

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

STATE PROJECT REFERENCE NO.	SHEET NO.
R-3415	TCP-1

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

R-3415

TIP PROJECT:

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
1101.02	TEMPORARY LANE CLOSURES
1101.03	TEMPORARY ROAD 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
1150.01	FLAGGERS
1165.01	TRUCK MOUNTED IMPACT ATTENUATOR
1205.01	PAVEMENT MARKINGS - LINE TYPES & OFFSETS
1205.02	PAVEMENT MARKINGS - 2 LANE & MULTILANE ROADWAYS
1205.04	PAVEMENT MARKINGS - INTERSECTIONS
1205.05	PAVEMENT MARKINGS - TURN LANES
1205.08	PAVEMENT MARKINGS - SYMBOLS & WORD MESSAGES
1205.09	PAVEMENT MARKINGS - PAINTED ISLANDS
1250.01	PAVEMENT MARKER SPACING
1251.01	RAISED PAVEMENT MARKERS (TEMPORARY & PERMANENT)
1253.01	SNOWPLOWABLE RAISED PAVEMENT MARKERS
1261.01	GUARDRAIL & BARRIER DELINEATOR SPACING
1261.02	GUARDRAIL & BARRIER DELINEATOR TYPES
1262.01	GUARDRAIL END DELINEATION

INDEX OF SHEETS

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TCP-1	LIST OF APPLICABLE ROADWAY STANDARD DRAWINGS, LEGEND AND INDEX OF SHEETS
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TCP-4	-L- TEMPORARY PAVING SEQUENCE TYPICAL SECTIONS
TCP-5	-Y3- DETOUR ROUTE, SIGNING AND DETOUR SIGN DESIGN
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PM-3	FINAL PAVEMENT MARKING PLAN: -Y2-, -Y3- AND -Y4- INTERSECTIONS
PM-4	FINAL PAVEMENT MARKING PLAN: -Y5-, -Y6-, -Y7- AND -Y8- INTERSECTIONS AND PAINTED ISLAND

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
 - FLASHING ARROW PANEL (TYPE C)
 - TYPE 'B' WARNING LIGHT
 - 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

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JFurrell AT 11/18/04

APPROVED:	PLAN PREPARED BY: N.C.D.O.T. TRAFFIC CONTROL, MARKING & DELINEATION SECTION
DATE: 12/3/04	
SEAL	J. STUART BOURNE, P.E. TRAFFIC CONTROL ENGINEER
	JOSEPH ISHAK, P.E. TRAFFIC CONTROL PROJECT ENGINEER
	BETSY L. WATSON, P.E. TRAFFIC CONTROL PROJECT DESIGN ENGINEER
	JOE FUTRELL TRAFFIC CONTROL DESIGN ENGINEER

GENERAL NOTES

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.

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
1. NC 67	7:00 AM TO 8:00 AM MONDAY THRU FRIDAY

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

- | ROAD NAME | HOLIDAY |
|-----------|---------|
| 1. NC 67 | |
1. FOR ANY EVENT THAT CREATES UNUSUALLY HIGH TRAFFIC VOLUMES, AS DIRECTED BY THE ENGINEER.
 2. FOR NEW YEAR'S, BETWEEN THE HOURS OF 4:00 P.M. DECEMBER 31ST AND 7:00 A.M. JANUARY 2ND. IF NEW YEAR'S DAY IS ON A SATURDAY OR A SUNDAY, THEN UNTIL 7:00 A.M. THE FOLLOWING TUESDAY.
 3. FOR EASTER, BETWEEN THE HOURS OF 4:00 P.M. THURSDAY AND 7:00 A.M. MONDAY.
 4. FOR MEMORIAL DAY, BETWEEN THE HOURS OF 4:00 P.M. FRIDAY AND 7:00 A.M. TUESDAY.
 5. FOR INDEPENDENCE DAY, BETWEEN THE HOURS OF 4:00 P.M. THE DAY BEFORE INDEPENDENCE DAY AND 7:00 A.M. THE DAY AFTER INDEPENDENCE DAY.

IF INDEPENDENCE DAY IS ON A SATURDAY OR SUNDAY, THEN BETWEEN THE HOURS OF 4:00 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 4:00 P.M. FRIDAY AND 7:00 A.M. TUESDAY.
 7. FOR THANKSGIVING, BETWEEN THE HOURS OF 4:00 P.M. TUESDAY AND 7:00 A.M. MONDAY.
 8. FOR CHRISTMAS, BETWEEN THE HOURS OF 4:00 P.M. THE FRIDAY BEFORE THE WEEK OF CHRISTMAS DAY AND 7:00 A.M. THE FOLLOWING MONDAY AFTER THE WEEK OF CHRISTMAS.

LANE AND SHOULDER CLOSURE REQUIREMENTS

- C) 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.
- D) WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING WITHIN 40 FT 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.
- E) 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.
- F) 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.
- G) DO NOT WORK SIMULTANEOUSLY ON BOTH SIDES OF AN OPEN TRAVELWAY, WITHIN THE SAME LOCATION ON A TWO-LANE, TWO-WAY ROAD.
- H) DO NOT PERFORM WORK INVOLVING HEAVY EQUIPMENT WITHIN 15 FT OF THE EDGE OF TRAVELWAY WHEN WORK IS BEING PERFORMED BEHIND A LANE CLOSURE ON THE OPPOSITE SIDE OF THE TRAVELWAY.
- I) DO NOT INSTALL MORE THAN 1.0 MILE OF LANE CLOSURE ON -L- AND ALL -Y- LINES, MEASURED FROM THE BEGINNING OF THE MERGE TAPER TO THE END OF THE LANE CLOSURE.
- J) DO NOT INSTALL MORE THAN TWO LANE CLOSURES IN ANY ONE DIRECTION ON -L-. DO NOT INSTALL MORE THAN ONE LANE CLOSURE IN ANY DIRECTION ON EACH OF THE -Y- LINES.
- K) PROVIDE A MINIMUM OF 1 MILE BETWEEN LANE CLOSURES ON -L-, MEASURED FROM THE END OF ONE LANE CLOSURE TO THE FIRST SIGN OF THE NEXT LANE CLOSURE.

PAVEMENT EDGE DROP OFF REQUIREMENTS

- L) 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:

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.

TRAFFIC PATTERN ALTERATIONS

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

SIGNING

- N) INSTALL ADVANCE WORK ZONE WARNING SIGNS WHEN WORK IS WITHIN 100 FT FROM THE EDGE OF THE TRAVEL LANE AND NO MORE THAN THREE (3) DAYS PRIOR TO THE BEGINNING OF CONSTRUCTION.

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.
- O) STATE FORCES WILL BE RESPONSIBLE FOR PERMANENT SIGNING.
- P) PROVIDE DETOUR SIGNING WITHIN AND OFF THE PROJECT LIMITS.
- Q) COVER OR REMOVE ALL DETOUR SIGNS WITHIN AND OFF THE PROJECT LIMITS WHEN A DETOUR IS NOT IN OPERATION.
- R) ENSURE ALL NECESSARY SIGNING IS IN PLACE PRIOR TO ALTERING ANY TRAFFIC PATTERN.

TRAFFIC CONTROL DEVICES

- S) WHEN USING ROADWAY STANDARD NO. 1101.02, DRUMS MAY BE USED IN LIEU OF CONES ON NC 67.
- T) 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.
- U) 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.
- V) PLACE SETS OF THREE DRUMS PERPENDICULAR TO THE EDGE OF THE TRAVELWAY ON 500 FT CENTERS WHEN UNOPENED LANES ARE CLOSED TO TRAFFIC. THESE DRUMS SHALL BE IN ADDITION TO CHANNELIZING DEVICES.

PAVEMENT MARKINGS AND MARKERS

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


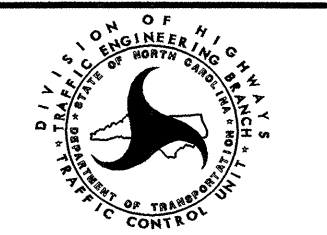
ROAD NAME	MARKING	MARKER
1. ALL ROADS	PAINT	TEMPORARY RAISED
- X) INSTALL PAVEMENT MARKINGS AND PAVEMENT MARKERS ON THE FINAL SURFACE AS FOLLOWS:

ROAD NAME	MARKING	MARKER
1. ALL ROADS	THERMOPLASTIC	SNOWPLOWABLE
- Y) TIE PROPOSED PAVEMENT MARKING LINES TO EXISTING PAVEMENT MARKING LINES.
- Z) REPLACE ANY PAVEMENT MARKINGS THAT HAVE BEEN DAMAGED BY THE END OF EACH DAY'S OPERATION.
- AA) TRACE THE EDGE OF PROPOSED MONOLITHIC ISLANDS WITH THE PROPER COLOR PAVEMENT MARKING PRIOR TO INSTALLATION OF A PROPOSED MONOLITHIC ISLAND.
- BB) PLACE AT LEAST TWO APPLICATIONS OF PAINT ON NEW ASPHALT WITH TEMPORARY TRAFFIC PATTERNS WHICH WILL REMAIN IN PLACE OVER THREE (3) MONTHS. PLACE ADDITIONAL APPLICATIONS OF PAINT UPON SUFFICIENT DRYING TIME, AS DETERMINED BY THE ENGINEER.

MISCELLANEOUS

- CC) IN THE EVENT A DRIVEWAY TIE-IN CANNOT BE MADE IN ONE DAY'S TIME, BRING THE TIE-IN AREA TO AN APPROPRIATE ROADWAY ELEVATION, AS DETERMINED BY THE ENGINEER.
- DD) PLACE CONES TO DELINEATE PROPOSED ISLANDS BEFORE INSTALLATION.

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JFutrell AT TETC18798

APPROVED: <i>Joseph Ishak</i> DATE: <i>11/22/04</i> 	<h2 style="margin: 0;">GENERAL NOTES</h2>	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="2">REVISIONS</th> </tr> </thead> <tbody> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> </tbody> </table>	REVISIONS									
REVISIONS												
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PHASING

STEP 1: USING SHEET TCP-6, INSTALL ADVANCE WORK ZONE SIGNS ON -L- AND ALL -Y- LINES EXCEPT FOR -Y3-.

USING RSD 1101.03, SHEETS 1 AND 2 OF 9, AND SHEET TCP-5, INSTALL AND COVER DETOUR SIGNS FOR THE -Y3- (WATERWHEEL RD) OFF-SITE DETOUR.

STEP 2: USING RSD 1101.02, SHEET 1 OF 7, PERFORM THE FOLLOWING:
AT THE END OF EACH WORK DAY, RETURN TRAFFIC TO THE EXISTING PATTERN ON -L- AND ALL -Y- LINES EXCEPT FOR -Y3-.

1. USING SHEET TCP-5: UNCOVER DETOUR SIGNS, DETOUR -Y3- TRAFFIC ONTO OFF-SITE DETOUR AND CLOSE -Y3-.
2. BEGIN WEDGING, WIDENING, CURB & GUTTER INSTALLATION AND RESURFACING UP TO BUT NOT INCLUDING THE FINAL LAYER OF SURFACE COURSE ON -L- AND ALL -Y- LINES EXCEPT FOR -Y3-. SEE ROADWAY PLANS AND SHEET TCP-4.
- BEGIN INSTALLATION OF GUARDRAIL AS PORTIONS OF THE -L- AND -Y- LINES ARE COMPLETED. SEE ROADWAY PLANS FOR GUARDRAIL LOCATIONS.
- BEGIN DRAINAGE WORK WITHIN THE PROJECT LIMITS.
- BEGIN REPLACEMENT OF PIPES AT -L- STAS. 161+09+/-, 199+75+/-, 208+17+/-, 210+55+/-, 217+41+/- AND 250+50+/-.
- BEGIN PROPOSED CULVERT EXTENTION CONSTRUCTION AT ALL LOCATIONS WITHIN THE PROJECT LIMITS.
- BEGIN REPLACEMENT AND INSTALLATION OF ALL OTHER PIPES ON -L-.
- AWAY FROM TRAFFIC BEGIN CONSTRUCTION OF -Y3- UP TO BUT NOT INCLUDING THE FINAL LAYER OF SURFACE COURSE.

STEP 3: AWAY FROM TRAFFIC COMPLETE THE FOLLOWING:.

1. COMPLETE -Y3- UP TO BUT NOT INCLUDING THE FINAL LAYER OF SURFACE COURSE.
 - COMPLETE TIE-IN OF -Y3- AND -L-
2. INSTALL -Y3- GUARDRAIL. SEE ROADWAY PLAN FOR GUARDRAIL LOCATIONS.
3. PLACE TEMPORARY PAVEMENT MARKINGS (PAINT) AND MARKERS (TEMPORARY RAISED) ON -Y3- (SEE SHEET PM-3).
4. OPEN PROPOSED -Y3- TO TWO-LANE TWO-WAY TRAFFIC AND COVER OR REMOVE DETOUR SIGNING.

STEP 4: USING RSD 1101.02, SHEET 1 OF 7, PERFORM THE FOLLOWING:
AT THE END OF EACH WORK DAY RETURN TRAFFIC TO EXISTING PATTERN ON -L- AND ALL -Y- LINES.

1. COMPLETE WEDGING, WIDENING, CURB & GUTTER AND RESURFACING WORK ON -L- AND ALL -Y- LINES UP TO BUT NOT INCLUDING THE FINAL LAYER OF SURFACE COURSE.
 - COMPLETE INSTALLATION OF GUARDRAIL AS PORTIONS OF -L- AND -Y- LINES ARE COMPLETED. SEE ROADWAY PLANS FOR GUARDRAIL LOCATIONS.
 - COMPLETE DRAINAGE WORK WITHIN THE PROJECT LIMITS.
 - COMPLETE PROPOSED CULVERT EXTENTIONS AT ALL LOCATIONS WITHIN THE PROJECT LIMITS.
 - REMOVE EXISTING ISLAND AND CONSTRUCT PROPOSED TRAFFIC ISLAND ON -Y7- FROM -Y7- STAS. 16+20+/- TO 16+90+/-.
 - COMPLETE REPLACEMENT OF PIPES AT -L- STAS. 161+09+/-, 199+75+/-, 208+17+/-, 210+55+/-, 217+41+/- AND 250+50+/-.
 - COMPLETE REPLACEMENT AND INSTALLATION OF ALL OTHER PIPES ON -L-.
2. PLACE TEMPORARY PAVEMENT MARKINGS (PAINT) AND MARKERS (TEMPORARY RAISED) ON -L- AND ALL -Y- LINES EXCEPT FOR -Y3- AS SHOWN ON SHEETS PM-2 THRU PM-4 AND OPEN ALL ROADS TO FINAL TRAFFIC PATTERN.

STEP 5: USING RSD 1101.02, SHEET 1 OF 7, AND SHEETS PM-2 THRU PM-4, COMPLETE THE FOLLOWING:
AT THE END OF EACH WORK DAY RETURN TRAFFIC TO FINAL PATTERN ON -L- AND ALL -Y- LINES.

1. PLACE FINAL LAYER OF SURFACE COURSE AND FINAL PAVEMENT MARKINGS (THERMOPLASTIC) AND MARKERS (SNOWPLOWABLE) ON -L- AND ALL -Y- LINES.
2. INFORM THE ENGINEER IN CHARGE THAT THE PROJECT IS READY FOR THE INSTALLATION OF PERMANENT SIGNS.
3. REMOVE ALL TRAFFIC CONTROL DEVICES.

TEMPORARY PAVEMENT MARKING SCHEDULE

SYMBOL	DESCRIPTION	PAY ITEM	QUANTITY	TOTAL QUANTITY
		BREAKDOWN		
PAVEMENT MARKINGS				
PAINT (4")				
PA	WHITE EDGELINE (2X)	220000	LF	
PB	YELLOW EDGELINE (2X)	900	LF	
PD	2 FT. WHITE MINISKIP (2X)	745	LF	
PE	WHITE SOLID LANE LINE (2X)	4000	LF	
PF	10 FT. YELLOW SKIP (2X)	13500	LF	
PH	YELLOW SINGLE CENTER (2X)	54000	LF	
PI	YELLOW DOUBLE CENTER (2X)	200000	LF	
		TOTAL		493145 LF
PAINT (8")				
PV	YELLOW DIAGONAL (2X)	2000	LF	
		TOTAL		2000 LF
PAINT (24")				
P4	WHITE STOPBAR (2X)	1000	LF	
		TOTAL		1000 LF
PAINT MARKING SYMBOLS				
QA	LEFT TURN ARROW (2X)	102	EA	
QB	RIGHT TURN ARROW (2X)	2	EA	
		TOTAL		104 EA
MARKERS				
TEMPORARY RAISED PAVEMENT MARKERS				
MI	CRYSTAL & RED	85	EA	
MK	YELLOW	620	EA	
		TOTAL		705 EA
NOTES				
1. AS DIRECTED BY THE ENGINEER, TEMPORARY PAVEMENT MARKING (PAINT) MAY BE USED TO STRIPE THE FINAL PATTERN ON THE -L- LINE AND ALL -Y- LINES. THE TEMPORARY PAVEMENT MARKING SCHEDULE INCLUDES QUANTITIES FOR PLACING TWO APPLICATIONS OF PAINT ON THE FINAL SURFACE OF NEW ASPHALT WITH PERMANENT TRAFFIC PATTERNS WHICH WILL REMAIN IN PLACE UNTIL THE PROPOSED FINAL PAVEMENT MARKING (THERMOPLASTIC) IS APPLIED.				
2. FOR EACH PAINT PAVEMENT MARKING ITEM, 1X IMPLIES A SINGLE APPLICATION, 2X IMPLIES TWO APPLICATIONS AND 3X IMPLIES THREE APPLICATIONS.				

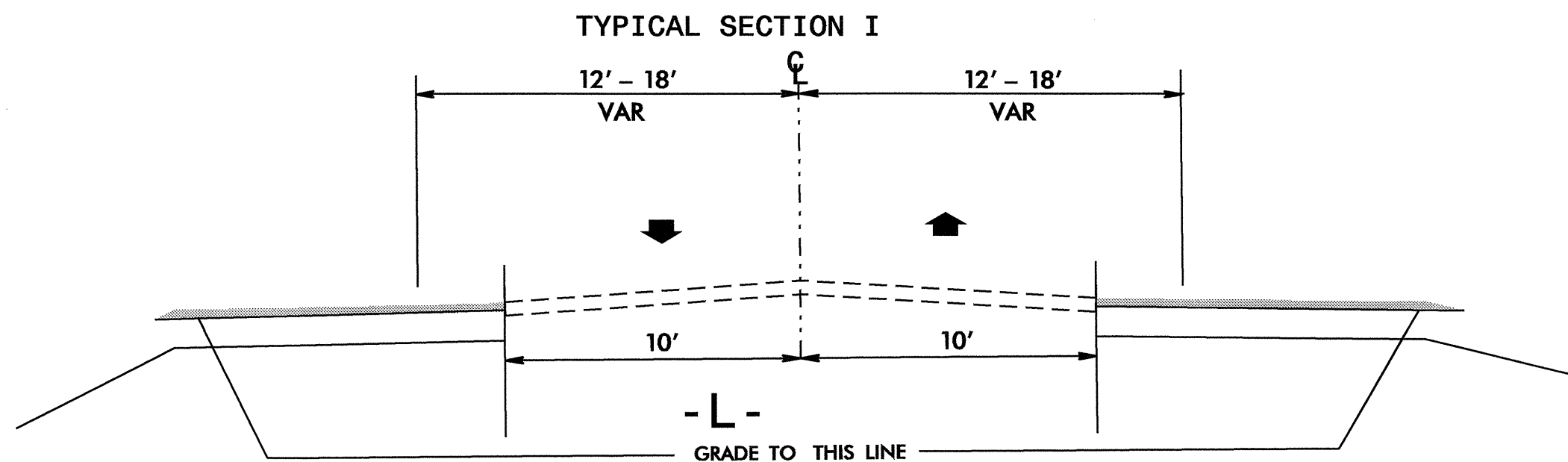
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JFutrell AT TETC08798

APPROVED:	DATE: 11/22/04	PHASING AND TEMPORARY PAVEMENT MARKING SCHEDULE		
	SCALE: NONE			
	DATE: 11/22/04			REVISIONS
	DESIGN BY: JLF			
	REVIEWED BY: BLW			

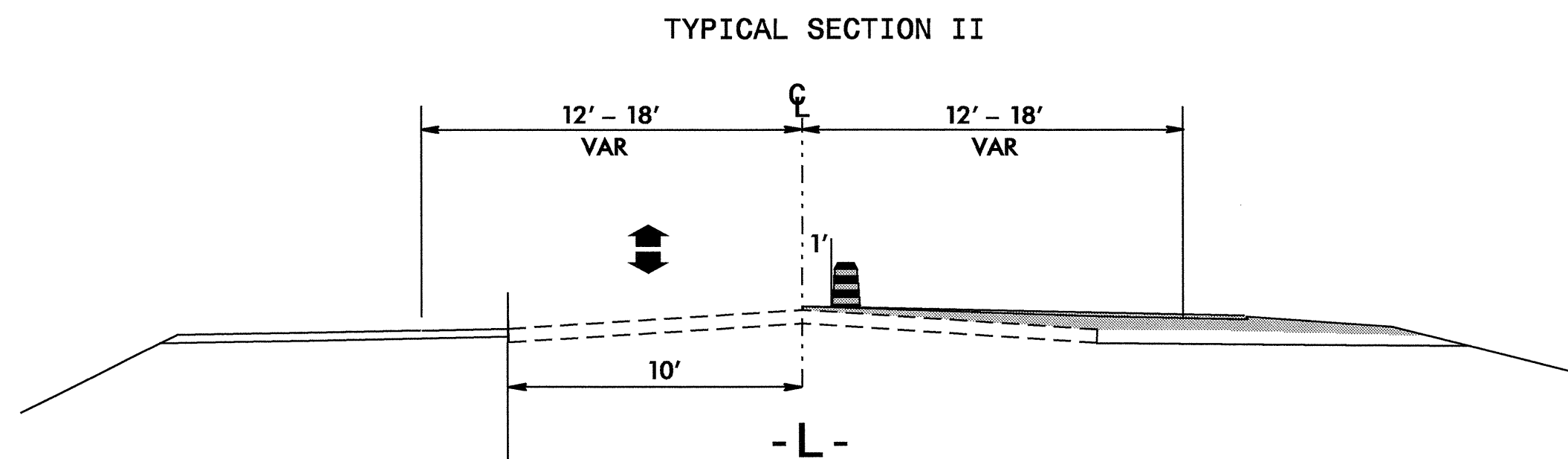
**-L- TEMPORARY PAVING SEQUENCE
TYPICAL SECTIONS**

TYPICALS ALSO APPLY TO ROADWAY WITH CURB & GUTTER AND SIDEWALKS.

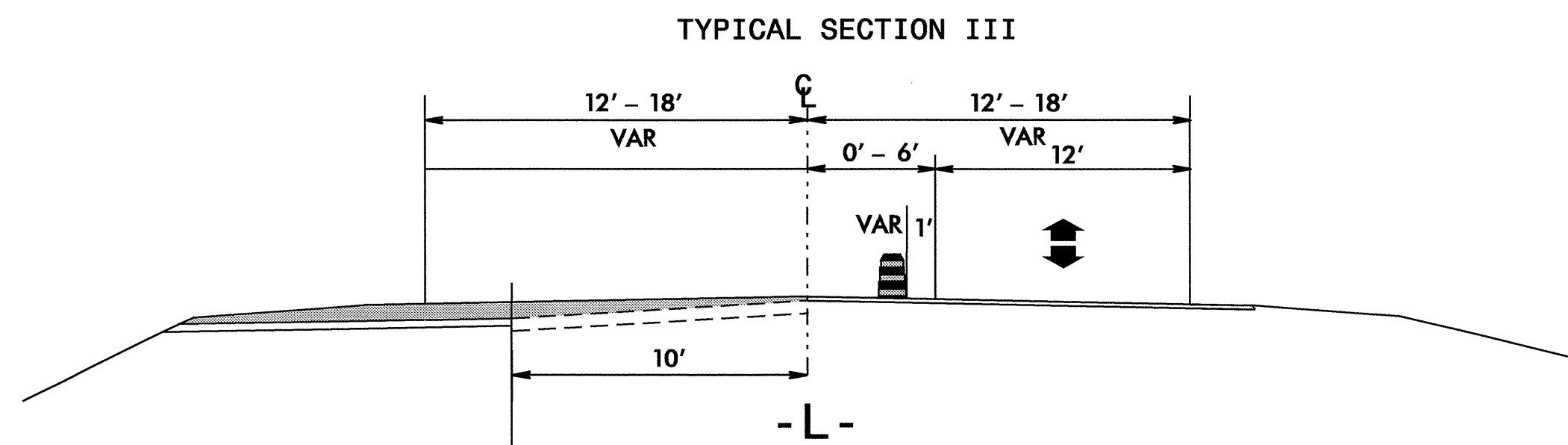
PROPOSED -L- WILL BE CONSTRUCTED ONE SIDE AT A TIME. WORK WILL BEGIN ON THE RIGHT OR LEFT SIDE OF -L- AS DIRECTED BY THE ENGINEER.



USE RSD 1101.02, SHEET 1 OF 7, TO PERFORM WIDENING OF PROPOSED -L- UP TO EXISTING EDGE AND ELEVATION. AT THE END OF EACH WORK DAY RETURN TRAFFIC TO THE EXISTING PATTERN ON EXISTING -L-.



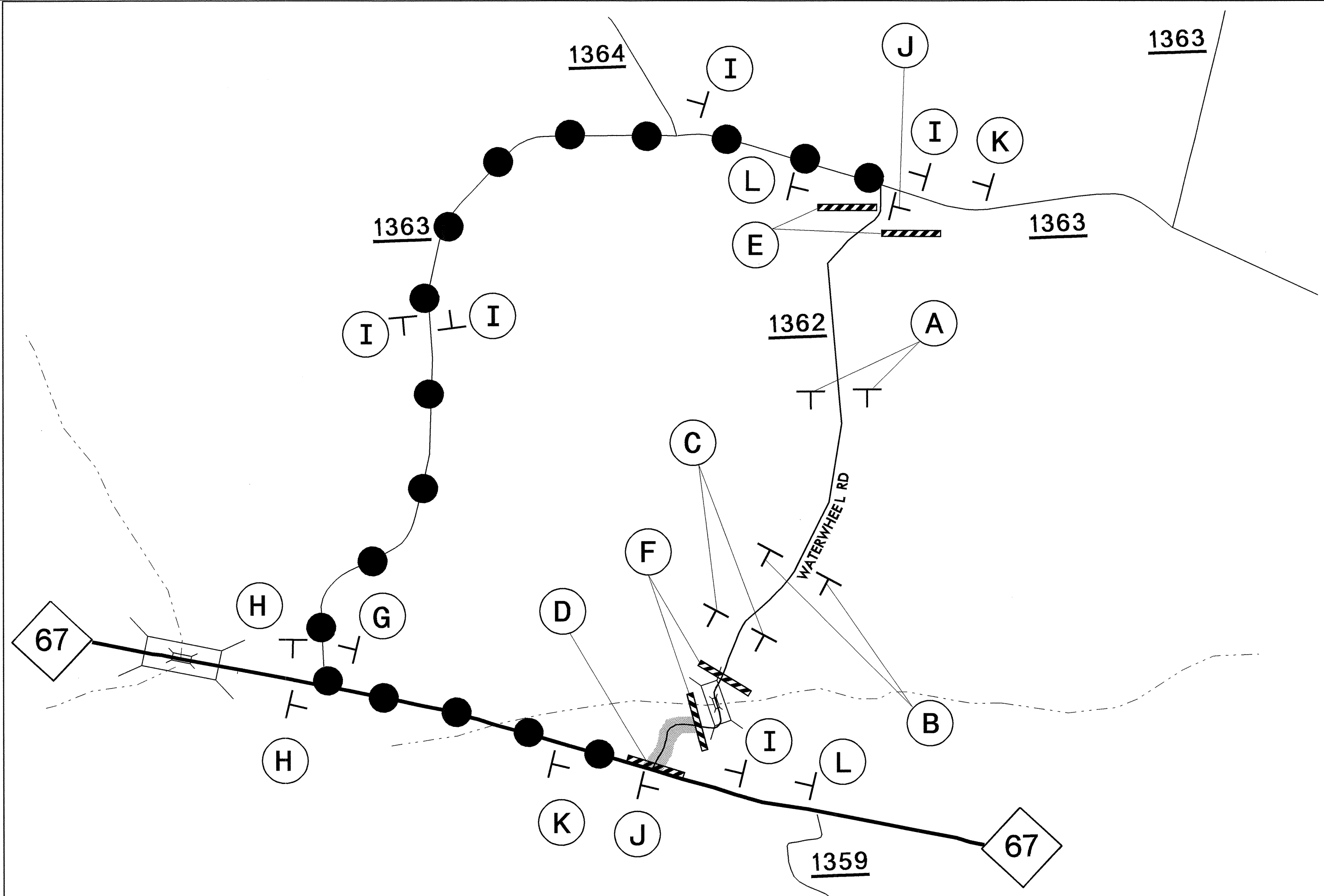
USE RSD 1101.02, SHEET 1 OF 7, TO INSTALL FIRST LAYER OF FINAL SURFACE COURSE ON THE RIGHT SIDE OR THE LEFT SIDE OF PROPOSED -L-. AT THE END OF EACH WORK DAY RETURN TRAFFIC TO THE EXISTING PATTERN ON EXISTING -L-.



USE RSD 1101.02, SHEET 1 OF 7, TO INSTALL FIRST LAYER OF FINAL SURFACE COURSE ON THE RIGHT SIDE OR THE LEFT SIDE OF PROPOSED -L-. AT THE END OF EACH WORK DAY RETURN TRAFFIC TO THE EXISTING PATTERN ON EXISTING -L-.

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Tuttrell AT 11/18/04

APPROVED: <i>Joseph Ishak</i> DATE: 11/22/04	-L- TEMPORARY PAVING SEQUENCE TYPICAL SECTIONS	
	SCALE: NONE	
	DATE: 11/22/04	
	DESIGN BY: JLF	
	REVIEWED BY: BLW	
	REVISIONS	



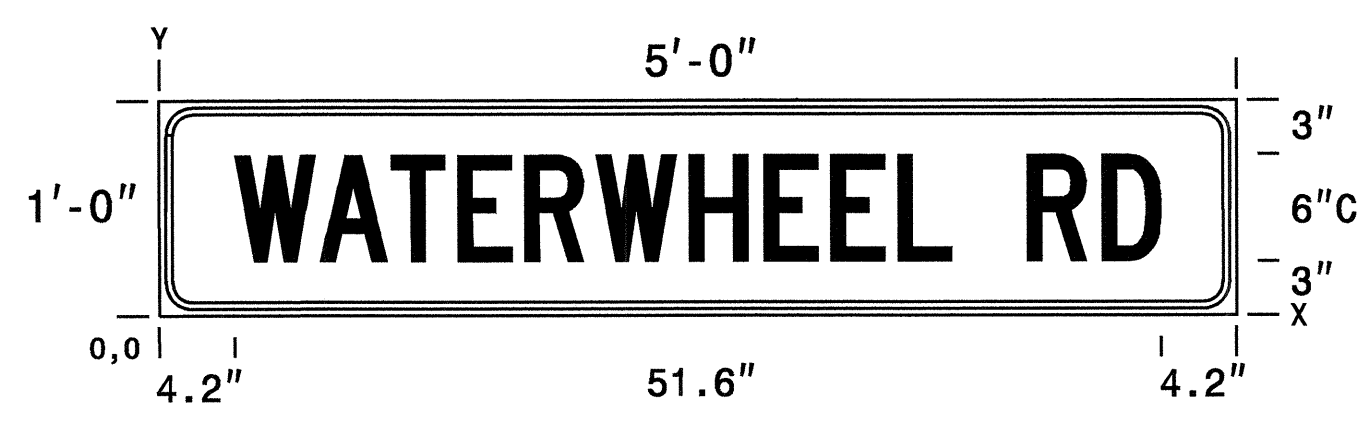
-Y3- (WATERWHEEL RD) DETOUR ROUTE
 USE RSD 1101.03, SHEETS 1 AND 2 OF 9, FOR SIGN PLACEMENT

SIGN DETAIL
 SCALE 1:15

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

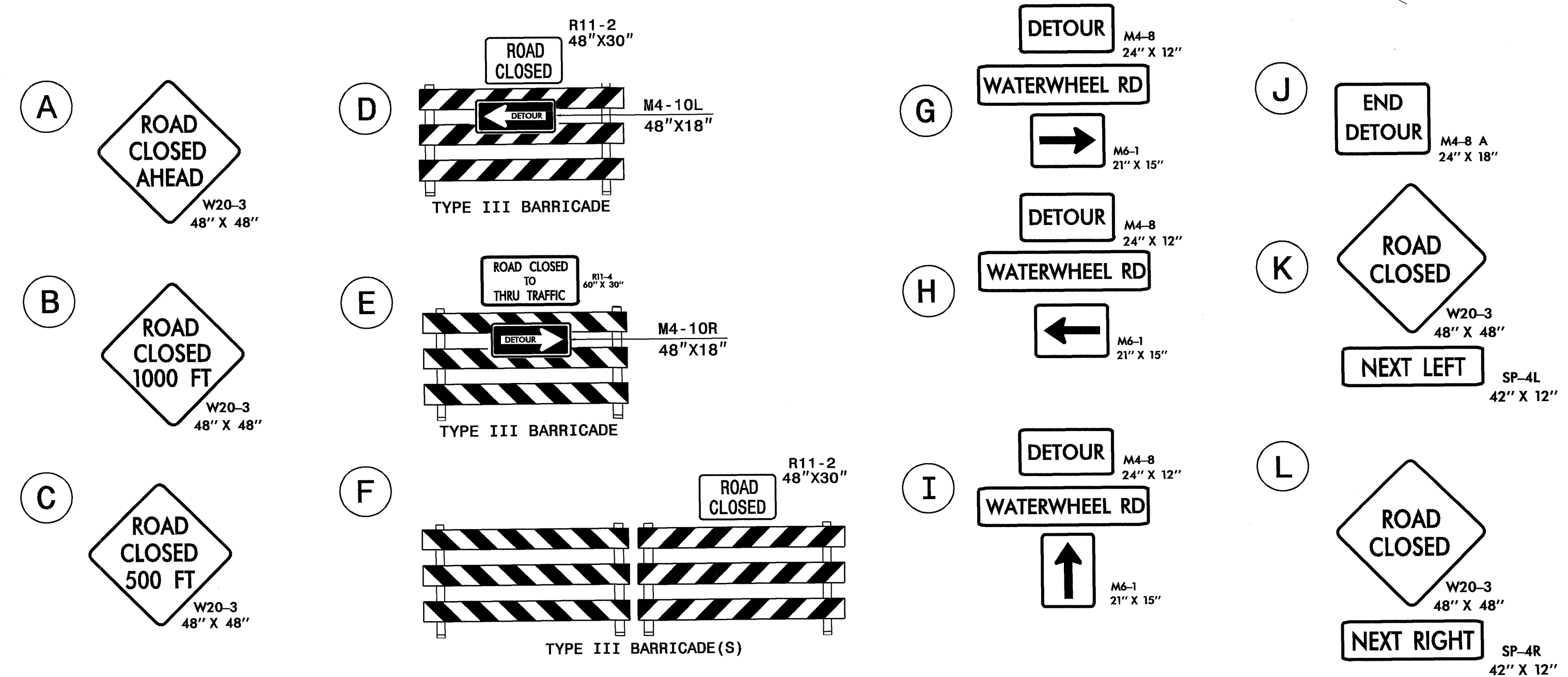
SIGN NUMBER: SP03365 DESIGN BY: A HUSSEY DATE: 09/10/03
 TYPE: D CHECKED BY: STD. #: 0
 QUANTITY: PROJECT ID: DIV: 11
 WIDTHxHEIGHT: 60" x 12" BACKGROUND COLOR: ORANGE
 SIGN AREA: 5.00 SQ. FT. COPY COLOR: BLACK
 BORDER TYPE: RECESSED MAJ COPY SERIES: C
 RECESS: 0.375" MAT'L: TO BE DETERMINED
 BORDER WIDTH: 0.375" TO BE MOUNTED WITH
 RADII: 1.5" DETOUR SIGNING

NOTES:
 -Legend and border shall be direct applied non-reflective sheeting.
 -Legend and border shall be direct applied Type I reflective sheeting.



DIMENSIONS IN INCHES SPACINGS ARE TO START OF NEXT LETTER

Y FONT	LETTER SPACINGS													HT LEN								
3.0	4.2	4.7	4.0	3.7	3.7	4.0	5.2	4.2	3.7	3.7	3.0	4.2	4.2	3.3	4.2							6.0
C	4.2	4.7	4.0	3.7	3.7	4.0	5.2	4.2	3.7	3.7	3.0	4.2	4.2	3.3	4.2							51.6



APPROVED: *Joseph Ishak* DATE: 11/22/04

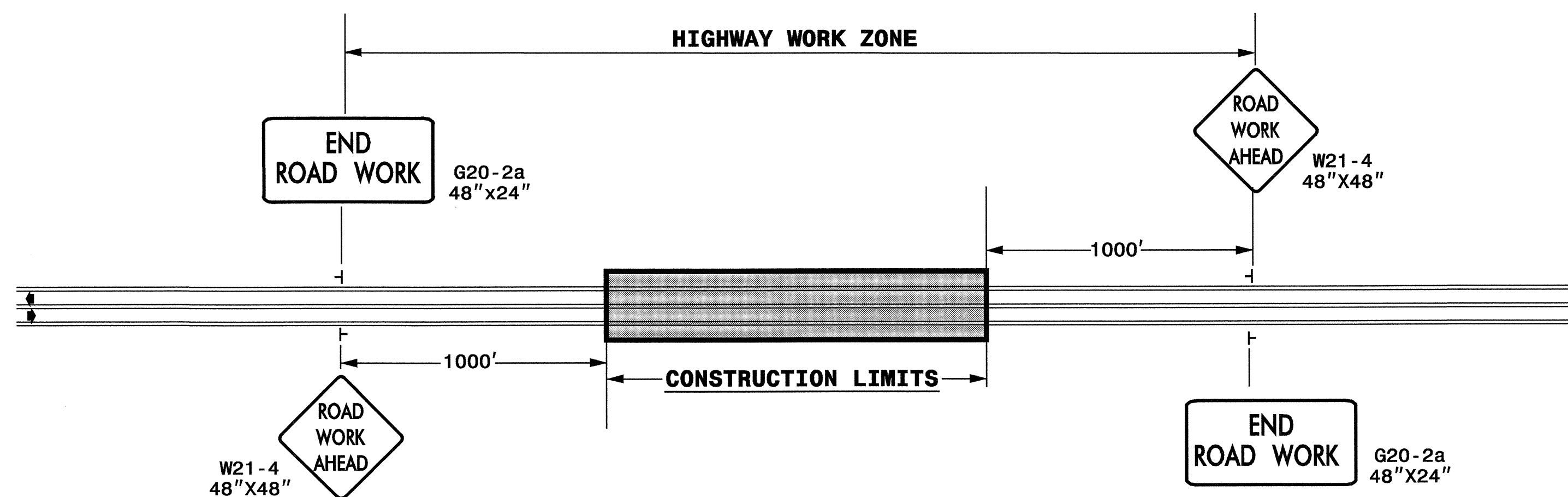
-Y3- DETOUR ROUTE, SIGNING AND DETOUR SIGN DESIGN

SCALE: NONE
 DATE: 11/22/04
 DWG. BY: JLF
 DESIGN BY: JLF
 REVIEWED BY: BLW

SEAL:

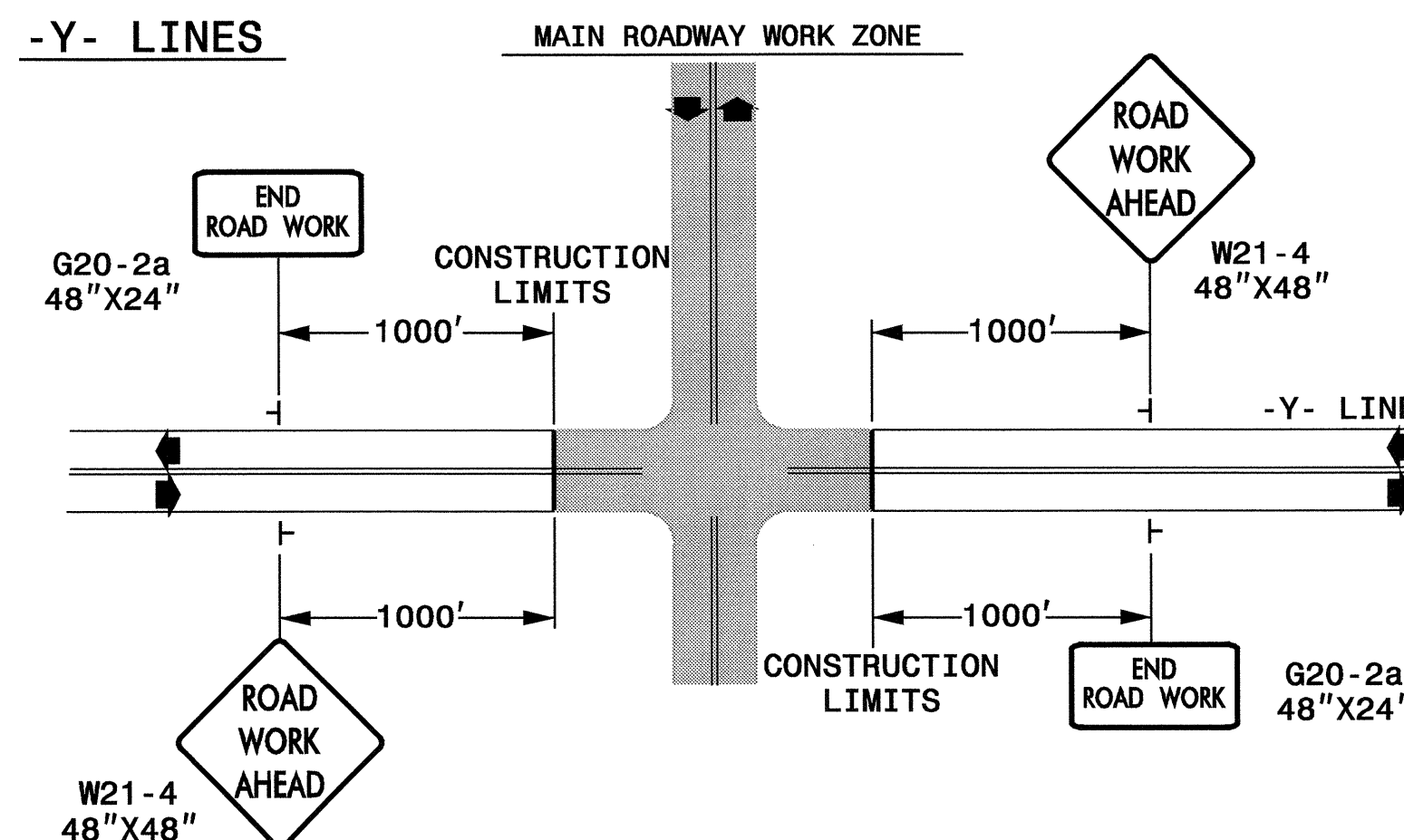
REVISIONS

TWO-WAY UNDIVIDED & URBAN FREEWAYS (L-LINES)



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

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



DETAIL DRAWING FOR
 TWO-WAY UNDIVIDED
 WORK ZONE WARNING SIGNS

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.

LEGEND

- ┆ STATIONARY SIGN
- ◀ DIRECTION OF TRAFFIC FLOW

SHEET 1 OF 1

APPROVED: <i>[Signature]</i>	DATE: 12/5/04	DETAIL DRAWING FOR TWO-WAY UNDIVIDED AND URBAN FREEWAYS ADVANCED WORK ZONE WARNING SIGNS	
SCALE: NONE		REVISIONS	
DATE:		7-98	10/01
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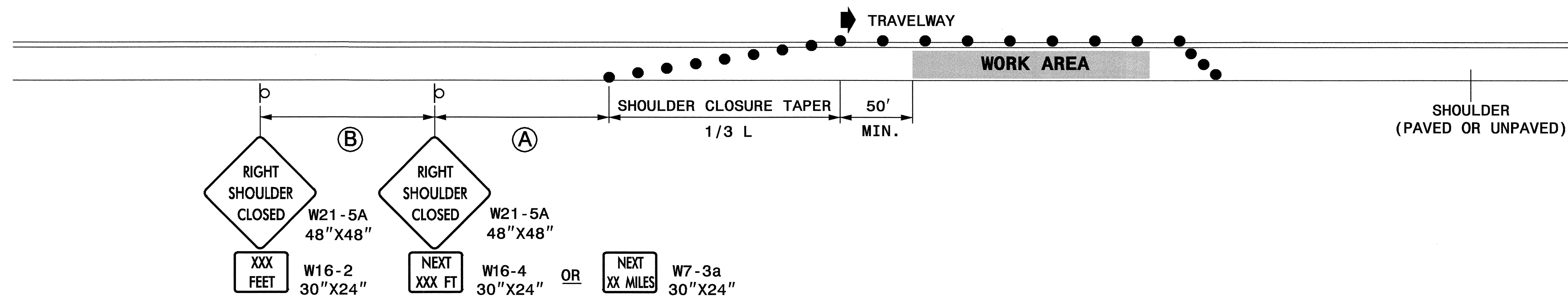
STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

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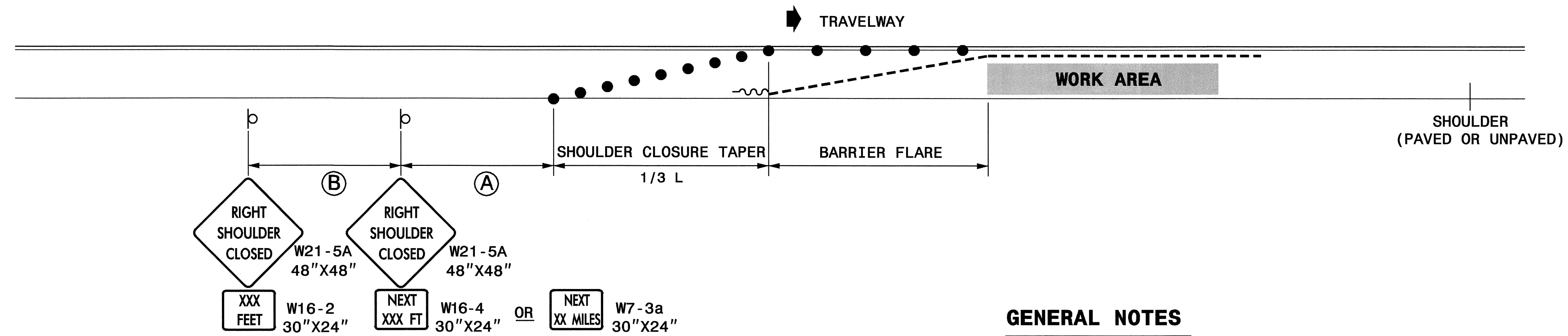
ENGLISH STANDARD DRAWING FOR
TEMPORARY SHOULDER CLOSURES

SHEET 1 OF 1
1101D04

SHOULDER CLOSURES UTILIZING DRUMS



SHOULDER CLOSURES UTILIZING TEMPORARY BARRIER



GENERAL NOTES

- PLACE SHOULDER CLOSURE SIGNS ON THE SAME SIDE AS THE SHOULDER THAT IS CLOSED.
- PLACE DRUMS IN THE SHOULDER TAPER AT THE MAXIMUM SPACING EQUAL IN FEET TO THE POSTED SPEED LIMIT. THE MAXIMUM SPACING OF DRUMS ALONG THE WORK AREA AND BARRIER FLARE IS EQUAL IN FEET TO 2 TIMES THE POSTED SPEED LIMIT.
- FLARE THE APPROACH END OF PORTABLE CONCRETE BARRIER BEYOND THE SHOULDER AND USE A CRASH CUSHION FOR PROTECTION IF THE EXPOSED END OF THE BARRIER IS WITHIN THE "CLEAR ZONE".
- USE STATIONARY SIGNS FOR LONG TERM OPERATIONS (LONGER THAN 3 DAYS).
- REFER TO STD. 1101.11 SHEETS 1, 3, & 4, FOR "L" DISTANCE, BARRIER FLARE RATES, AND SIGN SPACING.

LEGEND

- ~ TEMPORARY CRASH CUSHION
- - - PORTABLE CONCRETE BARRIER
- DRUM
- STATIONARY OR PORTABLE SIGN
- ➔ DIRECTION OF TRAFFIC FLOW

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

1-05

ENGLISH STANDARD DRAWING FOR
TEMPORARY SHOULDER CLOSURES

SHEET 1 OF 1
1101D04

APPROVED: <i>Joseph A. Isiah</i> DATE: 11/16/04 	REPLACEMENT DETAIL FOR	
	RSD 1101.04	
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DIVISION OF HIGHWAYS
RALEIGH, N.C.

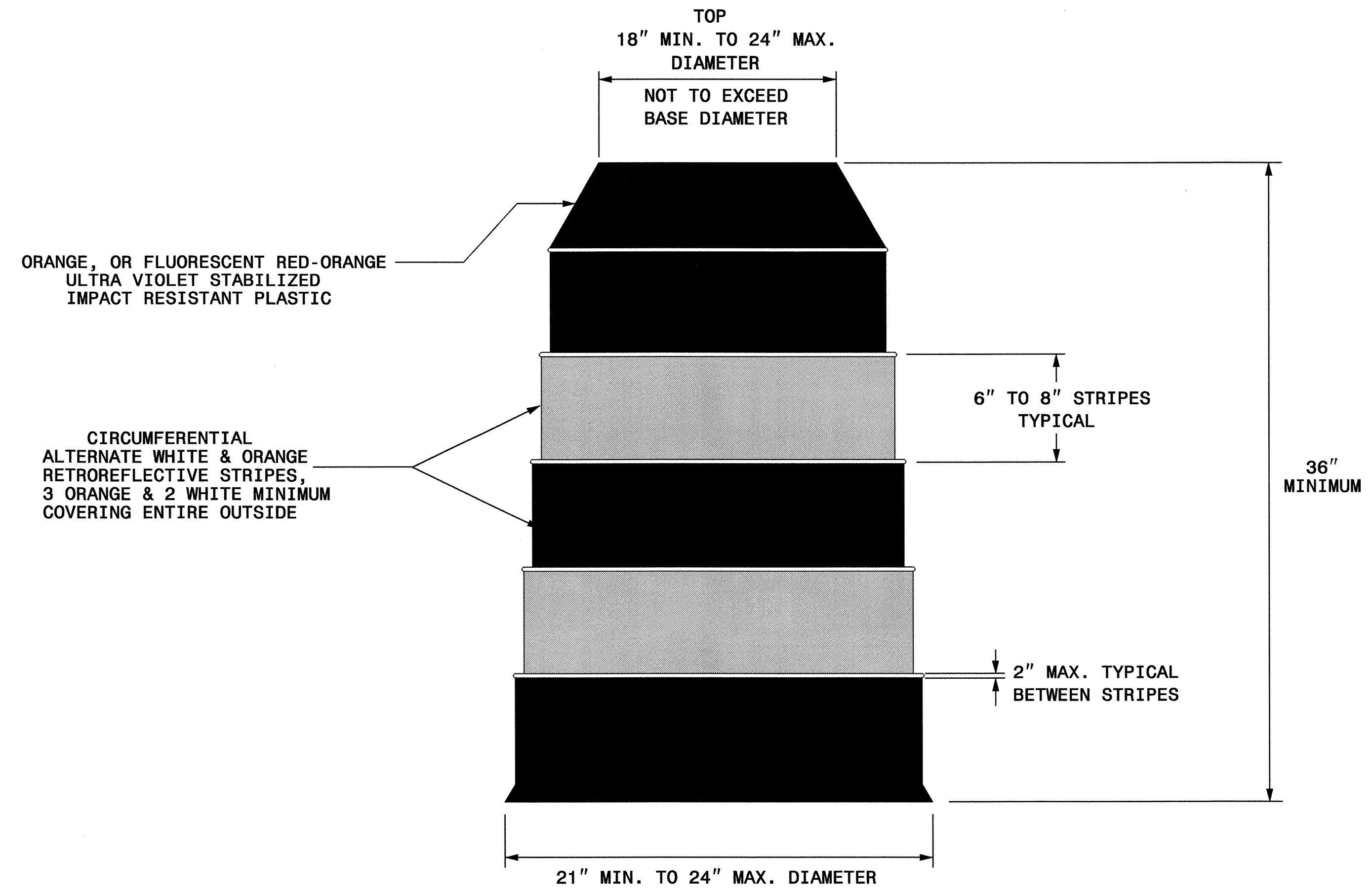
ENGLISH STANDARD DRAWING FOR
DRUMS

SHEET 1 OF 1
1130D01

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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.

APPROVED: <i>Joseph Ishak</i> DATE: 8/02/02	REPLACEMENT DETAIL FOR RSD 1130.01													
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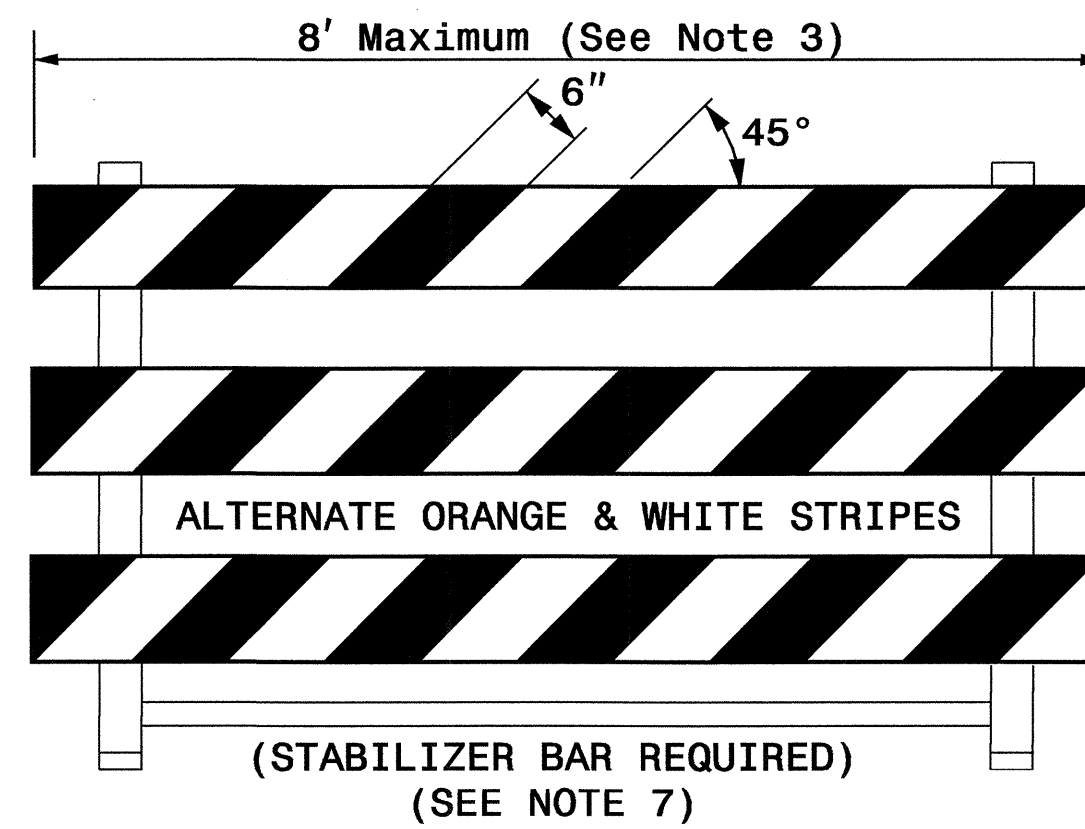
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 DEPT. OF TRANSPORTATION
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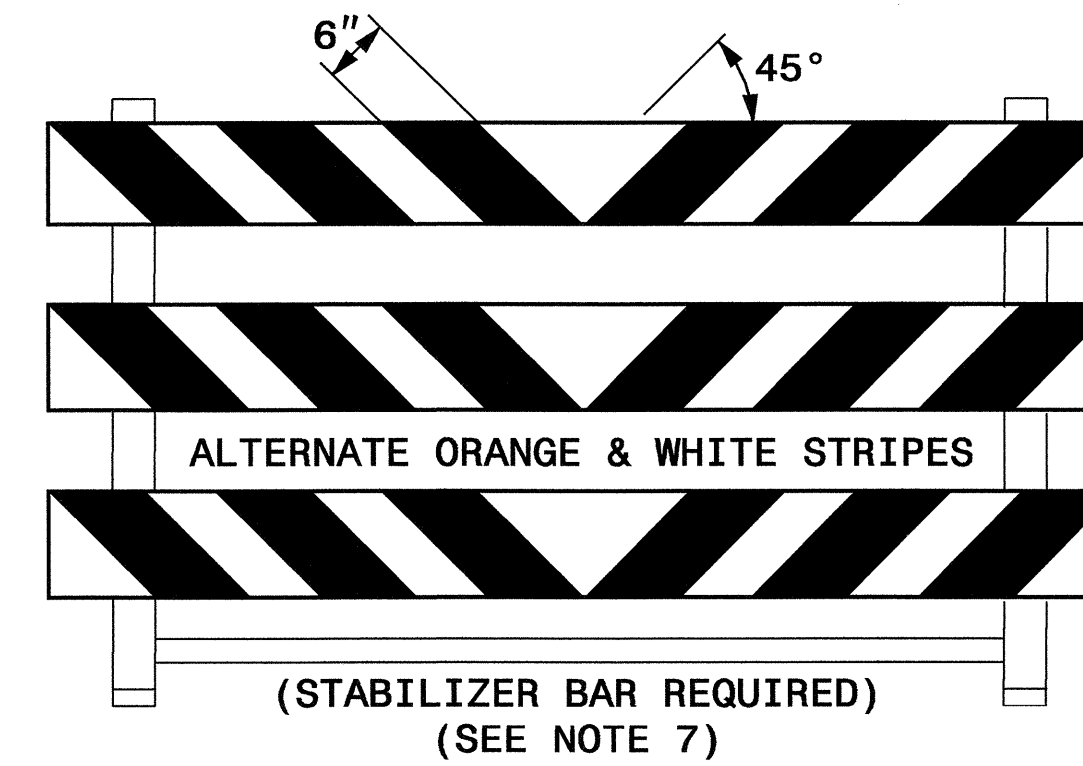
ENGLISH STANDARD DRAWING FOR
BARRICADES
 TYPE-III

SHEET 1 OF 1
1145D01

TYPE III BARRICADE



TYPE III BARRICADE
END-OF-ROADWAY APPLICATIONS



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1-05

ENGLISH STANDARD DRAWING FOR
BARRICADES
 TYPE-III

SHEET 1 OF 1
1145D01

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.

APPROVED: <i>Joseph Isham</i> DATE: 12/3/04	REPLACEMENT DETAIL FOR RSD 1145.01									
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