

STATE PROJECT REFERENCE NO. SHEET NO. R-2201TCP-1

# PLAN FOR PROPOSED TRAFFIC CONTROL, MARKING & DELINEATION

# FORSYTH /STOKES COUNTY

### 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                                |
| 1160.01  | TEMPORARY CRASH CUSHION                         |
| 1165.01  | TRUCK MOUNTED IMPACT ATTENUATOR                 |
| 1170.01  | PORTABLE CONCRETE BARRIER                       |
| 1180.01  | SKINNY-DRUM                                     |
| 1205.01  | PAVEMENT MARKINGS - LINE TYPES & OFFSETS        |
| 1205.02  | PAVEMENT MARKINGS - 2 LANE & MULTILANE ROADWAYS |
| 1205.03  | PAVEMENT MARKINGS - INTERCHANGES                |
| 1205.04  | PAVEMENT MARKINGS - INTERSECTIONS               |
| 1205.05  | PAVEMENT MARKINGS - TURN LANES                  |
| 1205.06  | PAVEMENT MARKINGS - THRU LANE DROPS             |
| 1205.08  | PAVEMENT MARKINGS - SYMBOLS & WORD MESSAGES     |
| 1205.09  | PAVEMENT MARKINGS - PAINTED ISLANDS             |
| 1205.12  | PAVEMENT MARKINGS - BRIDGES                     |
| 1250.01  | PAVEMENT MARKER SPACING                         |
| 1251.01  | RAISED PAVEMENT MARKERS (TEMPORARY & PERMANENT) |
| 1261.01  | GUARDRAIL & BARRIER DELINEATOR SPACING          |
| 1261.02  | GUARDRAIL & BARRIER DELINEATOR TYPES            |
| 1262.01  | GUARDRAIL END DELINEATION                       |
| 1264.01  | OBJECT MARKERS                                  |
| 1264.02  | PLACEMENT OF OBJECT MARKERS                     |
| 1267.01  | FLEXIBLE DELINEATOR INSTALLATION                |
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| 1267.03  | FLEXIBLE DELINEATOR-INTERCHANGES                |

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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

T TYPE I BARRICADE

TYPE III BARRICADE

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

PLAN PREPARED BY: N.C.D.O.T. WORK ZONE TRAFFIC CONTROL UNIT DATE: J. S. BOURNE, P.E. TRAFFIC CONTROL ENGINEER J. S. KITE, JR., P.E. TRAFFIC CONTROL PROJECT ENGINEER SEAL J. D. KUSE, P.E. TRAFFIC CONTROL PROJECT DESIGN ENGINEER R. M. GARRETT TRAFFIC CONTROL DESIGN ENGINEER / TECHNICIAN

# PROJ. REFERENCE NO. SHEET NO. R-2201 TCP-2A

### 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 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

SR 1112 (MAIN STREET)
SR 1611 (DORAL DRIVE)
US 52

MONDAY THRU FRIDAY 7:00 AM TO 8:00 PM MONDAY THRU FRIDAY 7:00 AM TO 8:00 PM MONDAY THRU SUNDAY 6:00 AM TO 8:00 PM

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

ROAD NAME

SR 1112 (MAIN STREET)
SR 1611 (DORAL DRIVE)

#### 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 8:00 P.M. DECEMBER 31st TO 7:00 A.M. JANUARY 2ND. IF NEW YEAR'S DAY IS ON A FRIDAY, SATURDAY, SUNDAY, OR MONDAY THEN UNTIL 7:00 A.M. THE FOLLOWING TUESDAY.
- 3. FOR EASTER, BETWEEN THE HOURS OF 8:00 P.M. THURSDAY AND 7:00 A.M. MONDAY.
- 4. FOR MEMORIAL DAY, BETWEEN THE HOURS OF 8:00 P.M. FRIDAY TO 7:00 A.M. TUESDAY.
- 5. FOR INDEPENDENCE DAY, BETWEEN THE HOURS OF 8:00 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 8:00 P.M. THE THURSDAY BEFORE INDEPENDENCE DAY AND 7:00 A.M. THE TUESDAY AFTER INDEPENDENCE DAY.

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

ROAD NAME

US 52

#### 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 8:00 P.M. DECEMBER 31st TO 6:00 A.M. JANUARY 2ND. IF NEW YEAR'S DAY IS ON A FRIDAY, SATURDAY, SUNDAY, OR MONDAY THEN UNTIL 6:00 A.M. THE FOLLOWING TUESDAY.
- 3. FOR EASTER, BETWEEN THE HOURS OF 8:00 P.M. THURSDAY AND 6:00 A.M. MONDAY.
- 4. FOR MEMORIAL DAY, BETWEEN THE HOURS OF 8:00 P.M. FRIDAY TO 6:00 A.M. TUESDAY.
- 5. FOR INDEPENDENCE DAY, BETWEEN THE HOURS OF 8:00 P.M. THE DAY BEFORE INDEPENDENCE DAY AND 6:00 A.M. THE DAY AFTER INDEPENDENCE DAY.

IF INDEPENDENCE DAY IS ON A FRIDAY, SATURDAY, SUNDAY OR MONDAY THEN BETWEEN THE HOURS OF 8:00 P.M. THE THURSDAY BEFORE INDEPENDENCE DAY AND 6:00 A.M. THE TUESDAY AFTER INDEPENDENCE DAY.

- 6. FOR LABOR DAY, BETWEEN THE HOURS OF 8:00 P.M. FRIDAY AND 6:00 A.M. TUESDAY.
- 7. FOR THANKSGIVING DAY, BETWEEN THE HOURS OF 8:00 P.M. TUESDAY TO 6:00 A.M. MONDAY.
- 8. FOR CHRISTMAS, BETWEEN THE HOURS OF 8:00 P.M. THE FRIDAY BEFORE THE WEEK OF CHRISTMAS DAY AND 6:00 A.M. THE FOLLOWING TUESDAY AFTER THE WEEK OF CHRISTMAS.
- C) DO NOT CLOSE ROADS AS FOLLOWS:

ROAD NAME OPERATION

DAY AND TIME RESTRICTIONS

US 52

BRIDGE REMOVAL
/ HANG GIRDERS

MONDAY THRU SUNDAY 6:00 AM TO 8:00 PM

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 5M OF AN OPEN TRAVEL LANE, CLOSE THE NEAREST OPEN SHOULDER USING ROADWAY STANDARD DRAWING NO. 1101.04 UNLESS THE WORK AREA IS PROTECTED BY BARRIER OR GUARDRAIL OR A LANE CLOSURE IS INSTALLED.

G) WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING ON THE SHOULDER ADJACENT TO AN UNDIVIDED FACILITY AND WITHIN 1.5M OF AN OPEN TRAVEL LANE, CLOSE THE NEAREST OPEN TRAVEL LANE USING ROADWAY STANDARD DRAWING NO. 1101.02 UNLESS THE WORK AREA IS PROTECTED BY BARRIER OR GUARDRAIL.

WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING ON THE SHOULDER ADJACENT TO A DIVIDED FACILITY AND WITHIN 3M 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 5M ON BOTH SIDES OF AN OPEN TRAVELWAY, RAMP OR LOOP WITHIN THE SAME LOCATION UNLESS PROTECTED WITH GUARDRAIL OR BARRIER.

#### PAVEMENT EDGE DROP OFF REQUIREMENTS

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 50mm ON ROADWAYS WITH POSTED SPEED LIMITS OF 45 MPH OR GREATER.

BACKFILL DROP-OFFS THAT EXCEED 75mm ON ROADWAYS WITH POSTED SPEED LIMITS LESS THAN 45 MPH.

BACKFILL WITH SUITABLE COMPACTED MATERIAL, AS APPROVED BY THE ENGINEER, AT NO EXPENSE TO THE DEPARTMENT.

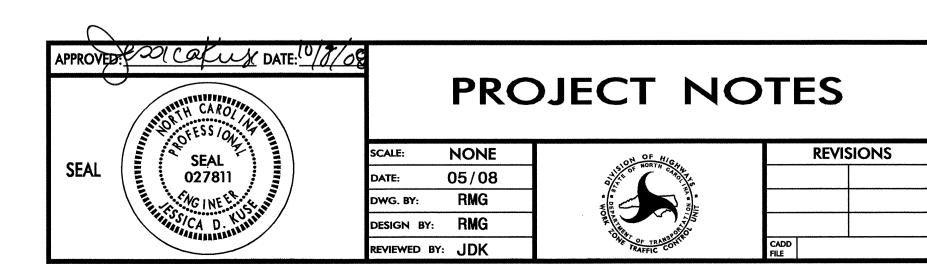
K) DO NOT EXCEED A DIFFERENCE OF 50mm IN ELEVATION BETWEEN OPEN LANES OF TRAFFIC FOR NOMINAL LIFTS OF 40mm. INSTALL ADVANCE WARNING "UNEVEN LANES" SIGNS (W8-11) 60 M IN ADVANCE AND A MINIMUM OF EVERY HALF MILE THROUGHOUT THE UNEVEN AREA.

#### 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 12M FROM THE EDGE OF TRAVEL LANE AND NO MORE THAN THREE (3) DAYS PRIOR TO THE BEGINNING OF CONSTRUCTION.
- N) PROVIDE PERMANENT SIGNING.



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PROJ. REFERENCE NO. SHEET NO.

R-2201
TCP-2B

### PROJECT NOTES

### GENERAL NOTES

- O) PROVIDE DETOUR SIGNING WITHIN AND OFF THE PROJECT LIMITS.
- P) COVER OR REMOVE ALL DETOUR SIGNS WITHIN AND OFF THE PROJECT LIMITS WHEN A DETOUR IS NOT IN OPERATION.
- Q) ENSURE ALL NECESSARY SIGNING IS IN PLACE PRIOR TO ALTERING ANY TRAFFIC PATTERN.
- R) INSTALL BLACK ON ORANGE "DIP" SIGNS (W8-2) AND/OR "BUMP" SIGNS (W8-1) 60M IN ADVANCE OF THE UNEVEN AREA, OR AS DIRECTED BY THE ENGINEER.

#### TRAFFIC BARRIER

S) 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.

T) PROTECT THE APPROACH END OF 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 PORTABLE CONCRETE BARRIER FROM ONCOMING TRAFFIC AT ALL TIMES BY A TEMPORARY CRASH CUSHION UNLESS THE APPROACH END OF PORTABLE CONCRETE BARRIER IS OFFSET FROM ONCOMING TRAFFIC AS SHOWN IN THE PLANS.

#### TRAFFIC CONTROL DEVICES

- U) SPACE CHANNELIZING DEVICES IN WORK AREAS EQUAL IN METERS TO 2/3rds THE POSTED SPEED LIMIT (MPH), EXCEPT 3M ON-CENTER IN RADII, AND 1M 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.
- V) PLACE TYPE III BARRICADES, WITH "ROAD CLOSED" SIGN R11-2 ATTACHED, OF SUFFICIENT LENGTH TO CLOSE ENTIRE ROADWAY.

W) PLACE ADDITIONAL SETS OF THREE CHANNELIZING DEVICES DRUMS PERPENDICULAR TO THE EDGE OF TRAVELWAY ON 150M CENTERS WHEN UNOPENED LANES ARE CLOSED TO TRAFFIC.

#### PAVEMENT MARKINGS AND MARKERS

ROAD NAME

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

| SR 1611 (DORAL DR)                 | THERMOPLASTIC               | N/A                 |
|------------------------------------|-----------------------------|---------------------|
| SR 1112 (MAIN ST)<br>(ROADWAY)     | THERMOPLASTIC               | N/A                 |
| SR 1112 (MAIN ST)<br>(BRIDGE DECK) | COLD APPLIED PLASTIC TYPE 3 | PERMANENT<br>RAISED |
| US 52                              | THERMOPLASTIC               | SNOWPLOWABLE        |

MARKING

MARKER

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

| ROAD NAME         | MARKING                     | MARKER |
|-------------------|-----------------------------|--------|
| ALL ROADS         | PAINT                       | N/A    |
| US 52 BRIDGE DECK | COLD APPLIED PLASTIC TYPE 4 | N/A    |

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

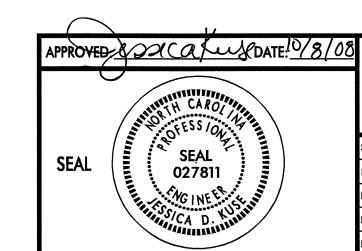
- DD) NOTIFY THE ENGINEER TWO (2) MONTHS BEFORE A TRAFFIC SIGNAL INSTALLATION BY OTHERS IS REQUIRED.
- EE) SHIFT AND REVISE ALL SIGNAL HEADS AS SHOWN ON THE SIGNAL PLANS.

#### **MISCELLANEOUS**

- FF) POLICE MAY BE USED TO MAINTAIN TRAFFIC THROUGH THE WORK AREA AND/OR INTERSECTIONS, AS DIRECTED BY THE ENGINEER.
- GG) IN THE EVENT A TIE-IN CANNOT BE MADE IN ONE DAYS TIME, BRING THE TIE-IN AREA TO AN APPROPRIATE ROADWAY ELEVATION, AS DETERMINED BY THE ENGINEER. PLACE BLACK ON ORANGE "LOOSE GRAVEL" SIGNS (W8-7) AND BLACK ON ORANGE "PAVEMENT ENDS" SIGNS (W8-3) 60M AND 120M RESPECTIVELY IN ADVANCE OF THE UNEVEN AREAS. USE DRUMS TO DELINEATE THE EDGE OF ROADWAY ALONG UNPAVED AREAS.

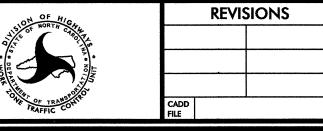
### LOCAL NOTES

- 1. ADDITIONAL CMS BOARD QUANTITIES ARE INCLUDED IN THE CONSTRUCTION ESTIMATE TO PROVIDE ADDITIONAL ADVANCE WARNING DURING VARIOUS STAGES OF CONSTRUCTION AS DIRECTED BY THE ENGINEER.
- 2. EACH PROPOSED SIDEWALK SEGMENT IS TO REMAIN CLOSED UTILIZING TYPE III BARRICADES WITH (R9-9) "SIDEWALK CLOSED" SIGNS MOUNTED ONTO SAME. EACH SEGMENT MAY BE OPENED TO PEDESTRIANS ONCE COMPLETED OR AS DIRECTED BY THE ENGINEER.
- 3. WHEN CONSTRUCTING DRAINAGE STRUCTURES ADJACENT TO OR WITHIN EXISTING TRAVEL LANES, FURNISH AND INSTALL TEMPORARY STEEL PLATES, AS DIRECTED BY THE ENGINEER, AND CONSTRUCT THOSE DRAINAGE STRUCTURES IN THE FOLLOWING SEQUENCE. EACH LOCATION MAY BE DONE INDEPENDENTLY OR CONCURRENTLY, UNLESS OTHERWISE DIRECTED BY THE ENGINEER. WORK IN A CONTINUOUS MANNER TO PERFORM THE FOLLOWING STEPS A THROUGH E:
  - A) USING ROADWAY STANDARD DRAWING SERIES 1101.02, CLOSE THE APPROPRIATE TRAVEL LANE TO TRAFFIC.
  - B) CONSTRUCT THE PROPOSED DRAINAGE STRUCTURES AS SHOWN IN THE ROADWAY PLANS AND COVER WITH METAL PLATES TO PROTECT THE STRUCTURE DURING THE CURING PROCESS.
  - C) OPEN THE TRAVEL LANE TO THE EXISTING TRAFFIC PATTERN BY THE END OF THE WORK PERIOD.
  - D) WHEN PROPERLY CURED, USE ROADWAY STANDARD DRAWING SERIES 1101.02, AND CLOSE THE APPROPRIATE TRAVEL LANE TO TRAFFIC AND BACKFILL AND PAVE, IF REQUIRED UP TO THE EXISTING EDGE AND ELEVATION OF EXISTING PAVEMENT.
  - E) OPEN THE TRAVEL LANE TO THE EXISTING TRAFFIC PATTERN BY THE END OF THE WORK PERIOD.
- 4. TRAFFIC SHALL NOT BE STOPPED FOR MORE THAN 15 MINUTES WHILE SHIFTING TRAFFIC ON ANY ROAD.
- 5. AT THE DIRECTION OF THE ENGINEER, INSTALL NEW MESSENGER CABLE TO RESERVE AN ATTACHMENT LOCATION ON FINAL SIGNAL POLES FOR NCDOT FIBER OPTIC CABLE.



### PROJECT NOTES

DATE: 05/08
DWG. BY: RMG
DESIGN BY: RMG
REVIEWED BY: JDK



### TEMPORARY SHORING DATA



PROJ. REFERENCE NO. SHEET NO. TCP-2C

TEMPORARY SHORING NO.  $\langle 1 \rangle$  (SEE SHEET TCP-06)

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 21+60+/-L-, 1.2 M. RIGHT OF -L-, TO STATION 22+04+/- -L-, 1.2 M. 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 21+60+/- -L-, 1.2 M. RIGHT OF -L-, TO STATION 22+04+/- -L-, 1.2 M. 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.

TEMPORARY SHORING NO. (2) (SEE SHEET TCP-06)

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 22+51+/-L-, 1.2 M RIGHT OF -L-, TO STATION 23+00+/- -L-, 1.2 M 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 22+51+/- -L-, 1.2 M RIGHT OF -L-, TO STATION 23+00+/- -L-, 1.2 M 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.

TEMPORARY SHORING NO.  $\langle 3 \rangle$  (SEE SHEET TCP-15)

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 16+50+/--Y2-, 6.0 M LEFT OF -Y2-, TO STATION 16+63+/---Y2-, 6.0 M LEFT OF -Y2-, 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,  $\gamma$  = 0 PSF

NO SUBSURFACE INFORMATION IS AVAILABLE IN THE VICINITY OF THE TEMPORARY SHORING FROM STATION 16+50+/- -Y2-, 6.0 M LEFT OF -Y2-, TO STATION 16+63+/- -Y2-, 6.0 M LEFT OF -Y2-. 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.

TEMPORARY SHORING NO.  $\langle 4 \rangle$  (SEE SHEET TCP-15)

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.

NO SUBSURFACE INFORMATION IS AVAILABLE IN THE VICINITY OF THE TEMPORARY SHORING FROM STATION 16+50+/- -Y2-, 5.8 M RIGHT OF -Y2-, TO STATION 16+63+/- -Y2-, 5.8 M RIGHT OF -Y2-. 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.

TEMPORARY SHORING NO. <5> (SEE SHEET TCP-2)

FOR TEMPORARY SHORING, SEE TEMPORARY SHORING SPECIAL PROVISION.

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

NO SUBSURFACE INFORMATION IS AVAILABLE IN THE VICINITY OF THE TEMPORARY SHORING FROM STATION 16+40+/- -Y2-, 6.0 M. LEFT OF -Y2-, TO STATION 16+48+/- -Y2-, 6.0 M. LEFT OF -Y2-. 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.

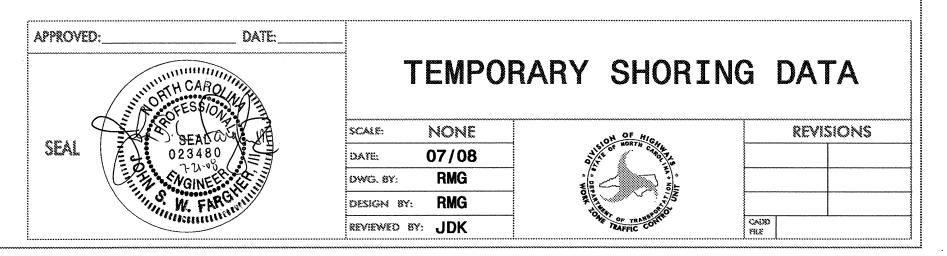
TEMPORARY SHORING NO. 6 (SEE SHEET TCP-21)

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.

NO SUBSURFACE INFORMATION IS AVAILABLE IN THE VICINITY OF THE TEMPORARY SHORING FROM STATION 16+40+/- -Y2-, 5.8 M RIGHT OF -Y2-, TO STATION 16+50+/- -Y2-, 5.8 M RIGHT OF -Y2-. 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.



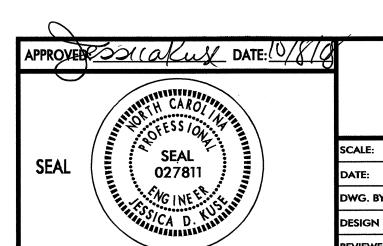


PROJ. REFERENCE NO. SHEET NO.

R-2201
TCP-02D

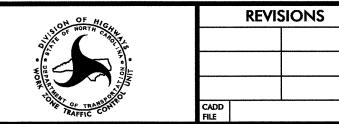
### TEMPORARY PAVEMENT MARKING SCHEDULE

| SYMBOL        | DESCRIPTION                               |  | PAY IT             |          | TOTAL  |       |         |
|---------------|---|--|--------------------|----------|--------|-------|---------|
|               |   | TEMPORARY                                      |                    |          |        |       |         |
|               |   | PAVEMENT MARKINGS                              |                    |          |        |       |         |
| CA<br>CI      | WHITE EDGELINE<br>YELLOW DOUBLE CENTER    | COLD APPLIED PLASTIC (100MM) Type4 - Removable | Tape<br>128<br>512 | M<br>M   | TOTAL  | 040   |         |
|               |   |  |                    |          | TOTAL  | 640   | IAI     |
|               |   | PAINT(100MM)                                   |                    |          |        |       |         |
| PA<br>PB      | WHITE EDGELINE (2X) YELLOW EDGELINE (2X)  |  | 7488<br>6956       | M<br>M   |        |       |         |
| PC            | 3 M. WHITE SKIP (2X)                      |  | 4135               | M        |        |       |         |
| PD            | 0.5 M. WHITE MINISKIP                     | (2X)   | 317                | M        | a.     |       |         |
| PE            | WHITE SOLID LANE LINE                     |  | 6235               | M        |        |       |         |
| PG            | 0.5 M. YELLOW MINISKI                     | · ·  | 7                  | M        |        |       |         |
| PH<br>PI      | YELLOW SINGLE CENTER YELLOW DOUBLE CENTER |  | 2062<br>26086      | M<br>M   |        |       |         |
| 1.1           | ILLLOW DOODLE CENTER                      | (ZX)   | 20000              | IVI      | TOTAL  | 53286 | М       |
|               |   |  |                    |          |        |       |         |
| P6            | WHITE EDGELINE (OV)                       | PAINT(150MM)                                   | 12235              | M        |        |       |         |
| P7            | WHITE EDGELINE (2X) YELLOW EDGELINE (2X)  |  | 12711              | M        |        |       |         |
| PK            | 3 M. WHITE SKIP (2X)                      |  | 1860               | M        |        |       |         |
| PL            | 0.5 M. WHITE MINÌSKÍP                     | (2X)   | 244                | M        |        |       | •       |
| PM            | WHITE SOLID LANE LINE                     | (2X)   | 2089               | M        | TOTAL  | 00400 | 54      |
|               |   |  |                    |          | TOTAL  | 29139 | M       |
|               |   | PAINT(200MM)                                   |                    |          |        |       | •       |
| PR            | WHITE GORELINE (2X)                       |  | 2812               | M        |        |       |         |
| PS            | WHITE DIAGONAL (2X)                       |  | 832                | M        |        |       |         |
| PV            | YELLOW DIAGONAL (2X)                      |  | 1070               | M        | TOTAL  | 4714  | M       |
|               |   |  |                    |          | 1017(2 |       |         |
| D.4           | WHITE OTODDAD (OV)                        | PAINT(600MM)                                   | 1044               | 24       |        |       |         |
| P4            | WHITE STOPBAR (2X)                        |  | 1244               | M        | TOTAL  | 1244  | М       |
|               |   |  |                    |          |        |       |         |
| QI            | ALDUANIIMEDTO CUAD (2                     | PAINT MARKING CHARACTERS                       | 18                 | EA       |        |       |         |
| άī.           | ALPHANUMERIC CHAR. (2                     | ^)   | 10                 | EA       | TOTAL  | 18    | EA      |
|               |   |  |                    |          |        |       |         |
| 0.4           | LEET TURN ARROW (OV)                      | PAINT MARKING SYMBOLS                          | 4.40               | Ε Δ      |        |       |         |
| QA<br>QB      | LEFT TURN ARROW (2X)                      |  | 148<br>108         | EA<br>EA |        |       |         |
| QC            | RIGHT TURN ARROW (2X) STRAIGHT ARROW (2X) |  | 144                | EA       |        |       |         |
| QD            | COMBO.STRAIGHT/LEFT (                     | 2X)  | 16                 | EA       |        |       |         |
| QE            | COMBO.STRAIGHT/RIGHT                      | (2X)   | 18                 | EA       |        | - ~   | <b></b> |
|               |   |  |                    |          | TOTAL  | 434   | EA      |
|               |   | MARKERS  |                    |          |        |       |         |
| <b>8.51</b> * | VELLOW A VELLOW                           | TEMPORARY RAISED PAVEMENT MARKERS              |                    |          |        |       |         |
| MH<br>MI      | YELLOW & YELLOW<br>CRYSTAL & RED          |  | 36<br>35           | EA<br>EA |        |       |         |
| IAI T         | UNIGIAL & NED                             |  | 33                 | LA       | TOTAL  | 71    | EA      |
|               |   |  |                    |          |        |       |         |



TEMPORARY PAVEMENT MARKING SCHEDULE

ATE: 08/08
NG, BY: RMG
ESIGN BY: RMG



). | | Secontrol |

#### NOTES:

THE CONTRACTOR IS TO FURNISH, INSTALL, MAINTAIN, RELOCATE AND REMOVE CHANGEABLE MESSAGE BOARDS DURING VARIOUS STAGES OF CONSTRUCTION AT THE DISCRETION OF THE ENGINEER TO ADEQUATELY INFORM MOTORISTS OF CHANGING WORK ZONE CONDITIONS. (SEE LOCAL NOTE 1)

COMPLETE ANY PROPOSED OR TEMPORARY WIDENING IN SUCH A MANNER THAT PONDING OF WATER WILL NOT OCCUR IN THE TRAVEL LANE.

USING INCIDENTAL STONE AS NECESSARY, MAINTAIN VEHICULAR ACCESS TO ALL DRIVEWAYS DURING THE LIFE OF THE CONTRACT UNLESS OTHERWISE NOTED IN THE PHASING OR DIRECTED BY THE ENGINEER. IN THE CASE OF MULTIPLE DRIVEWAYS TO A BUSINESS OR RESIDENCE THE CONTRACTOR IS TO MAINTAIN A MINIMUM OF ONE AT ALL TIMES.

REMOVE TEMPORARY ROAD CLOSURES AT THE END OF EACH WORKDAY AND RESTORE TRAFFIC TO EXISTING PATTERNS.

#### PHASE I

- STEP 1 INSTALL WORK ZONE ADVANCE WARNING SIGNS ON -L- AND -Y- LINES AS SHOWN ON SHEETS TCP-27 THROUGH TCP-29.
  - AWAY FROM TRAFFIC BEGIN CONSTRUCTION OF DRAINAGE AND UTILITY RELOCATIONS (SEE ROADWAY PLANS AND LOCAL NOTE 3)
- STEP 2 USING ROADWAY STANDARD DRAWING 1101.02, SHEETS 1 AND 2 AS NECESSARY BEGIN CONSTRUCTION OF PROPOSED DRAINAGE, CURB AND GUTTER AND WIDENING UP TO THE EDGE AND ELEVATION OF THE EXISTING ROADWAY SURFACES IN THE FOLLOWING LOCATIONS: (SEE ROADWAY PLANS AND LOCAL NOTES 1, 2 AND 3)

NOTE: TRAFFIC TO BE MAINTAINED IN THE EXISTING PATTERNS (SEE SHEETS TCP-04 THROUGH TCP-09)

- -L- SR 1611/SR 1112 (DORAL DRIVE/MAIN STREET) FROM STA. 14+40+/- TO STA. 21+10+/-
- -L- SR 1611/SR 1112 (DORAL DRIVE/MAIN STREET) FROM STA. 23+52+/- TO STA. 32+80+/-
- -Y- (BIG OAKS DRIVE)
- FROM STA. 11+20+/- TO STA. 11+40+/-
- -Y1- (NEWSOME RD)
  - FROM STA. 10+20+/- TO STA. 11+00+/-
- -Y4- (CARMEL DRIVE)
- FROM STA. 10+00+/- STA. 10+45+/-
- -Y5- (BAILEY DRIVE)
- FROM STA. 10+06+/- TO STA. 10+80+/-
- -Y6- (INGRAM ROAD)
- FROM STA. 15+80+/- TO STA. 16+85+/-
- -Y7- (JEFFERSON CHURCH ROAD)
- FROM STA. 10+20+/- TO STA. 11+20+/-
- -Y8- (KIRBY ROAD)
- FROM STA. 10+15+/- TO STA. 12+00+/-
- -Y9- (SPAINHOUR ROAD)
  - FROM STA. 10+00+/- TO STA. 10+75+/-
- INSTALL TEMPORARY SHORING, PCB AND CRASH CUSHIONS ALONG -L- (DORAL DR. / MAIN ST.) AND BEGIN CONSTRUCTION OF THE PROPOSED PHASE I BRIDGE END BENTS. (SEE STRUCTURE PLANS AND SHEETS TCP-02C AND TCP-06)

- CLOSE EXISTING -Y11- (MARZIANO DRIVE) AND (VESTA STREET) TO TRAFFIC AS REQUIRED AND CONSTRUCT -Y11- FROM STA. 10+00 TO STA. 14+12+/-. INSTALL TEMPORARY PAVEMENT MARKINGS ALONG -Y11- (MARZIANO DRIVE) AND (VESTA STREET) AND OPEN TO TRAFFIC. (SEE ROADWAY PLAN AND SHEETS TCP-06, TCP-07, TCP-10, PMP-05 AND TCP-08)
- AWAY FROM TRAFFIC BEGIN CONSTRUCTION OF THE PROPOSED INTERCHANGE RAMPS -RAMPA-, -RAMPB-, RAMPC- AND -RAMPD- UP TO BUT NOT INCLUDING THE FINAL SURFACE COURSE AND PROPOSED DRAINAGE RELATIVE TO SAME. (SEE ROADWAY PLANS AND SHEETS TCP-06 AND TCP-10 THROUGH AND INCLUDING TCP-13). RAMPS ARE TO REMAIN CLOSED WITH TYPE III BARRICADES WITH R11-2 "ROAD CLOSED" SIGNS.
- AWAY FROM TRAFFIC THE CONTRACTOR MAY BEGIN WORK ON THE PROPOSED DRAINAGE INSTALLATION BY TRENCH-LESS METHODS WHICH CROSS US 52 AT THE FOLLOWING LOCATIONS.
  - -Y2- (US 52) STA. 11+90+/-
  - -Y2- (US 52) STA. 17+07+/-
  - -Y2- (US 52) STA. 19+10+/-
- STEP 3 USING ROADWAY STANDARD DRAWING 1101.02, SHEETS 3 AND 6 OF 9, AND SHEET TCP-14 PLACE ALL DEVICES NECESSARY TO CLOSE THE OUTSIDE LANES OF -Y2- (US 52) IN BOTH DIRECTIONS AND CONSTRUCT FULL DEPTH PAVED SHOULDERS ALONG THE OUTSIDE LANES IN THE FOLLOWING LOCATIONS:
  - -Y2- (US 52 NORTHBOUND DIRECTION)
    FROM STA. 14+50+/- TO STA. 19+00+/-
  - -Y2- (US 52 SOUTHBOUND DIRECTION)
    FROM STA. 14+00+/- TO STA. 18+40+/-
  - USING ROADWAY STANDARD DRAWING 1101.02, SHEET 3 OF 9
    ALTERNATING THE LANE CLOSURES, OBLITERATE EXISTING
    PAVEMENT MARKING AND MARKERS AND INSTALL TEMPORARY
    PAVEMENT MARKING AND MAKERS NECESSARY TO SHIFT
    TRAFFIC TOWARDS THE OUTSIDE IN BOTH DIRECTIONS ALONG
    -Y2- (US 52) AS DEPICTED ON SHEETS TCP-14 AND TCP-15.
  - OPEN ALL LANES ALONG -Y2- (US 52) TO TRAFFIC IN THE TEMPORARY TRAFFIC PATTERN.
- STEP 4 USING ROADWAY STANDARD DRAWING 1101.02, SHEET 3 OF 9
  REMOVE EXISTING GUARDRAIL AND INSTALL PCB (PORTABLE
  CONCRETE BARRIER) AND CRASH CUSHIONS ALONG -Y2(US 52)AS SHOWN ON SHEETS TCP-14 AND TCP-15.
  - INSTALL TEMPORARY SHORING AND CONSTRUCT PROPOSED SPREAD FOOTINGS AND MEDIAN BRIDGE BENT FOR THE PHASE I BRIDGE. (SEE ROADWAY AND STRUCTURE PLANS AND SHEETS TCP-2C, TCP-14 AND TCP-15)

COMPLETE THE WORK FOR PHASE I, STEP 5 IN A CONTINUOUS MANNER FROM 8:00 P.M. TO 6:00 A.M. MONDAY THROUGH SUNDAY PER GENERAL NOTE C. SEE INTERMEDIATE CONTRACT TIME AND LIQUIDATED DAMAGES.

STEP 5 - USING ROADWAY STANDARD DRAWING 1101.03, SHEET 7 OF 9, AND POLICE CLOSE -Y2- (US 52) TO TRAFFIC AND DETOUR TRAFFIC ONTO EXISTING RAMPS AT THE US 52 / MAIN ST INTERCHANGE. EXISTING SIGNALS TO BE PLACED IN FLASH OR CAUTION MODE DURING HOURS OF OPERATION.

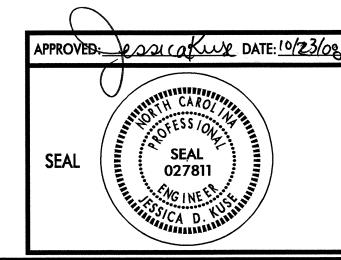
- INSTALL BRIDGE GIRDERS SPANNING -Y2- (US 52) LANES OF TRAFFIC FOR THE PHASE I BRIDGE. (SEE STRUCTURE PLANS)
- STEP 6 COMPLETE PHASE I BRIDGE AND -L- (DORAL DR./MAIN ST.)

  UP TO BUT NOT INCLUDING THE FINAL SURFACE COURSE FROM
  -L- STA. 21+60+/- TO STA. 23+10+/-.
  - INSTALL AND COVER TEMPORARY PHASE I SIGNALS AT THE INTERSECTION OF -L- WITH THE PROPOSED -Y2- (US 52) RAMPS. (SEE LOCAL NOTE 5)
- STEP 7 INSTALL TYPE III BARRICADES WITH R11-2 "ROAD CLOSED"
  SIGN AND M4-10L "DETOUR" SIGN, CHANGEABLE MESSAGES
  BOARDS AND DETOUR SIGNS NECESSARY TO CLOSE EXISTING
  RAMP A TO TRAFFIC. ALL SIGNS ARE TO BE COVERED AND
  MESSAGE BOARDS DEACTIVATED UNTIL NEEDED. (SEE SHEETS
  TCP-25 AND TCP-26)

COMPLETE THE WORK FOR PHASE I, STEP 8 IN 10 CONSECUTIVE CALENDAR DAYS. SEE INTERMEDIATE CONTRACT TIME AND LIQUIDATED DAMAGES.

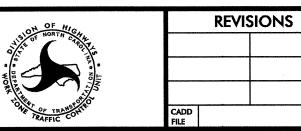
NOTE: TRAFFIC ALONG -L- (DORAL DR./MAIN ST.) IS TO BE PLACED BACK INTO EXISTING PATTERNS AT THE END OF EACH DAY.

- STEP 8 UNCOVER ALL DETOUR SIGNS AND ACTIVATE CHANGEABLE
  MESSAGE BOARDS NECESSARY TO CLOSE EXISTING RAMP A
  AND DETOUR TRAFFIC. (SEE SHEETS TCP-25 AND TCP-26)
  - USING ROADWAY STANDARD DRAWING 1101.02, SHEET 1 OF 9 AND FLAGGERS, WEDGE EXISTING SURFACES NIGHTLY ALONG -L- (DORAL DR./MAIN ST.) AND -RAMPD- AS NECESSARY UP TO THE GRADES OF BOTH PROPOSED -RAMPA- AND -RAMPD-NOT INCLUDING THE FINAL SURFACE COURSES. SURFACE ELEVATION ALONG EXISTING -L- (DORAL DR./MAIN ST.) BRIDGE TO REMAIN UNCHANGED.
  - USING ROADWAY STANDARD DRAWING 1101.02, SHEET 3 OF 9 COMPLETE CONSTRUCTION OF THE TIE-INS OF PROPOSED -RAMPA- AND -RAMPD- BEGUN IN PHASE I, STEP 2 WITH THE EXISTING PAVED SURFACE OF -Y2- (US 52). PROPOSED -RAMPA- AND -RAMPD- TO REMAIN CLOSED WITH TYPE III BARRICADES WITH R11-2 "ROAD CLOSED" SIGNS.
  - INSTALL TEMPORARY PAVEMENT MARKINGS. (SEE SHEETS TCP-16, TCP-17 AND PMP-08 THROUGH PMP-11)
  - DEACTIVATE EXISTING SIGNAL AT -RAMPA- AND -RAMPD- AND UNCOVER AND ACTIVATE TEMPORARY PHASE I SIGNAL AND OPEN PROPOSED -RAMPA- AND -RAMPD- TO TRAFFIC. (SEE SIGNAL PLANS AND SHEETS TCP-16, TCP-17 AND PMP-08 THROUGH PMP-11 FOR INTERIM TRAFFIC PATTERN.
  - REMOVE DETOUR SIGNS AND CHANGEABLE MESSAGE BOARDS
    UTILIZED TO CLOSE EXISTING US 52 NB RAMP A. TYPE III
    BARRICADES USED TO CLOSE THE EXISTING NB RAMP A ARE
    TO REMAIN IN PLACE UNTIL NO LONGER NECESSARY.



### PHASING

DATE: 04/08
DWG. BY: RMG
DESIGN BY: RMG
REVIEWED BY: JDK



roj\tipprojects-r\r220|\traffic\trafficcontrol\tcp\r-220|\_tc\_tcp\_03.dç 710244747

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SHEET NO. PROJ. REFERENCE NO. R-2201 TCP-03A

- STEP 9 USING ROADWAY STANDARD DRAWING 1101.02, SHEET 3 OF 9 COMPLETE CONSTRUCTION OF THE TIE-INS OF PROPOSED -RAMPB- AND -RAMPC- BEGUN IN PHASE I, STEP 2 WITH THE EXISTING PAVED SURFACE OF -Y2- (US 52). PROPOSED -RAMPB- AND -RAMPC- TO REMAIN CLOSED WITH TYPE III BARRICADES WITH R11-2 "ROAD CLOSED" SIGNS.
  - USING ROADWAY STANDARD DRAWING 1101.02, SHEET 1 OF 9 AND FLAGGERS COMPLETE CONSTRUCTION OF PROPOSED -RAMPB- AND-RAMPC- TIE-INS WITH THE EXISTING PAVED SURFACE OF -L- (DORAL DR./MAIN ST.) PROPOSED -RAMPB-AND -RAMPC- TO REMAIN CLOSED WITH TYPE III BARRICADES WITH R11-2 "ROAD CLOSED" SIGNS.
  - INSTALL TEMPORARY PAVEMENT MARKINGS. (SEE SHEETS TCP-16 AND PMP-08 THROUGH PMP-11)
  - DEACTIVATE EXISTING SIGNAL AT PROPOSED -RAMPB- AND -RAMPC- AND UNCOVER AND ACTIVATE TEMPORARY PHASE I SIGNAL AND OPEN PROPOSED -RAMPB- AND -RAMPC- TO TRAFFIC. (SEE SIGNAL PLANS AND SHEETS TCP-16 AND PMP-08 THROUGH PMP-11 FOR INTERIM TRAFFIC PATTERN.
- STEP 10 CONSTRUCT THE REMAINDER OF -L- (DORAL DR./MAIN ST.) SB LANES TYING TO THE PROPOSED PHASE I BRIDGE. (SEE ROADWAY PLANS AND SHEET TCP-16)
  - REMOVE EXISTING RAMPS A, B, C AND D AND COMPLETE DRAINAGE SYSTEM WITHIN THE -Y2- (US 52) AND -L-(DORAL DR./MAIN ST.) INTERCHANGE AREA.
- STEP 11 BEGIN CONSTRUCTION OF TEMPORARY PHASE II SIGNALS AT THE FOLLOWING INTERSECTIONS WITH -L- (DORAL DR./MAIN ST.) AND COVER. (SEE SIGNAL PLANS, SHEETS TCP-20 THROUGH TCP-22, SHEET PMP-07 AND LOCAL NOTE 5)
  - -Y1- (NEWSOME ROAD)
  - -RAMPB- AND -RAMPC-
  - -RAMPA- AND -RAMPD-
  - -Y6- (INGRAM ROAD) / -Y7- (JEFFERSON CHURCH ROAD)
  - -Y8- (KIRBY ROAD)
  - COMPLETE CONSTRUCTION OF PROPOSED DRAINAGE, CURB AND GUTTER AND WIDENING UP TO THE EDGE AND ELEVATION OF THE EXISTING ROADWAY SURFACES BEGUN IN PHASE I, STEP 2. (SEE ROADWAY PLANS, LOCAL NOTES 1, 2 AND 3)

NOTE: TRAFFIC TO BE MAINTAINED IN THE EXISTING PATTERNS (SEE |SHEETS TCP-04 THROUGH TCP-09)

- -L- SR 1611/SR 1112 (DORAL DRIVE/MAIN STREET) FROM STA. 14+40+/- TO STA. 21+10+/-
- -L- SR 1611/SR 1112 (DORAL DRIVE/MAIN STREET) FROM STA. 23+52+/- TO STA. 32+80+/-
- -Y- (BIG OAKS DRIVE)
- FROM STA. 11+20+/- TO STA. 11+40+/-
- -Y1- (NEWSOME RD)
- FROM STA. 10+20+/- TO STA. 11+00+/-
- -Y4- (CARMEL DRIVE)
- FROM STA. 10+00+/- STA. 10+45+/--Y5- (BAILEY DRIVE)
- FROM STA. 10+06+/- TO STA. 10+80+/-
- -Y6- (INGRAM ROAD)
- FROM STA. 15+80+/- TO STA. 16+85+/-
- -Y7- (JEFFERSON CHURCH ROAD)
- FROM STA. 10+20+/- TO STA. 11+20+/-

-Y8- (KIRBY ROAD) FROM STA. 10+15+/- TO STA. 12+00+/--Y9- (SPAINHOUR ROAD) FROM STA. 10+00+/- TO STA. 10+75+/-

#### PHASE II

- STEP 1 USING 1101.02 SHEETS 1 AND 3 OF 9 AND FLAGGERS AS NECESSARY WEDGE THE FOLLOWING ROADWAYS UP TO BUT NOT INCLUDING THE FINAL SURFACE COURSE AND INSTALL TEMPORARY PHASE II MARKINGS: (SEE SHEETS TCP-20, TCP-21, AND TCP-22)
  - -L- (DORAL DR./MAIN ST.)
  - FROM STA. 14+40+/- TO STA. 27+00+/-
  - -Y6- (INGRAM ROAD)
  - FROM STA. 15+80+/- TO STA. 16+85+/--Y7- (JEFFERSON CHURCH ROAD)
  - FROM STA. 10+20+/- TO STA. 11+20+/-
  - USING 1101.02 SHEETS 1 AND 3 OF 9 AND FLAGGERS AS NECESSARY WEDGE THE FOLLOWING ROADWAYS UP TO BUT NOT INCLUDING THE FINAL SURFACE COURSE AND INSTALL TEMPORARY MARKINGS IN THE FINAL PATTERNS: (SEE SHEETS PMP-05 THROUGH PMP-07)
    - -L- (MAIN ST.)
      - FROM STA. 27+00 TO STA. 32+80+/-
    - -Y4- (CARMEL DRIVE)
    - FROM STA. 10+00+/- STA. 10+45+/-
    - -Y5- (BAILEY DRIVE)
    - FROM STA. 10+06+/- TO STA. 10+80+/-
    - -Y8- (KIRBY ROAD)
      - FROM STA. 10+15+/- TO STA. 12+00+/-
    - \*\* CONTRACTOR MAY INSTALL TEMPORARY MARKINGS IN THE FINAL PATTERN ON REMAINING -Y- LINES AS AVAILABLE.
  - INSTALL TEMPORARY PORTABLE CONCRETE BARRIER AND CRASH CUSHIONS AS SHOWN ON SHEET TCP-21.
  - ACTIVATE AND UNCOVER TEMPORARY PHASE II SIGNALS AT THE FOLLOWING LOCATIONS AND PLACE TRAFFIC INTO THE PHASE II PATTERN: (SEE SIGNAL PLANS AND SHEETS TCP-19 THROUGH TCP-22 AND SHEET PMP-07)
    - -Y1- (NEWSOME ROAD)
    - -RAMPB- AND -RAMPC-
    - -RAMPA- AND -RAMPD-
    - -Y6- (INGRAM ROAD) / -Y7- (JEFFERSON CHURCH ROAD) -Y8- (KIRBY ROAD)

COMPLETE THE WORK FOR PHASE II, STEP 2 IN A CONTINUOUS MANNER FROM 8:00 P.M. TO 6:00 A.M. MONDAY THROUGH SUNDAY PER GENERAL NOTE C. SEE INTERMEDIATE CONTRACT TIME AND LIQUIDATED DAMAGES.

- STEP 2 USING ROADWAY STANDARD DRAWING 1101.03, SHEET 7 OF 9, AND POLICE CLOSE US 52 TO TRAFFIC AND DETOUR TRAFFIC ONTO RAMPS AT THE US 52 / MAIN ST INTERCHANGE. SIGNALS TO BE PLACED IN FLASH OR CAUTION MODE DURING HOURS OF OPERATION.
  - REMOVE EXISTING BRIDGE STRUCTURE ALONG -L- (DORAL DR./MAIN ST.)

- STEP 3 INSTALL TEMPORARY SHORING AND CONSTRUCT PROPOSED SPREAD FOOTINGS AND REMAINDER OF BRIDGE BENTS ALONG US 52 FOR THE PHASE II BRIDGE. (SEE ROADWAY AND STRUCTURE PLANS AND SHEETS TCP-2C AND TCP-23)
  - BEGIN CONSTRUCTION OF PHASE II BRIDGE AND -L-(DORAL DR./MAIN ST.) UP TO BUT NOT INCLUDING THE FINAL SURFACE COURSE FROM -L- STA. 21+20+/- TO STA. 23+20+/-.

COMPLETE THE WORK FOR PHASE II, STEP 4 IN A CONTINUOUS MANNER FROM 8:00 P.M. TO 6:00 A.M. MONDAY THROUGH SUNDAY PER GENERAL NOTE C. SEE INTERMEDIATE CONTRACT TIME AND LIQUIDATED DAMAGES.

- STEP 4 USING ROADWAY STANDARD DRAWING 1101.03, SHEET 7 OF 9, AND POLICE CLOSE -Y2- (US 52) TO TRAFFIC AND DETOUR TRAFFIC ONTO EXISTING RAMPS AT THE US 52 / MAIN ST INTERCHANGE. EXISTING SIGNALS TO BE PLACED IN FLASH OR CAUTION MODE DURING HOURS OF OPERATION.
  - INSTALL BRIDGE GIRDERS SPANNING -Y2- (US 52) LANES OF TRAFFIC FOR THE PHASE II BRIDGE. (SEE STRUCTURE PLANS)
- STEP 5 REMOVE ALL TEMPORARY SHORING PLACED FOR THE PROPOSED BRIDGE CENTER BENT PLACED DURING BOTH PHASES OF CONSTRUCTION.
  - REPLACE EXISTING GUARDRAIL REMOVED DURING PHASE I, STEP 4 AND REMOVE ALL PORTABLE CONCRETE BARRIER AND CRASH CUSHIONS PLACED ALONG -Y2- (US 52) WITHIN THE MEDIAN AREA.
  - USING ROADWAY STANDARD DRAWING 1101.03, SHEET 3 OF 9 RESURFACE AND INSTALL FINAL PAVEMENT MARKINGS AND MARKERS ALONG -Y2- (US 52) IN THE FOLLOWING LOCATIONS:
    - -Y2- STA. 9+00+/- TO STA. 24+11+/-
  - COMPLETE PHASE II BRIDGE AND -L- (DORAL DR./MAIN ST.) BEGUN IN PHASE II, STEP 3.
  - INSTALL FINAL SIGNALS AT THE FOLLOWING INTERSECTIONS WITH -L- (DORAL DR./MAIN ST.)AND COVER. (SEE SIGNAL PLANS, SHEETS PMP-03 THROUGH PMP-05, PMP-07 AND LOCAL NOTE 5)
    - -Y1- (NEWSOME ROAD)
  - -RAMPB- AND -RAMPC--RAMPA- AND -RAMPD-
  - -Y6- (INGRAM ROAD) / -Y7- (JEFFERSON CHURCH ROAD)
  - -Y8- (KIRBY ROAD)

APPROVED: POSICA FUSEDATE: 11/17/01 PHASING REVISIONS NONE SEAL 04/08 027811 RMG DWG. BY: DESIGN BY: RMG

REVIEWED BY: JDK

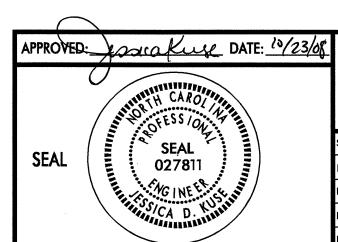


PROJ. REFERENCE NO. SHEET NO.

R-2201

TCP-03B

- STEP 6 USING 1101.02 SHEETS 1 AND 3 OF 9 AND FLAGGERS AS NECESSARY REMOVE EXISTING MARKINGS AND INSTALL TEMPORARY MARKINGS IN THE FINAL PATTERN IN THE FOLLOWING LOCATIONS: (SEE SHEETS PMP-02 THROUGH PMP-05)
  - -L- FROM STA. 14+40+/- TO STA. 26+96+/-
  - ACTIVATE AND UNCOVER FINAL SIGNALS AT THE FOLLOWING LOCATIONS AND PLACE TRAFFIC INTO THE FINAL PATTERNS: (SEE SIGNAL PLANS AND SHEETS PMP-02 THROUGH PMP-07)
    - -Y1- (NEWSOME ROAD)
    - -RAMPB- AND -RAMPC-
    - -RAMPA- AND -RAMPD-
    - -Y6- (INGRAM ROAD) / -Y7- (JEFFERSON CHURCH ROAD)
- STEP 7 USING ROADWAY STANDARD DRAWING 1101.02, SHEETS 1 AND 3 OF 9, COMPLETE THE FOLLOWING:
  - ALL CONCRETE MEDIANS ALONG -L- (SEE ROADWAY PLANS)
  - COMPLETE ALL SIDEWALKS AND OPEN TO PEDESTRIANS.
  - INSTALL FINAL SURFACE COURSE ALONG ALL ROADWAYS AND INSTALL FINAL MARKINGS MARKERS. (SEE ROADWAY PLANS AND SHEETS PMP-02 THROUGH PMP-11)
  - REMOVE ALL TRAFFIC CONTROL DEVICES AND OPEN ALL ROADWAYS TO FINAL PATTERNS.



PHASING

DATE: 04/08
DWG. BY: RMG
DESIGN BY: RMG
REVIEWED BY: JDK

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otological paragets-r/r2201/traffic/trafficcontrol/tcp/r-2201\_tc\_tcp\_03 AT W7TC34747

PROJ. REFERENCE NO. R-2201 TCP-04 R11–2 1219 X 762 TYPE III BARRICADE(S) EXISTING MARKINGS -BEGIN PROJECT -L- STA. 14+40 STA. 17+80 TCP-05) 16 15 DORAL DR. 3.3 3.3 DRUM (TYP) ₢ -L-ENTRANCE TO 9.6 9.6 NOTES: R.J. REYNOLDS 3.5+/- 3.5+/-- EXISTING MARKINGS SHOWN ARE APPROXIMATE. - SPACE DRUMS NO MORE THAN 20m APART. - SPACE DRUMS 5m APART IN RADII. - SPACE DRUMS 5m APART AT DRIVEWAY ENTRANCES. -L- STA. 17+40 +/-APPROVED, ESSICAKUS DATE: 10/8/0

DESIGN BY: RMG

PHASE I

NONE

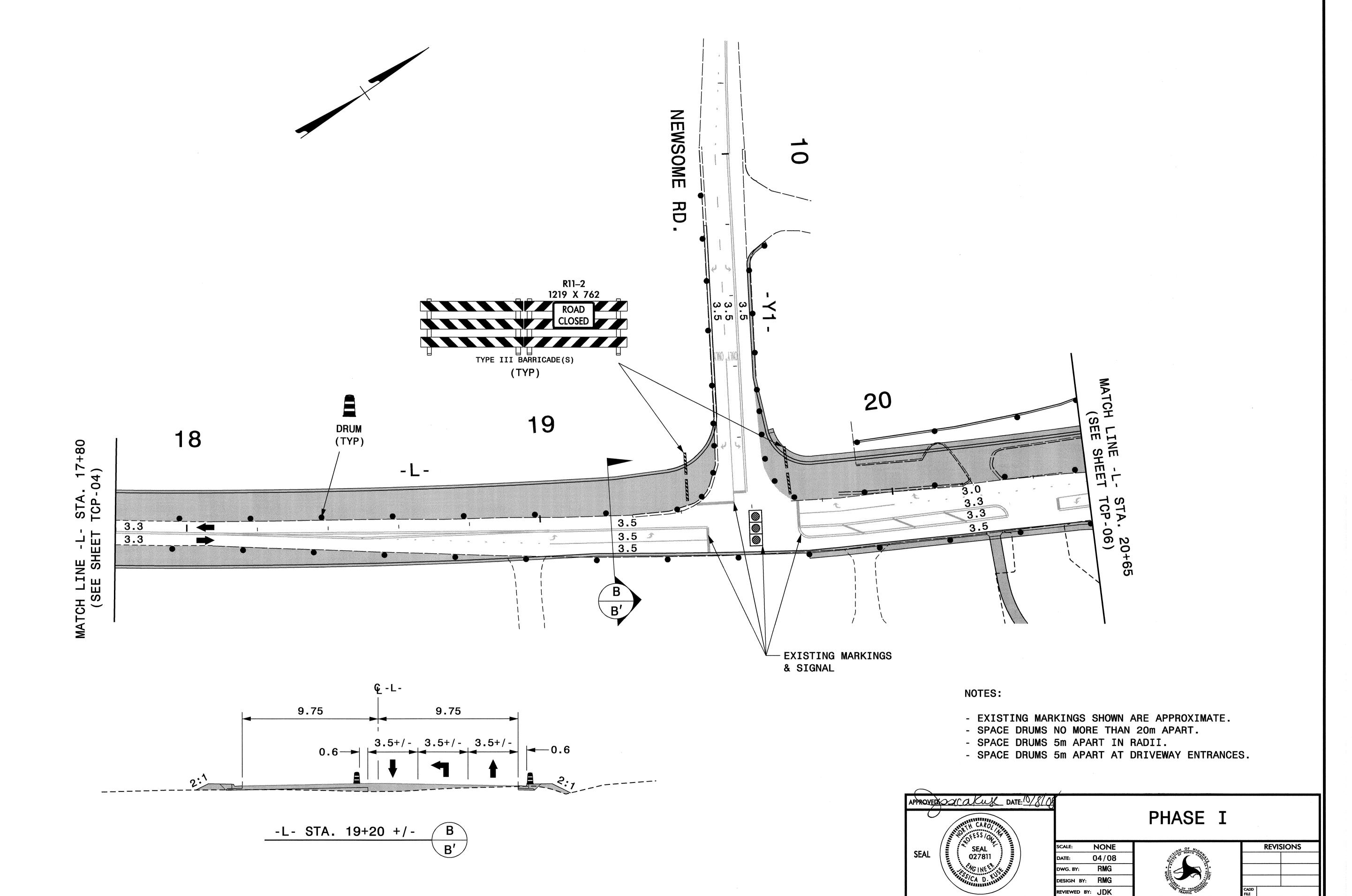
04/08 RMG

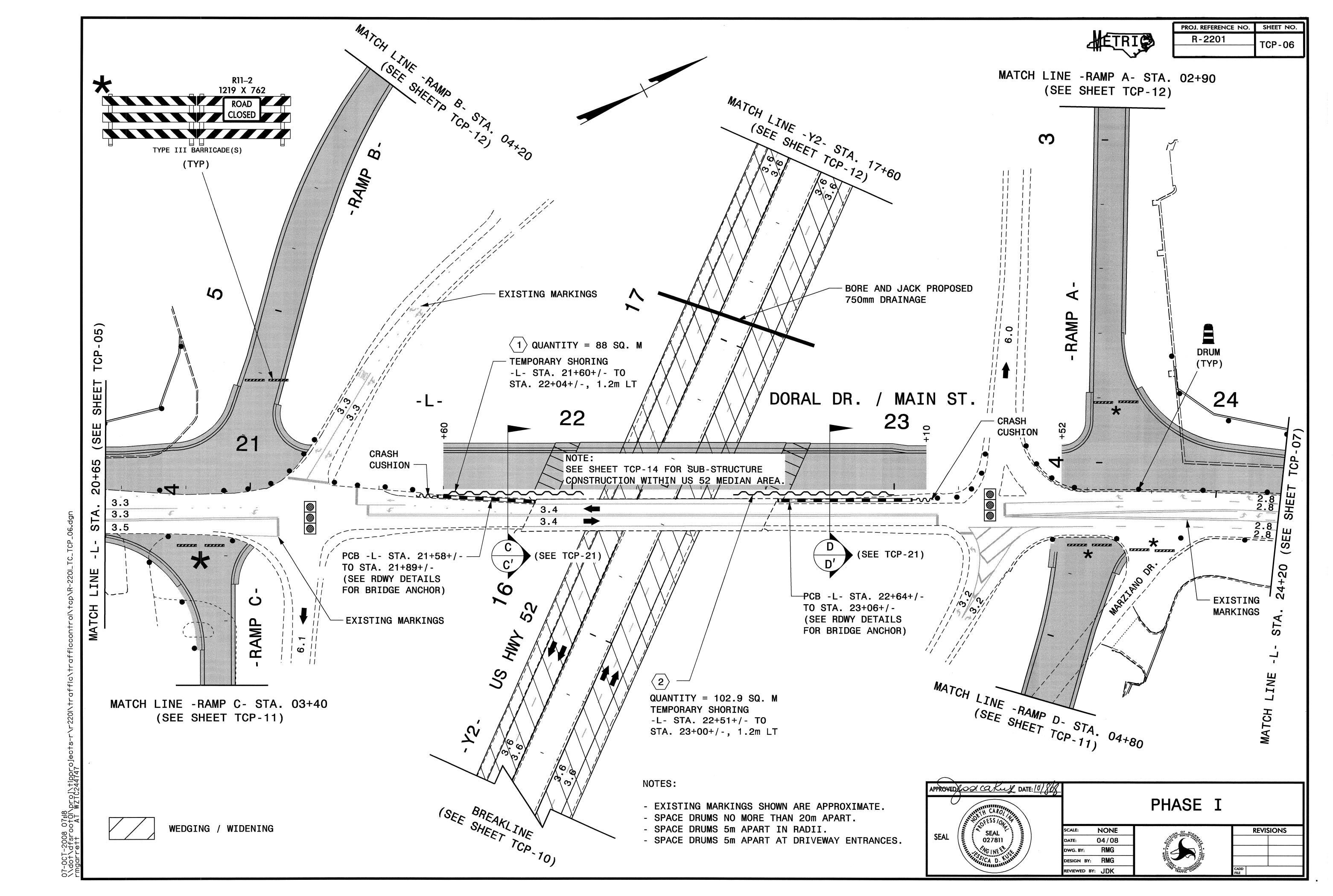
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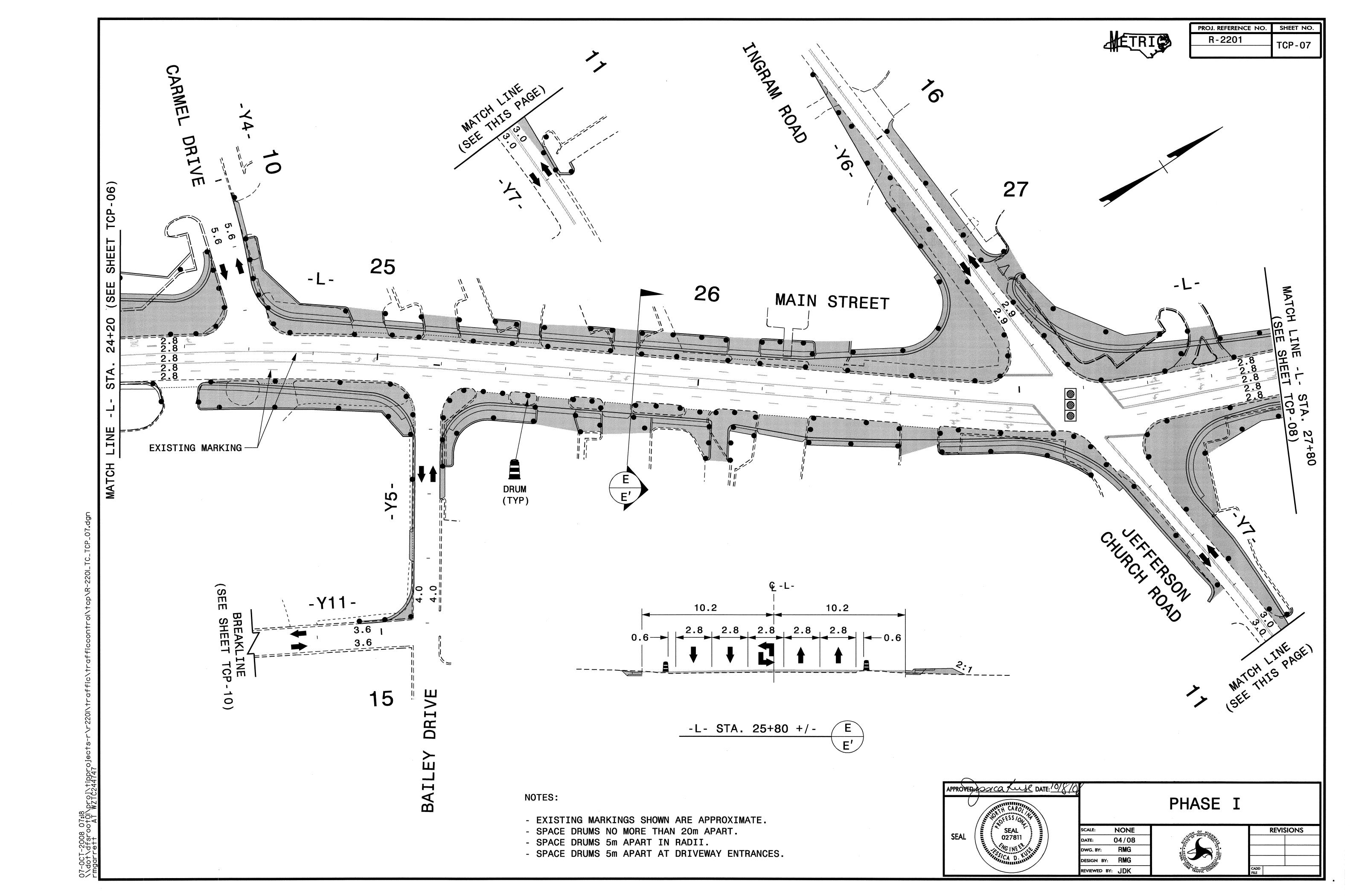
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PROJ. REFERENCE NO. SHEET NO.

R-2201
TCP-05

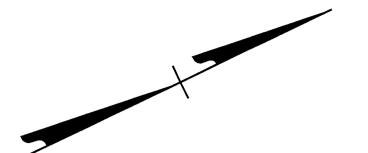


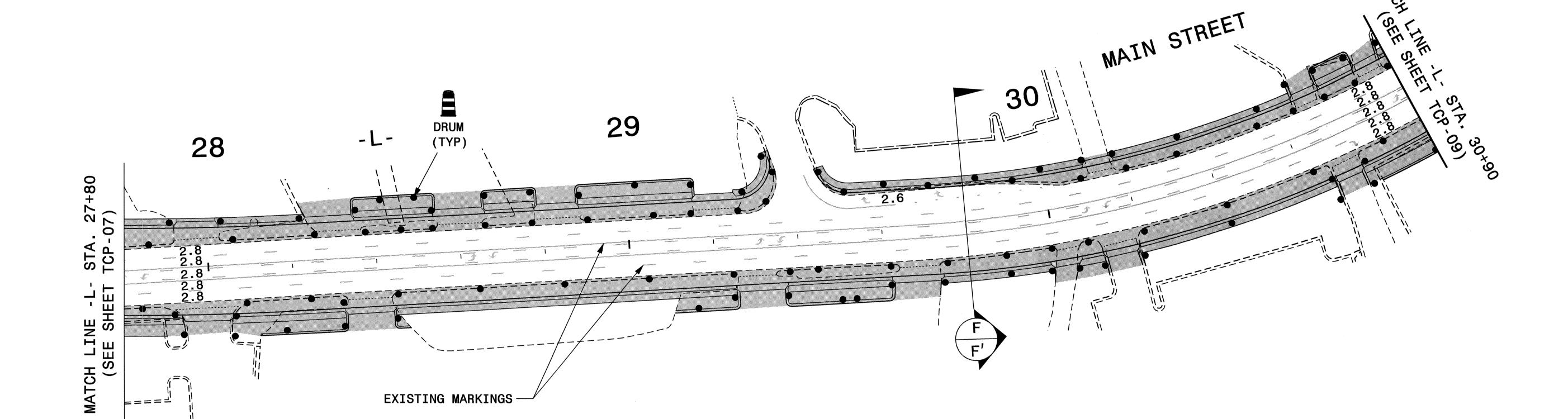


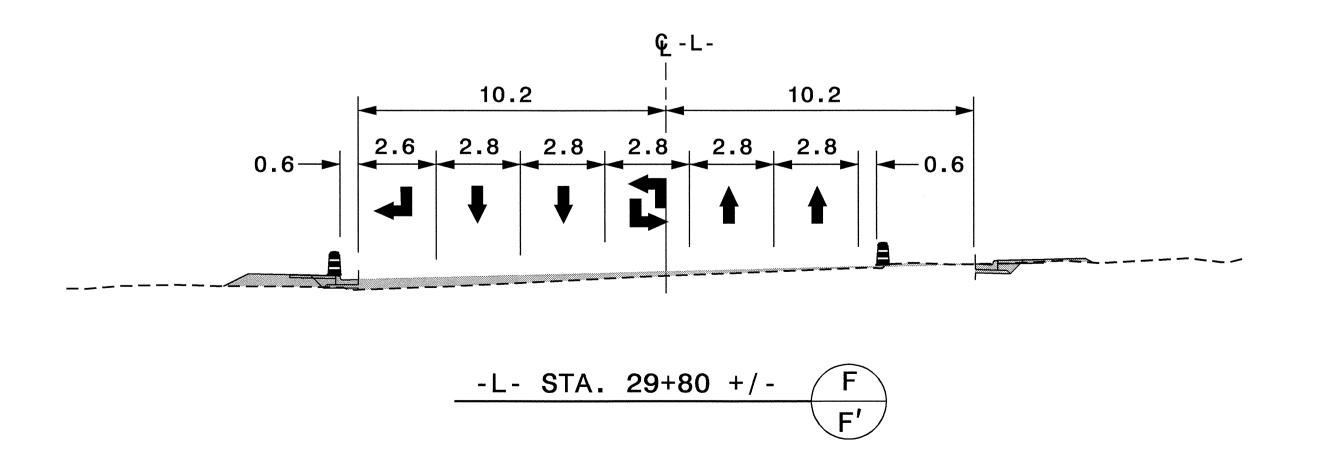




PROJ. REFERENCE NO. SHEET NO. R-2201 TCP-08



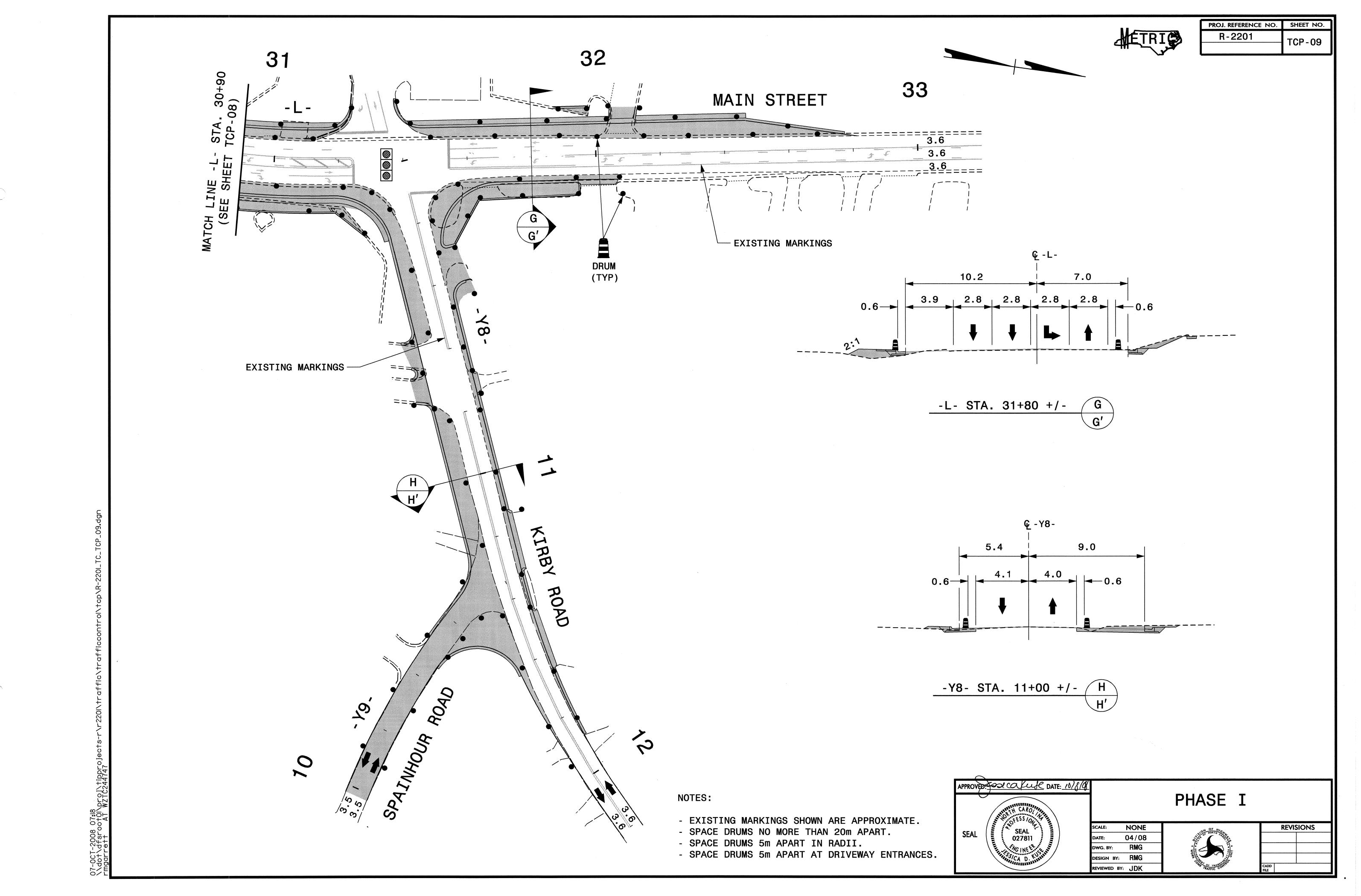




#### NOTES:

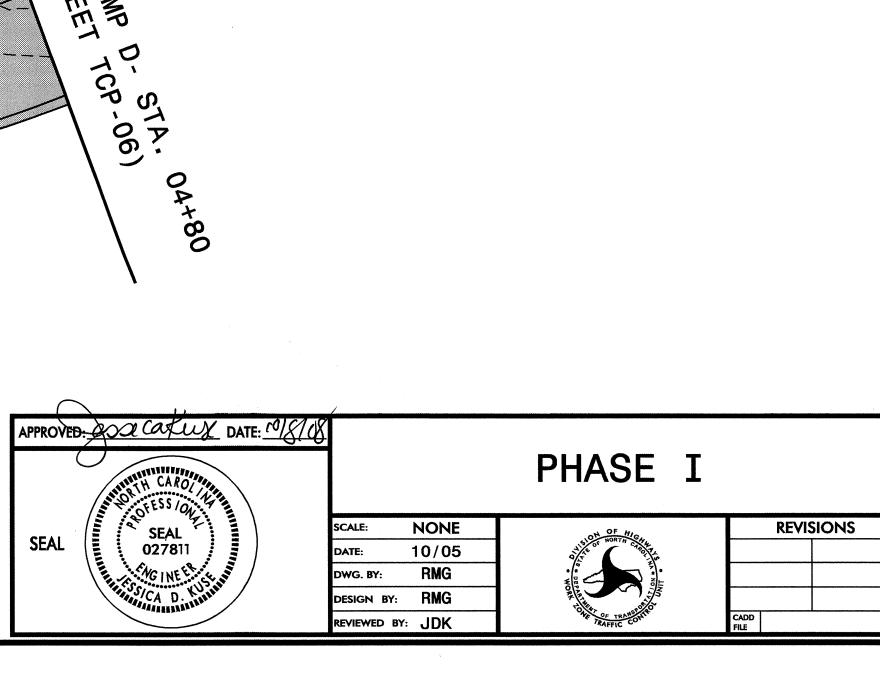
- EXISTING MARKINGS SHOWN ARE APPROXIMATE.
- SPACE DRUMS NO MORE THAN 20m APART.
- SPACE DRUMS 5m APART IN RADII.
- SPACE DRUMS 5m APART AT DRIVEWAY ENTRANCES.

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| SEAL 027811                            | DATE: 04/08      | SOOT NORTH CANAL   |           |
| \\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\ | DWG. BY: RMG     |                    |           |
| THE STORY OF ROLLING                   | design by: RMG   |                    |           |
|  | REVIEWED BY: JDK | PRAFFIC CONTRACTOR | CADD FILE |



PROJ. REFERENCE NO. SHEET NO. ETRIC R-2201 TCP-10 R11–2 1219 X 762 MATCH LINE TYPE III BARRICADE(S) RAMP (SEE 13 DRUM (TYP) BORE AND JACK PROPOSED 12 450mm DRAINAGE 10+20 -RAMP C-- Y2 -US HWY 52 STA. SHEET) -Y2-THIS LINE (SEE MATCH R11–2 1219 X 762 -RAMP D-(SEE SHEET TCP-22) CLOSED TYPE III BARRICADE(S) 10 - Y2 -US HWY 52 SEE SHEET STA. SHEET) LINE (SEE 07-0CT-2008 08:44 \\dot\dfsroot0\\proj\tip rmgarrett AT WZTC244 APPROVED: SON CONFUS DATE: SOK PHASE I **REVISIONS** NONE WEDGING / WIDENING 04/08 REVIEWED BY: JDK

PROPOSED 3M GRAVEL DRIVE -+20 01 LINE 2 -RAMP SHEET C- STA. TCP-06) LINE (SEE MATCH EXISTING RAMP C (SEE SHEET TCP-22) -10) MINUTTAINO DU. BREAKLINE SHEET TCP. SHEET (SEE D- STA.

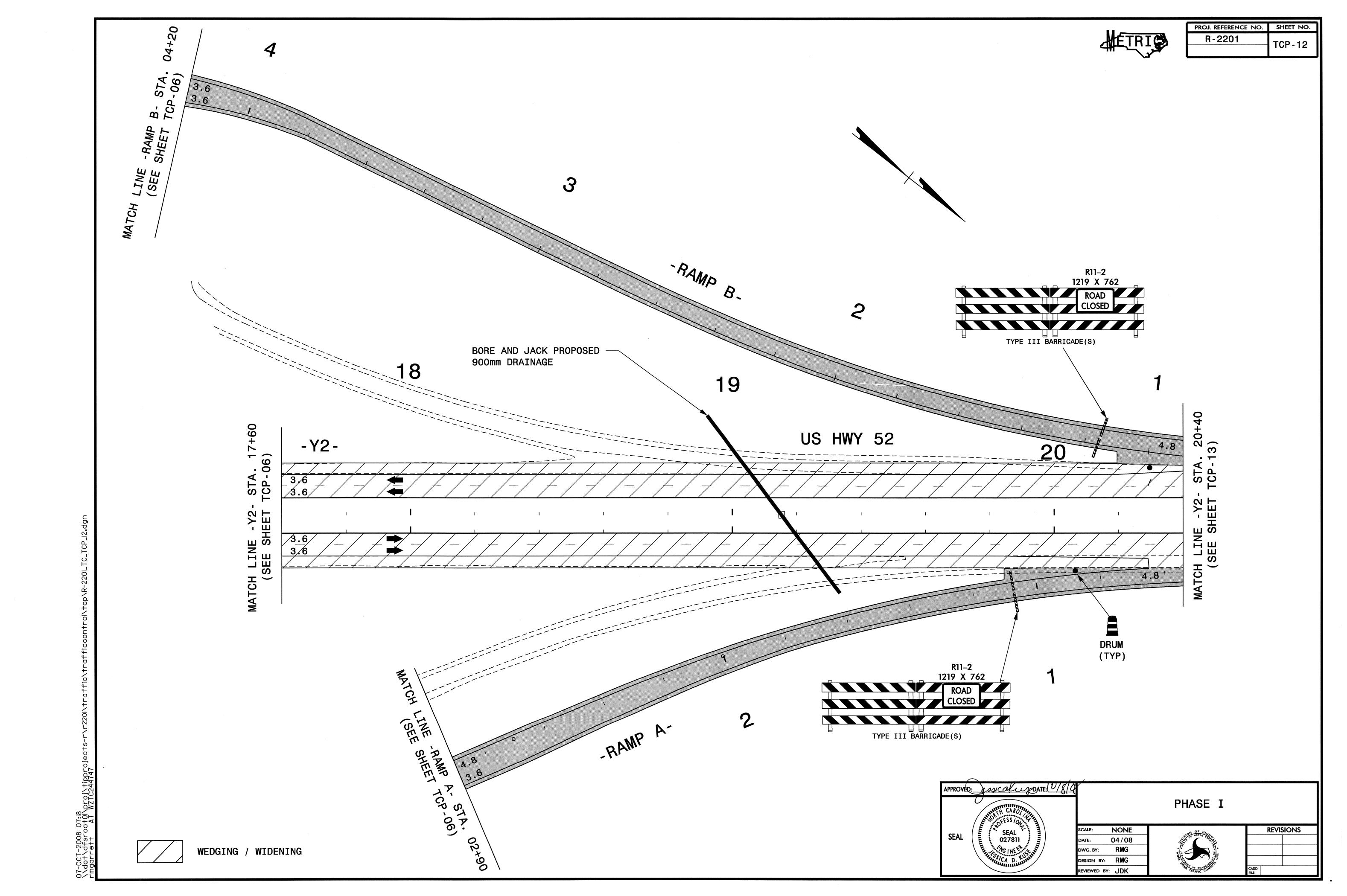


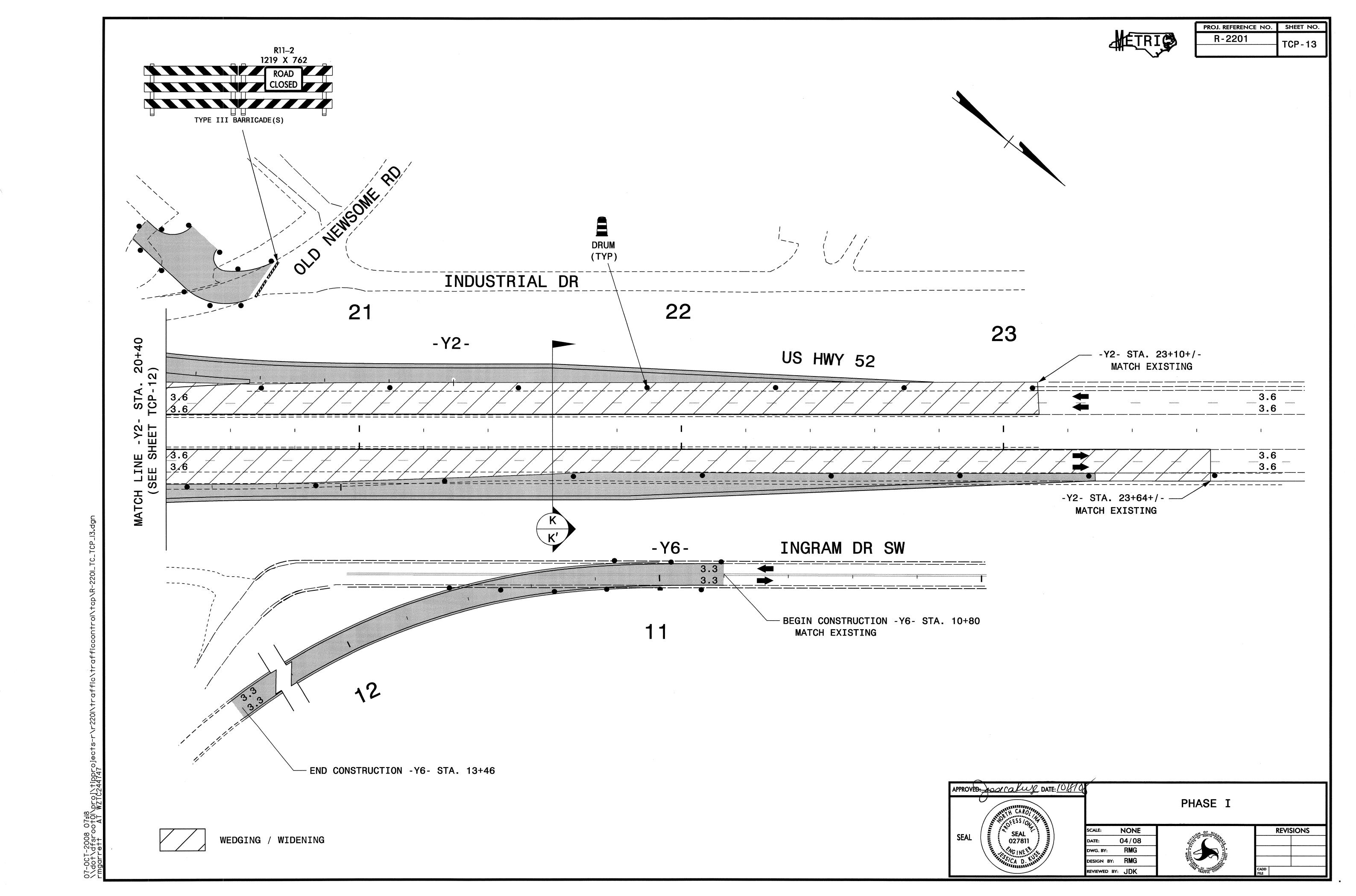
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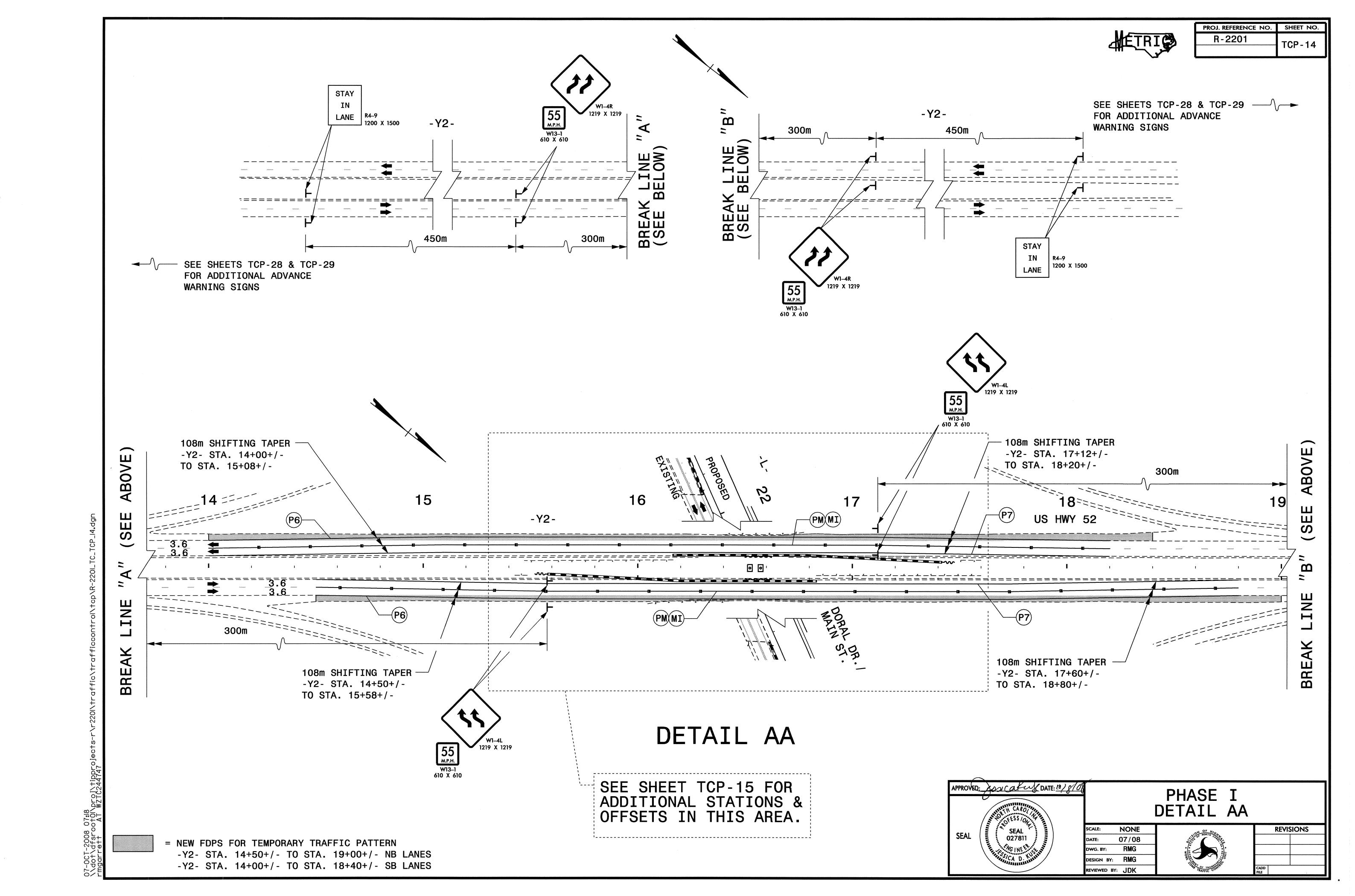
R-2201

SHEET NO.

TCP-11



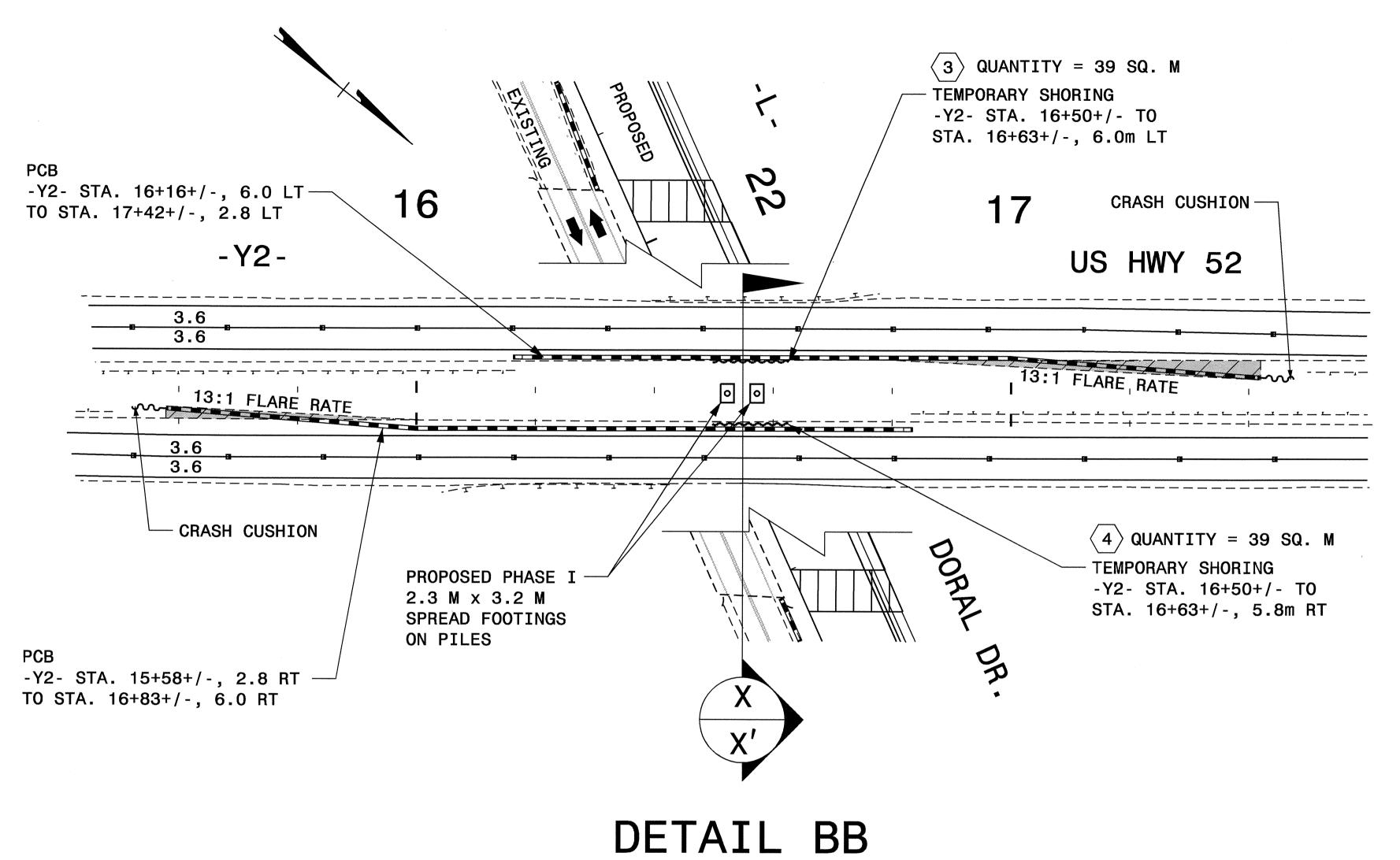


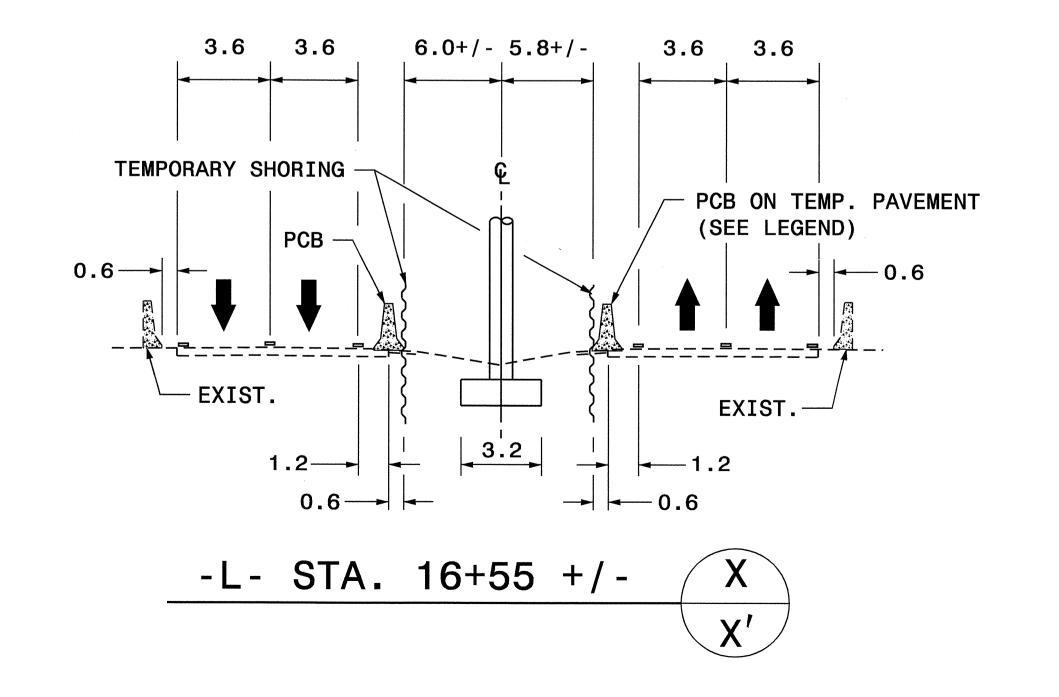


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PROJ. REFERENCE NO. SHEET NO.

R-2201
TCP-15







= TEMPORARY PAVEMENT FOR PCB PLACEMENT WIDTH VARIES FROM 0.6m +/- TO 4m +/-

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| DETAIL | BB |

SCALE: NONE

DATE: 07/08

DWG. BY: RMG

DESIGN BY: RMG

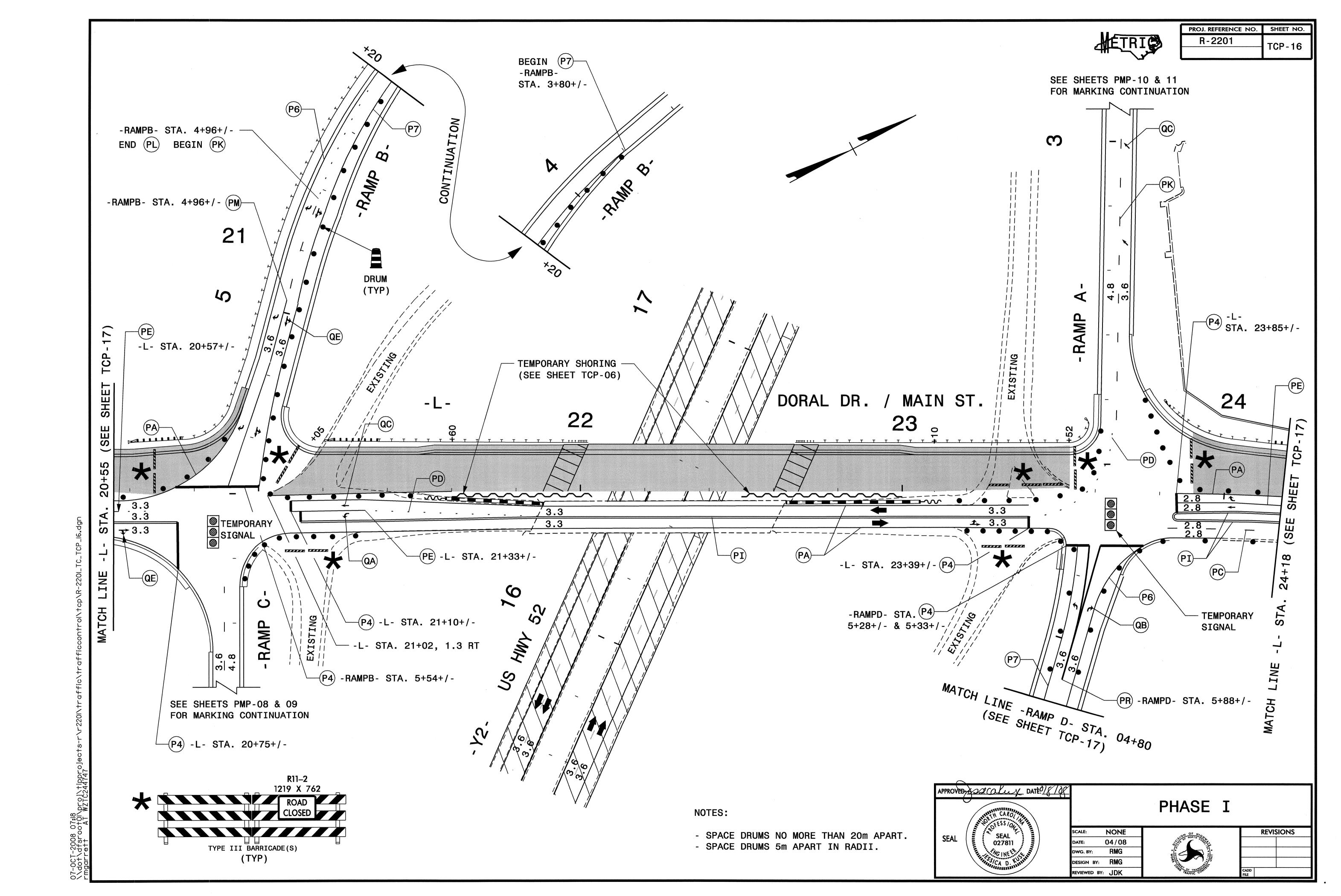
REVIEWED BY: JDK

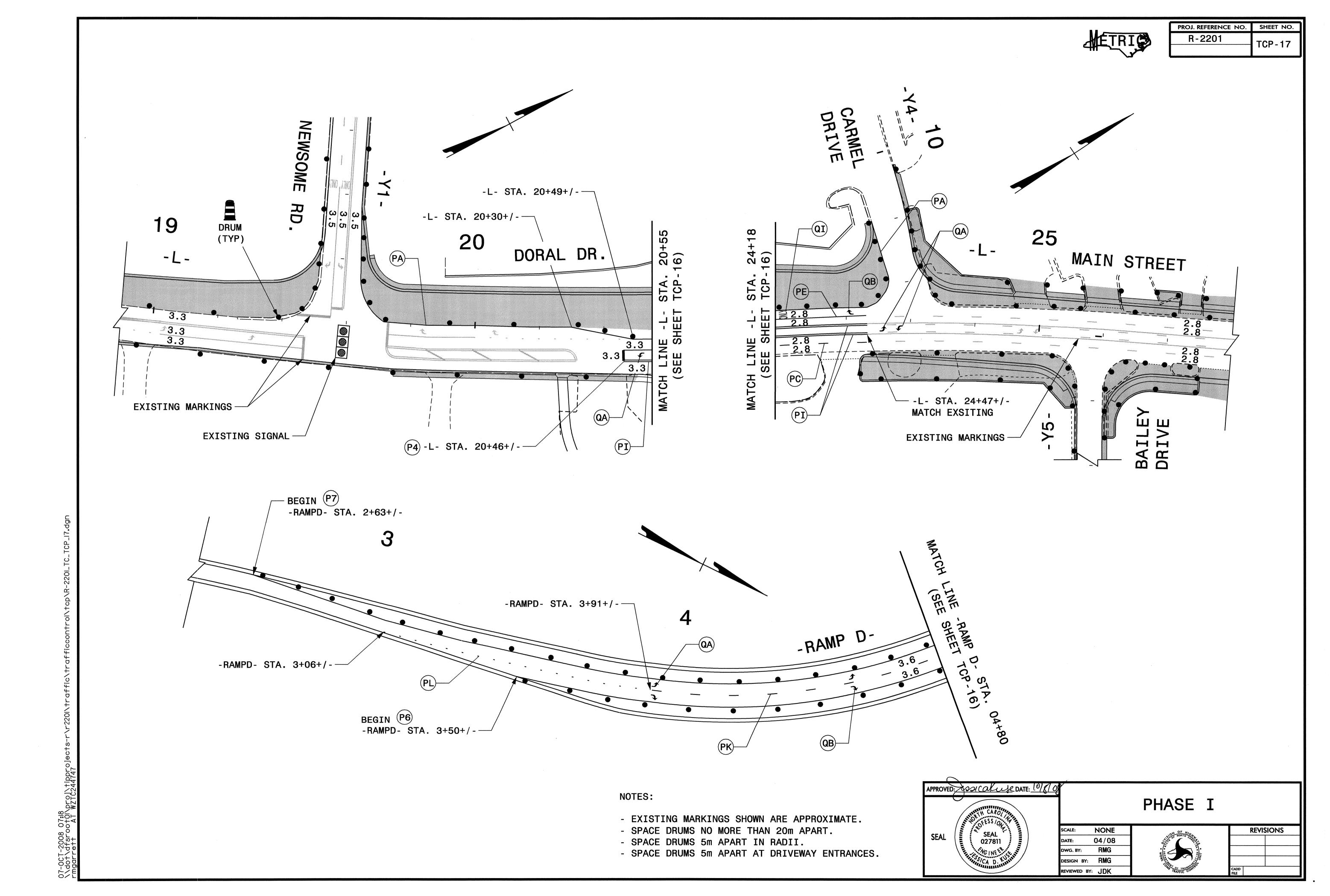


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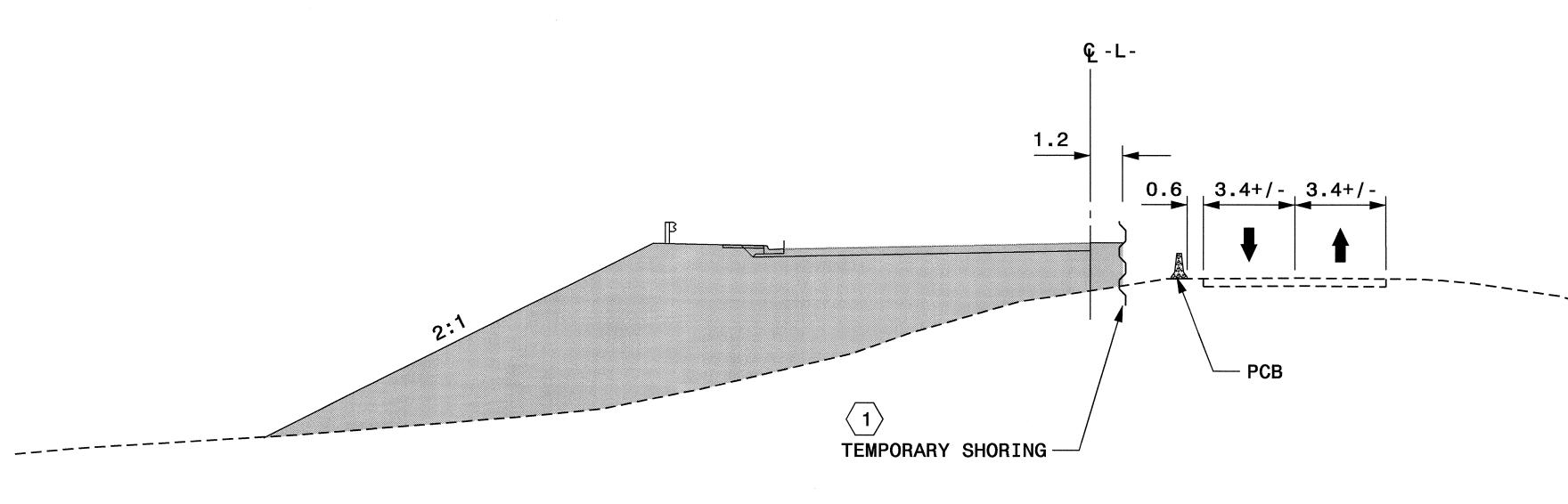


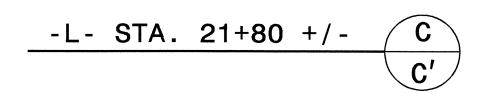


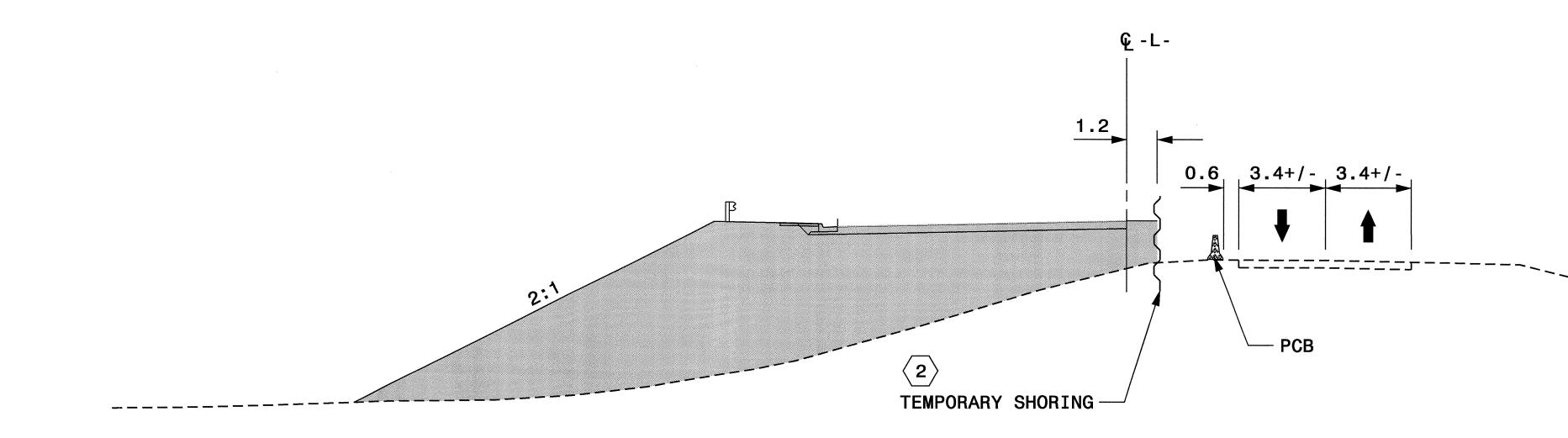


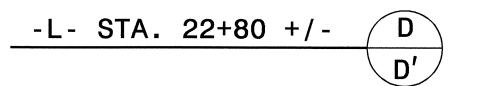
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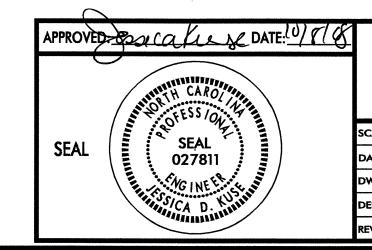
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TCP-18











| PHASE I |
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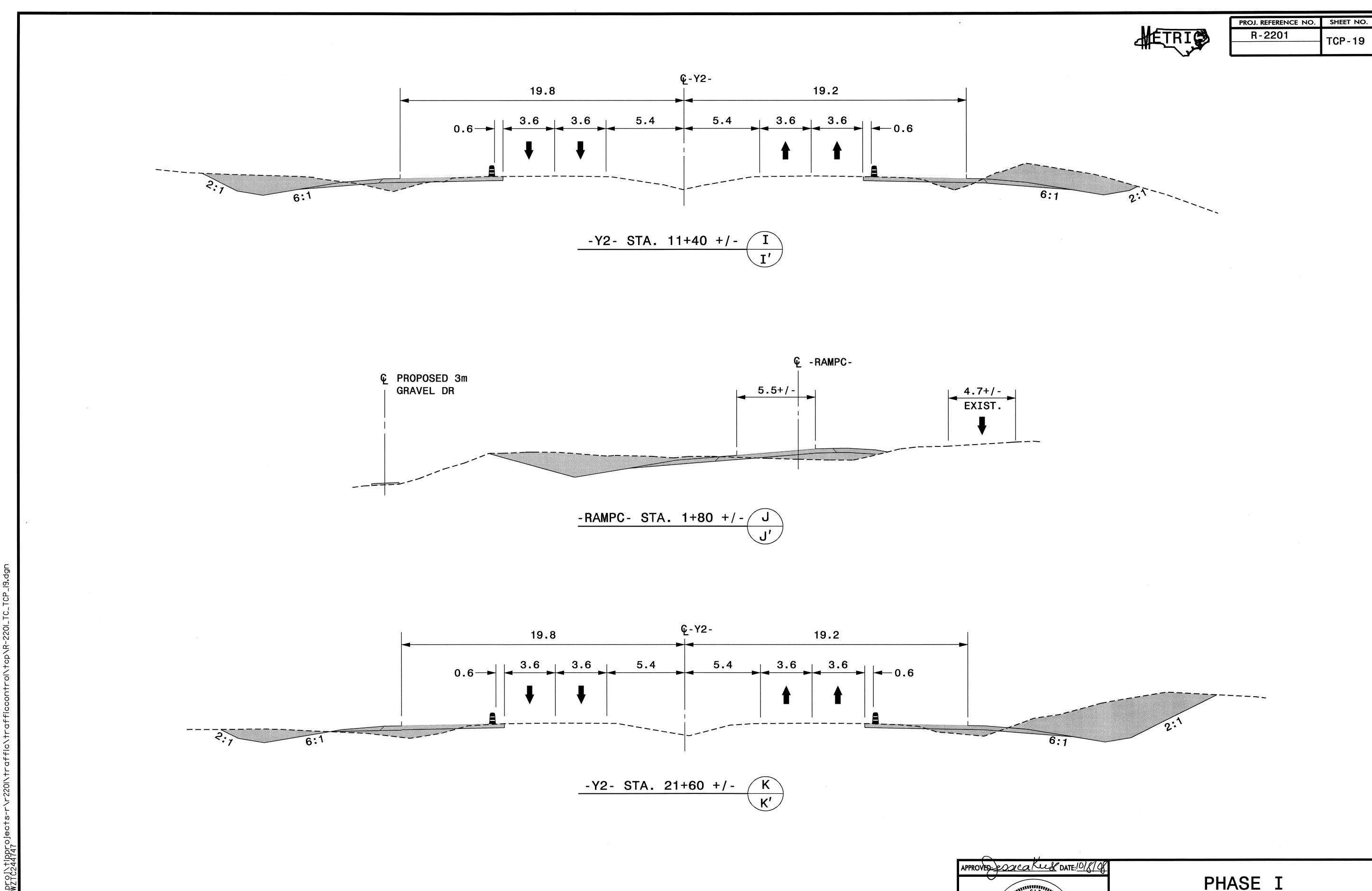
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| r: RMG    |                          |
| BY: RMG   |                          |
| D BY: JDK | TRAFFIC CONTROL          |

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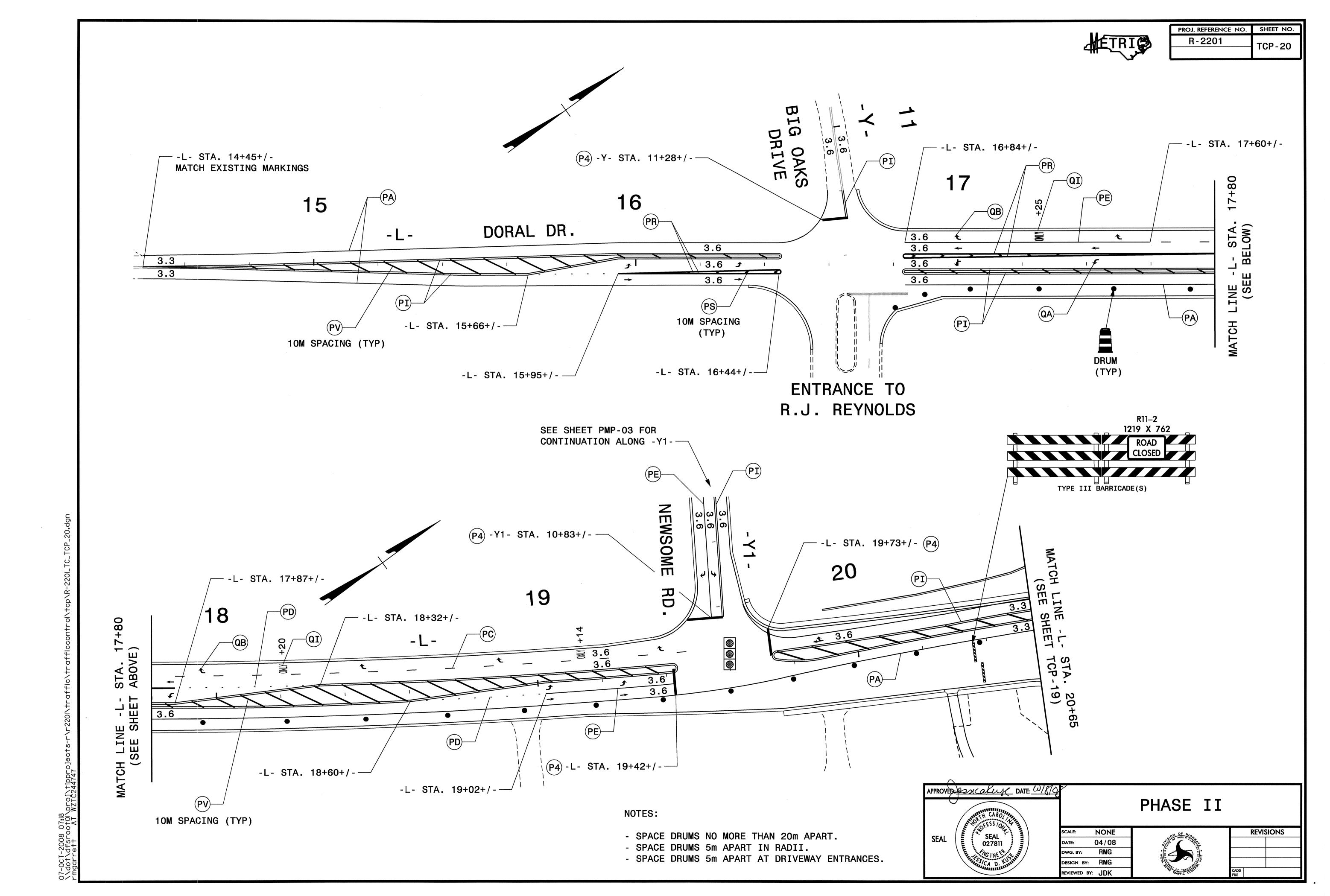
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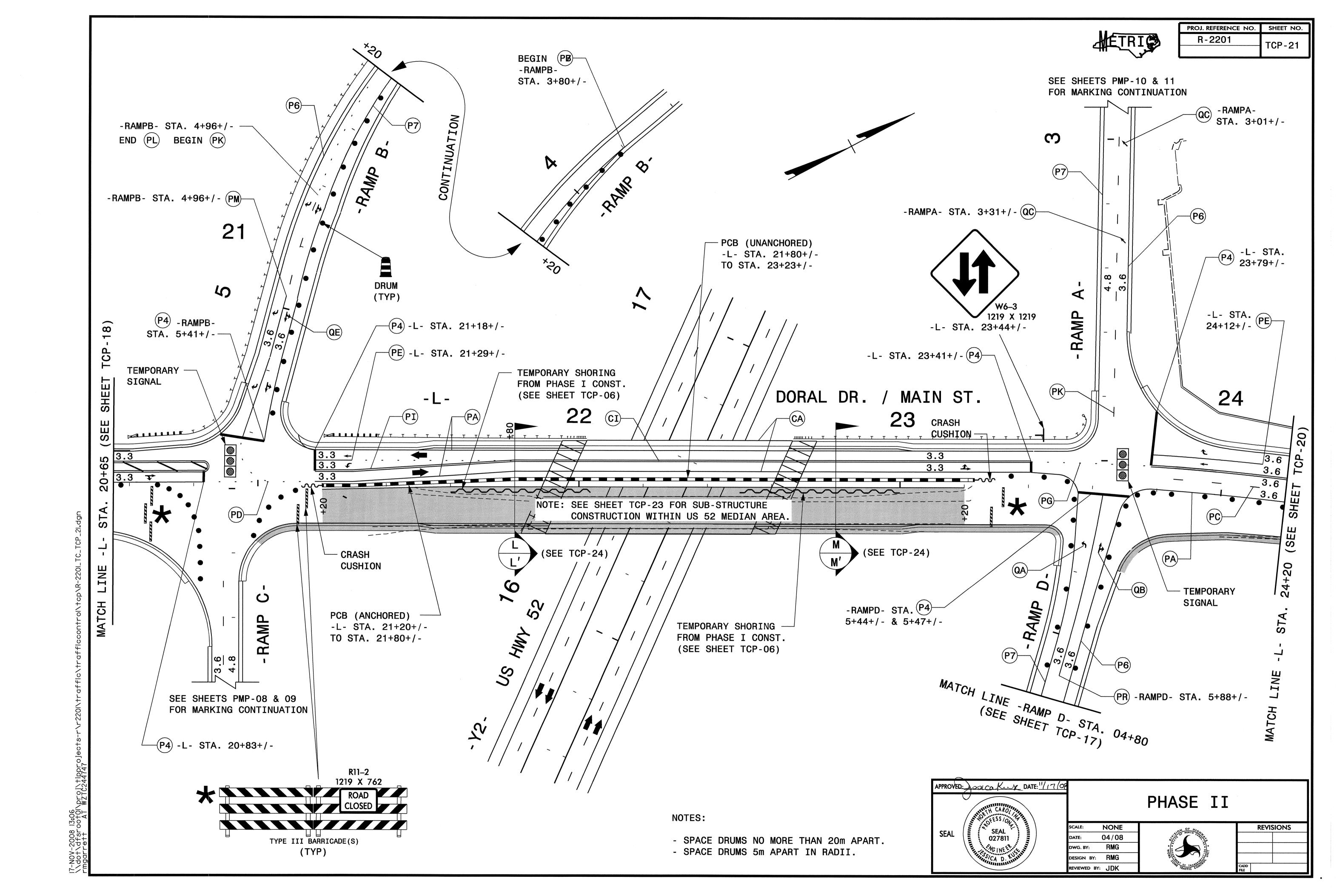
DATE: 04/08

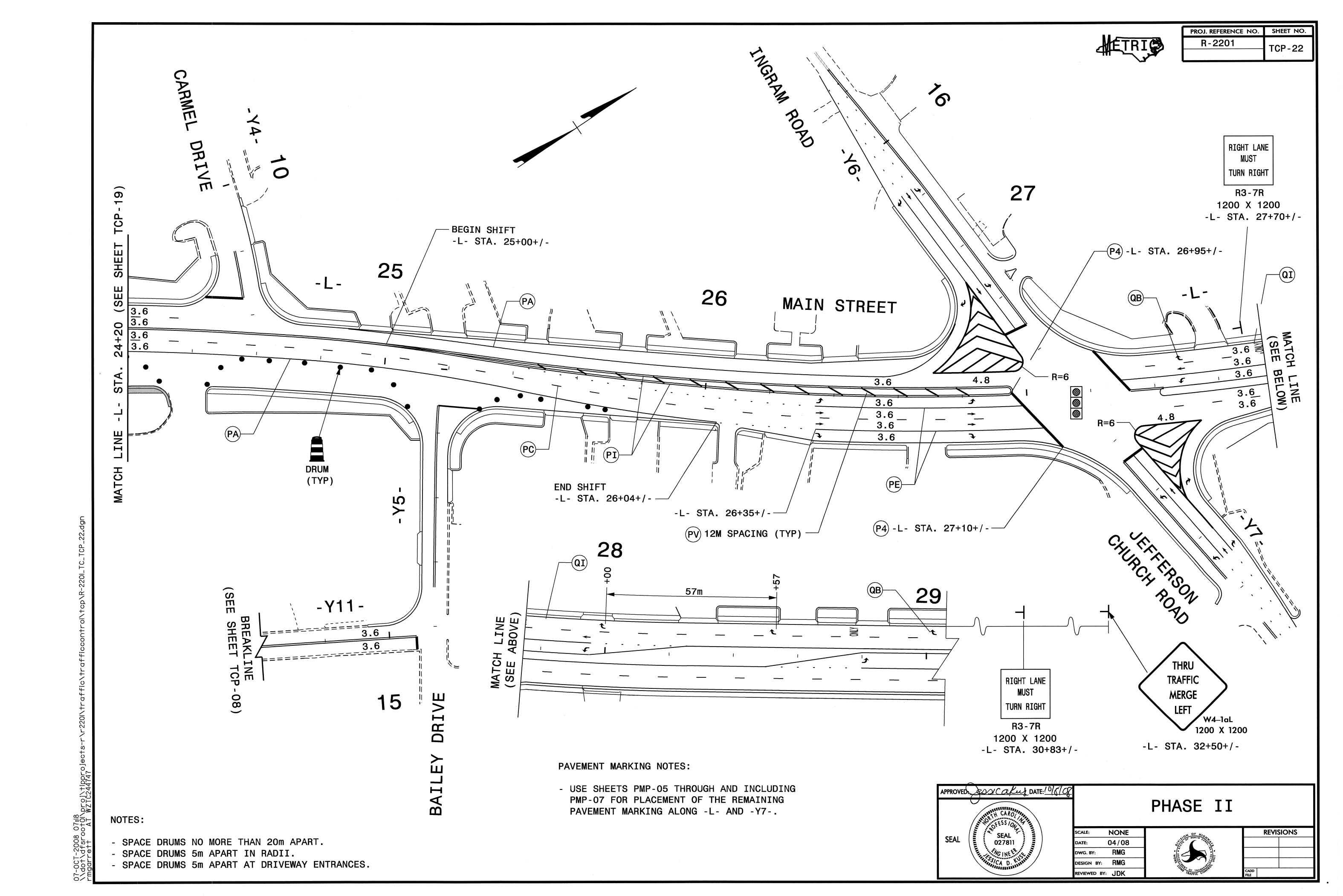
DWG. BY: RMG

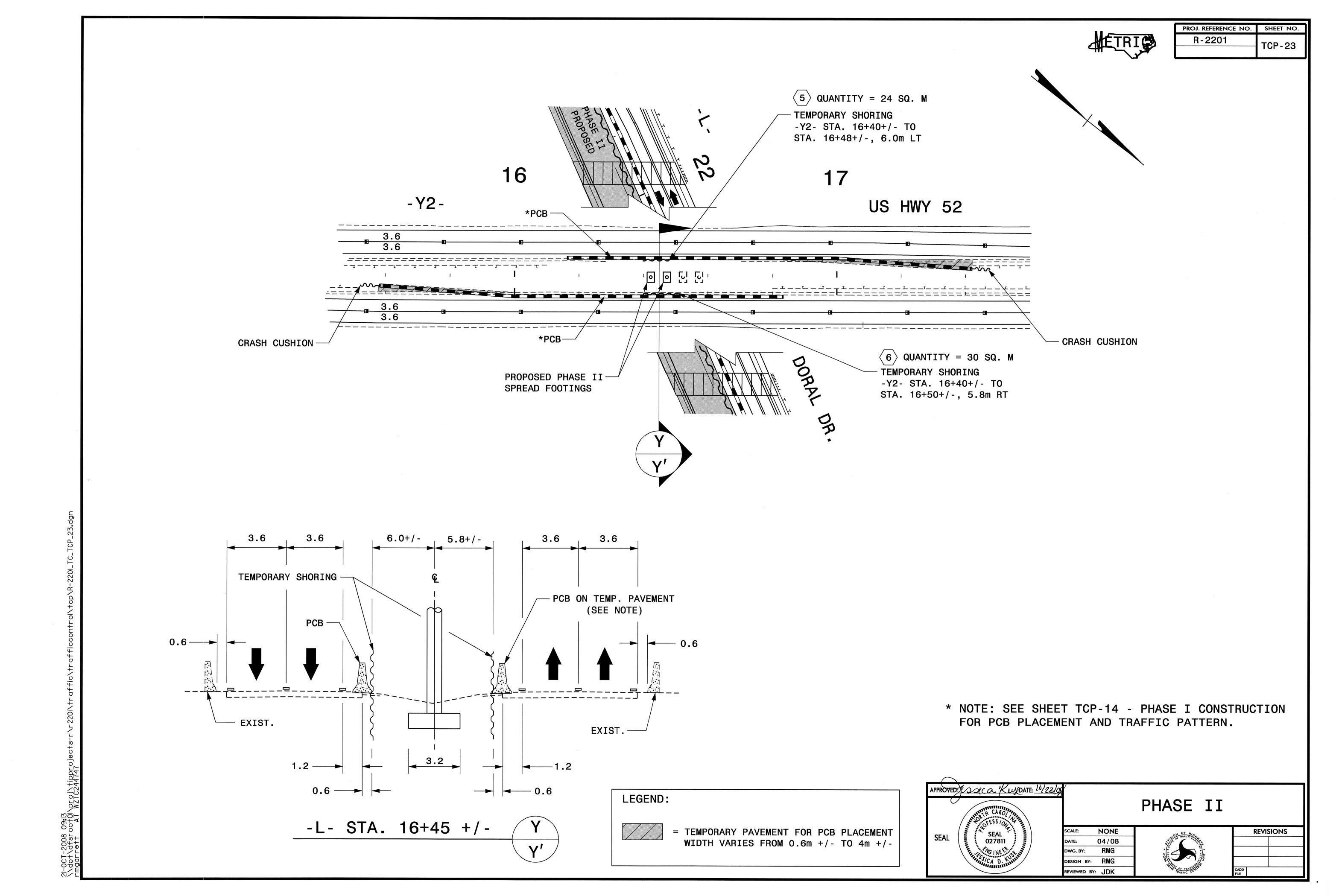
DESIGN BY: RMG

REVIEWED BY: JDK

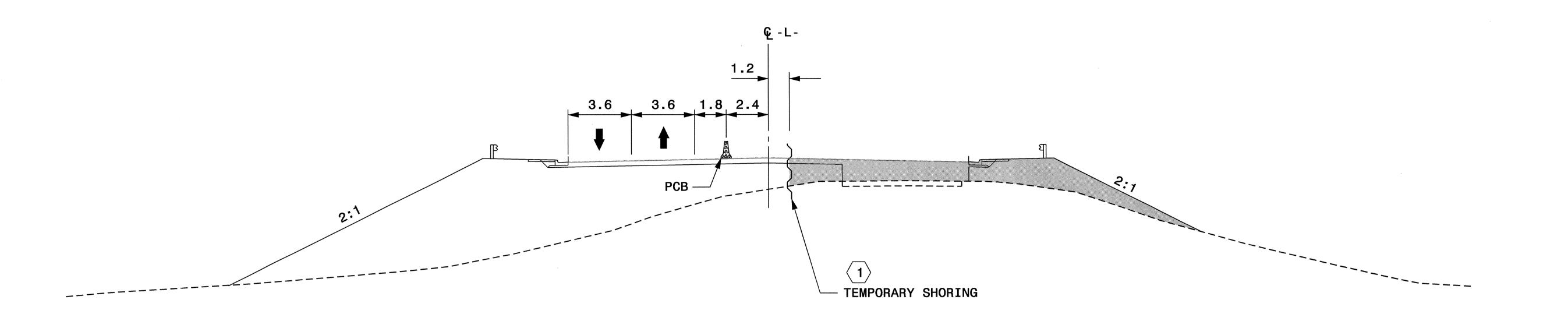




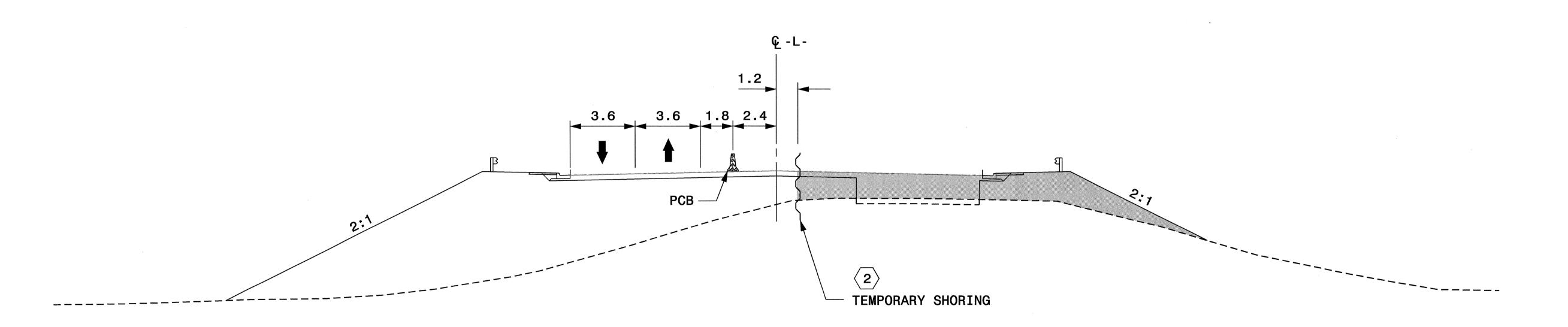




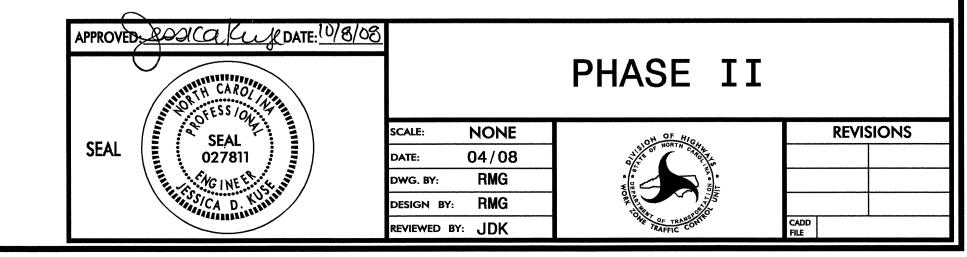
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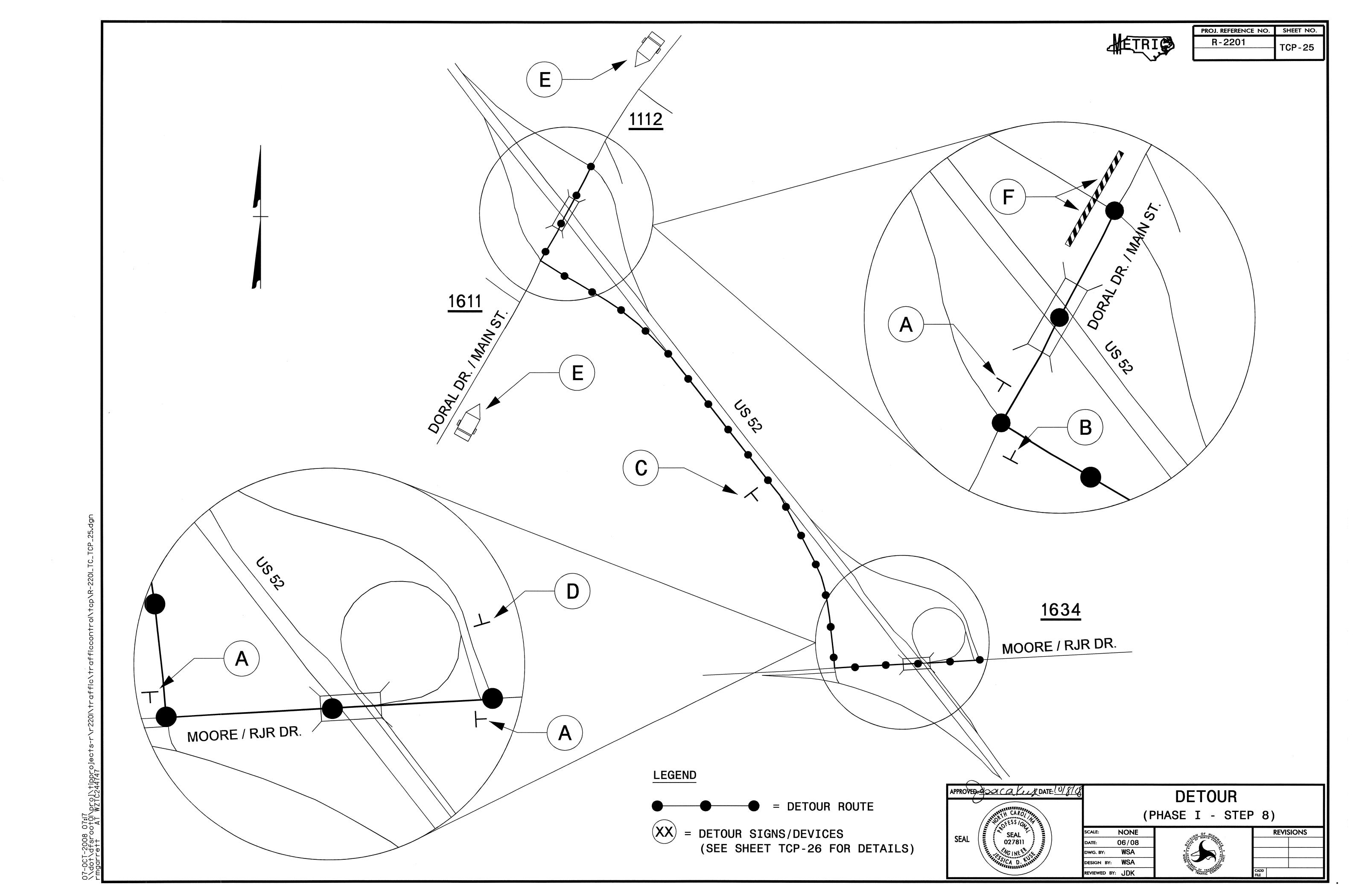


-L- STA. 21+80 +/-



-L- STA. 22+80 +/-







PROJ. REFERENCE NO. R-2201 TCP-26

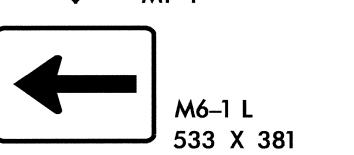


DETOUR | M4-8 610 X 305

M3–1 610 X 305

M3–1 610 X 305

| DETOUR | M4-8 610 X 305 M3–1 610 X 305





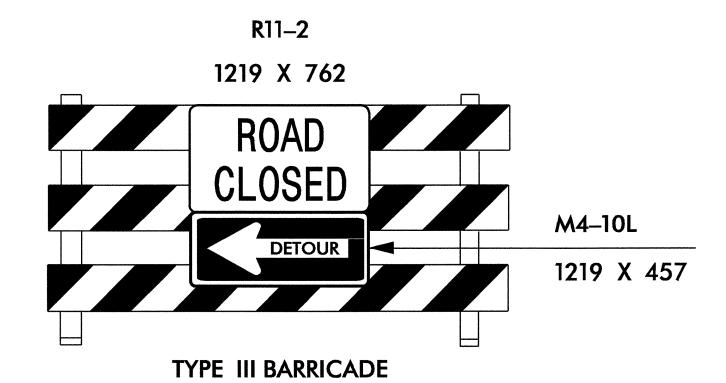
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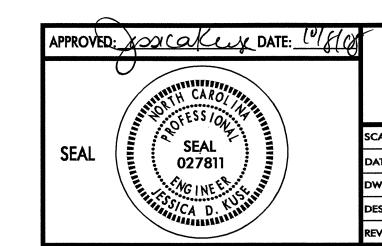
**END DETOUR** M4-8 A 610 X 457

В

MESSAGE MESSAGE NO. 1 NO. 2 US 52 NB FOLLOW ACCESS DETOUR CLOSED AHEAD

CHANGEABLE MESSAGE SIGN





DETOUR SIGNS/DEVICES

REVISIONS

NONE 06/08 DESIGN BY: WSA REVIEWED BY: JDK

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PROJ. REFERENCE NO. R-2201 TCP-27

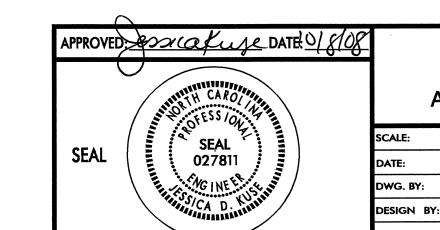
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**TRANSPORTATION** HIGHWAYS NORTH 0F RALEIGH DIVISION 0F R STATE

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SHEET 1 OF 1



**LEGEND** 

■ DIRECTION OF TRAFFIC FLOW

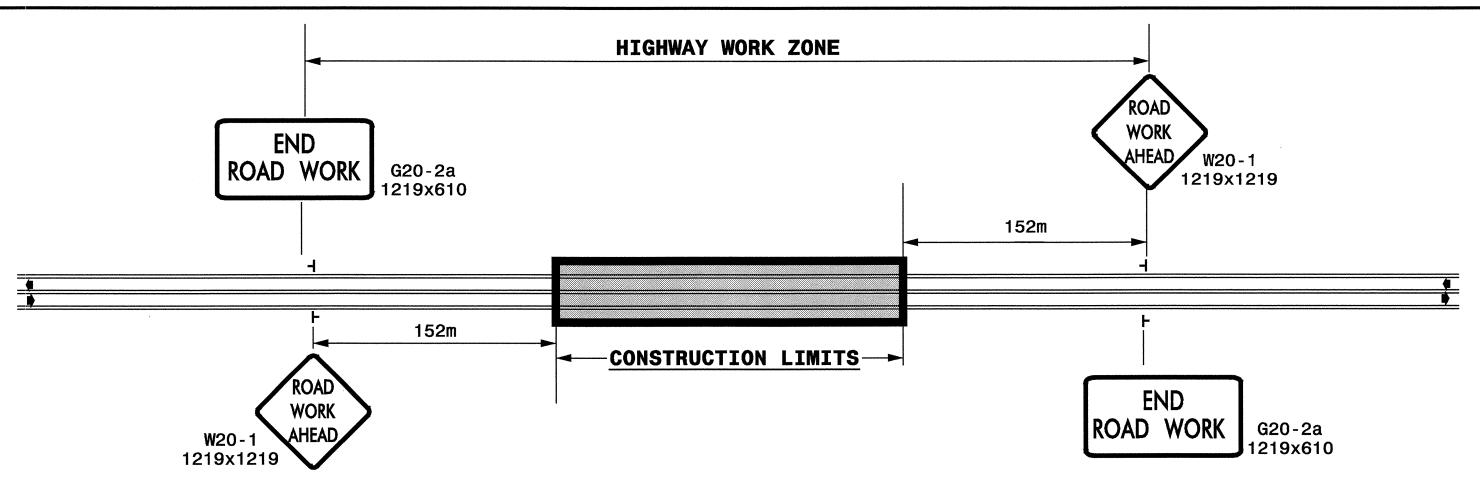
├ STATIONARY SIGN

DETAIL DRAWING FOR TWO-WAY UNDIVIDED AND URBAN FREEWAYS ADVANCED WORK ZONE WARNING SIGNS

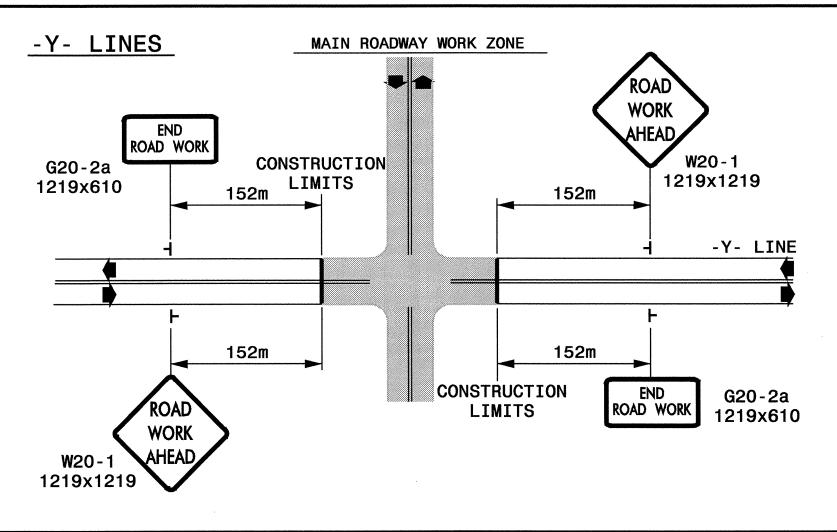
NONE 07/08 **RMG** DESIGN BY: RMG REVIEWED BY: JDK

**REVISIONS** 7\_98 | 10/01 10-98 | 03/04 01/01 | 11/04

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



### ROADWAYS INTERSECTING ALONG 2 WAY UNDIVIDED WORK ZONE (Y-LINES)



#### **GENERAL NOTES**

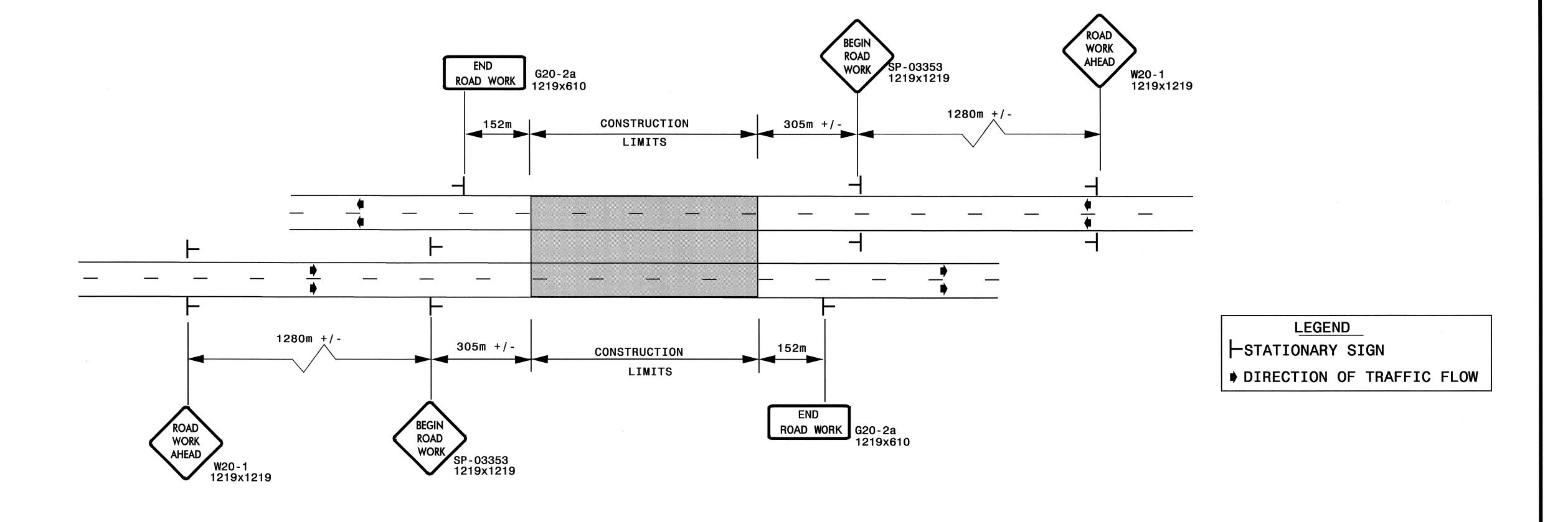
- USE FLUORESCENT ORANGE SHEETING (TYPE VII OR HIGHER) ON ALL ADVANCED WORK ZONE SIGNS.
- DO NOT INSTALL ADVANCE WARNING SIGNS MORE THAN 3 DAYS PRIOR TO BEGINNING OF WORK.
- SIGNS SHOWN ARE REQUIRED FOR WORK ZONES THAT WILL REMAIN IN EFFECT OVERNIGHT. FOR SHORT-TERM DAILY MAINTENANCE TYPE OPERATIONS, THIS SIGNING APPLICATION IS OPTIONAL; MAY USE ONLY APPLICABLE ROADWAY STANDARD DRAWINGS INSTEAD. HOWEVER, IF THIS SIGNING APPLICATION IS USED, SIGNS MAY BE PORTABLE MOUNTED.
- ALL SIGN SPACING DIMENSIONS ARE APPROXIMATE, FIELD ADJUST AS NECESSARY OR AS DIRECTED.
- USE 1.4Kg STEEL U-CHANNEL POST OR 90mm X 90mm WOOD POST FOR ALL WORK ZONE SIGNS. 1.4Kg 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 1.4Kg STEEL U-CHANNEL POST ARE ALSO ACCEPTABLE FOR USE. ERECT SIGNS PER ROADWAY STANDARD DRAWING 1110.01. PAYMENT FOR WOOD POSTS, 1.4Kg 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

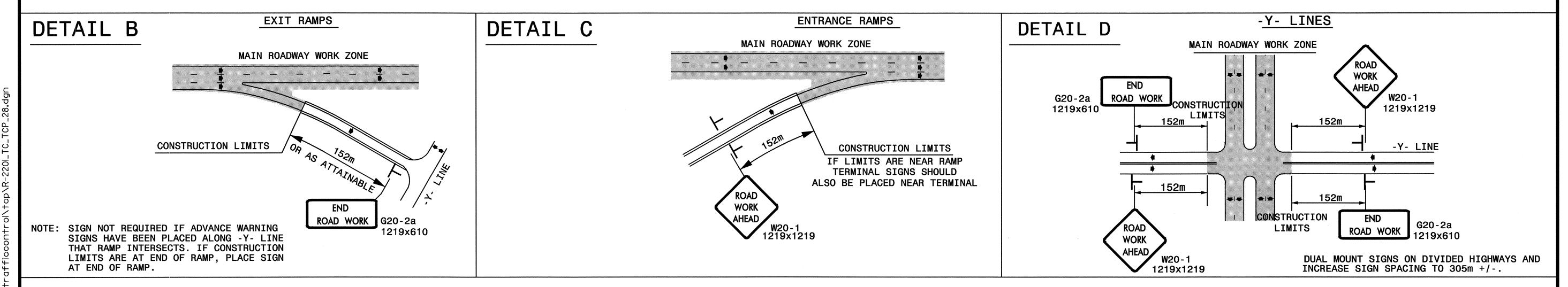
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PROJ. REFERENCE NO. SHEET NO.

R-2201
TCP-28

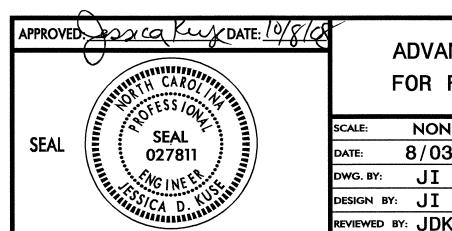
### DETAIL A





#### GENERAL NOTES

- USE FLUORESCENT ORANGE SHEETING (TYPE VII OR HIGHER) ON ALL ADVANCED WORK ZONE SIGNS.
- DO NOT INSTALL ADVANCE WARNING SIGNS MORE THAN 3 DAYS PRIOR TO BEGINNING OF WORK.
- SIGNS SHOWN ARE REQUIRED FOR WORK ZONES THAT WILL REMAIN IN EFFECT OVERNIGHT. FOR SHORT-TERM DAILY MAINTENANCE TYPE OPERATIONS, THIS SIGNING APPLICATION IS OPTIONAL; MAY USE ONLY APPLICABLE ROADWAY STANDARD DRAWINGS INSTEAD. HOWEVER, IF THIS SIGNING APPLICATION IS USED, SIGNS MAY BE PORTABLE MOUNTED.
- ALL SIGN SPACING DIMENSIONS ARE APPROXIMATE, FIELD ADJUST AS NECESSARY OR AS DIRECTED.
- USE 1.4Kg STEEL U-CHANNEL POST OR 90mm X 90mm WOOD POST FOR ALL WORK ZONE SIGNS. 1.4Kg 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 1.4Kg STEEL U-CHANNEL POST ARE ALSO ACCEPTABLE FOR USE. ERECT SIGNS PER ROADWAY STANDARD DRAWING 1110.01. PAYMENT FOR WOOD POSTS, 1.4Kg 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.



ADVANCED WORK ZONE WARNING SIGNS FOR FREEWAYS (4 LANES OR GREATER)

SCALE: NONE

DATE: 8/03

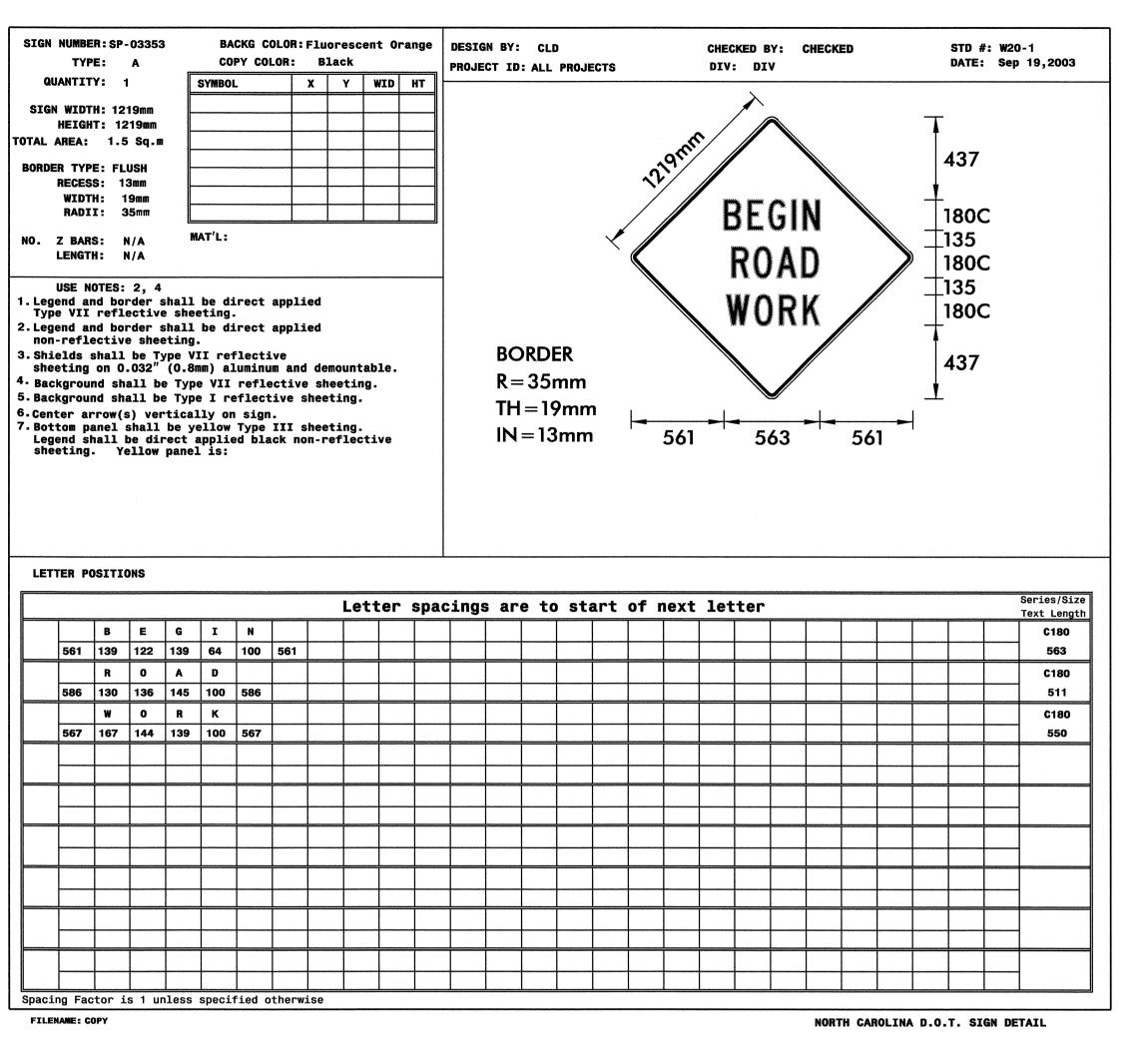
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DESIGN BY: JI

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### SP 03353



### GENERAL NOTES FOR THE "BEGIN ROAD WORK" SIGN

-SIGN SP-03353 "BEGIN ROAD WORK" ONLY APPLIES TO FULL CONTROL AND PARTIAL CONTROL OF ACCESS ROADWAYS -WHEN USED, INSTALL SIGN SP-03353 "BEGIN ROAD WORK" ACCORDING TO DETAIL A ON SHEET TCP-27.

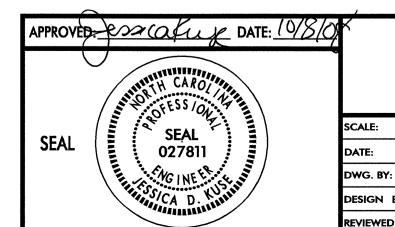
PROJ. REFERENCE NO. SHEET NO.

R-2201
TCP-29

STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION

> DETAIL DRAWING FOR WORK ZONE SIGNS

SHEET 1 OF 1



DETAIL DRAWING FOR ADVANCED WORK ZONE WARNING SIGN DESIGNS

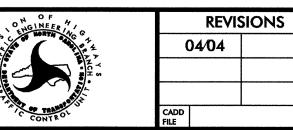
SCALE: NONE

DATE: 07/08

DWG. BY: RMG

DESIGN BY: RMG

REVIEWED BY: JDK



## 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.
- 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.

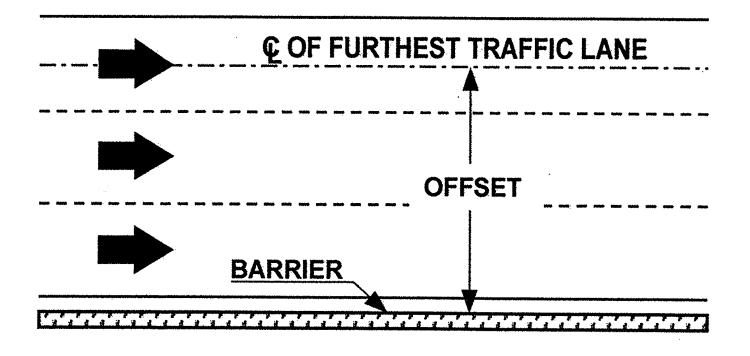
- 5- AT THE CONTRACTOR'S OPTION OR IF THE MINIMUM REQUIRED CLEAR DISTANCE IS NOT AVAILABLE, SET AN UNANCHORED PCB AGAINST THE TRAFFIC SIDE OF THE SHORING AND DESIGN SHORING FOR TRAFFIC IMPACT OR USE THE "SURCHARGE CASE WITH TRAFFIC IMPACT" FOR THE STANDARD TEMPORARY SHORING.
- 6- USE NCDOT PORTABLE CONCRETE 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: HTTP://WWW.NCDOT.ORG/DOH/PRECONSTRUCT/WZTC/DESRES/ENGLISH/DESRESENG.HTML
- 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.

| PROJ. REFERENCE NO. | SHEET NO. |
|---------------------|-----------|
| R-2201              | TCP- 30   |
|                     | 107-00    |

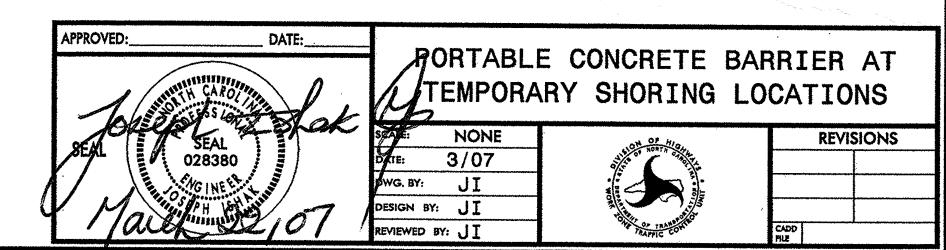
MINIMUM REQUIRED CLEAR DISTANCE, inches

| Barrier                              | Pavement   | Offset *       | Design Speed, mph        |       |       |       |       |                  |  |  |
|--------------------------------------|--|----------------|--------------------------|-------|-------|-------|-------|------------------|--|--|
| Type                                 | Туре   | ft             | <30                      | 31-40 | 41-50 | 51-60 | 61-70 | 71-80            |  |  |
| Asph                                 |  | <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               |  |  |
|                                      | Aspnait  | 32-38          | 30                       | 34    | 38    | 41    | 43    |                  |  |  |
| <b>~</b>                             | <b>m</b>   | 38-44          | 31                       | 34    | 41    | 43    | 45    | 46<br>48         |  |  |
| Ö                                    |  | 44-50          | 31                       | 35    | 41    | 43    | 46    | 49               |  |  |
| 723                                  |  | 50-56          | 32                       | 36    | 42    | 44    | 47    | 50               |  |  |
| Unanchored PCB                       |  | >56            | 32                       | 36    | 42    | 45    | 47    | 51               |  |  |
|                                      |  | <8             | 17                       | 18    | 21    | 22    | 25    | 26               |  |  |
|                                      |  | 8-14           | 19                       | 20    | 23    | 25    | 26    | <u> 20</u><br>29 |  |  |
|                                      | Concrete   | 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<br>or Oregon<br>Barrier | Asphalt  | All<br>Offsets | 24 for All Design Speeds |       |       |       |       |                  |  |  |
| Anchored PCB<br>or Oregon<br>Barrier | Concrete<br>(including<br>bridge<br>approach<br>slabs) | All<br>Offsets | 12 for All Design Speeds |       |       |       |       |                  |  |  |

<sup>\*</sup> See Figure Below



## FIGURE B



ROOTOINGROUPS-WZTCCCNshareNshareNstds\_in\_progressNbarrierstd.dgi