



# GENERAL NOTES

# PROJECT NOTES

PROJ. REFERENCE NO.	SHEET NO.
B-4280	TCP-2

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.

ADAPT THE TRAFFIC CONTROL PLANS, WHEN DIRECTED BY THE ENGINEER, TO MEET FIELD CONDITIONS TO PROVIDE SAFE AND EFFICIENT TRAFFIC MOVEMENT. CHANGES MAY BE REQUIRED WHEN PHYSICAL DIMENSIONS IN THE DETAIL DRAWINGS, STANDARD DETAILS AND ROADWAY DETAILS ARE NOT ATTAINABLE, OR RESULT IN DUPLICATE, OR UNDESIRED OVERLAPPING OF DEVICES. MODIFICATION MAY INCLUDE: MOVING, SUPPLEMENTING, COVERING OR REMOVAL OF DEVICES.

### TIME RESTRICTIONS

A) DO NOT CLOSE OR NARROW TRAVEL LANES AS FOLLOWS:

ROAD NAME	DAY AND TIME RESTRICTIONS
1. NC 8	MON. THRU FRI. 6:00AM TO 8:00AM MON. THRU FRI. 4:00PM TO 6:00PM
2. NC 65	MON. THRU FRI. 6:00AM TO 8:00AM MON. THRU FRI. 4:00PM TO 6:00PM

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

ROAD NAME
1. NC 8
2. NC 65

### HOLIDAY

- FOR ANY EVENT THAT CREATES UNUSUALLY HIGH TRAFFIC VOLUMES, AS DIRECTED BY THE ENGINEER.
- FOR NEW YEAR'S, BETWEEN THE HOURS OF 6 P.M. DECEMBER 31ST TO 6 A.M. JANUARY 2ND. IF NEW YEAR'S DAY IS ON A SATURDAY OR A SUNDAY, THEN UNTIL 6 A.M. THE FOLLOWING TUESDAY.
- FOR EASTER, BETWEEN THE HOURS OF 6 P.M. THURSDAY AND 6 A.M. MONDAY.
- FOR MEMORIAL DAY, BETWEEN THE HOURS OF 6 P.M. FRIDAY TO 6 A.M. TUESDAY.
- FOR INDEPENDENCE DAY, BETWEEN THE HOURS OF 6 P.M. THE DAY BEFORE INDEPENDENCE DAY AND 6 A.M. THE DAY AFTER INDEPENDENCE DAY.

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

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

C) DO NOT CONDUCT ANY HAULING OPERATIONS AGAINST THE FLOW OF TRAFFIC OF AN OPEN TRAVELWAY UNLESS THE WORK AREA IS PROTECTED BY BARRIER OR GUARDRAIL OR OTHERWISE 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 ON THE SHOULDER ADJACENT TO AN UNDIVIDED FACILITY AND WITHIN 5 FT (1.5m) 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.
- F) 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.
- G) DO NOT WORK SIMULTANEOUSLY, ON BOTH SIDES OF AN OPEN TRAVELWAY, WITHIN THE SAME LOCATION, ON A TWO-LANE, TWO-WAY ROAD.

### LANE AND SHOULDER CLOSURE REQUIREMENTS (CONT.)

H) DO NOT PERFORM WORK INVOLVING HEAVY EQUIPMENT WITHIN 15 FT (5m) OF THE EDGE OF TRAVELWAY WHEN WORK IS BEING PERFORMED BEHIND A LANE CLOSURE ON THE OPPOSITE SIDE OF THE TRAVELWAY.

### PAVEMENT EDGE DROP OFF REQUIREMENTS

I) 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 A DROP-OFF AS FOLLOWS:

BACKFILL DROP-OFFS THAT EXCEED 2 INCHES (50mm) ON ROADWAYS WITH POSTED SPEED LIMITS OF 45 MPH OR GREATER.

BACKFILL DROP-OFFS THAT EXCEED 3 INCHES (75mm) 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.

J) DO NOT EXCEED A DIFFERENCE OF 1.5 inches (40mm) IN ELEVATION BETWEEN OPEN LANES OF TRAFFIC. INSTALL ADVANCE WARNING \*UNEVEN LANES\* SIGNS (W8-11) 500 FT (150m) IN ADVANCE AND A MINIMUM OF ONCE EVERY MILE THROUGHOUT THE UNEVEN AREA.

### TRAFFIC PATTERN ALTERATIONS

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

### SIGNING

- L) INSTALL ADVANCE WORK ZONE WARNING SIGNS NO MORE THAN THREE (3) DAYS PRIOR TO THE BEGINNING OF CONSTRUCTION.
- M) PROVIDE PERMANENT AND DETOUR SIGNING WITHIN AND OFF THE PROJECT LIMITS.
- N) COVER OR REMOVE ALL DETOUR SIGNS WITHIN AND OFF THE PROJECT LIMITS WHEN A DETOUR IS NOT IN OPERATION.
- O) ENSURE ALL NECESSARY SIGNING IS IN PLACE PRIOR TO ALTERING ANY TRAFFIC PATTERN.
- P) INSTALL BLACK ON ORANGE "DIP" SIGNS (W8-2) 500 FT (150m) IN ADVANCE OF THE UNEVEN AREA.

### TRAFFIC BARRIER

- Q) INSTALL MOVABLE/PORTABLE CONCRETE BARRIER ACCORDING TO THE TRAFFIC CONTROL PLANS A MAXIMUM OF TWO (2) WEEKS PRIOR TO BEGINNING WORK IN ANY LOCATION. ONCE MOVABLE/PORTABLE CONCRETE 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.

ONCE MOVABLE/PORTABLE CONCRETE BARRIER IS INSTALLED AT ANY LOCATION AND NO WORK IS PERFORMED BEHIND THE MOVABLE/PORTABLE CONCRETE BARRIER FOR A PERIOD LONGER THAN TWO (2) MONTHS, REMOVE/RESET MOVABLE/PORTABLE CONCRETE BARRIER AT NO COST TO THE DEPARTMENT UNLESS OTHERWISE STATED IN THE TRAFFIC CONTROL PLANS, BARRIER IS PROTECTING A HAZARD, OR AS DIRECTED BY THE ENGINEER.

R) 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 SHOWN IN THE PLANS:

INSTALL MOVABLE/PORTABLE CONCRETE BARRIER WITH THE TRAFFIC FLOW, BEGINNING WITH THE UPSTREAM SIDE OF TRAFFIC. REMOVE MOVABLE/PORTABLE CONCRETE 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 CLOSED THE SECTION OF THE ROADWAY UNTIL THE BARRIER CAN BE PLACED OR AFTER BARRIER IS REMOVED.

### TRAFFIC CONTROL DEVICES

- S) WHEN USING ROADWAY STANDARD NO. 1101.02, SHEET 1 OF 9, DRUMS MAY BE USED IN LIEU OF CONES ON ALL ROADS.
- T) SPACE CHANNELIZING DEVICES IN WORK AREAS NO GREATER THAN TWICE THE POSTED SPEED LIMIT (MPH), EXCEPT 10 FT (3m) ON-CENTER IN RADIUS, AND 3 FT (1m) OFF THE EDGE OF AN OPEN TRAVELWAY, WHEN LANE CLOSURES ARE NOT IN EFFECT.
- U) PLACE TYPE III BARRICADES, WITH "ROAD CLOSED" SIGN R11-2 ATTACHED, OF SUFFICIENT LENGTH TO CLOSE ENTIRE ROADWAY. STAGGER OR OVERLAP BARRICADES TO ALLOW FOR INGRESS OR EGRESS.

### PAVEMENT MARKINGS AND MARKERS

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

ROAD NAME	MARKING	MARKER
1. NC 8	THERMOPLASTIC	SNOWPLOWABLE
2. NC 65	THERMOPLASTIC	SNOWPLOWABLE

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

ROAD NAME	MARKING	MARKER
1. NC 8	PAINT	RAISED

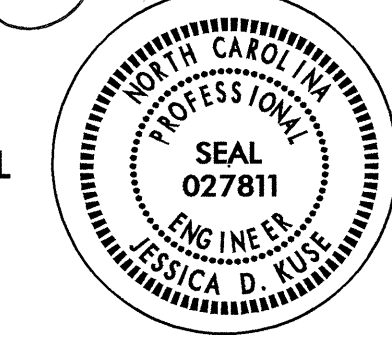

- X) TIE PROPOSED PAVEMENT MARKING LINES TO EXISTING PAVEMENT MARKING LINES.
- Y) REPLACE ANY PAVEMENT MARKINGS THAT HAVE BEEN DAMAGED BY THE END OF EACH DAY'S OPERATION.
- Z) PLACE AT LEAST TWO APPLICATIONS OF PAINT ON NEW ASPHALT WITH TEMPORARY TRAFFIC PATTERNS WHICH WILL REMAIN IN PLACE OVER THREE (3) MONTHS. PLACE ADDITIONAL APPLICATIONS OF PAINT UPON SUFFICIENT DRYING TIME, AS DETERMINED BY THE ENGINEER.

### MISCELLANEOUS

AA) IN THE EVENT A TIE-IN CANNOT BE MADE IN ONE DAYS TIME, BRING THE TIE-IN AREA TO AN APPROPRIATE ROADWAY ELEVATION, AS DETERMINED BY THE ENGINEER. PLACE BLACK ON ORANGE "LOOSE GRAVEL" SIGNS (W8-7) AND BLACK ON ORANGE "PAVEMENT ENDS" SIGNS (W8-3) 500 FT (150m) AND 1000 FT (300m) RESPECTIVELY IN ADVANCE OF THE UNEVEN AREAS. USE DRUMS TO DELINEATE THE EDGE OF ROADWAY ALONG UNPAVED AREAS.

# LOCAL NOTES

- USING INCIDENTAL STONE AS NECESSARY, MAINTAIN VEHICULAR ACCESS TO ALL RESIDENCES AND BUSINESSES WITHIN THE PROJECT LIMITS DURING THE LIFE OF THE CONTRACT UNLESS OTHERWISE NOTED IN THE PHASING OR DIRECTED BY THE ENGINEER.
- MAINTAIN TEMPORARY DRAINAGE AT ALL TIMES TO PREVENT PONDING OR STANDING WATER ON ALL OPEN TRAVEL LANES.

APPROVED: <i>[Signature]</i> DATE: 4/10/06		<h2>PROJECT NOTES</h2>	
SEAL			
SCALE: NONE	DATE: 04/06		REVISIONS
DWG. BY: RMG	DESIGN BY: RMG		
REVIEWED BY: JDK			



# PHASING

# PAVEMENT MARKING SCHEDULES

## PHASE I

- STEP 1. PLACE ADVANCE WARNING SIGNS AS SHOWN ON TCP-7.
- STEP 2. USING ROADWAY STANDARD DRAWING 1101.02, SHEET 1 OF 9, AS NEEDED PROCEED WITH THE FOLLOWING: (SEE TCP-4 AND LOCAL NOTES 1 & 2):
- INSTALL TEMPORARY SHORING, PORTABLE CONCRETE BARRIER AND CRASH CUSHIONS ALONG THE RIGHT SIDE OF EXISTING NC 8 WITHIN THE FOLLOWING LIMITS: (SEE SHEET TCP-4)
- SHORING LIMITS: -L- STA. 17+83+/- TO STA. 18+30+/- , 20' LT  
 -L- STA. 20+23+/- TO STA. 20+63+/- , 20' LT  
 -L- STA. 24+52+/- TO STA. 24+82+/- , 20' LT  
 -L- STA. 25+63+/- TO STA. 25+87+/- , 20' LT
- PCB LIMITS: -L- STA. 16+53+/- TO STA. 18+27+/-  
 -L- STA. 20+32+/- TO STA. 24+78+/-  
 -L- STA. 25+68+/- TO STA. 27+07+/-
- CONSTRUCT PROPOSED BRIDGES 14 AND 44, AND ASSOCIATED DRAINAGE AS SHOWN ON THE ROADWAY AND STRUCTURE PLANS.
  - BEGIN CONSTRUCTION OF DRAINAGE PIPE AT STA. 13+45+/-.
  - CONSTRUCT PROPOSED ROADWAY TO EDGE AND ELEVATION OF EXISTING NC 8 FROM STA. 11+00+/- TO STA. 14+20+/- AND FROM STA. 31+70+/- TO STA. 34+20+/-.
  - CONSTRUCT PROPOSED ROADWAY FROM STA. 14+20+/- TO STA. 31+70+/- UP TO BUT NOT INCLUDING THE FINAL LAYER OF SURFACE COURSE.
  - CONSTRUCT PROPOSED LEFT SIDE GUARDRAIL TOGETHER WITH A TEMPORARY END TREATMENT WITHIN THE FOLLOWING LIMITS: (SEE ROADWAY PLANS)
- L- STA. 16+71+/- TO STA. 18+08+/-  
 -L- STA. 20+30+/- TO STA. 24+72+/-  
 -L- STA. 25+72+/- TO TEMP. END TREATMENT STA. 27+51+/-

## STEP 3.

- A. INSTALL AND COVER DETOUR SIGNS AS SHOWN ON TCP-5.

COMPLETE THE WORK REQUIRED IN PHASE I, STEP 3B FROM 6:00 P.M. ON A FRIDAY TO 6:00 A.M. THE FOLLOWING MONDAY. (SEE INTERMEDIATE CONTRACT TIME AND LIQUIDATED DAMAGES).

- B. INSTALL TYPE III BARRICADES, UNCOVER SIGNS, CLOSE ROAD AND SHIFT TRAFFIC TO THE OFFSITE DETOUR. (SEE SHEET TCP-5)
- COMPLETE INSTALLATION OF DRAINAGE PIPE AT STA. 13+45+/-.
  - COMPLETE LEFT SIDE GUARDRAIL TERMINATING AT -L- STA. 28+71+/-.
  - WEDGE THE PROPOSED ALIGNMENT FROM STA 11+00+/- TO STA 14+20+/- AND FROM STA. 31+70+/- TO STA. 34+20+/- UP TO BUT NOT INCLUDING THE FINAL LAYER OF SURFACE COURSE.
  - APPLY TEMPORARY PAVEMENT MARKINGS AND MARKERS AS SHOWN ON TCP-6.
  - INSTALL DRUMS AND BARRICADES AS SHOWN ON TCP-6.
  - REMOVE DETOUR SIGNS AND DEVICES AND SHIFT TRAFFIC TO THE PROPOSED FINAL ALIGNMENT.

## PHASE II

- STEP 1. REMOVE EXISTING BRIDGES AND EXISTING ROADWAY AS SHOWN ON TCP-6.
- STEP 2. USING ROADWAY STANDARD DRAWING 1101.02, SHEET 1 OF 9, DO THE FOLLOWING:
- RESURFACE -EY- FROM STA 12+65+/- TO STA 15+00+/- INCLUDING THE FINAL LAYER OF SURFACE COURSE.
  - PAVE FINAL LAYER OF SURFACE COURSE ON -L- FROM 10+00+/- TO STA 36+70+/-.
  - APPLY FINAL PAVEMENT MARKINGS AND MARKERS AS SHOWN ON PM-1.
  - REMOVE ALL WORK ZONE SIGNS AND DEVICES.

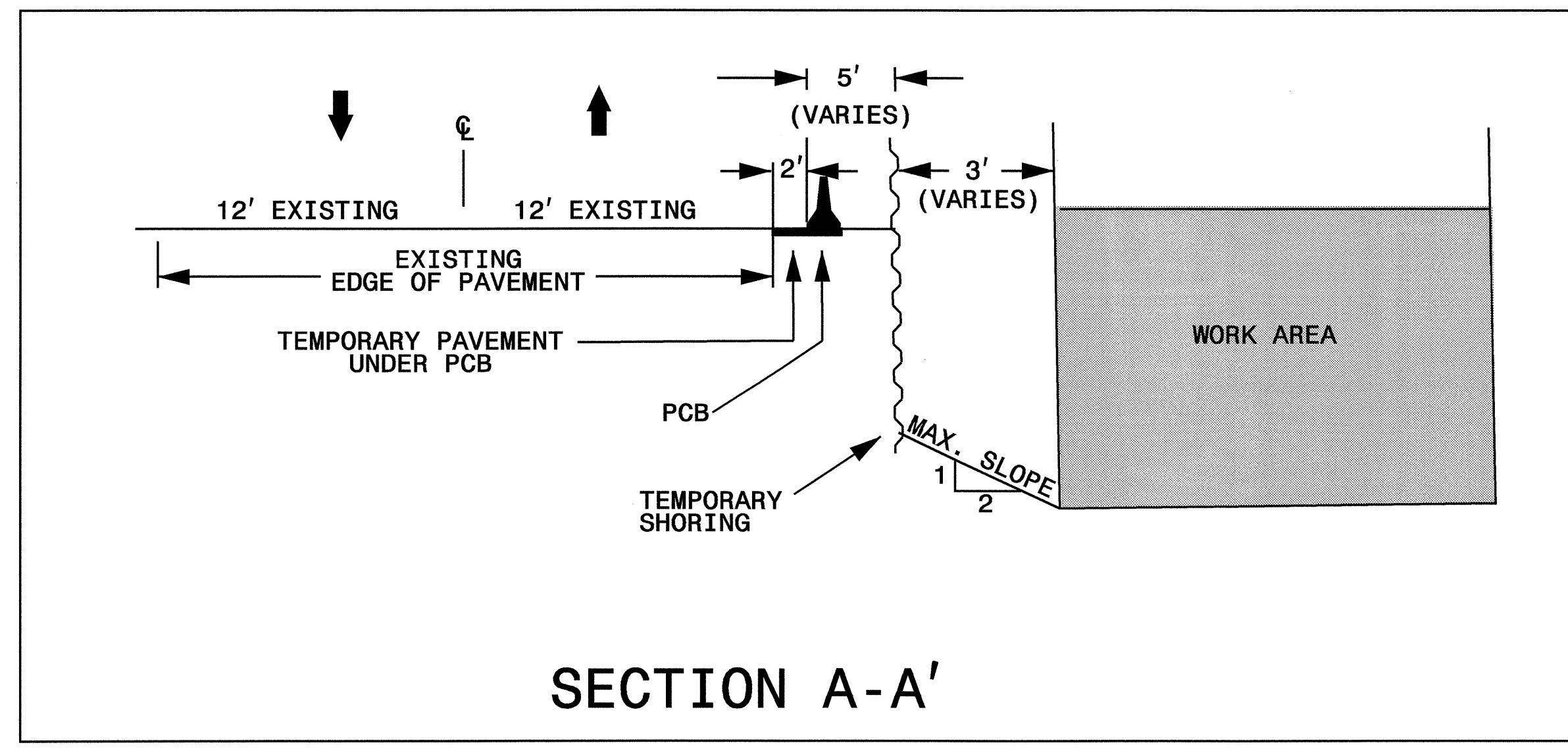
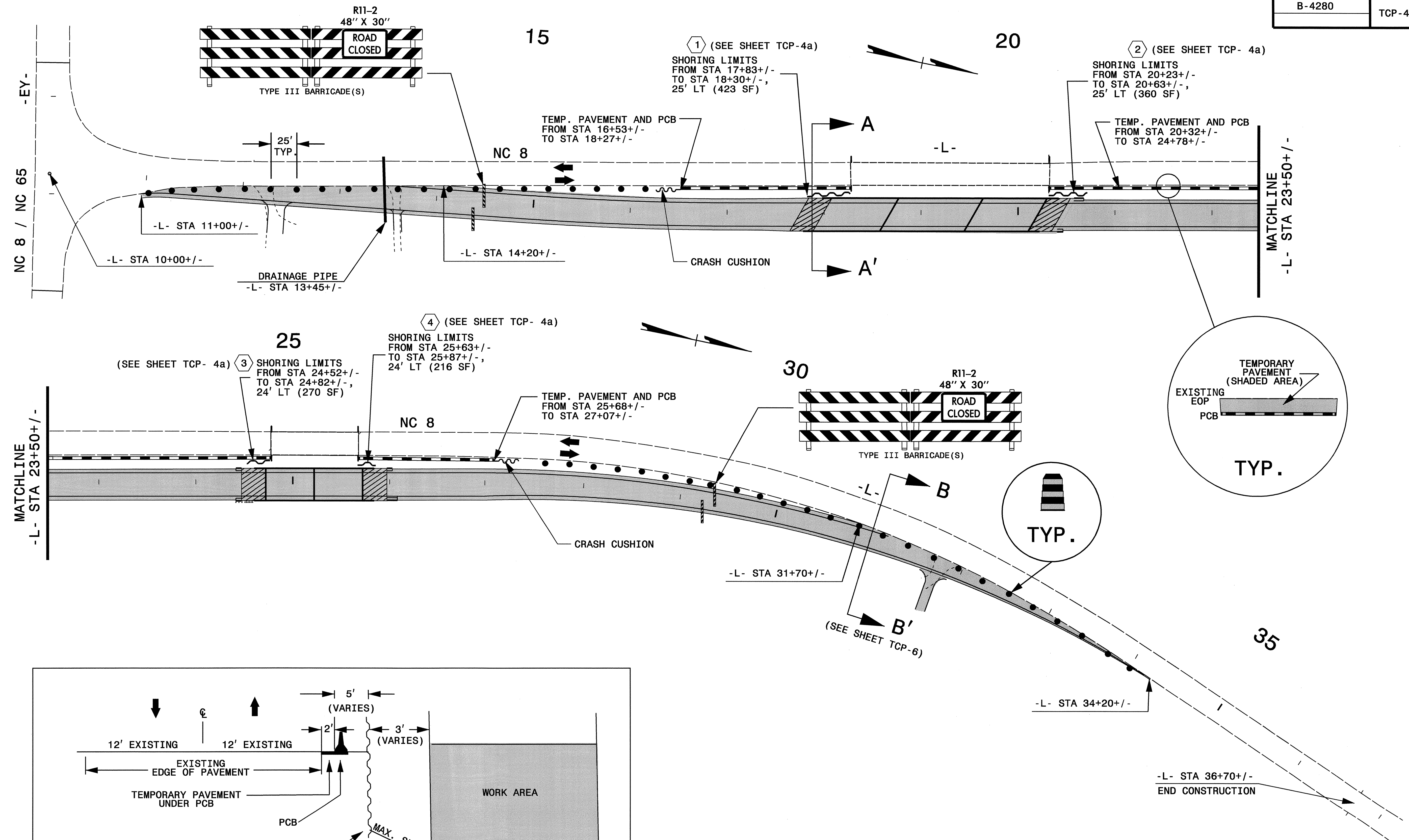
SYMBOL	DESCRIPTION	PAY ITEM QUANTITY BREAKDOWN		TOTAL QUANTITY	
FINAL PAVEMENT MARKINGS					
THERMOPLASTIC (4", 90 MILS)					
TA	WHITE EDGELINE	5780	LF	TOTAL	5780 LF
THERMOPLASTIC (4", 120 MILS)					
TD	2 FT. WHITE MINISKIP	20	LF		
TE	WHITE SOLID LANE LINE	274	LF		
TI	YELLOW DOUBLE CENTER	5800	LF	TOTAL	6094 LF
THERMOPLASTIC (8", 90 MILS)					
TP	WHITE GORELINE	78	LF		
TT	YELLOW DIAGONAL	48	LF	TOTAL	126 LF
THERMOPLASTIC (24", 120 MILS)					
T2	WHITE STOPBAR	37	LF	TOTAL	37 LF
THERMOPLASTIC PAVEMENT MARKING SYMBOLS (90 MILS)					
UA	LEFT TURN ARROW	3	EA		
UB	RIGHT TURN ARROW	2	EA	TOTAL	5 EA
MARKERS					
SNOWPLOWABLE RAISED PAVEMENT MARKERS					
ME	YELLOW & YELLOW	77	EA		
MF	CRYSTAL & RED	19	EA	TOTAL	96 EA

SYMBOL	DESCRIPTION	PAY ITEM QUANTITY BREAKDOWN		TOTAL QUANTITY	
TEMPORARY PAVEMENT MARKINGS					
PAINT (4")					
PA	WHITE EDGELINE (2X)	10280	LF		
PD	2 FT. WHITE MINISKIP (2X)	45	LF		
PE	WHITE SOLID LANE LINE (2X)	220	LF		
PI	YELLOW DOUBLE CENTER (2X)	10280	LF	TOTAL	20825 LF
PAINT MARKING SYMBOLS					
QA	LEFT TURN ARROW (2X)	2	EA		
QB	RIGHT TURN ARROW (2X)	2	EA	TOTAL	4 EA
MARKERS					
TEMPORARY RAISED PAVEMENT MARKERS					
MH	YELLOW & YELLOW	66	EA		
MI	CRYSTAL & RED	14	EA	TOTAL	80 EA

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

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 mgarrrett AT WZTC22229

APPROVED: <i>Jessica D. Kus</i> DATE: <i>4/28/06</i>	<b>PHASING / PAVEMENT MARKING SCHEDULES</b>	
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	DATE: 04/06	
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	DESIGN BY: RMG	
REVIEWED BY: JDK	REVISIONS	

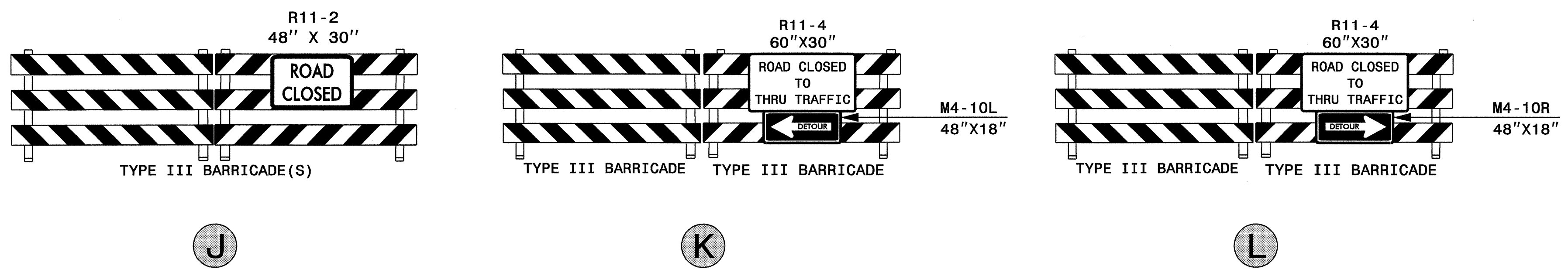
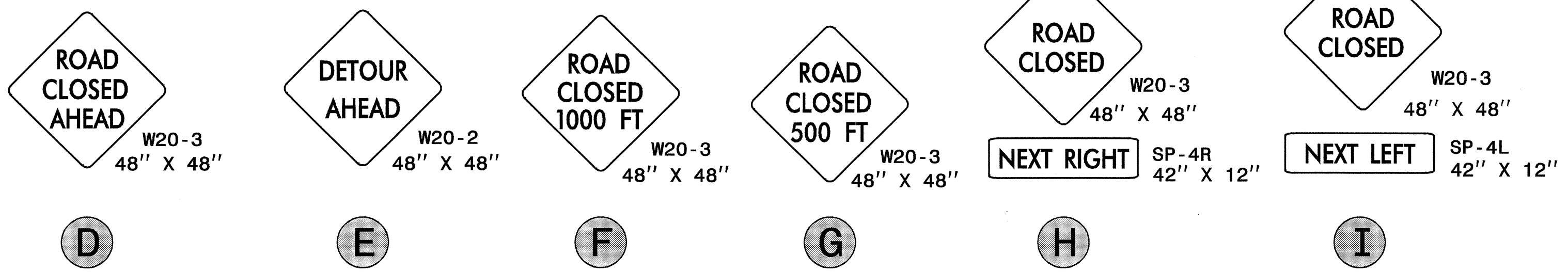
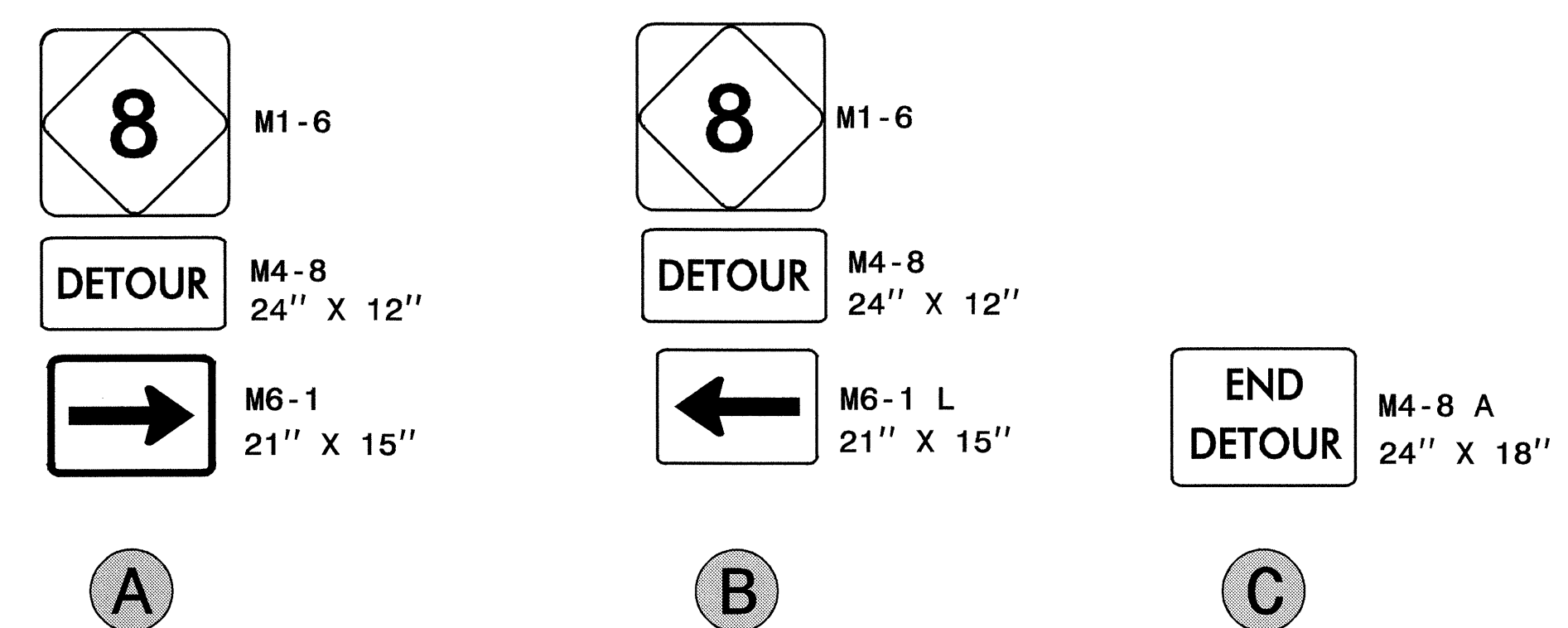
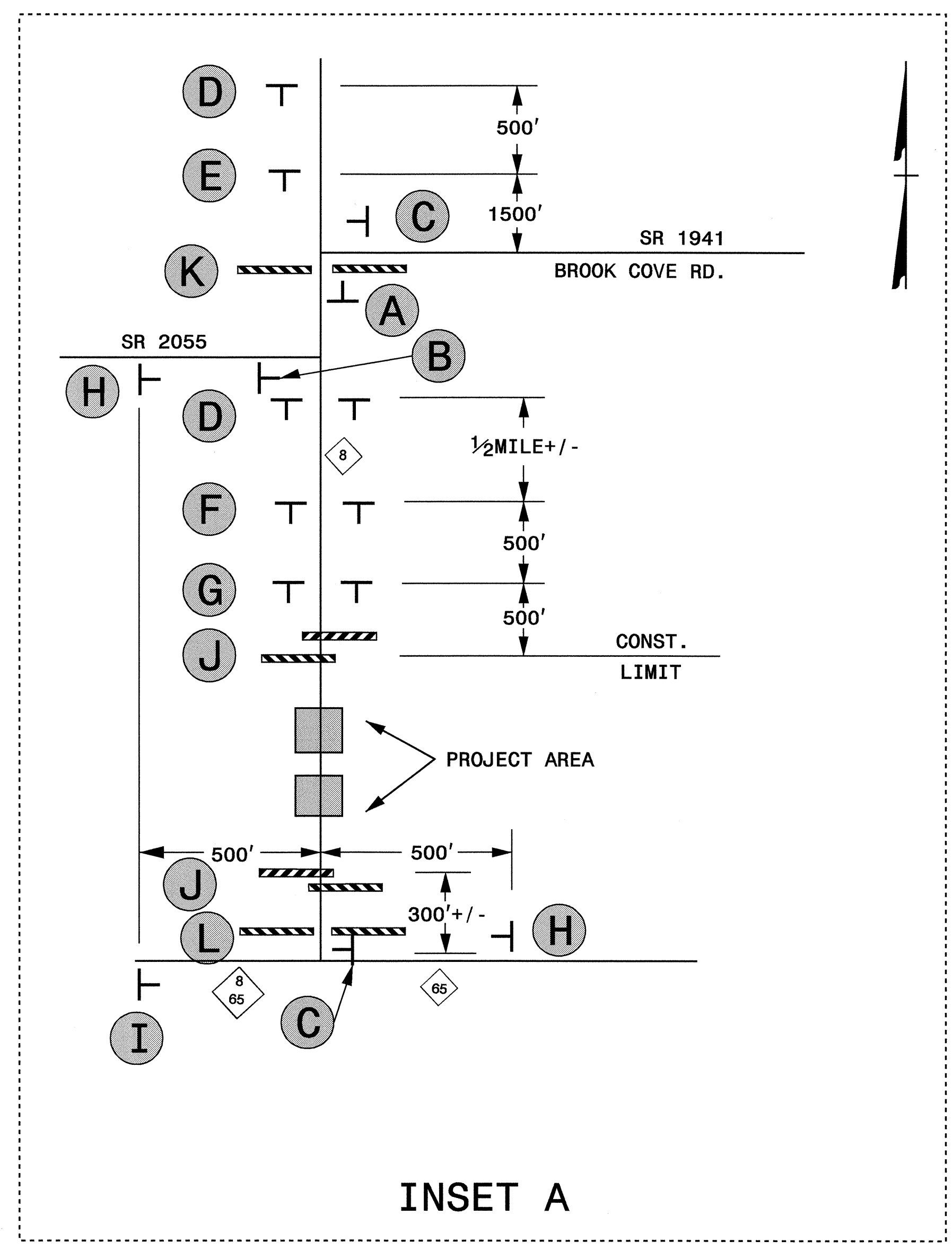
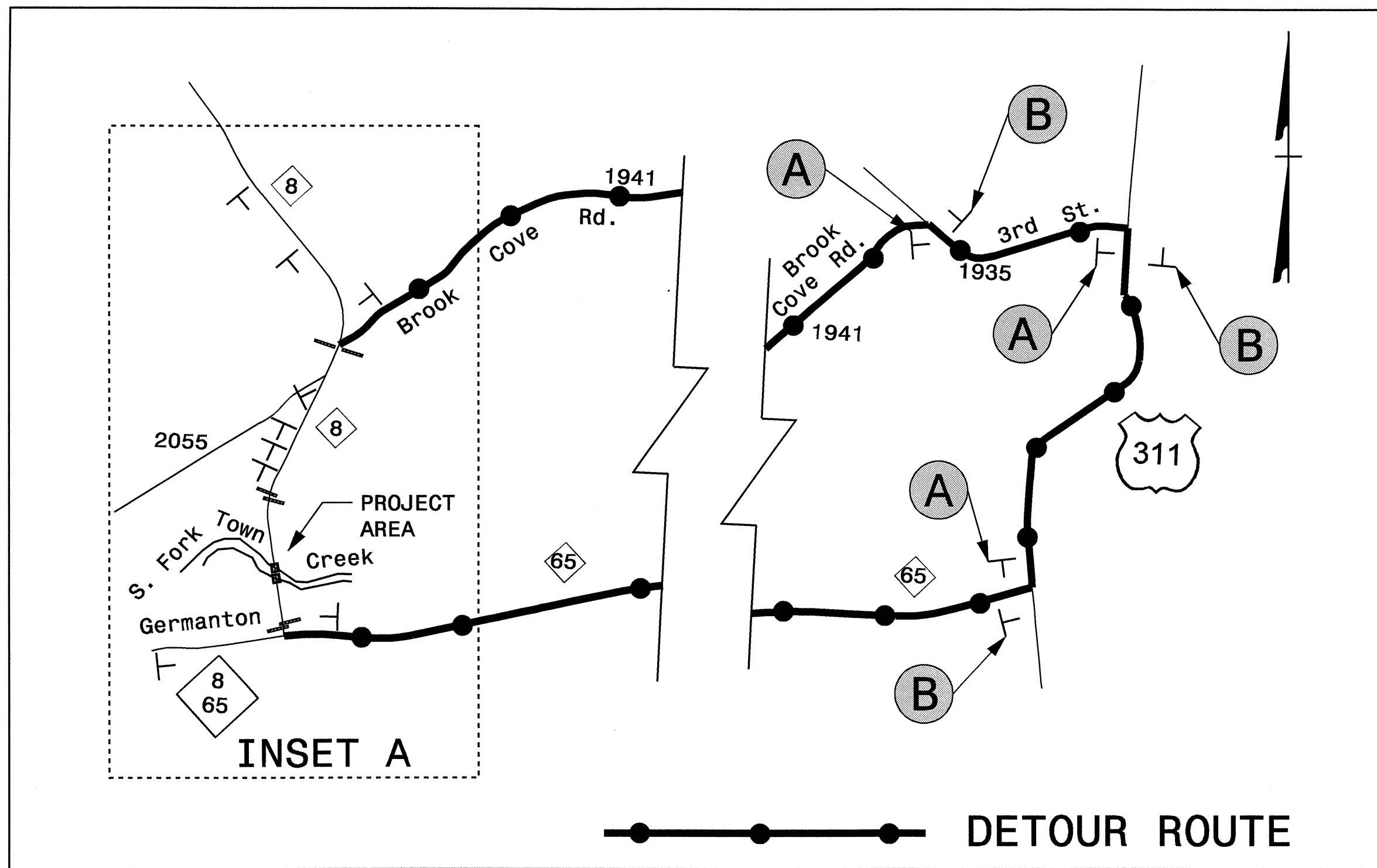


APPROVED: <i>Jessica D. Kus</i> DATE: 3/19/09	<b>PHASE I</b>							
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	DATE: 04/06							
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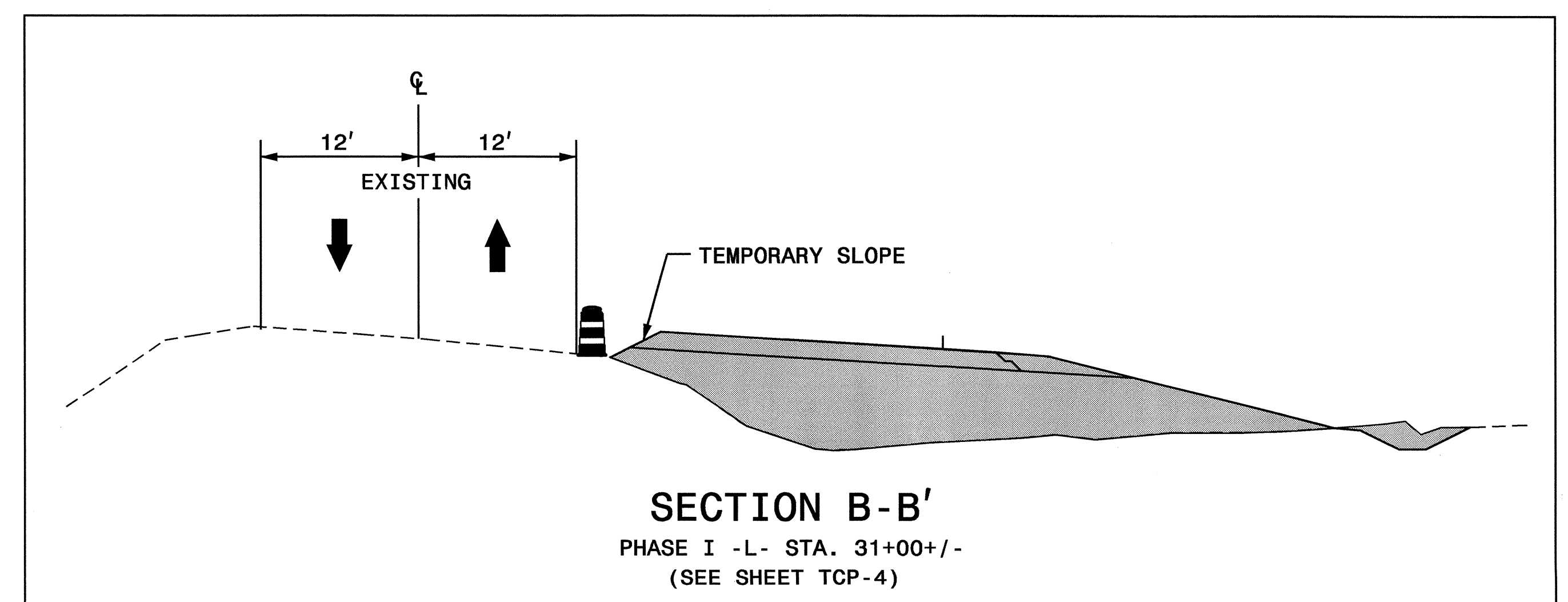
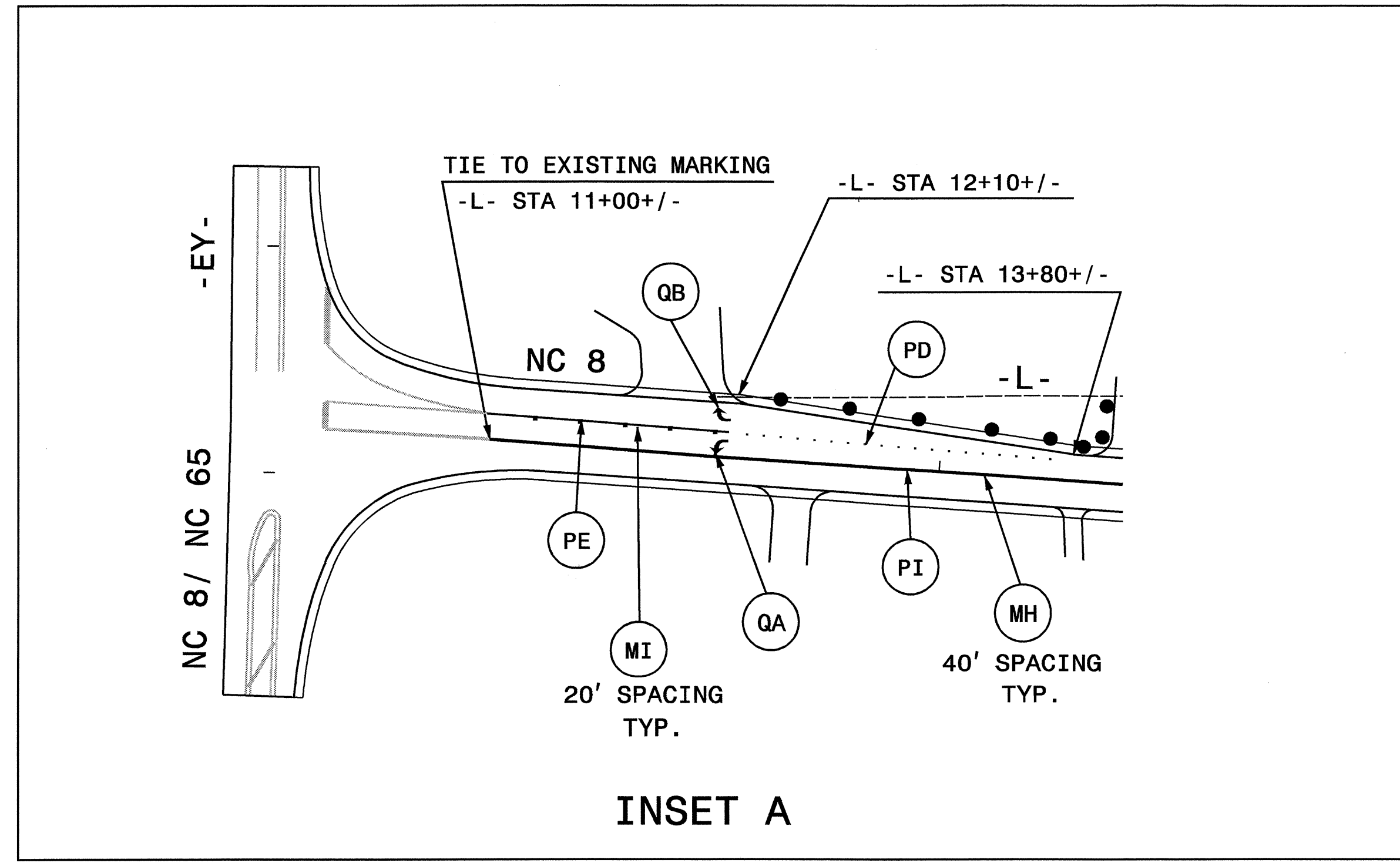
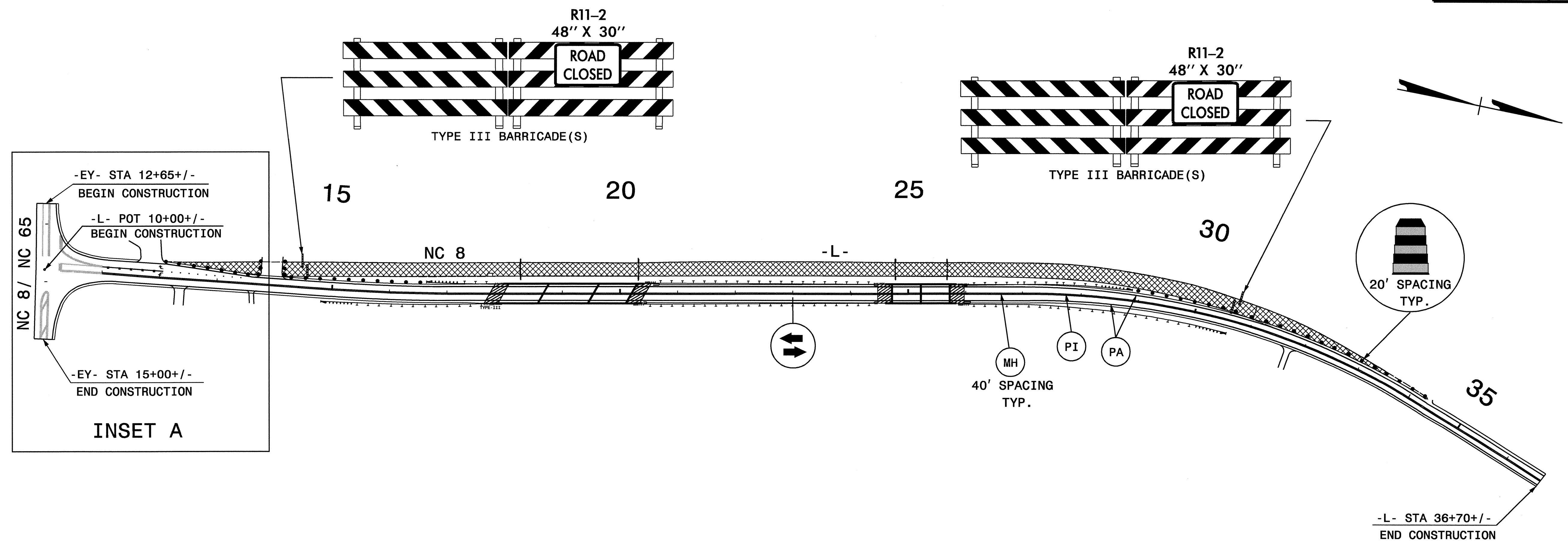




- NOTES:
- 1) THE WORK OF COVERING ANY EXISTING SIGNS WILL BE INCIDENTAL TO THE DETOUR SIGNING.
  - 2) ALL DETOUR SIGN LOCATIONS WILL BE VERIFIED BY THE ENGINEER.

APPROVED: <i>[Signature]</i> DATE: 4/28/06	<b>DETOUR</b>									
	SCALE: NONE									
	DATE: 04/06									
	DWG. BY: RMG									
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 rmgarratt AT WZTC2229



APPROVED: *Jessica K...* DATE: 1/19/06

SEAL

SEAL  
027811  
ENGINEER  
JESSICA D. KUSNER

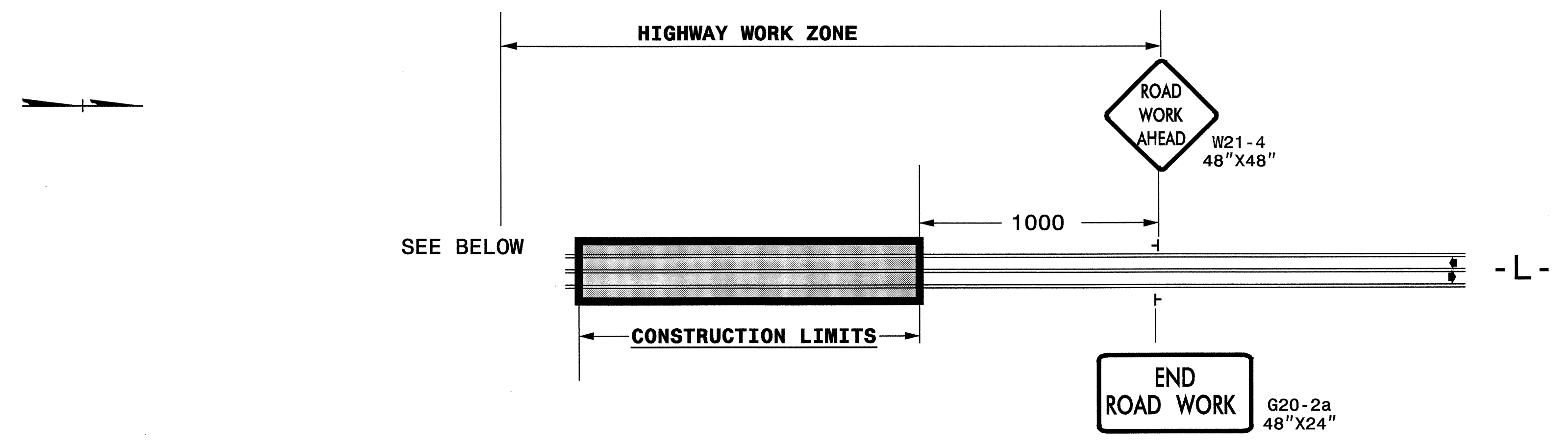
**PHASE II**

SCALE: NONE		REVISIONS
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DWG. BY: RMG		
DESIGN BY: RMG		
REVIEWED BY: JDK		

CADD FILE

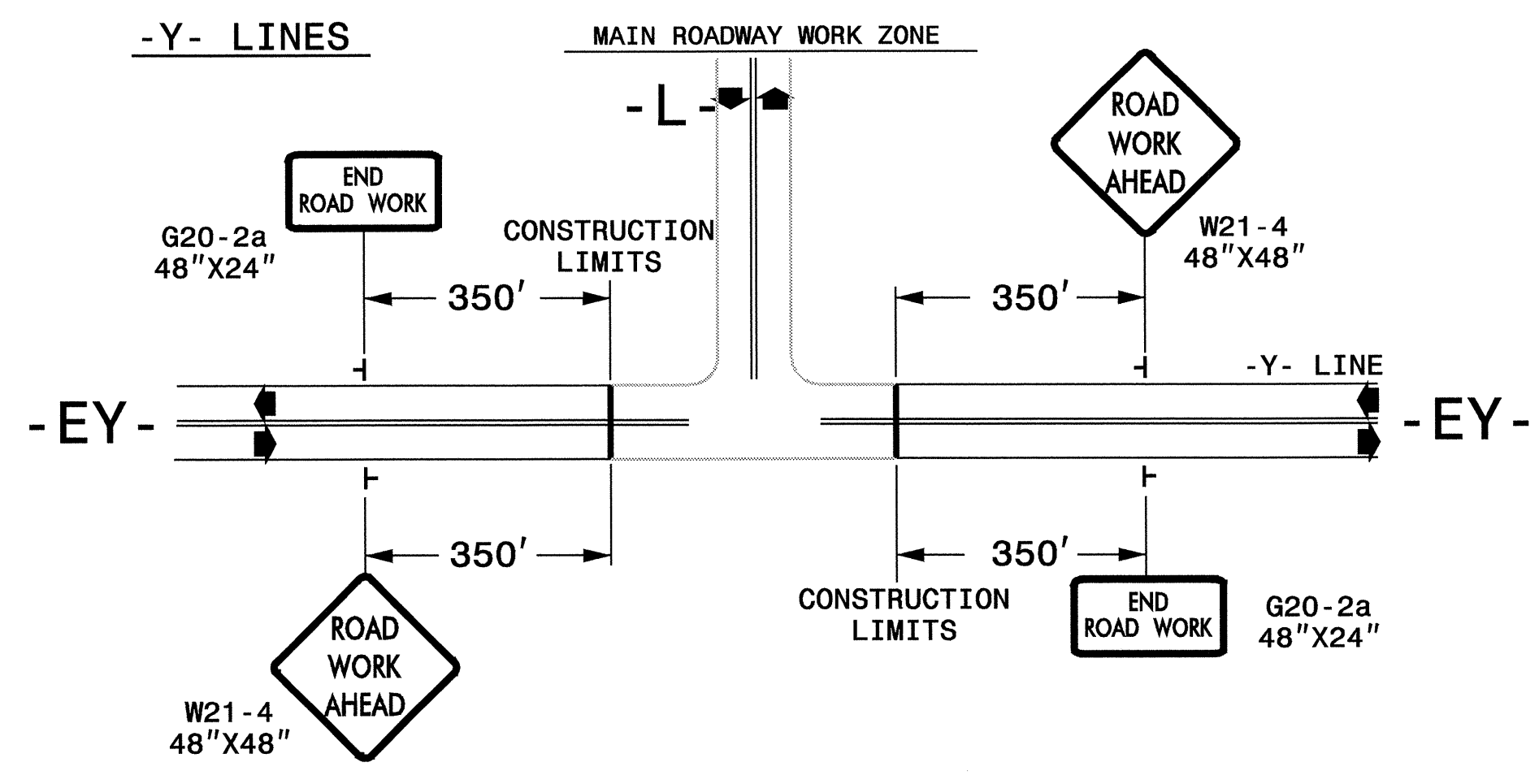
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 W:12/22/05

**TWO-WAY UNDIVIDED \*\* (L-LINES)**



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

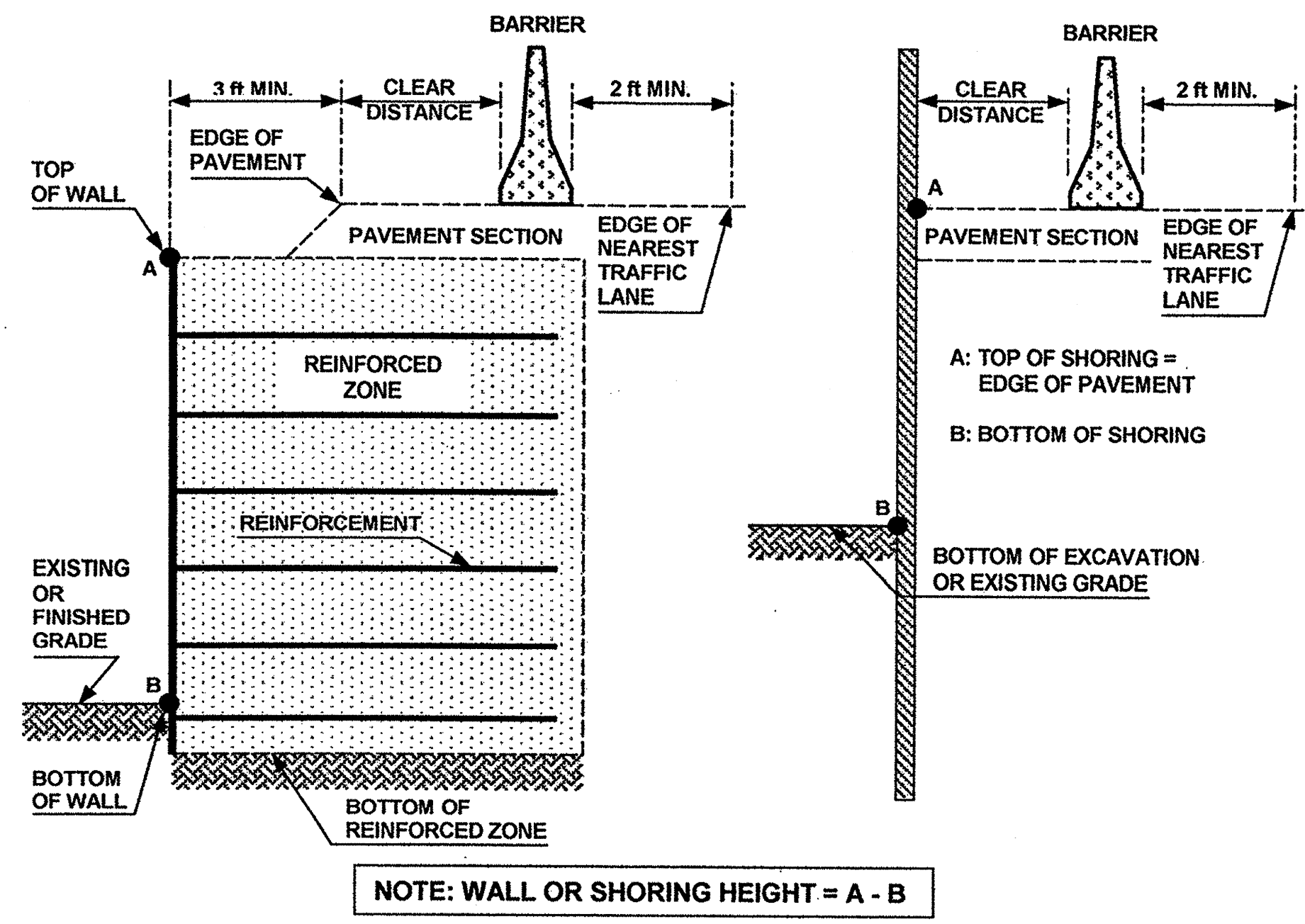
◀ DIRECTION OF TRAFFIC FLOW

SHEET 1 OF 1

APPROVED: <i>Jessica D. Kusner</i> DATE: 4/28/05	DETAIL DRAWING FOR TWO-WAY UNDIVIDED AND URBAN FREEWAYS ADVANCED WORK ZONE WARNING SIGNS	
	SCALE: NONE	REVISIONS
	DATE: 2/5/05	7-98 10/01
	DWG. BY: WRH	10-98 03/04
	DESIGN BY: WRH	01/01 11/04
REVIEWED BY: JDK		

23-JUN-2006 11:37  
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 rmdrrett AT WZ1C22229





**FIGURE A**

**NOTES**

- REFER TO THE TRAFFIC CONTROL PLANS FOR SHORING LOCATIONS AND SOIL PARAMETERS.
- REFER TO THE "TEMPORARY SHORING" PROJECT SPECIAL PROVISION FOR MORE INFORMATION ABOUT TEMPORARY SHORING, MEASUREMENT AND PAYMENT.
- PROVIDE PORTABLE CONCRETE BARRIER TO PROTECT TEMPORARY SHORING IF SHORING IS LOCATED WITHIN THE CLEAR ZONE AS DEFINED IN THE AASHTO ROADSIDE DESIGN GUIDE.
- BASED ON THE CLEAR DISTANCE, OFFSET, DESIGN SPEED AND PAVEMENT TYPE, CHOOSE AN UNANCHORED PCB, ANCHORED PCB OR AN OREGON BARRIER FROM THE TABLE SHOWN IN FIGURE B. FOR TRAFFIC LANES AND PORTABLE CONCRETE BARRIER LOCATED ABOVE AND BEHIND TEMPORARY SHORING, THE FOLLOWING ARE DEFINED AS:  
  

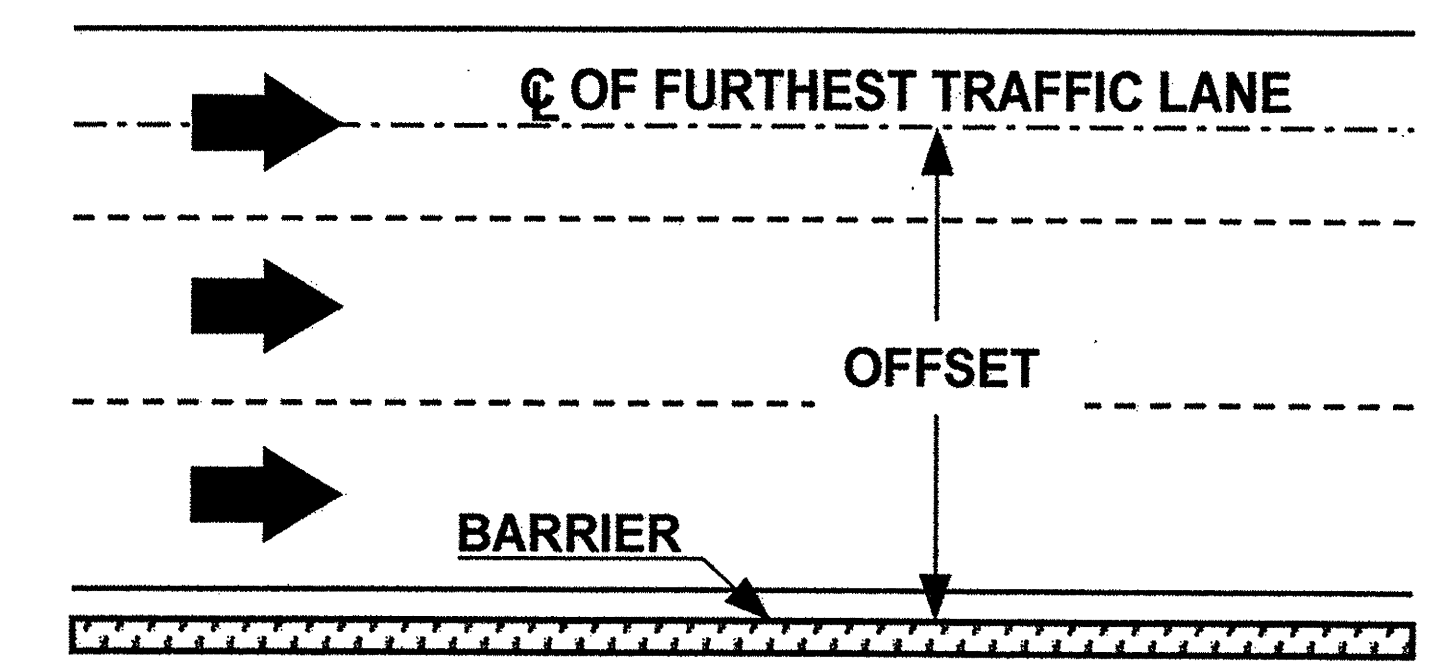
CLEAR DISTANCE - HORIZONTAL DISTANCE FROM THE BACK FACE OF THE BARRIER TO THE EDGE OF PAVEMENT FOR TEMPORARY MSE WALL OR TO THE FACE OF NON-ANCHORED TEMPORARY SHORING AS SHOWN IN FIGURE A.

OFFSET - HORIZONTAL DISTANCE FROM THE FRONT FACE OF THE BARRIER TO CENTERLINE OF THE FURTHEST TRAFFIC LANE AS SHOWN IN FIGURE B FOR 3 TRAFFIC LANES.
- AT THE CONTRACTOR'S OPTION OR IF THE MINIMUM REQUIRED CLEAR DISTANCE IS NOT AVAILABLE, SET AN UNANCHORED PCB AGAINST THE TRAFFIC SIDE OF THE SHORING AND DESIGN SHORING FOR TRAFFIC IMPACT OR USE THE "SURCHARGE CASE WITH TRAFFIC IMPACT" FOR THE STANDARD TEMPORARY SHORING.
- USE NCDOT PORTABLE CONCRETE BARRIER (PCB) IN ACCORDANCE WITH ROADWAY STANDARD DRAWING NO. 1170.01 AND SECTION 1170 OF THE STANDARD SPECIFICATIONS.
- USE OREGON TALL F-SHAPE CONCRETE BARRIER IN ACCORDANCE WITH DETAIL DRAWING AND SPECIAL PROVISION OBTAINED FROM: [HTTP://WWW.NCDOT.ORG/DOH/PRECONSTRUCT/WZTC/DESRES/ENGLISH/DESRESENG.HTML](http://www.ncdot.org/DOH/PRECONSTRUCT/WZTC/DESRES/ENGLISH/DESRESENG.HTML)
- UNLESS NOTED OTHERWISE ON THE PLANS, SET PORTABLE CONCRETE BARRIER WITH A MINIMUM DISTANCE OF 2 FT BETWEEN THE FRONT FACE OF THE BARRIER AND THE EDGE OF THE NEAREST TRAFFIC LANE AS SHOWN IN FIGURE A.
- FOR PORTABLE CONCRETE BARRIER ABOVE AND BEHIND TEMPORARY MSE 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.
- 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' 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 or Oregon Barrier	Asphalt	All Offsets	24 for All Design Speeds					
Anchored PCB or Oregon Barrier	Concrete (including bridge approach slabs)	All Offsets	12 for All Design Speeds					

\* See Figure Below



**FIGURE B**

APPROVED: <i>Joseph J. Shak</i>	DATE: 3/07	PORTABLE CONCRETE BARRIER AT TEMPORARY SHORING LOCATIONS	
SEAL: <i>Joseph J. Shak</i>	DATE: 3/07		
DESIGN BY: JI	REVIEWED BY: JI		REVISIONS

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