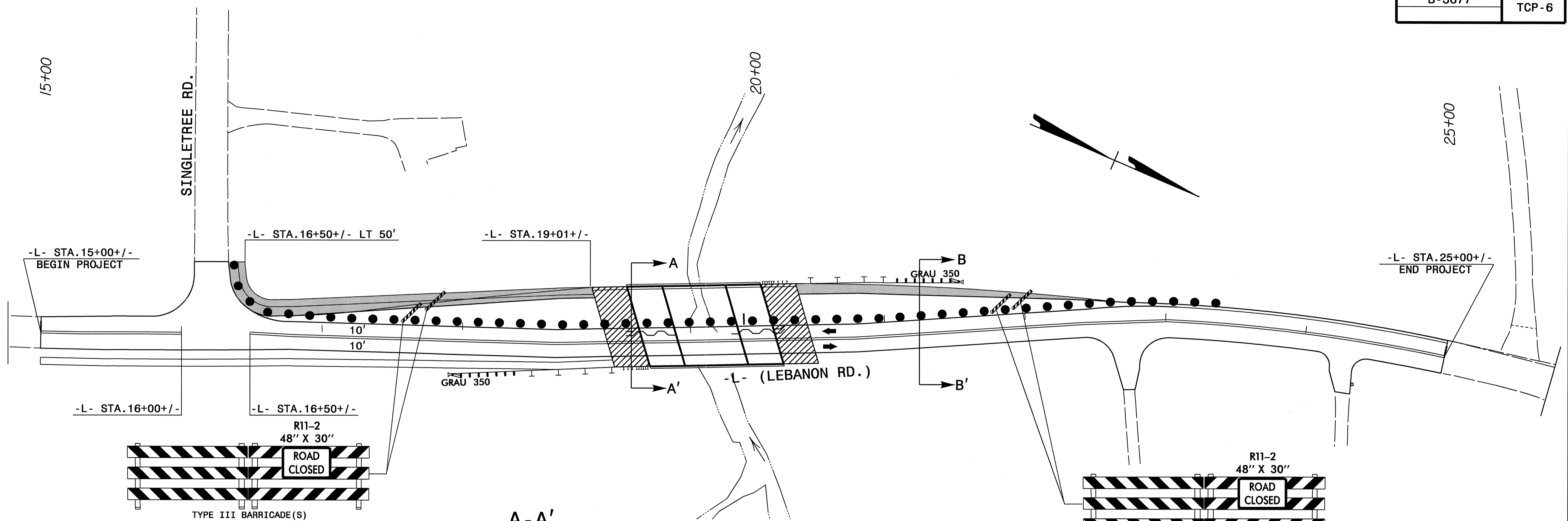
APPROVED: _____ DATE: _____	PHASING	
	SCALE: NONE	
	DATE: APR-09	
	DWG. BY: AYL	
	DESIGN BY: AYL	
REVIEWED BY: JLP	REVISIONS	

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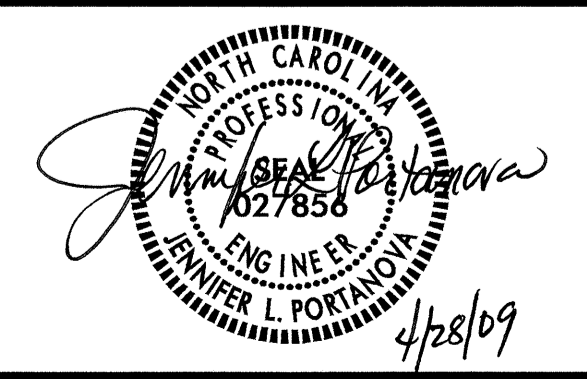



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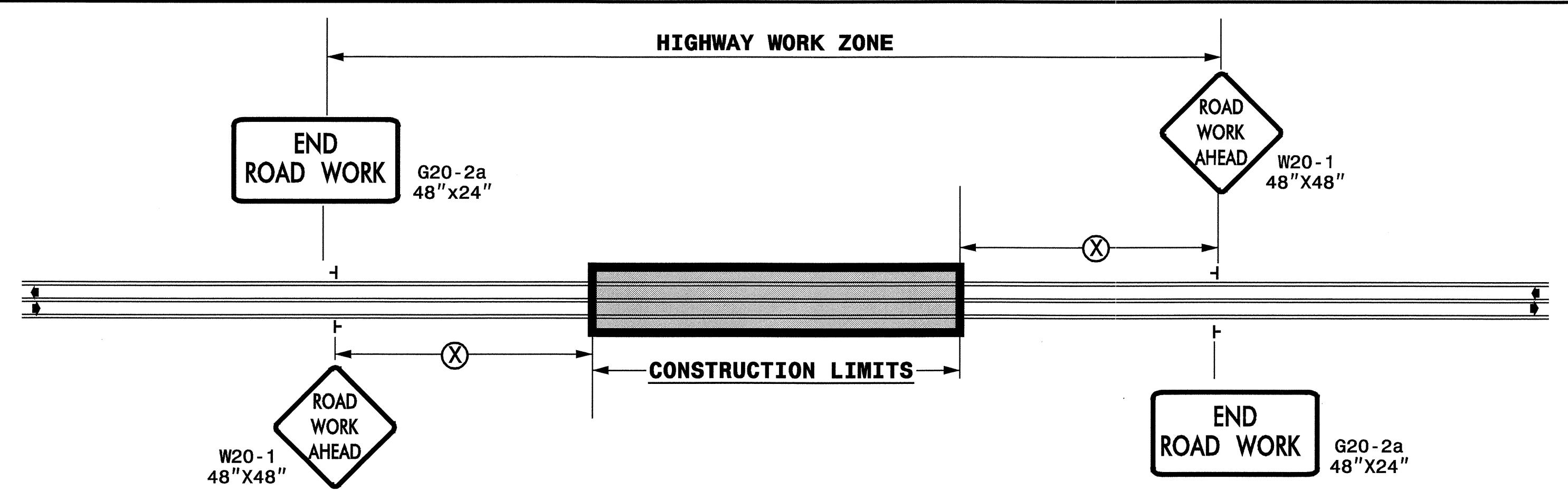
APPROVED: _____ DATE: _____	PHASE II									
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APPROVED:	DATE:	PHASE III 	
			
SCALE:	NONE		REVISIONS
DATE:	MAR-09		
DWG. BY:	AYL		
DESIGN BY:	AYL		
REVIEWED BY:	JLP		CADD FILE

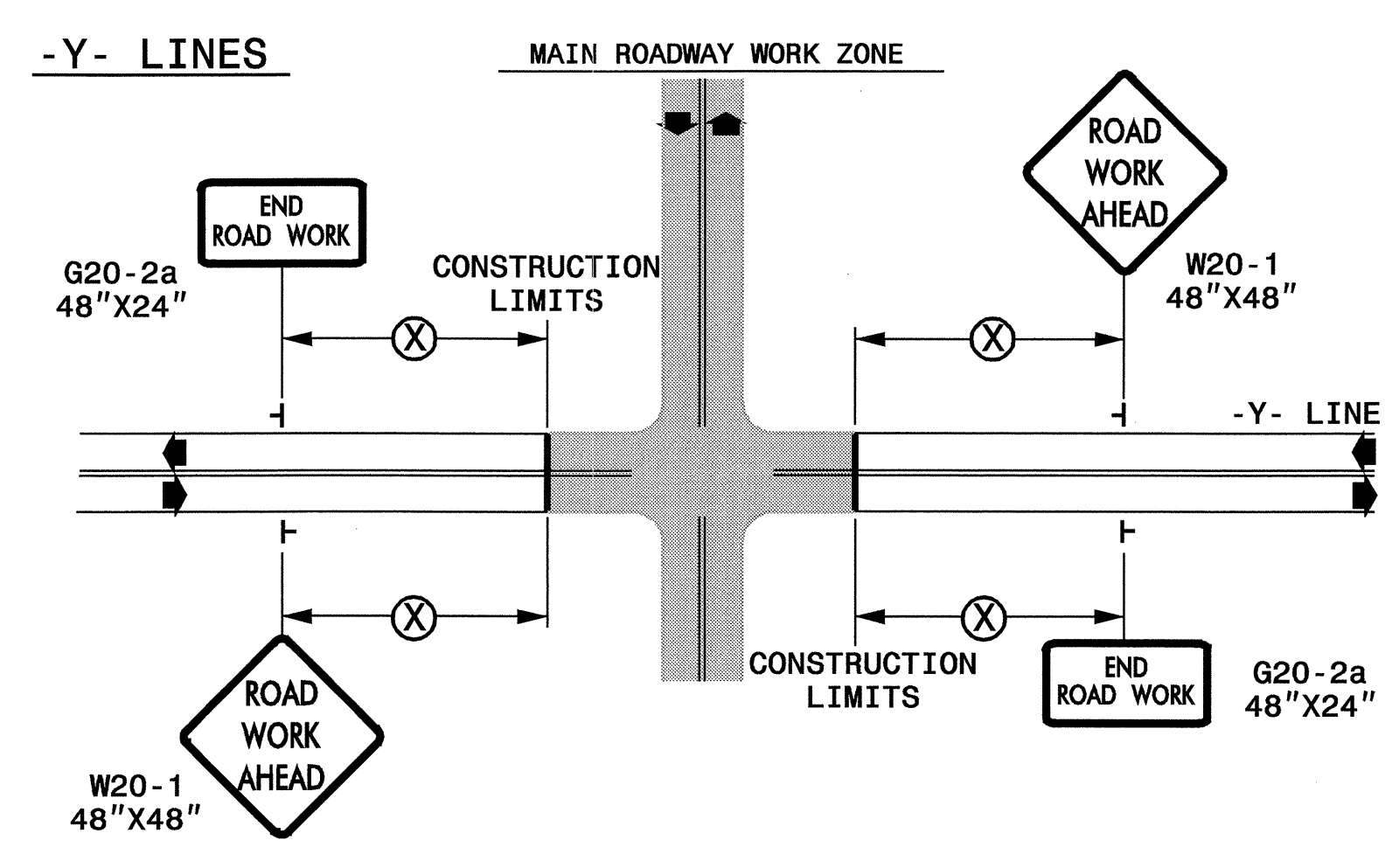
TWO-WAY UNDIVIDED ** (L-LINES)



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

APPROVED: _____ DATE: _____	DETAIL DRAWING FOR TWO-WAY UNDIVIDED AND URBAN FREEWAYS ADVANCED WORK ZONE WARNING SIGNS	
	SCALE: NONE	REVISIONS
	DATE: MAR-09	7-98 10/01
	DESIGN BY: AYL	10-98 03/04
	REVIEWED BY: JLP	01/01 11/04

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NOTES FOR TEMPORARY SHORING No.1

FOR TEMPORARY SHORING, SEE TEMPORARY SHORING SPECIAL PROVISION.

FOR CONTRACTOR DESIGNED SHORING, SURVEY THE SHORING LOCATION TO DETERMINE EXISTING ELEVATIONS AND ACTUAL DESIGN HEIGHTS BEFORE BEGINNING DESIGN.

WHEN USING CONTRACTOR DESIGNED SHORING FROM STATION 19+16.00 -L-, 5 FT. RIGHT OF -L-, TO STATION 19+51.00 -L-, 5 FT. RIGHT OF -L-, USE THE FOLLOWING SOIL PARAMETERS:
 UNIT WEIGHT OF SOIL ABOVE WATER TABLE, $\gamma = 120$ PCF
 UNIT WEIGHT OF SOIL BELOW WATER TABLE, $\gamma = 60$ PCF
 FRICTION ANGLE, $\phi = 30$ DEGREES
 COHESION, $c = 0$ PSF

NO SUBSURFACE INFORMATION IS AVAILABLE IN THE VICINITY OF THE TEMPORARY SHORING FROM STATION 19+16.00+/-L-, 5 FT. RIGHT OF -L-, TO STATION 19+51.00+/-L-, 5 FT. RIGHT OF -L-. THE INFORMATION PROVIDED FOR DESIGN WAS ASSUMED AND MAY NOT BE APPLICABLE TO THE ACTUAL SITE CONDITIONS ENCOUNTERED DURING CONSTRUCTION.

FOR PORTABLE CONCRETE BARRIERS ABOVE AND BEHIND TEMPORARY SHORING, USE AN NCDOT PORTABLE CONCRETE BARRIER (UNANCHORED OR ANCHORED) OR AN OREGON TALL F-SHAPE CONCRETE BARRIER IN ACCORDANCE WITH THE TRAFFIC CONTROL PLANS.

NOTES FOR TEMPORARY SHORING No.3

FOR TEMPORARY SHORING, SEE TEMPORARY SHORING SPECIAL PROVISION.

FOR CONTRACTOR DESIGNED SHORING, SURVEY THE SHORING LOCATION TO DETERMINE EXISTING ELEVATIONS AND ACTUAL DESIGN HEIGHTS BEFORE BEGINNING DESIGN.

WHEN USING CONTRACTOR DESIGNED SHORING FROM STATION 19+16.00+/-L-, 2 FT. RIGHT OF -L-, TO STATION 19+25.00+/-L-, 2 FT. RIGHT OF -L-, USE THE FOLLOWING SOIL PARAMETERS:
 UNIT WEIGHT OF SOIL ABOVE WATER TABLE, $\gamma = 120$ PCF
 UNIT WEIGHT OF SOIL BELOW WATER TABLE, $\gamma = 60$ PCF
 FRICTION ANGLE, $\phi = 30$ DEGREES
 COHESION, $c = 0$ PSF

NO SUBSURFACE INFORMATION IS AVAILABLE IN THE VICINITY OF THE TEMPORARY SHORING FROM STATION 19+16.00+/-L-, 2 FT. RIGHT OF -L-, TO STATION 19+25.00+/-L-, 2 FT. RIGHT OF -L-. THE INFORMATION PROVIDED FOR DESIGN WAS ASSUMED AND MAY NOT BE APPLICABLE TO THE ACTUAL SITE CONDITIONS ENCOUNTERED DURING CONSTRUCTION.

FOR PORTABLE CONCRETE BARRIERS ABOVE AND BEHIND TEMPORARY SHORING, USE AN NCDOT PORTABLE CONCRETE BARRIER (UNANCHORED OR ANCHORED) OR AN OREGON TALL F-SHAPE CONCRETE BARRIER IN ACCORDANCE WITH THE TRAFFIC CONTROL PLANS.

NOTES FOR TEMPORARY SHORING No.2

FOR TEMPORARY SHORING, SEE TEMPORARY SHORING SPECIAL PROVISION.

FOR CONTRACTOR DESIGNED SHORING, SURVEY THE SHORING LOCATION TO DETERMINE EXISTING ELEVATIONS AND ACTUAL DESIGN HEIGHTS BEFORE BEGINNING DESIGN.

WHEN USING CONTRACTOR DESIGNED SHORING FROM STATION 19+91.00+/-L-, 5 FT. RIGHT OF -L-, TO STATION 20+29.00+/-L-, 5 FT. RIGHT OF -L-, USE THE FOLLOWING SOIL PARAMETERS:
 UNIT WEIGHT OF SOIL ABOVE WATER TABLE, $\gamma = 120$ PCF
 UNIT WEIGHT OF SOIL BELOW WATER TABLE, $\gamma = 60$ PCF
 FRICTION ANGLE, $\phi = 30$ DEGREES
 COHESION, $c = 0$ PSF

NO SUBSURFACE INFORMATION IS AVAILABLE IN THE VICINITY OF THE TEMPORARY SHORING FROM STATION 19+91.00+/-L-, 5 FT. RIGHT OF -L-, TO STATION 20+29.00+/-L-, 5 FT. RIGHT OF -L-. THE INFORMATION PROVIDED FOR DESIGN WAS ASSUMED AND MAY NOT BE APPLICABLE TO THE ACTUAL SITE CONDITIONS ENCOUNTERED DURING CONSTRUCTION.

FOR PORTABLE CONCRETE BARRIERS ABOVE AND BEHIND TEMPORARY SHORING, USE AN NCDOT PORTABLE CONCRETE BARRIER (UNANCHORED OR ANCHORED) OR AN OREGON TALL F-SHAPE CONCRETE BARRIER IN ACCORDANCE WITH THE TRAFFIC CONTROL PLANS.

NOTES FOR TEMPORARY SHORING No.4

FOR TEMPORARY SHORING, SEE TEMPORARY SHORING SPECIAL PROVISION.

FOR CONTRACTOR DESIGNED SHORING, SURVEY THE SHORING LOCATION TO DETERMINE EXISTING ELEVATIONS AND ACTUAL DESIGN HEIGHTS BEFORE BEGINNING DESIGN.

WHEN USING CONTRACTOR DESIGNED SHORING FROM STATION 20+21.00+/-L-, 2 FT. RIGHT OF -L-, TO STATION 20+29.00+/-L-, 2 FT. RIGHT OF -L-, USE THE FOLLOWING SOIL PARAMETERS:
 UNIT WEIGHT OF SOIL ABOVE WATER TABLE, $\gamma = 120$ PCF
 UNIT WEIGHT OF SOIL BELOW WATER TABLE, $\gamma = 60$ PCF
 FRICTION ANGLE, $\phi = 30$ DEGREES
 COHESION, $c = 0$ PSF

NO SUBSURFACE INFORMATION IS AVAILABLE IN THE VICINITY OF THE TEMPORARY SHORING FROM STATION 20+21.00+/-L-, 2 FT. RIGHT OF -L-, TO STATION 20+29.00+/-L-, 2 FT. RIGHT OF -L-. THE INFORMATION PROVIDED FOR DESIGN WAS ASSUMED AND MAY NOT BE APPLICABLE TO THE ACTUAL SITE CONDITIONS ENCOUNTERED DURING CONSTRUCTION.

FOR PORTABLE CONCRETE BARRIERS ABOVE AND BEHIND TEMPORARY SHORING, USE AN NCDOT PORTABLE CONCRETE BARRIER (UNANCHORED OR ANCHORED) OR AN OREGON TALL F-SHAPE CONCRETE BARRIER IN ACCORDANCE WITH THE TRAFFIC CONTROL PLANS.

NOTE:
SEE SHEET TCP-4 FOR TEMPORARY SHORING LOCATIONS AND DETAILS

APPROVED: <i>[Signature]</i> DATE: 4-21-09	TEMPORARY SHORING RECOMMENDATIONS							
	SCALE: NONE							
	DATE: APR-09							
	DESIGN BY: AYL							
	REVIEWED BY: MRB							
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