

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

STATE PROJECT REFERENCE NO.	SHEET NO.
B-4093	TCP-1

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

B-4093

ROADWAY STANDARD DRAWINGS

THE FOLLOWING ROADWAY STANDARDS AS APPEAR IN "ROADWAY STANDARD DRAWINGS"-
ROADWAY DESIGN UNIT-N.C. DEPARTMENT OF TRANSPORTATION-RALEIGH, N.C.,
DATED JANUARY 2002 ARE APPLICABLE TO THIS PROJECT AND BY REFERENCE HEREBY ARE
CONSIDERED A PART OF THESE PLANS:

STD. NO.	TITLE
1101.03	TEMPORARY ROAD CLOSURES
1101.11	TRAFFIC CONTROL DESIGN TABLES
1110.01	STATIONARY WORK ZONE SIGNS
1110.02	PORTABLE WORK ZONE SIGNS
1150.01	FLAGGERS
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

SHEET NO.	TITLE
TCP-1	LIST OF APPLICABLE ROADWAY STANDARD DRAWINGS, LEGEND AND INDEX OF SHEETS
TCP-2	PROJECT NOTES
TCP-3	DETOUR ROUTE
TCP-4	DETOUR SIGN DETAIL
TCP-5	TYPE III BARRICADES
TCP-6	DRUM DETAIL

LEGEND

- GENERAL**
- ← DIRECTION OF TRAFFIC FLOW
 - ↑ NORTH ARROW
 - PROPOSED PVMT. - - - - - EXIST. PVMT.
 - WORK AREA
 - ▨ REMOVAL OF EXISTING PAVEMENT
- TRAFFIC CONTROL DEVICES**
- I TYPE I BARRICADE
 - II TYPE II BARRICADE
 - ▨ TYPE III BARRICADE
 - ▲ CONE
 - DRUM
 - ⊙ FLASHING ARROW PANEL (TYPE C)
 - TYPE 'B' WARNING LIGHT
 - T STATIONARY SIGN
 - ⊏ 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

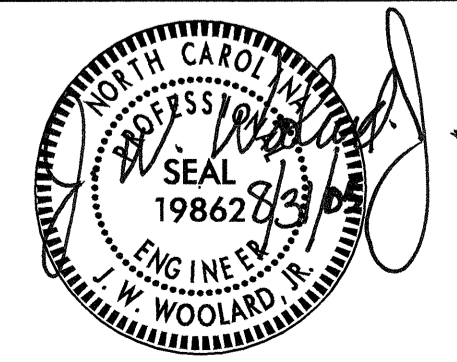
FINAL PAVEMENT MARKING SCHEDULE

SYMBOL	DESCRIPTION	BREAKDOWN	TOTAL	QUANTITY
PAINT (4")				
PA	4" WHITE EDGELINE	5800 LF		
PD	2 FT MINI SKIPS	23 LF		
PI	4" YELLOW DOUBLE CENTER	5800 LF		
			TOTAL	11623 LF
PAINT (24")				
P4	24" WITE STOPBAR	32 LF		
			TOTAL	32 LF
PERMANENT RAISED PAVEMENT MARKERS				
MD	YELLOW	20 EA		
			TOTAL	20 EA

TIP PROJECT:

3-AUG-2005 07:09
\\elms-ccrfs03\04\1\71\20\913
ricker-son AT 11:21:20 9/13

APPROVED: _____ DATE: _____	PLAN PREPARED BY: N.C.D.O.T. WORK ZONE TRAFFIC CONTROL UNIT
SEAL	J. S. BOURNE, PE TRAFFIC CONTROL ENGINEER
	G. L. GETTIER, PE TRAFFIC CONTROL PROJECT ENGINEER
	J. W. WOOLARD, PE TRAFFIC CONTROL PROJECT DESIGN ENGINEER
	C. L. DICKERSON TRAFFIC CONTROL DESIGN ENGINEER / TECHNICIAN



PROJECT NOTES

PROJ. REFERENCE NO.	SHEET NO.
B-4093	TCP-2

GENERAL NOTES

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.

- A) ADAPT THE TRAFFIC CONTROL PLANS, WHEN DIRECTED BY THE ENGINEER, TO MEET FIELD CONDITIONS TO PROVIDE SAFE AND EFFICIENT TRAFFIC MOVEMENT. CHANGES MAY BE REQUIRED WHEN PHYSICAL DIMENSIONS IN THE DETAIL DRAWINGS, STANDARD DETAILS AND ROADWAY DETAILS ARE NOT ATTAINABLE, OR RESULT IN DUPLICATE, OR UNDESIRED OVERLAPPING OF DEVICES. MODIFICATION MAY INCLUDE: MOVING, SUPPLEMENTING, COVERING OR REMOVAL OF DEVICES.

PAVEMENT EDGE DROP OFF REQUIREMENTS

- B) 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 A DROP-OFF AS FOLLOWS:
- C) BACKFILL DROP-OFFS THAT EXCEED 2 INCHES (50mm) ON ROADWAYS WITH POSTED SPEED LIMITS OF 45 MPH OR GREATER.
- D) BACKFILL WITH SUITABLE COMPACTED MATERIAL, AS APPROVED BY THE ENGINEER, AT NO EXPENSE TO THE DEPARTMENT.
- E) DO NOT EXCEED A DIFFERENCE OF 1.5 inches (40mm) IN ELEVATION BETWEEN OPEN LANES OF TRAFFIC. INSTALL ADVANCE WARNING "UNEVEN LANES" SIGNS (W8-11) 500 FT (150m) IN ADVANCE AND A MINIMUM OF ONCE EVERY MILE THROUGHOUT THE UNEVEN AREA.

TRAFFIC PATTERN ALTERATIONS

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

SIGNING

- G) WHEN NO WORK IS BEING CONDUCTED FOR A PERIOD LONGER THAN ONE WEEK, REMOVE OR COVER ALL ADVANCE WORK ZONE WARNING SIGNS, AS DIRECTED BY THE ENGINEER, AT NO COST TO THE DEPARTMENT.
- H) PROVIDE PERMANENT SIGNING WITHIN PROJECT LIMITS.
- I) PROVIDE DETOUR SIGNING WITHIN AND OFF THE PROJECT LIMITS.
- J) ENSURE ALL NECESSARY SIGNING IS IN PLACE PRIOR TO ALTERING ANY TRAFFIC PATTERN.

TRAFFIC CONTROL DEVICES

- K) PLACE TYPE III BARRICADES, WITH "ROAD CLOSED" SIGN R11-2 ATTACHED, OF SUFFICIENT LENGTH TO CLOSE ENTIRE ROADWAY. STAGGER OR OVERLAP BARRICADES TO ALLOW FOR INGRESS OR EGRESS.

PAVEMENT MARKINGS AND MARKERS

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

ROAD NAME	MARKING	MARKER
-L-MIDDLE ROAD (SR1728)	PAINT	PERMANENT RAISED

- M) PLACE AT LEAST TWO APPLICATIONS OF PAINT PAVEMENT MARKINGS ON THE FINAL WEARING SURFACE ON NEW ASPHALT PAVEMENT. PLACE ADDITIONAL APPLICATIONS OF PAINT UPON SUFFICIENT DRYING TIME, AS DETERMINED BY THE ENGINEER.
- N) TIE PROPOSED PAVEMENT MARKING LINES TO EXISTING PAVEMENT MARKING LINES.
- O) REPLACE ANY PAVEMENT MARKINGS THAT HAVE BEEN DAMAGED BY THE END OF EACH DAY'S OPERATION.

PHASING

STEP 1:

INSTALL OFF-SITE DETOUR SIGNING AS SHOWN ON TCP-3. CLOSE -L- (MIDDLE RD) IN ACCORDANCE WITH ROADWAY STANDARD DRAWING 1101.03 SHEET 1 OF 9 AND SHEET 2 OF 9, AND PLACE TRAFFIC ON DETOUR ROUTE.

STEP 2:

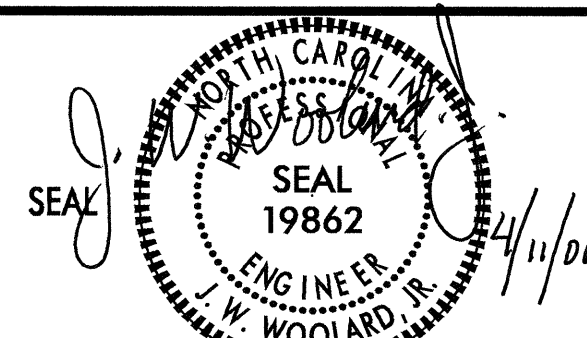
REMOVE EXISTING STRUCTURE AND CONSTRUCT NEW STRUCTURE. CONSTRUCT -L- FROM 10+50 +/- TO 21+00 +/- UP THROUGH THE FINAL SURFACE LAYER AND PLACE PAVEMENT MARKINGS (PAINT), AND PERMANENT RAISED PAVEMENT MARKERS.

USING FLAGGERS AND ROADWAY STANDARD DRAWING 1101.02, SHEET 1 OF 7, CONSTRUCT -Y- (HOLLYWOOD BLVD.) UP THROUGH THE FINAL LAYER OF THE SURFACE COURSE AND PLACE PAVEMENT MARKINGS (PAINT).

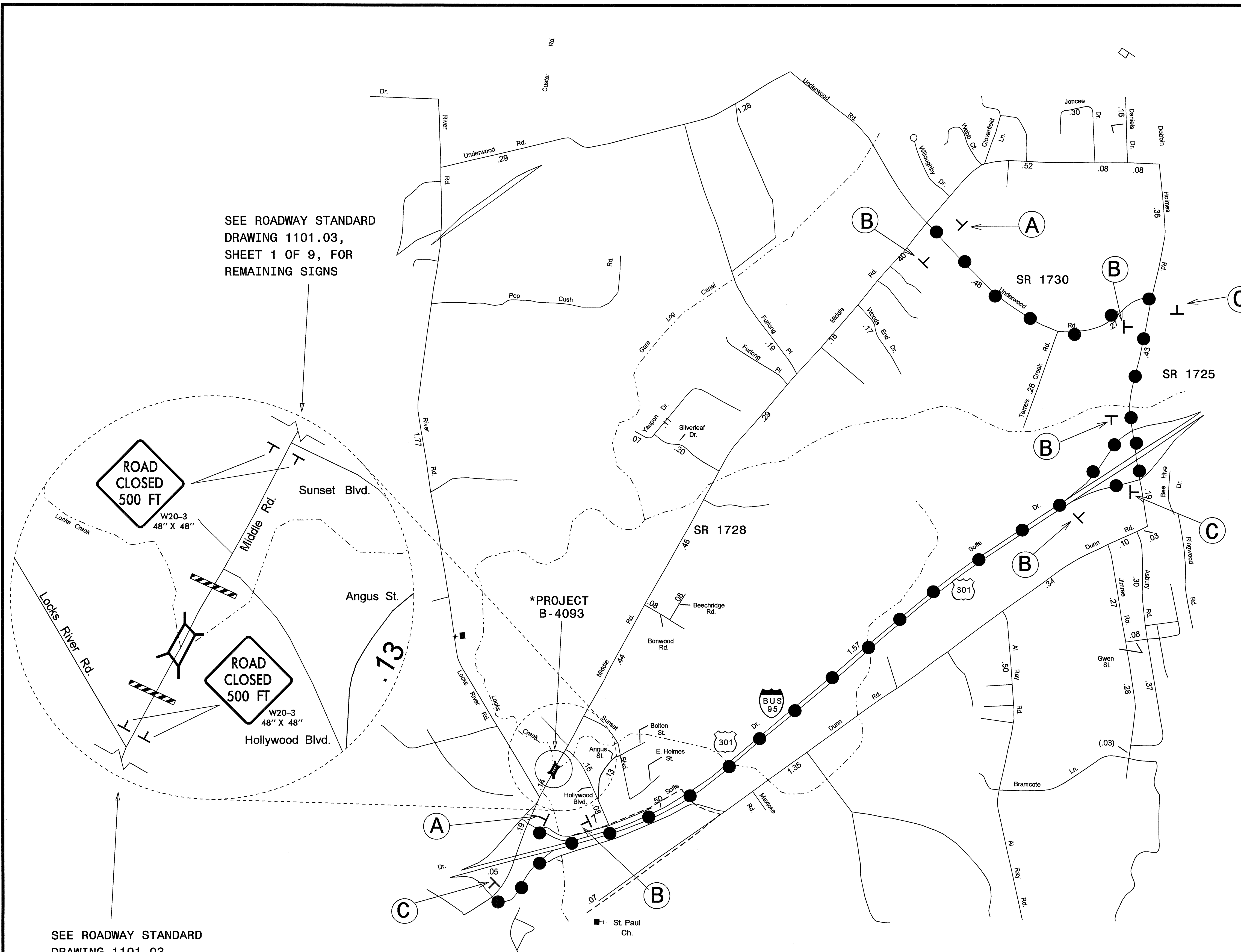
STEP 3:

RE-OPEN -L- TO TRAFFIC AND REMOVE DETOUR SIGNING AND TRAFFIC CONTROL DEVICES.

\\s01-006-0740
\\lets-006-0740\p4093\traffic\trafficcontrol\top\b-4093-tc-top2-gen notes.dgn
csmozingo AT WZTC224057

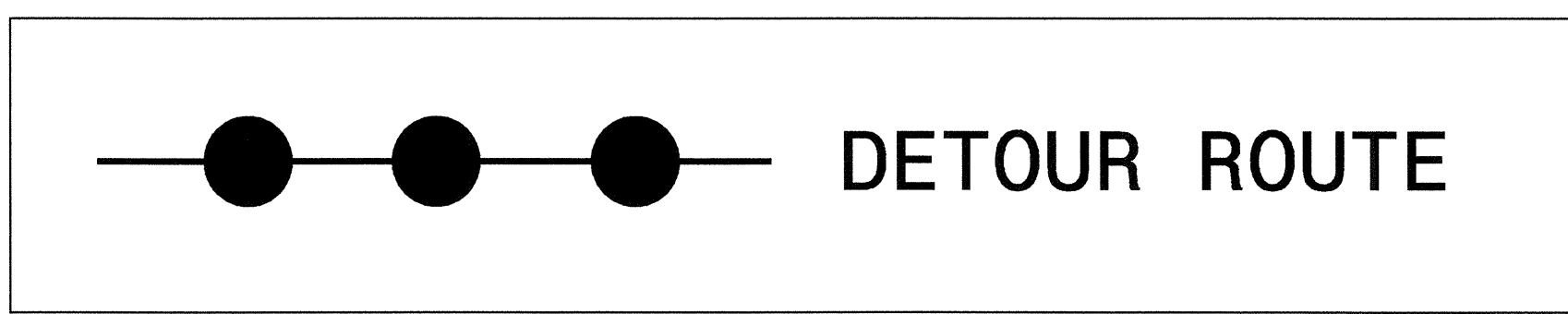
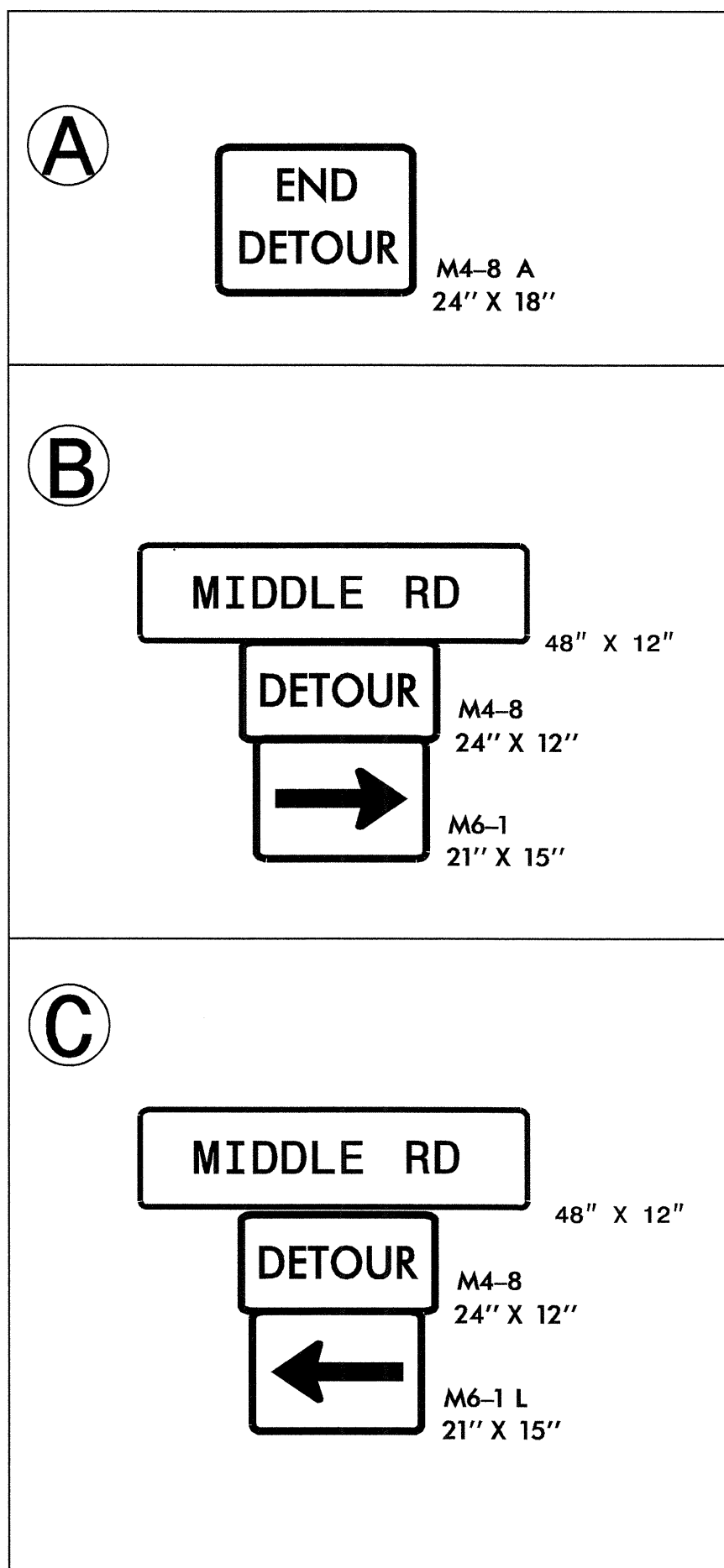
APPROVED:	DATE:	PROJECT NOTES	
	2/11/06		
		DATE:	
		DWG. BY: CLD	
		DESIGN BY: CLD	
		REVIEWED BY: JWW	

***NOTE**
 USE ROADWAY STANDARD DRAWING 1101.03, SHEET 1 OF 9, AND SHEET 2 OF 9, FOR ALL TEMPORARY ROAD CLOSURES.



SEE ROADWAY STANDARD DRAWING 1101.03, SHEET 1 OF 9, FOR REMAINING SIGNS

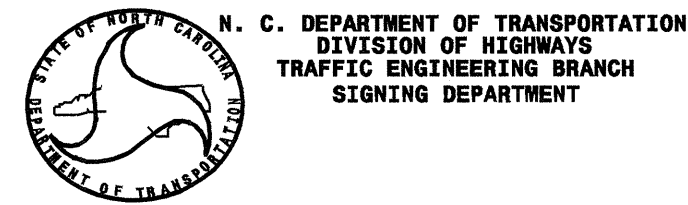
SEE ROADWAY STANDARD DRAWING 1101.03, SHEET 1 OF 9, FOR REMAINING SIGNS



APPROVED: _____ DATE: _____
 SEAL
 NORTH CAROLINA PROFESSIONAL ENGINEER
 SEAL 19862
 W. WOOLARD JR.
 4/11/06

SCALE: NONE			REVISIONS	
DATE:	DWG. BY: CLD			
DESIGN BY: CLD	REVIEWED BY: JWW			
CADD FILE				

I:\APR-2006_07-20
 \vets-cof-0505\tr\traffic\tr\officontron\top\b-4093_top3_detour_route.dgn
 csmozingo AT W210224097



N. C. DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
TRAFFIC ENGINEERING BRANCH
SIGNING DEPARTMENT

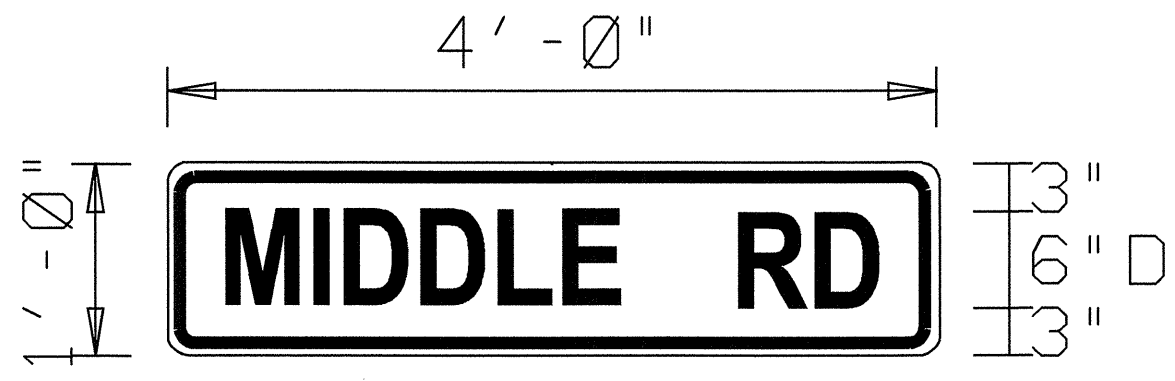
SIGN NUMBER: TC1
TYPE: D
QUANTITY: 1
SIGN WIDTH: 4'-0"
HEIGHT: 1'-0"
TOTAL AREA: 4.0 Sq.Ft.
BORDER TYPE: FLUSH
RECESS: 0.47"
WIDTH: 0.63"
RADII: 1.5"
NO. Z BARS:
LENGTH:

BACKG COLOR: Orange
COPY COLOR: Black

SYMBOL	X	Y	WID	HT

MAT'L: 0.125" (3.2 mm) ALUMINUM

DESIGN BY: KLJ
PROJECT ID: B-4093
CHECKED BY: AIA
DIV: 6
STD #:
DATE: Aug 08, 2005



BORDER 3.4" 41.2" 3.4"
R=1.5"
TH=0.63"
IN=0.47"

- USE NOTES: 2,4
- Legend and border shall be direct applied Type III reflective sheeting.
 - Legend and border shall be direct applied non-reflective sheeting.
 - Shields shall be Type III reflective sheeting on 0.032" (0.8mm) aluminum and demountable.
 - Background shall be Type VII, VIII & IX reflective sheeting.
 - Background shall be Type I reflective sheeting.
 - Center arrow(s) vertically on sign.
 - Bottom panel shall be yellow Type III sheeting. Legend shall be direct applied black non-reflective sheeting. Yellow panel is:

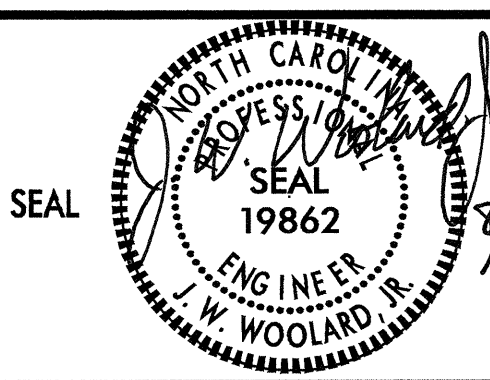
LETTER POSITIONS

Letter spacings are to start of next letter													Series/Size Text Length
	M	I	D	D	L	E		R	D				D6
	3.4	5.7	2	5.1	5.1	4.5	3.7	6	5.1	4	3.4		41.2

Spacing Factor is 1 unless specified otherwise
FILENAME: trey

NORTH CAROLINA D.O.T. SIGN DETAIL

31-AUG-2005 07:14
 p:\s-cct1803\A-TrafficControl\top\b-4093-fo-top4-sign-detail.dgn
 tclerkson AT 11/21/05

APPROVED: _____ DATE: _____	DETOUR SIGN DETAIL		REVISIONS	
			SCALE: NONE	
	DATE: 8/31/05	DWG. BY: CLD		
		DESIGN BY: CLD		
		REVIEWED BY: JWW		

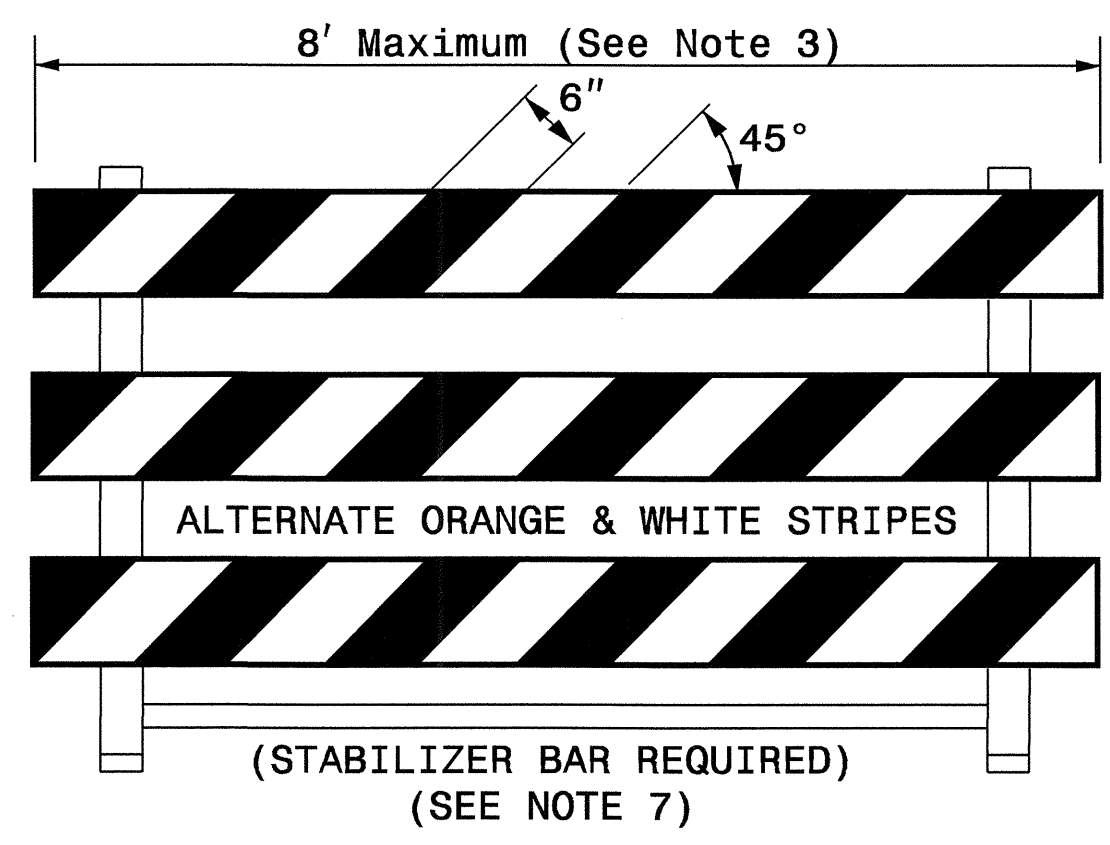
STATE OF NORTH CAROLINA
 DEPT. OF TRANSPORTATION
 DIVISION OF HIGHWAYS
 RALEIGH, N.C.

1-05

ENGLISH STANDARD DRAWING FOR
BARRICADES
 TYPE - III

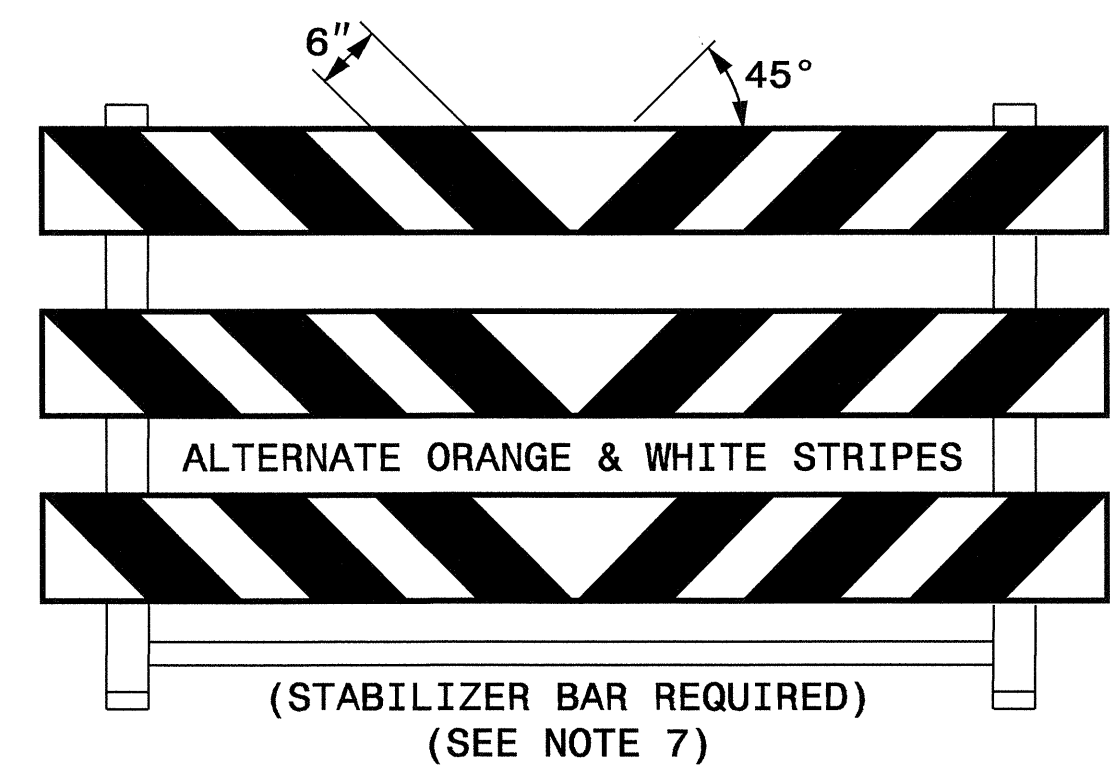
SHEET 1 OF 1
1145D01

TYPE III BARRICADE



TYPE III BARRICADE

END-OF-ROADWAY APPLICATIONS



GENERAL NOTES

- 1) HORIZONTAL RAILS FOR TYPE-III BARRICADES MAY BE HOLLOW/CORRUGATED EXTRUDED RIGID POLYOLEFIN, HIGH DENSITY POLYETHYLENE, OR OTHER NCDOT APPROVED RAILS. BARRICADE RAILS OF FRANGIBLE PLASTICS SUCH AS PVC MAY NOT BE USED. IF APPROVED PLASTIC TYPE RAILS ARE USED, THEY MUST BE FLAME TREATED BY THE MANUFACTURER SO THAT REFLECTIVE SHEETING MAY ADHERE PROPERLY.
- 2) BARRICADES AND BARRICADE RAILS ARE APPROVED AS A SINGLE UNIT.
- 3) BARRICADE SHALL BE LIMITED TO A MAXIMUM LENGTH OF 8 FT UNLESS NCHRP 350 CRASH TESTED AND NCDOT APPROVED.
- 4) ONLY NCDOT APPROVED COMPOSITE AND ROLL-UP SIGNS MAY BE MOUNTED ON THE BARRICADE.
- 5) SIGNS MOUNTED ON BARRICADES SHOULD NOT COVER MORE THAN 50 PERCENT OF THE TOP TWO RAILS OR 33 PERCENT OF THE TOTAL AREA OF THE THREE RAILS.
- 6) USE TYPE VII, VIII OR IX SHEETING ON BOTH SIDES OF THE RAILS.
- 7) BARRICADE MUST BE NCHRP 350 AND NCDOT APPROVED WITH STABILIZER BAR OR ADEQUATE LATERAL BRACING.
- 8) ASSEMBLY OF THE GENERIC BARRICADES MUST BE SELF CERTIFIED BY THE ASSEMBLER.
- 9) BARRICADES USED TO CLOSE A ROADWAY SHALL EXTEND ACROSS THE ENTIRE ROADWAY. WHERE LOCAL TRAFFIC MUST BE MAINTAINED, THEY MAY BE PLACED IN A STAGGERED PATTERN.
- 10) STRIPES ON WORK ZONE BARRICADE RAILS SHALL BE ALTERNATE ORANGE AND WHITE RETROREFLECTIVE STRIPES, SLOPED DOWNWARD TOWARDS THE SIDE WHICH TRAFFIC IS TO PASS OR TURN IN DETOURING. WHERE NO TURNS ARE INTENDED, THE STRIPES SHOULD SLOPE DOWNWARD TOWARD THE CENTER OF THE BARRICADE OR BARRICADES. USE RED AND WHITE STRIPES FOR PERMANENT BARRICADES.
- 11) SEE APPROVED PRODUCTS LIST FOR MANUFACTURERS OF APPROVED BARRICADES.
- 12) PLACE MANUFACTURER'S NAME AND FEDERAL HIGHWAY ADMINISTRATION'S NCHRP 350 APPROVAL LETTER NUMBER ON BARRICADE.
- 13) USE SANDBAGS PLACED ON THE LOWER PART OF THE FRAME FOR BALLASTING. DO NOT PLACE SANDBAGS ON TOP OF A STRIPED RAIL. DO NOT BALLAST BARRICADES BY HEAVY OBJECTS SUCH AS ROCKS, CHUNKS OF CONCRETE OR OTHER ITEMS THAT WOULD CAUSE DAMAGE IF THE BARRICADE IS STRUCK BY A VEHICLE.

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

1-05

ENGLISH STANDARD DRAWING FOR
BARRICADES
 TYPE - III

SHEET 1 OF 1
1145D01

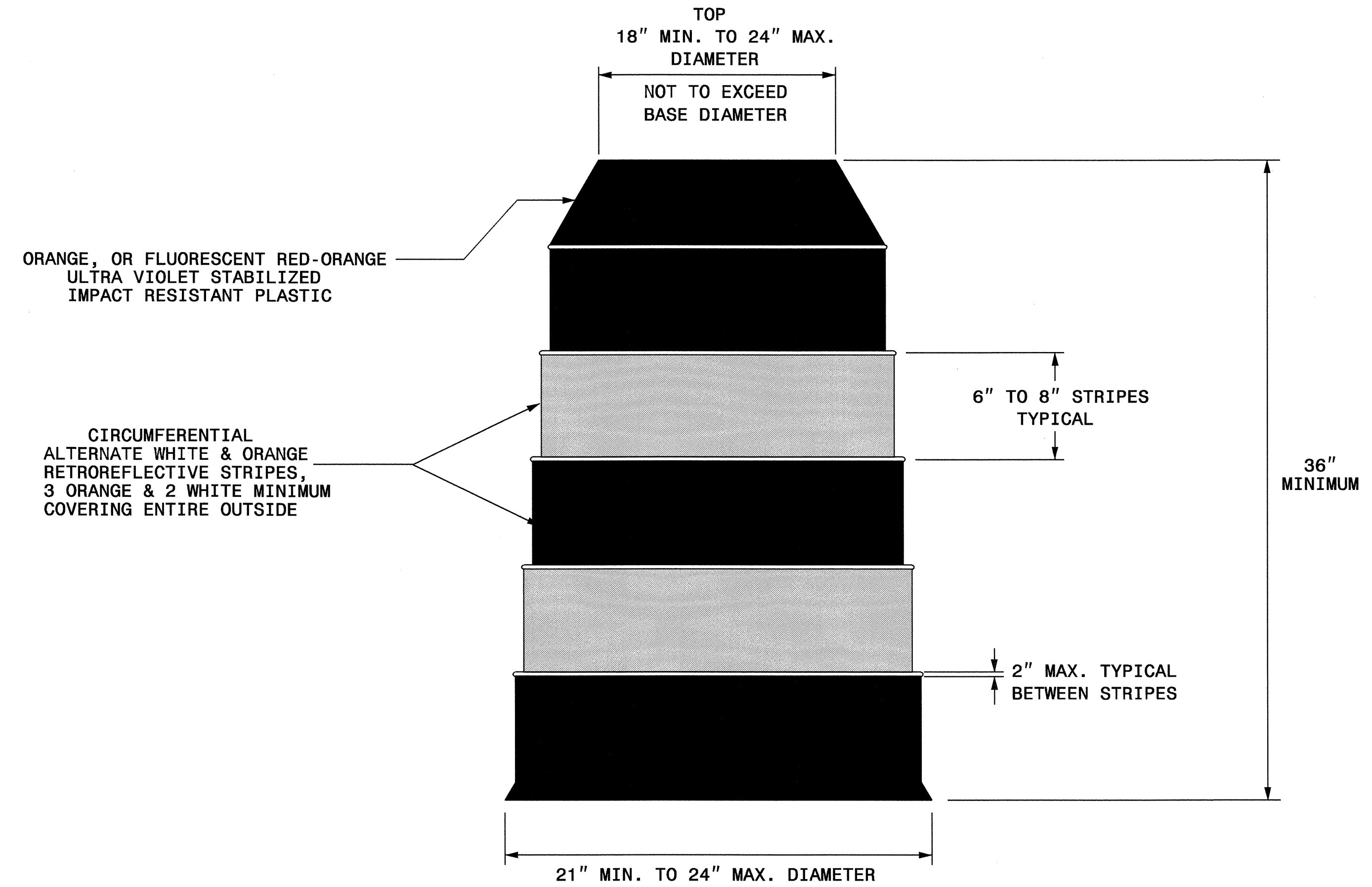
31-AUG-2005 07:44
 \\at\c051b4093\tr\office\tr\dfico\tr\top\b-4093_tc_top5_typeiii_barricade.dgn
 tdker son AT WZTC20793

APPROVED:	DATE:	REPLACEMENT DETAIL FOR RSD 1145.01	
SCALE:	NONE		REVISIONS
DATE:	11/04		
DWG. BY:	MMM		
DESIGN BY:	MMM		
REVIEWED BY:	MMM		CADD FILE

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

ENGLISH STANDARD DRAWING FOR
DRUMS

SHEET 1 OF 1
1130D01



GENERAL NOTES

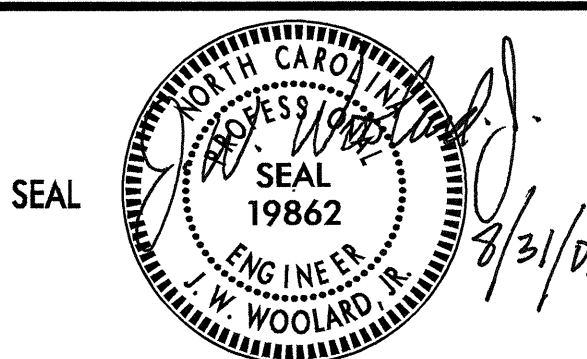
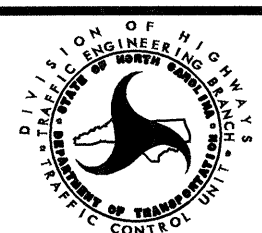
- BALLASTING SHALL BE ACHIEVED BY THE SAND BAG, TIRE-SIDEWALL BALLAST, OR PREFORMED WEIGHTED BASE BALLASTING METHODS. DO NOT PLACE BALLAST ON TOP OF THE DRUM, NOR AS TO PRESENT A HAZARD WHEN STRUCK.
- IF NECESSARY PLACE THE NAME OF THE AGENCY, CONTRACTOR, OR SUPPLIER ON NON-RETROREFLECTIVE DRUM SURFACES. SHOW THE LETTERS AND NUMBERS USING A NON-RETROREFLECTIVE COLOR AND NOT OVER 2" IN HEIGHT.

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

ENGLISH STANDARD DRAWING FOR
DRUMS

SHEET 1 OF 1
1130D01

31-AUG-2005 07:45
\\ets-cofs03\p40933\traffic\trafficcontrol\top\b-4093.tc_top6_drum_detail.dgn
+dickerson AT WZTC07913

APPROVED: _____ DATE: _____	REPLACEMENT DETAIL FOR RSD 1130.01	
		
SCALE: NONE		REVISIONS
DATE: 8/02		
DWG. BY: CLD		
DESIGN BY: CLD		
REVIEWED BY: JWW		CADD FILE