## STATE OF NORTH CAROLINA DIVISION OF HIGHWAYS

# PLAN FOR PROPOSED TRAFFIC CONTROL, MARKING & DELINEATION

# JACKSON COUNTY

SHEET NO.

TCP-1

## [ROADWAY STANDARD DRAWINGS]

## [INDEX OF SHEETS]

PHASE II STEP 2

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

1261.02

1262.01

			TCP-2
STD. NO.	TITLE	\$ - *.	TCP-3
1101.02	TEMPORARY LANE CLOSURES		
1101.04	TEMPORARY SHOULDER CLOSURES	, ·	TCP-4
1101.05	WORK ZONE VEHICLE ACCESSES		TCP-5
1101.11	TRAFFIC CONTROL DESIGN TABLES		
1110.01	STATIONARY WORK ZONE SIGNS	· · · · · · · · · · · · · · · · · · ·	TCP-6
1110.02	PORTABLE WORK ZONE SIGNS		· ·
1130.01	DRUM	•	•
1135.01	CONES		
1145.01	BARRICADES	*	
1150.01	FLAGGERS	,	
1165.01	TRUCK MOUNTED IMPACT ATTENUATOR		
1205.01	PAVEMENT MARKINGS - LINE TYPES & OFFSETS		
1205.04	PAVEMENT MARKINGS - NON-SIGNALIZED INTERSECTIONS	,	
1205.02	PAVEMENT MARKINGS - UNDIVIDED MULTI-LANE, TWO-WAY	ROADWAY	'S
1261.01	GUARDRAIL & BARRIER DELINEATOR SPACING		
1205.12	PAVEMENT MARKINGS - BRIDGES		

GUARDRAIL & BARRIER DELINEATOR TYPES

GUARDRAIL END DELINEATION

#### TITLE

LIST OF APPLICABLE ROADWAY STANDARD
DRAWINGS, LEGEND, TEMP. PAVEMENT MARKING
SCHEDULE AND INDEX OF SHEETS
PROJECT NOTES
PHASING, FINAL PAVEMENT MARKING SCHEDULE AND
GENERAL NOTES FOR WORK ZONE WARNING SIGNS
PHASE I AND WORK ZONE WARNING SIGN PLACEMENT
PHASE II STEP 1

TYPE III BARRICADE

CONE

**GENERAL** 

DRUM

FLASHING ARROW PANEL (TYPE C)

STATE PROJECT REFERENCE NO.

F. A. PROJ. NO.

BRZ-1132 (6)

PROPOSED PVMT. ----- EXIST. PVMT.

REMOVAL OF EXISTING PAVEMENT

B-4161

33509.1.1

**LEGEND** 

— NORTH ARROW

**WORK AREA** 

DIRECTION OF TRAFFIC FLOW

SHEET NO.

TCP-

DESCRIPTION

PE

TYPE 'B' WARNING LIGHT

STATIONARY SIGN

TRAFFIC CONTROL DEVICES

T TYPE I BARRICADE

PORTABLE SIGN

STATIONARY OR PORTABLE SIGN

WARNING FLAGS

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

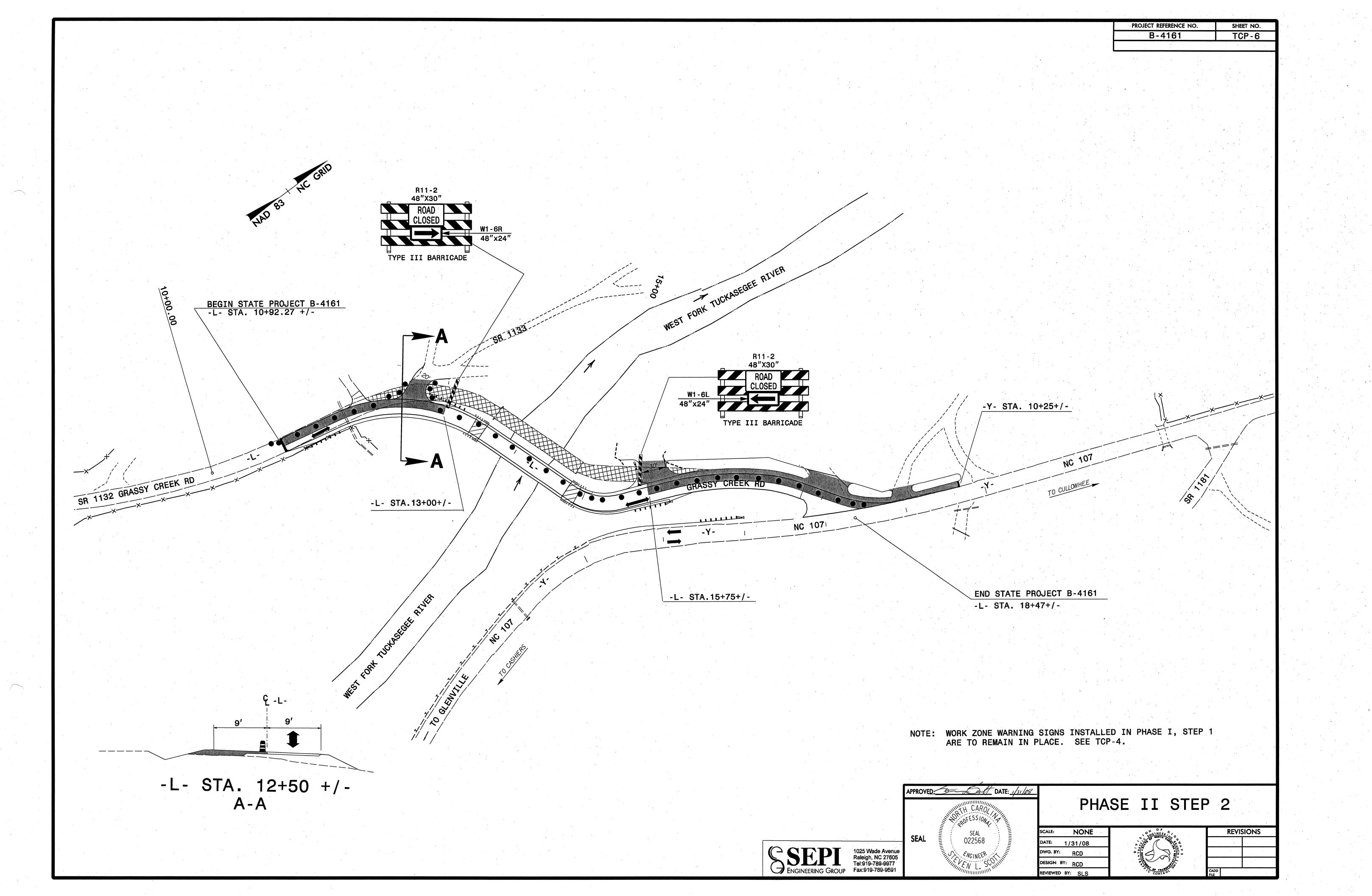
PAVEMENT MARKING SYMBOLS

## TEMP. PAVEMENT MARKING SCHEDULE

SYMBOL	DESCRIPTION			QUANTITY BREAKDOWN	•	TOTAL QUANTITY	
		<b>PAVEMENT</b>	MARKING LINES				
PA	WHITE EDGE LINE (1X)		PAINT(4")	1648 LF			
PI	YELLOW DOUBLE CENTER	(1X)	PAINT(4")	1510 LF			
					, T	OTAL 3158	LF
P4	WHITE STOP BAR (1X)		PAINT(24")	30 LF			Ą,
					т	OTAL 30	IF

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

PLAN REVIEWED BY: N.C.D.O.T. WORK ZONE TRAFFIC CONTROL UNIT	APPROVED: 525tt DATE: 1/31/08	PLAN PREPARED ENGINEERING GROUP  1025 Wade Avenue Raleigh, NC 27605 Tel:919-789-9977 Fax:919-789-9591
J. STUART BOURNE, PE TRAFFIC CONTROL ENGINEER	TH CAROLING	
J. STEVE KITE, PE TRAFFIC CONTROL PROJECT ENGINEER	SEAL SEAL	S. L. SCOTT, PE PROJECT ENGINEER
JESSICA D. KUSE, PE TRAFFIC CONTROL PROJECT DESIGN ENGINEER	022568	R. L. WEBBER DESIGN ENGINEER
DAVID W. BISSETTE, PE TRAFFIC CONTROL DESIGN ENGINEER	ENGINEER SCOTT	



## PROJECT NOTES

PROJ. REFERENCE NO. SHEET NO. B-4161 TCP-2

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.

#### 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.

WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING ON THE SHOULDER ADJACENT TO A DIVIDED FACILITY AND WITHIN 10 FT OF AN OPEN TRAVEL LANE, CLOSE THE NEAREST OPEN TRAVEL LANE USING ROADWAY STANDARD DRAWING NO. 1101.02 UNLESS THE WORK AREA IS PROTECTED BY BARRIER OR GUARDRAIL.

- 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.
- E) DO NOT INSTALL MORE THAN 1000 FT OF LANE CLOSURE ON NC 107 MEASURED FROM THE BEGINNING OF THE MERGE TAPER TO THE END OF THE LANE CLOSURE.

#### PAVEMENT EDGE DROP OFF REQUIREMENTS

F) 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.

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

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

#### SIGNING

- I) INSTALL ADVANCE WORK ZONE WARNING SIGNS NO MORE THAN THREE (3) DAYS PRIOR TO THE BEGINNING OF CONSTRUCTION.
- J) PROVIDE PERMANENT SIGNING.
- ENSURE ALL NECESSARY SIGNING IS IN PLACE PRIOR TO ALTERING ANY TRAFFIC PATTERN.
- L) INSTALL BLACK ON ORANGE "DIP" SIGNS (W8-2) AND/OR "BUMP" SIGNS (W8-1) 200 FT IN ADVANCE OF THE UNEVEN AREA, OR AS DIRECTED BY THE ENGINEER.

#### TRAFFIC CONTROL DEVICES

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

#### PAVEMENT MARKINGS AND MARKERS

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

ROAD NAME

MARKING

MARKER

N/A

SR 1132

PAINT

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

ROAD NAME

MARKING

**MARKER** 

SR 1132

PAINT

N/A

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.

- R) 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.
- TIE PROPOSED PAVEMENT MARKING LINES TO EXISTING PAVEMENT MARKING LINES.
- T) REMOVE/REPLACE ANY CONFLICTING/DAMAGED PAVEMENT MARKINGS AND MARKERS BY THE END OF EACH DAY'S OPERATION.

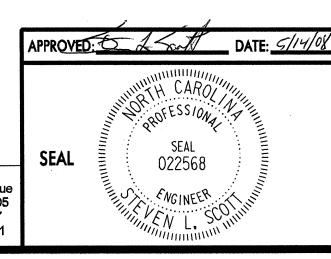
#### MISCELLANEOUS

U) 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) 200 FT AND 200 FT RESPECTIVELY IN ADVANCE OF THE UNEVEN AREAS. USE DRUMS TO DELINEATE THE EDGE OF ROADWAY ALONG UNPAVED AREAS.

## LOCAL NOTE

THE FOLLOWING LOCAL NOTE APPLYS AT ALL TIMES DURING THE CONSTRUCTION OF THE PROJECT:

1) MAINTAIN INGRESS AND EGRESS TO ALL DRIVES WITHIN THE PROJECT LIMITS AT ALL TIMES.



## PROJECT NOTES

NONE DATE: 1/31/08 DESIGN BY: RLW REVIEWED BY: SLS



**REVISIONS** 

1025 Wade Avenue Raleigh, NC 27605 Tel:919-789-9977

## PHASING

#### PHASE I

- STEP 1. INSTALL ADVANCE CONSTRUCTION SIGNING ON -L- LINE AND ALL -Y- LINES. SEE TCP-4.
- STEP 2. AWAY FROM TRAFFIC CONSTRUCT PROPOSED BRIDGE, APPROACHES AND AS MUCH GUARD RAIL AS POSSIBLE FROM -L- STA. 10+92+/- TO -L- STA 17+50+/- AS FOLLOWS: SEE LOCAL NOTE 1 ON TCP-2.
  - INSTALL TEMPORARY EDGELINE ALONG RIGHT SIDE OF EXISTING -L- LINE SHIFTING EXISTING TWO-WAY ONE-LANE OF TRAFFIC TOWARD THE LEFT SIDE AWAY FROM CONSTRUCTION AREA. SEE TCP-4.
  - CONSTRUCT PROPOSED BRIDGE, GUARD RAIL AND APPROACHES UP TO BUT NOT INCLUDING THE FINAL SURFACE COURSE FROM -L- STA. 13+00+/- TO -L- STA 15+75+/-. USE TMIA TO PROTECT GUARD RAIL ENDS AS NEEDED UNTIL FINAL END TREATMENT IS INSTALLED. SEE TCP-4.
  - USING RDWY STD 1101.02, SHEET 1 OF 9, CONSTRUCT AS MUCH OF PROPOSED -L- LINE AS POSSIBLE USING TEMPORARY SLOPES AS NESSESARY, UP TO BUT NOT INCLUDING THE FINAL SURFACE COURSE FROM -L- STA. 10+92+/- EOP ELEV. TO -L- STA. 13+00+/- ELEV. AND FROM -L- STA. 15+75+/- ELEV. TO -L- STA. 17+50+/- EOP ELEV. SEE TCP-4.

USING RDWY STD 1101,02, SHEET 1 OF 9, CONSTRUCT PROPOSED WIDENING ALONG RIGHT SIDE OF -Y- LINE FROM -Y- STA. 10+25+/- TO -Y- STA. 14+87+/- AND INSTALL PROPOSED GUARDRAIL ALONG RIGHT SIDE OF -Y- FROM -Y- STA. 12+91+/- TYING INTO EXISTING GURADRAIL AT -Y- STA. 14+87+/- PER ROADWAY PLANS. SEE TCP-4.

#### PHASE II

WORKING IN A CONTINUOUS MANNER THAT IS SATISFACTORY TO THE ENGINEER AND USING RDWY STD 1101.02, SHEET 1 OF 9, CONSTRUCT TIE-INS OF -L- LINE UP TO BUT NOT INCLUDING THE FINAL SURFACE COURSE AND SHIFT TRAFFIC ONTO NEW ALIGNMENT IN A TWO-WAY TWO-LANE PATTERN AT END OF DAYS OPERATION AS FOLLOWS: SEE LOCAL NOTE 1 ON TCP-2.

- STEP 1. USING RDWY STD 1101.02, SHEET 1 OF 9, SHIFT TRAFFIC INTO A ONE-LANE TWO-WAY PATTERN ALONG THE LEFT SIDE OF EXISTING ROADWAY AND CONSTRUCT TIE IN OF PROPOSE RIGHT SIDE OF -L- UP TO BUT NOT INCLUDING THE FINAL SURFACE COURSE FROM -L- STA. 10+92+/- TO -L- STA. 13+00+/- AND FROM -L- STA. 15+75+/- TO -Y- (NC 107). SEE TCP-5.
- STEP 2. USING RDWY STD 1101.02, SHEET 1 OF 9, SHIFT TRAFFIC ONTO THE RIGHT SIDE OF THE PROPOSED ROADWAY INTO A ONE-LANE TWO-WAY PATTERN ON THE NEW ALIGNMENT. SEE TCP-6
  - CLOSE EXISTING -L- LINE AND CONSTRUCT THE REMAINING LEFT SIDE OF -L- FROM -L-STA. 10+92+/- TO -L- STA. 13+00+/- AND FROM -L- STA. 15+75+/- TO -Y- (NC 107) INCLUDING REMAINING GUARD RAIL. SEE TCP-6. NOTE: SEE PROJECT NOTES "F" AND "U" ON TCP-2 SHOULD CONTRACTOR BE UNABLE TO COMPLETE TIE-IN AT END OF DAY.
  - INSTALL TEMPORARY PAVEMENT MARKING AND OPEN TO TWO-LANE TWO-WAY TRAFFIC. SEE RDWY STDS 1205.01, 1205.02, 1205.04 AND 1205.12.
  - ADJUST LOCATION OF EXISTING STOP SIGNS AS DIRECTED BY THE ENGINEER.

#### PHASE III

- USING RDWY STD 1101.02, SHEET 1 OF 9, REMOVE EXISTING BRIDGE AND APPROACHES.
- USING RDWY STD 1101.02, SHEET 1 OF 9, PLACE FINAL SURFACE COURSE AND INSTALL FINAL PAVEMENT MARKING. SEE RDWY STDS 1205.01, 1205.02, 1205.04 AND 1205.12.
- OPEN ALL LANES TO TRAFFIC.

#### GENERAL NOTES FOR ADVANCED WARNING SIGNS

- USE FLUORESCENT ORANGE SHEETING (TYPE VII OR HIGHER) ON ALL ADVANCED WORK ZONE SIGNS.
- DO NOT INSTALL ADVANCE WARNING SIGNS MORE THAN 3 DAYS PRIOR TO BEGINNING OF WORK.
- SIGNS SHOWN ARE REQUIRED FOR WORK ZONES THAT WILL REMAIN IN EFFECT OVERNIGHT. FOR SHORT-TERM DAILY MAINTENANCE TYPE OPERATIONS. THIS SIGNING APPLICATION IS OPTIONAL: MAY USE ONLY APPLICABLE ROADWAY STANDARD DRAWINGS INSTEAD. HOWEVER, IF THIS SIGNING APPLICATION IS USED. SIGNS MAY BE PORTABLE MOUNTED.
- ALL SIGN SPACING DIMENSIONS ARE APPROXIMATE, FIELD ADJUST AS NECESSARY OR AS DIRECTED.
- USE 3LB STEEL U-CHANNEL POST OR 4" X 4" WOOD POST FOR ALL WORK ZONE SIGNS. 3LB STEEL U-CHANNEL POSTS MUST MEET THE REQUIREMENTS OF STANDARD SPECIFICATION SECTION 1094-1(B), MAY BE GALVANIZED STEEL, OR MAY BE PAINTED GREEN BY THE POST MANUFACTURER. SQUARE STEEL TUBING POSTS HAVING EQUIVALENT STRENGTH OF THE 3 LB STEEL U-CHANNEL POST ARE ALSO ACCEPTABLE FOR USE. ERECT SIGNS PER ROADWAY STANDARD DRAWING 1110.01. PAYMENT FOR WOOD POSTS, 3LB STEEL U-CHANNEL AND SQUARE STEEL TUBING POSTS WITH SIGNS WILL BE MADE ACCORDING TO STANDARD SPECIFICATION "WORK ZONE SIGNS" SECTION 1110.
- WHEN NECESSARY, USE SPLICING IN ACCORDANCE WITH ROADWAY STANDARD DRAWING NO. 1110.01. REMOVE ENTIRE POST WHEN REMOVING SIGNS WITH SPLICED POSTS.
- DO NOT BACK BRACE SIGN SUPPORTS.
- \*\* TWO-WAY UNDIVIDED ADVANCE WARNING SIGN CONFIGURATION MAY BE USED ON URBAN MULTI-LANE FACILITIES WHERE CONDITIONS LIMIT THE USE OF DUAL MOUNTED SIGNS AS DETERMINED BY THE ENGINEER.

## FINAL PAVEMENT MARKING SCHEDULE

TOTAL PAY ITEM DESCRIPTION PAVEMENT MARKING LINES QUANTITY QUANTITY WHITE EDGE LINE (2X) PAINT(4") 3296 LF YELLOW DOUBLE CENTER (2X) PAINT(4") 3020 LF TOTAL 6316 LF PAINT(24") WHITE STOP BAR (2X) 60 LF

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

TOTAL 60 LF

SEAL 022568

PPROVED: 2 Set DATE: 1/31/08 PHASING PM SCHEDULE FINAL NONE PATE: 1/31/08

RCD

PROJ. REFERENCE NO.

TCP-3

B-4161

ESIGN BY: RLW

