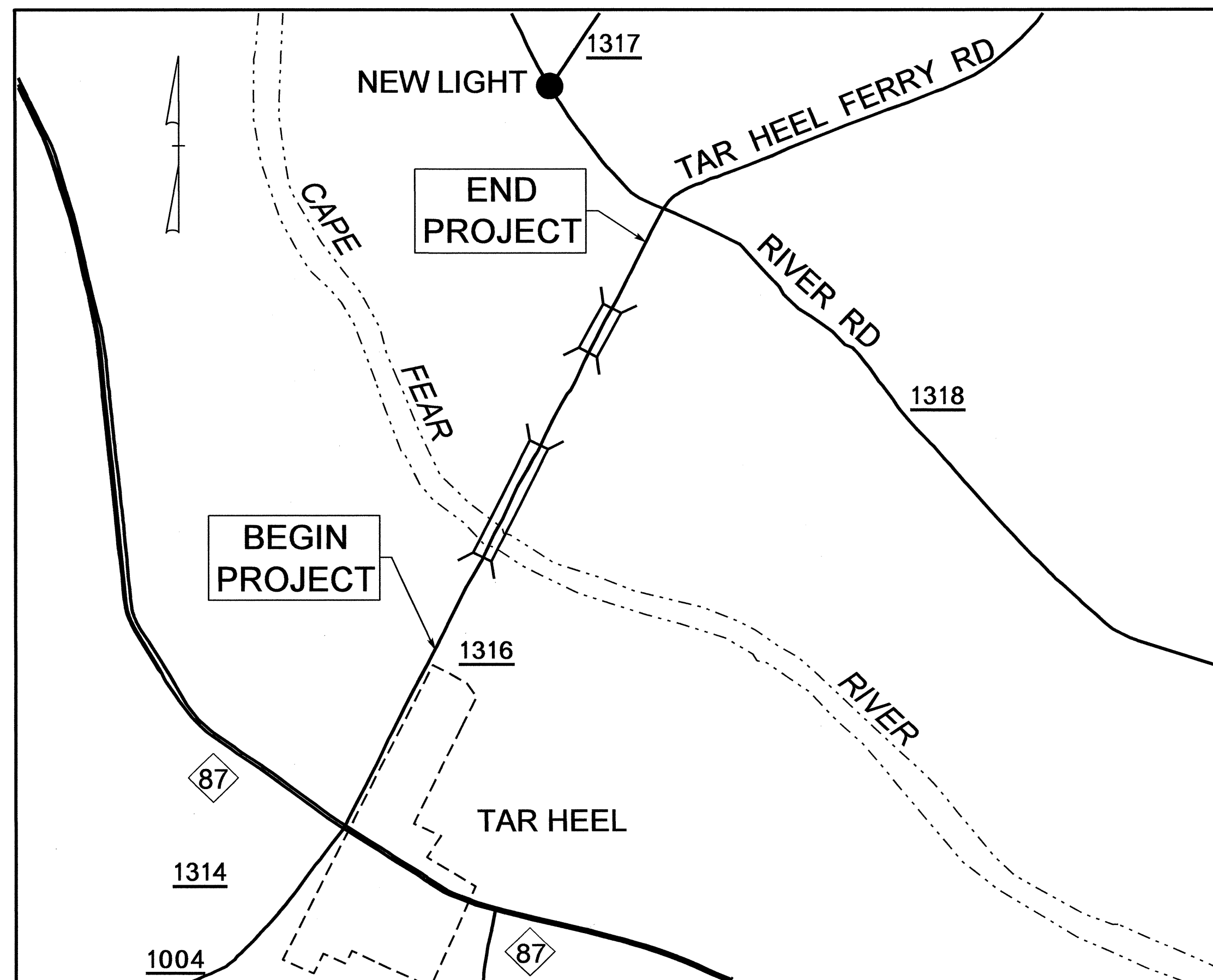
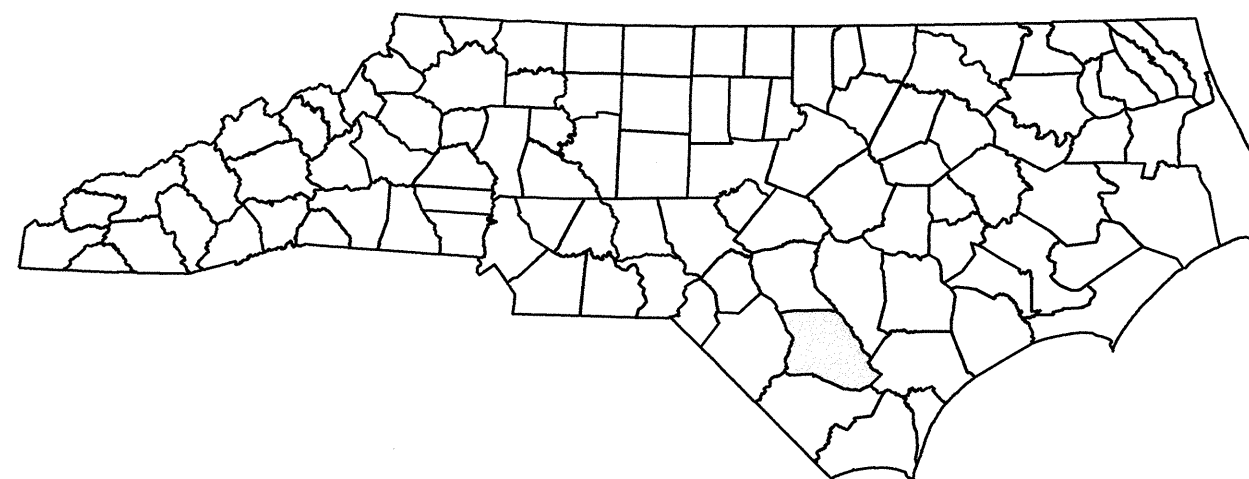


STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

**TRANSPORTATION MANAGEMENT PLAN**

**BLADEN COUNTY**



**INDEX OF SHEETS**

SHEET NO.	TITLE
TMP-1	TITLE SHEET, LEGEND AND INDEX OF SHEETS
TMP-1A	LIST OF APPLICABLE ROADWAY STANDARD DRAWINGS, AND PROJECT PHASING
TMP-1B	TRANSPORTATION OPERATIONS PLAN: (GENERAL NOTES)
TMP-2	PORTABLE CONCRETE BARRIER AT TEMPORARY SHORING LOCATIONS
TMP-3	TEMPORARY SHORING DATA
TMP-4 THRU TMP-7	TEMPORARY TRAFFIC CONTROL PHASE I DETAIL
TMP-8 THRU TMP-9	TEMPORARY TRAFFIC CONTROL PHASE II DETAIL

**LEGEND**

**GENERAL**

- ← DIRECTION OF TRAFFIC FLOW
- EXIST. PVMT.
- NORTH ARROW
- PROPOSED PVMT.

- WORK AREA

**TRAFFIC CONTROL DEVICES**

- ▨ BARRICADE (TYPE III)
- DRUM
- ~ TEMPORARY CRASH CUSHION
- ~ TEMPORARY SHORING
- ~ TEMPORARY SHORING (SOIL FABRIC WALL)
- ▬ PORTABLE CONCRETE BARRIER

**TEMPORARY SIGNING**

- ⊥ STATIONARY SIGN

**TEMPORARY PAVEMENT MARKING**

**4" PAINT**

- PA WHITE EDGELINE
- PI YELLOW DOUBLE CENTER LINE

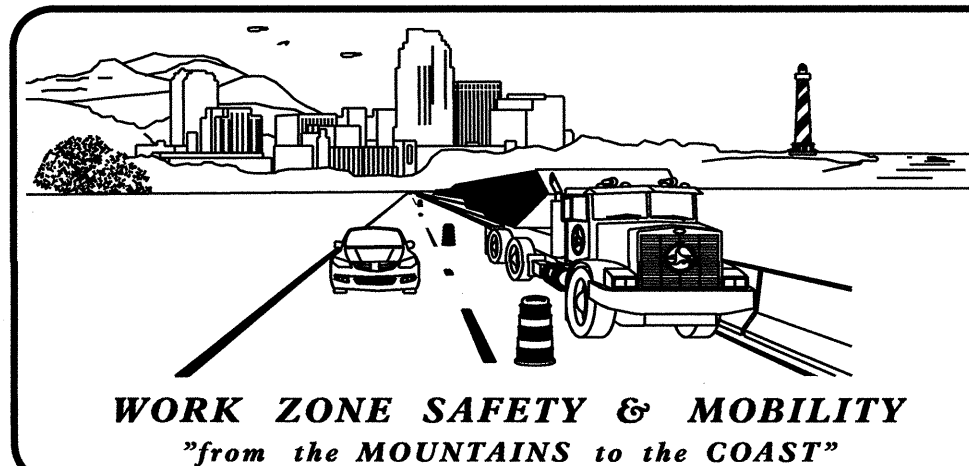
**4" COLD APPLIED (TYPE IV)**

- CA WHITE EDGELINE
- CI YELLOW DOUBLE CENTER LINE

**TEMPORARY RAISED PAVEMENT MARKERS**

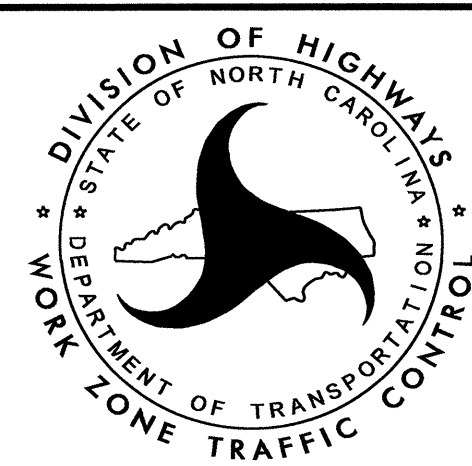
- MH YELLOW/YELLOW
- MI CRYSTAL/RED

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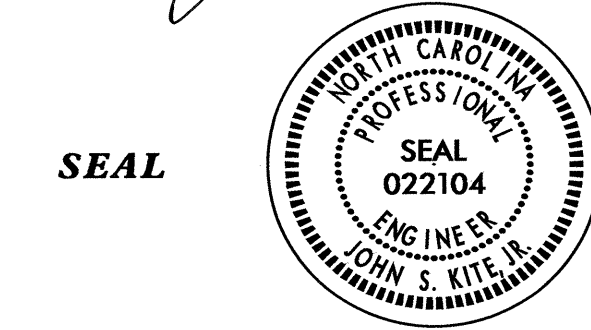


**N.C.D.O.T. WORK ZONE TRAFFIC CONTROL**  
1561 MAIL SERVICE CENTER (MSC) RALEIGH, NC 27699-1561  
750 N. GREENFIELD PARKWAY, GARNER, NC 27529 (DELIVERY)  
PHONE: (919) 773-2800 FAX: (919) 771-2745

J. S. BOURNE, PE STATE TRAFFIC MANAGEMENT ENGINEER  
J. S. KITE, PE TRAFFIC CONTROL PROJECT ENGINEER  
D. A. PARKER TRAFFIC CONTROL PROJECT DESIGN ENGINEER  
D. E. RICHARDSON TRAFFIC CONTROL DESIGN ENGINEER



APPROVED: *John S. Kite*  
DATE: October 30, 2012



SHEET NO. TMP-1  
**TIP PROJECT: B-4712**

## 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:

### PROJECT PHASING

#### PHASE I

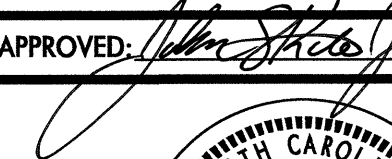
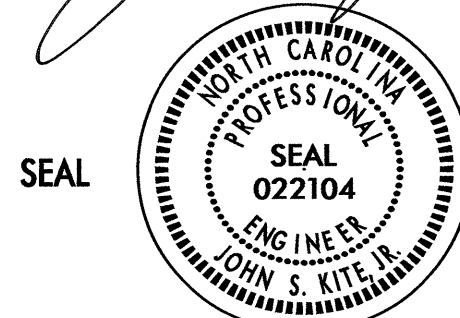
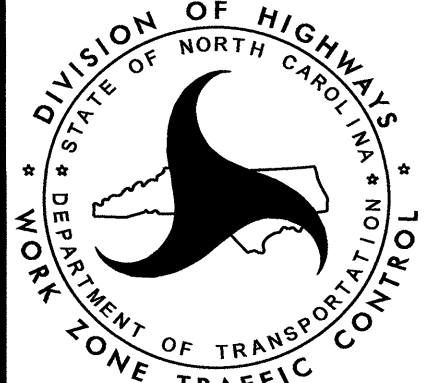
- STEP 1**  
- INSTALL WORK ZONE ADVANCE WARNING SIGNS. SEE RSD 1101.01.
- STEP 2**  
- AWAY FROM TRAFFIC, BEGIN PROPOSED BRIDGE CONSTRUCTION AND GRADING.
- STEP 3**  
- USING RSD 1101.02, SHEET 1 OF 15, CONSTRUCT TEMPORARY PAVEMENT AND INSTALL PORTABLE CONCRETE BARRIER (PCB) AND CRASH CUSHIONS AS DETAILED ON SHEETS TMP-4 THRU TMP-7.
- STEP 4**  
- BEHIND PCB, INSTALL TEMPORARY SHORING IN THE FOLLOWING LOCATIONS:
- L- STA 31+00+/- TO 31+40+/- (26 FT LT) (SEE TMP-4)
  - L- STA 46+00+/- TO 47+22+/- (26 FT LT) (SEE TMP-5)
  - L- STA 61+84+/- TO 62+21+/- (26 FT LT) (SEE TMP-6)
  - L- STA 65+06+/- TO 65+30+/- (24 FT LT) (SEE TMP-6) (TEMPORARY FABRIC WALL)
- STEP 5**  
- USING RSD 1101.02, SHEET 1 OF 15 AND/OR WORKING BEHIND PCB, COMPLETE PROPOSED BRIDGES AND APPROACHES UP TO, BUT NOT INCLUDING, THE FINAL LAYER OF SURFACE COURSE. SEE TMP-4 THRU TMP-7.
- STEP 6**  
- PLACE TEMPORARY PHASE II PAVEMENT MARKINGS/MARKERS AS MUCH AS POSSIBLE WITHOUT INTERFERING WITH THE EXISTING TRAFFIC PATTERN.

#### PHASE II

NOTE - INSURE ALL BRIDGE AND GUARD RAIL DELINEATION IS IN PLACE PRIOR TO SHIFT

- STEP 1**  
- WORKING IN A CONTINUOUS MANNER TO COMPLETE IN A SINGLE WORK PERIOD, SHIFT TAR HEEL FERRY RD TRAFFIC IN THE FOLLOWING SEQUENCE:
- A) USING FLAGGERS, PLACE ALL TRAFFIC IN A 1L, 2W PATTERN IN THE EXISTING SB LANE.
  - B) WITH ALL TRAFFIC IN THE EXISTING SB LANE, TIE IN THE PROPOSED NB LANE OF THE NEW ROAD AND INSTALL A DOUBLE YELLOW CENTERLINE.
  - C) HAVE FLAGGERS DIRECT TRAFFIC TO NEWLY CONSTRUCTED -L- IN A 1L, 2W PATTERN IN THE PROPOSED NB LANE.
  - D) WITH ALL TRAFFIC IN NB LANE, TIE IN PROPOSED SB LANE OF THE NEW ROAD AND TIE IN THE DOUBLE YELLOW CENTERLINE.
  - E) ENSURE ALL TRAFFIC CONTROL DEVICES ON TAR HEEL FERRY RD ARE CORRECT AND OPEN LANES TO 2L, 2W TRAFFIC PATTERN.
- STEP 2**  
- USING FLAGGERS WHERE NECESSARY, CONSTRUCT RIGHT SIDE SLOPE, PAVEMENT REMOVAL, AND BRIDGE DEMOLITION.
- STEP 3**  
- USING FLAGGERS, PLACE FINAL LAYER OF SURFACE COURSE.
- STEP 4**  
- USING FLAGGERS, PLACE FINAL PAVEMENT MARKINGS AND MARKERS.
- STEP 5**  
- REMOVE ALL REMAINING TRAFFIC CONTROL DEVICES.

STD. NO.	TITLE
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
1170.01	PORTABLE CONCRETE BARRIER
1180.01	SKINNY-DRUM
1261.01	GUARDRAIL & BARRIER DELINEATOR SPACING
1261.02	GUARDRAIL & BARRIER DELINEATOR TYPES
1262.01	GUARDRAIL END DELINEATION
1264.01	OBJECT MARKERS

APPROVED:  DATE: 10/30/12 		<b>ROADWAY STANDARD DRAWINGS AND PROJECT PHASING</b>
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## 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 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.

### 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 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.
- C) 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.
- D) 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

- E) 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.
- F) 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

- 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.

### TRAFFIC BARRIER (CONT'D)

- J) (CONT'D) 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.

- K) 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 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: (SEE ALSO 1101.05)

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

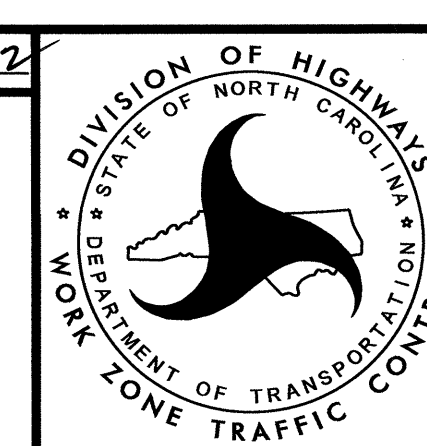
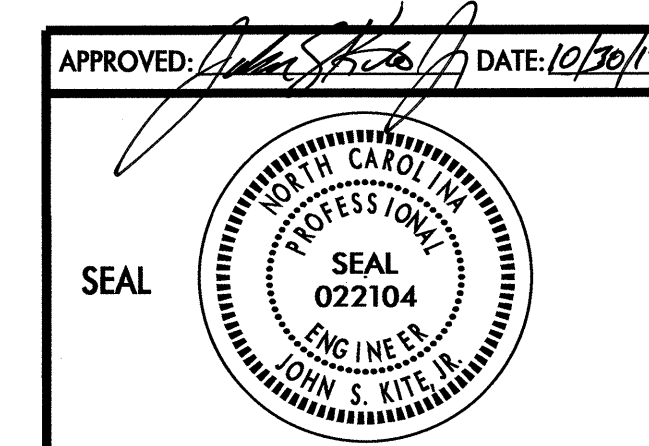
- L) WHEN LANE CLOSURES ARE NOT IN EFFECT SPACE CHANNELIZING DEVICES IN WORK AREAS NO GREATER IN FEET THAN TWICE THE POSTED SPEED LIMIT (MPH) EXCEPT, 10 FT ON-CENTER IN RADII, AND 3 FT OFF THE EDGE OF AN OPEN TRAVELWAY. REFER TO STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES SECTIONS 1130 (DRUMS), 1135 (CONES) AND 1180 (SKINNY DRUMS) FOR ADDITIONAL REQUIREMENTS.
- M) PLACE TYPE III BARRICADES, WITH "ROAD CLOSED" SIGN R11-2 ATTACHED, OF SUFFICIENT LENGTH TO CLOSE ENTIRE ROADWAY.
- N) 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

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

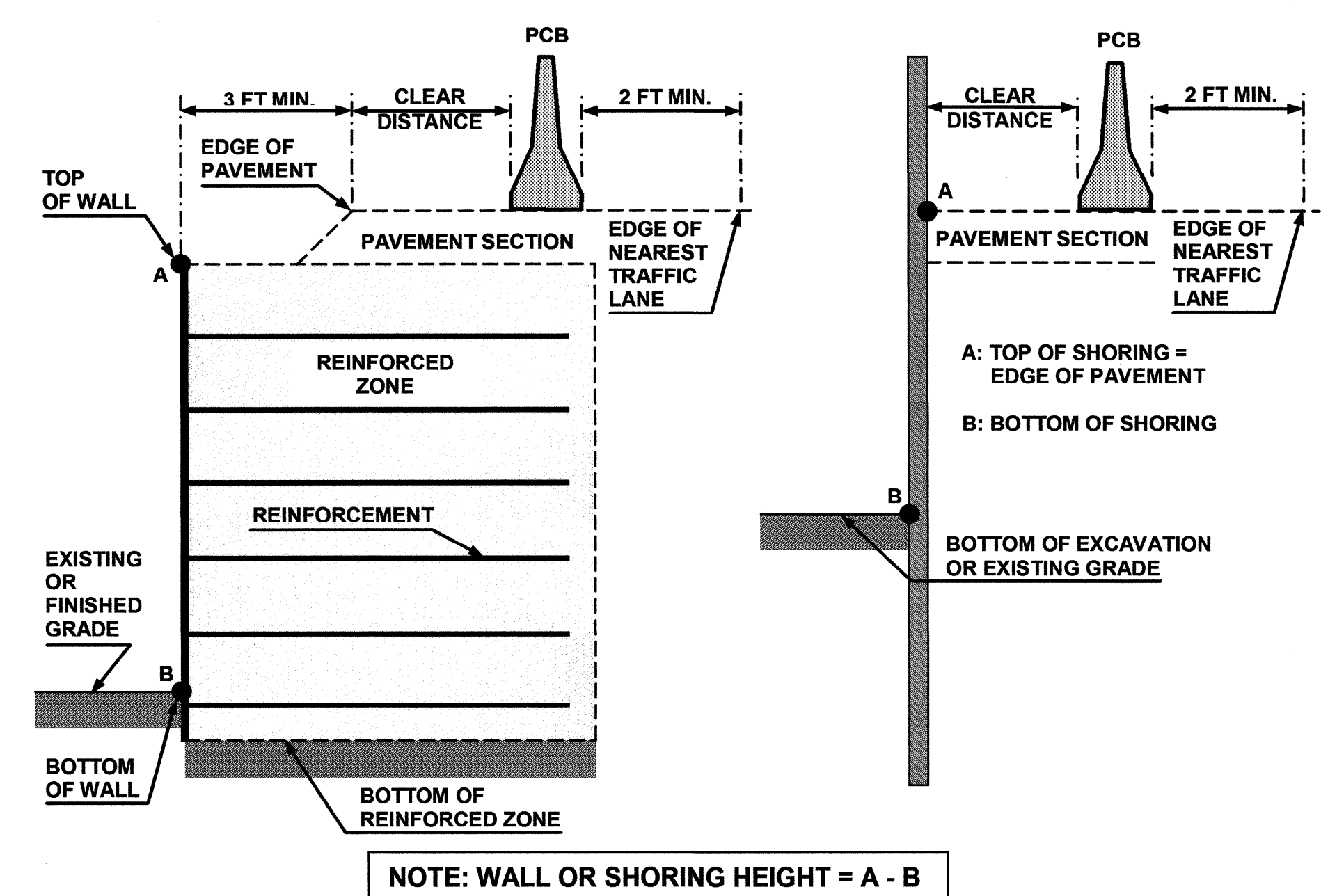
ROAD NAME	MARKING	MARKER
TAR HEEL FERRY RD	PAINT (2 APPLICATIONS)	TEMP RAISED
CONCRETE BRIDGES	COLD APPLIED (TYPE IV)	TEMP RAISED

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



**TRANSPORTATION  
OPERATIONS PLAN**





**FIGURE A**

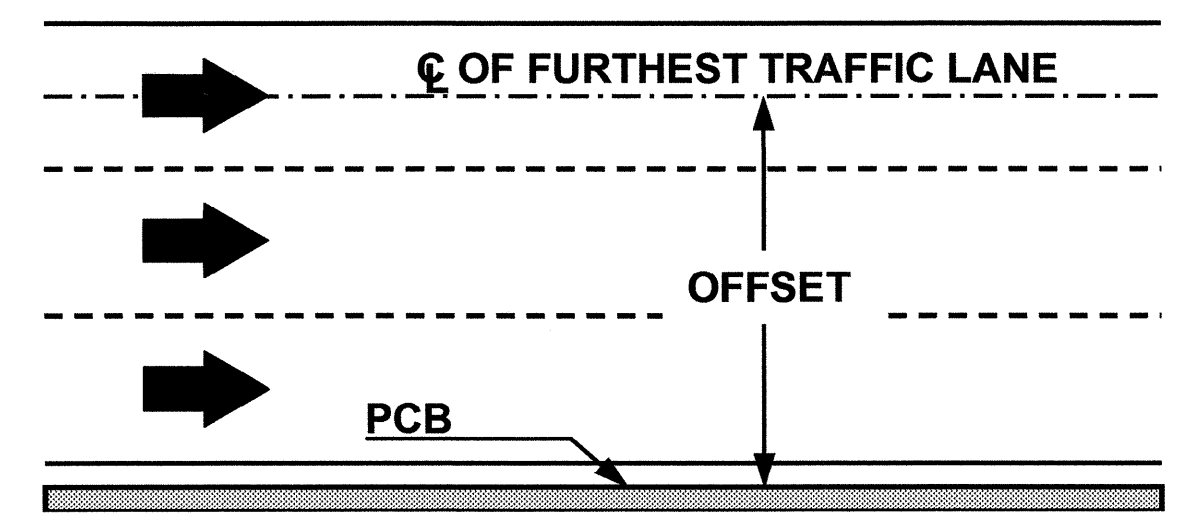
**NOTES**

- 1- REFER TO THE TRAFFIC CONTROL PLANS FOR TEMPORARY SHORING LOCATIONS AND NOTES.
- 2- REFER TO THE "TEMPORARY SHORING" PROJECT SPECIAL PROVISION FOR INFORMATION ABOUT TEMPORARY SHORING AND PORTABLE CONCRETE BARRIER (PCB).
- 3- PCB IS REQUIRED IF TEMPORARY SHORING IS LOCATED WITHIN THE CLEAR ZONE IN ACCORDANCE WITH THE AASHTO ROADSIDE DESIGN GUIDE. DO NOT PLACE BARRIER DIRECTLY ON ANY SURFACE OTHER THAN ASPHALT OR CONCRETE. (CONTACT NCDOT PAVEMENT MANAGEMENT UNIT FOR APPLICABLE PAVEMENT DESIGN).
- 4- BASED ON THE CLEAR DISTANCE, OFFSET, DESIGN SPEED AND PAVEMENT TYPE, CHOOSE AN UNANCHORED OR ANCHORED PCB FROM THE TABLE SHOWN IN FIGURE B. CLEAR DISTANCE IS DEFINED AS SHOWN IN FIGURE A AND OFFSET IS DEFINED AS SHOWN IN FIGURE B.
- 5- AT THE CONTRACTOR'S OPTION OR IF THE MINIMUM REQUIRED CLEAR DISTANCE IS NOT AVAILABLE, SET PCB NEXT TO AND UP AGAINST THE TRAFFIC SIDE OF THE TEMPORARY SHORING EXCEPT FOR BARRIER ABOVE TEMPORARY WALLS. PCB WITH THE MINIMUM REQUIRED CLEAR DISTANCE IS REQUIRED ABOVE TEMPORARY WALLS.
- 6- USE NCDOT PORTABLE CONCRETE BARRIER (PCB) IN ACCORDANCE WITH ROADWAY STANDARD DRAWING NO. 1170.01 AND SECTION 1170 OF THE STANDARD SPECIFICATIONS.
- 7- PCB REQUIREMENTS FOR TEMPORARY WALLS APPLY TO TEMPORARY MECHANICALLY STABILIZED EARTH (MSE) WALLS AND TEMPORARY SOIL NAIL WALLS.
- 8- SET PCB WITH A MINIMUM HORIZONTAL DISTANCE OF 2 FT BETWEEN THE FRONT FACE OF THE BARRIER AND THE EDGE OF THE NEAREST TRAFFIC LANE AS SHOWN IN FIGURE A UNLESS OTHERWISE SHOWN IN THE PLANS AND OR AS APPROVED BY THE ENGINEER.
- 9- FOR PCB ABOVE AND BEHIND TEMPORARY WALLS, PROVIDE A MINIMUM DISTANCE OF 3 FT BETWEEN THE EDGE OF PAVEMENT AND THE WALL FACE AS SHOWN IN FIGURE A. IF THESE MINIMUM REQUIRED DISTANCES ARE NOT AVAILABLE, CONTACT THE ENGINEER.
- 10- TABLE SHOWN IN FIGURE B IS BASED ON NCDOT RESEARCH PROJECT NO. 2005-010 WITH VEHICLE TYPE USED FOR NCHRP 350 CRASH TESTS. BARRIER DEFLECTIONS AND RESULTING MINIMUM REQUIRED CLEAR DISTANCES MIGHT VARY SIGNIFICANTLY FOR LARGER HEAVIER VEHICLES, RUNS OF BARRIER LESS THAN 200 FT IN LENGTH AND WET OR DRY PAVEMENT.

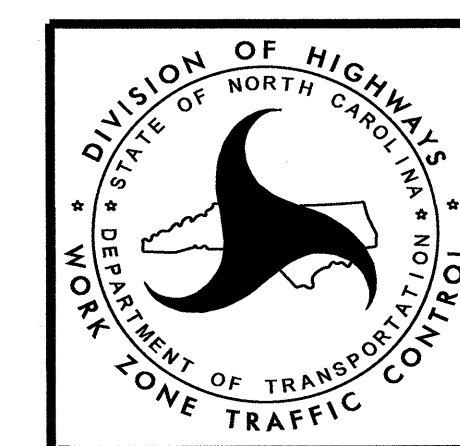
**MINIMUM REQUIRED CLEAR DISTANCE, inches**

Barrier Type	Pavement Type	Offset * ft	Design Speed, mph					
			<30	31-40	41-50	51-60	61-70	71-80
Unanchored PCB	Asphalt	<8	24	26	29	32	36	40
		8-14	26	28	31	35	38	42
		14-20	27	29	34	36	39	43
		20-26	28	31	35	38	40	44
		26-32	29	32	36	39	42	45
		32-38	30	34	38	41	43	46
		38-44	31	34	41	43	45	48
		44-50	31	35	41	43	46	49
		50-56	32	36	42	44	47	50
	>56	32	36	42	45	47	51	
	Concrete	<8	17	18	21	22	25	26
		8-14	19	20	23	25	26	29
		14-20	22	22	24	26	28	31
		20-26	23	24	26	27	30	34
		26-32	24	25	27	28	32	35
		32-38	24	26	27	30	33	36
		38-44	25	26	28	30	34	37
		44-50	26	26	28	32	35	37
50-56		26	26	28	32	35	38	
>56	26	27	29	32	36	38		
Anchored PCB	Asphalt	All Offsets	24 for All Design Speeds					
Anchored PCB	Concrete (including bridge approach slabs)	All Offsets	12 for All Design Speeds					

\* See Figure Below



**FIGURE B**



PORTABLE CONCRETE BARRIER  
AT  
TEMPORARY SHORING LOCATIONS

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# TEMPORARY SHORING DATA

PROJ. REFERENCE NO. B-4712	SHEET NO. TMP-3
-------------------------------	--------------------

TEMPORARY SHORING LOCATION NO 1  
-L- STA 31+00+/- TO 31+40+/- (26' LT)

ESTIMATED QUANTITY = 296 SF

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 STA 31+00 ± -L-, 26 FT (LT)  
TO STA 31+40 ± -L-, 26 FT (LT),  
FOR THE FOLLOWING ASSUMED SOIL PARAMETERS AND GROUNDWATER ELEVATION:

UNIT WEIGHT = 120 LB/CF  
FRICTION ANGLE = 30 DEGREES  
COHESION (c) = 0 LB/SF  
GROUNDWATER ELEVATION = 50.0 FT ±

DO NOT USE A TEMPORARY WALL FOR TEMPORARY SHORING FROM STA 31+00 ± -L-, 26 FT (LT)  
TO STA 31+40 ± -L-, 26 FT (LT).

AT THE CONTRACTOR'S OPTION, USE STANDARD TEMPORARY SHORING FOR TEMPORARY SHORING FROM STA 31+00 ± -L-, 26 FT (LT) TO STA 31+40 ± -L-, 26 FT (LT). SEE STANDARD DRAWING NO. 1801.01 FOR STANDARD TEMPORARY SHORING

TEMPORARY SHORING LOCATION NO 2  
-L- STA 46+00+/- TO 47+22+/- (26' LT)

ESTIMATED QUANTITY = 695 SF

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 STA 46+00 ± -L-, 26 FT (LT)  
TO STA 47+22 ± -L-, 26 FT (LT),  
FOR THE FOLLOWING ASSUMED SOIL PARAMETERS AND GROUNDWATER ELEVATION:

UNIT WEIGHT = 120 LB/CF  
FRICTION ANGLE = 30 DEGREES  
COHESION (c) = 0 LB/SF  
GROUNDWATER ELEVATION = 38.0 FT ±

DO NOT USE A TEMPORARY WALL FOR TEMPORARY SHORING FROM STA 46+00 ± -L-, 26 FT (LT)  
TO STA 47+22 ± -L-, 26 FT (LT).

AT THE CONTRACTOR'S OPTION, USE STANDARD TEMPORARY SHORING FOR TEMPORARY SHORING FROM STA 46+00 ± -L-, 26 FT (LT) TO STA 47+22 ± -L-, 26 FT (LT). SEE STANDARD DRAWING NO. 1801.01 FOR STANDARD TEMPORARY SHORING.

TEMPORARY SHORING LOCATION NO 3  
-L- STA 61+84+/- TO 62+21+/- (26' LT)

ESTIMATED QUANTITY = 155 SF

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 STA 61+84 ± -L-, 26 FT (LT)  
TO STA 62+21± -L-, 26 FT (LT),  
FOR THE FOLLOWING ASSUMED SOIL PARAMETERS AND GROUNDWATER ELEVATION:

UNIT WEIGHT = 120 LB/CF  
FRICTION ANGLE = 30 DEGREES  
COHESION (c) = 0 LB/SF  
GROUNDWATER ELEVATION = 49.0 FT ±

DO NOT USE A TEMPORARY WALL FOR TEMPORARY SHORING FROM STA 61+84 ± -L-, 26 FT (LT)  
TO STA 62+21± -L-, 26 FT (LT).

AT THE CONTRACTOR'S OPTION, USE STANDARD TEMPORARY SHORING FOR TEMPORARY SHORING FROM STA 61+84 ± -L-, 26 FT (LT) TO STA 62+21± -L-, 26 FT (LT). SEE STANDARD DRAWING NO. 1801.01 FOR STANDARD TEMPORARY SHORING.

TEMPORARY SHORING LOCATION NO 4  
-L- STA 65+06+/- TO 65+30+/- (24' LT)

ESTIMATED QUANTITY = 96 SF

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.

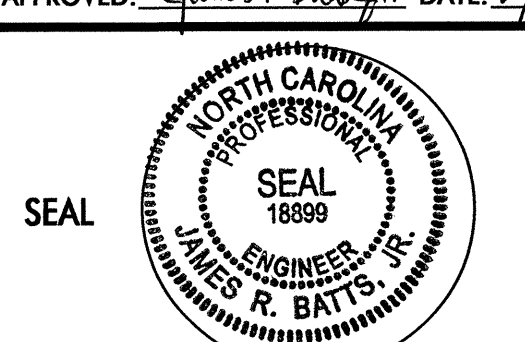
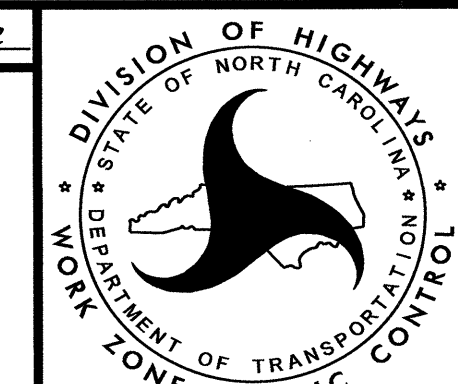
DESIGN TEMPORARY SHORING FROM STA 65+06± -L-, 24 FT (LT)  
TO STA 65+30± -L-, 24 FT (LT).  
FOR THE FOLLOWING ASSUMED SOIL PARAMETERS AND GROUNDWATER ELEVATION:

UNIT WEIGHT = 120 LB/CF  
FRICTION ANGLE = 30 DEGREES  
COHESION (c) = 0 LB/SF  
GROUNDWATER ELEVATION = 49.0 FT ±

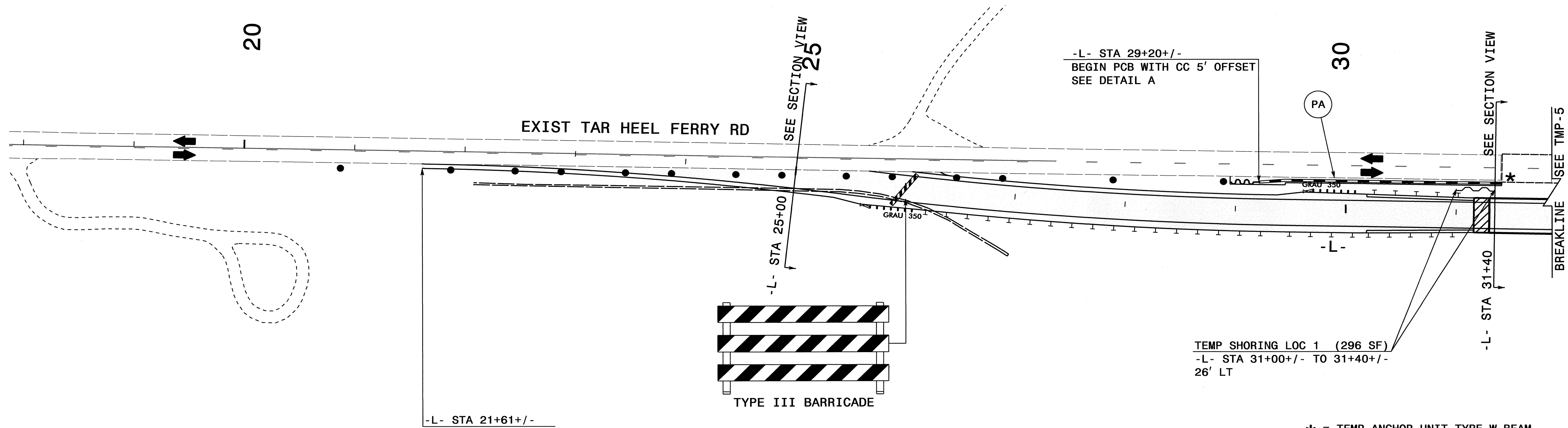
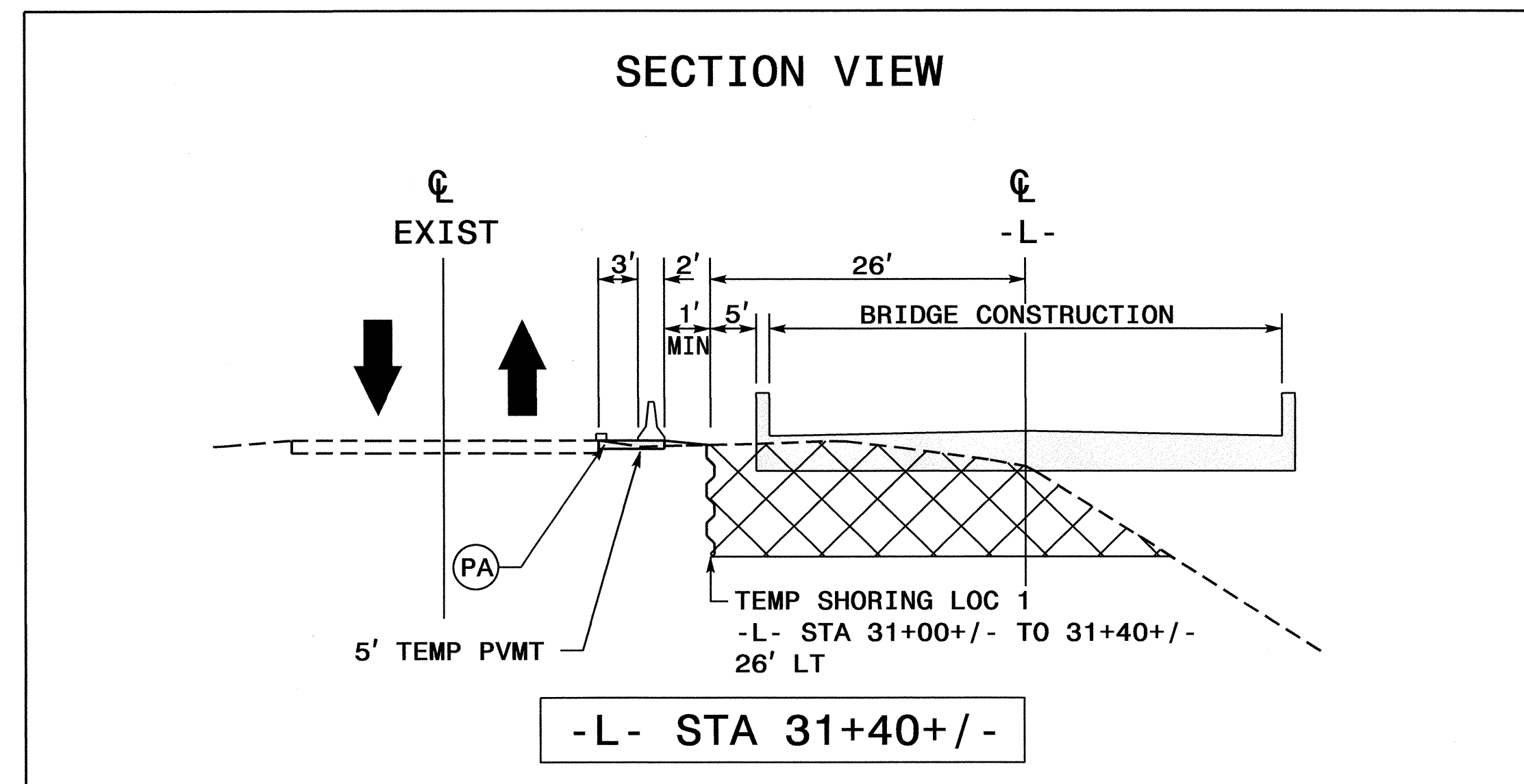
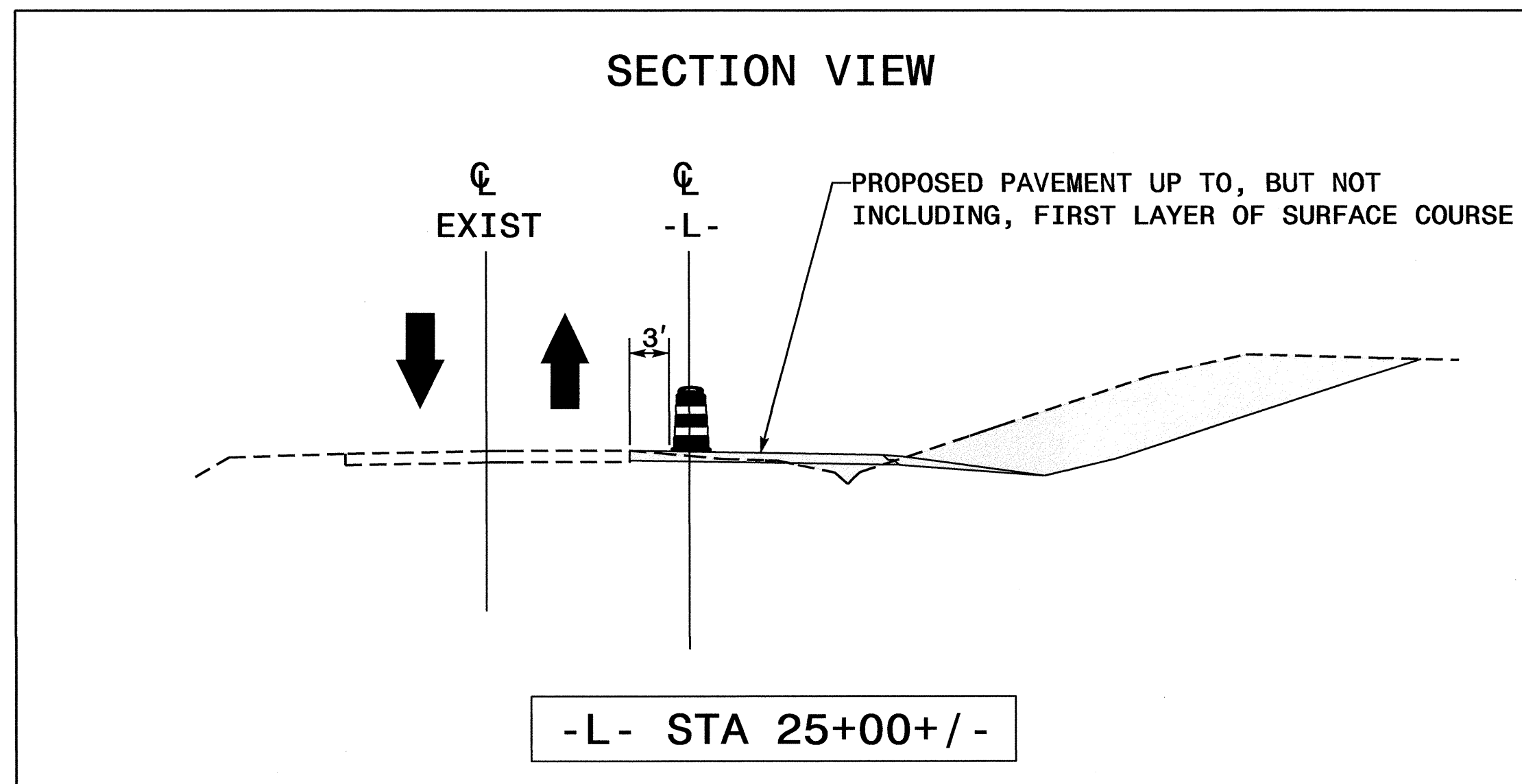
DO NOT USE CANTILEVER, BRACED AND/OR ANCHORED SHORING FOR TEMPORARY SHORING FROM STA 65+06± -L-, 24 FT (LT) TO STA 65+30± -L-, 24 FT (LT).

AT THE CONTRACTOR'S OPTION, USE STANDARD TEMPORARY WALL FOR TEMPORARY SHORING FROM STA 65+06± -L-, 24 FT (LT) TO STA 65+30± -L-, 24 FT (LT). SEE STANDARD DRAWING NO. 1801.02 FOR STANDARD TEMPORARY WALLS.

WHEN BACKFILL FOR BRIDGE APPROACH FILLS OVERLAPS WITH THE REINFORCED ZONE OF TEMPORARY WALLS, USE SHORING BACKFILL OR BACKFILL MATERIAL REQUIRED FOR BRIDGE APPROACH FILLS, WHICHEVER IS BETTER, IN THE REINFORCED ZONE OF TEMPORARY WALLS.

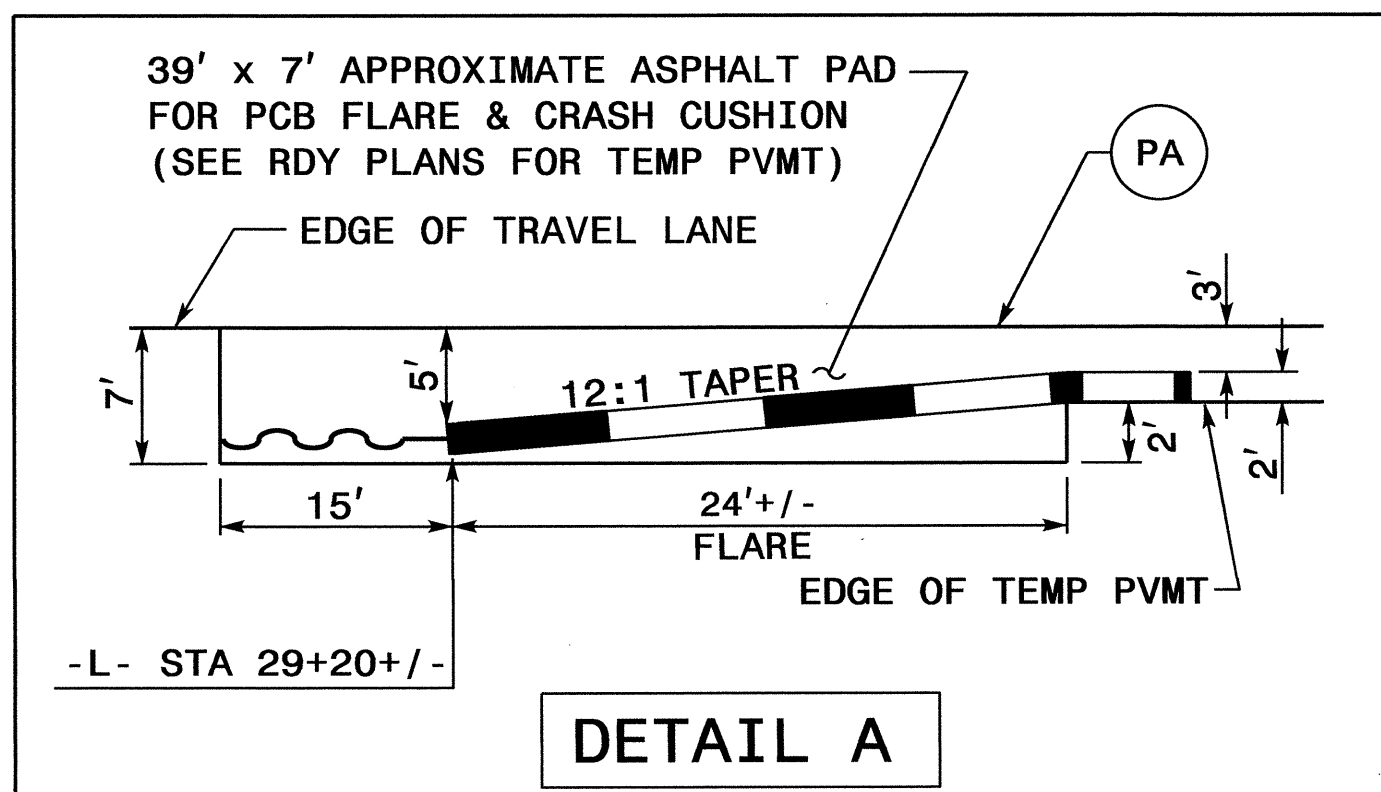
APPROVED: <i>James R. Batts, Jr.</i> DATE: <i>11/1/12</i>		
<h2 style="margin: 0;">TEMPORARY SHORING DATA</h2>		

23-OCT-2012 12:04  
 \\dot\dfs\0010\proj\TIP\Projects-B\4712\TrafficControl\TCP\B4712\_TC.BTMP.dgn  
 derichardson AT 1226583



\* = TEMP ANCHOR UNIT TYPE W-BEAM  
SEE ROADWAY SHEET 2-E

SEE TMP-3 FOR TEMPORARY SHORING NOTES



APPROVED: *[Signature]* DATE: 10/30/12

SEAL

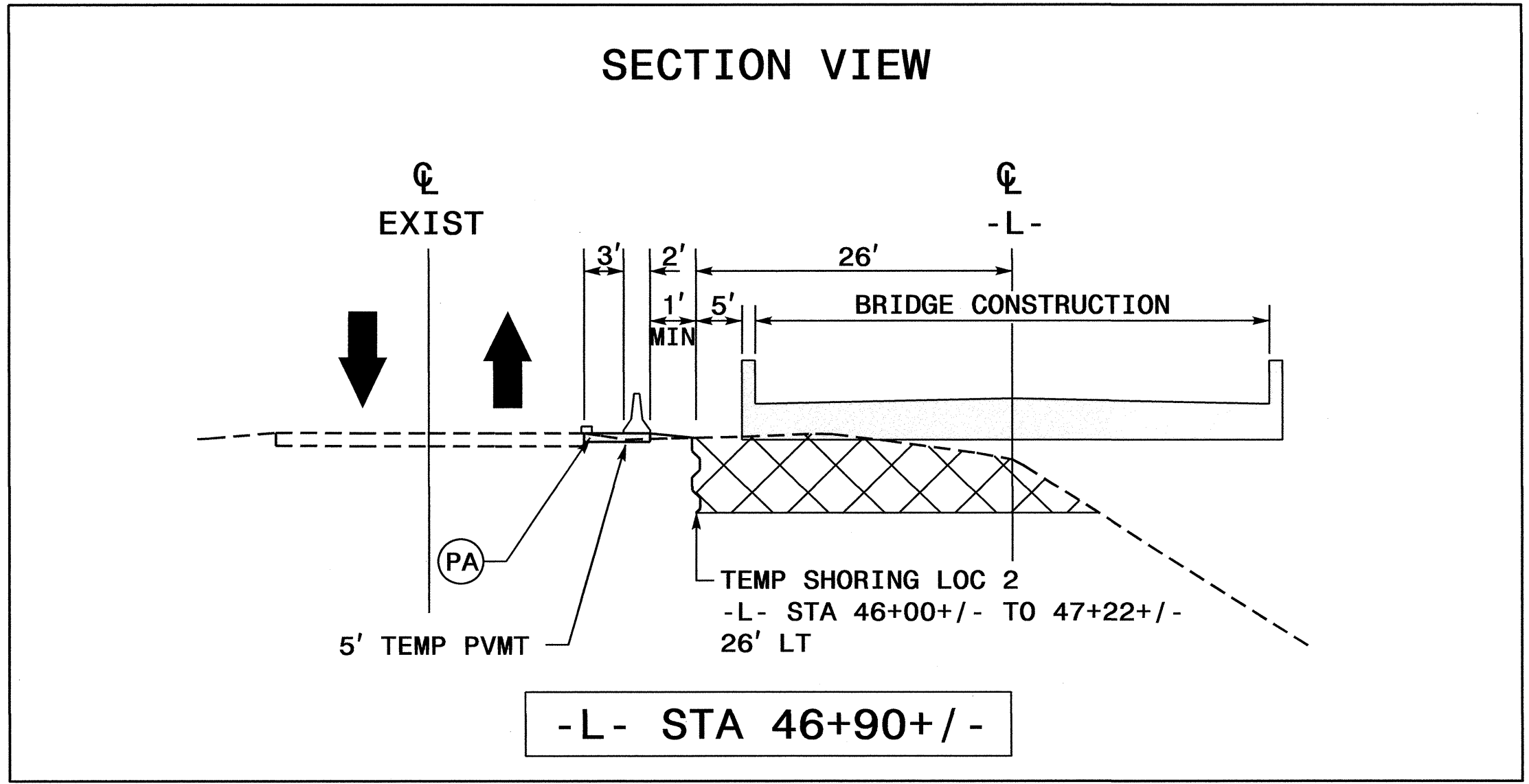
NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 022104 JOHN S. KITE, P.E.

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

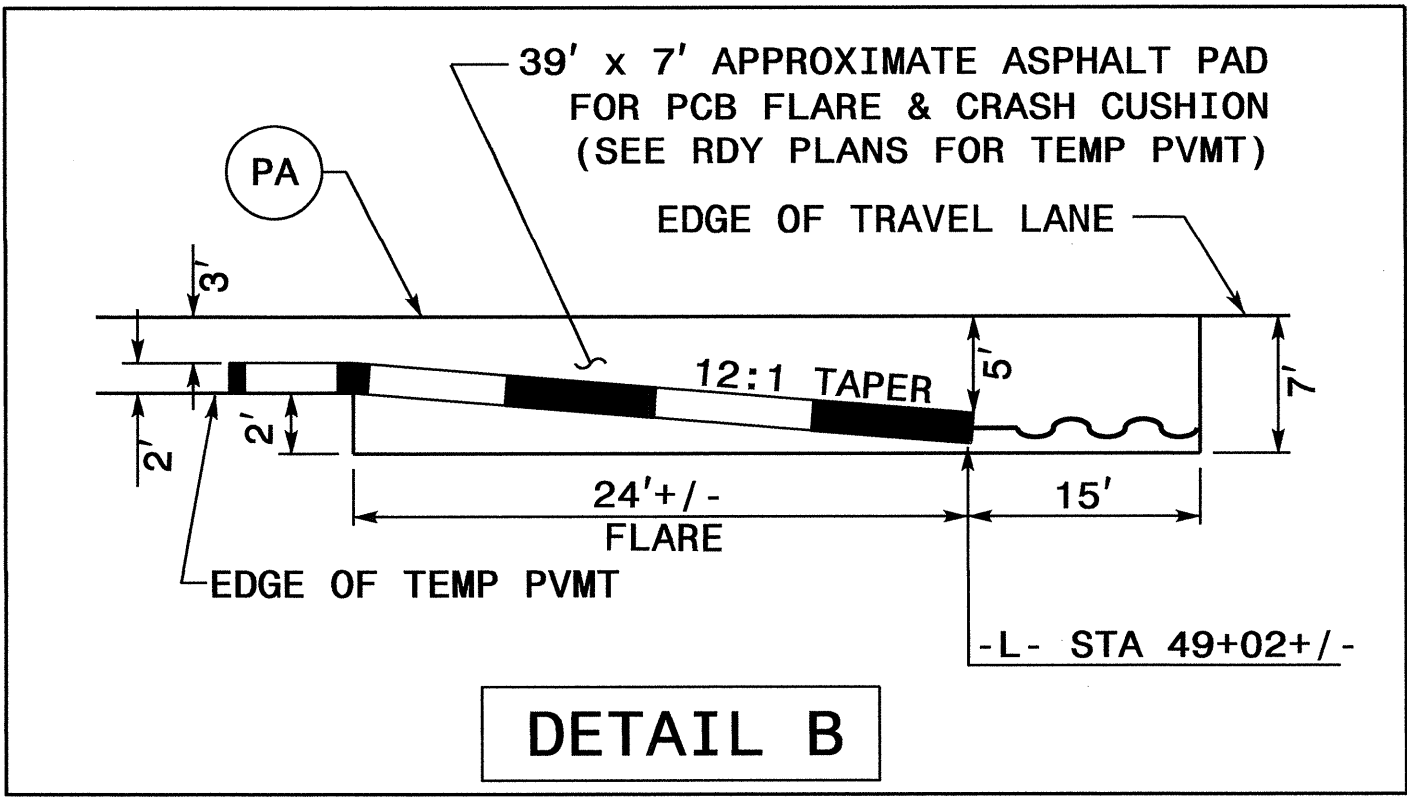
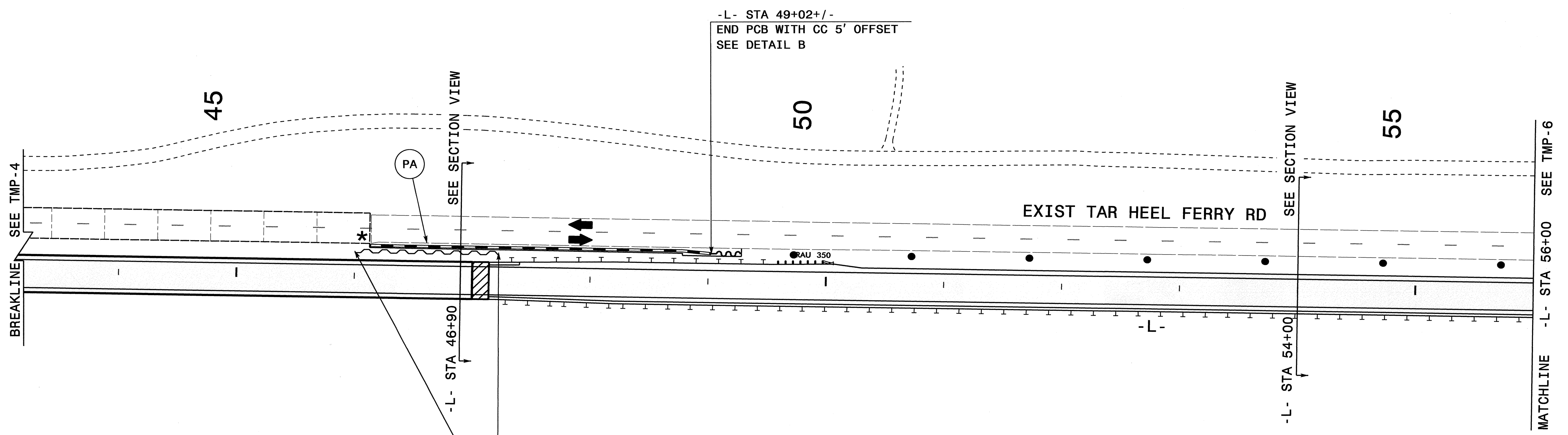
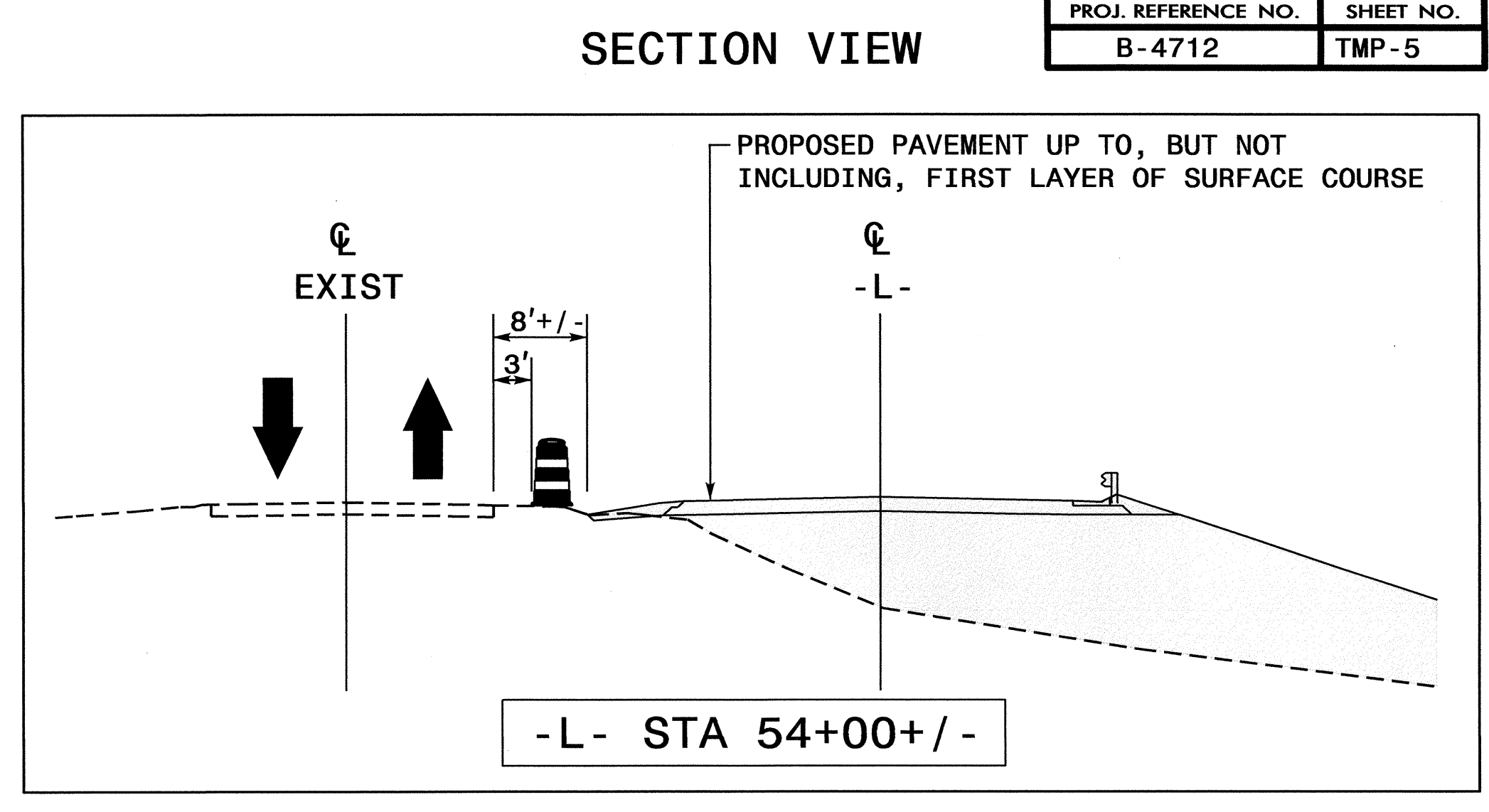
**PHASE I**

24-OCT-2012 08:06  
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 derichardson AT 12265831





SEE TMP-3 FOR TEMPORARY SHORING NOTES

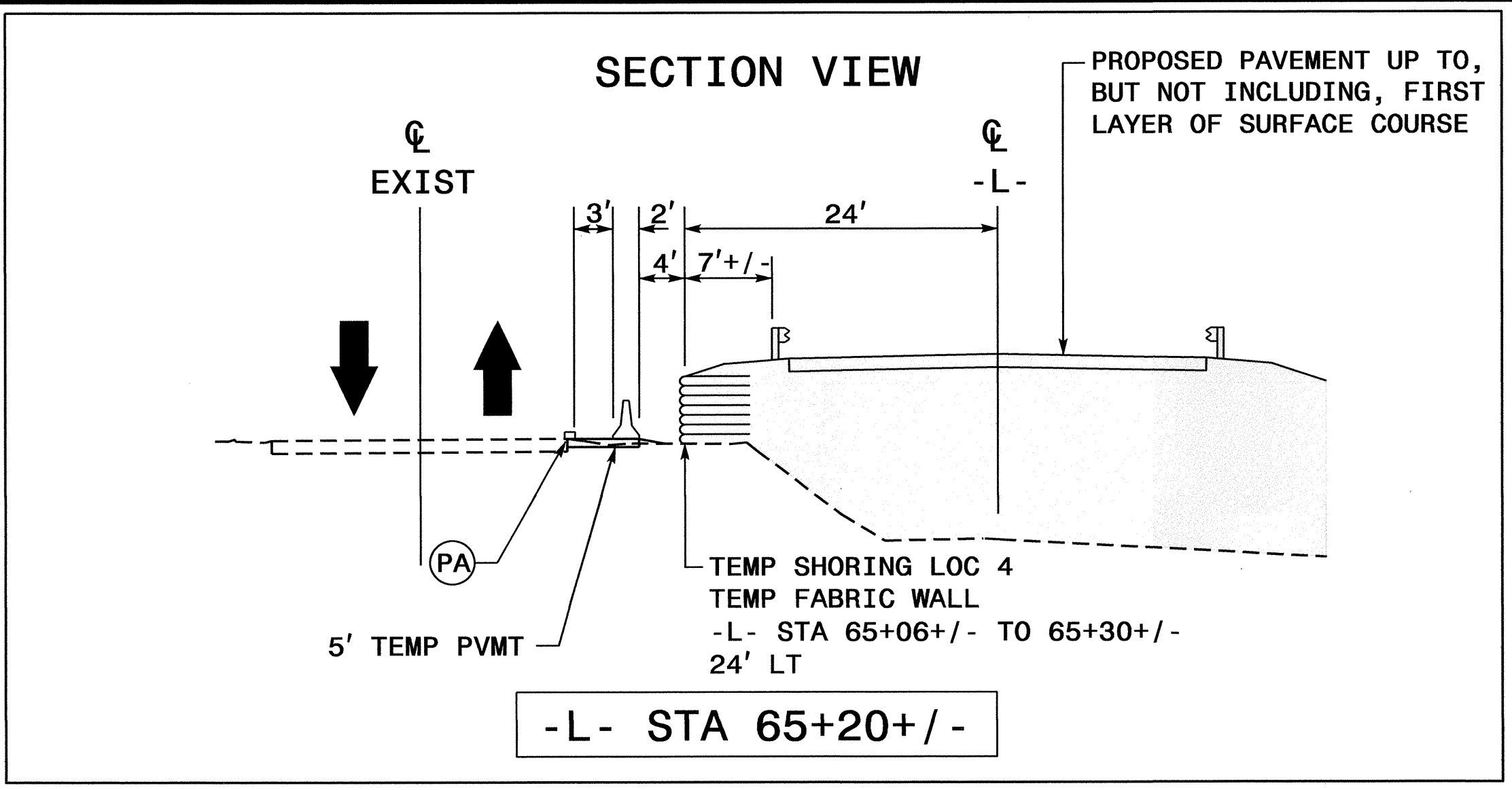
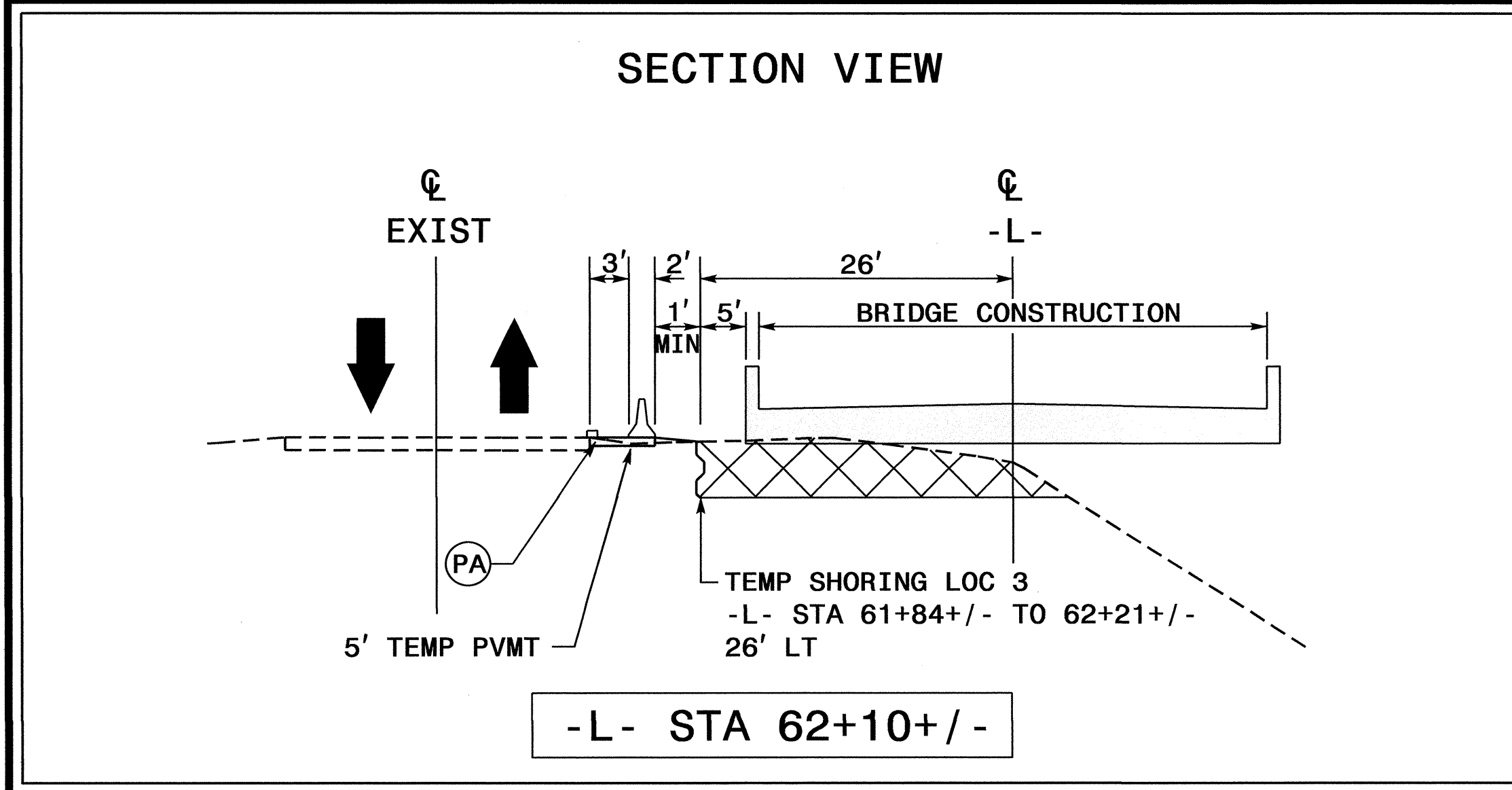


APPROVED: *[Signature]* DATE: 10/20/12

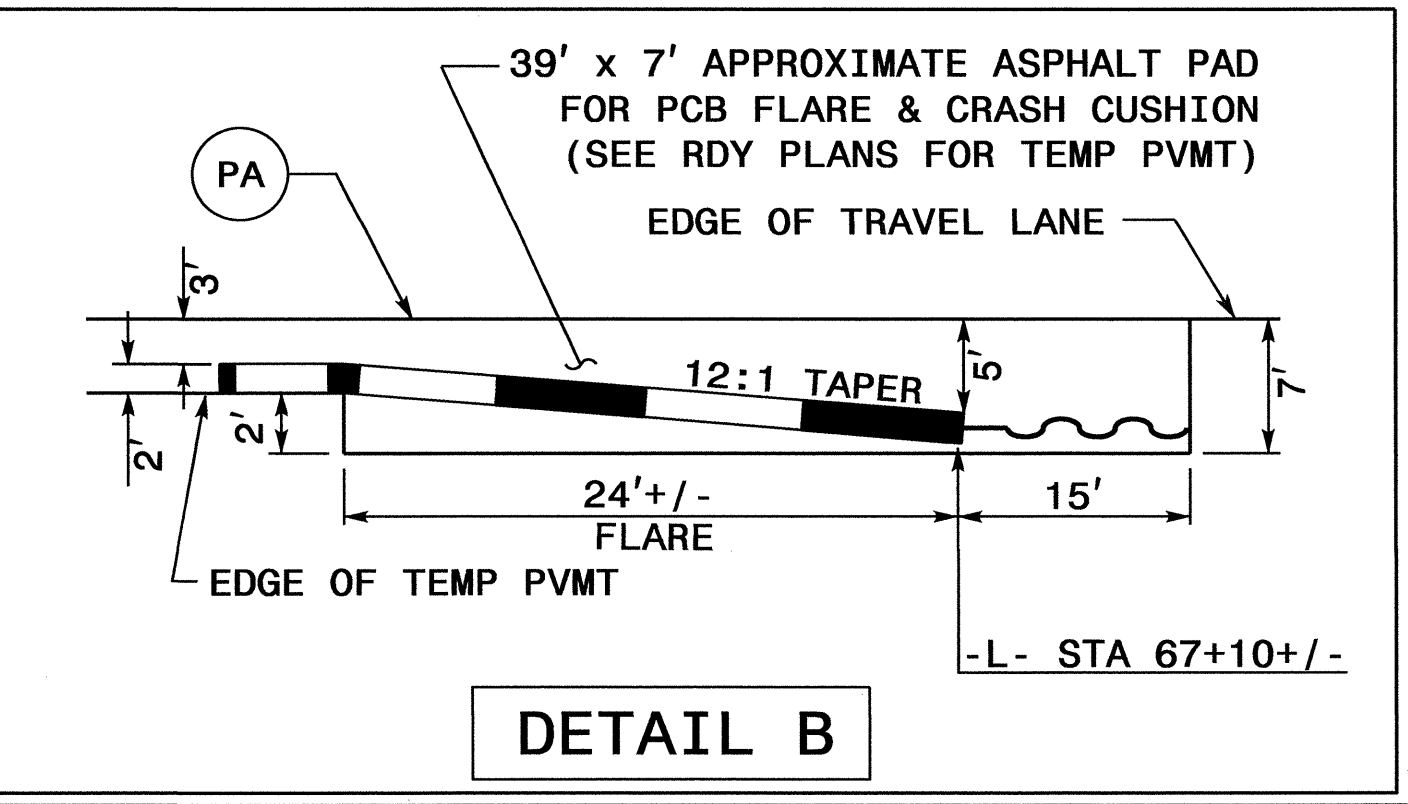
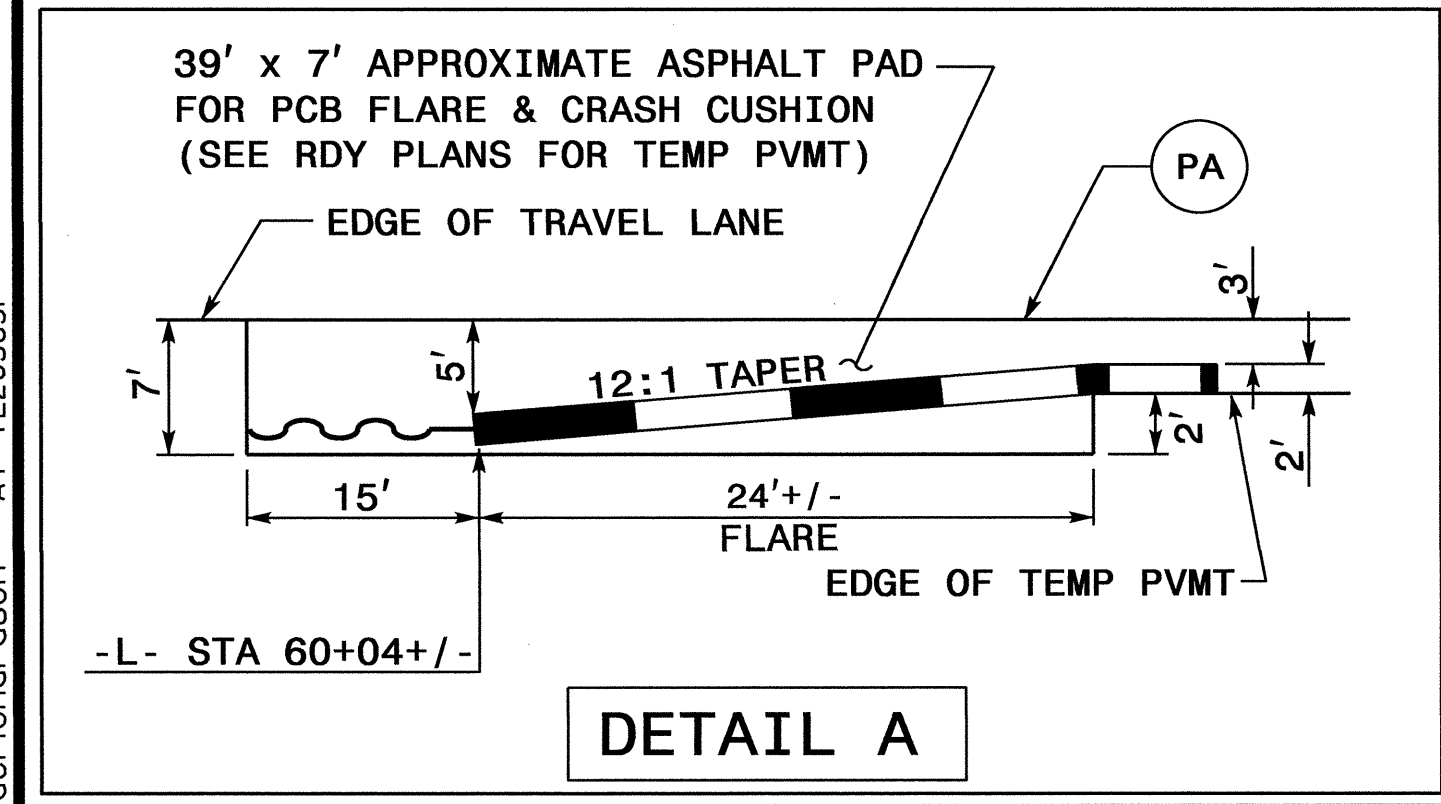
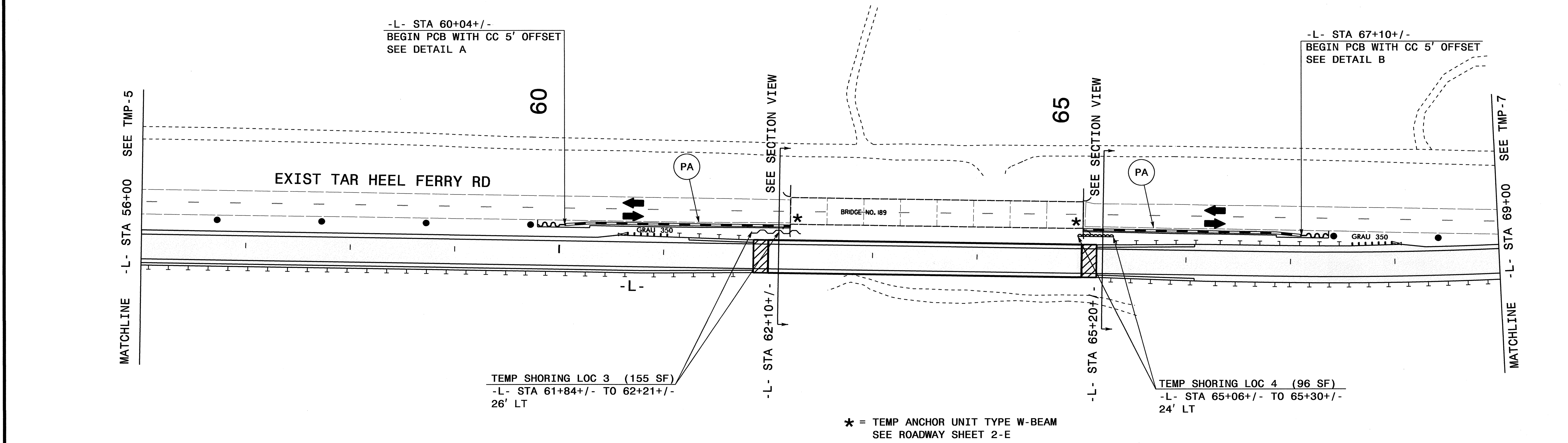
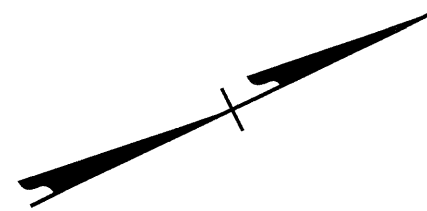
SEAL

PHASE I

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 derichardson AT 1226883



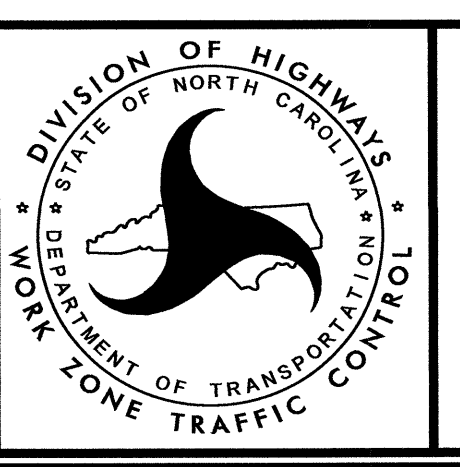
SEE TMP-3 FOR TEMPORARY SHORING NOTES



APPROVED: *[Signature]* DATE: 10/30/12

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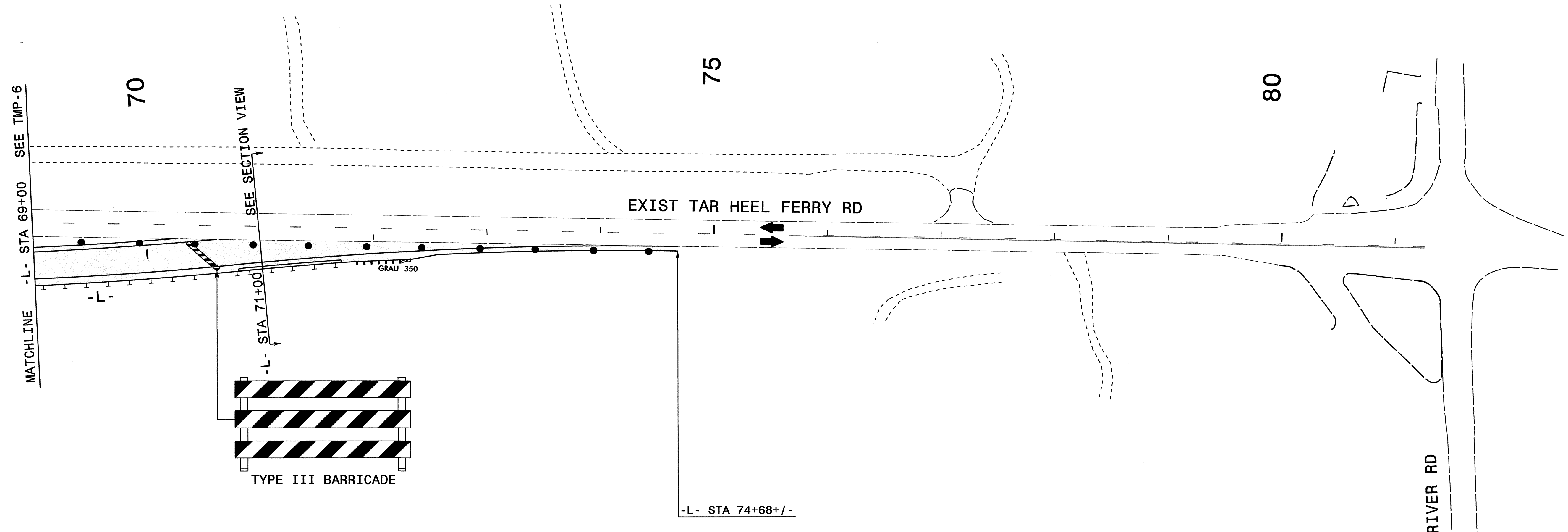
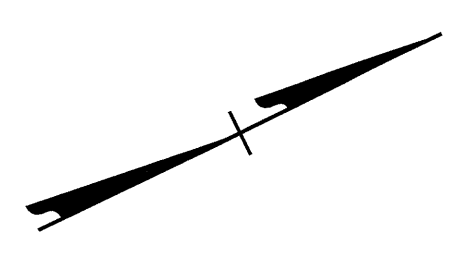
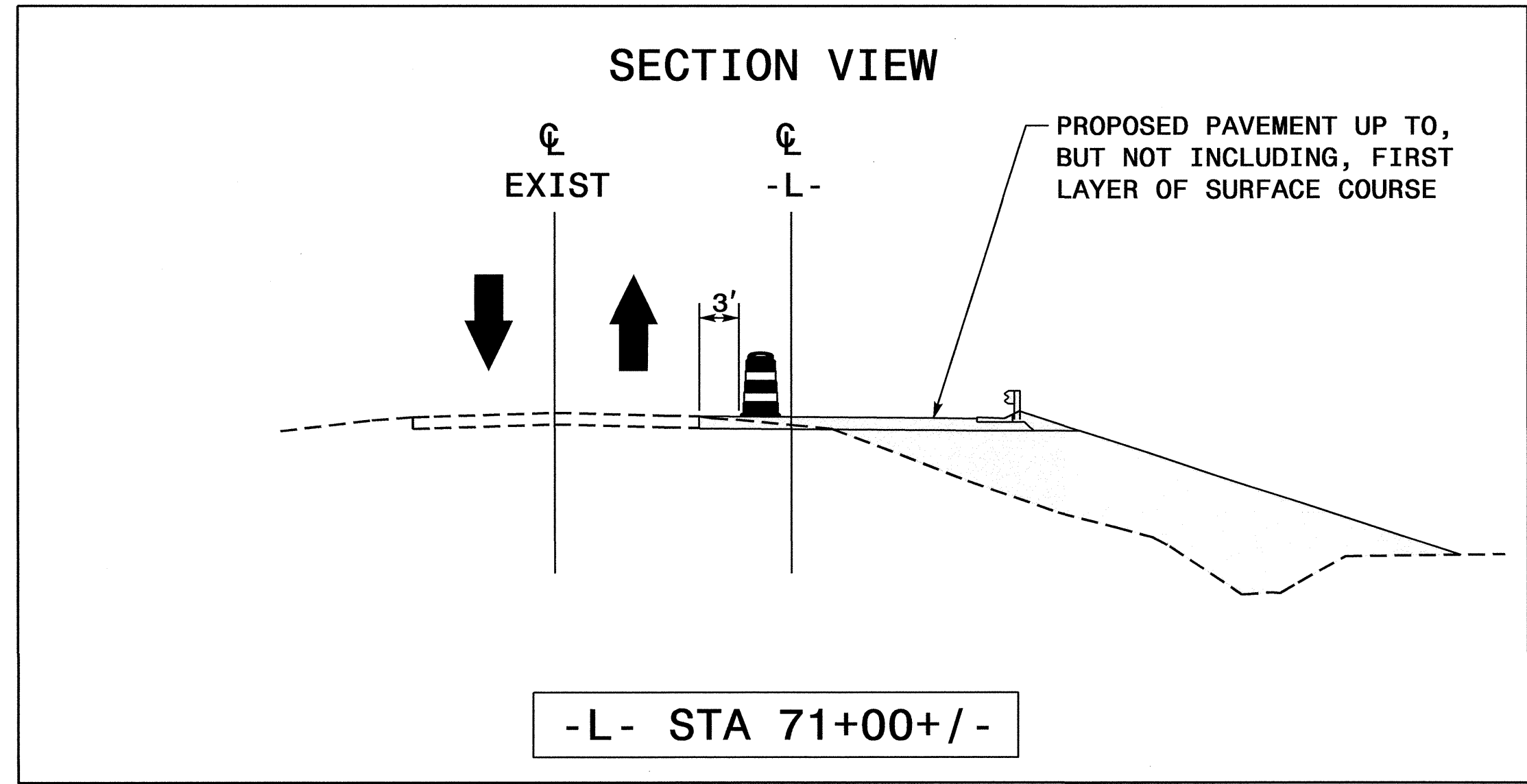
NORTH CAROLINA  
PROFESSIONAL  
SEAL  
ENGINEER  
022104  
JOHN S. KITE, III



PHASE I

24-OCT-2012 08:19 \\dot\dfsroot\0\proj\TIP\Projects-B\B4712\TrafficControl\TCP\B4712.TC.TMP06.dgn derichardson AT 126583

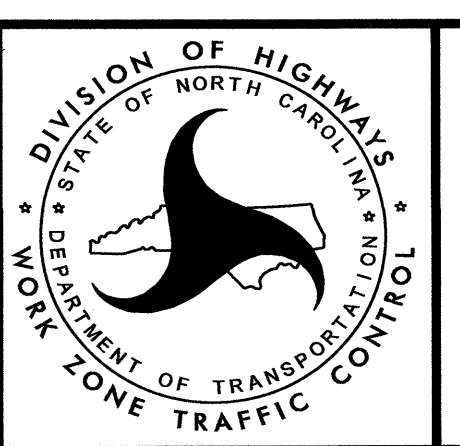




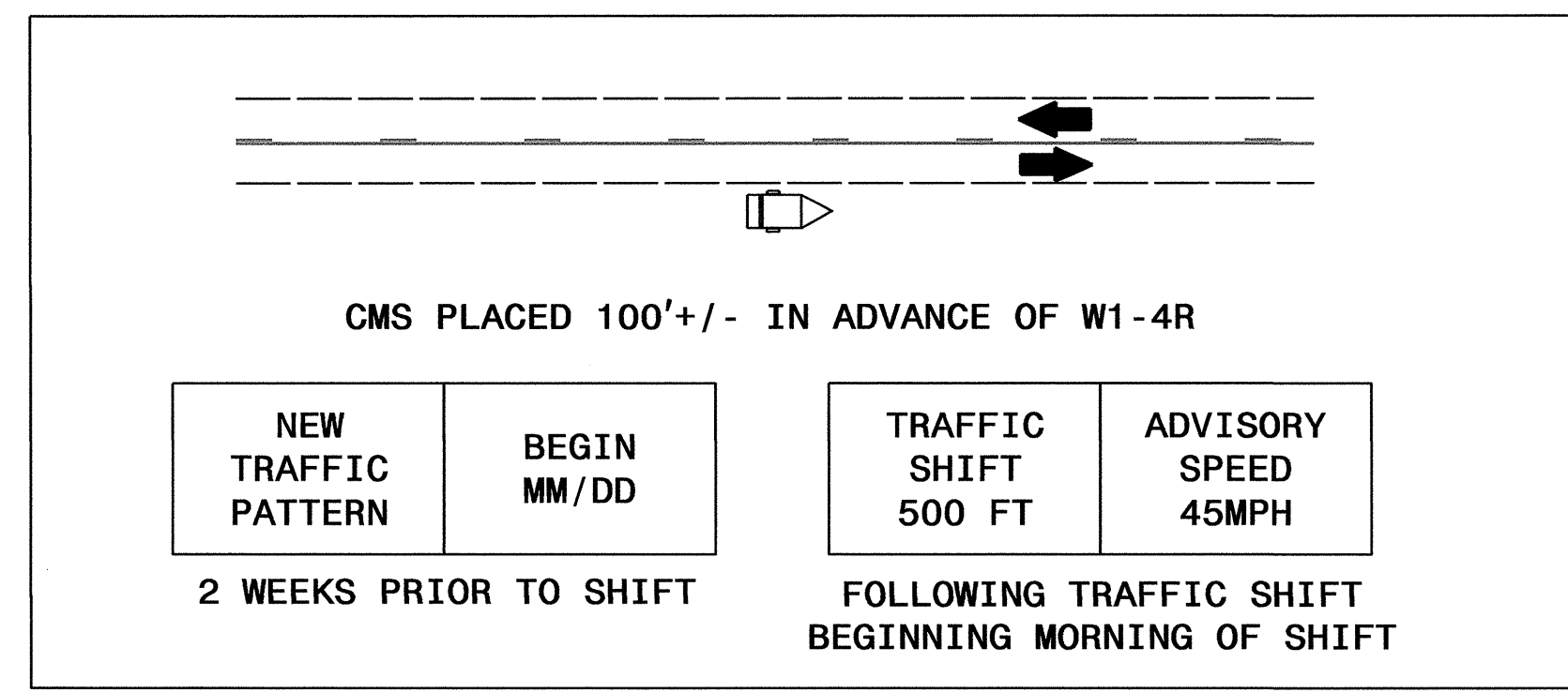
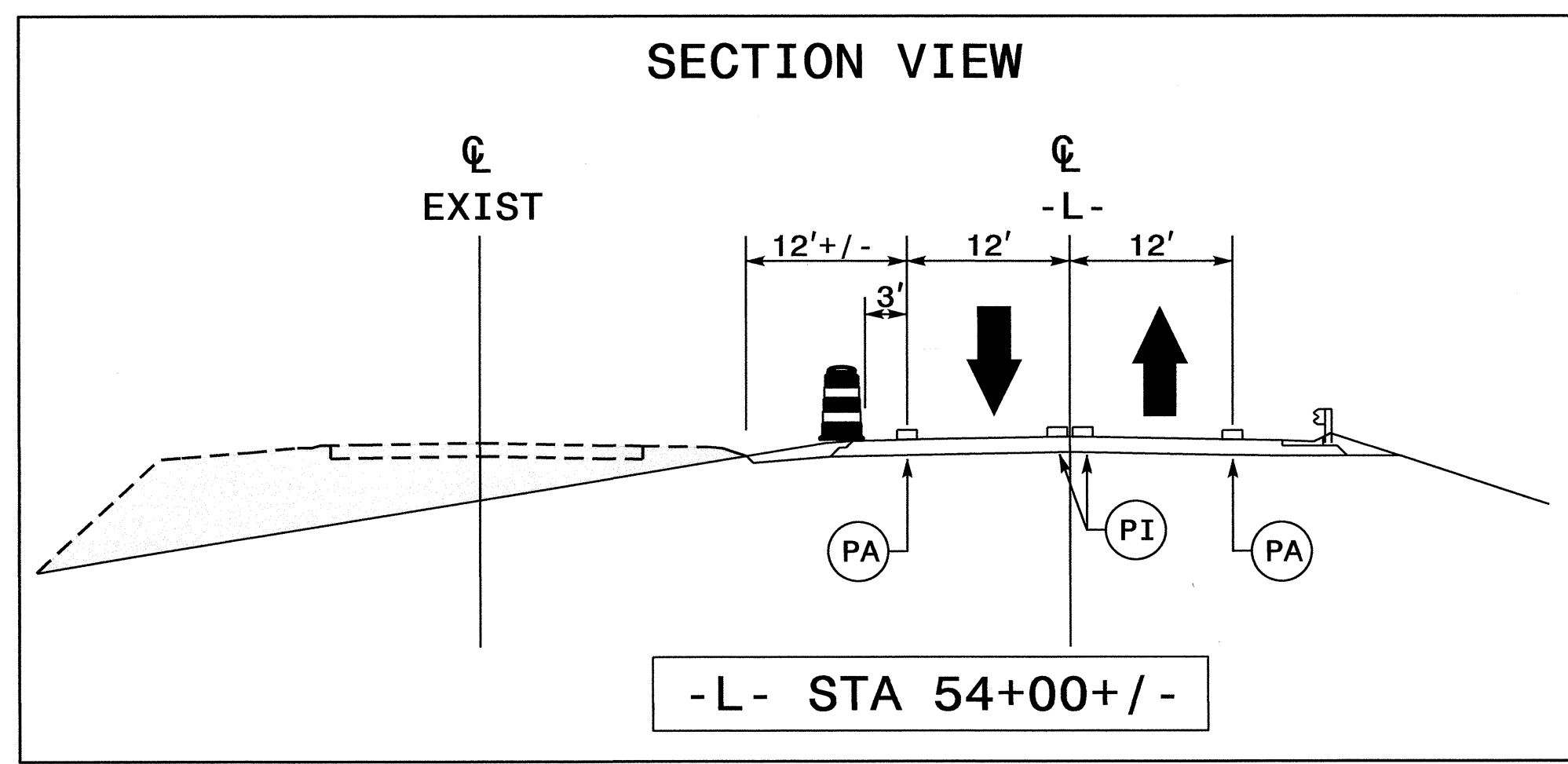
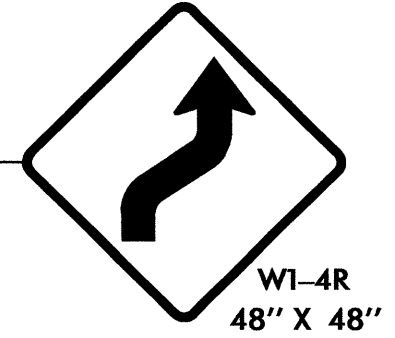
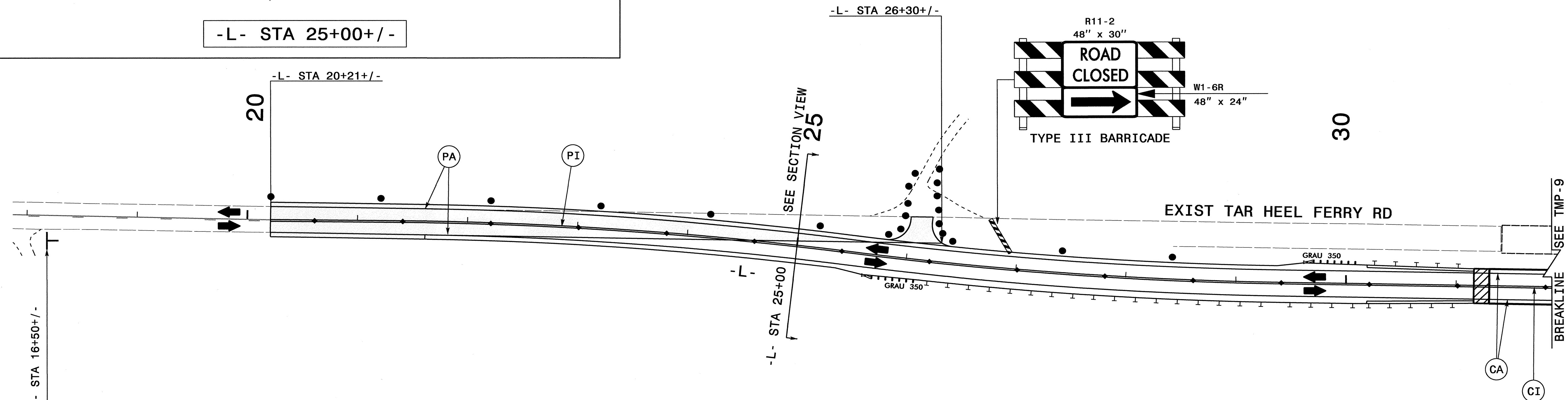
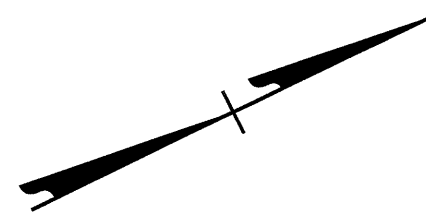
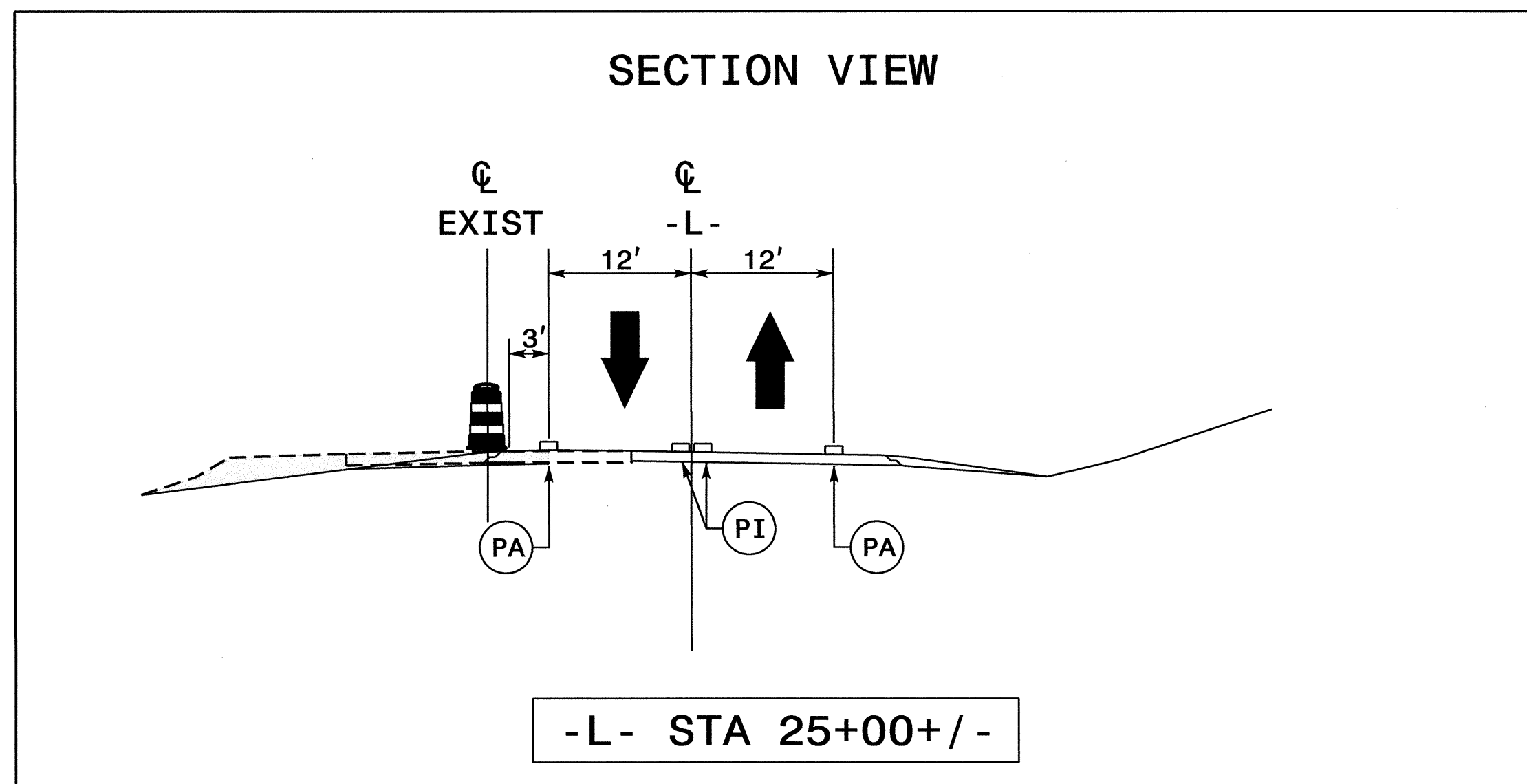
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 derichardson AT 1265831

APPROVED: *[Signature]* DATE: 10/20/12

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PHASE I



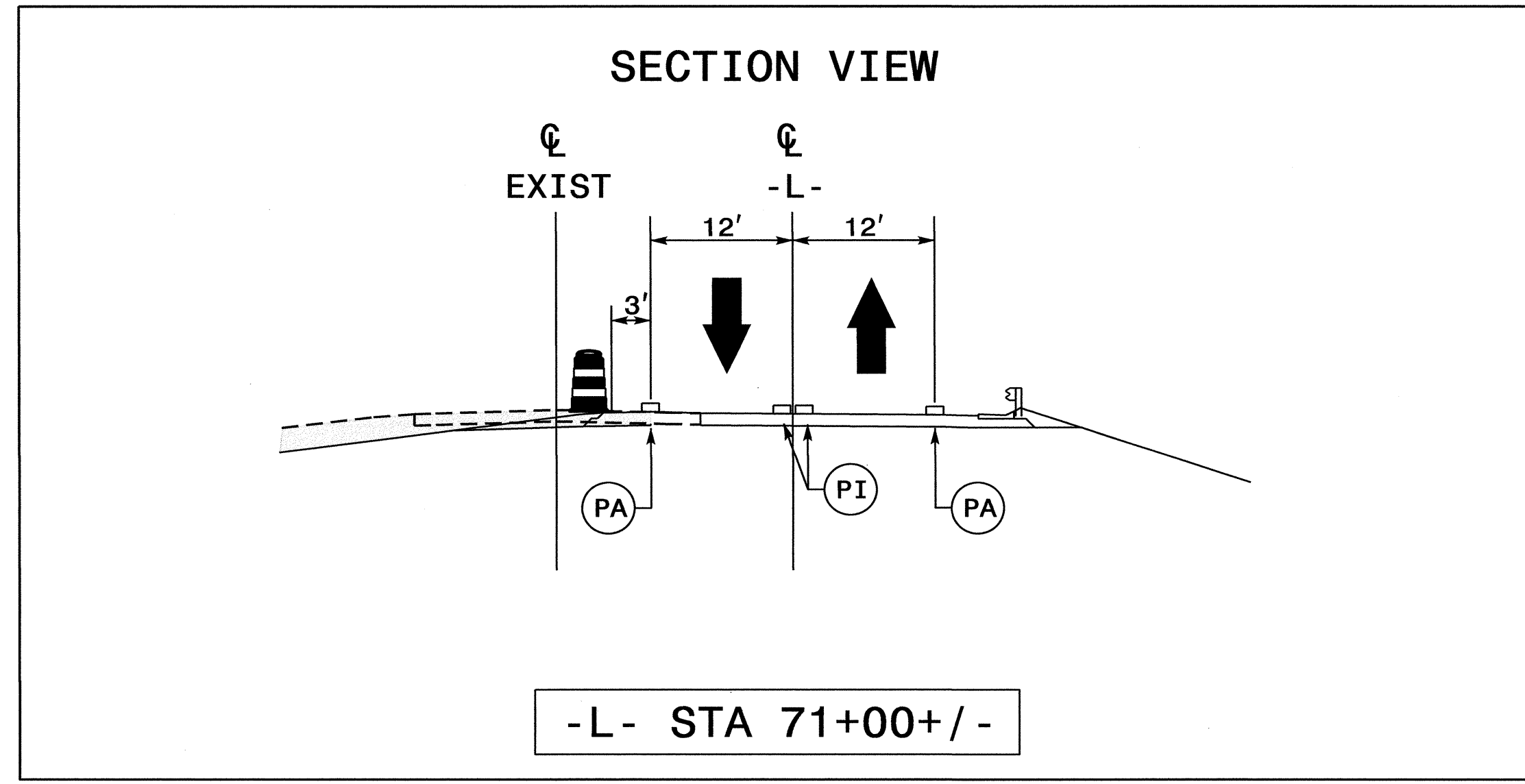
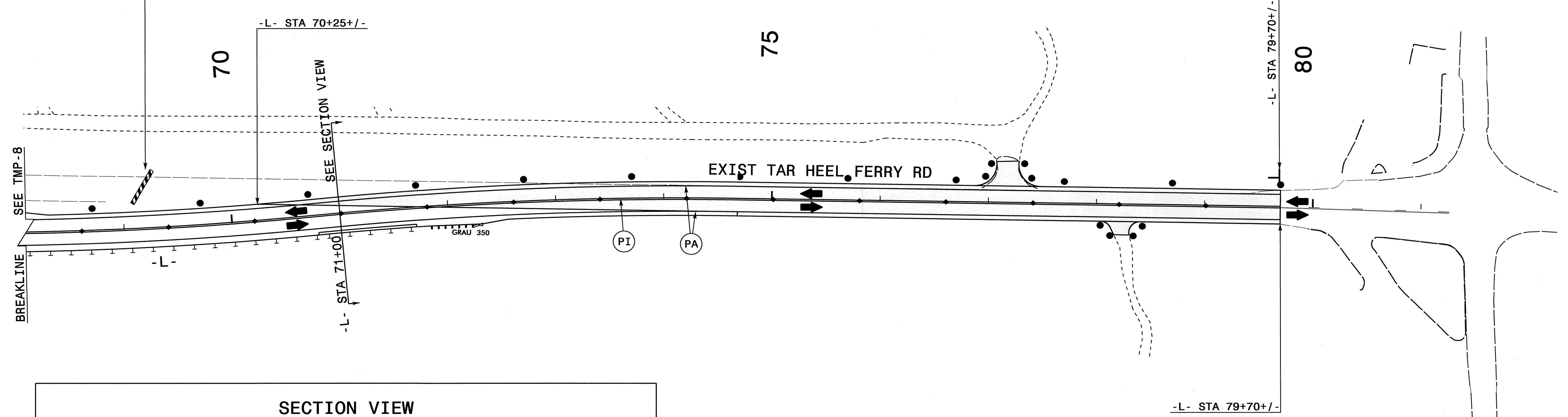
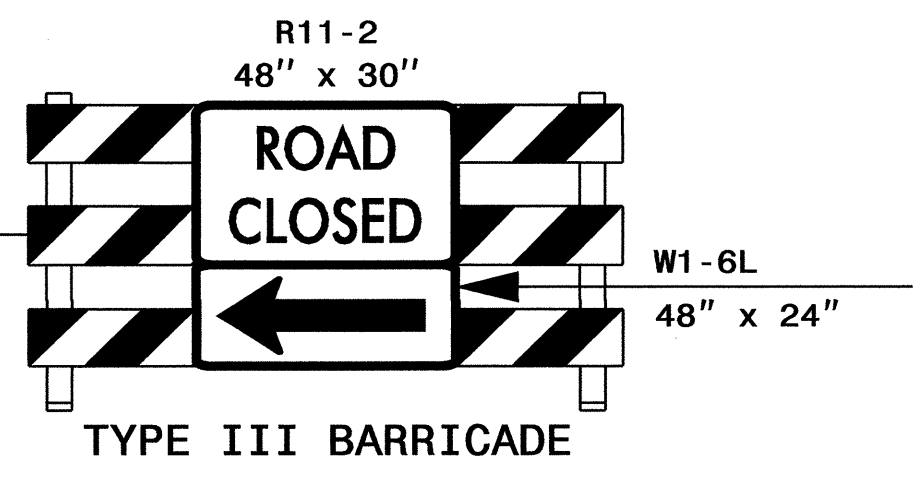
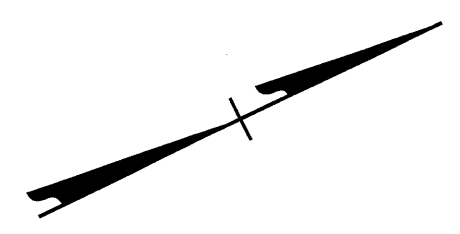
APPROVED: *[Signature]* DATE: 10/30/12

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WORK ZONE TRAFFIC CONTROL

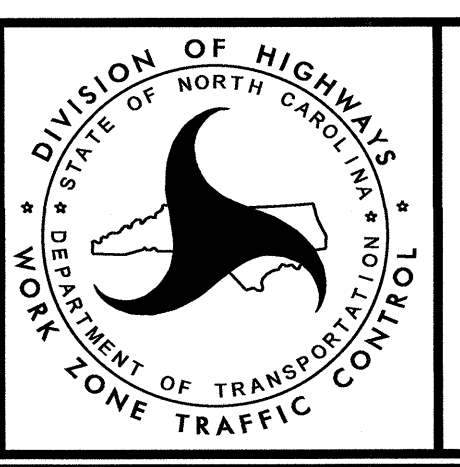
**PHASE II**

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 derichardson AT T265831



24-OCT-2012 09:21  
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 derichardson AT TE265831

APPROVED: *[Signature]* DATE: 10/29/12



PHASE II