

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

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| STATE PROJECT REFERENCE NO. R-3403AA | SHEET NO. TCP-1 |
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**PLAN FOR PROPOSED
TRAFFIC CONTROL, MARKING & DELINEATION
CRAVEN COUNTY**

R-3403AA

ROADWAY STANDARD DRAWINGS

THE FOLLOWING ROADWAY STANDARDS AS APPEAR IN "ROADWAY STANDARD DRAWINGS"-
PROJECT SERVICES UNIT-N.C. DEPARTMENT OF TRANSPORTATION-RALEIGH, N.C.,
DATED JULY 2006 ARE APPLICABLE TO THIS PROJECT AND BY REFERENCE HEREBY ARE
CONSIDERED A PART OF THESE PLANS:

| STD. NO. | TITLE |
|----------|---|
| 1101.02 | TEMPORARY LANE CLOSURES |
| 1101.04 | 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 |
| 1115.01 | FLASHING ARROW PANELS |
| 1130.01 | DRUM |
| 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 & OFFSETS |
| 1205.02 | PAVEMENT MARKINGS - 2 LANE & 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 & WORD MESSAGES |
| 1205.09 | PAVEMENT MARKINGS - PAINTED ISLANDS |
| 1205.10 | PAVEMENT MARKINGS - SCHOOL AREAS |
| 1205.11 | PAVEMENT MARKINGS - RAILROAD CROSSINGS |
| 1250.01 | PAVEMENT MARKER SPACING |
| 1251.01 | RAISED PAVEMENT MARKERS (TEMPORARY & PERMANENT) |

INDEX OF SHEETS

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LEGEND

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

TIP PROJECT:

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derichardson AT W21C237460

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|----------------------------------|---|
| APPROVED: DATE: June 18, 2010 | PLAN PREPARED BY: N.C.D.O.T. WORK ZONE TRAFFIC CONTROL UNIT |
| SEAL | J. S. BOURNE, PE TRAFFIC CONTROL ENGINEER |
| | J. S. KITE, PE TRAFFIC CONTROL PROJECT ENGINEER |
| | D. A. PARKER TRAFFIC CONTROL PROJECT DESIGN ENGINEER |
| | D. E. RICHARDSON TRAFFIC CONTROL DESIGN ENGINEER |

PROJECT NOTES

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

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

TIME RESTRICTIONS

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

| ROAD NAME | DAY AND TIME RESTRICTIONS |
|-----------|--|
| -L- US 17 | MONDAY THRU FRIDAY 6:30AM TO 8:30AM MONDAY THRU FRIDAY 4PM TO 7PM |

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

ROAD NAME

-L- US 17

HOLIDAY

1. FOR ANY UNEXPECTED OCCURRENCE THAT CREATES UNUSUALLY HIGH TRAFFIC VOLUMES, AS DIRECTED BY THE ENGINEER.
2. FOR NEW YEAR'S, BETWEEN THE HOURS OF 4:00 P.M. DECEMBER 31st TO 8:30 A.M. JANUARY 2ND. IF NEW YEAR'S DAY IS ON A FRIDAY, SATURDAY, SUNDAY, OR MONDAY THEN UNTIL 8:30 A.M. THE FOLLOWING TUESDAY.
3. FOR EASTER, BETWEEN THE HOURS OF 4:00 P.M. THURSDAY AND 8:30 A.M. MONDAY.
4. FOR MEMORIAL DAY, BETWEEN THE HOURS OF 4:00 P.M. FRIDAY TO 8:30 A.M. TUESDAY.
5. FOR INDEPENDENCE DAY, BETWEEN THE HOURS OF 6:30 A. M. THE FRIDAY BEFORE THE WEEK OF INDEPENDENCE DAY TO THE FOLLOWING TUESDAY AT 8:30 A. M. AFTER INDEPENDENCE DAY.
6. FOR LABOR DAY, BETWEEN THE HOURS OF 4:00 P.M. FRIDAY AND 8:30 A.M. TUESDAY.
7. FOR THANKSGIVING DAY, BETWEEN THE HOURS OF 4:00 P.M. TUESDAY TO 8:30 A.M. MONDAY.
8. FOR CHRISTMAS, BETWEEN THE HOURS OF 4:00 P.M. THE FRIDAY BEFORE THE WEEK OF CHRISTMAS DAY AND 8:30 A.M. THE FOLLOWING TUESDAY AFTER THE WEEK OF CHRISTMAS.

C) DO NOT STOP TRAFFIC AS FOLLOWS:

| ROAD NAME | DAY AND TIME RESTRICTIONS | DURATION AND OPERATION |
|-----------|--|------------------------|
| -L- US 17 | MONDAY THRU FRIDAY 6:30 AM TO 8:30 AM AND 4PM TO 7PM | 15 MINS TRAFFIC SHIFTS |



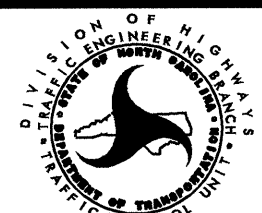
LANE AND SHOULDER CLOSURE REQUIREMENTS

- D) REMOVE LANE CLOSURE DEVICES FROM THE LANE WHEN WORK IS NOT BEING PERFORMED BEHIND THE LANE CLOSURE OR WHEN A LANE CLOSURE IS NO LONGER NEEDED, OR AS DIRECTED BY THE ENGINEER.
- E) WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING WITHIN 15 FT OF AN AN OPEN TRAVEL LANE, CLOSE THE NEAREST OPEN SHOULDER USING ROADWAY STANDARD DRAWING NO. 1101.04 UNLESS THE WORK AREA IS PROTECTED BY BARRIER OR GUARDRAIL OR A LANE CLOSURE IS INSTALLED.
- F) WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING 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 WITHIN 15 FT ON BOTH SIDES OF AN OPEN TRAVELWAY, RAMP OR LOOP WITHIN THE SAME LOCATION UNLESS PROTECTED WITH GUARDRAIL OR BARRIER.
- H) DO NOT INSTALL MORE THAN 1 MILE OF LANE CLOSURE ON US 17 MEASURED FROM THE BEGINNING OF THE MERGE TAPER TO THE END OF THE LANE CLOSURE.
- I) DO NOT INSTALL MORE THAN ONE LANE CLOSURE, IN ANY ONE DIRECTION, ON US 17.

PAVEMENT EDGE DROP OFF REQUIREMENTS

- J) 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.
- K) 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.

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| SCALE: NONE DATE: _____ DWG. BY: DER DESIGN BY: DER REVIEWED BY: _____ |  DIVISION OF HIGHWAY CONSTRUCTION | <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="2" style="text-align: left;">REVISIONS</th> </tr> </thead> <tbody> <tr> <td style="width: 50%;"> </td> <td style="width: 50%;"> </td> </tr> <tr> <td> </td> <td> </td> </tr> </tbody> </table> | REVISIONS | | | | | |
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PROJECT NOTES CONT'D

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| PROJ. REFERENCE NO. | SHEET NO. |
| R-3403AA | TCP-2A |

TRAFFIC PATTERN ALTERATIONS

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

SIGNING

- M) 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.
- N) PROVIDE PERMANENT SIGNING.
- O) ENSURE ALL NECESSARY SIGNING IS IN PLACE PRIOR TO ALTERING ANY TRAFFIC PATTERN.
- P) INSTALL BLACK ON ORANGE "DIP" SIGNS (W8-2) AND/OR "BUMP" SIGNS (W8-1) 500 FT IN ADVANCE OF THE UNEVEN AREA, OR AS DIRECTED BY THE ENGINEER.

TRAFFIC BARRIER

- Q) 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.

- 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 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

- S) 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.
- T) PLACE TYPE III BARRICADES, WITH "ROAD CLOSED" SIGN R11-2 ATTACHED, OF SUFFICIENT LENGTH TO CLOSE ENTIRE ROADWAY.
- U) PLACE ADDITIONAL SETS OF THREE CHANNELIZING DEVICES PERPENDICULAR TO THE EDGE OF TRAVELWAY ON 500 FT CENTERS WHEN UNOPENED LANES ARE CLOSED TO TRAFFIC.

PAVEMENT MARKINGS AND MARKERS

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

| ROAD NAME | MARKING | MARKER |
|---------------|------------------|--------------|
| -L- US 17 | 6" THERMOPLASTIC | SNOWPLOWABLE |
| ALL -Y- LINES | 4" THERMOPLASTIC | NONE |

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

| ROAD NAME | MARKING | MARKER |
|-----------|---------|-------------|
| ALL ROADS | PAINT | TEMP RAISED |

- X) PLACE TWO APPLICATIONS OF PAINT PAVEMENT MARKINGS ON THE FINAL WEARING SURFACE. PLACE THE SECOND APPLICATION OF PAINT UPON SUFFICIENT DRYING TIME OF THE FIRST.
- Y) TIE PROPOSED PAVEMENT MARKING LINES TO EXISTING PAVEMENT MARKING LINES.
- Z) REMOVE/REPLACE ANY CONFLICTING/DAMAGED PAVEMENT MARKINGS AND MARKERS BY THE END OF EACH DAY'S OPERATION.
- AA) TRACE THE PROPOSED MONOLITHIC ISLAND LOCATIONS WITH PROPER COLOR PAVEMENT MARKINGS PRIOR TO INSTALLATION. PLACE CONES TO DELINEATE ANY PROPOSED MONOLITHIC ISLANDS BEFORE INSTALLATION

MISCELLANEOUS

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

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PHASING

PHASE I

- STEP 1 - INSTALL ALL ADVANCED WORK ZONE WARNING SIGNS.
- STEP 2 - USING RSD 1101.02, SHEET 1 OF 9, AND TCP-5 THRU TCP-5A, CONSTRUCT THE FOLLOWING UP TO THE EDGE AND ELEVATION OF EXISTING:
- L- STA 39+10/- TO 42+10+/- (TEMP PVMT)
 - L- STA 42+80+/- TO 44+70+/- (TEMP PVMT)
- STEP 3 - USING RSD 1101.02, SHEET 1 OF 9, INSTALL TEMPORARY SHORING AND PCB AS SHOWN ON TCP-5 AND TCP-5A.
- STEP 4 - USING RSD 1101.02, SHEET 1 OF 9 WHERE NECESSARY, AND TCP-4 THRU TCP-5A CONSTRUCT UP TO, BUT NOT INCLUDING THE FINAL LAYER OF SURFACE COURSE ON THE FOLLOWING:
- L- STA 19+00+/- TO 48+00+/- RT
 - L- STA 45+50+/- TO 50+90+/- LT
- USING RSD 1101.02, SHEET 1 OF 9, CONSTRUCT UP TO EDGE AND ELEVATION OF EXISTING PAVEMENT AT THE FOLLOWING LOCATIONS:
- FROM -L- STA 19+00+/- TO 23+88+/- (TEMP PVMT)
 - FROM -L- STA 23+00+/- TO 28+50+/- (TEMP PVMT)
- STEP 5 - AWAY FROM TRAFFIC, PLACE TEMPORARY PAVEMENT MARKINGS AND MARKERS FOR THE PHASE II TRAFFIC PATTERN AS MUCH AS POSSIBLE WITHOUT INTERFERING WITH TRAFFIC. (SEE TCP-6 THRU TCP-7A)

PHASE II

MAJOR TRAFFIC SHIFT TO PHASE II INTERMEDIATE TRAFFIC PATTERN. (STEPS 1 AND 2)

NOTE : COORDINATE TRAFFIC SHIFT WITH R-3403AB.

COMPLETE THE WORK OF STEPS 1 AND 2 FROM 7PM FRIDAY TO 6:30AM MONDAY. SEE INTERMEDIATE CONTRACT TIME AND LIQUIDATED DAMAGES.

WORK IN A CONTINUOUS MANNER TO COMPLETE THE WORK OF STEP 1 IN A SINGLE WORK PERIOD.

STEP 1 - OPEN PROJECT TO PHASE II TRAFFIC PATTERN IN THE FOLLOWING SEQUENCE:

- A. ADJUST STOPBAR AND STOPSIGN ON -Y5- E PINE ST. SEE TCP-7.
- B. USING TCP-5B, DETOUR SB TRAFFIC VIA -Y6- AND -Y1-. CLOSE -Y4- W PINE ST.
- C. USING RSD 1101.02, SHEET 1 OF 9, FLAGGERS, PLACE NB TRAFFIC IN THE EXISTING SB LANE FROM -L- STA 45+00+/- TO 48+50+/-.
- D. REMOVE AND REPLACE THE EXISTING NB TRAVEL LANES AS DIRECTED BY THE ENGINEER FROM -L- STA 42+20 TO 43+00 AND STA 45+50 TO 48+00 TO MATCH THE CROSS SLOPE OF THE PROPOSED WIDENING.
- E. USING FLAGGERS, PLACE NB TRAFFIC IN THE EXISTING NB LANE FROM -L- STA 45+00+/- TO 48+50+/-.

WORK IN A CONTINUOUS MANNER TO COMPLETE THE WORK OF STEP 2 IN A SINGLE WORK PERIOD.

STEP 2 -

- A. REMOVE AND REPLACE THE EXISTING SB TRAVEL LANES AS DIRECTED BY THE ENGINEER FROM -L- STA 42+20 TO 43+00 AND STA 45+50 TO 48+00 TO MATCH THE CROSS SLOPE OF THE PROPOSED WIDENING.
- B. SHIFT NB TRAFFIC TO PHASE II PATTERN.
- C. REMOVE AND REPLACE EXIST MARKINGS FROM -L- STA 19+00 TO 28+50. ADJUST STOPBAR AND STOPSIGN ON -Y4- W PINE ST. SEE TCP-7.
- D. SHIFT SB TRAFFIC TO PHASE II PATTERN. OPEN -Y4- W PINE ST.

NOTE: THE FOLLOWING -Y- LINE INTERSECTIONS WITH US 17 SHALL REMAIN CLOSED:

- Y2- W HICKORY ST
- Y3- ACADEMY ST
- Y6- 'C' ST

STEP 3 - AWAY FROM TRAFFIC, CONSTRUCT THE FOLLOWING:

- L- STA 24+50+/- TO 42+20+/-
- L- STA 43+00+/- TO 46+00+/-
- L- STA 48+00+/- TO 50+90+/-

NOTE: SEE RDY PLANS FOR PAVEMENT REMOVAL LOCATIONS.

PHASE III

NOTE : COORDINATE TRAFFIC SHIFT WITH R-3403AB.

WORK IN A CONTINUOUS MANNER TO COMPLETE STEP 1.

STEP 1 - A. USE FLAGGERS OR POLICE TO HOLD TRAFFIC AT THE FOLLOWING -Y- LINE INTERSECTIONS WITH US 17:

- Y2- W HICKORY ST
- Y3- ACADEMY ST
- Y4- W PINE ST
- Y5- E PINE ST

B. USING FLAGGERS, IN CONJUNCTION WITH A PILOT VEHICLE, PLACE NB TRAFFIC IN THE PROPOSED OUTSIDE NB LANES BEGINNING AT THE SOUTHERN END OF THE PROJECT THROUGH THE NORTHERN PROJECT LIMITS. SB TRAFFIC REMAINS IN CURRENT PATTERN.

C. USING FLAGGERS AND A PILOT VEHICLE, PLACE TEMPORARY PAVEMENT MARKINGS AND MARKERS IN THE FINAL PATTERN ON REMAINING PARTS OF NB AND SB LANES.

ADJUST STOPBARS AND STOP SIGNS AT ALL -Y- LINE INTERSECTIONS.

D. OPEN ALL -Y- LINES.

STEP 2 - WITH INSIDE LANES DRUMMED OFF, CONSTRUCT ALL MEDIAN CONCRETE ISLANDS.

STEP 3 - USING RSD 1101.02, SHEETS 1 & 3 OF 9, CONDUCT PAVEMENT MILLING AND REPLACEMENT. (SEE RDY PLANS.)

STEP 4 - USING RSD 1101.02, SHEETS 1 & 3 OF 9, PLACE THE FINAL LAYER OF SURFACE COURSE ON ALL ROADS.

STEP 5 - USING RSD 1101.02, SHEETS 1 & 3 OF 9, PLACE THE FINAL PAVEMENT MARKINGS AND MARKERS ON ALL ROADS.

STEP 6 - REMOVE ALL REMAINING TRAFFIC CONTROL DEVICES.

ICT

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| <p>APPROVED: DATE: 6/18/10</p> <div style="text-align: center;"> <p>SEAL 022104 ENGINEER JOHN S. KITE</p> </div> | <h3 style="margin: 0;">TRAFFIC CONTROL PHASING</h3> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%;">SCALE: NONE</td> <td rowspan="4" style="width: 30%; text-align: center;"> </td> <td style="width: 40%; text-align: center;">REVISIONS</td> </tr> <tr> <td>DATE:</td> <td style="text-align: center;">01/09</td> </tr> <tr> <td>DWG. BY:</td> <td></td> </tr> <tr> <td>DESIGN BY:</td> <td></td> </tr> <tr> <td>REVIEWED BY:</td> <td></td> <td></td> </tr> </table> | SCALE: NONE | | REVISIONS | DATE: | 01/09 | DWG. BY: | | DESIGN BY: | | REVIEWED BY: | | |
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TEMPORARY SHORING NOTES

| | |
|---------------------|-----------|
| PROJ. REFERENCE NO. | SHEET NO. |
| R-3403AA | TCP-3A |

TEMPORARY SHORING NO 1 (AS SHOWN ON TCP-5)

FOR TEMPORARY SHORING, SEE TEMPORARY SHORING PROJECT SPECIAL PROVISION.

DO NOT USE STANDARD SHORING FROM STATION 41+80 +/- -L- TO STATION 42+15 +/- -L-, 11 FT. RIGHT.

WHEN USING CONTRACTOR DESIGNED SHORING FROM STATION 41+80 +/- -L- TO STATION 42+15 +/- -L-, 11 FT. RIGHT., DESIGN SHORING FOR THE FOLLOWING IN-SITU ASSUMED 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

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

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.

ESTIMATED QUANTITY AT THIS LOCATION = 350 SF

TEMPORARY SHORING NO 2 (AS SHOWN ON TCP-5 AND TCP-5A)

FOR TEMPORARY SHORING, SEE TEMPORARY SHORING PROJECT SPECIAL PROVISION.

DO NOT USE STANDARD SHORING FROM STATION 42+60 +/- -L- TO STATION 43+75 +/- -L-, 11 FT. RIGHT.

WHEN USING CONTRACTOR DESIGNED SHORING FROM STATION 42+60 +/- -L- TO STATION 43+75 +/- -L-, 11 FT. RIGHT., DESIGN SHORING FOR THE FOLLOWING IN-SITU ASSUMED 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

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

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.

ESTIMATED QUANTITY AT THIS LOCATION = 1150 SF

FOR ALL REMAINING TEMPORARY SHORING, SEE TEMPORARY SHORING SPECIAL PROVISION.

FOR TEMPORARY SHORING, SEE TEMPORARY SHORING PROJECT SPECIAL PROVISION.

DO NOT USE STANDARD SHORING.

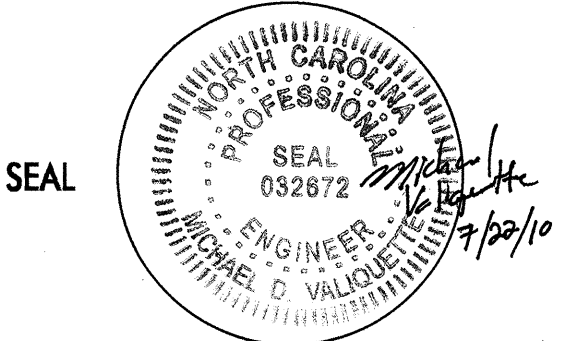
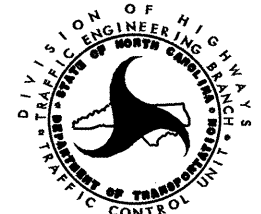
WHEN USING CONTRACTOR DESIGNED SHORING, DESIGN SHORING FOR THE FOLLOWING IN-SITU ASSUMED SOIL PARAMETERS:

- 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

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

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.

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| | | | |
|---|-------|---|-----------|
| APPROVED: | DATE: | TEMPORARY SHORING NOTES | |
|  | | SCALE: NONE | REVISIONS |
| | | DATE: MAR - 08 | |
| | | DWG. BY: | |
| | | DESIGN BY: | |
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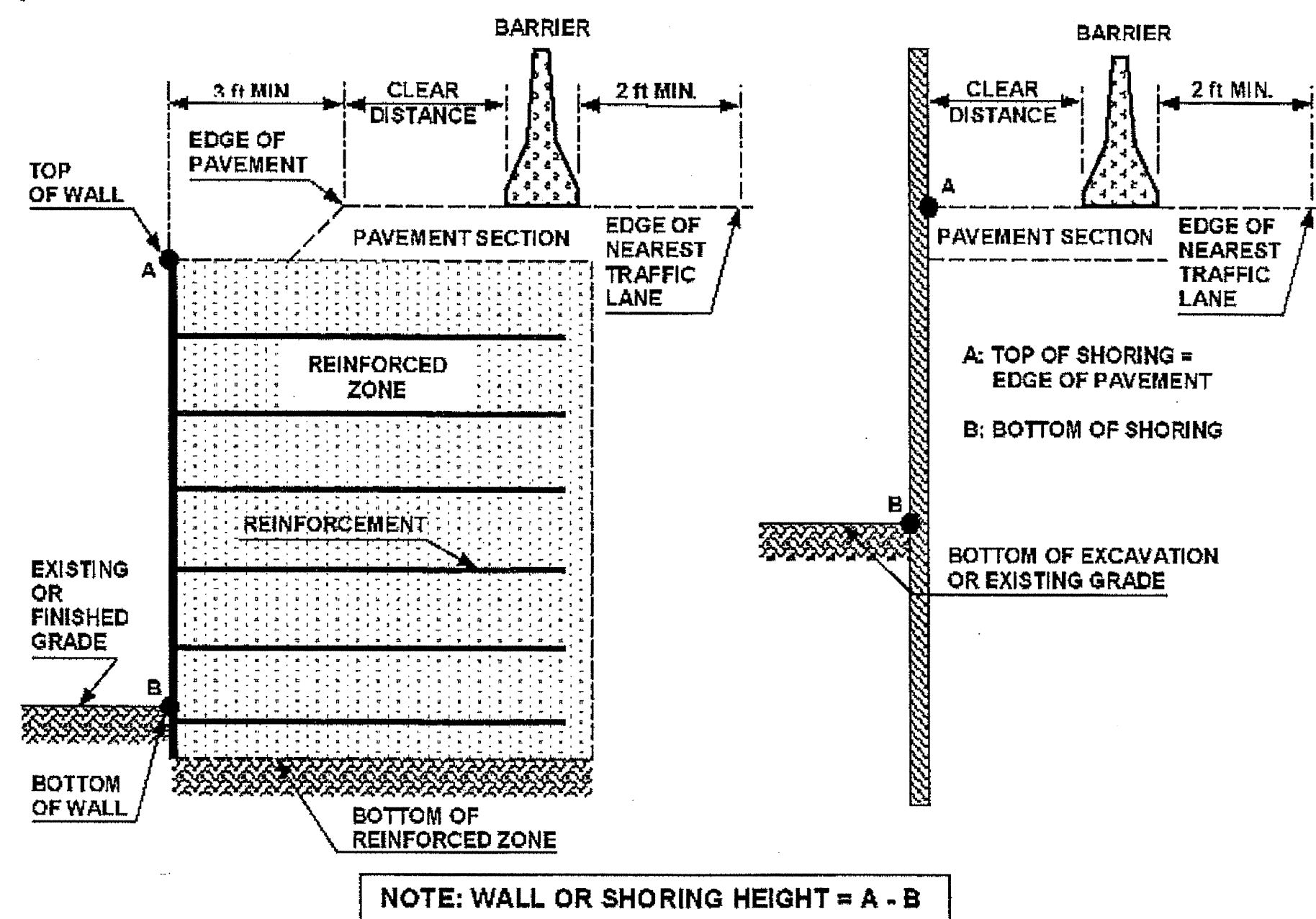


FIGURE A

NOTES

- 1- REFER TO THE TRAFFIC CONTROL PLANS FOR SHORING LOCATIONS AND SOIL PARAMETERS.
- 2- REFER TO THE "TEMPORARY SHORING" PROJECT SPECIAL PROVISION FOR MORE INFORMATION ABOUT TEMPORARY SHORING, MEASUREMENT AND PAYMENT.
- 3- PROVIDE PORTABLE CONCRETE BARRIER TO PROTECT TEMPORARY SHORING IF SHORING IS LOCATED WITHIN THE CLEAR ZONE AS DEFINED IN 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 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.
- 5- 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. DO NOT PLACE BARRIER DIRECTLY ON ANY SURFACE OTHER THAN ASPHALT OR CONCRETE. (CONTACT NCDOT PAVEMENT MANAGEMENT UNIT FOR APPLICABLE PAVEMENT DESIGN).
- 6- USE NCDOT PORTABLE CONCRETE BARRIER (PCB) IN ACCORDANCE WITH ROADWAY STANDARD DRAWING NO. 1170.01 AND SECTION 1170 OF THE STANDARD SPECIFICATIONS.
- 7- USE OREGON TALL F-SHAPE CONCRETE BARRIER IN ACCORDANCE WITH DETAIL DRAWING AND SPECIAL PROVISION OBTAINED FROM: WORK ZONE TRAFFIC CONTROL UNIT WEB PAGE.
- 8- 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.
- 9- 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.
- 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' 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

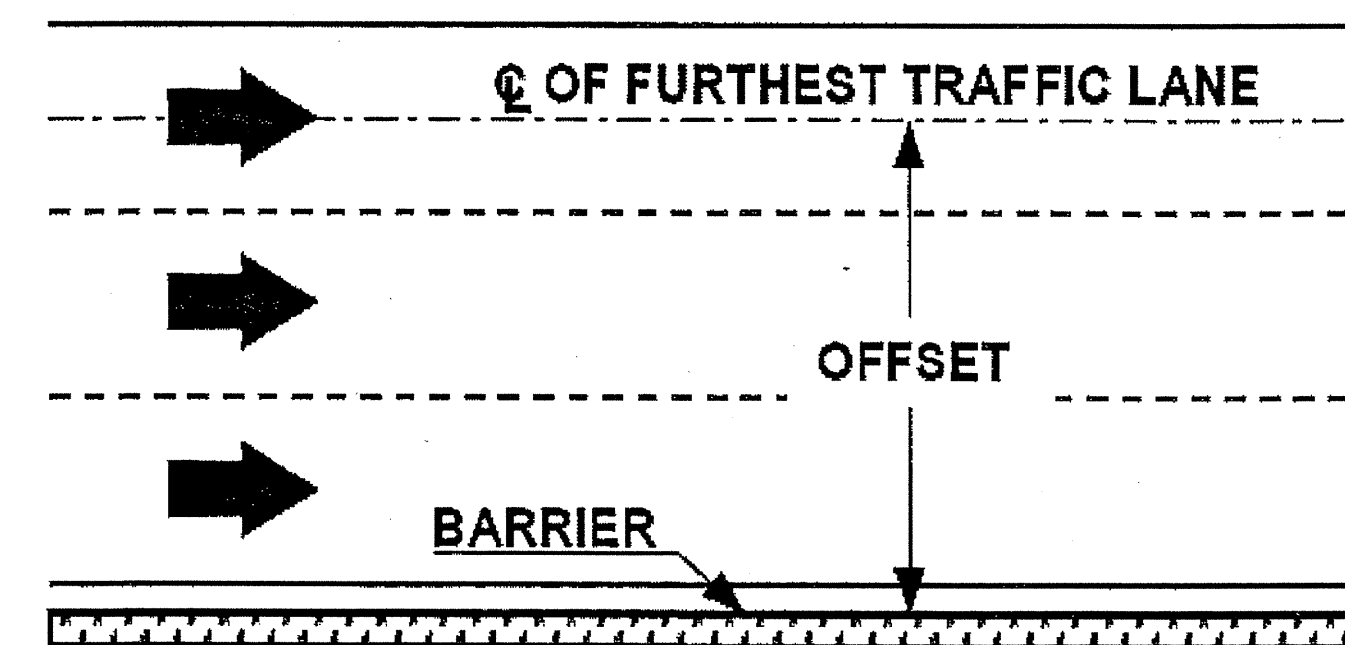
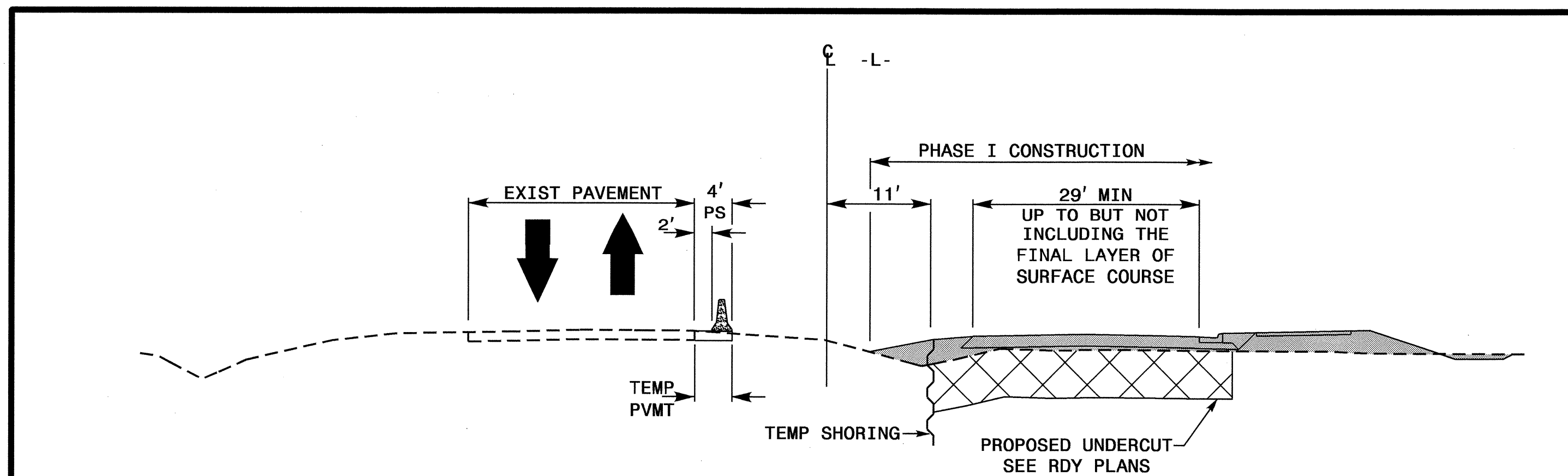
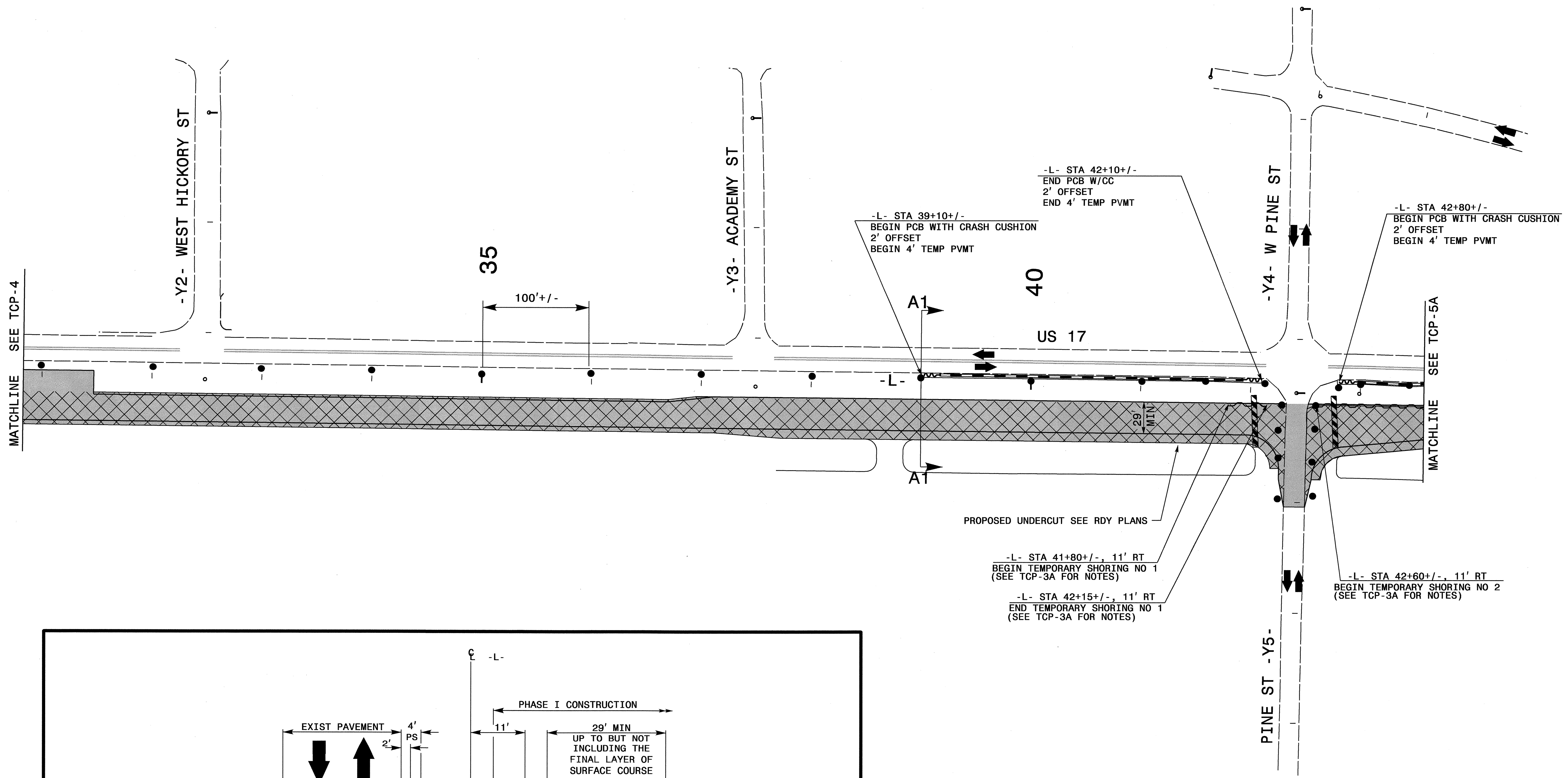


FIGURE B

| | | | |
|-----------------------------|--|--|--|
| APPROVED: _____ DATE: _____ | | | <p>PORTABLE CONCRETE BARRIER AT TEMPORARY SHORING LOCATIONS</p> |
|-----------------------------|--|--|--|

28-MAY-2010 08:52
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 rmgarrrett AT WZTC244747



TYPICAL SECTION
 -L- STA 41+80+/- TO 42+15+/-
 -L- STA 42+60+/- TO 43+75+/-

PROPOSED UNDERCUT SEE RDY PLANS

-L- STA 41+80+/-, 11' RT
 BEGIN TEMPORARY SHORING NO 1
 (SEE TCP-3A FOR NOTES)
 -L- STA 42+15+/-, 11' RT
 END TEMPORARY SHORING NO 1
 (SEE TCP-3A FOR NOTES)

-L- STA 42+60+/-, 11' RT
 BEGIN TEMPORARY SHORING NO 2
 (SEE TCP-3A FOR NOTES)

APPROVED: *[Signature]* DATE: 6/18/10

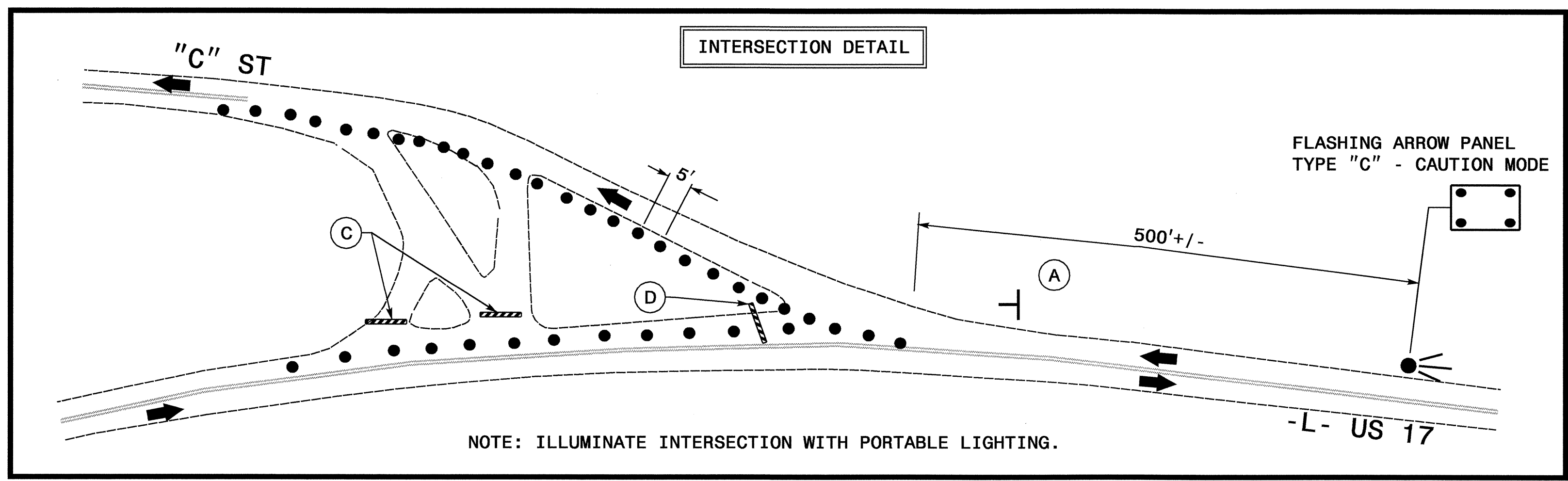
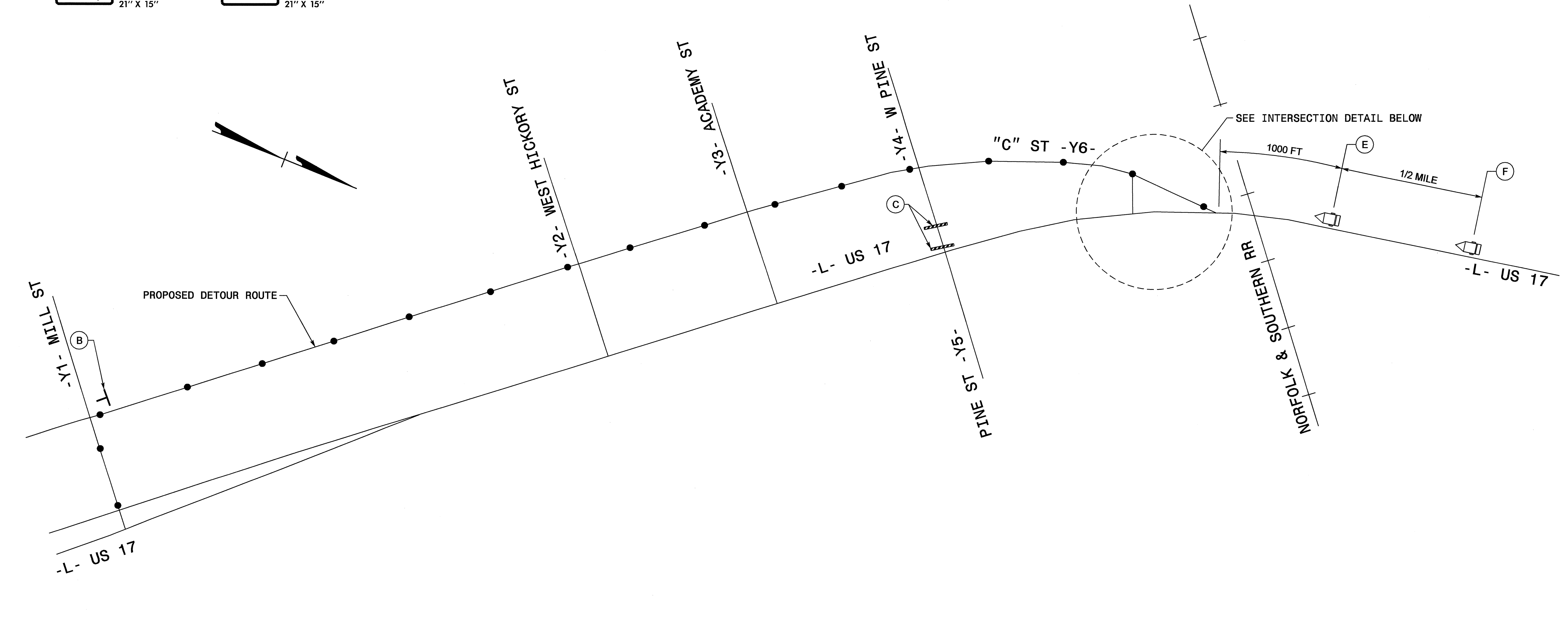
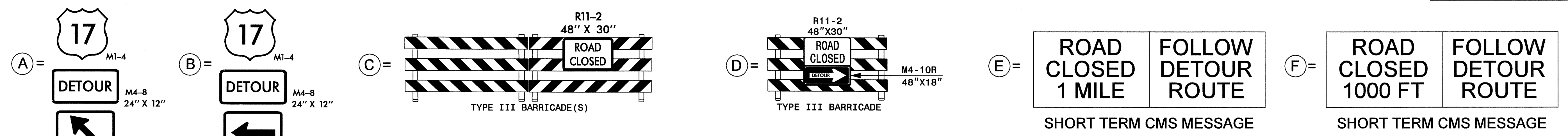
SEAL

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

PHASE I

| | | |
|-----------------|--|-----------|
| SCALE: NONE | | REVISIONS |
| DATE: JUL - 08 | | 01/09 |
| DWG. BY: DR | | |
| DESIGN BY: DR | | |
| REVIEWED BY: DP | | |

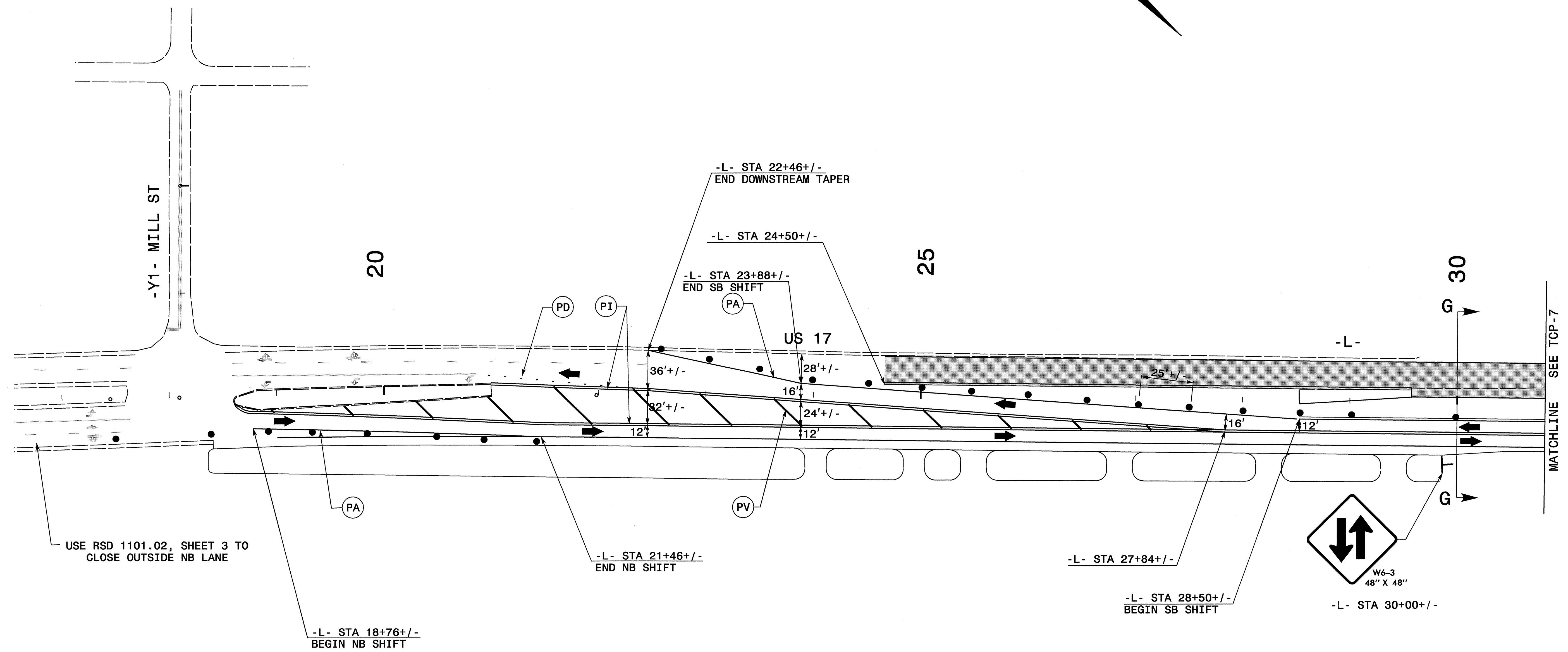
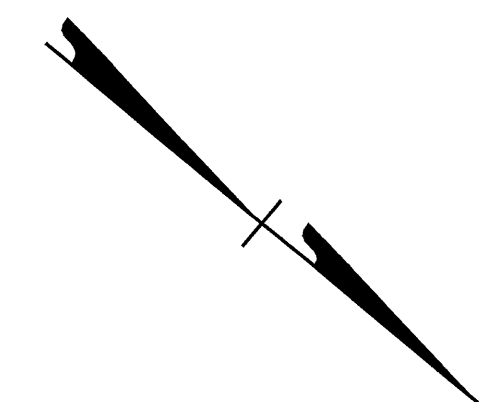
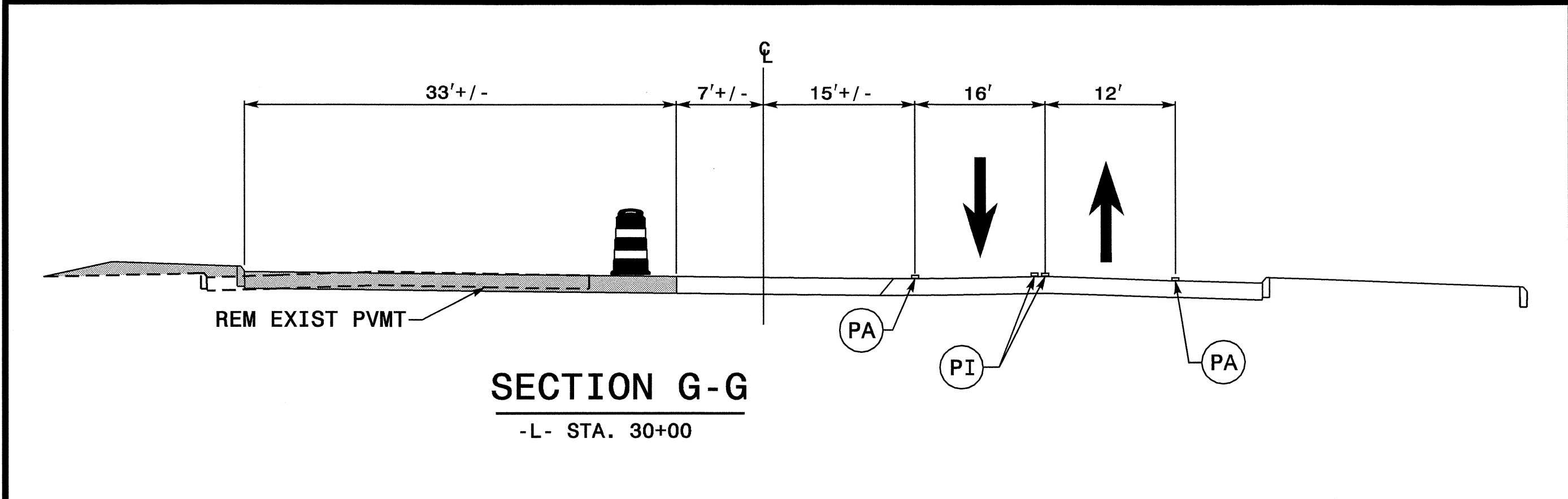
I7-JUN-2010 09:18
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 AT WZTC237460
 derichardson



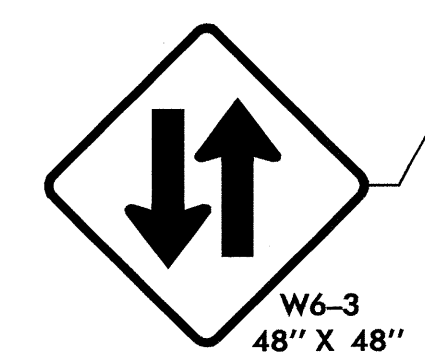
NOTE: ALL TEMPORARY TRAFFIC CONTROL DEVICES ARE TO BE PLACED NO CLOSER THAN 15' FROM CL OF RR

| | | |
|--|---------------------------------------|-----------|
| APPROVED: <i>[Signature]</i> DATE: 4/21/09 | PROPOSED OFF SITE DETOUR ROUTE | |
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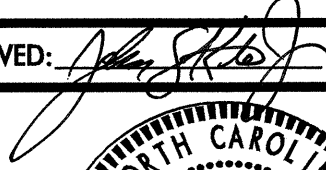


I7-APR-2009 07:54
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 denichardson AT WZTC237460

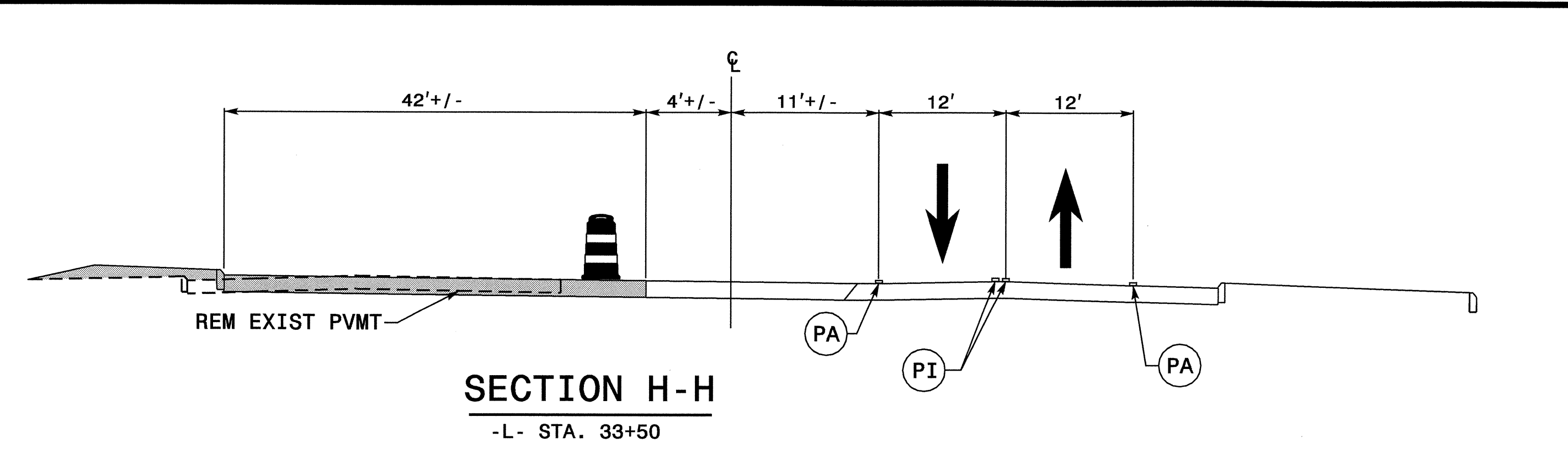
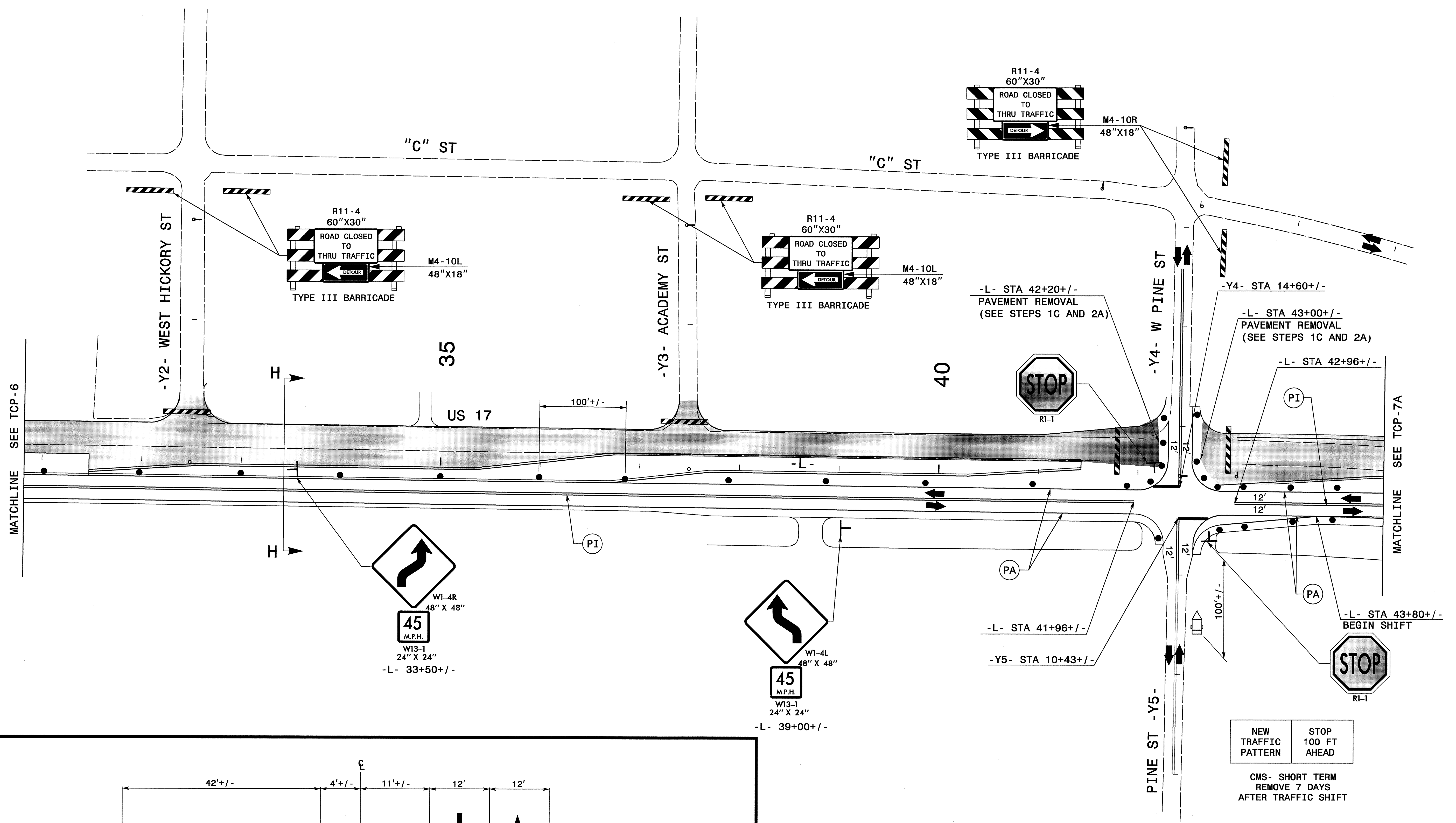


USE RSD 1101.02, SHEET 3 TO
CLOSE OUTSIDE NB LANE



04-FEB-2009 13:38
\\dot\dfs\dot\01\pr\9\11\p\projects-r\3403a\traffic\control\top\3403aa\3403aa.tc_tcp06.dgn
gericharson AT 12/23/08

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|--|-----------------|---|-----------|
| APPROVED:  DATE: 2/9/09 | PHASE II | | |
|  | SCALE: NONE |  | |
| | DATE: JUL-08 | | REVISIONS |
| | DWG. BY: DR | | 01/09 |
| | DESIGN BY: DR | | |
| REVIEWED BY: DAP | | | |



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 A:\p1\dr\00101\T\WZ\10237460
 det\ncr\gson AT WZ\10237460
 P:\c\h\10237460\jects-r\3403aa\traffico\traffico\top\top\3403aa\3403aa\top07.dgn

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|---|--|--|
| APPROVED: <i>[Signature]</i> DATE: 4/2/09 SEAL | PHASE II | |
| | SCALE: NONE DATE: JUL-08 DWG. BY: DR DESIGN BY: DR REVIEWED BY: DP | |

-Y1-
MILL ST

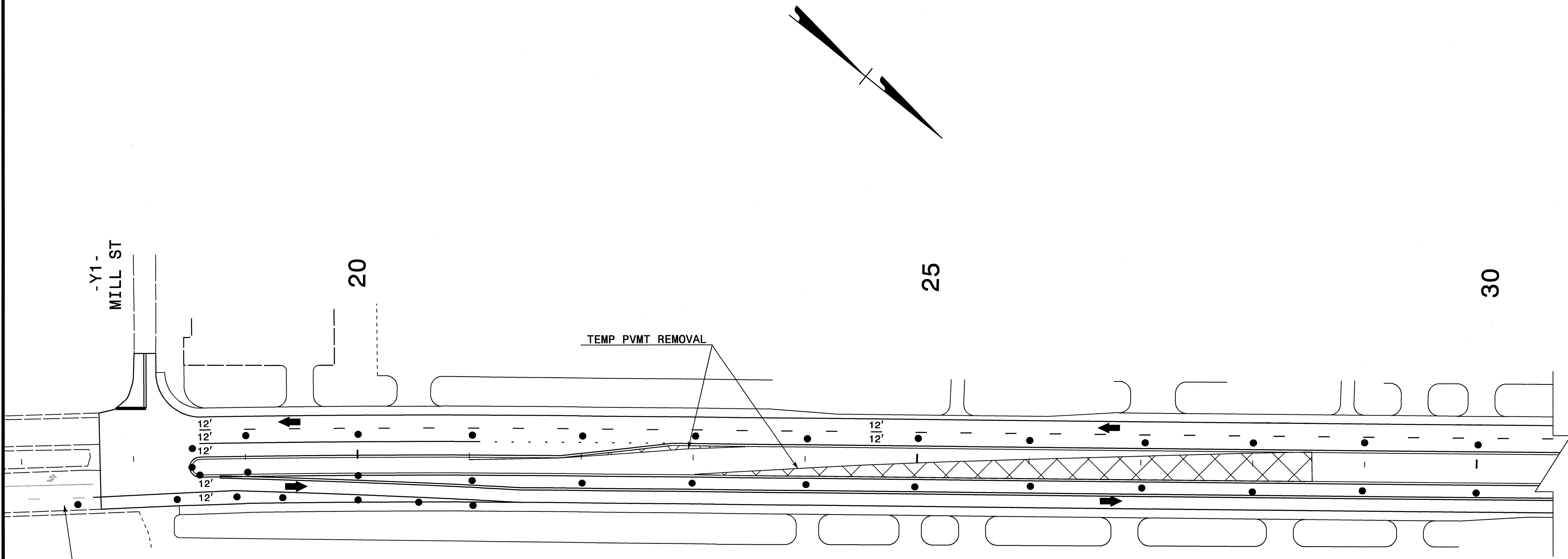
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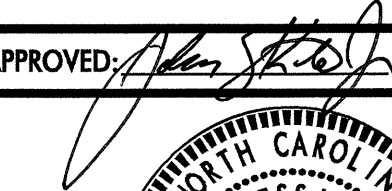
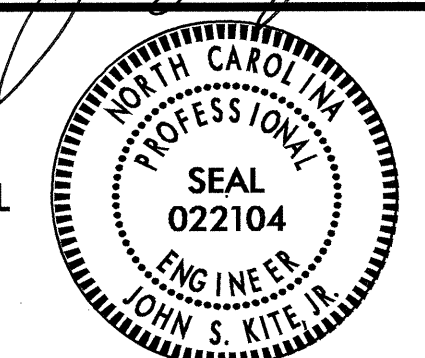
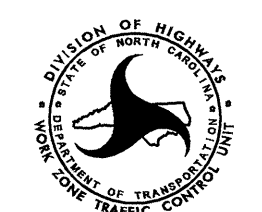
30

TEMP PVMT REMOVAL

OUTSIDE NB LANE TO REMAIN CLOSED
TRAFFIC SHIFTED TO INSIDE LANE



04-FEB-2009 13:39
 \\dot\dfsroot\01\p\9\1\109\projects-r\3403a\trafficcontrol\top\3403aa\3403aa_r-top08.dgn
 derichardson AT WZ1231460

| | | | |
|--|------------------|---|-----------|
| APPROVED:  DATE: 2/9/09 | PHASE III | | |
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| | DATE: JUL-08 | | REVISIONS |
| | DWG. BY: DR | | 01/09 |
| | DESIGN BY: DR | | |
| REVIEWED BY: DP | | CADD FILE | |

