

STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

|                             |           |
|-----------------------------|-----------|
| STATE PROJECT REFERENCE NO. | SHEET NO. |
| B-4006                      | TCP-1     |

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

B-4006

**ROADWAY STANDARD DRAWINGS**

THE FOLLOWING ROADWAY STANDARDS AS APPEAR IN "ROADWAY STANDARD DRAWINGS" HIGHWAY DESIGN BRANCH - 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                         |
|-----------------------------------------|-------------------------------|
| DIVISION 11 - WORK ZONE TRAFFIC CONTROL |                               |
| 1101.02                                 | TEMPORARY LANE CLOSURES       |
| 1101.05                                 | WORK ZONE VEHICLE ACCESSES    |
| 1101.11                                 | TRAFFIC CONTROL DESIGN TABLES |
| 1110.01                                 | STATIONARY WORK ZONE SIGNS    |
| 1110.02                                 | PORTABLE WORK ZONE SIGNS      |
| 1130.01                                 | DRUMS                         |
| 1135.01                                 | CONES                         |
| 1145.01                                 | BARRICADES - TYPE III         |
| 1150.01                                 | FLAGGERS                      |
| 1180.01                                 | SKINNY-DRUM                   |

DIVISION 12 - PAVEMENT MARKINGS, MARKERS AND DELINEATION

|         |                                                    |
|---------|----------------------------------------------------|
| 1205.01 | PAVEMENT MARKINGS - LINE TYPES AND OFFSETS         |
| 1205.02 | PAVEMENT MARKINGS - DIVIDED AND UNDIVIDED ROADWAYS |
| 1205.04 | PAVEMENT MARKINGS - INTERSECTIONS                  |
| 1205.12 | PAVEMENT MARKINGS - BRIDGES                        |
| 1261.01 | GUARDRAIL AND BARRIER DELINEATOR SPACING           |
| 1261.02 | GUARDRAIL AND BARRIER DELINEATOR TYPES             |
| 1262.01 | GUARDRAIL END DELINEATION                          |

**INDEX OF SHEETS**

| SHEET NO. | TITLE                                                                    |
|-----------|--------------------------------------------------------------------------|
| TCP-1     | LIST OF APPLICABLE ROADWAY STANDARD DRAWINGS, LEGEND AND INDEX OF SHEETS |
| TCP-2     | PROJECT NOTES                                                            |
| TCP-3     | PHASE I                                                                  |
| TCP-4     | PHASE II                                                                 |
| PM-1      | PAVEMENT MARKINGS                                                        |

**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

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| APPROVED: <i>Jessica Kuse</i><br>DATE: <i>2/22/07</i> | PLAN PREPARED BY: N.C.D.O.T. WORK ZONE TRAFFIC CONTROL UNIT                                                                                                                                                                                                                                                                                       |
| SEAL<br>                                              | J. S. BOURNE, P.E. <u>                    </u> TRAFFIC CONTROL ENGINEER<br>J. S. KITE, P.E. <u>                    </u> TRAFFIC CONTROL PROJECT ENGINEER<br>J. D. KUSE, P.E. <u>                    </u> TRAFFIC CONTROL PROJECT DESIGN ENGINEER<br>D. W. BISSETTE, P.E. <u>                    </u> TRAFFIC CONTROL DESIGN ENGINEER / TECHNICIAN |

# PROJECT NOTES

|                     |           |
|---------------------|-----------|
| PROJ. REFERENCE NO. | SHEET NO. |
| B-4006              | TCP-2     |

## GENERAL NOTES

CHANGES MAY BE REQUIRED WHEN PHYSICAL DIMENSIONS IN THE DETAIL DRAWINGS, STANDARD DETAILS AND ROADWAY DETAILS ARE NOT ATTAINABLE TO MEET FIELD CONDITIONS, OR RESULT IN DUPLICATE, OR UNDESIRABLE OVERLAPPING OF DEVICES. MODIFICATION MAY INCLUDE: MOVING, SUPPLEMENTING, COVERING OR REMOVAL OF DEVICES, AS DIRECTED BY THE ENGINEER.

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

### LANE AND SHOULDER CLOSURE REQUIREMENTS

- A) REMOVE LANE CLOSURE DEVICES FROM THE LANE WHEN WORK IS NOT BEING PERFORMED BEHIND THE LANE CLOSURE OR WHEN A LANE CLOSURE IS NO LONGER NEEDED, OR AS DIRECTED BY THE ENGINEER.
- B) WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING ON THE SHOULDER ADJACENT TO AN UNDIVIDED FACILITY AND WITHIN 5 FT OF AN OPEN TRAVEL LANE, CLOSE THE NEAREST OPEN TRAVEL LANE USING ROADWAY STANDARD DRAWING NO. 1101.02 UNLESS THE WORK AREA IS PROTECTED BY BARRIER OR GUARDRAIL.
- C) WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING WITHIN A LANE OF TRAVEL OF AN UNDIVIDED OR DIVIDED FACILITY, CLOSE THE LANE ACCORDING TO THE TRAFFIC CONTROL PLANS, ROADWAY STANDARD DRAWINGS OR AS DIRECTED BY THE ENGINEER. CONDUCT THE WORK SO THAT ALL PERSONNEL AND/OR EQUIPMENT REMAIN WITHIN THE CLOSED TRAVEL LANE.
- D) DO NOT WORK SIMULTANEOUSLY WITHIN 15 FT ON BOTH SIDES OF AN OPEN TRAVELWAY, RAMP OR LOOP WITHIN THE SAME LOCATION UNLESS PROTECTED WITH GUARDRAIL OR BARRIER.

### PAVEMENT EDGE DROP OFF REQUIREMENTS

- E) BACKFILL AT A 6:1 SLOPE UP TO THE EDGE AND ELEVATION OF EXISTING PAVEMENT IN AREAS ADJACENT TO AN OPENED TRAVEL LANE THAT HAS AN EDGE OF PAVEMENT DROP-OFF AS FOLLOWS:
  - BACKFILL DROP-OFFS THAT EXCEED 2 INCHES ON ROADWAYS WITH POSTED SPEED LIMITS OF 45 MPH OR GREATER.
  - BACKFILL DROP-OFFS THAT EXCEED 3 INCHES ON ROADWAYS WITH POSTED SPEED LIMITS LESS THAN 45 MPH.
  - BACKFILL WITH SUITABLE COMPACTED MATERIAL, AS APPROVED BY THE ENGINEER, AT NO EXPENSE TO THE DEPARTMENT.
- F) DO NOT EXCEED A DIFFERENCE OF 2 INCHES IN ELEVATION BETWEEN OPEN LANES OF TRAFFIC FOR NOMINAL LIFTS OF 1.5 INCHES. INSTALL ADVANCE WARNING "UNEVEN LANES" SIGNS (W8-11) IN ADVANCE AND A MINIMUM OF EVERY HALF MILE THROUGHOUT THE UNEVEN AREA.

### TRAFFIC PATTERN ALTERATIONS

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

### SIGNING

- H) INSTALL ADVANCE WORK ZONE WARNING SIGNS WHEN WORK IS WITHIN 40 FT FROM THE EDGE OF TRAVEL LANE AND NO MORE THAN THREE (3) DAYS PRIOR TO THE BEGINNING OF CONSTRUCTION.
- I) PROVIDE PERMANENT SIGNING.
- J) ENSURE ALL NECESSARY SIGNING IS IN PLACE PRIOR TO ALTERING ANY TRAFFIC PATTERN.

### TRAFFIC CONTROL DEVICES

- K) 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.

### PAVEMENT MARKINGS AND MARKERS

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

| ROAD NAME | MARKING | MARKER |
|-----------|---------|--------|
| SR 1001   | PAINT   | NONE   |
| SR 1446   | PAINT   | NONE   |

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

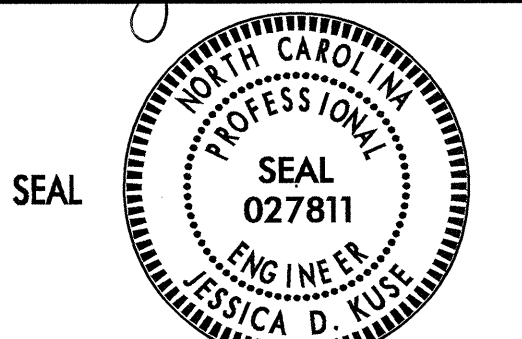
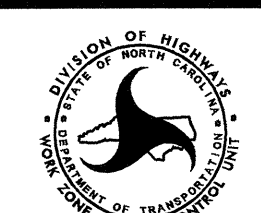
| ROAD NAME | MARKING | MARKER |
|-----------|---------|--------|
| SR 1001   | PAINT   | NONE   |
| SR 1446   | PAINT   | NONE   |

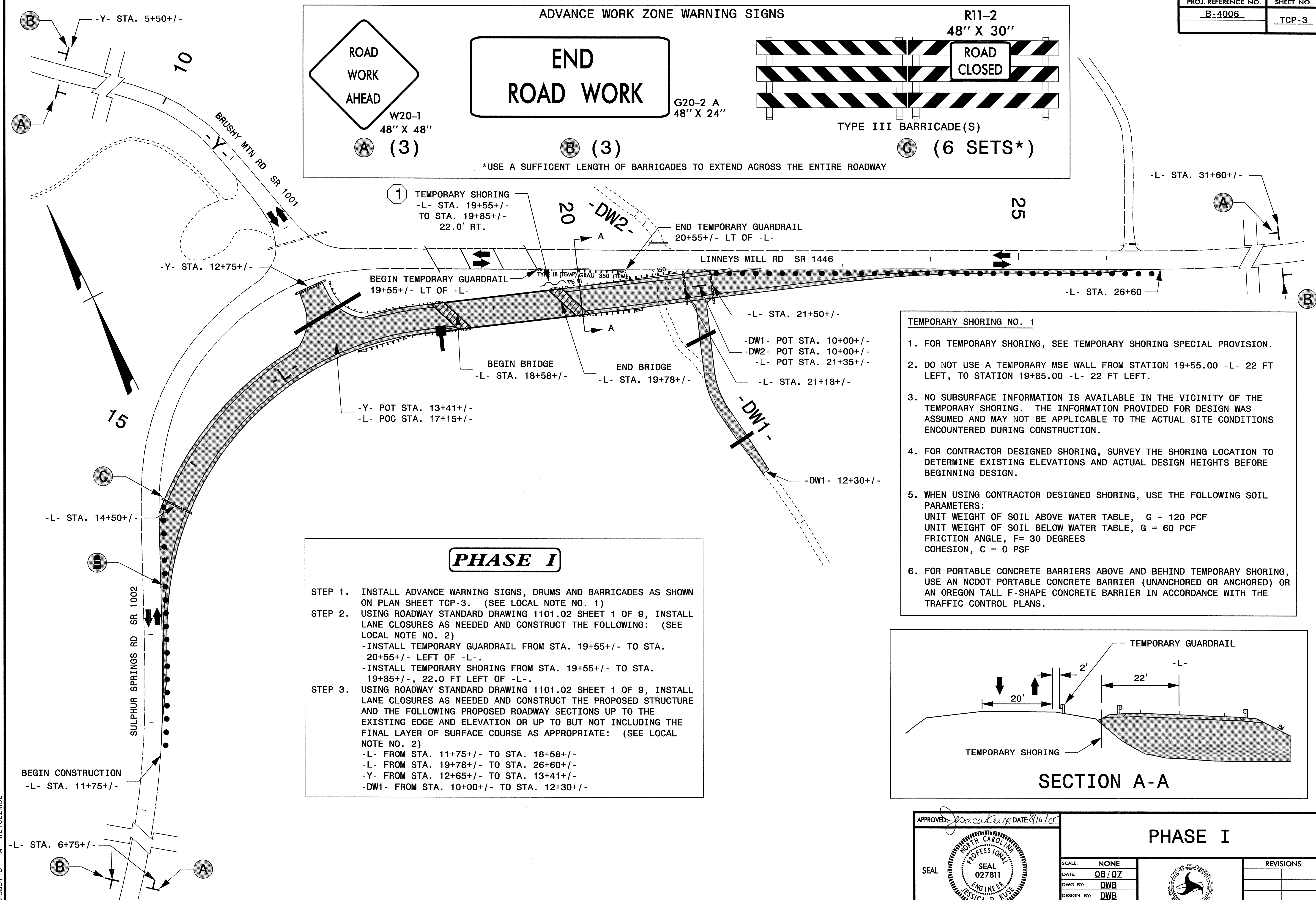
- N) TIE PROPOSED PAVEMENT MARKING LINES TO EXISTING PAVEMENT MARKING LINES.
- O) REMOVE/REPLACE ANY CONFLICTING/DAMAGED PAVEMENT MARKINGS AND MARKERS BY THE END OF EACH DAY'S OPERATION.

## LOCAL NOTES

1. ALL SIGN SPACING DIMENSIONS ARE APPROXIMATE, FIELD ADJUST AS NECESSARY OR AS DIRECTED.
2. MAINTAIN DRIVEWAY ACCESS WITHIN PROJECT LIMITS USING INCIDENTAL STONE.
3. REAPPLY PAVEMENT MARKINGS UP TO 100' BEYOND CONSTRUCTION LIMITS IF NEEDED TO REPAIR DAMAGE AND/OR TRACKING FROM CONSTRUCTION.

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| APPROVED: <i>Jessica D. Kuse</i> DATE: <i>2/2/07</i>                                  | <h2 style="margin: 0;">PROJECT NOTES</h2>                                                                                                                                                                                                                                                                                                                      |             |  |             |  |              |  |                |  |                  |  |
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| SCALE: NONE                                                                           |                                                                                                                                                                                                                                                                                                                                                                |             |  |             |  |              |  |                |  |                  |  |
| DATE: 12/06                                                                           |                                                                                                                                                                                                                                                                                                                                                                |             |  |             |  |              |  |                |  |                  |  |
| DWG. BY: DWB                                                                          |                                                                                                                                                                                                                                                                                                                                                                |             |  |             |  |              |  |                |  |                  |  |
| DESIGN BY: DWB                                                                        |                                                                                                                                                                                                                                                                                                                                                                |             |  |             |  |              |  |                |  |                  |  |
| REVIEWED BY: JDK                                                                      |                                                                                                                                                                                                                                                                                                                                                                |             |  |             |  |              |  |                |  |                  |  |
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| REVISIONS                                                                             |                                                                                                                                                                                                                                                                                                                                                                |             |  |             |  |              |  |                |  |                  |  |
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|                                                                                       |                                                                                                                                                                                                                                                                                                                                                                |             |  |             |  |              |  |                |  |                  |  |



**PHASE I**

STEP 1. INSTALL ADVANCE WARNING SIGNS, DRUMS AND BARRICADES AS SHOWN ON PLAN SHEET TCP-3. (SEE LOCAL NOTE NO. 1)

STEP 2. USING ROADWAY STANDARD DRAWING 1101.02 SHEET 1 OF 9, INSTALL LANE CLOSURES AS NEEDED AND CONSTRUCT THE FOLLOWING: (SEE LOCAL NOTE NO. 2)

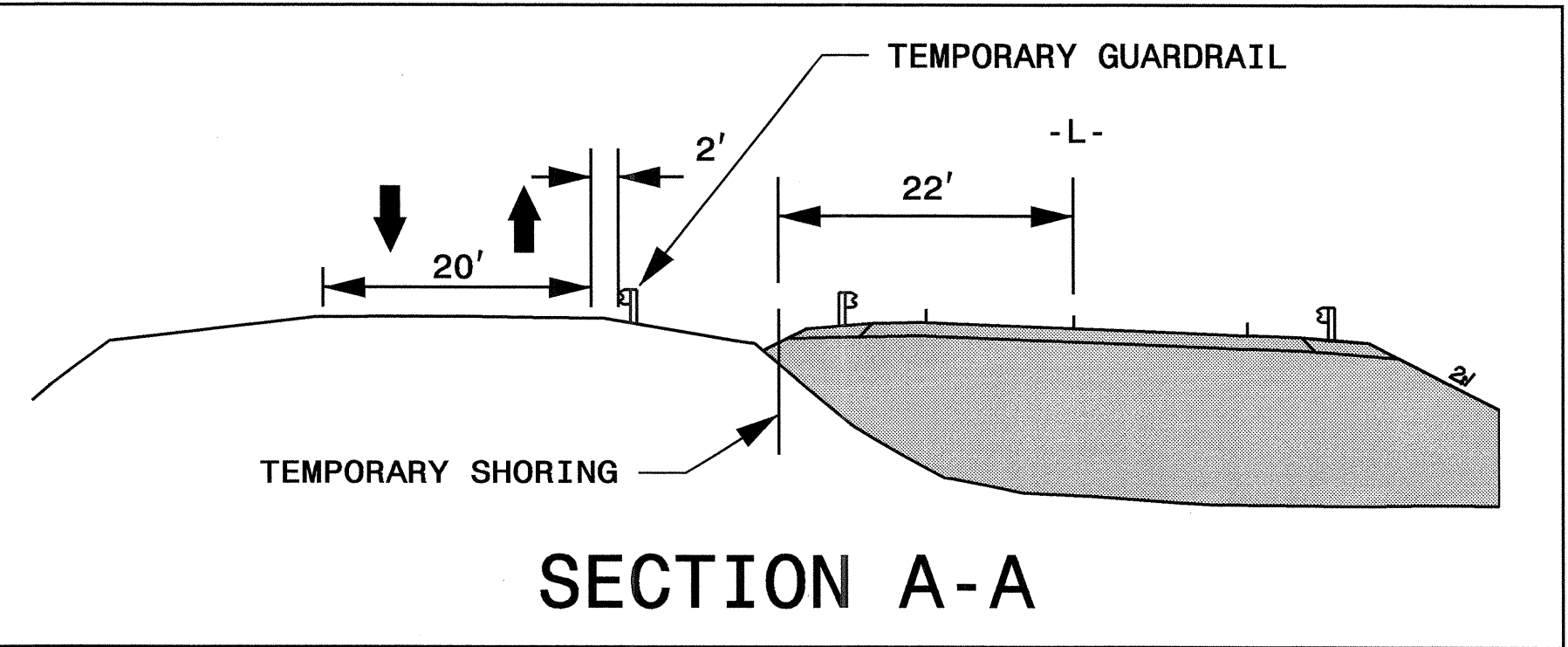
- INSTALL TEMPORARY GUARDRAIL FROM STA. 19+55+/- TO STA. 20+55+/- LEFT OF -L-
- INSTALL TEMPORARY SHORING FROM STA. 19+55+/- TO STA. 19+85+/-, 22.0 FT LEFT OF -L-

STEP 3. USING ROADWAY STANDARD DRAWING 1101.02 SHEET 1 OF 9, INSTALL LANE CLOSURES AS NEEDED AND CONSTRUCT THE PROPOSED STRUCTURE AND THE FOLLOWING PROPOSED ROADWAY SECTIONS UP TO THE EXISTING EDGE AND ELEVATION OR UP TO BUT NOT INCLUDING THE FINAL LAYER OF SURFACE COURSE AS APPROPRIATE: (SEE LOCAL NOTE NO. 2)

- L- FROM STA. 11+75+/- TO STA. 18+58+/-
- L- FROM STA. 19+78+/- TO STA. 26+60+/-
- Y- FROM STA. 12+65+/- TO STA. 13+41+/-
- DW1- FROM STA. 10+00+/- TO STA. 12+30+/-

**TEMPORARY SHORING NO. 1**

- FOR TEMPORARY SHORING, SEE TEMPORARY SHORING SPECIAL PROVISION.
- DO NOT USE A TEMPORARY MSE WALL FROM STATION 19+55.00 -L- 22 FT LEFT, TO STATION 19+85.00 -L- 22 FT LEFT.
- NO SUBSURFACE INFORMATION IS AVAILABLE IN THE VICINITY OF THE TEMPORARY SHORING. THE INFORMATION PROVIDED FOR DESIGN WAS ASSUMED AND MAY NOT BE APPLICABLE TO THE ACTUAL SITE CONDITIONS ENCOUNTERED DURING CONSTRUCTION.
- FOR CONTRACTOR DESIGNED SHORING, SURVEY THE SHORING LOCATION TO DETERMINE EXISTING ELEVATIONS AND ACTUAL DESIGN HEIGHTS BEFORE BEGINNING DESIGN.
- WHEN USING CONTRACTOR DESIGNED SHORING, USE THE FOLLOWING SOIL PARAMETERS:  
 UNIT WEIGHT OF SOIL ABOVE WATER TABLE, G = 120 PCF  
 UNIT WEIGHT OF SOIL BELOW WATER TABLE, G = 60 PCF  
 FRICTION ANGLE, F= 30 DEGREES  
 COHESION, C = 0 PSF
- FOR PORTABLE CONCRETE BARRIERS ABOVE AND BEHIND TEMPORARY SHORING, USE AN NCDOT PORTABLE CONCRETE BARRIER (UNANCHORED OR ANCHORED) OR AN OREGON TALL F-SHAPE CONCRETE BARRIER IN ACCORDANCE WITH THE TRAFFIC CONTROL PLANS.



| APPROVED: <i>Jessica D. Kuse</i> DATE: 8/6/07 | <b>PHASE I</b>                                                                                |  |                                                                                                        |           |  |  |  |
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