

STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

STATE PROJECT REFERENCE NO. U-4020 SHEET NO. TCP-1

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

**LEGEND**

**ROADWAY STANDARD DRAWINGS**

THE FOLLOWING ROADWAY STANDARDS AS APPEAR IN "ROADWAY STANDARD DRAWINGS" - ROADWAY DESIGN 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
1101.06	WARNING SIGNS FOR BLASTING ZONES
1101.11	TRAFFIC CONTROL DESIGN TABLES
1110.01	STATIONARY WORK ZONE SIGNS
1110.02	PORTABLE WORK ZONE SIGNS
1115.01	FLASHING ARROW PANELS
1130.01	DRUMS
1135.01	CONES
1145.01	BARRICADES
1150.01	FLAGGING DEVICES
1165.01	TRUCK MOUNTED IMPACT ATTENUATOR
1180.01	SKINNY - DRUM
1205.01	PAVEMENT MARKINGS - LINE TYPES AND OFFSETS
1205.02	PAVEMENT MARKINGS - 2 LANE AND MULTILANE ROADWAYS
1205.04	PAVEMENT MARKINGS - INTERSECTIONS
1205.05	PAVEMENT MARKINGS - TURN LANES
1205.06	PAVEMENT MARKINGS - THRU LANE DROPS
1205.07	PAVEMENT MARKINGS - PEDESTRIAN CROSSWALKS
1205.08	PAVEMENT MARKINGS - SYMBOLS AND WORD MESSAGES
1205.09	PAVEMENT MARKINGS - PAINTED ISLANDS
1250.01	PAVEMENT MARKER SPACING
1251.01	RAISED PAVEMENT MARKERS - TEMPORARY AND PERMANENT
1253.01	SNOWPLOWABLE RAISED PAVEMENT MARKERS
1261.01	GUARDRAIL AND BARRIER DELINEATOR SPACING
1261.02	GUARDRAIL AND BARRIER DELINEATOR TYPES
1262.01	GUARDRAIL END DELINEATION
1264.01	OBJECT MARKERS
1264.02	PLACEMENT OF OBJECT MARKERS

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U-4020

TIP PROJECT:

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<p>PLAN REVIEWED BY: WORK ZONE TRAFFIC CONTROL UNIT</p> <p>J. S. BOURNE, P.E. TRAFFIC CONTROL ENGINEER</p> <p>G. L. GETTIER, P.E. TRAFFIC CONTROL PROJECT ENGINEER</p> <p>J. W. GILSTRAP TRAFFIC CONTROL PROJ. DESIGN ENGINEER</p> <p>TRAFFIC CONTROL DESIGN ENGINEER</p>	<p>APPROVED: <i>Michael T. Rzepka</i></p> <p>DATE: 3-10-09</p> <p>SEAL</p>	<p>PLAN PREPARED FOR N.C.D.O.T. BY:</p> <p>M. T. RZEPKA, P.E. PROJECT ENGINEER</p> <p>G. E. PARKER DESIGN ENGINEER</p> <p>B. L. MARIOTTE DESIGN TECHNICIAN</p>	<p><b>KO &amp; ASSOCIATES, P.C.</b> Consulting Engineers 8121 KINGDOM WAY, SUITE 100 RALEIGH, N.C. 27607 (919) 881-4000</p>
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# GENERAL NOTES

# 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 UNDESIRED OVERLAPPING OF DEVICES. MODIFICATION MAY INCLUDE: MOVING, SUPPLEMENTING, COVERING OR REMOVAL OF DEVICES, AS DIRECTED BY THE ENGINEER.

THE FOLLOWING GENERAL NOTES APPLY AT ALL TIMES FOR THE DURATION OF THE CONSTRUCTION PROJECT, EXCEPT WHEN OTHERWISE NOTED IN THE PLAN, OR DIRECTED BY THE ENGINEER.

### TIME RESTRICTIONS

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

ROAD NAME	DAY AND TIME RESTRICTIONS
KING ST. (-L-) HARDIN ST. (-Y4-) US 221/NC 105 (-Y9-) NEW MARKET BLVD. (-Y13-) NC 194 (-Y16-)	7:00AM-8:30AM, MONDAY THRU FRIDAY 3:30PM-6:00PM, MONDAY THRU FRIDAY

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

ROAD NAME
KING ST. (-L-) HARDIN ST. (-Y4-) US 221/NC 105 (-Y9-)

### HOLIDAY

- FOR ANY UNEXPECTED OCCURRENCE THAT CREATES UNUSUALLY HIGH TRAFFIC VOLUMES, AS DIRECTED BY THE ENGINEER.
- 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.
- FOR EASTER, BETWEEN THE HOURS OF 6:00 P.M. THURSDAY AND 7:00 A.M. MONDAY.
- FOR MEMORIAL DAY, BETWEEN THE HOURS OF 6:00 P.M. FRIDAY TO 7:00 A.M. TUESDAY.
- 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.
- FOR LABOR DAY, BETWEEN THE HOURS OF 6:00 P.M. FRIDAY AND 7:00 A.M. TUESDAY.
- FOR THANKSGIVING DAY, BETWEEN THE HOURS OF 6:00 P.M. TUESDAY TO 7:00 A.M. MONDAY.
- 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.
- FOR FALL LEAF COLORS, BETWEEN THE HOURS OF 6:00 P.M. THE THURSDAY BEFORE EACH WEEKEND AND 7:00 A.M. THE MONDAY AFTER EACH WEEKEND IN THE MONTH OF OCTOBER.

FOR APPALACHIAN STATE UNIVERSITY HOME FOOTBALL GAMES OCCURRING AT BOONE, NC, BETWEEN SIX HOURS BEFORE THE START OF THE GAME AND 3 HOURS AFTER THE END OF THE GAME.

FOR STUDENT MOVE-IN DAY, BETWEEN THE HOURS OF 6:00 P.M. THE THURSDAY BEFORE THE FIRST DAY OF CLASS AND 7:00 A.M. THE FIRST DAY OF CLASS.

FOR STUDENT GRADUATION IN SPRING, BETWEEN THE HOURS OF 6:00 P.M. THE THURSDAY BEFORE GRADUATION DAY AND 7:00 A.M. THE MONDAY AFTER GRADUATION DAY.

FOR THE HIGHLAND GAMES IN LINVILLE, NC, BETWEEN THE HOURS OF 6:00 P.M. THE WEDNESDAY BEFORE THE HIGHLAND GAMES AND 7:00 A.M. THE MONDAY AFTER THE HIGHLAND GAMES.

C) DO NOT STOP TRAFFIC AS FOLLOWS:

ROAD NAME	DAY AND TIME RESTRICTIONS	DURATION AND OPERATION
KING ST. (-L-)	MONDAY THRU SUNDAY 6:00AM-MIDNIGHT	15 MINUTES TRAFFIC OPERATIONS
KING ST. (-L-)	MONDAY THRU SUNDAY 12:01AM-9:00AM, 11:00AM-6:30PM & 8:30PM-MIDNIGHT	5 MINUTES BLASTING
	SATURDAY AND SUNDAY ANYTIME	NO BLASTING ALLOWED

D) 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

- E) 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.
- F) WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING WITHIN 15 FT OF AN AN OPEN TRAVEL LANE, CLOSE THE NEAREST OPEN SHOULDER USING ROADWAY STANDARD DRAWING NO. 1101.04 UNLESS THE WORK AREA IS PROTECTED BY BARRIER OR GUARDRAIL OR A LANE CLOSURE IS INSTALLED.
- G) 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.
- H) 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.
- I) 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.
- J) DO NOT INSTALL MORE THAN ONE LANE CLOSURE, IN ANY ONE DIRECTION, ON KING ST. (-L-).

### 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) 200 FEET 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 AND OFF THE PROJECT LIMITS.
- Q) COVER OR REMOVE ALL DETOUR SIGNS WITHIN AND OFF THE PROJECT LIMITS WHEN A DETOUR IS NOT IN OPERATION.
- R) ENSURE ALL NECESSARY SIGNING IS IN PLACE PRIOR TO ALTERING ANY TRAFFIC PATTERN.
- S) 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 BARRIER

T) 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.

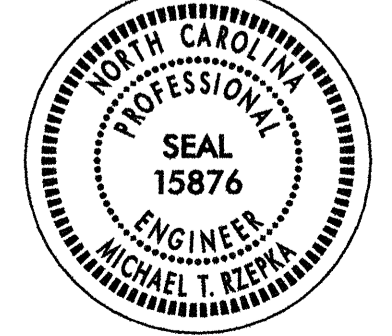
U) PROTECT THE APPROACH END OF MOVABLE/PORTABLE CONCRETE BARRIER AT ALL TIMES DURING THE INSTALLATION AND REMOVAL OF THE BARRIER BY EITHER A TRUCK MOUNTED IMPACT ATTENUATOR (MAXIMUM 72 HOURS) OR A TEMPORARY CRASH CUSHION.

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

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

APPROVED: <i>Michael T. Zepke</i> DATE: 3-10-09		<h2>PROJECT NOTES</h2>																				
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# GENERAL NOTES (CONT'D)

**PAVEMENT MARKINGS AND MARKERS**

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

ROAD NAME	MARKING	MARKER
ALL	POLYUREA	SNOWPLOWABLE RAISED

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

ROAD NAME	MARKING	MARKER
ALL	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.

DD) TRACE THE PROPOSED MONOLITHIC ISLAND LOCATIONS WITH PROPER COLOR PAVEMENT MARKINGS PRIOR TO INSTALLATION. PLACE DRUMS TO DELINEATE ANY PROPOSED MONOLITHIC ISLANDS BEFORE INSTALLATION.

**TEMPORARY / FINAL SIGNALS**

EE) SHIFT AND REVISE ALL SIGNAL HEADS AS SHOWN ON THE SIGNAL PLANS.

**MISCELLANEOUS**

FF) POLICE MAY BE USED TO MAINTAIN TRAFFIC THROUGH THE WORK AREA AND/OR INTERSECTIONS, AS DIRECTED BY THE ENGINEER.

GG) ENGINEER WILL NOTIFY THE OVERSIZE/OVERWEIGHT PERMIT UNIT AT 919-733-4740 (MS. TAMMY C. DENNING AND/OR MS. JOY WIGGINS) THREE WEEKS PRIOR TO TRAFFIC BEING PLACED IN THE TWO-LANE, TWO-WAY DIVIDED TRAFFIC PATTERN AND WHEN TRAFFIC IS PLACED BACK TO THE TEMPORARY FOUR-LANE, TWO-WAY TRAFFIC PATTERN (SEE PHASE II, STEPS 1 TO 3).

HH) CONTRACTOR SHALL MAINTAIN SIDEWALK ACCESS AT ALL TIMES AS STATED IN THE PHASING. CONTRACTOR SHALL BE RESPONSIBLE TO PROVIDE TEMPORARY SIDEWALKS (CONCRETE, ASPHALT, OR OTHER SUITABLE MATERIAL AS APPROVED BY THE ENGINEER) AT ALL LOCATIONS WHERE THE OPEN PEDESTRIAN TRAVELWAY HAS BEEN REMOVED FOR CONSTRUCTION OPERATIONS (UTILITIES, DRAINAGE, ETC.).

## LOCAL NOTES

1) USE TEMPORARY STEEL PLATES TO COVER DRAINAGE STRUCTURES AT NOS. 15, 16, 59, 66, 69, 70, 81, 82, 84 & 85 FOR PHASE II TRAFFIC PATTERN, AS DIRECTED BY THE ENGINEER.

2) MAINTAIN EXISTING GUARDRAIL DURING CULVERT EXTENSION CONSTRUCTION AT -L- STA 69+00± RT.

3) MAINTAIN ACCESS TO EXISTING APPLCART BUS STOPS AFFECTED BY CONSTRUCTION, AS DIRECTED BY THE ENGINEER.

4) IF CLOSURE OF -DR1- & -DR2- IS NECESSARY FOR CONSTRUCTION, DO NOT CLOSE BOTH DRIVES SIMULTANEOUSLY.

5) WHEN CONSTRUCTING DRAINAGE STRUCTURES ADJACENT TO TRAFFIC, INSTALL TEMPORARY STEEL PLATES, AS DIRECTED BY THE ENGINEER. MAY WORK EACH LOCATION INDEPENDENTLY OR CONCURRENTLY, UNLESS OTHERWISE DIRECTED BY THE ENGINEER. WORK IN A CONTINUOUS MANNER TO PERFORM THE WORK IN THE FOLLOWING SEQUENCE, STEPS 'A' THRU 'E'.

A: CLOSE THE APPROPRIATE TRAVEL LANE TO TRAFFIC USING ROADWAY STANDARD DRAWING NO. 1101.02 SHEETS 1 & 4 OF 9.

B: CONSTRUCT PROPOSED STRUCTURE OR INSTALL PRE-CAST DRAINAGE STRUCTURE AS SHOWN IN THE CONSTRUCTION PLANS AND COVER WITH STEEL PLATES TO PROTECT STRUCTURE DURING CURING.

C: OPEN TRAVEL LANE TO EXISTING TRAFFIC PATTERN BY THE END OF EACH WORK PERIOD.

D: WHEN PROPERLY CURED, CLOSE THE APPROPRIATE TRAVEL LANE USING ROADWAY STANDARD DRAWING NO. 1101.02, SHEETS 1 & 4 OF 9. BACKFILL & PAVE, IF REQUIRED, UP TO THE EDGE AND ELEVATION OF EXISTING PAVEMENT (SEE CONSTRUCTION PLANS).

E: OPEN TRAVEL LANE TO EXISTING TRAFFIC PATTERN BY THE END OF THE WORK PERIOD.

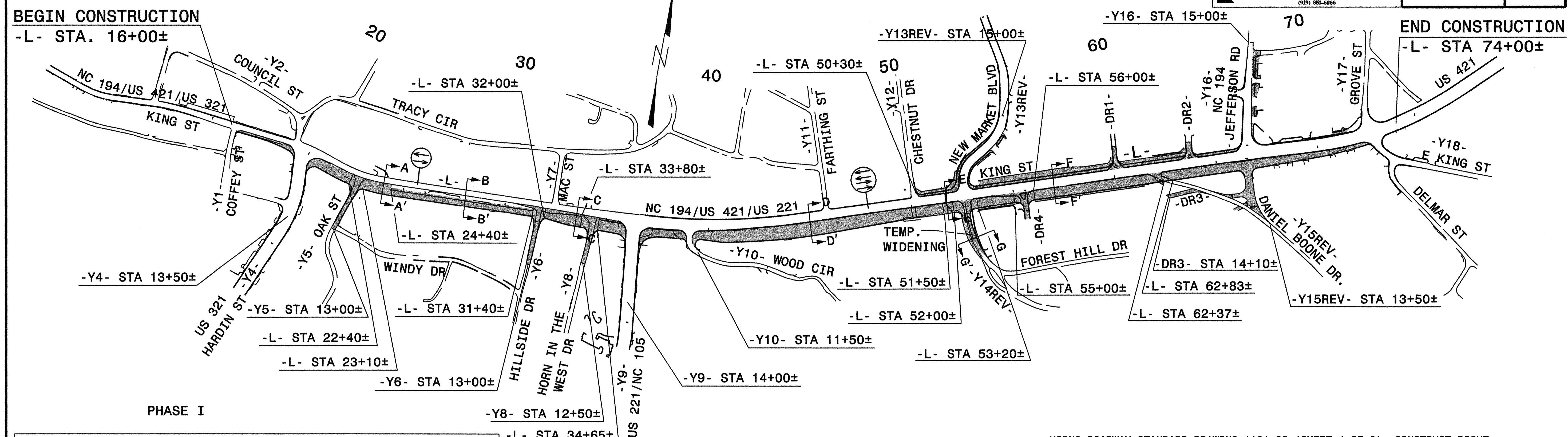
## TEMPORARY PAV'T MARKING SCHEDULE

SYMBOL	DESCRIPTION	BREAKDOWN	PAY ITEM	
			PAVEMENT MARKING LINES	
PA	WHITE EDGELINE		PAINT (4")	
PC	10 ft. WHITE SKIP			
PD	2 ft. WHITE MINISKIP			
PE	WHITE SOLID LANE LINE			
PF	10 FT. YELLOW SKIP			
PH	YELLOW SINGLE CENTER LINE			
PI	YELLOW DOUBLE CENTER LINE			
			PAINT (8")	
PS	WHITE DIAGONAL		PAINT (24")	
PV	YELLOW DIAGONAL			
PX	WHITE CROSSWALK LINE			
			PAVEMENT MARKING SYMBOLS	
QA	LEFT TURN ARROW		PAINT SYMBOL	
QB	RIGHT TURN ARROW			
QC	STRAIGHT ARROW			
QD	COMBO STRAIGHT / LEFT TURN ARROW			
QE	COMBO STRAIGHT / RIGHT TURN ARROW			
			PAINT CHARACTER	
QI	ALPHANUMERIC CHARACTER		PAVEMENT MARKERS	
				TEMPORARY RAISED
MH	YELLOW AND YELLOW			
MI	CRYSTAL AND RED			

APPROVED: <i>Michael T. Kieper</i> DATE: 3-10-09  <div style="text-align: center;"> </div>	<b>PROJECT NOTES &amp; TEMPORARY PAVEMENT MARKING SCHEDULE</b>	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="font-size: small;">SCALE:</td> <td>NONE</td> </tr> <tr> <td style="font-size: small;">DATE:</td> <td>3-09</td> </tr> <tr> <td style="font-size: small;">DWG. BY:</td> <td>BLM</td> </tr> <tr> <td style="font-size: small;">DESIGN BY:</td> <td>GEP</td> </tr> <tr> <td style="font-size: small;">REVIEWED BY:</td> <td>MTR</td> </tr> </table>	SCALE:	NONE	DATE:	3-09	DWG. BY:	BLM	DESIGN BY:	GEP	REVIEWED BY:	MTR
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**BEGIN CONSTRUCTION**  
 -L- STA. 16+00±

**STEP 1**  
 INSTALL ALL ADVANCE WARNING SIGNS (SEE SHEET TCP-33). INSTALL CHANGEABLE MESSAGE SIGNS AS DIRECTED BY THE ENGINEER.

**STEP 2**  
 WITH THE APPROVAL OF THE ENGINEER THE CONTRACTOR MAY CLOSE DANIEL BOONE DRIVE FOR THE CONSTRUCTION OF THE PROPOSED RETAINING WALL ON PARCEL 58. ACCESS TO PARCELS 61, 117 AND 118 SHALL BE MAINTAINED AT ALL TIMES. NO CONSTRUCTION TRAFFIC ALLOWED ON DANIEL BOONE DRIVE.

USING ROADWAY STANDARD DRAWING 1101.02 (SHEETS 1 & 4 OF 9), BEGIN INSTALLATION OF PROPOSED DRAINAGE (INCLUDING CROSS PIPES AND CULVERT EXTENSION AT -L- STA 69+00± BUT NOT PROPOSED 48" PIPE AT -L- STA 51+69±) (SEE LOCAL NOTES 1, 2 & 5).

USING ROADWAY STANDARD DRAWING 1101.02 (SHEETS 1 & 4 OF 9), INSTALL TEMPORARY SIGNALS ON -L- AT -Y4-, -Y9-, -Y13REV-/-Y14REV-, -Y15REV-/-Y16- & -Y17-/-Y18- AND ACTIVATE.

USING ROADWAY STANDARD DRAWING 1101.02 (SHEETS 1 & 4 OF 9), BEGIN PROPOSED CONSTRUCTION AND WEDGING AND WIDENING CONSTRUCTION (INCLUDING SIDEWALKS), UP TO BUT NOT INCLUDING THE FINAL LAYER OF SURFACE COURSE, AT THE FOLLOWING LOCATIONS (SEE LOCAL NOTES 3 & 4) (SEE SHEETS TCP-5 THRU 10):

- L- STA 16+00± TO STA 22+40± RT
- L- STA 23+10± TO STA 31+40± RT
- PORTION OF PROP. RAISED MEDIAN ISLAND STA 24+40± TO STA 31+40± RT
- L- STA 32+00± TO STA 33+80± RT
- L- STA 34+65± TO STA 49+60± RT
- L- STA 49+60± TO STA 51+50± RT (NO CURB & GUTTER)
- L- STA 53+20± TO STA 54+25± RT (NO CURB & GUTTER)
- L- STA 54+25± TO STA 55+00± RT
- L- STA 56+00± TO STA 62+37± RT (UP TO EDGE & ELEV. OF EXIST. DANIEL BOONE DR.)
- L- STA 62+83± (UP TO EDGE & ELEV. OF EXIST. DANIEL BOONE DR.) TO STA 74+00± RT
- L- STA 50+30± TO STA 74+00± LT
- Y4- FROM -L- TO STA 13+50±
- Y9- STA FROM -L- TO STA 14+00±
- Y10- FROM -L- TO STA 11+50±
- Y13REV- STA 15+00± TO -L-
- Y15REV- FROM -L- TO STA 13+50±
- Y16- STA 15+00± TO -L-
- DR3- FROM -Y15REV- TO EXISTING DANIEL BOONE DR.
- DR1-, -DR2- & -DR5-

USING ROADWAY STANDARD DRAWING 1101.02 (SHEET 1 OF 9), CONSTRUCT PROPOSED -DR3- FROM EXISTING DANIEL BOONE DR. TO -DR3- STA 14+10± AND OPEN.

USING ROADWAY STANDARD DRAWING 1101.02 (SHEETS 1 OF 9), BEGIN CONSTRUCTION OF TEMPORARY WIDENING RIGHT OF EXISTING KING ST. FROM -L- STA 30+40± TO STA 32+00± (SEE SHEET TCP-7).

AWAY FROM TRAFFIC, BEGIN CONSTRUCTION OF TEMPORARY WIDENING OF PROPOSED PAVEMENT FROM (SEE SHEET TCP-9):

- L- STA 49+60± TO STA 51+50± RT
- L- STA 53+20± TO STA 54+25± RT

USING ROADWAY STANDARD DRAWING 1101.02 (SHEET 1 OF 9), REMOVE EXISTING CURB & GUTTER LEFT OF FOREST HILL DR. AND CONSTRUCT TEMPORARY WIDENING OF EXISTING FROM -Y14REV- STA 11+00± TO STA 13+20± LT. (SEE SHEETS TCP-5 & 9).

USING ROADWAY STANDARD DRAWING 1101.02 (SHEETS 1 & 4 OF 9), BEGIN MILLING OF EXISTING PAVEMENT. (SEE ROADWAY PLANS FOR LOCATIONS).

**STEP 3**  
 USING ROADWAY STANDARD DRAWING 1101.02 (SHEETS 1 OF 9), COMPLETE THE FOLLOWING ON -Y14REV- (SEE SHEET TCP-11):

- PLACE TEMPORARY PAVEMENT MARKINGS AND MARKERS AND TIE TO EXISTING
- SHIFT TRAFFIC TO TEMPORARY PATTERN ON FOREST HILL DR. USING TEMPORARY WIDENING LEFT OF -Y14REV-
- ADJUST TEMPORARY SIGNAL -Y13REV-/-Y14REV-

USING ROADWAY STANDARD DRAWING 1101.02 (SHEET 4 OF 9), CONSTRUCT RIGHT SIDE WIDENING OF -L- UP TO BUT NOT INCLUDING THE FINAL LAYER OF SURFACE COURSE FROM STA 52+00± TO STA 52+60± (SEE SHEET TCP-11).

AWAY FROM TRAFFIC, CONSTRUCT TEMPORARY WIDENING OF PROPOSED PAVEMENT FROM -L- STA 52+00± RT TO PROPOSED -Y14REV- (SEE SHEET TCP-9):

USING ROADWAY STANDARD DRAWING 1101.02 (SHEET 1 OF 9), CONSTRUCT RIGHT PORTION OF PROPOSED -Y14REV- UP TO BUT NOT INCLUDING THE FINAL LAYER OF SURFACE COURSE (SEE SHEETS TCP-18 & 22).

**STEP 4**  
 USING ROADWAY STANDARD DRAWING 1101.02 (SHEETS 1 & 4 OF 9), COMPLETE THE FOLLOWING ON -Y14REV- (SEE SHEET TCP-12):

- PLACE TEMPORARY PAVEMENT MARKINGS AND MARKERS AND TIE TO EXISTING
- SHIFT TRAFFIC ON FOREST HILL DR. TO PROPOSED PAVEMENT ON RIGHT PORTION OF -Y14REV-
- ADJUST TEMPORARY SIGNAL AT -Y13REV-/-Y14REV-

USING ROADWAY STANDARD DRAWING 1101.02 (SHEET 1 OF 9), CONSTRUCT REMAINING LEFT PORTION OF PROPOSED -Y14REV- UP TO BUT NOT INCLUDING THE FINAL LAYER OF SURFACE COURSE FROM -L- TO -Y14REV- STA 13+00± (SEE SHEETS TCP-5 & 12).

USING ROADWAY STANDARD DRAWING 1101.02 (SHEET 4 OF 9), CONSTRUCT RIGHT SIDE WIDENING OF -L- UP TO BUT NOT INCLUDING THE FINAL LAYER OF SURFACE COURSE FROM -L- STA 52+60± TO STA 53+20± (SEE SHEET TCP-12).

**STEP 5**  
 USING ROADWAY STANDARD DRAWING 1101.03 (SHEETS 1 & 2 OF 9), CLOSE -Y8- AND CONSTRUCT THE FOLLOWING UP TO BUT NOT INCLUDING THE FINAL LAYER OF SURFACE COURSE (SEE SHEETS TCP-13 & 15):

- Y8- FROM -L- TO STA 12+50±
- L- STA 33+80± TO STA 34+65± (PROP. WEDGING AND WIDENING RT OF EXIST. PAVEMENT)

REOPEN -Y8- WITH TEMPORARY TIE TO EXISTING -L- PAVEMENT.

USING ROADWAY STANDARD DRAWING 1101.02 (SHEETS 1 & 3 OF 9), COMPLETE THE FOLLOWING ON -Y14REV- (SEE SHEET TCP-14):

- PLACE TEMPORARY PAVEMENT MARKINGS AND MARKERS AND TIE TO EXISTING
- SHIFT TRAFFIC ON FOREST HILL DR. TO PROPOSED ON -Y14REV- WITH TEMPORARY TIE TO EXISTING -L-
- ADJUST TEMPORARY SIGNAL AT -Y13REV-/-Y14REV-

USING ROADWAY STANDARD DRAWING 1101.02 (SHEET 4 OF 9), COMPLETE THE FOLLOWING (SEE SHEET TCP-14):

- CLOSE -DR4- (TEMPORARY ACCESS IS AVAILABLE OFF FOREST HILL DR.)
- CONSTRUCT RIGHT SIDE WIDENING OF -L- FROM STA 55+00± TO STA 56+00±.
- CONSTRUCT PROPOSED -DR4- UP TO BUT NOT INCLUDING THE FINAL LAYER OF SURFACE COURSE
- PROVIDE TEMPORARY TIE TO EXISTING -L- AND REOPEN -DR4-.

USING ROADWAY STANDARD DRAWING 1101.02 (SHEET 4 OF 9), CONSTRUCT THE FOLLOWING RIGHT OF -L- CENTERLINE (SEE SHEET TCP-14):

- INSTALL PROPOSED 48" PIPE FROM INLET END TO BACKSIDE OF EXISTING CURB AND GUTTER AT -L- STA 51+69± AND CONNECT TEMPORARILY TO EXISTING DRAINAGE SYSTEM.
- PROPOSED WEDGING AND WIDENING UP TO BUT NOT INCLUDING THE FINAL LAYER OF SURFACE COURSE FROM -L- STA 51+50± TO STA 52+00±.
- TEMPORARY WIDENING OF PROPOSED PAVEMENT FROM -L- STA 51+50± TO STA 52+00 RT

(PHASE I, STEP 5 PHASING CONTINUED ON SHEET TCP-5)

APPROVED: <i>Michael D. Rupp</i> DATE: 3-16-09		<b>PHASE I OVERVIEW AND PHASING</b>	
SEAL			
		SCALE: NONE	
		DATE: 3-09	
DWG. BY: BLM	REVISIONS		
DESIGN BY: GEP			
REVIEWED BY: MATR			

3/15/2009 R:\007\mor\_09\U4020.tc.tcp-pl.ovw.dgn KO & Associates, P.C.



# PHASING (CONT'D)

(PHASE I, STEP 5 PHASING CONTINUED FROM SHEET TCP-4)

STEP 6

COMPLETE CONSTRUCTION IN THE FOLLOWING AREAS BEGUN IN STEP 2:

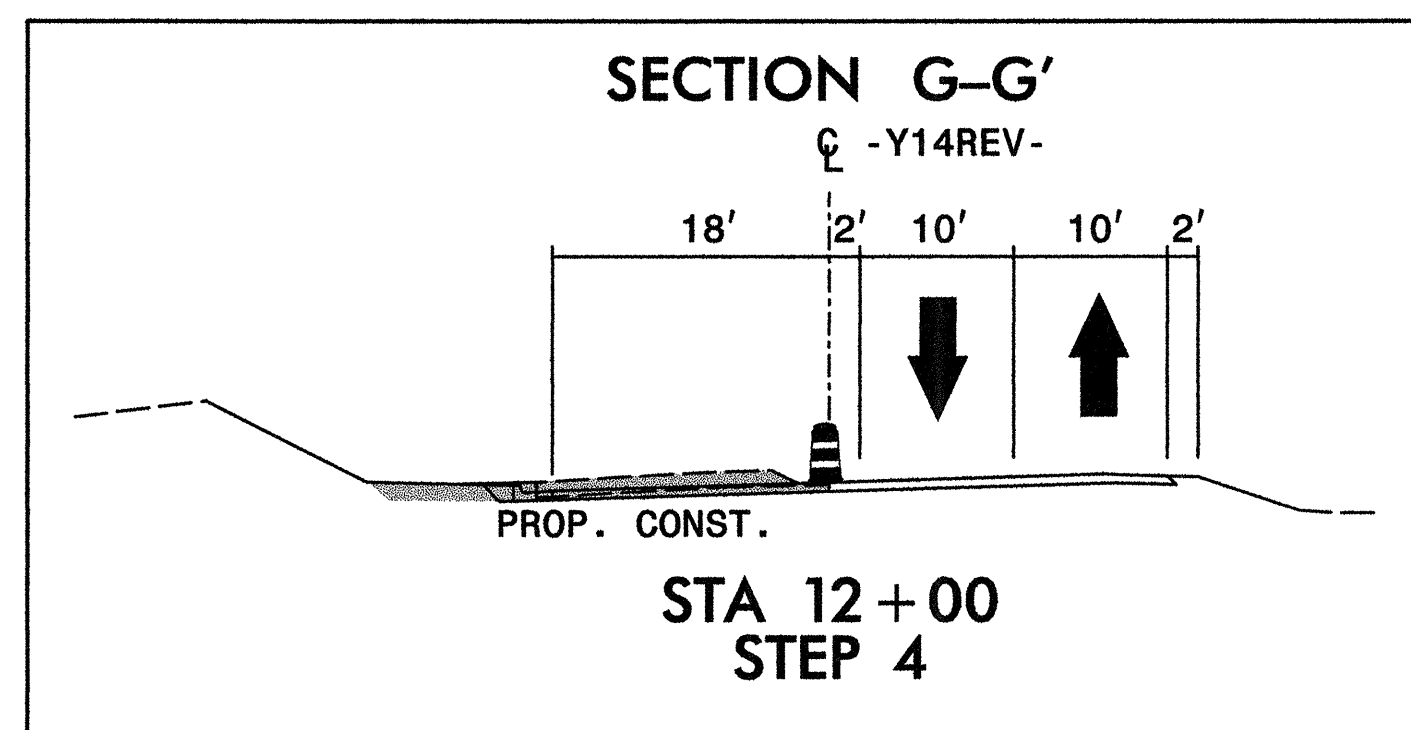
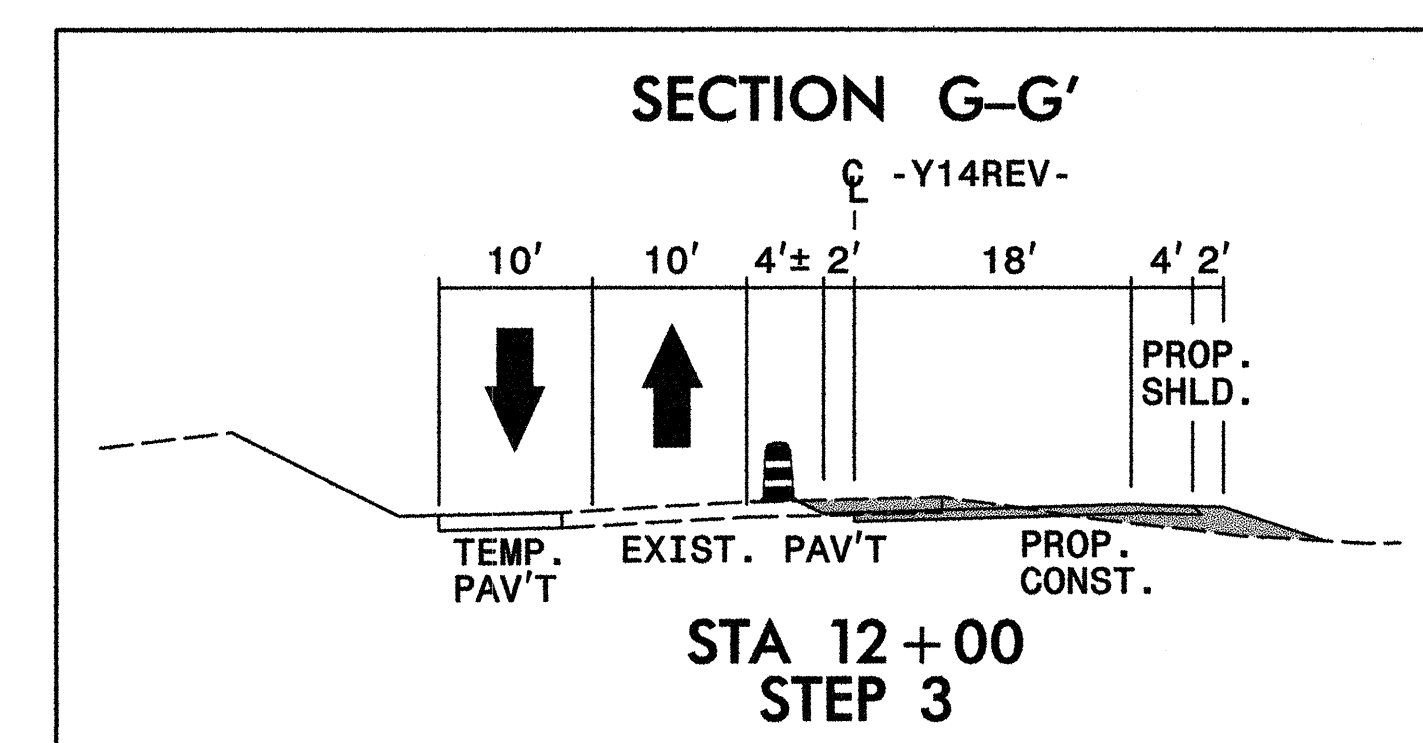
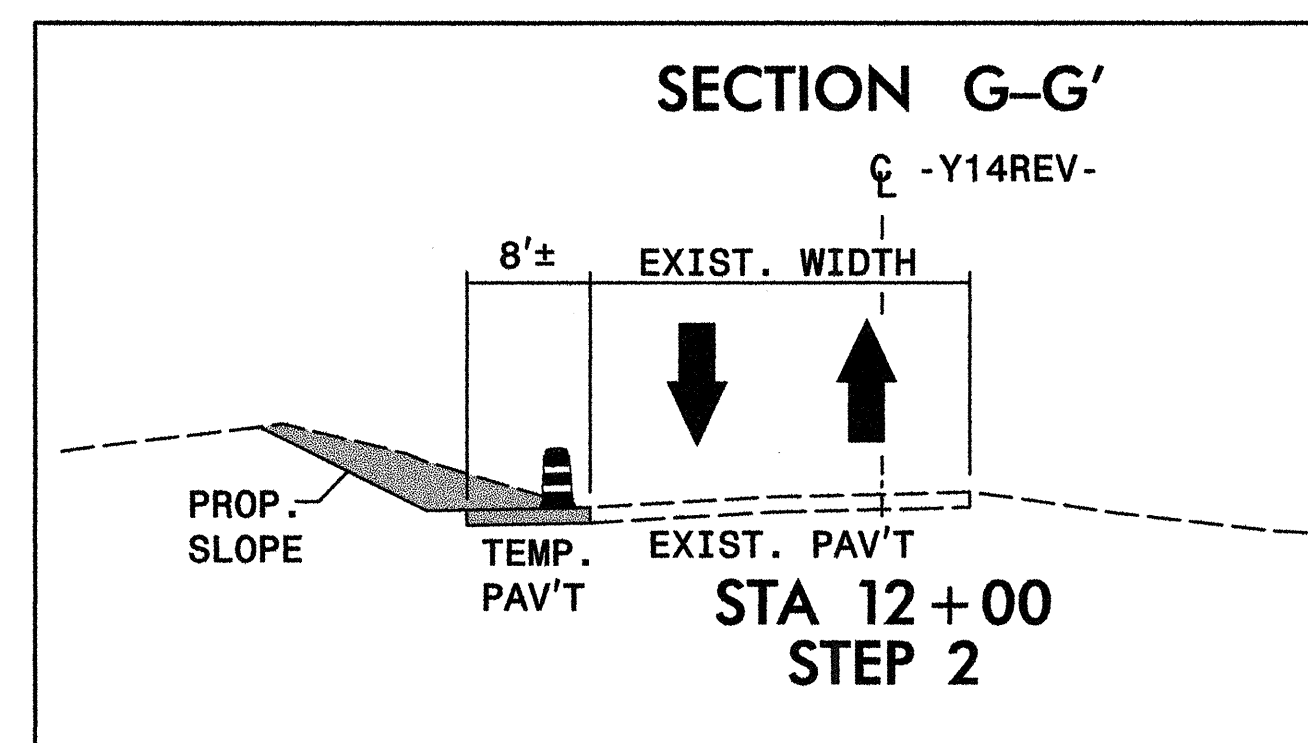
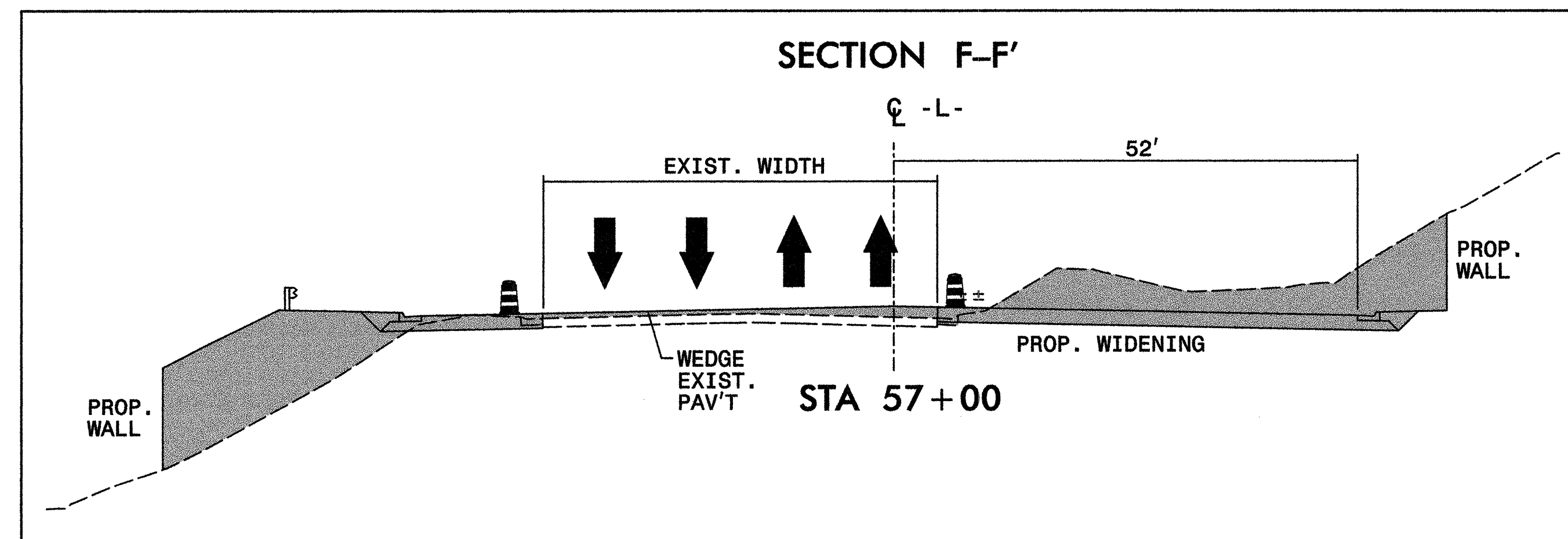
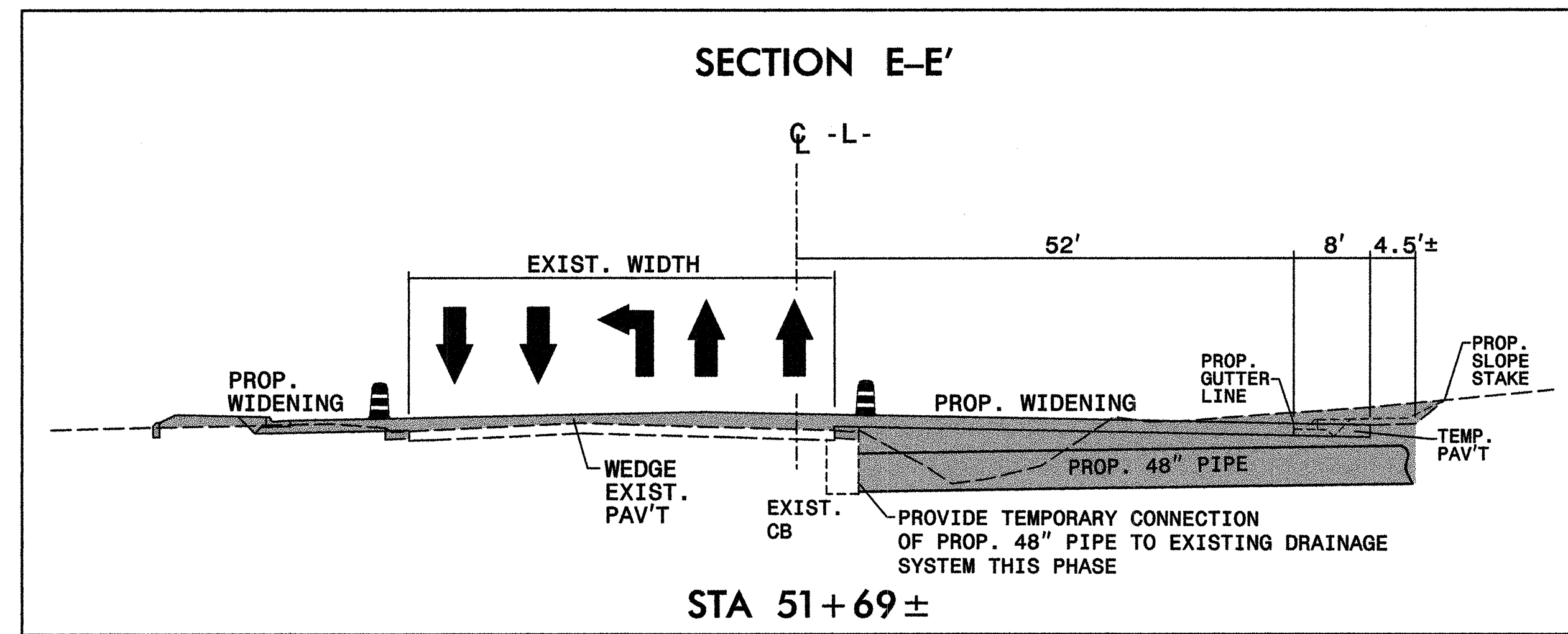
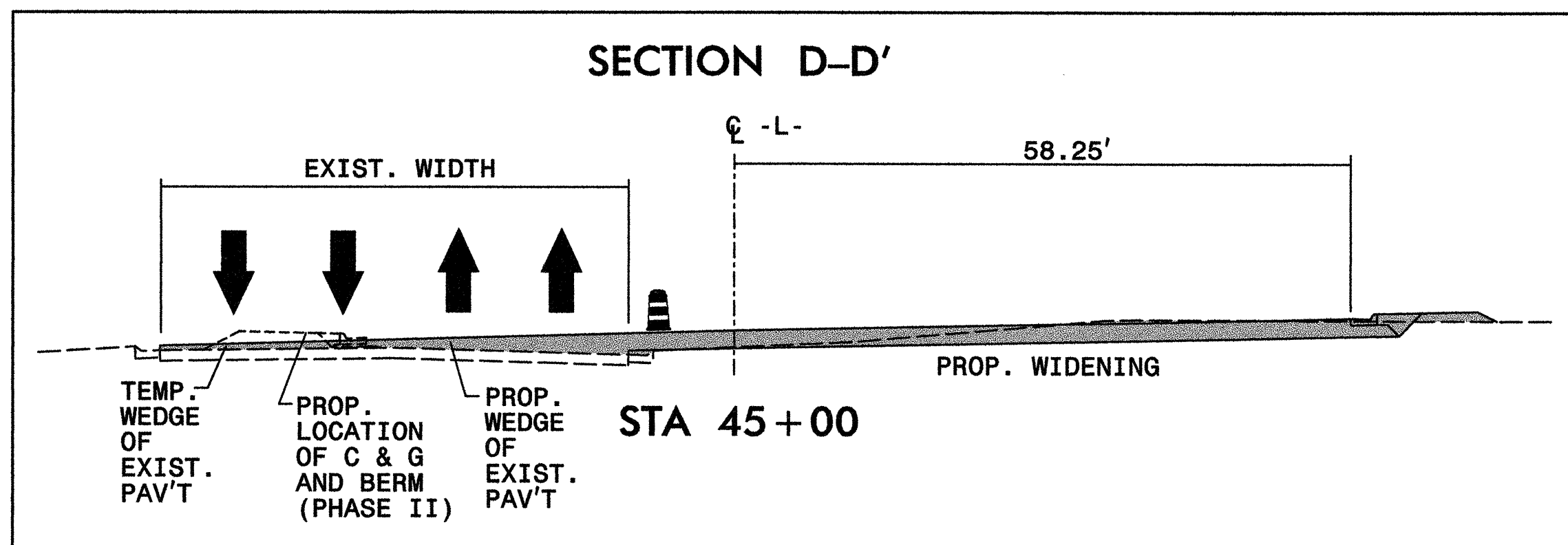
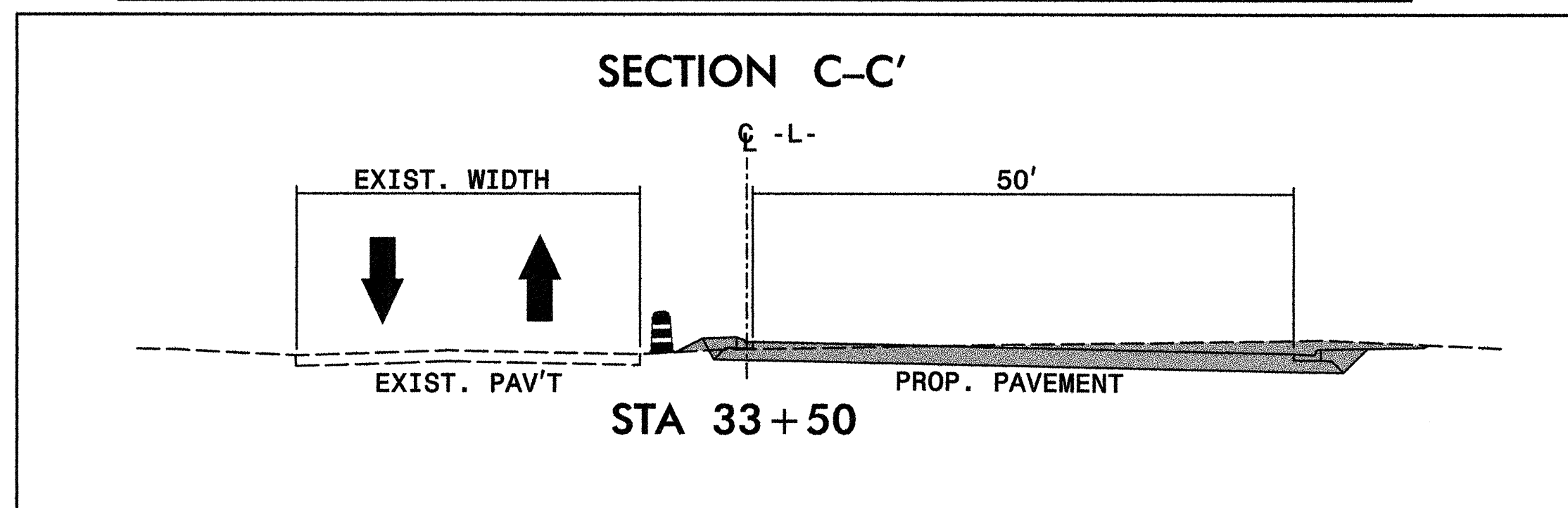
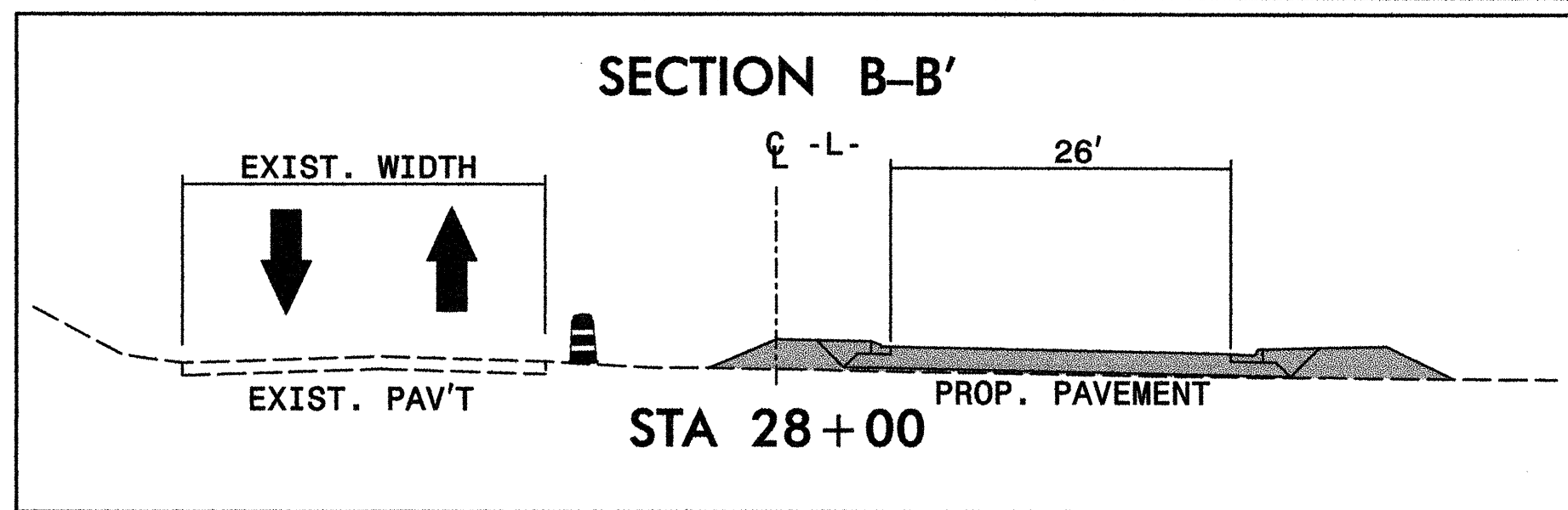
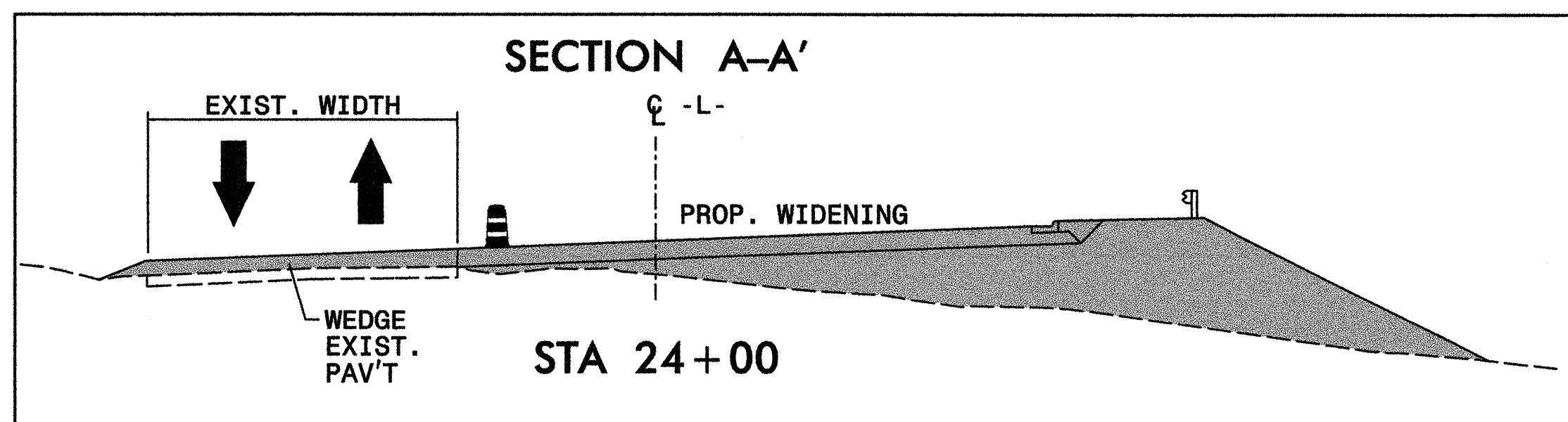
- L- STA 32+00± TO STA 33+80± RT
- L- STA 34+65± TO STA 51+50± RT
- L- STA 53+20± TO STA 61+65± RT
- L- STA 66+00± TO STA 67+00± RT
- Y4- FROM -L- TO STA 13+50±
- Y9- FROM -L- TO STA 14+00±
- Y10- FROM -L- TO STA 11+50±
- Y15REV- FROM -L- TO STA 13+50±
- Y16- STA 15+00± TO -L-
- DR3- FROM -Y15REV- TO EXISTING DANIEL BOONE DR.
- DR1-, -DR2- & -DR5-
- TEMPORARY WIDENING RIGHT OF EXISTING KING ST. -L- STA 30+40± TO STA 32+00±

USING ROADWAY STANDARD DRAWING 1101.02 (SHEET 4 OF 9) AND WORKING IN A CONTINUOUS MANNER, COMPLETE THE FOLLOWING:

- CLOSE EXISTING DANIEL BOONE DR. ACCESS TO -L-
- CONSTRUCT PROPOSED WIDENING UP TO BUT NOT INCLUDING THE FINAL LAYER OF SURFACE COURSE -L- STA 62+37± TO STA 62+83± RT (ACROSS EXISTING DANIEL BOONE DR.)
- PROCEED TO PHASE II, STEP 1

AWAY FROM TRAFFIC, PLACE TEMPORARY PAVEMENT MARKINGS AND MARKERS ON -L- AND -Y15REV- FOR PHASE II TRAFFIC PATTERN (SEE SHEETS TCP-18 THRU 21).

AWAY FROM TRAFFIC, INSTALL WATER-FILLED BARRIER FOR PHASE II TRAFFIC PATTERN FROM -Y14REV- STA 10+90± TO -L- STA 54+25± (SEE SHEET TCP-20).



APPROVED: *Michael T. Klepka* DATE: 3-16-09

**PHASE I PHASING & SECTIONS**

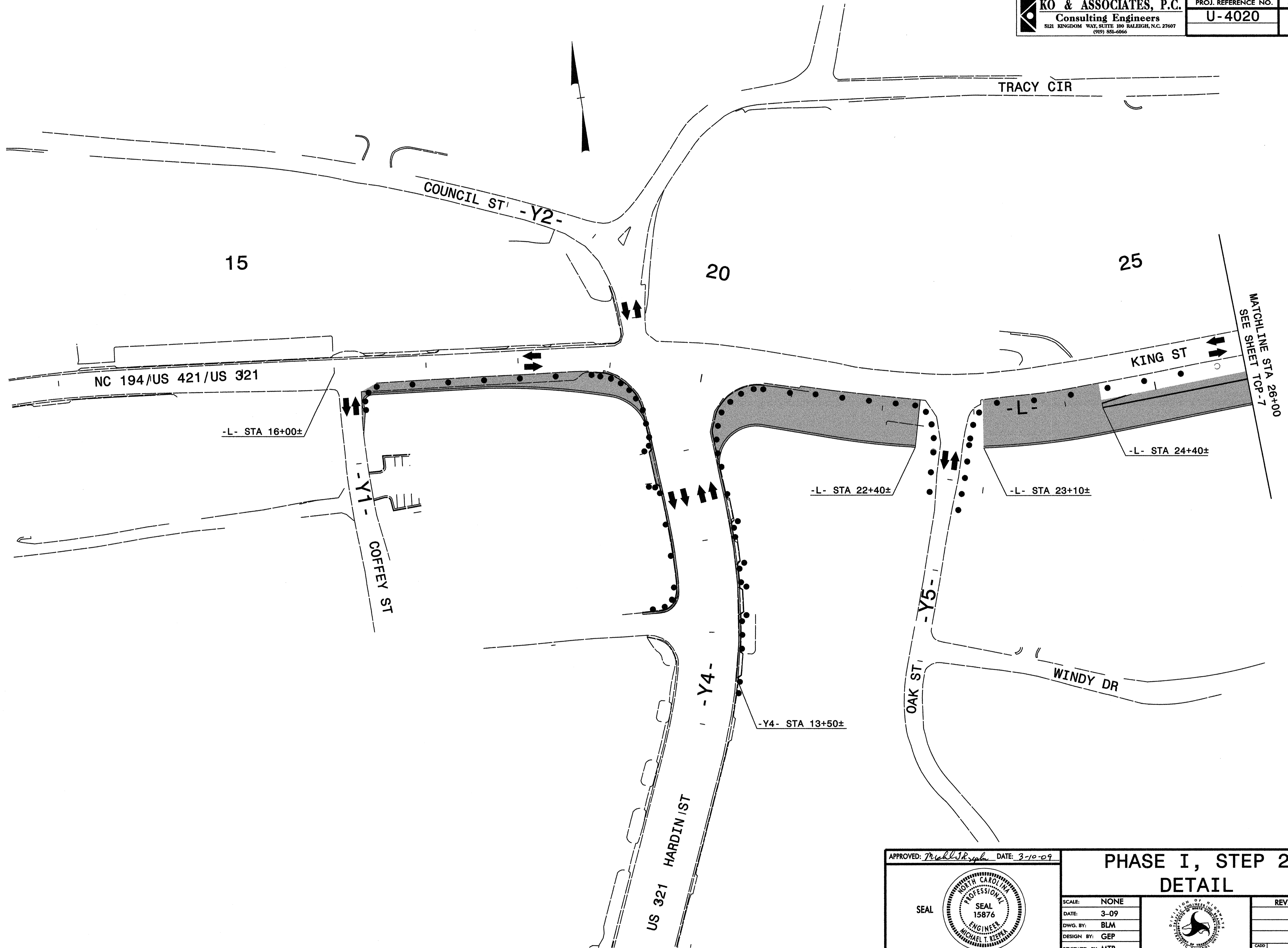
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 DESIGN BY: GEP  
 REVIEWED BY: MTR

SEAL: *Michael T. Klepka*  
 PROFESSIONAL ENGINEER  
 SEAL 15876

REVISIONS

3/15/2009 R:\1007\_mtr\_09\U4020\_tcp\_top\_sections.dgn KO & Associates, P.C.







3/10/2009  
 R:\1007\_mar\_09\U4020\_tc\_tcp-pl\_s2\_det1.dgn  
 KO & Associates, P.C.

APPROVED: *Michael T. Zepka* DATE: 3-10-09

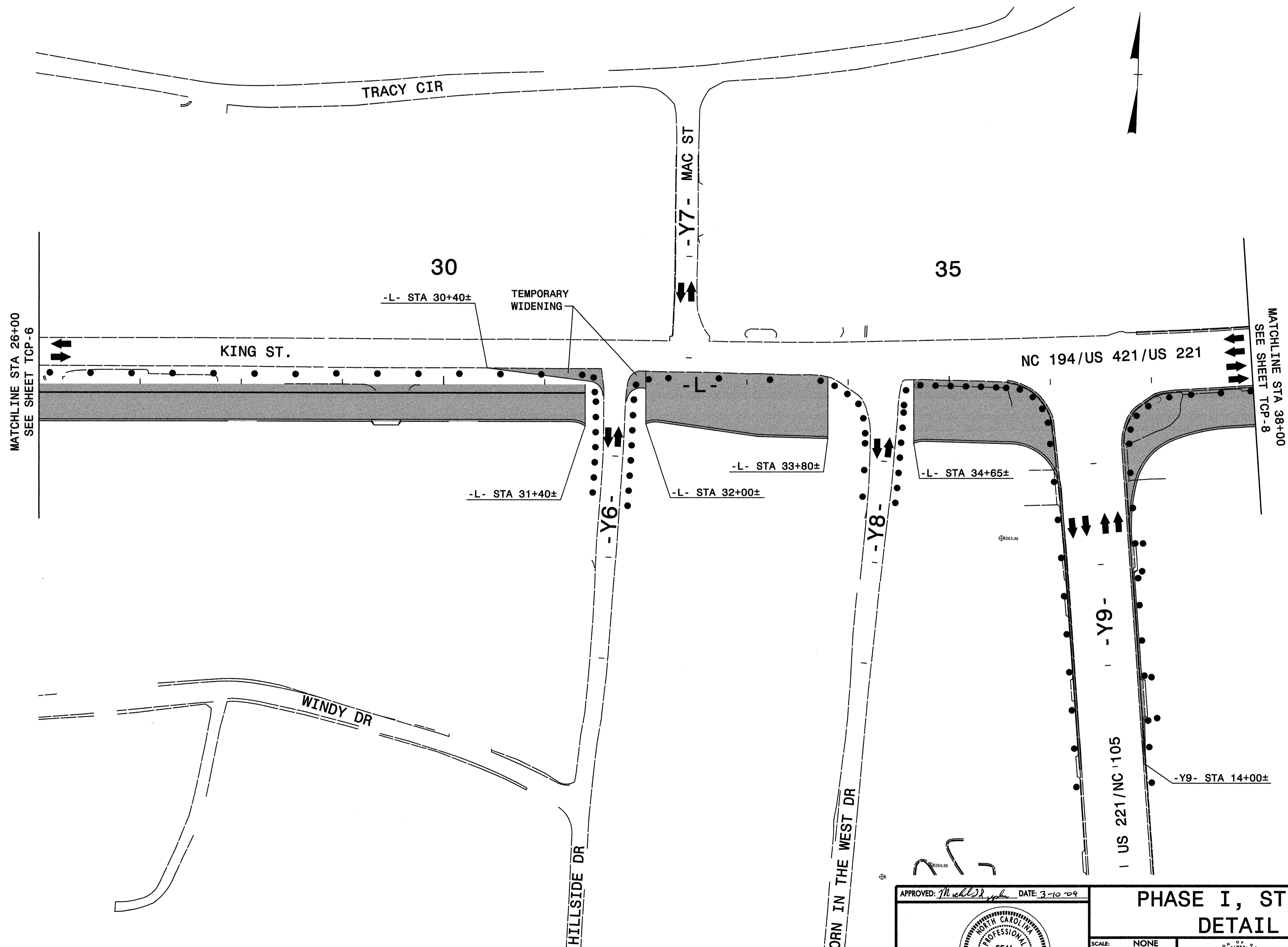
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### PHASE I, STEP 2 DETAIL

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REVIEWED BY: MTR		

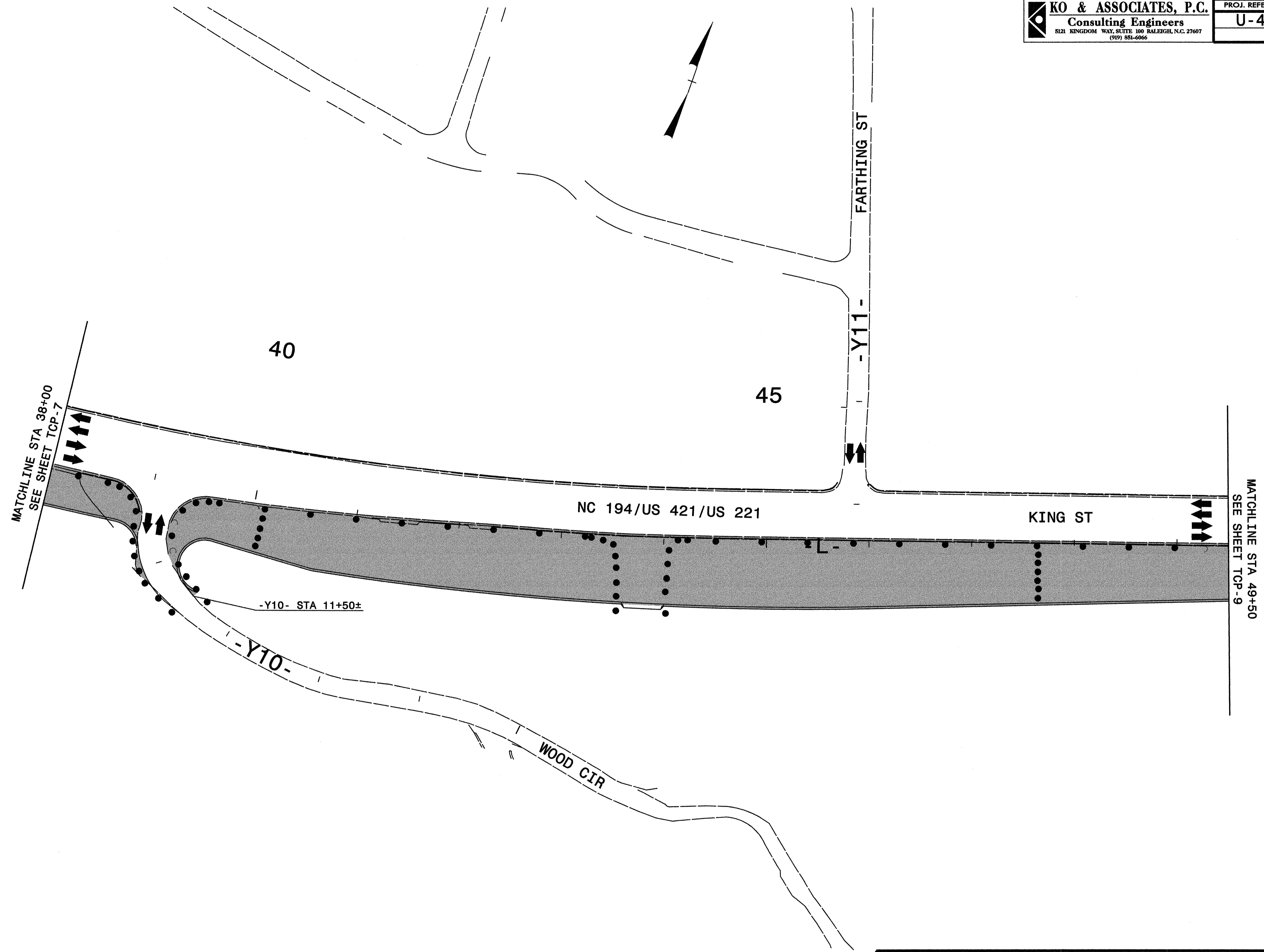




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3/10/2009 R:\1007\_mar\_09\U4020\_tcp\_top\_pl\_s2\_det2.dgn KO & Associates, P.C.

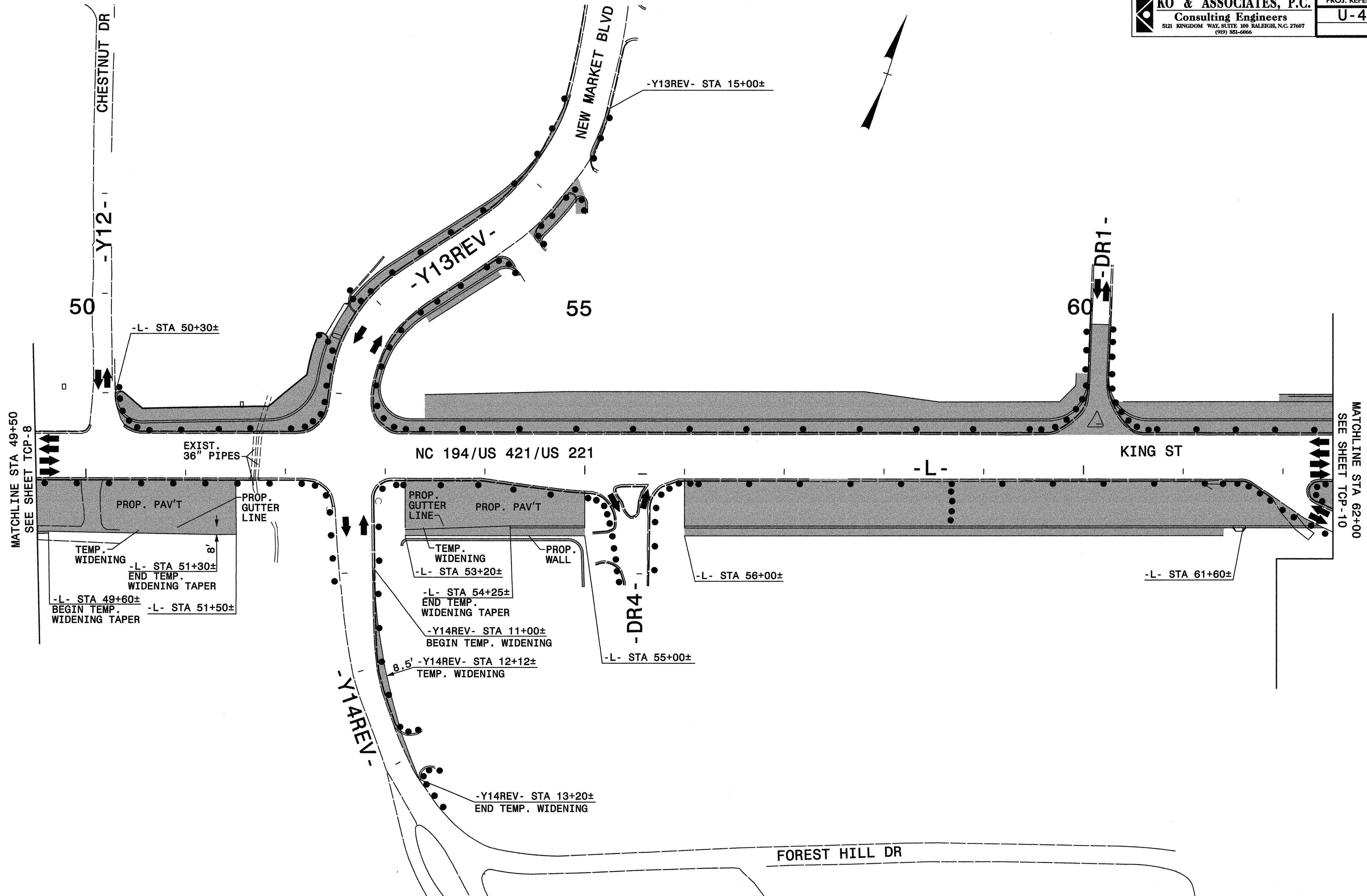




3/10/2009  
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 KO & Associates, P.C.

APPROVED: <i>M. T. Rzepka</i> DATE: 3-10-09		<b>PHASE I, STEP 2 DETAIL</b>	
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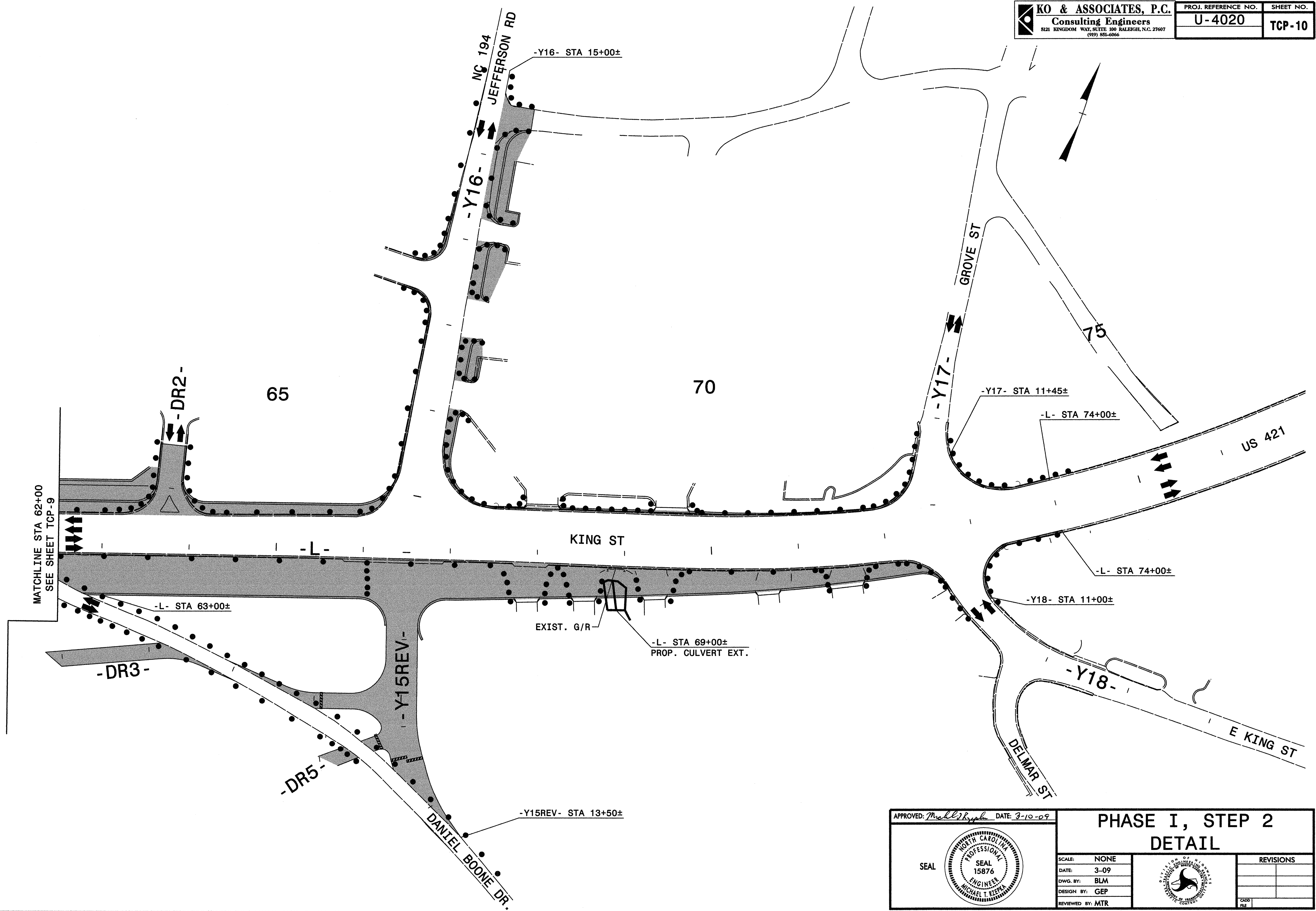




3/10/2009  
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 KO & Associates, P.C.

APPROVED: <i>Michael T. Stepa</i> DATE: 3-10-09	<h3>PHASE I, STEP 2 DETAIL</h3>		REVISIONS										
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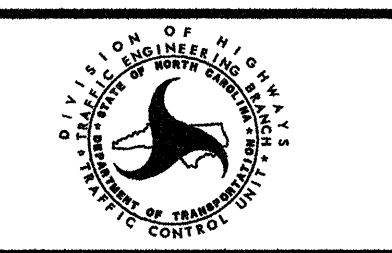


APPROVED: *Michael T. Rzepka* DATE: 3-10-09



**PHASE I, STEP 2  
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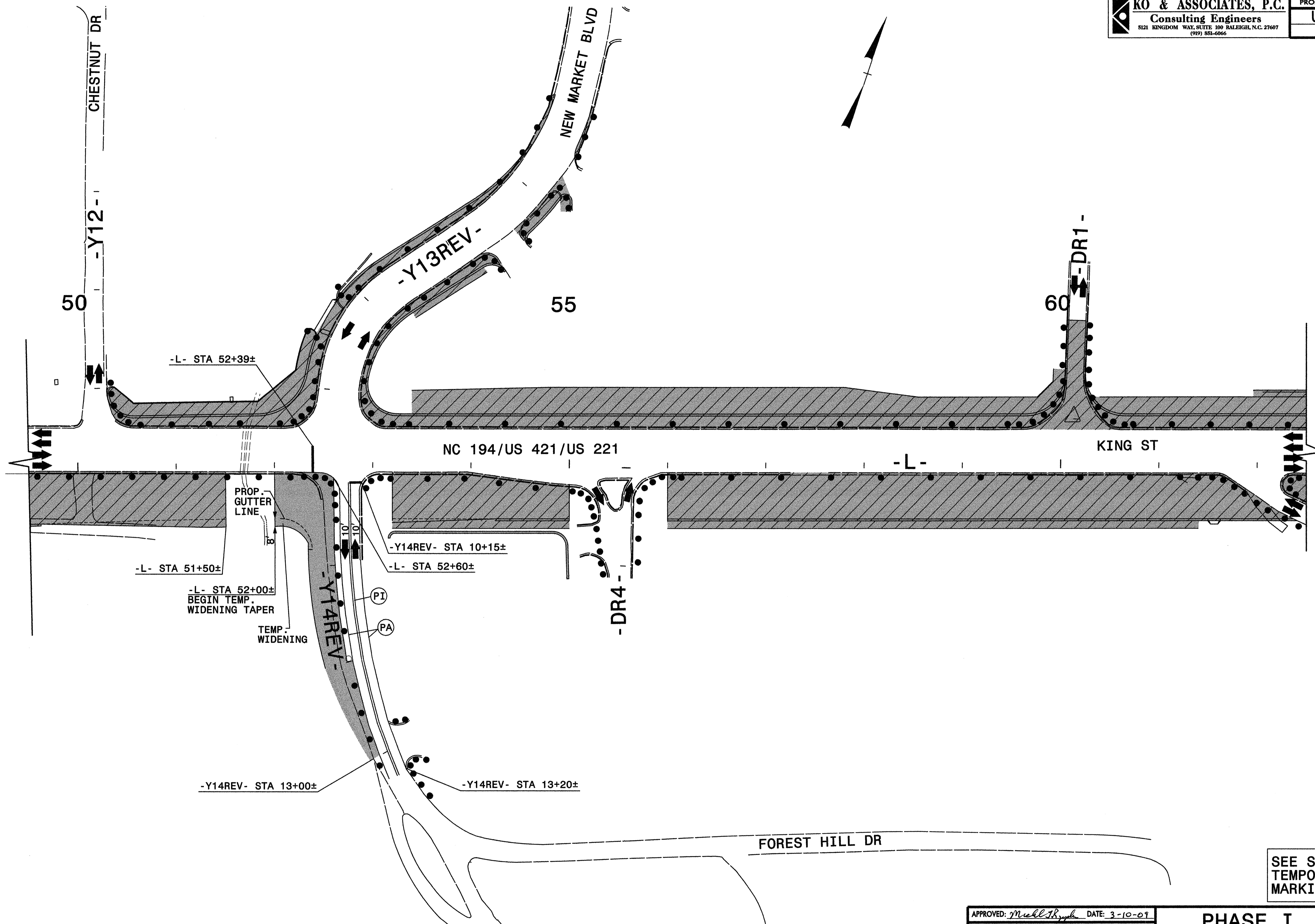
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 Ko & Associates, P.C.





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 KO & Associates, P.C.

SEE SHEET TCP-3 FOR  
 TEMPORARY PAVEMENT  
 MARKING SCHEDULE

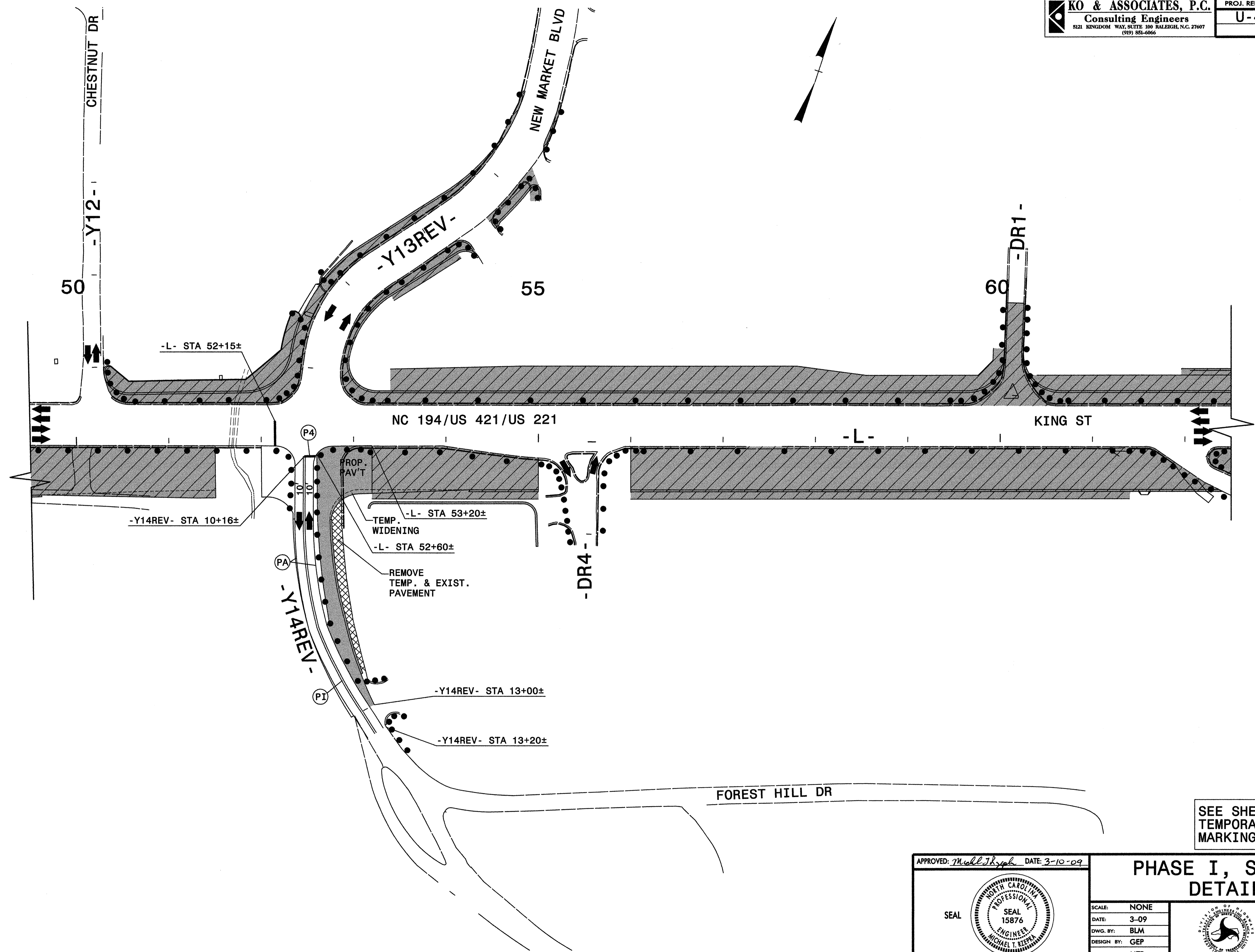
APPROVED: *Michael T. Rzepka* DATE: 3-10-09

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**PHASE I, STEP 3  
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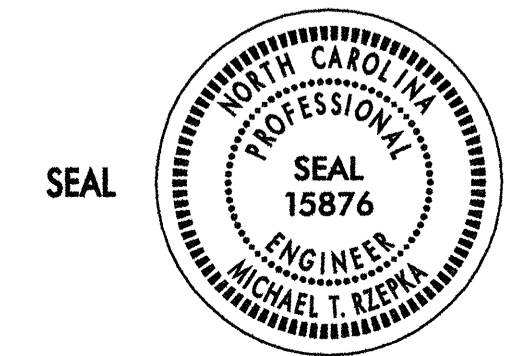




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 KO & Associates, P.C.

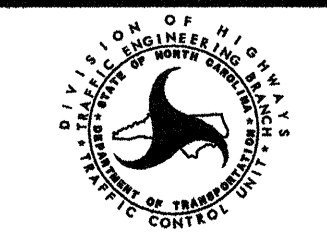
SEE SHEET TCP-3 FOR  
TEMPORARY PAVEMENT  
MARKING SCHEDULE

APPROVED: *Michael T. Rzepka* DATE: 3-10-09



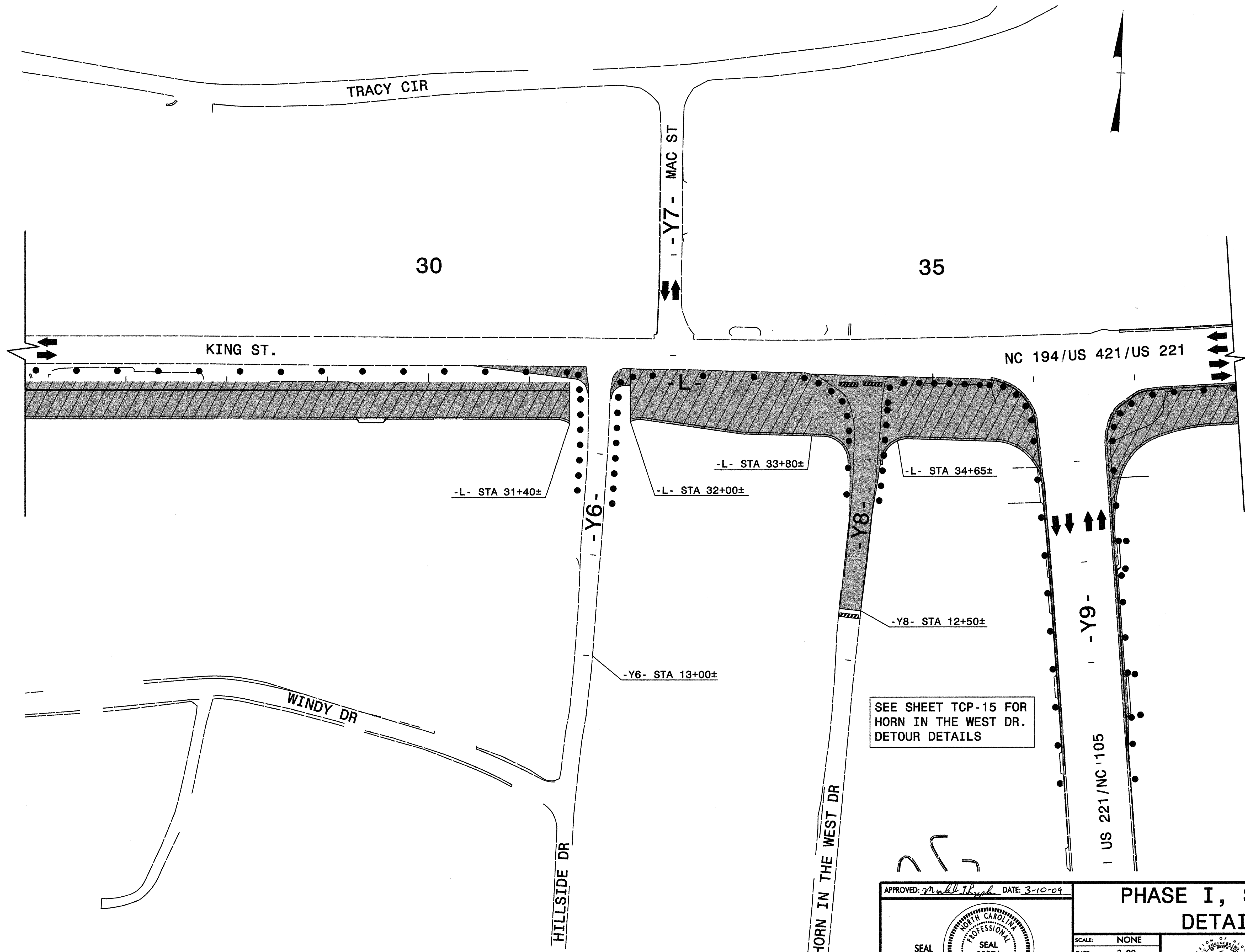
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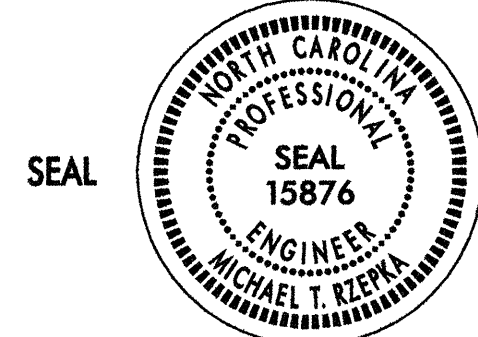


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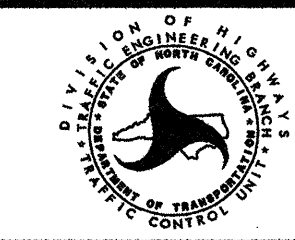


APPROVED: *Michael T. Szepka* DATE: 3-10-09



**PHASE I, STEP 5  
DETAIL**

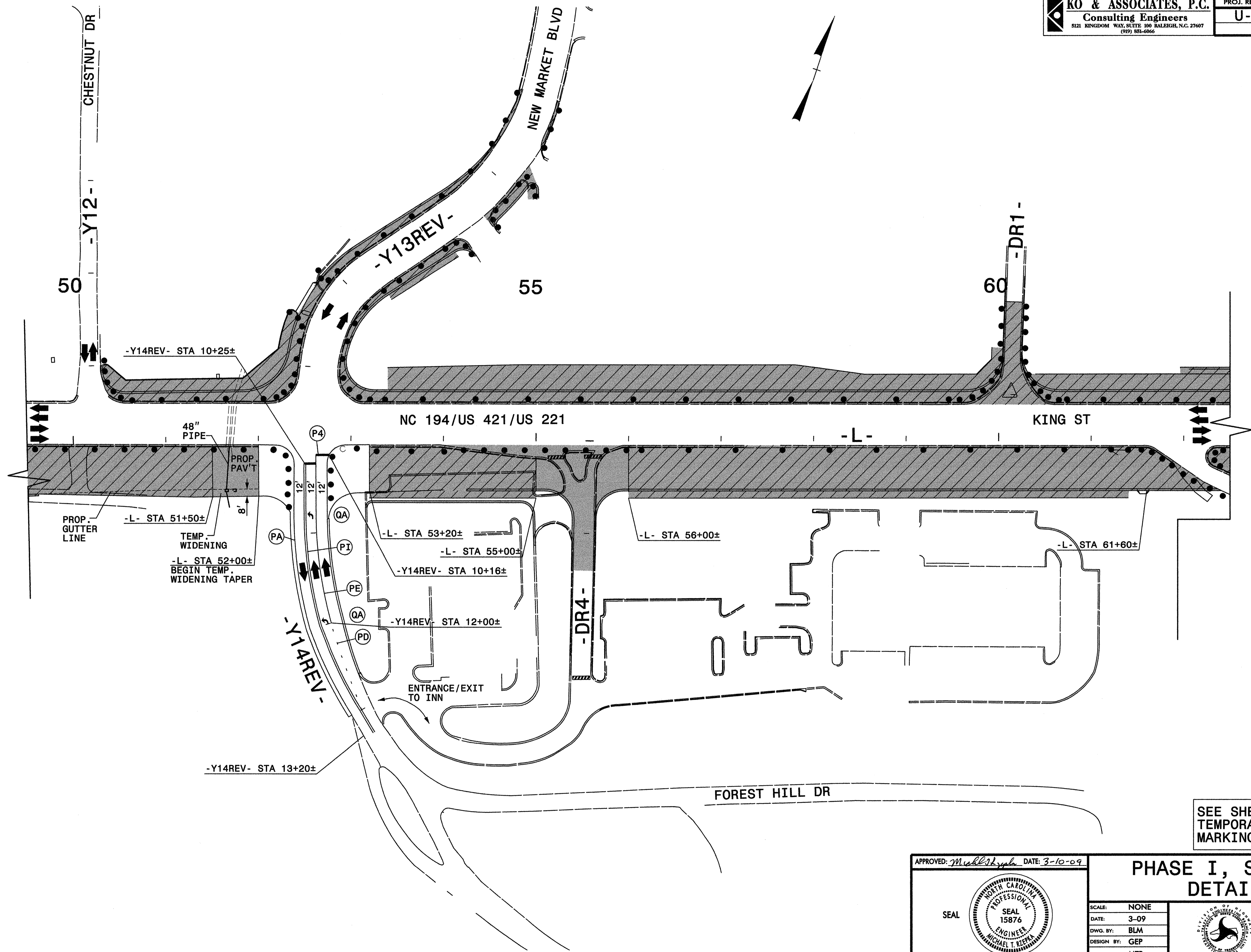
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3/10/2009 R:\1007\_mor\_09\U4020\_top\_pl\_s5\_det4.dgn KO & Associates, P.C.

SEE SHEET TCP-3 FOR TEMPORARY PAVEMENT MARKING SCHEDULE

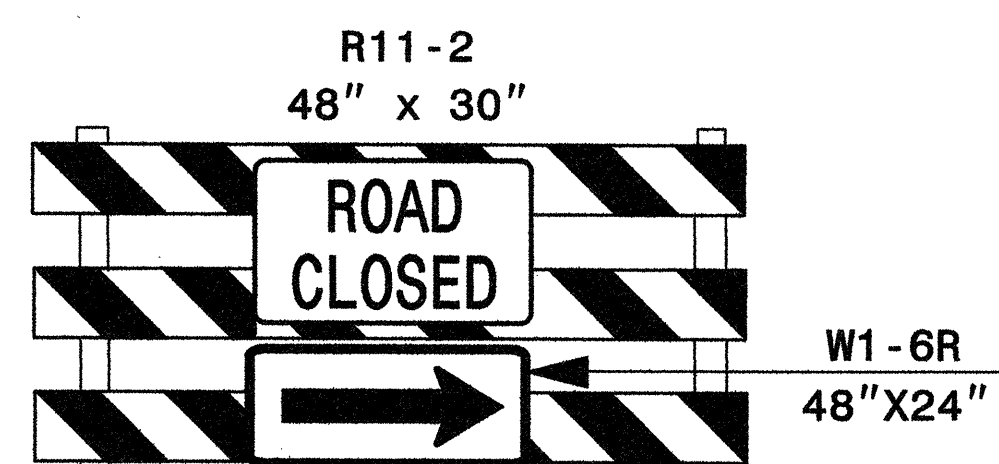
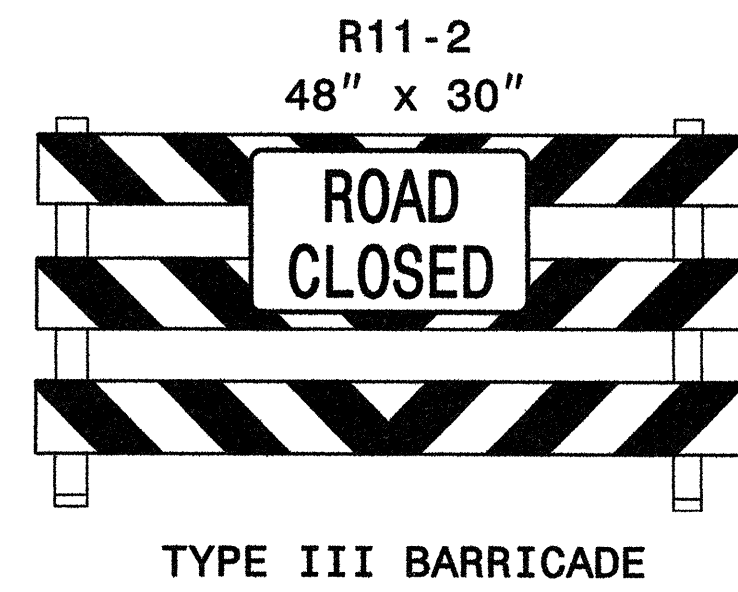
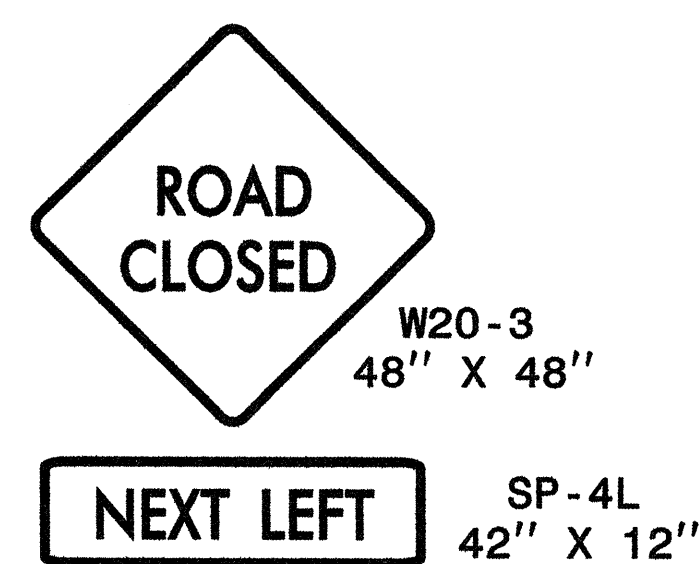
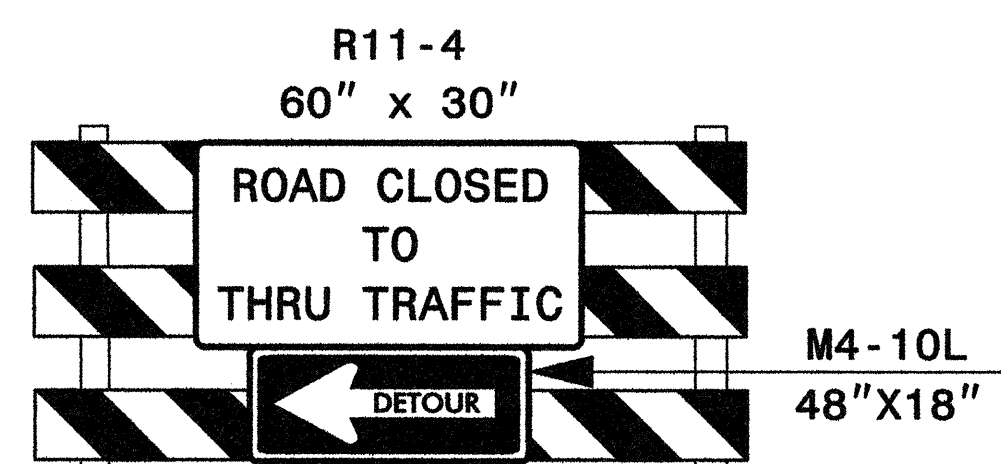
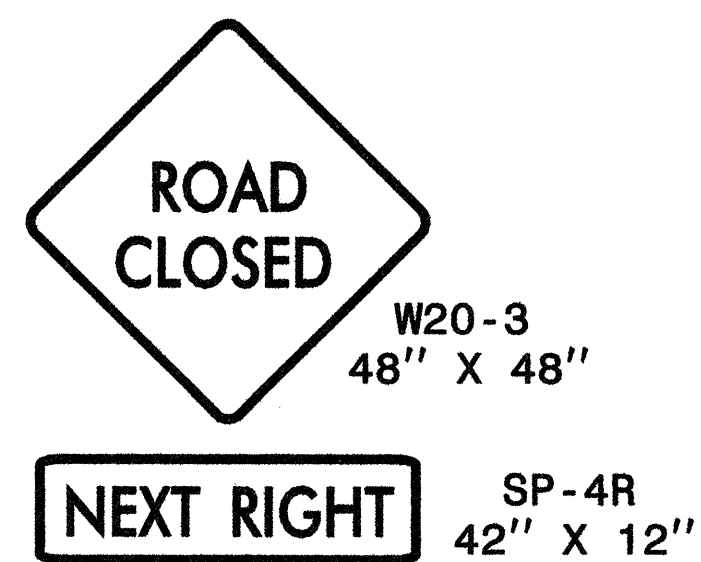
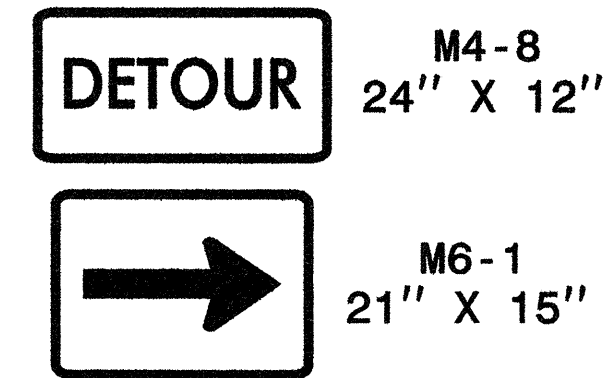
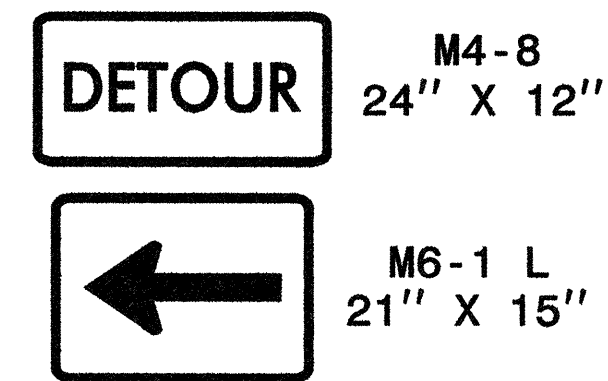
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**PHASE I, STEP 5  
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REVIEWED BY:	MTR												





US 421 / US 221 / NC 194 (KING ST.)

OAK ST.

MAC ST.

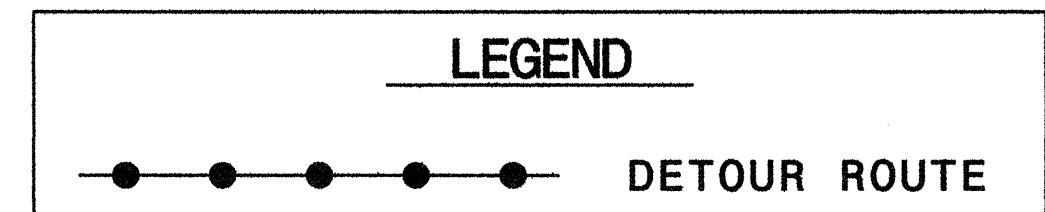
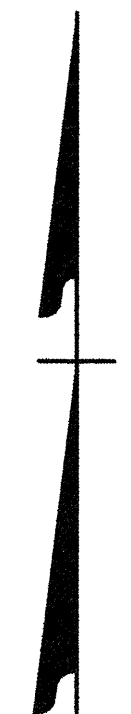
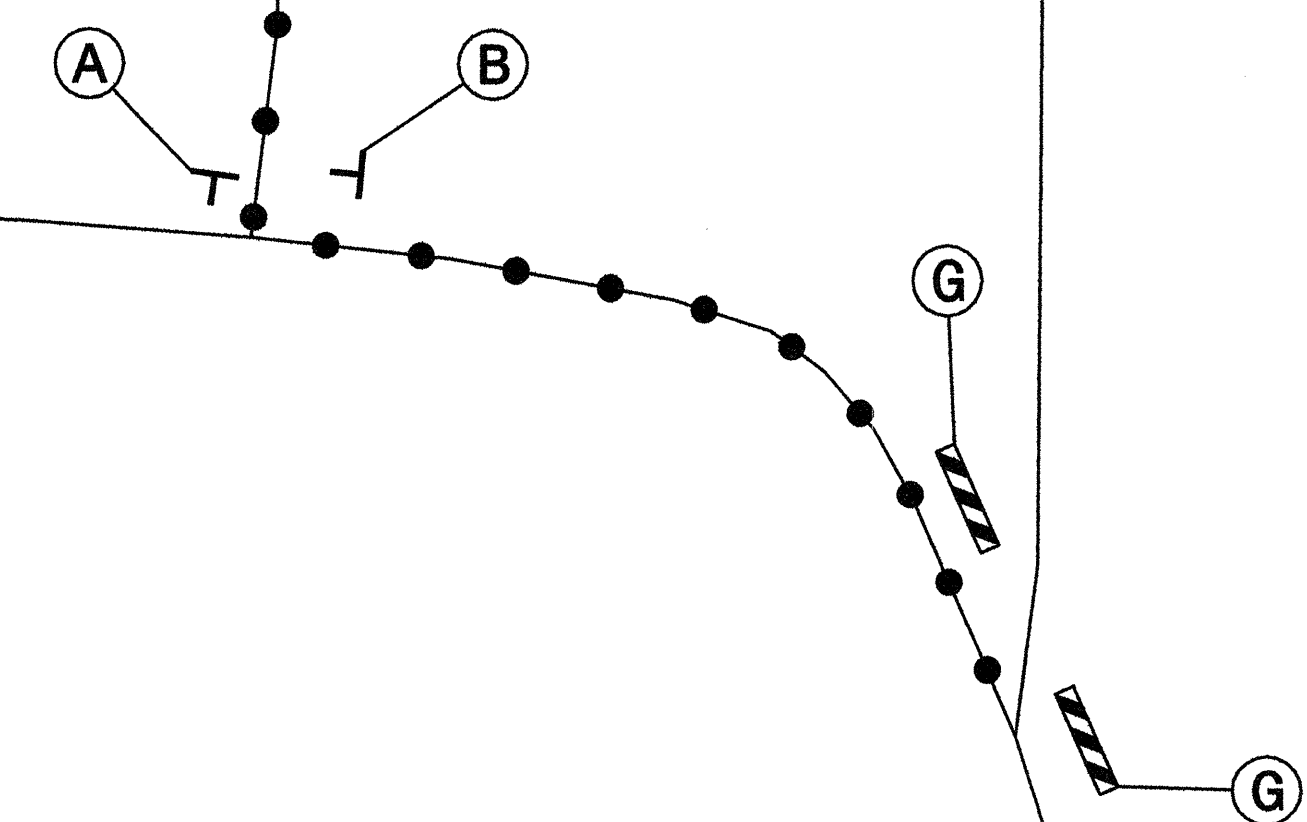
HILLSIDE DR.

GRAHAM ST.

WINDY DR.

WOODLAND DR.

HORN IN THE WEST DR.

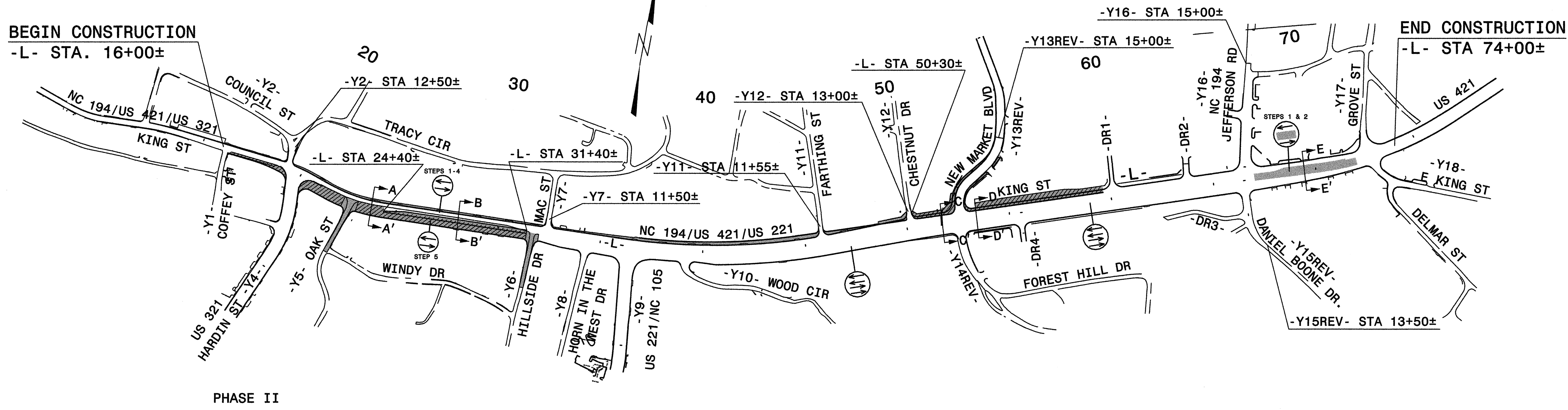


APPROVED: *Michael T. Szepka* DATE: 3-10-09

**DETAIL FOR HORN IN THE WEST DR. CLOSURE**

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DATE: 3-09		
DWG. BY: BLM		
DESIGN BY: GEP		
REVIEWED BY: MTR		

3/10/2009  
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 KO & Associates, P.C.



**BEGIN CONSTRUCTION**  
 -L- STA. 16+00±

**END CONSTRUCTION**  
 -L- STA 74+00±

**PHASE II**

**WORK IN A CONTINUOUS MANNER TO COMPLETE THE WORK IN PHASE II, STEP 1 THROUGH STEP 3 IN 14 CONSECUTIVE DAYS (SEE INTERMEDIATE CONTRACT TIME AND SPECIAL PROVISIONS).**

**STEP 1**  
 USING ROADWAY STANDARD DRAWING 1101.02 (SHEETS 1 & 4 OF 9), COMPLETE THE FOLLOWING ON -L- (SEE SHEETS TCP-18 THRU 21):

- PLACE TEMPORARY PAVEMENT MARKINGS AND MARKERS AND TIE TO EXISTING
- SHIFT TRAFFIC TO TEMPORARY PATTERN SHOWN USING RIGHT SIDE WIDENING AND TEMPORARY WIDENING FROM -L- STA 30+40± TO STA 74+00± AND LEFT SIDE WIDENING FROM -L- STA 59+70± TO STA 74+00±
- OPEN -Y15REV- ACCESS TO -L-
- ADJUST TEMPORARY SIGNALS ON -L- AT -Y9-, -Y13REV-/-Y14REV-, -Y15REV-/-Y16- & -Y17-/-Y18-

USING ROADWAY STANDARD DRAWING 1101.02 (SHEET 1 OF 9), COMPLETE THE FOLLOWING ON -Y15REV- (SEE SHEET TCP-21):

- PLACE TEMPORARY PAVEMENT MARKINGS AND MARKERS ON -Y15REV- AND TIE TO EXISTING
- SHIFT TRAFFIC ONTO DANIEL BOONE DR. (-Y15REV-), OPEN -DR3- AND CLOSE EXISTING DANIEL BOONE DR. ACCESS AT -L-
- ACTIVATE TEMPORARY SIGNAL ON -L- AT -Y15REV-/-Y16-

**STEP 2**  
 USING ROADWAY STANDARD DRAWING 1101.02 (SHEET 4 OF 9), COMPLETE THE FOLLOWING (SEE SHEET TCP-20):

- PLACE PORTABLE CONCRETE BARRIER (PCB) FROM -L- STA 50+85± TO STA 51+95±
- INSTALL TEMPORARY SHORING-BARRIER SUPPORTED FROM -L- STA 51+62± TO STA 51+76±
- INSTALL REMAINING SECTION PROPOSED 48" PIPE AT -L- STA 51+69± AND PATCH PAVEMENT

COMPLETE THE FOLLOWING (SEE SHEET TCP-21):

- PLACE WATER-FILLED BARRIER (WFB) FROM -L- STA 67+20± TO STA 72+00± LT AND FROM -L- STA 67+50± TO STA 72+00± RT
- REMOVE AND REPLACE PAVEMENT FROM -L- STA 67+00± TO STA 72+00± (SEE ROADWAY PLANS)

AWAY FROM TRAFFIC AND USING ROADWAY STANDARD DRAWING 1101.02 (SHEETS 1 & 4 OF 9), BEGIN CONSTRUCTION OF THE FOLLOWING (SEE LOCAL NOTES 3 & 5) (SEE SHEETS TCP-18 THRU 20):

- L- LEFT SIDE WIDENING INCLUDING CURB & GUTTER AND SIDEWALK FROM -Y7- TO -L- STA 50+30±
- Y11- STA 11+55± TO -L-
- Y12- STA 13+00± TO -L-

**STEP 3**  
 USING ROADWAY STANDARD DRAWING 1101.02 (SHEETS 1 & 4 OF 9), COMPLETE THE FOLLOWING TRAFFIC SHIFT (SEE SHEETS TCP-22 THRU 24):

- REMOVE PCB & WFB AT ALL LOCATIONS FROM STEP 2.
- PLACE TEMPORARY PAVEMENT MARKINGS AND MARKERS ON -L-. ADJUST STOP BARS ON -Y13REV- AND -Y14REV-
- ADJUST TEMPORARY SIGNALS ON -L- AT -Y13REV-/-Y14REV-, -Y15REV-/-Y16- AND -Y17-/-Y18-
- SHIFT TRAFFIC TO NEW TEMPORARY PATTERN ON -L- FROM STA 47+00± TO STA 60+63±
- SHIFT TRAFFIC TO FINAL PATTERN ON -L- FROM STA 60+63± TO STA 74+00± (WB OUTSIDE LANE TO REMAIN CLOSED).

**STEP 4**  
 USING ROADWAY STANDARD DRAWING 1101.02 (SHEET 4 OF 9), COMPLETE THE FOLLOWING FROM -L- FROM STA 49+60± TO STA 54+25± RT:

- REMOVE TEMPORARY WIDENING
- COMPLETE DRAINAGE STRUCTURES (SEE LOCAL NOTE 5)
- CONSTRUCT PROPOSED BERM INCLUDING CURB & GUTTER AND SIDEWALK

NOTE: DO NOT CLOSE -Y5- AND -Y6- SIMULTANEOUSLY.

USING ROADWAY STANDARD DRAWING 1101.03 (SHEETS 1 & 2 OF 9), CLOSE -Y5- AND CONSTRUCT THE FOLLOWING UP TO BUT NOT INCLUDING THE FINAL LAYER OF SURFACE COURSE (SEE SHEETS TCP-25 & 29):

- Y5- FROM -L- TO STA 13+00±
- L- STA 22+40± TO STA 23+10± (PROP. WEDGING AND WIDENING RT OF EXIST. PAV'T)

REOPEN -Y5- WITH TEMPORARY TIE TO EXISTING -L- PAVEMENT.

USING ROADWAY STANDARD DRAWING 1101.03 (SHEETS 1 & 2 OF 9), CLOSE -Y6- AND CONSTRUCT THE FOLLOWING UP TO BUT NOT INCLUDING THE FINAL LAYER OF SURFACE COURSE (SEE SHEETS TCP-26 & 30):

- Y6- FROM -L- TO STA 13+00±
- L- STA 31+40± TO STA 32+00± (PROP. WEDGING AND WIDENING RT OF EXIST. PAV'T)

REOPEN -Y6- WITH TEMPORARY TIE TO EXISTING -L- PAVEMENT.

COMPLETE CONSTRUCTION IN THE FOLLOWING AREAS BEGUN IN STEP 2:

- L- STA 16+00± TO STA 22+40± RT
- L- STA 23+10± TO STA 31+40± RT

**STEP 5**  
 USING ROADWAY STANDARD DRAWING 1101.02 (SHEETS 1 & 4 OF 9), COMPLETE THE FOLLOWING ON -L- (SEE SHEETS TCP-27 & 28):

- PLACE TEMPORARY PAVEMENT MARKINGS AND MARKERS AND TIE TO EXISTING
- SHIFT TRAFFIC TO TEMPORARY PATTERN SHOWN USING RIGHT SIDE WIDENING FROM -L- STA 16+00± TO STA 35+50±
- ADJUST TEMPORARY SIGNAL ON -L- AT -Y4-

AWAY FROM TRAFFIC AND USING ROADWAY STANDARD DRAWING 1101.02 (SHEETS 1 & 4 OF 9), CONSTRUCT THE FOLLOWING (SEE LOCAL NOTES 3 & 5) (SEE SHEETS TCP-27 & 28):

- L- LEFT SIDE WIDENING INCLUDING CURB & GUTTER AND SIDEWALK FROM -L- STA 16+00± TO -Y7-
- REMAINING PORTION OF PROP. RAISED MED. ISLAND FROM -L- STA 24+40± TO STA 31+40±
- Y2- STA 12+50± TO -L-
- Y7- STA 11+50± TO -L-

COMPLETE CONSTRUCTION OF THE FOLLOWING AND PLACE TEMPORARY PAVEMENT MARKINGS AND MARKERS AWAY FROM TRAFFIC:

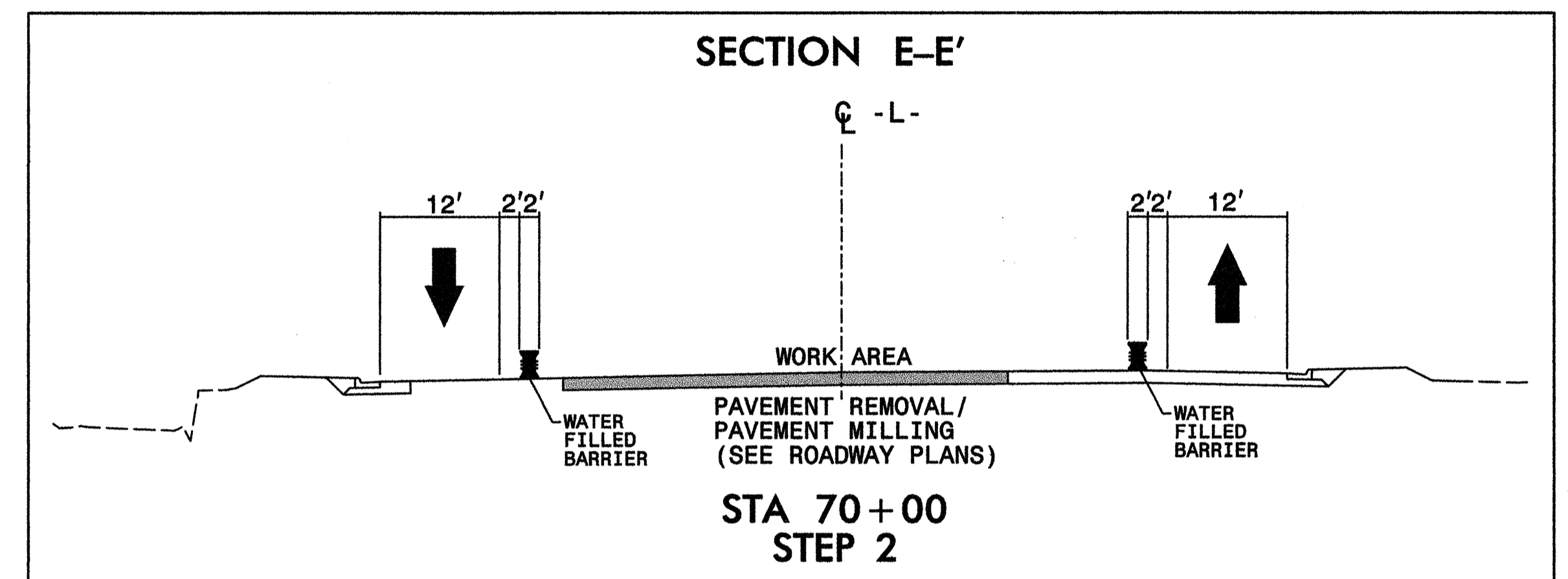
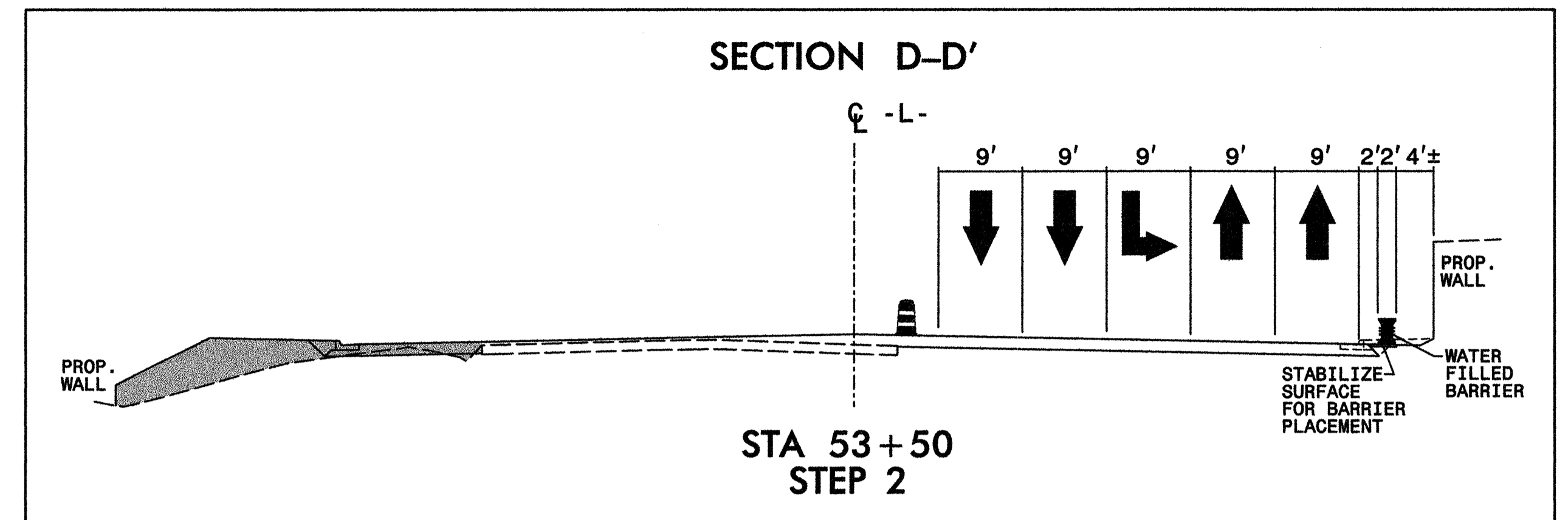
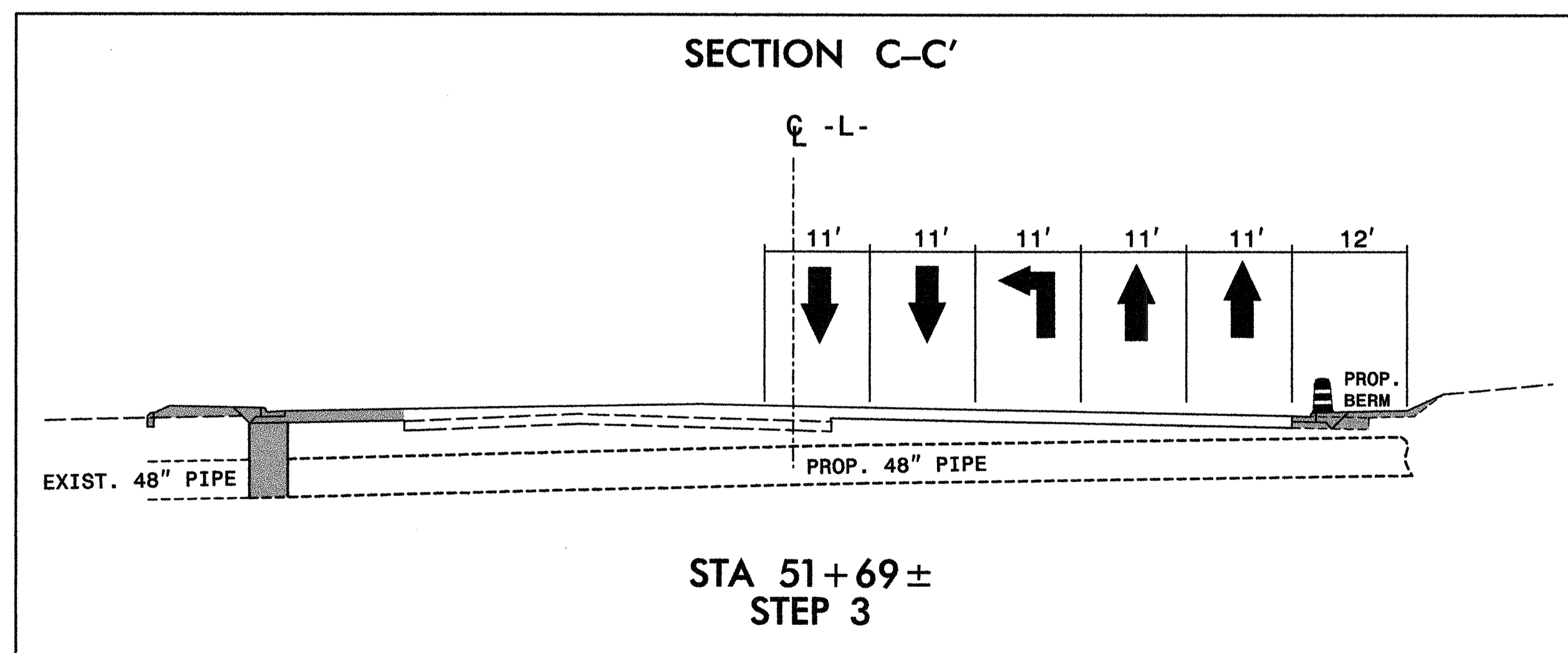
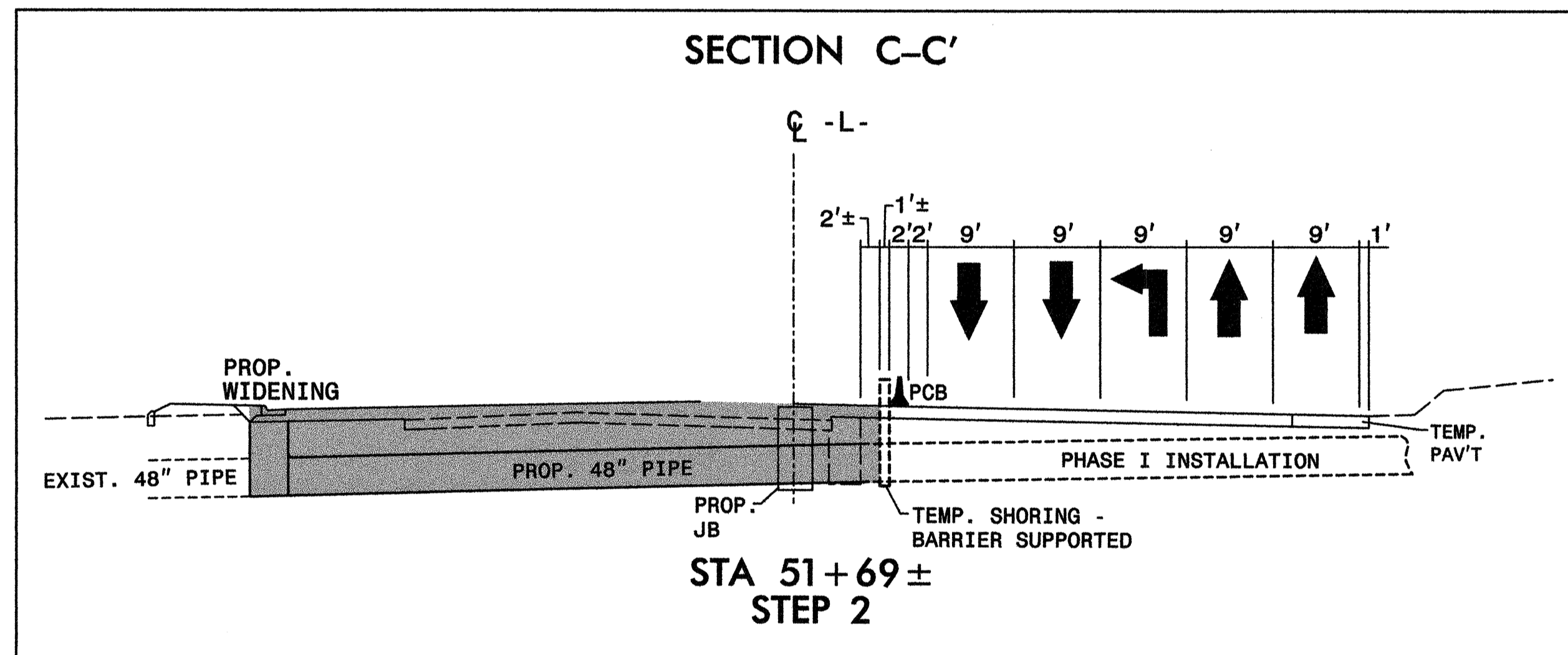
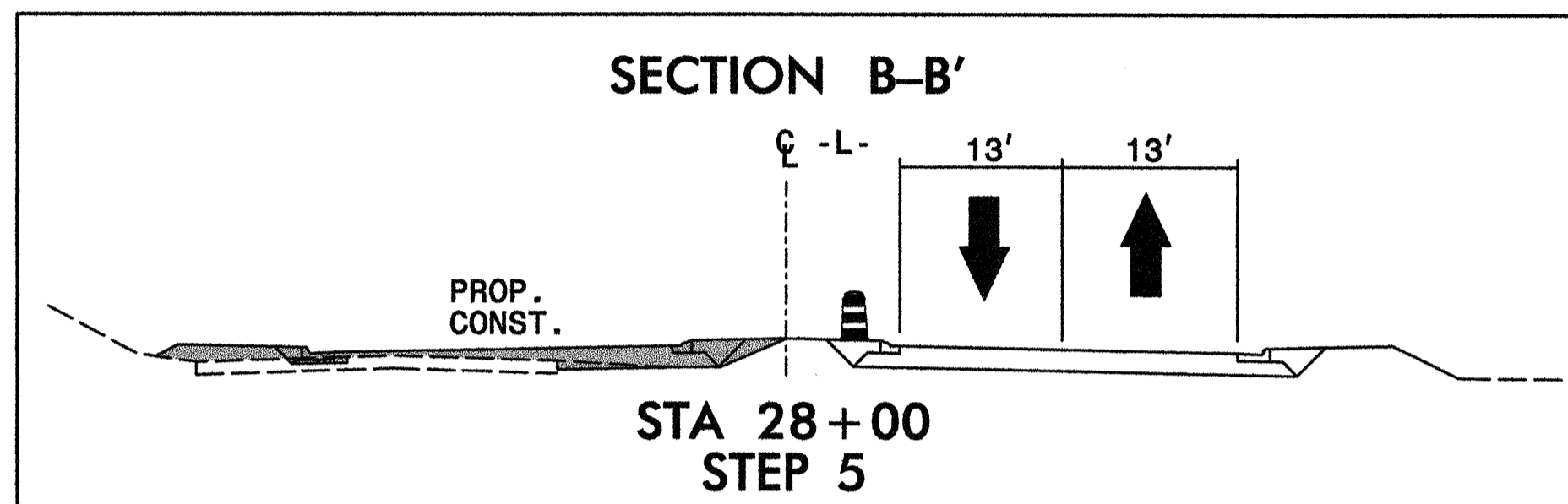
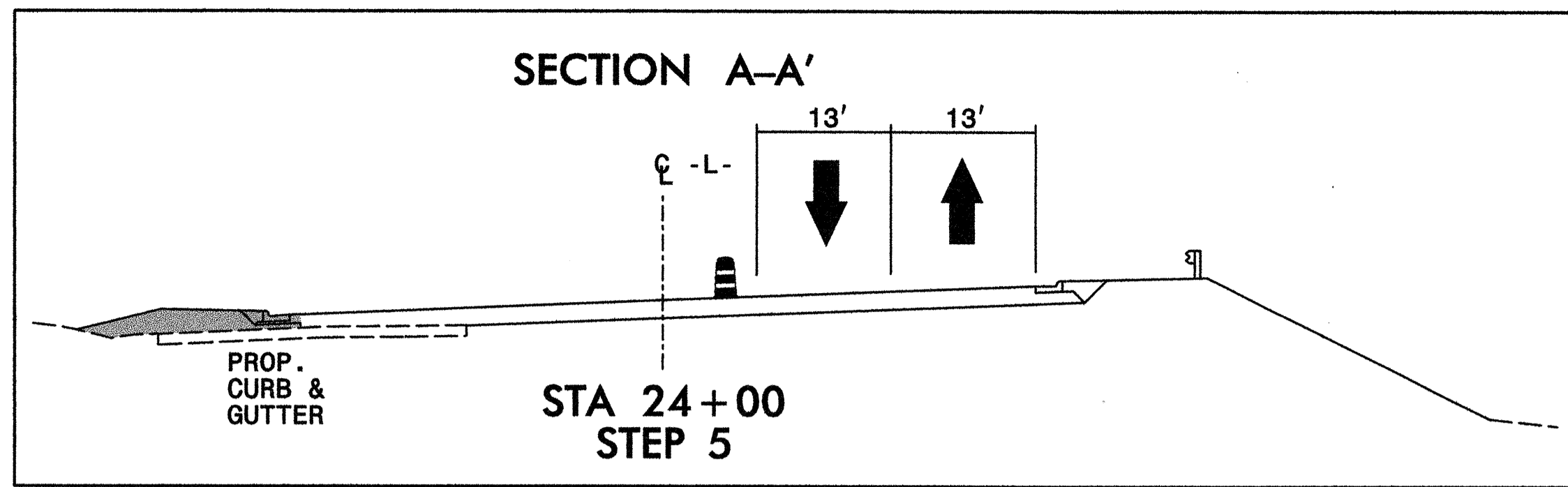
- L- FROM -Y7- TO -L- STA 59+70± LT
- Y11- STA 11+55± TO -L-
- Y12- STA 13+00± TO -L-
- Y13REV- STA 15+00± TO -L-

COMPLETE MILLING OF EXISTING PAVEMENT. (SEE ROADWAY PLANS FOR LOCATIONS)

3/10/2009 R:\1007\_mor\_09\U4020\_tcp\_tcp\_pii\_ovw.dgn KO & Associates, P.C.

APPROVED: <i>Michael T. Rzepka</i> DATE: 3-10-09		<b>PHASE II OVERVIEW AND PHASING</b>	
	SCALE: NONE		REVISIONS
	DATE: 3-09		
	DWG. BY: BLM		
	DESIGN BY: GEP		
	REVIEWED BY: MTR		





SEE SHEET TCP-20 FOR  
 TEMPORARY SHORING LOCATION

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.

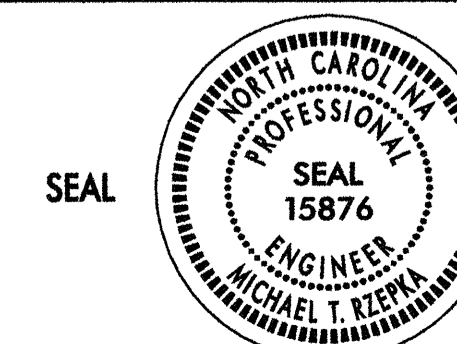
WHEN USING CONTRACTOR DESIGNED SHORING FROM STATION 51+62.00± -L-, 8 FT. RIGHT OF -L-, TO STATION 51+76.00± -L-, 8 FT. RIGHT OF -L-, USE THE FOLLOWING SOIL PARAMETERS:

- 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 51+62.00± -L-, 8 FT. RIGHT OF -L-, TO STATION 51+76.00± -L-, 8 FT. RIGHT OF -L-. THE INFORMATION PROVIDED FOR DESIGN WAS ASSUMED AND MAY NOT BE APPLICABLE TO THE ACTUAL SITE CONDITIONS ENCOUNTERED DURING CONSTRUCTION.

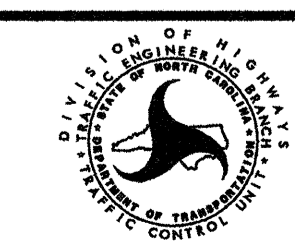
FOR PORTABLE CONCRETE BARRIERS ABOVE AND BEHIND TEMPORARY SHORING, USE AN NCDOT PORTABLE CONCRETE BARRIER (UNANCHORED OR ANCHORED) OR AN OREGON TALL F-SHAPE CONCRETE BARRIER IN ACCORDANCE WITH THE TRAFFIC CONTROL PLANS.

APPROVED: *Michael Keph* DATE: 3-10-09

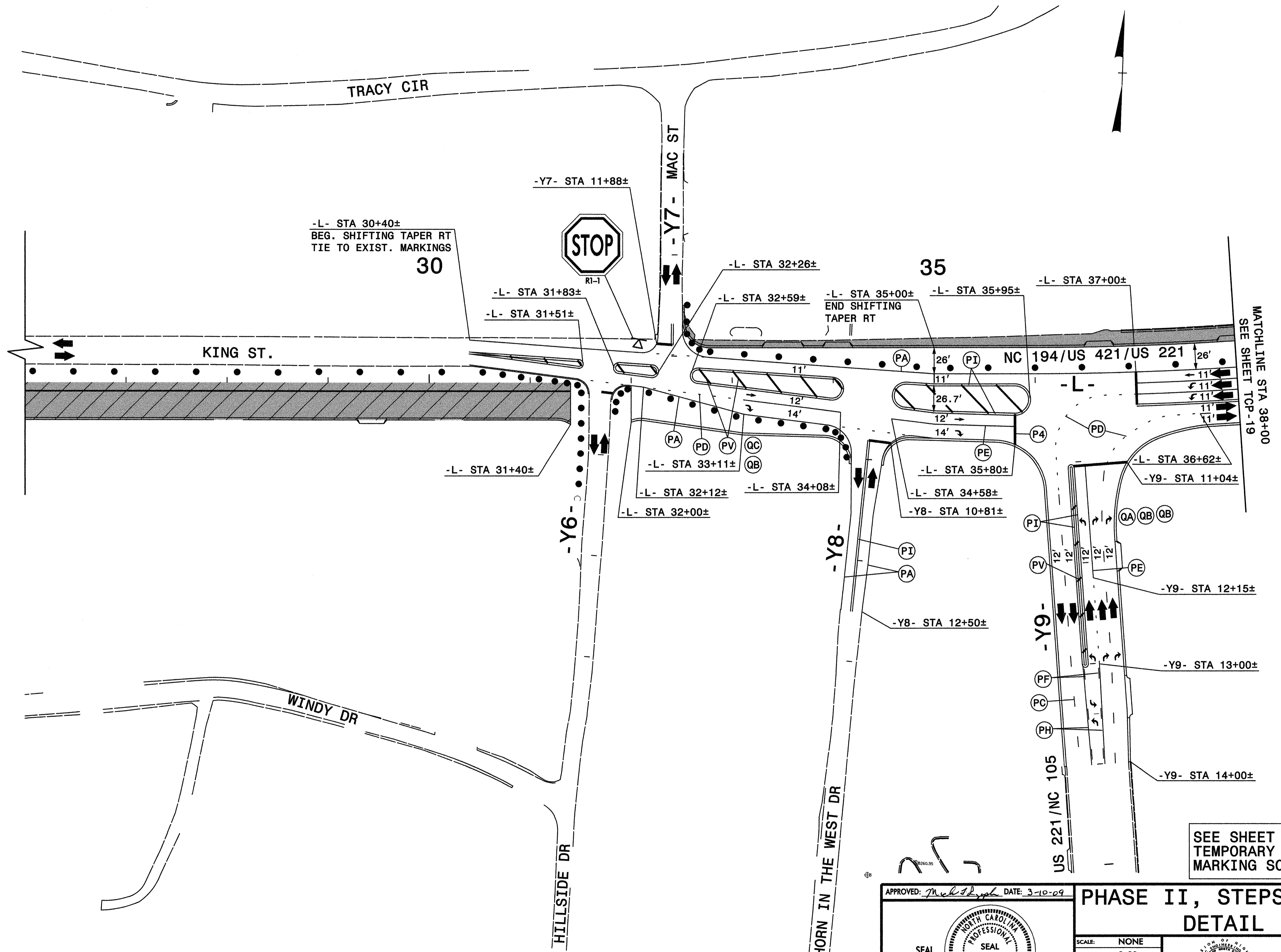


PHASE II SECTIONS &  
 TEMPORARY SHORING NO. 1

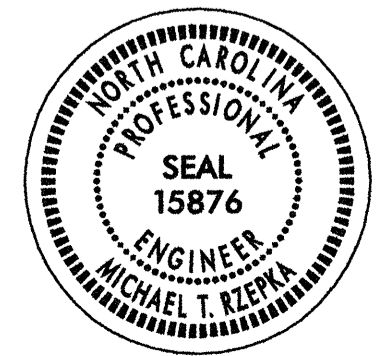
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 DWG. BY: BLM  
 DESIGN BY: GEP  
 REVIEWED BY: MTR



REVISIONS	



APPROVED: *Michael T. Kiepl* DATE: 3-10-09

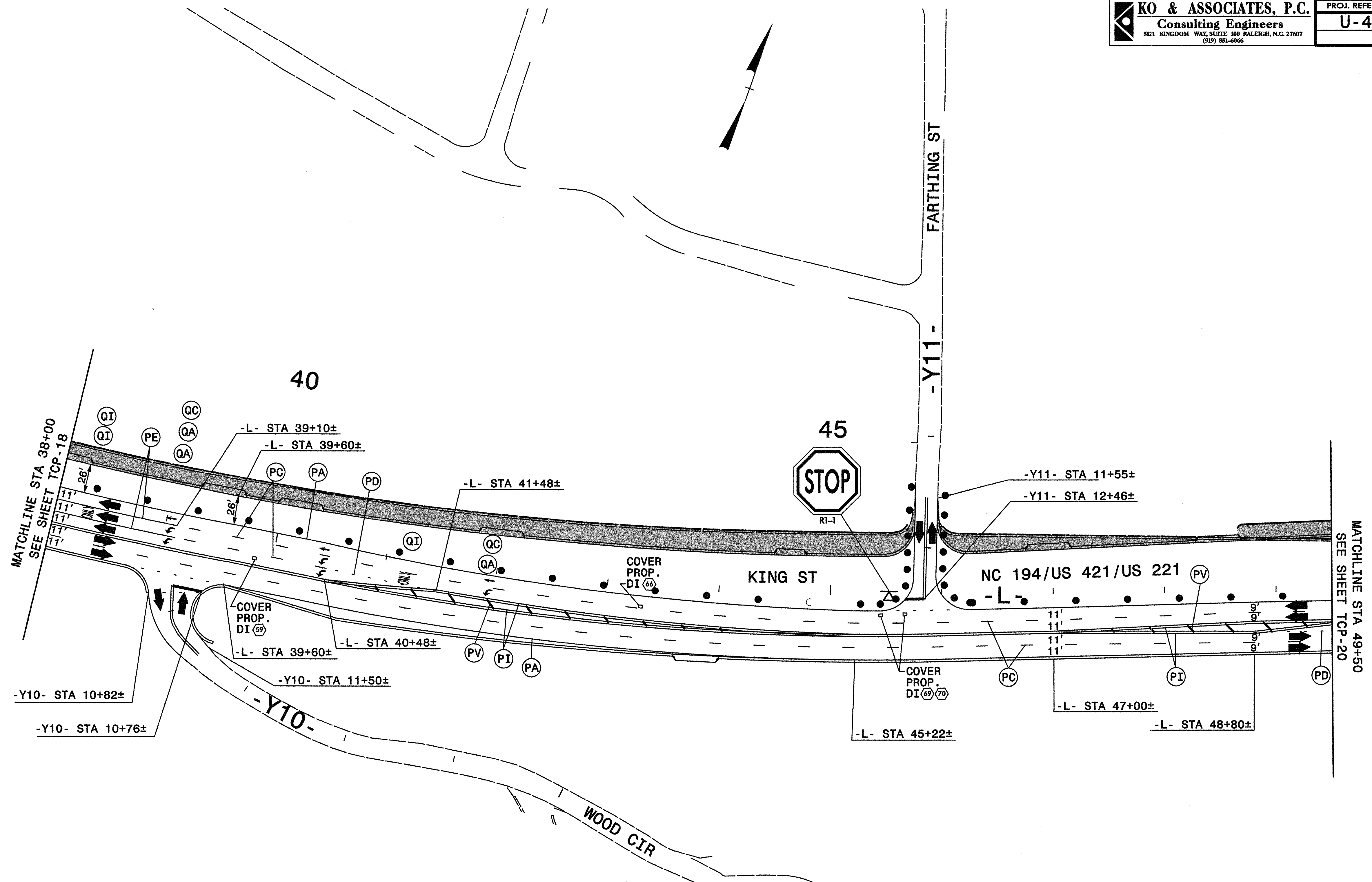


**PHASE II, STEPS 1 & 2  
 DETAIL**

SCALE: NONE		REVISIONS
DATE: 3-09		
DWG. BY: BLM		
DESIGN BY: GEP		
REVIEWED BY: MTR		

3/10/2009 R:\1007\_mar\_09\U4020\_top\_pil\_sl&2\_det2.dgn KO & Associates, P.C.



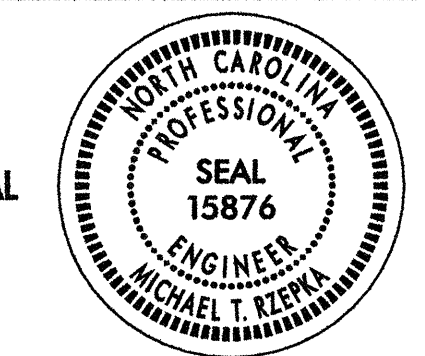


MATCHLINE STA 38+00  
SEE SHEET TCP-18

MATCHLINE STA 49+50  
SEE SHEET TCP-20

SEE SHEET TCP-3 FOR  
TEMPORARY PAVEMENT  
MARKING SCHEDULE

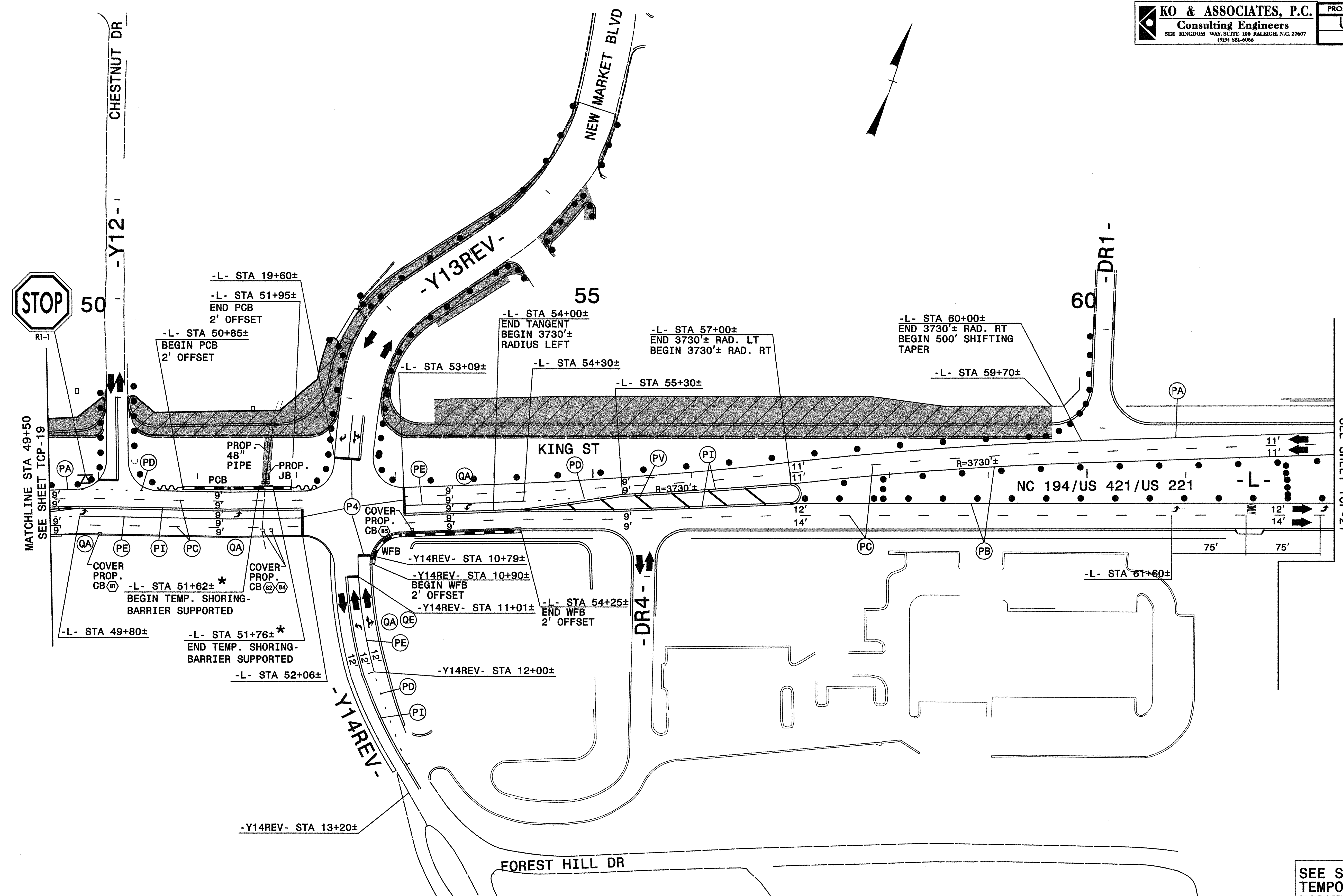
APPROVED: *Michael T. Rzepka* DATE: 3-10-09



**PHASE II, STEPS 1 & 2  
DETAIL**

SCALE: NONE		REVISIONS
DATE: 3-09		
DWG. BY: BLM		
DESIGN BY: GEP		
REVIEWED BY: MTR		

3/10/2009 R:\1007\_mar\_09\U4020\_tcp\_top\_pil\_s&2\_det3.dgn  
 KO & Associates, P.C.



3/10/2009  
 R:\007\mar\_09\U4020.tc\_tcp\_pii\_sl&2\_det4.dgn  
 Ko & Associates, P.C.

**\* SEE SHEET TCP-17 FOR TEMPORARY SHORING INFORMATION**

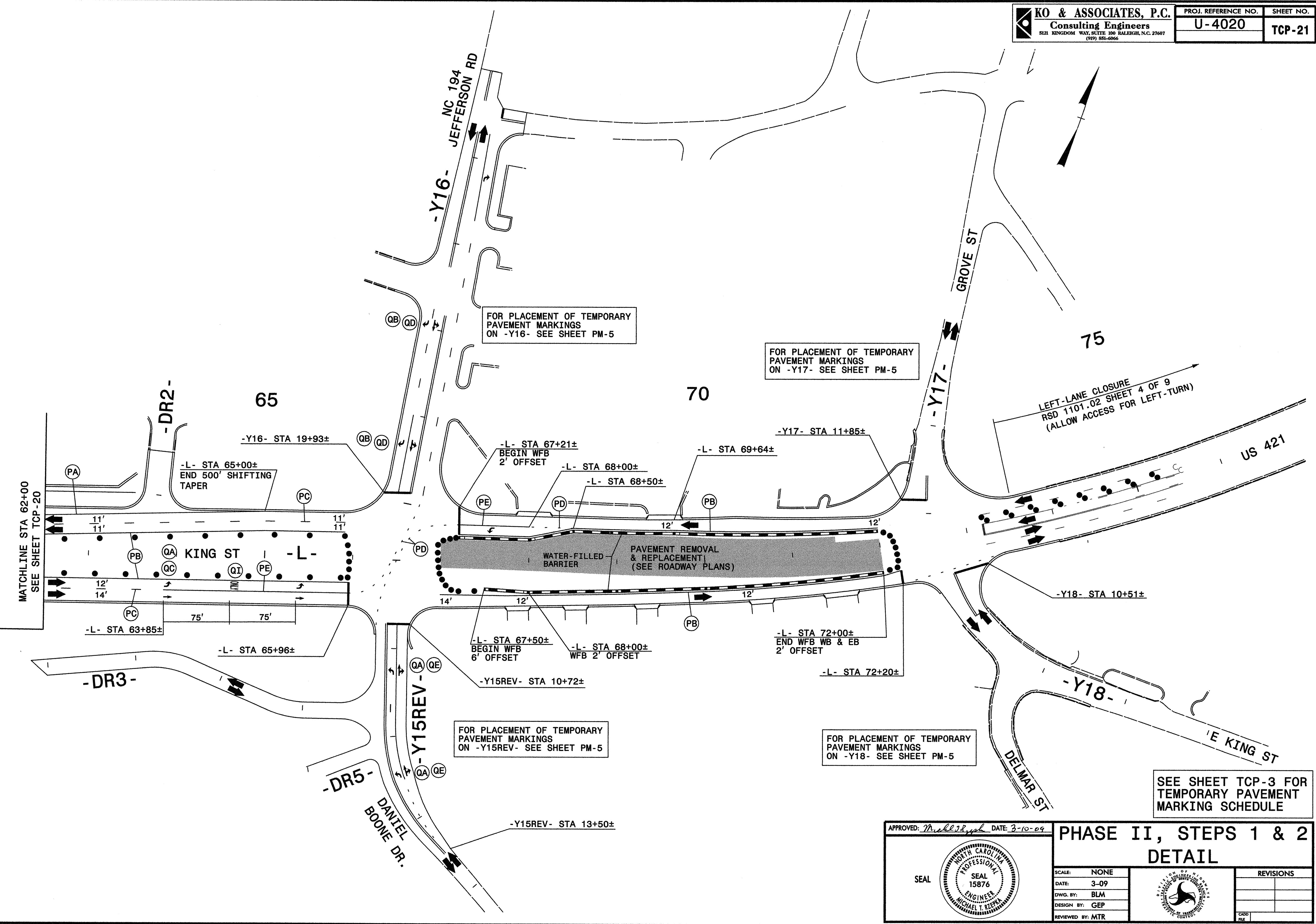
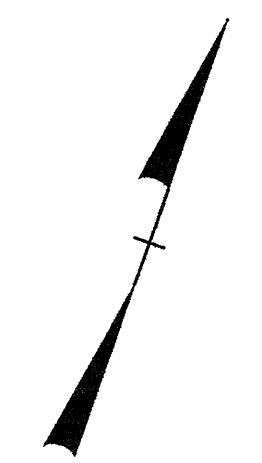
**SEE SHEET TCP-3 FOR TEMPORARY PAVEMENT MARKING SCHEDULE**

APPROVED: *Michael T. Szepka* DATE: 3-6-09

**PHASE II, STEPS 1 & 2 DETAIL**

SCALE: NONE			REVISIONS
DATE: 3-09			
DWG. BY: BLM			
DESIGN BY: GEP			
REVIEWED BY: MTR			





FOR PLACEMENT OF TEMPORARY PAVEMENT MARKINGS ON -Y16- SEE SHEET PM-5

FOR PLACEMENT OF TEMPORARY PAVEMENT MARKINGS ON -Y17- SEE SHEET PM-5

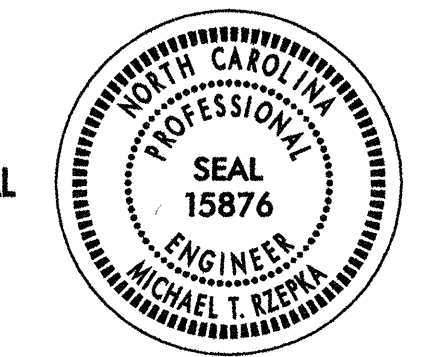
FOR PLACEMENT OF TEMPORARY PAVEMENT MARKINGS ON -Y15REV- SEE SHEET PM-5

FOR PLACEMENT OF TEMPORARY PAVEMENT MARKINGS ON -Y18- SEE SHEET PM-5

LEFT-LANE CLOSURE  
 RSD 1101.02 SHEET 4 OF 9  
 (ALLOW ACCESS FOR LEFT-TURN)

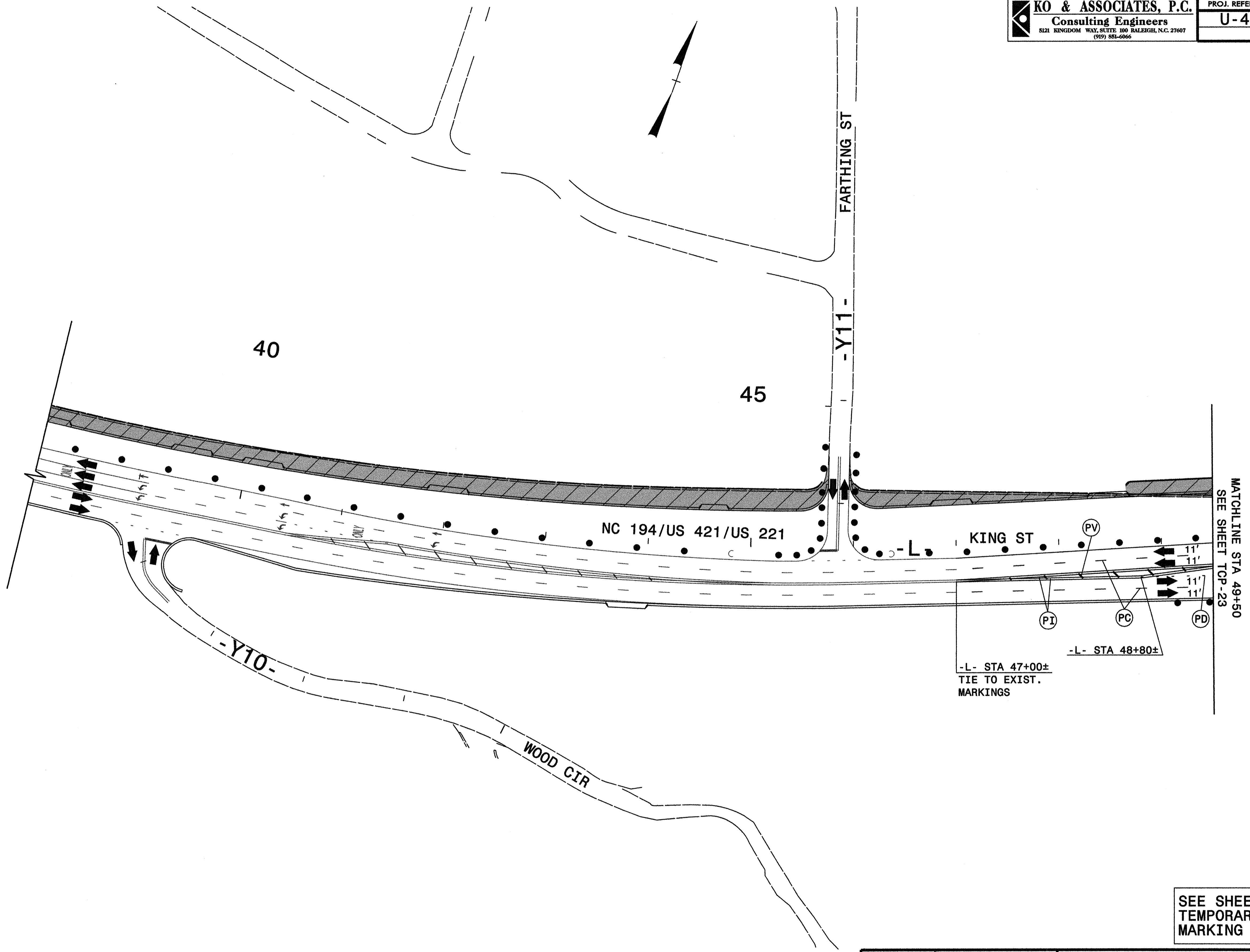
SEE SHEET TCP-3 FOR TEMPORARY PAVEMENT MARKING SCHEDULE

APPROVED: *Michael T. Klepa* DATE: 3-10-09



<b>PHASE II, STEPS 1 &amp; 2 DETAIL</b>			REVISIONS
SCALE:	NONE		
DATE:	3-09		
DWG. BY:	BLM		
DESIGN BY:	GEP		
REVIEWED BY:	MTR		

3/10/2009  
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 KO & Associates, P.C.

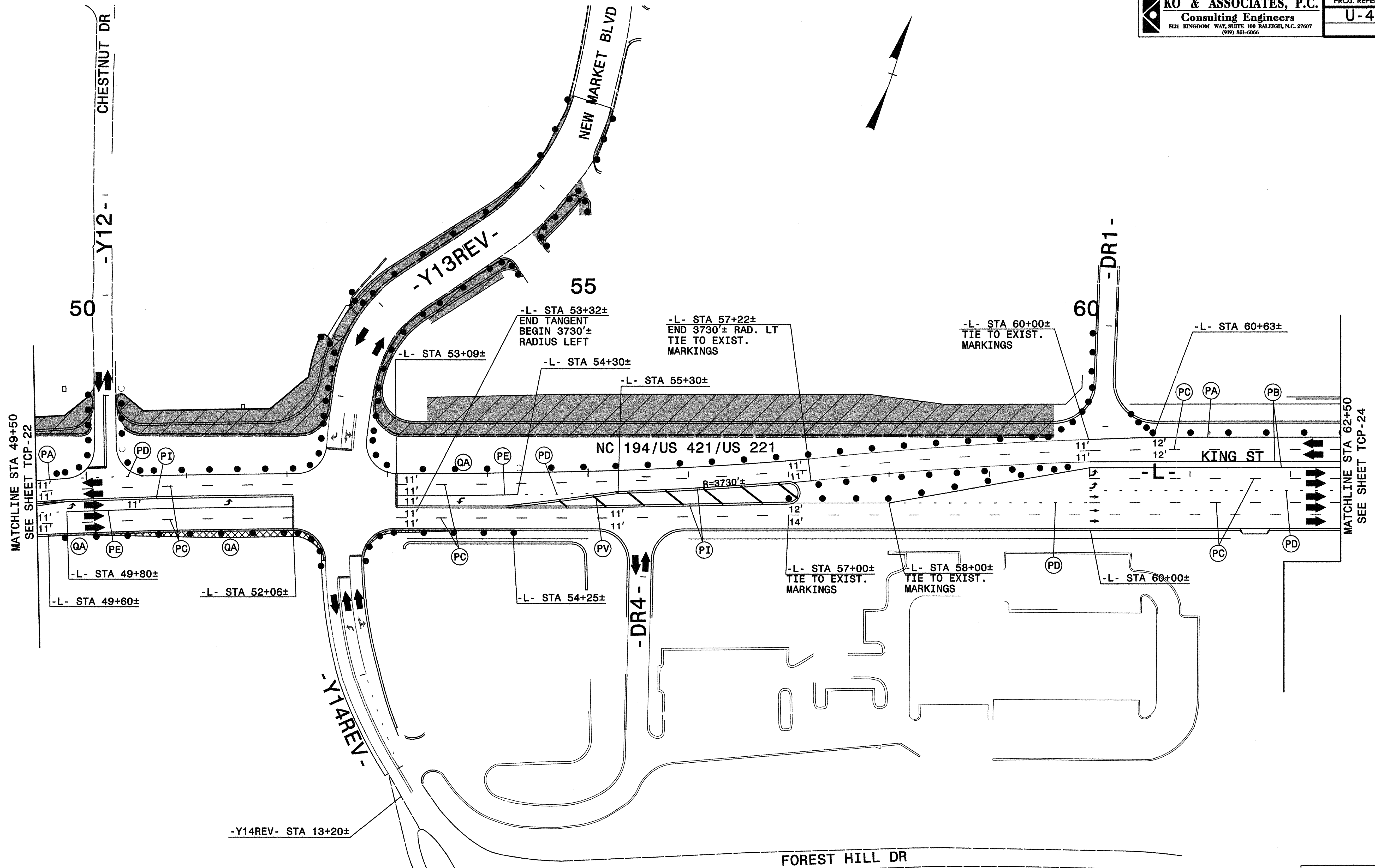


SEE SHEET TCP-3 FOR  
TEMPORARY PAVEMENT  
MARKING SCHEDULE

APPROVED: <i>M. K. Kelly</i> DATE: 3-10-09		<b>PHASE II, STEPS 3 &amp; 4 DETAIL</b>	
SEAL 	SCALE: NONE		
	DATE: 3-09		
	DWG. BY: BLM		
	DESIGN BY: GEP		
REVIEWED BY: MTR			CADD FILE

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 KO & Associates, P.C.





3/10/2009  
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 KO & Associates, P.C.

SEE SHEET TCP-3 FOR  
 TEMPORARY PAVEMENT  
 MARKING SCHEDULE

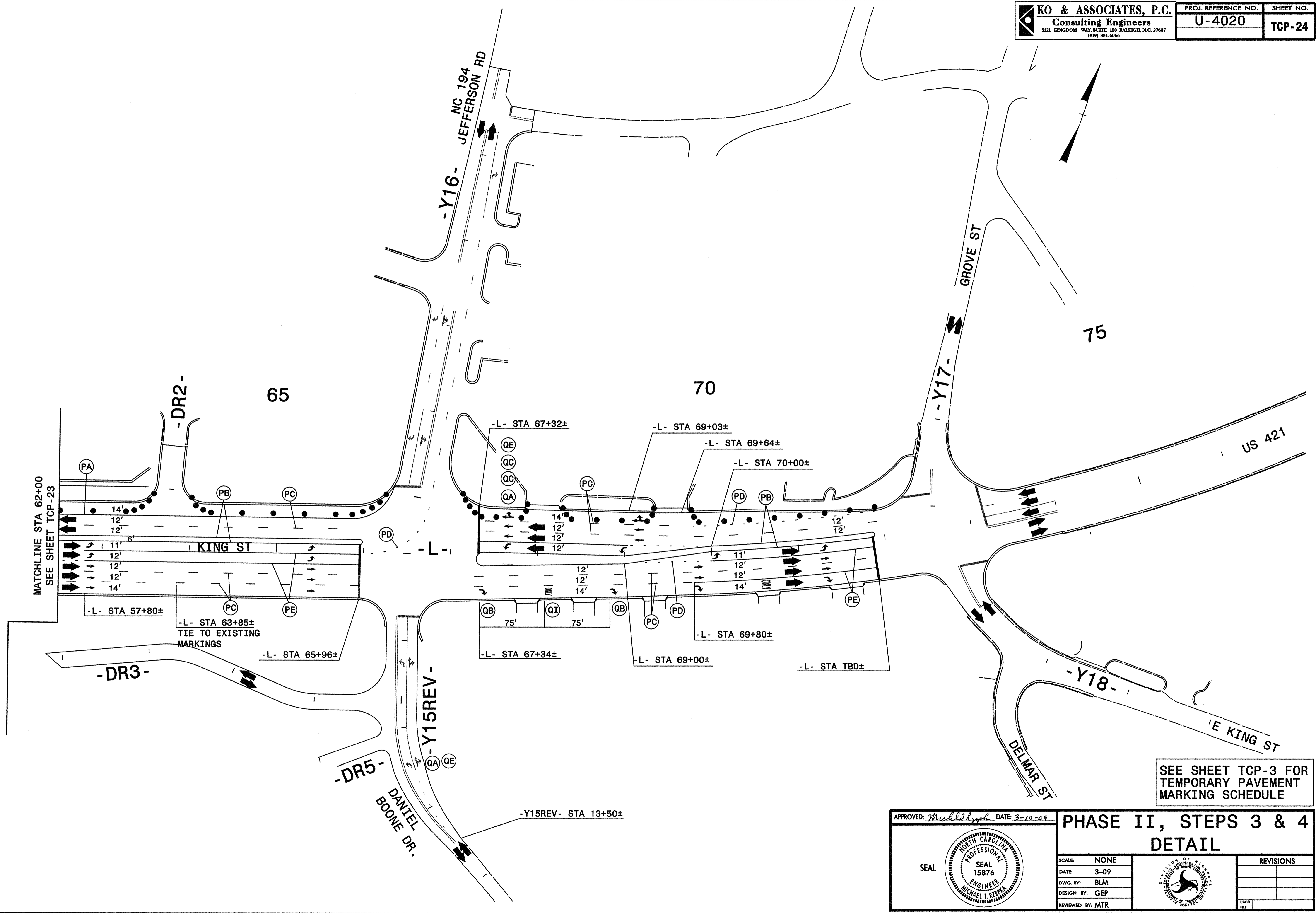
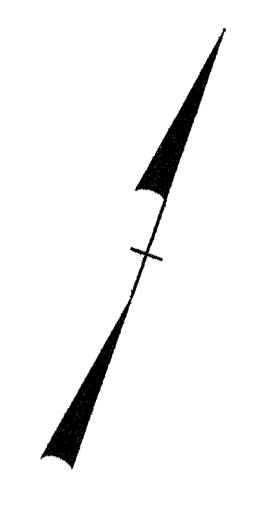
APPROVED: *Michael T. Stepp* DATE: 3-10-09

SEAL

**PHASE II, STEPS 3 & 4  
 DETAIL**

SCALE:	NONE
DATE:	3-09
DWG. BY:	BLM
DESIGN BY:	GEP
REVIEWED BY:	MTR

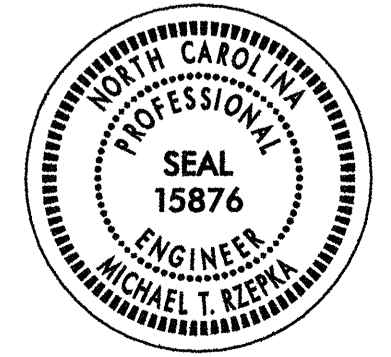
REVISIONS



MATCHLINE STA 62+00  
 SEE SHEET TCP-23

SEE SHEET TCP-3 FOR  
 TEMPORARY PAVEMENT  
 MARKING SCHEDULE

APPROVED: *Michael T. Rzepka* DATE: 3-10-09

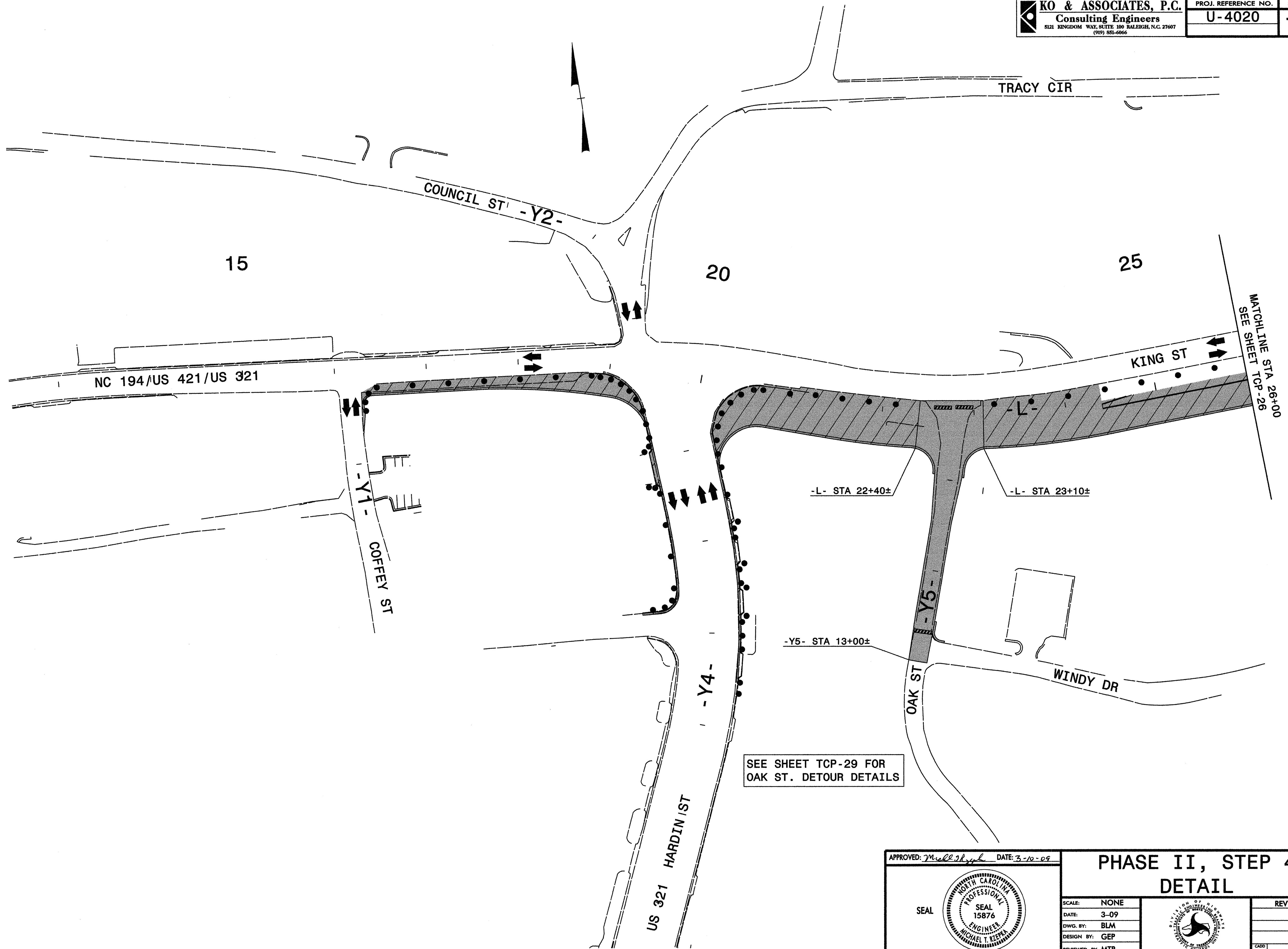


**PHASE II, STEPS 3 & 4  
 DETAIL**

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DATE:	3-09		
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DESIGN BY:	GEP		
REVIEWED BY:	MTR		

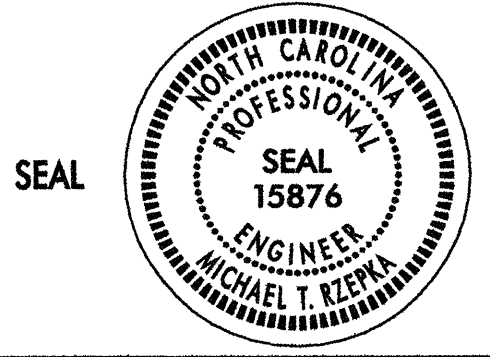
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 KO & Associates, P.C.





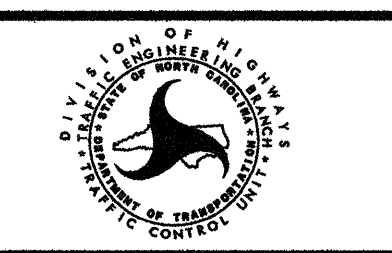
SEE SHEET TCP-29 FOR  
OAK ST. DETOUR DETAILS

APPROVED: *Michael T. Rzepka* DATE: 3-10-09



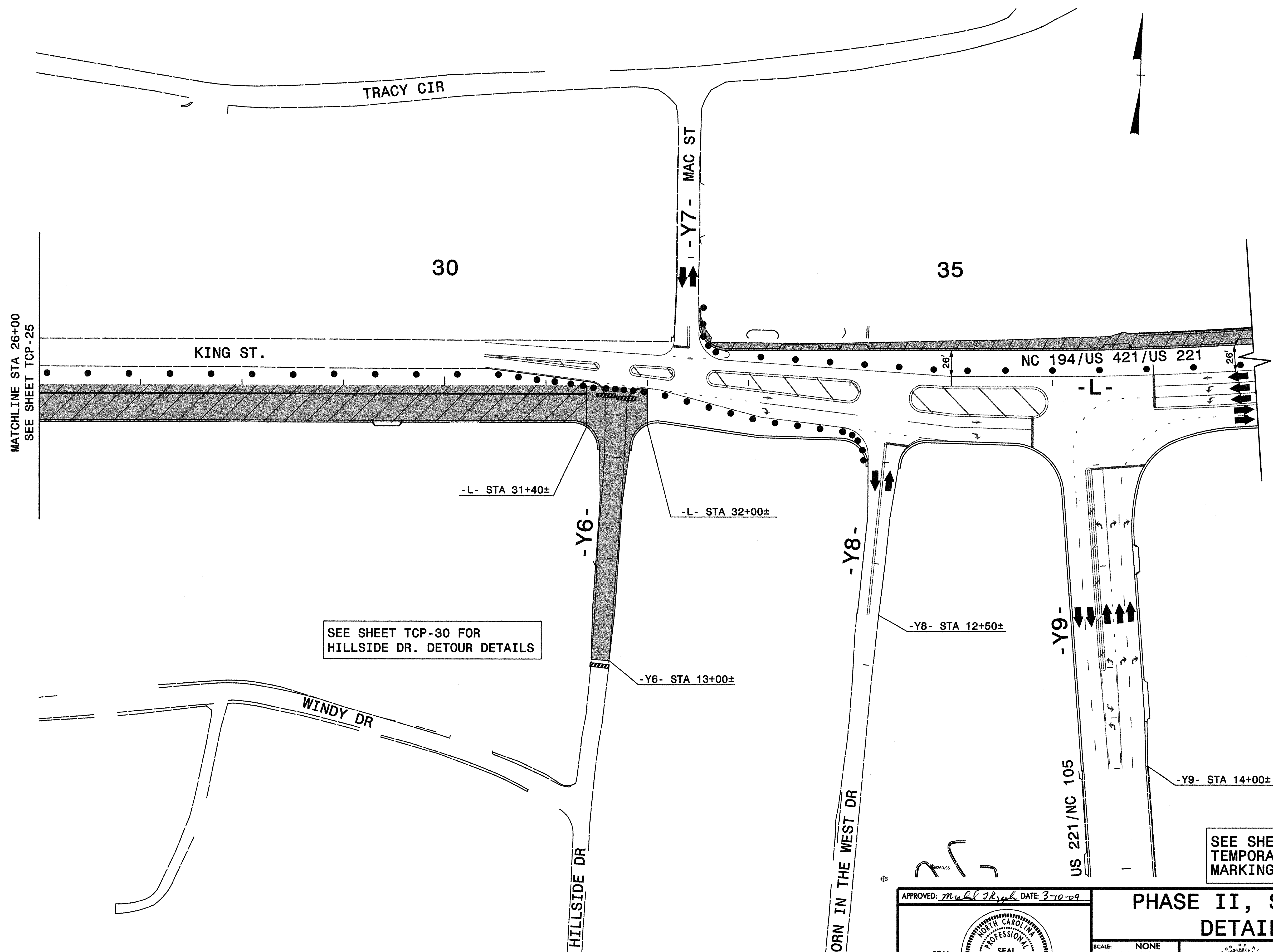
### PHASE II, STEP 4 DETAIL

SCALE: NONE  
 DATE: 3-09  
 DWG. BY: BLM  
 DESIGN BY: GEP  
 REVIEWED BY: MTR



REVISIONS

3/10/2009  
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 KO & Associates, P.C.

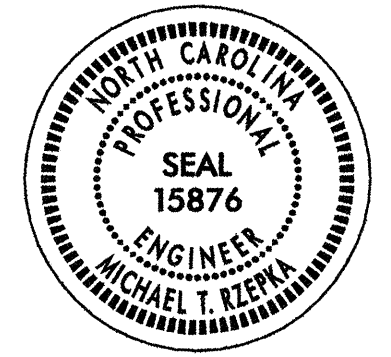


MATCHLINE STA 26+00  
SEE SHEET TCP-25

SEE SHEET TCP-30 FOR  
HILLSIDE DR. DETOUR DETAILS

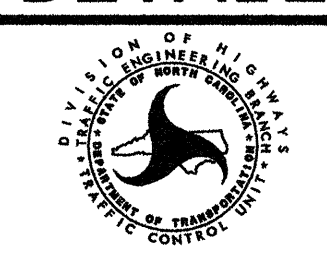
SEE SHEET TCP-3 FOR  
TEMPORARY PAVEMENT  
MARKING SCHEDULE

APPROVED: *Michael J. K...* DATE: 3-10-09



### PHASE II, STEP 4 DETAIL

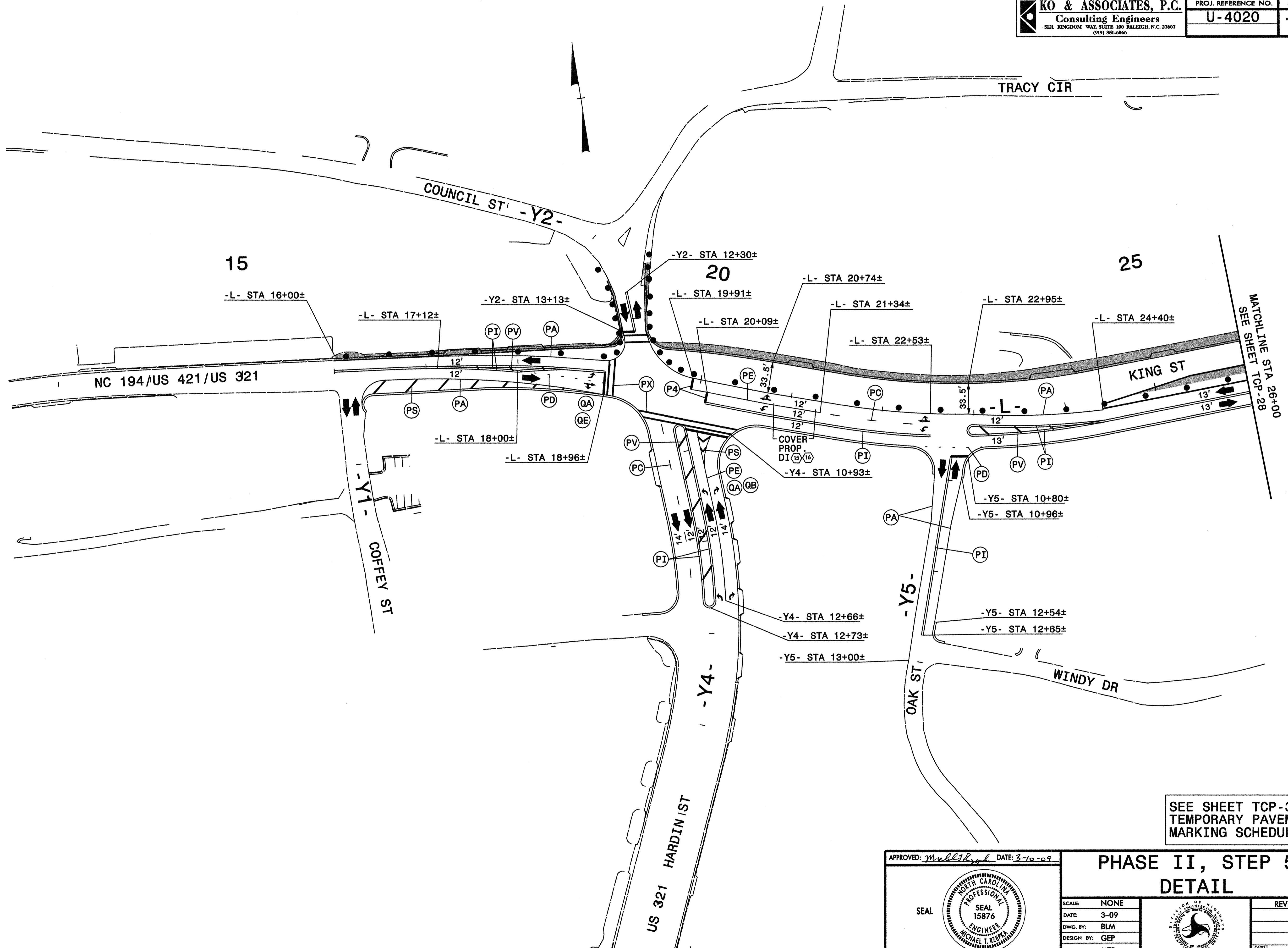
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DATE: 3-09  
DWG. BY: BLM  
DESIGN BY: GEP  
REVIEWED BY: MTR



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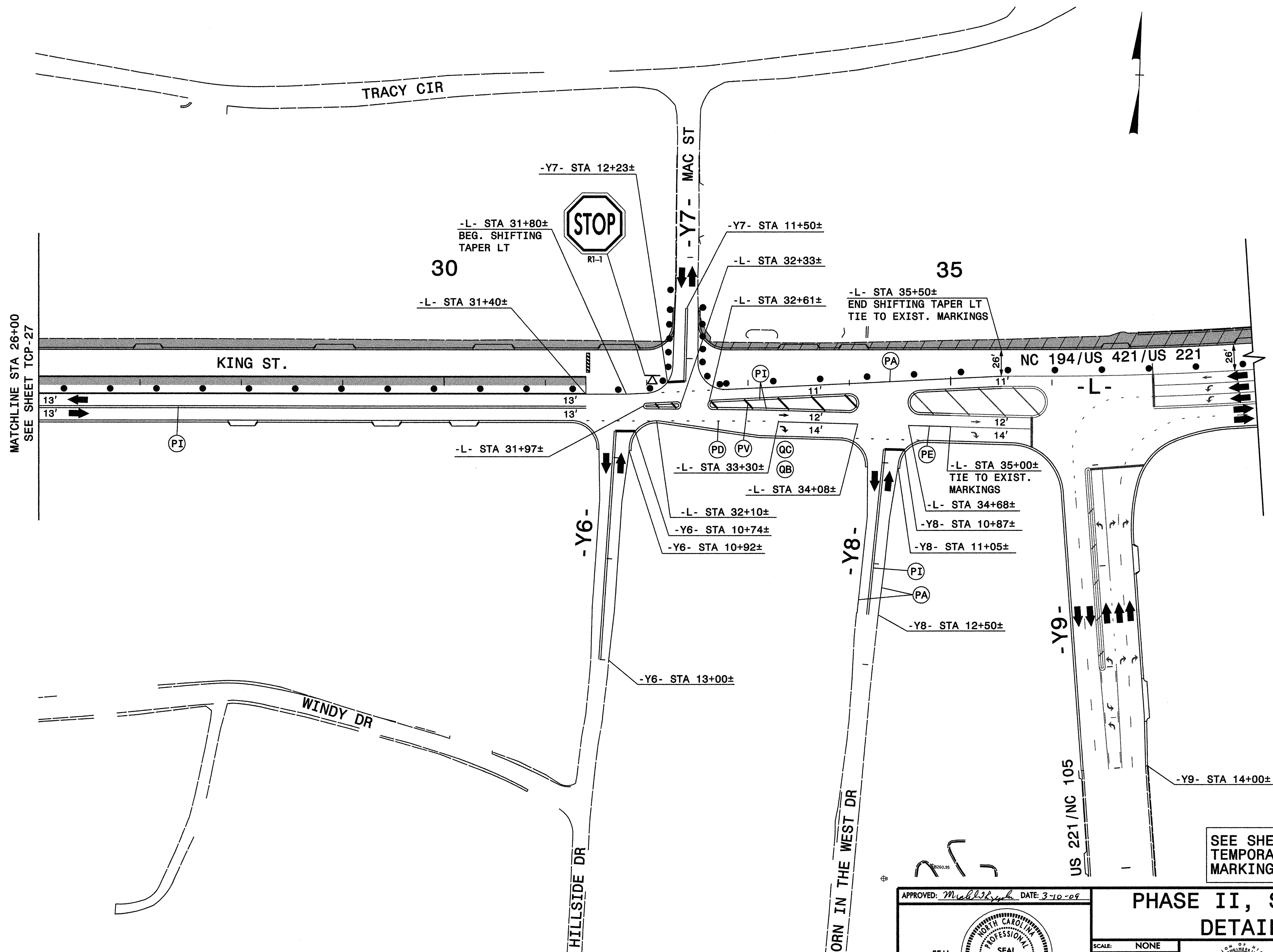




3/10/2009 R:\1007\_mor\_09\4020\_top\_pil\_s5\_det1.dgn KO & Associates, P.C.

SEE SHEET TCP-3 FOR TEMPORARY PAVEMENT MARKING SCHEDULE

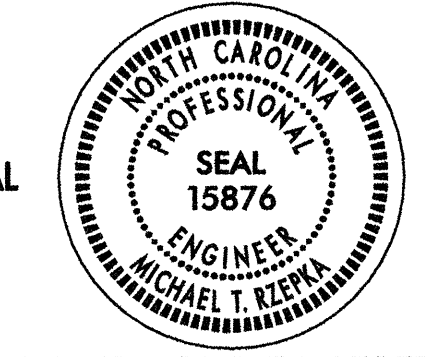
APPROVED: <i>Michael T. Kzepka</i> DATE: 3-10-09	<b>PHASE II, STEP 5 DETAIL</b>									
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REVISIONS										



MATCHLINE STA 26+00  
SEE SHEET TCP-27

SEE SHEET TCP-3 FOR  
TEMPORARY PAVEMENT  
MARKING SCHEDULE

APPROVED: *Michael T. Stepp* DATE: 3-10-09

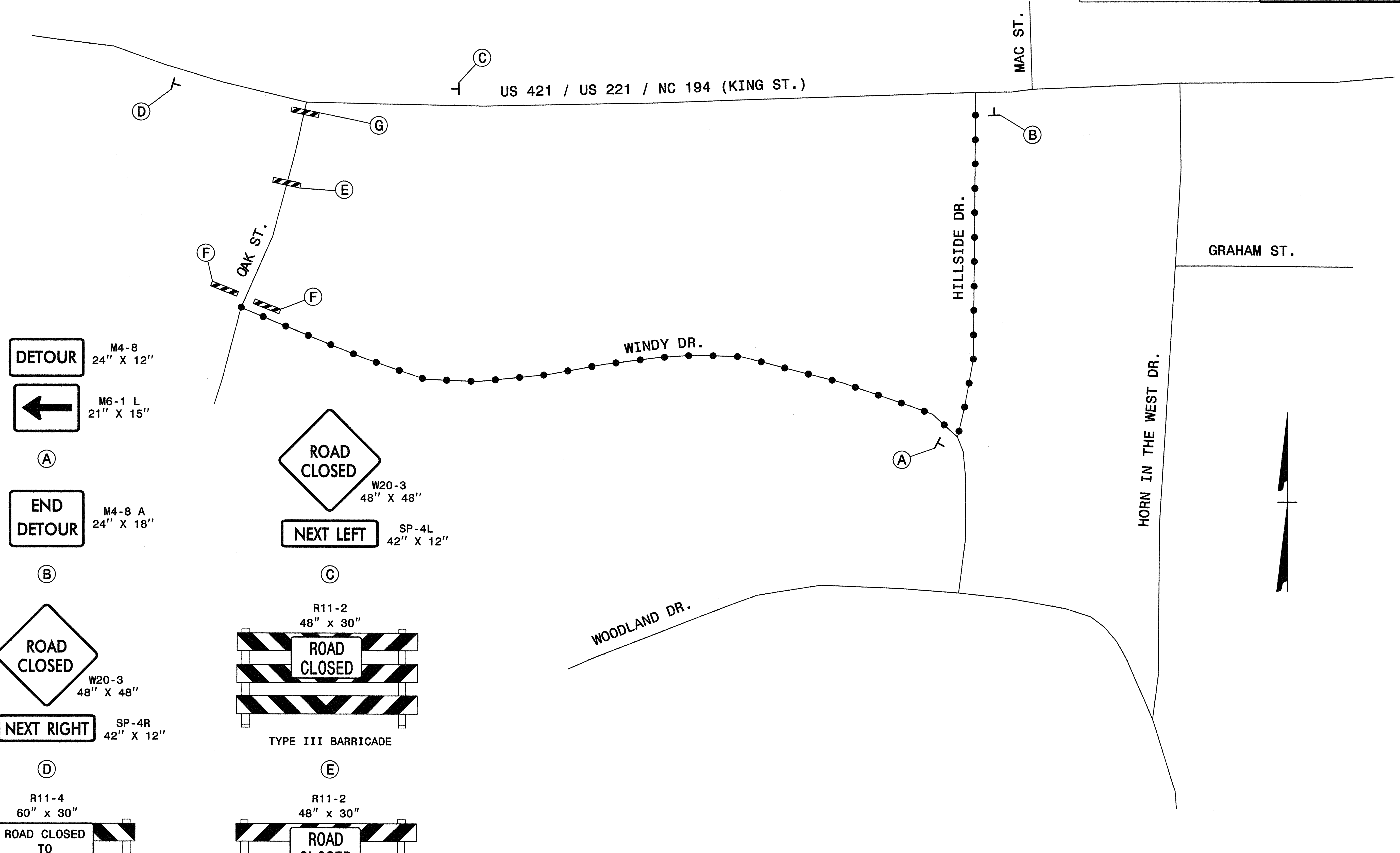


**PHASE II, STEP 5  
DETAIL**

SCALE: NONE		REVISIONS
DATE: 3-09		
DWG. BY: BLM		
DESIGN BY: GEP		
REVIEWED BY: MTR		

3/10/2009  
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KO & Associates, P.C.





**DETOUR** M4-8  
24" X 12"

 M6-1 L  
21" X 15"

(A)

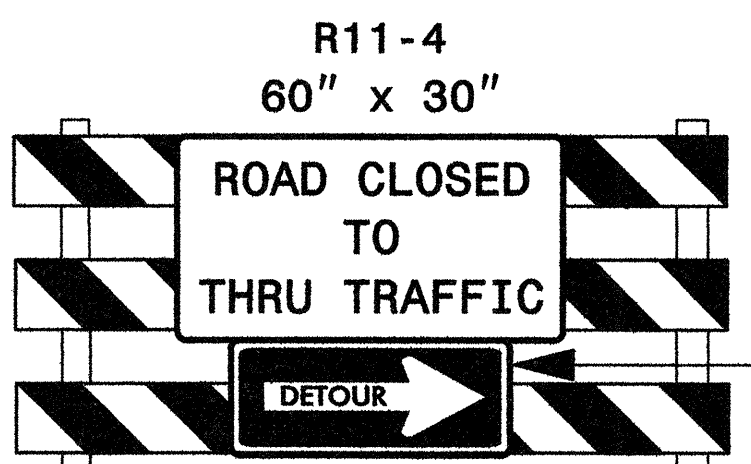
**END DETOUR** M4-8 A  
24" X 18"


(B)

 W20-3  
48" X 48"

(D)

**NEXT RIGHT** SP-4R  
42" X 12"

 R11-4  
60" x 30"

 M4-10R  
48" X 18"

TYPE III BARRICADE

(F)

 W20-3  
48" X 48"

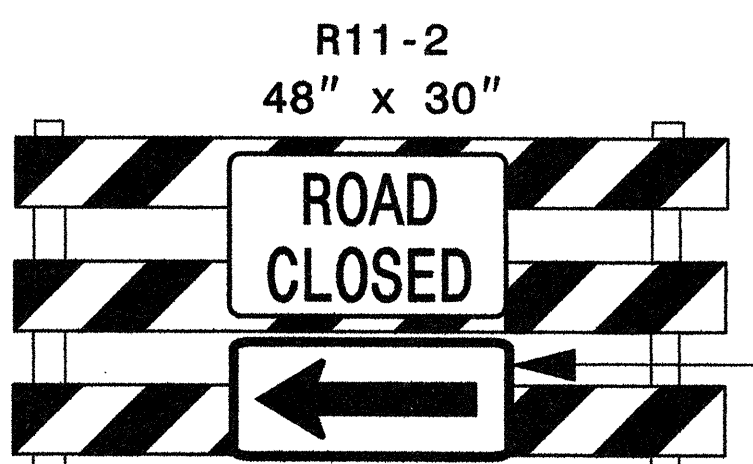
(C)


**NEXT LEFT** SP-4L  
42" X 12"

 R11-2  
48" x 30"

TYPE III BARRICADE

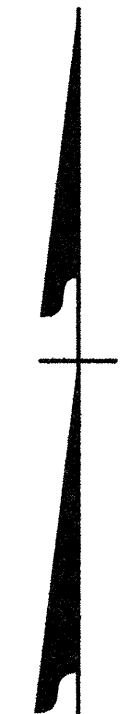
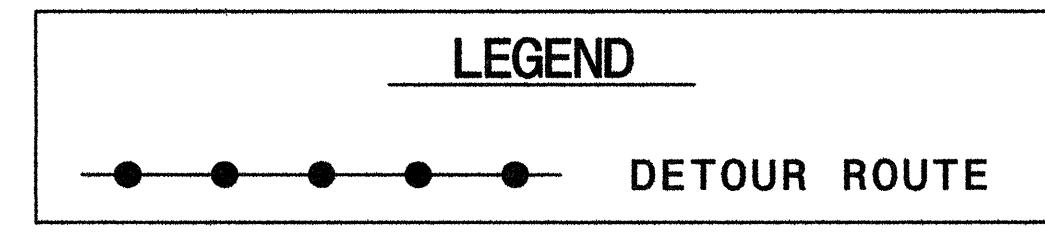
(E)

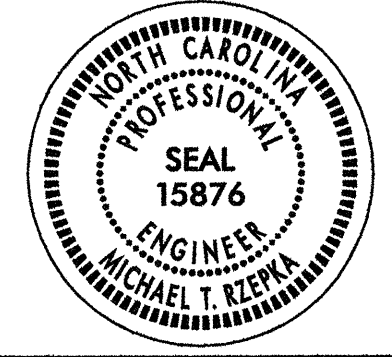
 R11-2  
48" x 30"

 W1-6L  
48" X 24"

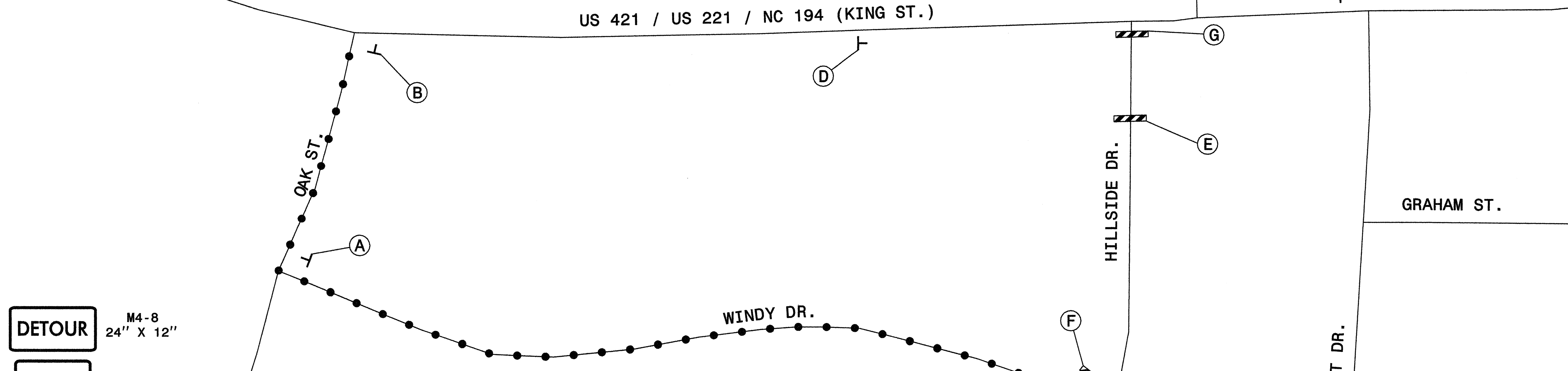
TYPE III BARRICADE

(G)



APPROVED: <i>Michael T. Kiepp</i> DATE: 2-10-09	<b>DETAIL FOR OAK ST. CLOSURE</b>			REVISIONS
SCALE: NONE				DATE: 3-09
DWG. BY: BLM	DESIGN BY: GEP	REVIEWED BY: MTR		

3/10/2009  
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 KO & Associates, P.C.



**DETOUR** M4-8  
24" X 12"

**→** M6-1  
21" X 15"

(A)

**END  
DETOUR** M4-8 A  
24" X 18"

(B)

**ROAD  
CLOSED** W20-3  
48" X 48"

**NEXT RIGHT** SP-4R  
42" X 12"

(D)

R11-4  
60" x 30"

**ROAD CLOSED  
TO  
THRU TRAFFIC**

**←  
DETOUR**

M4-10L  
48" X 18"

TYPE III BARRICADE

(F)

**ROAD  
CLOSED** W20-3  
48" X 48"

**NEXT LEFT** SP-4L  
42" X 12"

(C)

R11-2  
48" x 30"

**ROAD  
CLOSED**

TYPE III BARRICADE

(E)

R11-2  
48" x 30"

**ROAD  
CLOSED**

**→**

W1-6R  
48" X 24"

TYPE III BARRICADE

(G)

**LEGEND**

—●—●—●—●—●—  
DETOUR ROUTE



APPROVED: *Michael T. Kiepk* DATE: 3-10-09

SEAL

**DETAIL FOR  
HILLSIDE DR. CLOSURE**

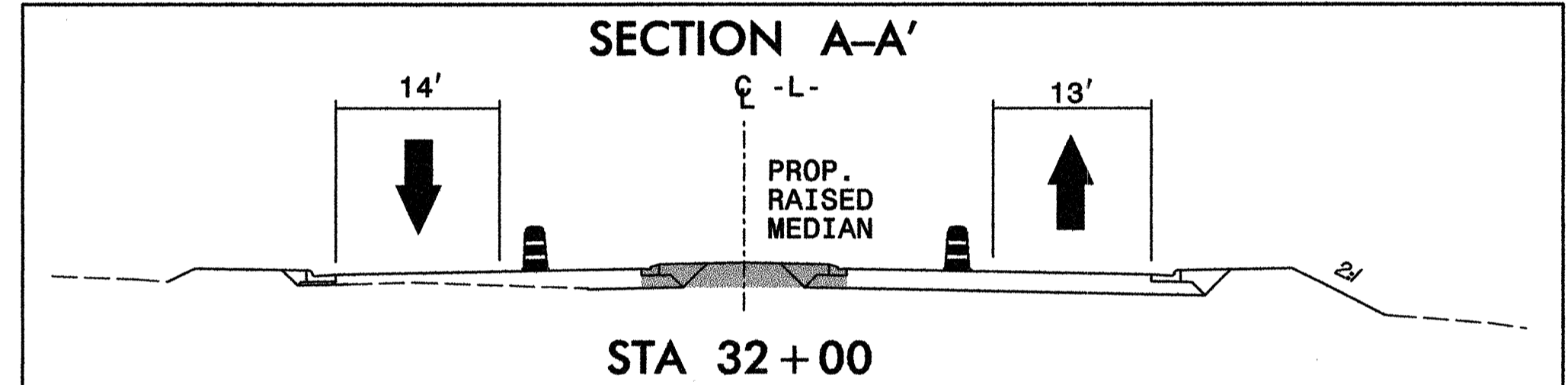
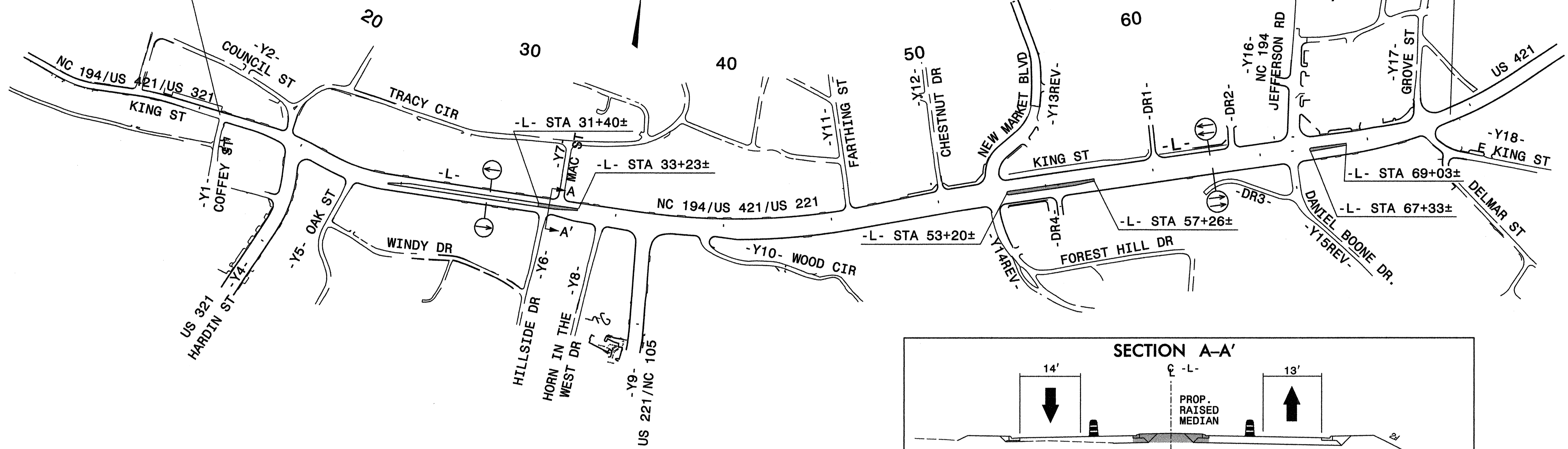
SCALE: NONE		REVISIONS
DATE: 3-09		
DWG. BY: BLM		
DESIGN BY: GEP		
REVIEWED BY: MTR		

3/10/2009  
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 KO & Associates, P.C.



BEGIN CONSTRUCTION  
 -L- STA. 16+00±

END CONSTRUCTION  
 -L- STA 74+00±



**PHASE III**

**STEP 1**

USING ROADWAY STANDARD DRAWING 1101.02 (SHEETS 1, 3 & 4 OF 9), COMPLETE THE FOLLOWING ON -L-:

- PLACE TEMPORARY PAVEMENT MARKINGS (PAINT) AND MARKERS (TEMPORARY RAISED) AND TIE TO EXISTING. SEE SHEETS PM-1 THRU PM-5 FOR FINAL PAVEMENT MARKINGS LOCATIONS.
- SHIFT TRAFFIC TO FINAL PATTERN IN PROPOSED LANES FROM -L- STA 16+00± TO STA 60+63±
- OPEN WB OUTSIDE LANE ON -L- STA 60+63± TO STA 74+00±

**STEP 2**

USING ROADWAY STANDARD DRAWING 1101.02 (SHEETS 3 OF 9), CONSTRUCT REMAINDER OF PROPOSED RAISED ISLAND FROM -L- STA 31+40± TO STA 33+23± (SEE SHEET TCP-32).

USING ROADWAY STANDARD DRAWING 1101.02 (SHEETS 3 OF 9), CONSTRUCT PROPOSED RAISED ISLANDS FROM:

- L- STA 53+20± TO STA 57+26±
- L- STA 67+33± TO STA 69+03±

INSTALL PROPOSED SIGNALS ON -L- AT -Y4-, -Y9-, -Y13REV-/-Y14REV-, -Y15REV-/-Y16- & -Y17-/-Y18-. KEEP DEACTIVATED.

COMPLETE INSTALLATION OF PROPOSED DRAINAGE (SEE LOCAL NOTE 5).

**PHASE IV**

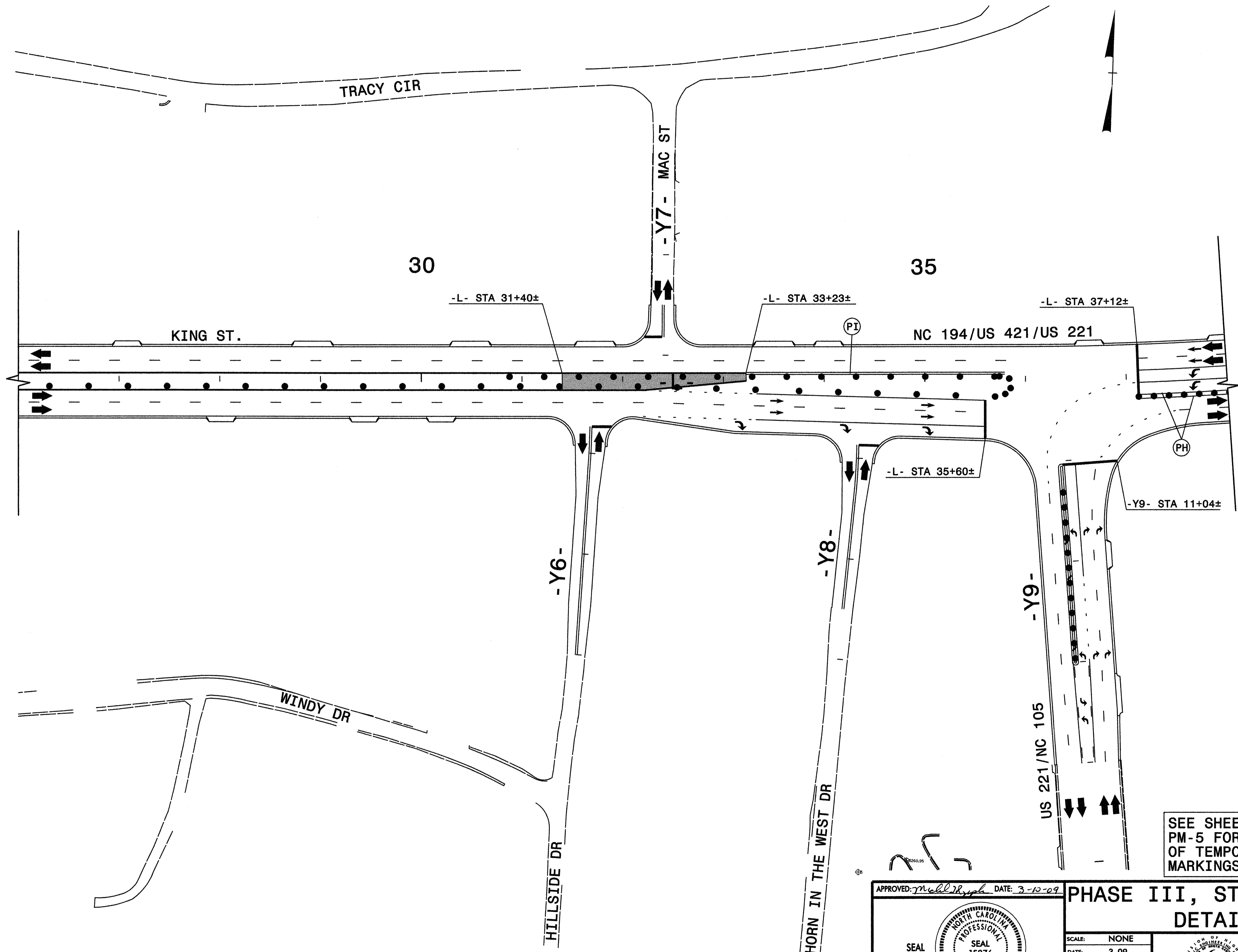
USING ROADWAY STANDARD DRAWING 1101.02 (SHEETS 1, 3 & 4 OF 9),

- ACTIVATE PROPOSED SIGNALS ON -L- AT -Y4-, -Y9-, -Y13REV-/-Y14REV-, -Y15REV-/-Y16- & -Y17-/-Y18-
- PLACE FINAL LAYER OF SURFACE COURSE
- PLACE FINAL MARKINGS AND MARKERS
- CONSTRUCT MONOLITHIC ISLANDS ON -L-, -Y9- AND -Y16- (SEE ROADWAY PLANS)

APPROVED: *Michael T. Klep* DATE: 3-10-09

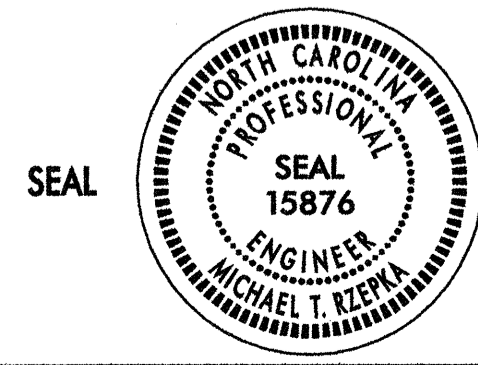
**PHASE III OVERVIEW AND PHASES III & IV PHASING**

SCALE: NONE		REVISIONS
DATE: 3-09		
DWG. BY: BLM		
DESIGN BY: GEP		
REVIEWED BY: MTR		




SEE SHEETS PM-1 THRU  
PM-5 FOR PLACEMENT  
OF TEMPORARY PAVEMENT  
MARKINGS ON -L-

APPROVED: *[Signature]* DATE: 3-10-09



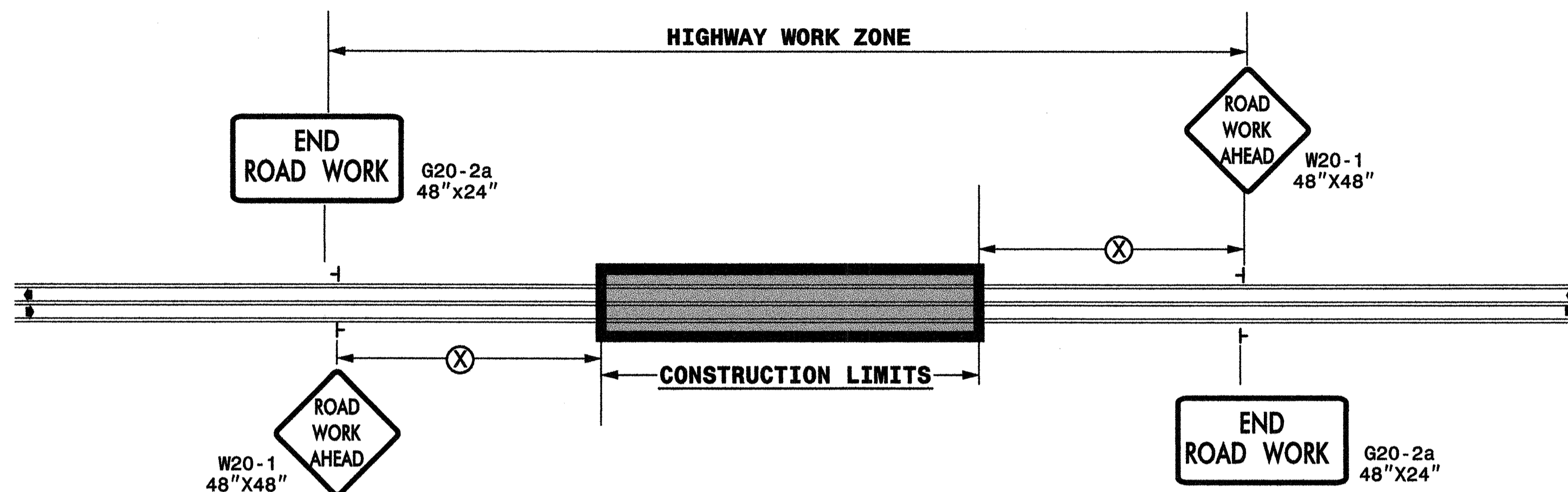
**PHASE III, STEPS 1 & 2  
DETAIL**

SCALE:	NONE		REVISIONS
DATE:	3-09		
DWG. BY:	BLM		
DESIGN BY:	GEP		
REVIEWED BY:	MTR		

3/10/2009  
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 KO & Associates, P.C.



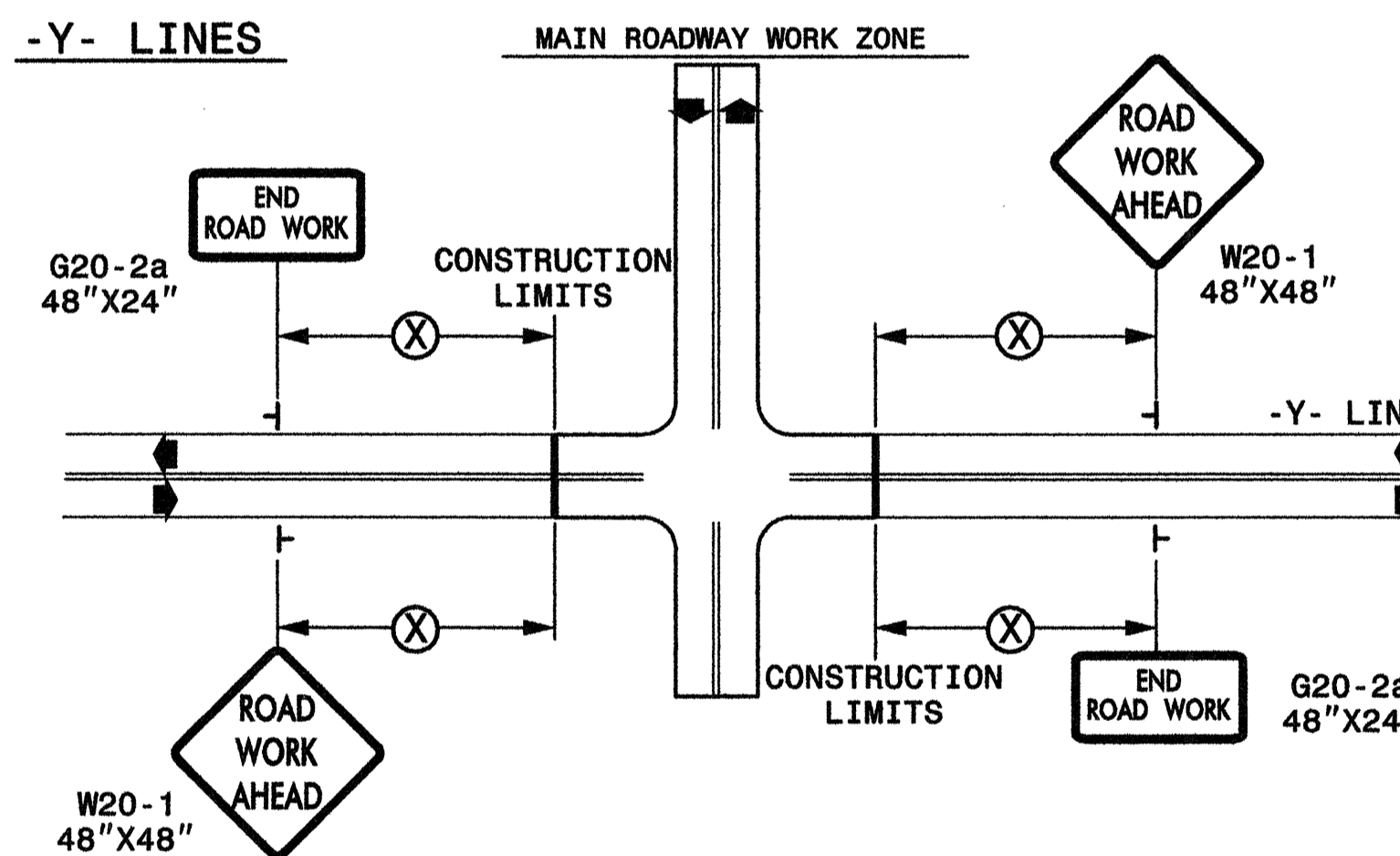
**TWO-WAY UNDIVIDED \*\* (L-LINES)**



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 ADVANCE 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>M. R. Ryznar</i> DATE: 3-10-09	DETAIL DRAWING FOR TWO-WAY UNDIVIDED AND URBAN FREEWAYS ADVANCE WORK ZONE WARNING SIGNS	
	SCALE: NONE	REVISIONS
	DATE: 12-08	7-98 10/01
	DWG. BY:	10-98 03/04
	DESIGN BY:	01/01 11/04
REVIEWED BY:		CADD FILE