B-4072

TIP PROJECT:

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

STATE PROJECT REFERENCE NO.	SHEET NO.
B-4072	TCP-1

PLAN FOR PROPOSED TRAFFIC CONTROL, MARKING & DELINEATION

CHEROKEE 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
1101.03	TEMPORARY ROAD 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
1135.01	CONES
1145.01	BARRICADES
1150.01	FLAGGING DEVICES
1165.01	TRUCK MOUNTED IMPACT ATTENUATOR
1205.01	PAVEMENT MARKINGS - LINE TYPES & OFFSETS
1205.02	PAVEMENT MARKINGS - 2 LANE & MULTILANE ROADWAYS
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

INDEX OF SHEETS

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

NOTE: "2X" DENOTES TWO APPLICATIONS OF PAVEMENT MARKING

PAVEMENT MARKING SCHEDULE

SYMBOL	DESCRIPTION	ITEM QUANTITY	TOTAL
	TEMPORARY MARKINGS		
	PAINT (4")		
PA	WHITE EDGELINE (2X)	3224 LF	
PI	YELLOW DOUBLE CENTER (2X)	3234 LF	
			6458 LF
	TEMPORARY PAVEMENT MARKERS		
MH	YELLOW & YELLOW	30 EA	
			30 EA
	FINAL MARKINGS		
	PAINT (4")		
PA	WHITE EDGELINE (2X)	2200 LF	
PI	YELLOW DOUBLE CENTER (2X)	2200 LF	
			4400 LF

N.C.D.O.T. TRAFFIC CONTROL, MARKING & DELINEATION SECTION
LIST OF CONTACTS

STUART BOURNE, P.E.	TRAFFIC CONTROL ENGINEER
JOSEPH ISHAK, P.E.	TRAFFIC CONTROL PROJECT ENGINEER
_____	TRAFFIC CONTROL PROJECT DESIGN ENGINEER
_____	TRAFFIC CONTROL DESIGN ENGINEER

APPROVED: _____
DATE: 4/16/09

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 21116 ENGINEER BOB A. MAY

PLAN PREPARED FOR NCDOT BY: ETHERILL ENGINEERING
559 JONES FRANKLIN ROAD SUITE 144 Raleigh, N.C. 27606 Ph: 919 851 8077 Fax: 919 851 8107

B.A. MAY, P.E.	PROJECT ENGINEER
C.L. MULLEN	DESIGN ENGINEER
_____	DESIGN TECHNICIAN

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PROJ. REFERENCE NO.	SHEET NO.
B-4072	TCP-2

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.

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 WITHIN 15 FT OF AN AN OPEN TRAVEL LANE, CLOSE THE NEAREST OPEN SHOULDER USING ROADWAY STANDARD DRAWING NO. 1101.04 UNLESS THE WORK AREA IS PROTECTED BY BARRIER OR GUARDRAIL OR A LANE CLOSURE IS INSTALLED.

C) 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.

D) 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.

E) DO NOT WORK SIMULTANEOUSLY WITHIN 15 FT ON BOTH SIDES OF AN OPEN TRAVELWAY, RAMP OR LOOP WITHIN THE SAME LOCATION UNLESS PROTECTED WITH GUARDDRAIL OR BARRIER.

F) PROVIDE TRAFFIC CONTROL FOR APPROPRIATE LANE CLOSURES FOR SURVEYING DONE BY THE DEPARTMENT.

PAVEMENT EDGE DROP OFF REQUIREMENTS

G) 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.

H) 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

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

SIGNING

J) 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.

K) STATE FORCES WILL BE RESPONSIBLE FOR PERMANENT SIGNING.

L) PROVIDE DETOUR SIGNING WITHIN THE PROJECT LIMITS.

M) ENSURE ALL NECESSARY SIGNING IS IN PLACE PRIOR TO ALTERING ANY TRAFFIC PATTERN.

TRAFFIC CONTROL DEVICES

N) 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 IN EFFECT. WHEN SKINNY DRUMS ARE ALLOWED, REFER TO SECTION 1180 OF STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES OR AS SHOWN IN THE PLANS.

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

PAVEMENT MARKINGS AND MARKERS

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

	ROAD NAME	MARKING	MARKER
1.	-L- (BRASSTOWN RD.)	PAINT	NONE

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

	ROAD NAME	MARKING	MARKER
1.	-L- (BRASSTOWN RD.)	PAINT	RAISED REFLECTIVE

R) 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.

S) 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.

T) TIE PROPOSED PAVEMENT MARKING LINES TO EXISTING PAVEMENT MARKING LINES.

U) REMOVE/REPLACE ANY CONFLICTING/DAMAGED PAVEMENT MARKINGS AND MARKERS BY THE END OF EACH DAY'S OPERATION.

MISCELLANEOUS

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

LOCAL NOTES

1. THE CONTRACTOR SHALL COORDINATE WITH THE JOHN C. CAMPBELL FOLK SCHOOL AND THE ENGINEER IN ORDER TO MINIMIZE IMPACTS TO ANY SCHEDULED EVENTS.

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CIVIL/SITE DESIGN - GIS/GPS - CONSTRUCTION OBSERVATION

APPROVED: _____ DATE: 4/6/09

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 21116 ENGINEER BOB A. MAY

PROJECT NOTES

SCALE:	NONE
DATE:	4/09
DWG. BY:	CLM
DESIGN BY:	CLM
REVIEWED BY:	BAM

REVISIONS

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PROJ. REFERENCE NO.	SHEET NO.
B-4072	TCP-3

PHASE I

STEP 1. INSTALL ADVANCE WARNING SIGNING ON SR 1564, SR 1604, AND ON SR 1548 PRIOR TO ANY CONSTRUCTION (SEE TCP-9).

STEP 2. USING RSD 1101.02, SHEET 1 OF 9, CONSTRUCT TEMPORARY -DETOUR- UP TO THE EXISTING PAVEMENT ELEVATION THROUGH THE FOLLOWING STATIONS (SEE TCP-4 AND LOCAL NOTE #1 ON TCP-2):

-DETOUR- STA. 12+43.66 TO STA. 17+86.88

AT THE END OF EACH WORKDAY, RETURN TRAFFIC TO THE EXISTING PATTERN ON SR 1564.

INSTALL TEMPORARY SHORING ALONG THE LEFT SIDE OF THE TEMPORARY -DETOUR- THROUGH THE FOLLOWING STATIONS (SEE TCP-4 AND TCP-8):

-DETOUR- STA. 14+65+/- TO STA. 15+55+/- (SHORING LINE #1)

INSTALL TEMPORARY "NATURE TRAIL CLOSED AHEAD" SIGNS AND CONSTRUCT PROPOSED NATURE TRAIL REALIGNMENT AS SHOWN ON THE CONSTRUCTION PLANS (SEE LOCAL NOTE #1 ON TCP-2,TCP-4, AND TCP-7).

PHASE II

PERFORM THE FOLLOWING WORK IN STEP 1 AND 2 IN A CONTINUOUS MANNER (SEE LOCAL NOTE #1 ON TCP-2):

STEP 1. USING RSD 1101.02, SHEET 1 OF 9, PLACE SR 1564 TRAFFIC IN THE EXISTING LEFT LANE OF SR 1564 AND PLACE -DETOUR- PAVEMENT MARKINGS AND MARKERS AS MUCH AS POSSIBLE THROUGH THE FOLLOWING STATIONS (SEE TCP-5):

-DETOUR- STA. 12+43.66 TO STA. 17+86.88

STEP 2. USING RSD 1101.02, SHEET 1 OF 9, SHIFT SR 1564 TRAFFIC TO THE RIGHT LANE OF THE TEMPORARY -DETOUR- IN A ONE-LANE, TWO-WAY PATTERN AND PLACE REMAINING -DETOUR- PAVEMENT MARKINGS (SEE TCP-5).

AT THE END OF THE DAY, TRAFFIC SHALL BE OPERATING IN A TWO-LANE, TWO-WAY PATTERN ON THE TEMPORARY -DETOUR-.

STEP 3. USING RSD 1101.02, SHEET 1 OF 9, CONSTRUCT PROPOSED -L- STRUCTURE AND APPROACHES AS MUCH AS POSSIBLE UP TO, BUT NOT INCLUDING, THE FINAL LAYER THROUGH THE FOLLOWING STATIONS:

-L- STA. 12+25.00 TO STA. 17+75.00

UTILIZE TEMPORARY CONSTRUCTION SLOPES AS NECESSARY WHEN CONSTRUCTING -L- WIDENING BEHIND TEMPORARY DETOUR GUARDRAIL.

INSTALL TEMPORARY CRASH CUSHIONS (TCC) ON THE RIGHT SIDE OF THE APPROACH AND TRAILING ENDS OF THE NEW -L- STRUCTURE FOR PHASE III TRAFFIC PATTERN.

PHASE III

PERFORM THE FOLLOWING WORK IN STEPS 1 THRU 3 IN A CONTINUOUS MANNER (SEE LOCAL NOTE #1 ON TCP-2):

STEP 1. USING RSD 1101.02, SHEET 1 OF 9, PLACE -DETOUR- TRAFFIC IN THE RIGHT LANE IN A ONE -LANE, TWO-WAY PATTERN.

CONSTRUCT -L- LEFT SIDE TIE-INS UP TO, BUT NOT INCLUDING, THE FINAL LAYER THROUGH THE FOLLOWING STATIONS:

-L- STA. 12+25.00 TO STA. 13+74.21
-L- STA. 16+50.09 TO STA. 17+75.00

PLACE PAVEMENT MARKINGS AND MARKERS AS MUCH AS POSSIBLE (SEE TCP-6).

STEP 2. USING RSD 1101.02, SHEET 1 OF 9, SHIFT -DETOUR- TRAFFIC TO THE LEFT LANE OF -L- IN A ONE-LANE, TWO-WAY PATTERN.

CONSTRUCT -L- RIGHT SIDE TIE-INS UP TO, BUT NOT INCLUDING, THE FINAL LAYER THROUGH THE FOLLOWING STATIONS:

-L- STA. 12+25.00 TO STA. 13+74.21
-L- STA. 16+50.09 TO STA. 17+75.00

PLACE REMAINING -L- PAVEMENT MARKINGS FOR THE FINAL TWO-LANE, TWO-WAY TRAFFIC PATTERN (SEE TCP-6).

STEP 3. OPEN -L- TO TRAFFIC IN THE FINAL TRAFFIC PATTERN (SEE TCP-6).

STEP 4. USING RSD 1101.02, SHEET 1 OF 9, REMOVE -DETOUR- AND COMPLETE -L- RIGHT SIDE GRADING AND DRIVEWAY TIE AT -L- STA. 16+25+/- (SEE TCP-6).

REMOVE TEMPORARY CRASH CUSHIONS AT ENDS OF -L- STRUCTURE AND COMPLETE GUARDRAIL INSTALLATIONS AS SHOWN ON THE CONSTRUCTION PLANS (SEE TCP-6).

STEP 5. USING RSD 1101.02, SHEET 1 OF 9, PLACE FINAL LAYER OF SURFACE COURSE ON -L- AND PLACE FINAL PAVEMENT MARKINGS (SEE TCP-6).

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APPROVED: Bob A May DATE: 4/16/09

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 21116 ENGINEER BOB A. MAY

PHASING

SCALE:	NONE
DATE:	4/09
DWG. BY:	CLM
DESIGN BY:	CLM
REVIEWED BY:	BAM

REVISIONS

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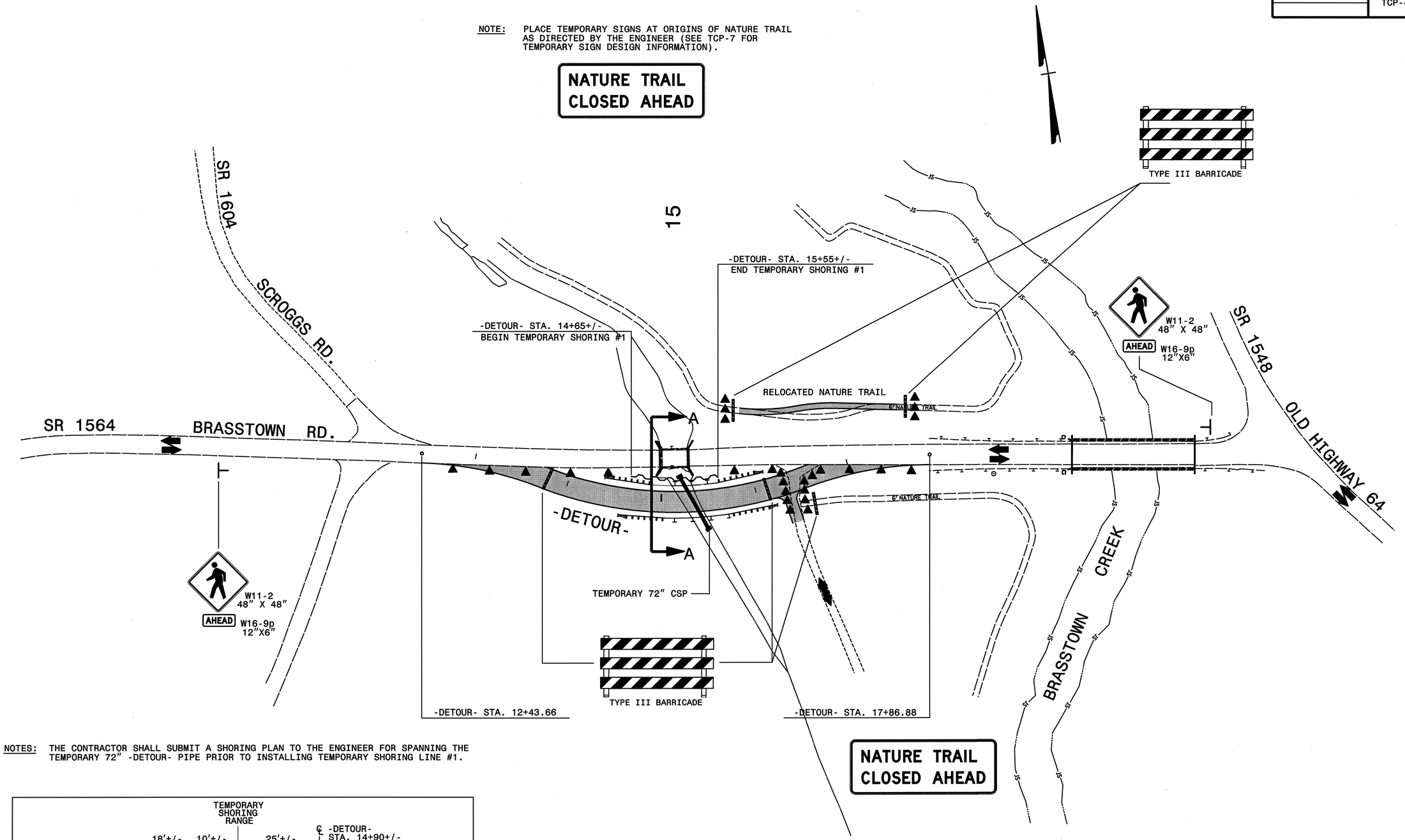
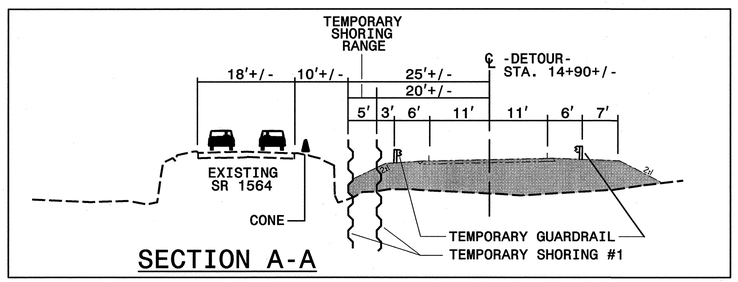
PROJ. REFERENCE NO.	SHEET NO.
B-4072	TCP-4

NOTE: PLACE TEMPORARY SIGNS AT ORIGINS OF NATURE TRAIL AS DIRECTED BY THE ENGINEER (SEE TCP-7 FOR TEMPORARY SIGN DESIGN INFORMATION).

NATURE TRAIL CLOSED AHEAD



NOTES: THE CONTRACTOR SHALL SUBMIT A SHORING PLAN TO THE ENGINEER FOR SPANNING THE TEMPORARY 72" -DETOUR- PIPE PRIOR TO INSTALLING TEMPORARY SHORING LINE #1.



SECTION A-A

NATURE TRAIL CLOSED AHEAD

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CIVIL/SITE DESIGN - GIS/GPS - CONSTRUCTION OBSERVATION

APPROVED: [signature] DATE: 4/16/09

SEAL — NORTH CAROLINA PROFESSIONAL SEAL 21116 ENGINEER BOB A. MAY

PHASE I

SCALE:	NONE
DATE:	4/09
DWG. BY:	CLM
DESIGN BY:	CLM
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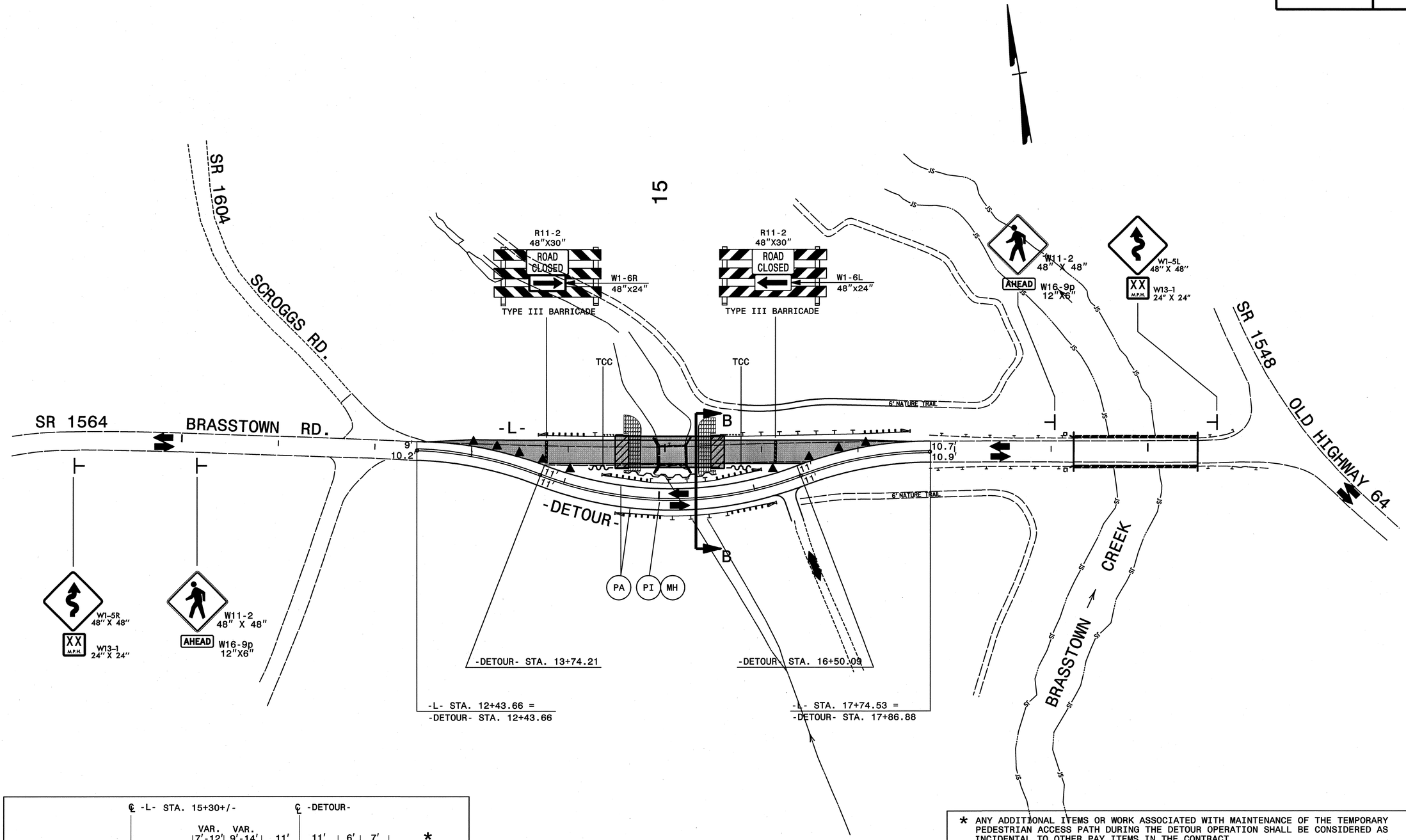
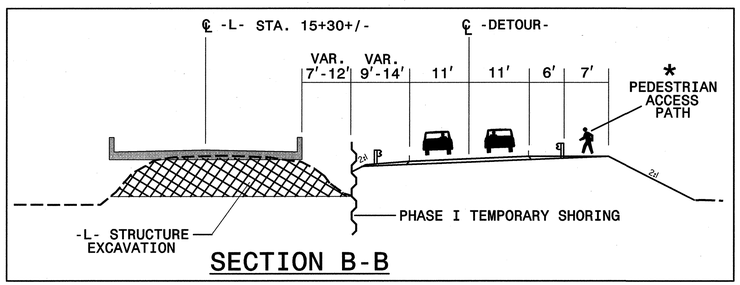
PROJ. REFERENCE NO.	SHEET NO.
B-4072	TCP-5





SECTION B-B

* ANY ADDITIONAL ITEMS OR WORK ASSOCIATED WITH MAINTENANCE OF THE TEMPORARY PEDESTRIAN ACCESS PATH DURING THE DETOUR OPERATION SHALL BE CONSIDERED AS INCIDENTAL TO OTHER PAY ITEMS IN THE CONTRACT.

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PHASE II

SCALE:	NONE
DATE:	4/09
DWG. BY:	CLM
DESIGN BY:	CLM
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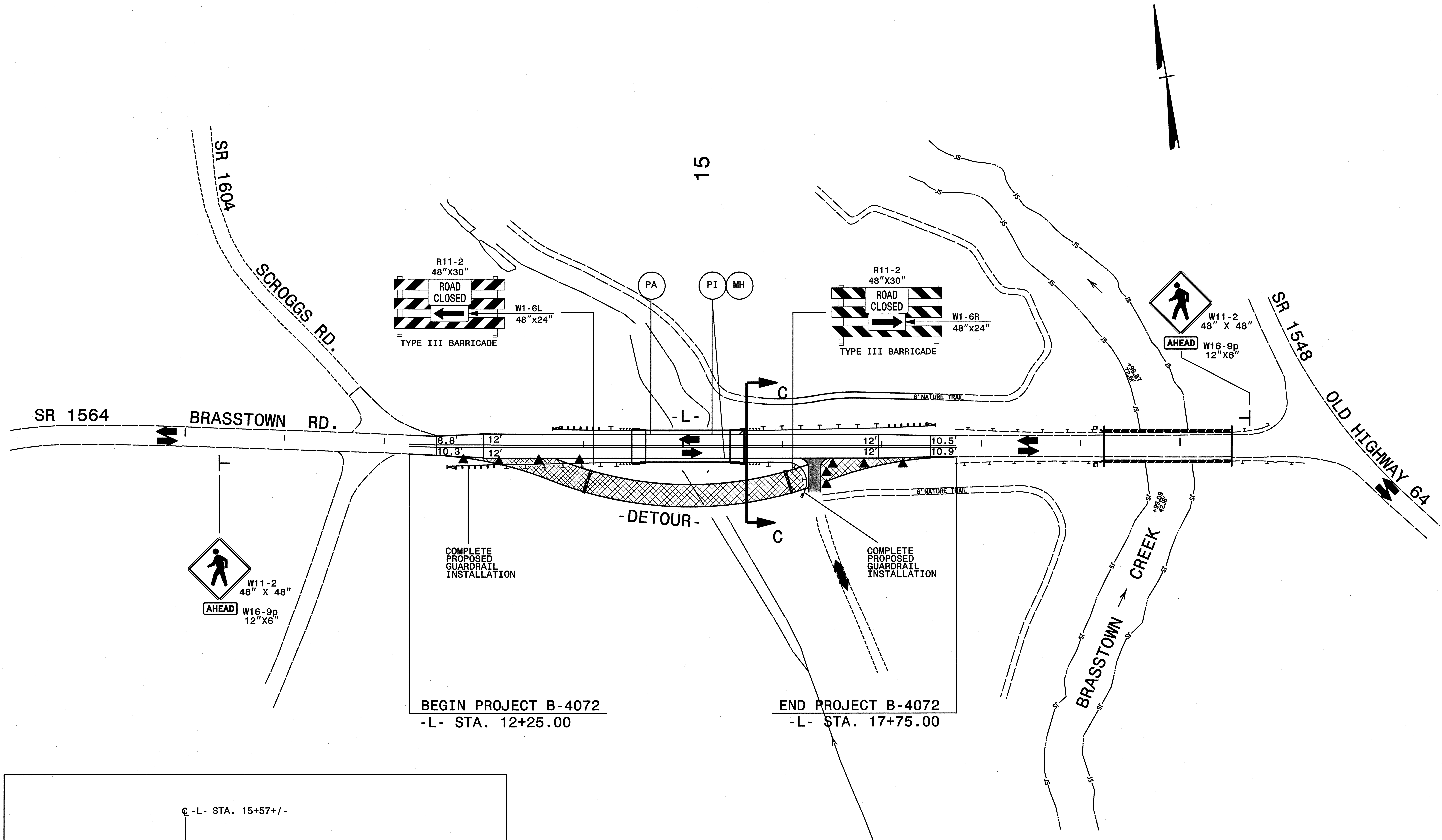
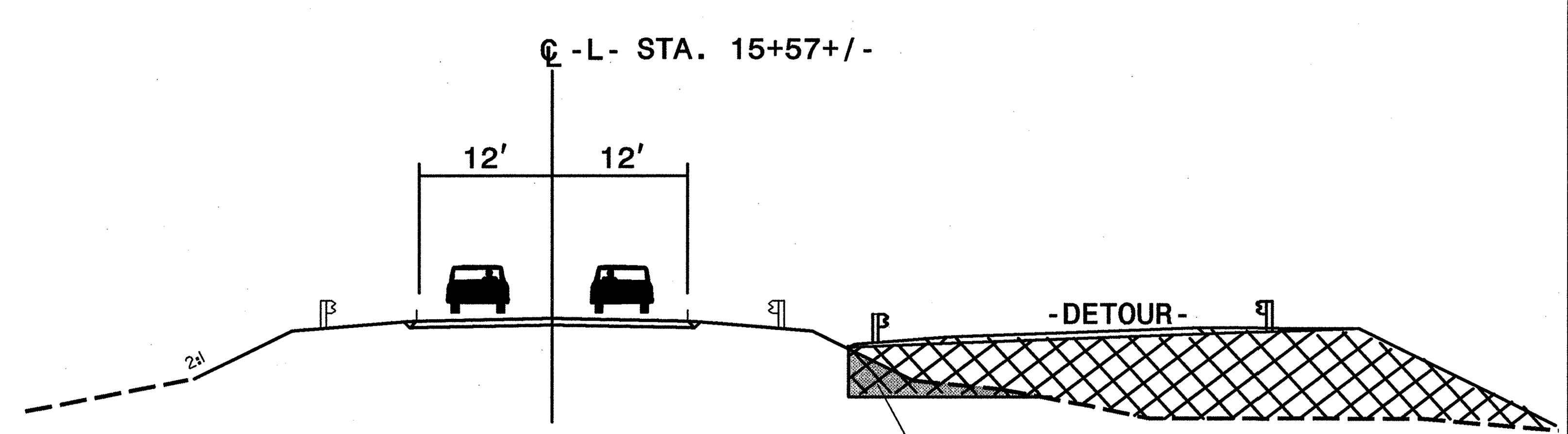
PROJ. REFERENCE NO.	SHEET NO.
B-4072	TCP-6





SECTION C-C

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APPROVED: [signature] DATE: 4/6/09

SEAL

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PHASE III

SCALE:	NONE
DATE:	4/09
DWG. BY:	CLM
DESIGN BY:	CLM
REVIEWED BY:	BAM

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PROJ. REFERENCE NO.	SHEET NO.
B-4072	TCP-7

SIGN DETAIL
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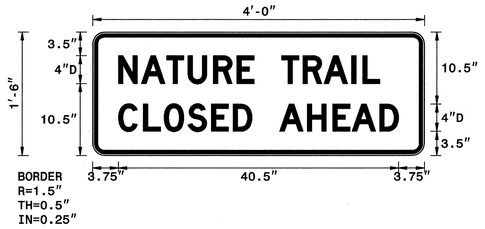

SIGN NUMBER	1
WIDTH x HGHT.	4'-0" x 1'-6"
BORDER WIDTH	0.5"
CORNER RADIUS	1.5"
MOUNTING	Ground
BACKGROUND	TYPE: Reflective
	COLOR: Orange
LEGEND/BORDER	TYPE: Reflective
	COLOR: Black

SYMBOL	ROT	X	Y	WID	HT

Panel Style=onstruction_guide.ssi
Dimensions are iimches.tenths

Letter locations are panel edge to lower left corner

LETTER POSITIONS (X)

													LENGTH	SERIES/SIZE
N	A	T	U	R	E		T	R	A	I	L			D 2000
3.7	7.1	10.7	13.8	17.5	20.9	23.3	27.3	30.4	33.5	37.5	39.1		37.8	4
C	L	O	S	E	D		A	H	E	A	D			D 2000
3.7	7.3	10.3	13.8	17.2	20.3	23.1	27.1	31.1	34.7	37.5	41.5		40.5	4

TEMPORARY SIGNS TO BE PAID FOR AS "STATIONARY WORK ZONE SIGNS"

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CIVIL/SITE DESIGN - GIS/GPS - CONSTRUCTION OBSERVATION

APPROVED: _____ DATE: 4/16/09

SEAL — NORTH CAROLINA PROFESSIONAL SEAL 21116 ENGINEER BOB A. MAY

TEMPORARY SIGN DESIGN

SCALE:	NONE
DATE:	4/09
DWG. BY:	CLM
DESIGN BY:	CLM
REVIEWED BY:	BAM

DIVISION OF HIGHWAYS — NORTH CAROLINA DEPARTMENT OF TRANSPORTATION — NORTH CAROLINA TRAFFIC CONTROL

REVISIONS

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PROJ. REFERENCE NO.	SHEET NO.
B-4072	TCP-8

TEMPORARY SHORING LINE NO. 1

FOR TEMPORARY SHORING, SEE TEMPORARY SHORING SPECIAL PROVISION.

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

WHEN USING CONTRACTOR DESIGNED SHORING FROM STATION 14+65.00+/- -DET.-, FROM 20 FT. LEFT OF -DET.- TO 25 FT. LEFT OF -DET.-, TO STATION 15+55+/- -DET.-, FROM 20 FT. LEFT OF -DET.- TO 25 FT. LEFT OF -DET.-, USE THE FOLLOWING SOIL PARAMETERS:

UNIT WEIGHT OF SOIL ABOVE WATER TABLE, y = 120 PCF
UNIT WEIGHT OF SOIL BELOW WATER TABLE, y = 60 PCF
FRICTION ANGLE, o = 30 DEGREES
COHESION, c = 0 PSF

NO SUBSURFACE INFORMATION IS AVAILABLE IN THE VICINITY OF THE TEMPORARY SHORING FROM STATION 14+65.00+/- -DET.-, FROM 20 FT. LEFT OF -DET.- TO 25 FT. LEFT OF -DET.-, TO STATION 15+55+/- -DET.-, FROM 20 FT. LEFT OF -DET.- TO 25 FT. LEFT OF -DET.-, 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.

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TRANSPORTATION PLANNING/DESIGN - BRIDGE/STRUCTURE DESIGN
CIVIL/SITE DESIGN - GIS/GPS - CONSTRUCTION OBSERVATION

APPROVED: [signature] DATE: 4-21-09

SEAL
NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 25521 JOHN L. PILIPCHUK 4-21-09

TEMPORARY SHORING RECOMMENDATIONS

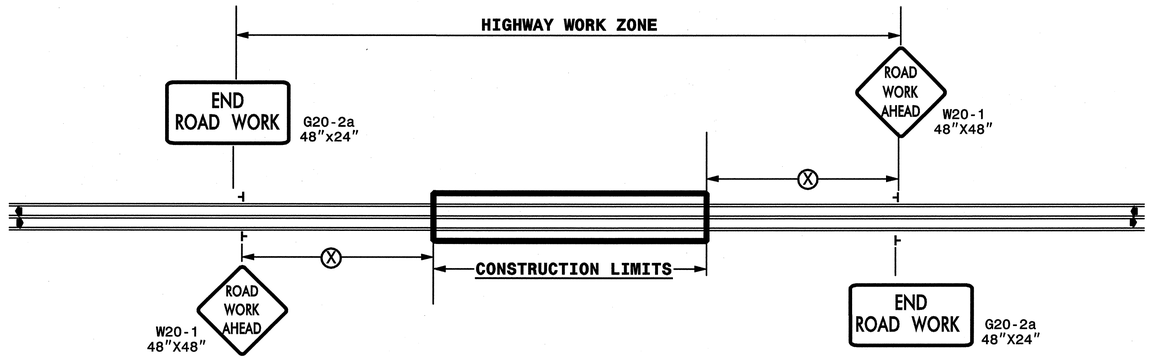
SCALE:	NONE
DATE:	4/09
DWG. BY:	CLM
DESIGN BY:	CLM
REVIEWED BY:	BAM

REVISIONS

CADD FILE

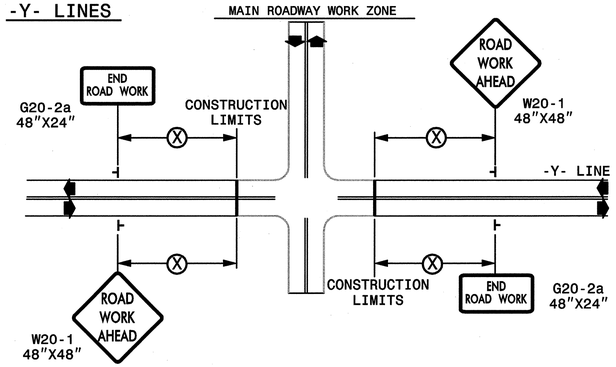
PROJ. REFERENCE NO.	SHEET NO.
B-4072	TCP-9

TWO-WAY UNDIVIDED ** (L-LINES)



POSTED SPEED LIMIT (M.P.H.)	RECOMMENDED MINIMUM SIGN SPACING Ⓧ
≤ 50	500′
≥ 55	1000′

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 3LB STEEL U-CHANNEL POST OR 4" X 4" WOOD POST FOR ALL WORK ZONE SIGNS. 3LB STEEL U-CHANNEL POSTS MUST MEET THE REQUIREMENTS OF STANDARD SPECIFICATION SECTION 1094-1(B), MAY BE GALVANIZED STEEL, OR MAY BE PAINTED GREEN BY THE POST MANUFACTURER. SQUARE STEEL TUBING POSTS HAVING EQUIVALENT STRENGTH OF THE 3 LB STEEL U-CHANNEL POST ARE ALSO ACCEPTABLE FOR USE. ERECT SIGNS PER ROADWAY STANDARD DRAWING 1110.01. PAYMENT FOR WOOD POSTS, 3LB STEEL U-CHANNEL AND SQUARE STEEL TUBING POSTS WITH SIGNS WILL BE MADE ACCORDING TO STANDARD SPECIFICATION "WORK ZONE SIGNS" SECTION 1110.
- WHEN NECESSARY, USE SPLICING IN ACCORDANCE WITH ROADWAY STANDARD DRAWING NO. 1110.01. REMOVE ENTIRE POST WHEN REMOVING SIGNS WITH SPLICED POSTS.
- DO NOT BACK BRACE SIGN SUPPORTS.
- ** TWO-WAY UNDIVIDED ADVANCE WARNING SIGN CONFIGURATION MAY BE USED ON URBAN MULTI-LANE FACILITIES WHERE CONDITIONS LIMIT THE USE OF DUAL MOUNTED SIGNS AS DETERMINED BY THE ENGINEER.

LEGEND

- ⊢ STATIONARY SIGN
- ⬅ DIRECTION OF TRAFFIC FLOW

STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

DETAIL DRAWING FOR TWO-WAY UNDIVIDED WORK ZONE WARNING SIGNS

SHEET 1 OF 1

APPROVED: Bob A May DATE: 4/16/09

SEAL — NORTH CAROLINA PROFESSIONAL SEAL 21116 ENGINEER BOB A. MAY

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

SCALE:	NONE
DATE:	4/09
DWG. BY:	CLM
DESIGN BY:	CLM
REVIEWED BY:	BAM

REVISIONS	
7-98	10/01
10-98	03/04
01/01	11/04
CADD FILE	

4/2/2009
9:01:25 AM
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