STATE PROJECT REFERENCE NO.	SHEET NO.
U-2810A	TCP-1

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PLAN FOR PROPOSED
TRAFFIC CONTROL, MARKING & DELINEATION

CUMBERLAND COUNTY

U-2810A

TIP PROJECT:

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
1101.05	WORK ZONE VEHICLE ACCESSES
1101.11	TRAFFIC CONTROL DESIGN TABLES
1110.01	STATIONARY WORK ZONE SIGNS
1110.02	PORTABLE WORK ZONE SIGNS
1115.01	FLASHING ARROW PANELS
1130.01	DRUM
1135.01	CONES
1145.01	BARRICADES
1150.01	FLAGGING DEVICES
1160.01	TEMPORARY CRASH CUSHION
1165.01	TRUCK MOUNTED IMPACT ATTENUATOR
1170.01	PORTABLE CONCRETE BARRIER
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
1205.12	PAVEMENT MARKINGS - BRIDGES
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
1264.01	OBJECT MARKERS
1264.02	PLACEMENT OF OBJECT MARKERS

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- NORTH ARROW
- PROPOSED PVMT. -------- EXIST. PVMT.
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- YELLOW/YELLOW PAVEMENT MARKER
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APPROVED: Jessica Kuse
DATE: 11/3/08

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 027811 ENGINEER JESSICA D. KUSE

PLAN PREPARED BY: N.C.D.O.T. WORK ZONE TRAFFIC CONTROL UNIT

J. S. BOURNE, P.E. — TRAFFIC CONTROL ENGINEER
J. S. KITE, P.E. — TRAFFIC CONTROL PROJECT ENGINEER
J. D. KUSE, P.E. — TRAFFIC CONTROL PROJECT DESIGN ENGINEER
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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.

TIME RESTRICTIONS

A) DO NOT CLOSE OR NARROW TRAVEL LANES AS FOLLOWS:

ROAD NAME	DAY AND TIME RESTRICTIONS
SR 1003 (CAMDEN RD)	MON THRU FRI 6:30 A.M. TO 8:30 A.M. MON THRU FRI 4:00 P.M. TO 6:30 P.M.

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 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.

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.

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.

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 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

H) 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.

I) 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) 350 FT IN ADVANCE AND A MINIMUM OF EVERY HALF MILE THROUGHOUT THE UNEVEN AREA.

TRAFFIC PATTERN ALTERATIONS

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

SIGNING

K) 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.

L) PROVIDE PERMANENT SIGNING.

M) PROVIDE DETOUR SIGNING WITHIN AND OFF THE PROJECT LIMITS.

N) COVER OR REMOVE ALL DETOUR SIGNS WITHIN AND OFF THE PROJECT LIMITS WHEN A DETOUR IS NOT IN OPERATION.

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

P) INSTALL BLACK ON ORANGE "DIP" SIGNS (W8-2) AND/OR "BUMP" SIGNS (W8-1) 350 FT IN ADVANCE OF THE UNEVEN AREA, OR AS DIRECTED BY THE ENGINEER.

TRAFFIC BARRIER

Q) INSTALL TEMPORARY BARRIER ACCORDING TO THE TRAFFIC CONTROL PLANS A MAXIMUM OF TWO (2) WEEKS PRIOR TO BEGINNING WORK IN ANY LOCATION. ONCE TEMPORARY BARRIER IS INSTALLED AT ANY LOCATION, PROCEED IN A CONTINUOUS MANNER TO COMPLETE THE PROPOSED WORK IN THAT LOCATION UNLESS OTHERWISE STATED IN THE TRAFFIC CONTROL PLANS OR AS DIRECTED BY THE ENGINEER.

DO NOT PLACE BARRIER DIRECTLY ON ANY SURFACE OTHER THAN ASPHALT OR CONCRETE.

ONCE TEMPORARY BARRIER IS INSTALLED AT ANY LOCATION AND NO WORK IS PERFORMED BEHIND THE TEMPORARY BARRIER FOR A PERIOD LONGER THAN TWO (2) MONTHS, REMOVE/RESET TEMPORARY BARRIER AT NO COST TO THE DEPARTMENT UNLESS OTHERWISE STATED IN THE TRAFFIC CONTROL PLANS, TEMPORARY BARRIER IS PROTECTING A HAZARD, OR AS DIRECTED BY THE ENGINEER.

INSTALL TEMPORARY BARRIER WITH THE TRAFFIC FLOW, BEGINNING WITH THE UPSTREAM SIDE OF TRAFFIC. REMOVE TEMPORARY BARRIER AGAINST THE TRAFFIC FLOW, BEGINNING WITH THE DOWNSTREAM SIDE OF TRAFFIC.

INSTALL AND SPACE DRUMS NO GREATER THAN TWICE THE POSTED SPEED LIMIT (MPH) TO CLOSE OR KEEP THE SECTION OF THE ROADWAY CLOSED UNTIL THE TEMPORARY BARRIER CAN BE PLACED OR AFTER THE TEMPORARY BARRIER IS REMOVED.

R) PROTECT THE APPROACH END OF MOVABLE/PORTABLE CONCRETE BARRIER AT ALL TIMES DURING THE INSTALLATION AND REMOVAL OF THE BARRIER BY EITHER A TRUCK MOUNTED IMPACT ATTENUATOR (MAXIMUM 72 HOURS) OR A TEMPORARY CRASH CUSHION.

PROTECT THE APPROACH END OF MOVABLE/PORTABLE CONCRETE BARRIER FROM ONCOMING TRAFFIC AT ALL TIMES BY A TEMPORARY CRASH CUSHION UNLESS THE APPROACH END OF MOVABLE/PORTABLE CONCRETE BARRIER IS OFFSET FROM ONCOMING TRAFFIC AS FOLLOWS OR AS SHOWN IN THE PLANS.

TRAFFIC CONTROL DEVICES

S) 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.

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

U) PLACE ADDITIONAL SETS OF THREE CHANNELIZING DEVICES DRUMS PERPENDICULAR TO THE EDGE OF TRAVELWAY ON 500 FT CENTERS WHEN UNOPENED LANES ARE CLOSED TO TRAFFIC.

PAVEMENT MARKINGS AND MARKERS

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

ROAD NAME	MARKING	MARKER
SR 1003 (CAMDEN RD)	THERMOPLASTIC	PERMANENT RAISED
Y1 (OLD BLUFF MILL RD)	THERMOPLASTIC	PERMANENT RAISED
Y2 (MORROZOFF DR)	THERMOPLASTIC	PERMANENT RAISED
SR 1003 (CAMDEN RD)	THERMOPLASTIC	PERMANENT RAISED

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

ROAD NAME	MARKING	MARKER
ALL ROADS	PAINT	TEMPORARY RAISED

X) 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.

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

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

AA) TRACE THE PROPOSED MONOLITHIC ISLAND LOCATIONS WITH PROPER COLOR PAVEMENT MARKINGS PRIOR TO INSTALLATION. PLACE DRUMS TO DELINEATE ANY PROPOSED MONOLITHIC ISLANDS BEFORE INSTALLATION

MISCELLANEOUS

BB) POLICE MAY BE USED TO MAINTAIN TRAFFIC THROUGH THE WORK AREA AND/OR INTERSECTIONS, AS DIRECTED BY THE ENGINEER.

CC) 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) 350 FT AND 350 FT RESPECTIVELY IN ADVANCE OF THE UNEVEN AREAS. USE DRUMS TO DELINEATE THE EDGE OF ROADWAY ALONG UNPAVED AREAS.

APPROVED: Jessica Kuse DATE: 10/31/08

SEAL: NORTH CAROLINA PROFESSIONAL SEAL 027811 ENGINEER JESSICA D. KUSE

PROJECT NOTES

SCALE:	NONE
DATE:	06/08
DWG. BY:	RMG
DESIGN BY:	RMG
REVIEWED BY:	JDK

DIVISION OF HIGHWAYS · STATE OF NORTH CAROLINA · DEPARTMENT OF TRANSPORTATION · WORK ZONE TRAFFIC CONTROL UNIT

REVISIONS

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PROJ. REFERENCE NO.	SHEET NO.
U-2810A	TCP-2A

PROJECT NOTES

LOCAL NOTES

1) FIELD ADJUST PLACEMENT OF STATIONARY AND PORTABLE SIGNS AS NEEDED TO MAXIMIZE SITE DISTANCE AS DIRECTED BY THE ENGINEER.

2) DO NOT STOP TRAFFIC FOR MORE THAN 15 MINUTES WHILE SHIFTING TRAFFIC ON ANY ROAD.

3) PLACE TYPE III BARRICADES WITH R9-9 'SIDEWALK CLOSED' SIGNS AT EACH END OF PROPOSED SIDEWALKS AS THEY ARE BEING CONSTRUCTED. (SEE SHEETS TCP-04 AND TCP-10)

   SIDEWALKS ARE TO REMAIN CLOSED UNTIL COMPLETED AND READY FOR PEDESTRIAN TRAFFIC OR AS DIRECTED BY THE ENGINEER.

TEMPORARY PAVEMENT MARKING SCHEDULE

SYMBOL	DESCRIPTION		PAY ITEM QUANTITY		TOTAL
		TEMPORARY			
		PAVEMENT MARKINGS			
		PAINT(24")			
P4	WHITE STOPBAR (2X)		183	LF	
					TOTAL 183 LF
		PAINT(4")			
PA	WHITE EDGELINE (2X)		9991	LF	
PC	10 FT. WHITE SKIP (2X)		5	LF	
PD	2 FT. WHITE MINISKIP (2X)		604	LF	
PE	WHITE SOLID LANE LINE (2X)		1592	LF	
PI	YELLOW DOUBLE CENTER (2X)		25048	LF	
					TOTAL 37240 LF
		PAINT(8")			
PV	YELLOW DIAGONAL (2X)		1550	LF	
					TOTAL 1550 LF
		PAINT MARKING SYMBOLS			
QA	LEFT TURN ARROW (2X)		4	EA	
QB	RIGHT TURN ARROW (2X)		12	EA	
QC	STRAIGHT ARROW (2X)		2	EA	
QD	COMBO.STRAIGHT/LEFT (2X)		2	EA	
					TOTAL 20 EA
		MARKERS			
		TEMPORARY RAISED PAVEMENT MARKERS			
MH	YELLOW & YELLOW		713	EA	
MI	CRYSTAL & RED		26	EA	
					TOTAL 739 EA

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

APPROVED: Jessica Kuse DATE: 10/19/09

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 027811 ENGINEER JESSICA D. KUSE

PROJECT NOTES / TEMPORARY PAVEMENT MARKING SCHEDULE

SCALE:	NONE
DATE:	06/08
DWG. BY:	RMG
DESIGN BY:	RMG
REVIEWED BY:	JDK

DIVISION OF HIGHWAYS · STATE OF NORTH CAROLINA · DEPARTMENT OF TRANSPORTATION · WORK ZONE TRAFFIC CONTROL UNIT

REVISIONS

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TEMPORARY SHORING NOTES

PROJ. REFERENCE NO.	SHEET NO.
U-2810A	TCP-2B

Temporary Shoring No. 1 (SEE SHEET TCP-05)

FOR TEMPORARY SHORING, SEE TEMPORARY SHORING SPECIAL PROVISION.

DO NOT USE STANDARD TEMPORARY SHORING FROM STATION 25 + 00 -L-, 5.8 TO 12.5 FEET RIGHT OF THE CENTER LINE, TO STATION 26 + 80 -L-, 5.8 TO 12.5 FEET RIGHT OF THE CENTER LINE.

USE A TEMPORARY MSE WALL FROM STATION 25 + 00 -L-, 5.8 TO 12.5 FEET RIGHT OF THE CENTER LINE, TO STATION 26 + 80 -L-, 5.8 TO 12.5 FEET RIGHT OF THE CENTER LINE.

WHEN USING CONTRACTOR DESIGNED SHORING FROM STATION 25 + 00 -L-, 5.8 TO 12.5 FEET RIGHT OF THE CENTER LINE, TO STATION 26 + 80 -L-, 5.8 TO 12.5 FEET RIGHT OF THE CENTER LINE, USE THE FOLLOWING SOIL PARAMETERS:

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

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

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.

LIMITED SUBSURFACE INFORMATION IS AVAILABLE IN THE VICINITY OF THE TEMPORARY SHORING FROM STATION 25 + 00 -L-, 5.8 TO 12.5 FEET RIGHT OF THE CENTER LINE, TO STATION 26 + 80 -L-, 5.8 TO 12.5 FEET RIGHT OF THE CENTER LINE. THE INFORMATION PROVIDED FOR DESIGN WAS ASSUMED AND MAY NOT BE APPLICABLE TO THE ACTUAL SITE CONDITIONS ENCOUNTERED DURING CONSTRUCTION.

WHEN BACKFILL FOR A REINFORCED BRIDGE APPROACH FILL OVERLAPS WITH THE REINFORCED ZONE OF A TEMPORARY MSE WALL, USE EITHER SHORING BACKFILL OR THE MATERIAL SPECIFIED FOR THE REINFORCED BRIDGE APPROACH FILL, WHICHEVER IS BETTER, IN THE REINFORCED ZONE.

Temporary Shoring No. 2 (SEE SHEET TCP-05)

IT MAY BE POSSIBLE TO USE A 1.5:1 (H:V) SLOPE OR FLATTER IN LIEU OF TEMPORARY SHORING FROM STATION 27 + 75 -L-, 7.8 FEET RIGHT OF THE CENTER LINE, TO STATION 28 + 85 -L-, 7.8 FEET RIGHT OF THE CENTER LINE AS SHOWN ON THE PLANS.

FOR TEMPORARY SHORING, SEE TEMPORARY SHORING SPECIAL PROVISION.

DO NOT USE STANDARD TEMPORARY SHORING FROM STATION 28 + 85 -L-, 7.8 FEET RIGHT OF THE CENTER LINE, TO STATION 30 + 00 -L-, 7.8 FEET RIGHT OF THE CENTER LINE.

USE A TEMPORARY MSE WALL FROM STATION 28 + 85 -L-, 7.8 FEET RIGHT OF THE CENTER LINE, TO STATION 30 + 00 -L-, 7.8 FEET RIGHT OF THE CENTER LINE.

WHEN USING CONTRACTOR DESIGNED SHORING FROM STATION 27 + 75 -L-, 7.8 FEET RIGHT OF THE CENTER LINE, TO STATION 30 + 00 -L-, 7.8 FEET RIGHT OF THE CENTER LINE, USE THE FOLLOWING SOIL PARAMETERS:

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

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

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.

LIMITED SUBSURFACE INFORMATION IS AVAILABLE IN THE VICINITY OF THE TEMPORARY SHORING FROM STATION 27 + 75 -L-, 7.8 FEET RIGHT OF THE CENTER LINE, TO STATION 30 + 00 -L-, 7.8 FEET RIGHT OF THE CENTER LINE. THE INFORMATION PROVIDED FOR DESIGN WAS ASSUMED AND MAY NOT BE APPLICABLE TO THE ACTUAL SITE CONDITIONS ENCOUNTERED DURING CONSTRUCTION.

WHEN BACKFILL FOR A REINFORCED BRIDGE APPROACH FILL OVERLAPS WITH THE REINFORCED ZONE OF A TEMPORARY MSE WALL, USE EITHER SHORING BACKFILL OR THE MATERIAL SPECIFIED FOR THE REINFORCED BRIDGE APPROACH FILL, WHICHEVER IS BETTER, IN THE REINFORCED ZONE.

Temporary Shoring No. 3 (SEE SHEETS TCP-05 & TCP-06)

FOR TEMPORARY SHORING, SEE TEMPORARY SHORING SPECIAL PROVISION.

DO NOT USE STANDARD TEMPORARY SHORING FROM STATION 38 + 00 -L-, 7.8 FEET RIGHT OF THE CENTER LINE, TO STATION 39 + 80 -L-, 7.8 FEET RIGHT OF THE CENTER LINE.

USE A TEMPORARY MSE WALL FROM STATION 38 + 00 -L-, 7.8 FEET RIGHT OF THE CENTER LINE, TO STATION 39 + 80 -L-, 7.8 FEET RIGHT OF THE CENTER LINE.

WHEN USING CONTRACTOR DESIGNED SHORING FROM STATION 38 + 00 -L-, 7.8 FEET RIGHT OF THE CENTER LINE, TO STATION 39 + 80 -L-, 7.8 FEET RIGHT OF THE CENTER LINE, USE THE FOLLOWING SOIL PARAMETERS:

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

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

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.

LIMITED SUBSURFACE INFORMATION IS AVAILABLE IN THE VICINITY OF THE TEMPORARY SHORING FROM STATION 38 + 00 -L-, 7.8 FEET RIGHT OF THE CENTER LINE, TO STATION 39 + 80 -L-, 7.8 FEET RIGHT OF THE CENTER LINE. THE INFORMATION PROVIDED FOR DESIGN WAS ASSUMED AND MAY NOT BE APPLICABLE TO THE ACTUAL SITE CONDITIONS ENCOUNTERED DURING CONSTRUCTION.

WHEN BACKFILL FOR A REINFORCED BRIDGE APPROACH FILL OVERLAPS WITH THE REINFORCED ZONE OF A TEMPORARY MSE WALL, USE EITHER SHORING BACKFILL OR THE MATERIAL SPECIFIED FOR THE REINFORCED BRIDGE APPROACH FILL, WHICHEVER IS BETTER, IN THE REINFORCED ZONE.

APPROVED: James R. Batts, Jr. DATE: 10/14/08

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 18899 ENGINEER JAMES R. BATTS, JR.

TEMPORARY SHORING NOTES

SCALE:	NONE
DATE:	10/08
DWG. BY:	RMG
DESIGN BY:	RMG
REVIEWED BY:	JDK

DIVISION OF HIGHWAYS · NORTH CAROLINA DEPARTMENT OF TRANSPORTATION · WORK ZONE TRAFFIC CONTROL UNIT

REVISIONS	
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TEMPORARY SHORING NOTES

PROJ. REFERENCE NO.	SHEET NO.
U-2810A	TCP-2C

Temporary Shoring No. 4 (SEE SHEET TCP-06)

IT MAY BE POSSIBLE TO USE A 1.5:1 (H:V) SLOPE OR FLATTER IN LIEU OF TEMPORARY SHORING FROM STATION 40 + 12 -L-, 7.8 FEET RIGHT OF THE CENTER LINE, TO STATION 40 + 38 -L-, 7.8 FEET RIGHT OF THE CENTER LINE AS SHOWN ON THE PLANS.

FOR TEMPORARY SHORING, SEE TEMPORARY SHORING SPECIAL PROVISION.

DO NOT USE STANDARD TEMPORARY SHORING FROM STATION 40 + 38 -L-, 7.8 FEET RIGHT OF THE CENTER LINE, TO STATION 41 + 00 -L-, 7.8 FEET RIGHT OF THE CENTER LINE.

USE A TEMPORARY MSE WALL FROM STATION 40 + 38 -L-, 7.8 FEET RIGHT OF THE CENTER LINE, TO STATION 41 + 00 -L-, 7.8 FEET RIGHT OF THE CENTER LINE.

WHEN USING CONTRACTOR DESIGNED SHORING FROM STATION 40 + 12 -L-, 7.8 FEET RIGHT OF THE CENTER LINE, TO STATION 41 + 00 -L-, 7.8 FEET RIGHT OF THE CENTER LINE, USE THE FOLLOWING SOIL PARAMETERS:

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

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

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.

LIMITED SUBSURFACE INFORMATION IS AVAILABLE IN THE VICINITY OF THE TEMPORARY SHORING FROM STATION 40 + 12 -L-, 7.8 FEET RIGHT OF THE CENTER LINE, TO STATION 41 + 00 -L-, 7.8 FEET RIGHT OF THE CENTER LINE. THE INFORMATION PROVIDED FOR DESIGN WAS ASSUMED AND MAY NOT BE APPLICABLE TO THE ACTUAL SITE CONDITIONS ENCOUNTERED DURING CONSTRUCTION.

WHEN BACKFILL FOR A REINFORCED BRIDGE APPROACH FILL OVERLAPS WITH THE REINFORCED ZONE OF A TEMPORARY MSE WALL, USE EITHER SHORING BACKFILL OR THE MATERIAL SPECIFIED FOR THE REINFORCED BRIDGE APPROACH FILL, WHICHEVER IS BETTER, IN THE REINFORCED ZONE.

TEMPORARY SHORING NO. 5 (SEE SHEET TCP-06)

FOR TEMPORARY SHORING, SEE TEMPORARY SHORING SPECIAL PROVISION. WHEN USING CONTRACTOR DESIGNED SHORING FROM STATION 45 + 60 -L-, 10.0 FEET RIGHT OF THE CENTER LINE, TO STATION 46 + 10 -L-, 10.0 FEET RIGHT OF THE CENTER LINE, USE THE FOLLOWING SOIL PARAMETERS:

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

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

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.

LIMITED SUBSURFACE INFORMATION IS AVAILABLE IN THE VICINITY OF THE TEMPORARY SHORING FROM STATION 45 + 60 -L-, 10.0 FEET RIGHT OF THE CENTER LINE, TO STATION 46 + 10 -L-, 10.0 FEET RIGHT OF THE CENTER LINE. THE INFORMATION PROVIDED FOR DESIGN WAS ASSUMED AND MAY NOT BE APPLICABLE TO THE ACTUAL SITE CONDITIONS ENCOUNTERED DURING CONSTRUCTION.

TEMPORARY SHORING NO. 6 (SEE SHEET TCP-06)

IT MAY BE POSSIBLE TO USE A 1.5:1 (H:V) SLOPE OR FLATTER IN LIEU OF TEMPORARY SHORING FROM STATION 45 + 60 -L-, AT THE CENTER LINE, TO STATION 46 + 10 -L-, AT THE CENTER LINE AS SHOWN ON THE PLANS.

FOR TEMPORARY SHORING, SEE TEMPORARY SHORING SPECIAL PROVISION.

WHEN USING CONTRACTOR DESIGNED SHORING FROM STATION 45 + 60 -L-, AT THE CENTER LINE, TO STATION 46 + 10 -L-, AT THE CENTER LINE, USE THE FOLLOWING SOIL PARAMETERS:

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

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

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.

LIMITED SUBSURFACE INFORMATION IS AVAILABLE IN THE VICINITY OF THE TEMPORARY SHORING FROM STATION 45 + 60 -L-, AT THE CENTER LINE, TO STATION 46 + 10 -L-, AT THE CENTER LINE. THE INFORMATION PROVIDED FOR DESIGN WAS ASSUMED AND MAY NOT BE APPLICABLE TO THE ACTUAL SITE CONDITIONS ENCOUNTERED DURING CONSTRUCTION.

APPROVED: James R. Batts DATE: 10/16/08

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 18899 ENGINEER JAMES R. BATTS, JR.

TEMPORARY SHORING NOTES

SCALE:	NONE
DATE:	10/08
DWG. BY:	RMG
DESIGN BY:	RMG
REVIEWED BY:	JDK

REVISIONS

CADD FILE

08-OCT-2008 09:07
\\dot\dfsroot01\proj\tipprojects-u\u2810a\traffic\trafficontrol\tcp\u-2810a_tc_tcp_02b.dgn
rmgarrett AT WZTC244747

PROJ. REFERENCE NO.	SHEET NO.
U-2810A	TCP-03

NOTES:
THE CONTRACTOR IS TO FURNISH, INSTALL, MAINTAIN, RELOCATE AND REMOVE CHANGEABLE MESSAGE BOARDS DURING VARIOUS STAGES OF CONSTRUCTION AT THE DESCRETION OF THE ENGINEER TO ADEQUATELY INFORM MOTORISTS OF CHANGING WORK ZONE CONDITIONS.

COMPLETE ANY PROPOSED OR TEMPORARY WIDENING IN SUCH A MANNER THAT PONDING OF WATER WILL NOT OCCUR IN THE TRAVEL LANE.

USING INCIDENTAL STONE AS NECESSARY, MAINTAIN VEHICULAR ACCESSS TO ALL DRIVEWAYS DURING THE LIFE OF THE CONTRACT UNLESS OTHERWISE NOTED IN THE PHASING OR DIRECTED BY THE ENGINEER.

REMOVE TEMPORARY LANE CLOSURES AT THE END OF EACH WORKDAY AND RESTORE TRAFFIC TO EXISTING PATTERNS.

PHASE I

NOTE: TRAFFIC TO BE MAINTAINED IN THE EXISTING 2L, 2W PATTERN. (SEE SHEETS TCP-4 THROUGH TCP-8)

STEP 1 - INSTALL WORK ZONE ADVANCE WARNING SIGNS ON -L- AND ALL -Y- LINES AS SHOWN ON SHEET TCP-16.

- INSTGALL SIGNS AND BARRICADES TO CLOSE THE EXISTING DRIVEWAY AT -L- STA. 17+40+/-. (SEE SHEET TCP-04)

- USING ROADWAY STANDARD DRAWING 1101.02, SHEET 1 OF 9 AND FLAGGERS BEGIN CONSTRUCTION OF THE FOLLOWING UP TO THE EDGE AND ELEVATION OF THE EXISTING PAVEMENT (SEE SHEETS TCP-04 THRU TCP-08 AND ROADWAY PLANS)

  -L- STA. 15+00+/- TO STA. 18+61+/- WB LANES
  -L- STA. 55+60+/- TO STA. 59+89+/- WB LANES
  -Y2- STA. 10+35+/- TO STA. 11+78+/- WB LANES

- BEGIN CONSTRUCTION OF PROPOSED RETAINING WALL AND SIDEWALK FROM -L- STA. 15+00+/- TO STA. 17+11+/-. (SEE SHEET TCP-04, ROADWAY PLANS AND LOCAL NOTE 3)

NOTE: ALL PROPOSED MEDIAN CURB AND GUTTER ALONG PROPOSED -L- WESTBOUND LANES MAY BE CONSTRUCTED AT THIS TIME WITH THE FOLLOWING EXCEPTIONS:

- LOCATIONS REQUIRING DRIVEWAY ACCESS (BOTH PHASES)
- AREAS CONFLICTING WITH TRAFFIC PATTERNS (BOTH PHASES)

- AWAY FROM TRAFFIC BEGIN CONSTRUCTION UP TO BUT NOT INCLUDING THE FINAL LAYER OF SURFACE COURSE INCLUDING ALL REQUIRED DRAINAGE AND UTILITY RELOCATIONS UNLESS OTHERWISE NOTED AT THE FOLLOWING LOCATIONS: (SEE ROADWAY PLANS)

  -L- STA. 18+61+/- TO STA. 26+55+/- WB LANES
  -L- STA. 28+85+/- TO STA. 39+33+/- WB LANES
  -L- STA. 40+38+/- TO STA. 55+60+/- WB LANES

- INSTALL TEMPORARY SHORING AND BEGIN CONSTRUCTION OF PHASE I STRUCTURES AT THE FOLLOWING LOCATIONS: (SEE SHEETS TCP-2B, TCP-4 THRU TCP-6, ROADWAY AND STRUCTURE PLANS)

  -L- STA. 26+55+/- TO STA. 28+85+/-
  -L- STA. 39+33+/- TO STA. 40+38+/-

STEP 2 - REMOVE EXISTING MONOLITHIC CONCRETE MEDIAN ISLAND FROM -L- STA. 16+00 TO THE END AT STA. 16+85+/-. PATCH ASPHALT PAVEMENT AS NECESSARY AND DELINEATE THE REMOVED PORTION OF THE ISLAND WITH DRUMS OR CONES OR AS DIRECTED BY THE ENGINEER.

STEP 3 - COMPLETE ALL PROPOSED CONSTRUCTION BEGUN IN PHASE I, STEPS 1 AND 2. (SEE LOCAL NOTE 3)

- INSTALL PORTABLE CONCRETE BARRIER AND CRASH CUSHIONS IN THE FOLLOWING LOCATIONS IN PREPARATION OF THE PHASE II TRAFFIC PATTERN. (SEE SHEETS TCP-09 THRU TCP-15)

  -L- STA. 24+52+/- TO STA. 30+50+/-
  -L- STA. 37+52+/- TO STA. 41+30+/-
  -L- STA. 44+60+/- TO STA. 46+10+/-

NOTE: TRAFFIC IS TO BE PLACED BACK INTO EXISTING PATTERNS DAILY DURING THE FOLLOWING OPERATION DESCRIBED IN STEP 4. TRAFFIC IS TO REMAIN IN EXISTING PATTERNS UNTIL STEP 6.

STEP 4 - USING ROADWAY STANDARD DRAWING 1101.02, SHEET 1 OF 9 AND FLAGGERS WEDGE ROADWAY SURFACES UP TO BUT NOT INCLUDING THE FINAL LAYER OF SURFACE COURSE IN THE FOLLOWING LOCATIONS: (SEE SHEETS TCP-05 AND ROADWAY PLANS)

  -L- STA. 35+85+/- TO STA. 36+90+/- WB LANES
  -Y1- STA. 11+40+/- TO STA. 13+16+/-
  -Y2- STA. 10+00+/- TO STA. 11+78+/-

STEP 5 - BEGIN INSTALLATION OF TEMPORARY PHASE II PAVEMENT MARKINGS AND MARKERS ON -L-, -Y1- AND -Y2- WITHOUT INTERFERING WITH TRAFFIC.

COMPLETE THE WORK FOR PHASE I, STEP 6 FROM 8:00 P.M. ON A FRIDAY TO 7:00 A.M. THE FOLLOWING MONDAY. SEE INTERMEDIATE CONTRACT TIME AND LIQUIDATED DAMAGES.

STEP 6 - USING ROADWAY STANDARD DRAWING 1101.02, SHEET 1 OF 9 COMPLETE TEMPORARY PAVEMENT MARKINGS AND MARKERS AT EACH TIE-IN LOCATION. REMOVE ANY CONFLICTING PAVEMENT MARKINGS AND MARKERS. (SEE LOCAL NOTE 2 AND SHEETS TCP-09 THRU TCP-13)

- USING DRUMS CLOSE THE INSIDE LEFT TURN LANE ALONG NB HOPE MILLS BYPASS AND THE INSIDE THROUGH LANE ALONG WB -L- (CAMDEN RD.) AND SHIFT TRAFFIC INTO THE PHASE II TRAFFIC PATTERN. (SEE LOCAL NOTE 2 AND SHEETS TCP-09 THRU TCP-13)

PHASE II

NOTE: ALL PROPOSED MEDIAN CURB AND GUTTER ALONG PROPOSED -L- WESTBOUND LANES MAY BE CONSTRUCTED AT THIS TIME WITH THE FOLLOWING EXCEPTIONS:

- LOCATIONS REQUIRING DRIVEWAY ACCESS
- AREAS CONFLICTING WITH TRAFFIC PATTERNS

STEP 1 - AWAY FROM TRAFFIC CONSTRUCT UP TO BUT NOT INCLUDING THE FINAL LAYER OF SURFACE COURSE INCLUDING ALL REQUIRED DRAINAGE AND UTILITY RELOCATIONS UNLESS OTHERWISE NOTED AT THE FOLLOWING LOCATIONS: (SEE ROADWAY PLANS)

  -L- STA. 15+60+/- TO STA. 26+55+/- EB LANES
  -L- STA. 28+85+/- TO STA. 39+33+/- EB LANES
  -L- STA. 40+38+/- TO STA. 55+60+/- EB LANES

- CONSTRUCT PROPOSED SIDEWALK FROM -L- STA. 13+50+/- TP STA. 22+72+/-. (SEE LOCAL NOTE 3)

- CONSTRUCT PROPOSED PHASE II BRIDGE AND DRAINAGE STRUCTURES AT THE FOLLOWING LOCATIONS: (SEE SHEETS TCP-10 THRU TCP-12, TCP-14, ROADWAY AND STRUCTURE PLANS)

  -L- STA. 26+55+/- TO STA. 28+85+/- (BRIDGE)
  -L- STA. 39+33+/- TO STA. 40+38+/- (BRIDGE)
  -L- STA. 46+86+/- (CULVERT)

STEP 2 - BEGIN INSTALLATION OF TEMPORARY PAVEMENT MARKINGS AND MARKERS ON -L- EASTBOUND LANES IN THE FINAL TRAFFIC PATTERN WITHOUT INTERFERING WITH TRAFFIC. (SEE SHEETS PM-2 THRU PM-4)

COMPLETE THE WORK FOR PHASE II, STEPS 3 AND 4 FROM 8:00 P.M. ON A FRIDAY TO 7:00 A.M. THE FOLLOWING MONDAY. SEE INTERMEDIATE CONTRACT TIME AND LIQUIDATED DAMAGES.

STEP 3 - USING ROADWAY STANDARD DRAWING 1101.02, SHEET 3 OF 9 COMPLETE TEMPORARY PAVEMENT MARKINGS AND MARKERS AT EACH TIE-IN LOCATION IN THE FINAL TRAFFIC PATTERN ON THE EASTBOUND LANES OF -L- AND SHIFT EASTBOUND TRAFFIC TO THE OUTSIDE LANE OF PROPOSED EASTBOUND -L-. (SEE LOCAL NOTE 2)

STEP 4 - USING DRUMS CLOSE THE WESTBOUND INSIDE LANE OF -L- MAINTAINING WESTBOUND TRAFFIC IN THE OUTSIDE LANE.

STEP 5 - USING ROADWAY STANDARD DRAWING 1101.02, SHEET 1 OF 9 AND FLAGGERS AS NEEDED CONSTRUCT PROPOSED MEDIANS AND REMAINDER MEDIAN CURB AND GUTTER ALONG -L- FROM STATION 15+00+/- TO THE END OF PROJECT AT STATION 59+89+/-.

STEP 6 - USING ROADWAY STANDARD DRAWING 1101.02, SHEET 1 OF 9 AND FLAGGERS INSTALL THE FINAL SURFACE LAYER AND PLACE ALL FINAL PAVEMENT MARKINGS AND MARKERS AS SHOWN ON SHEETS PM-2 THROUGH PM-4.

STEP 7 - REMOVE ALL TRAFFIC CONTROL DEVICES AND OPEN -L- AND -Y- LINES TO THE FINAL TRAFFIC PATTERNS.

APPROVED: Jessica Kuse DATE: 10/19/09

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 027811 ENGINEER JESSICA D. KUSE

PHASING

SCALE:	NONE
DATE:	06/08
DWG. BY:	RMG
DESIGN BY:	RMG
REVIEWED BY:	JDK

REVISIONS

CADD FILE

19-OCT-2009 08:09
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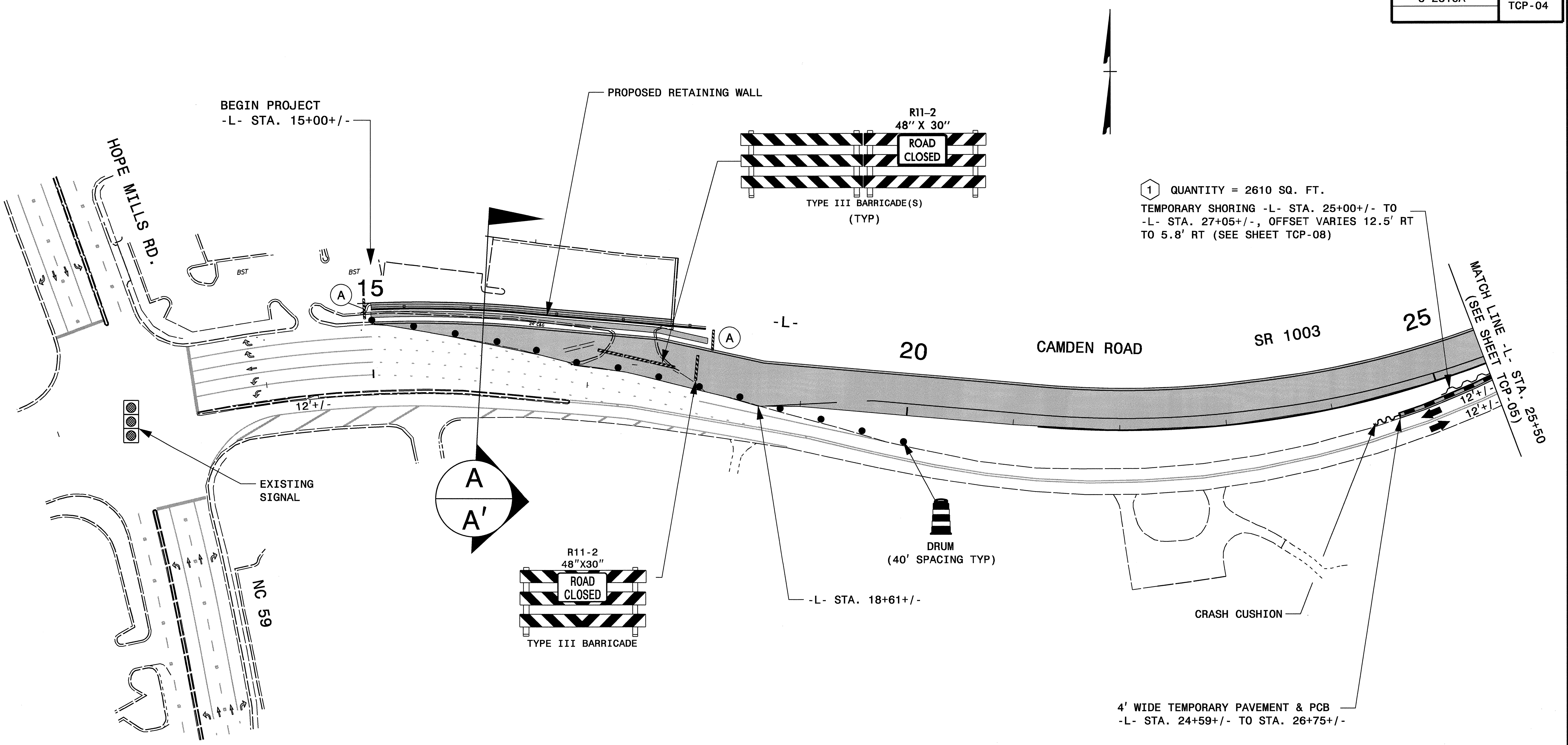
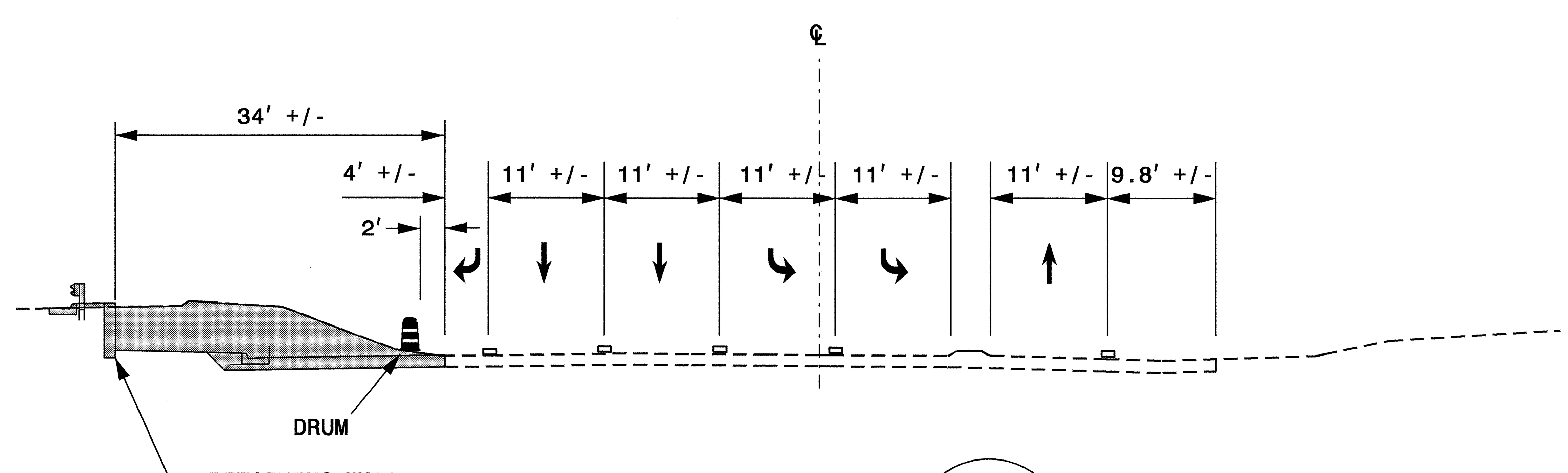
rmgarrett AT WZTC24747

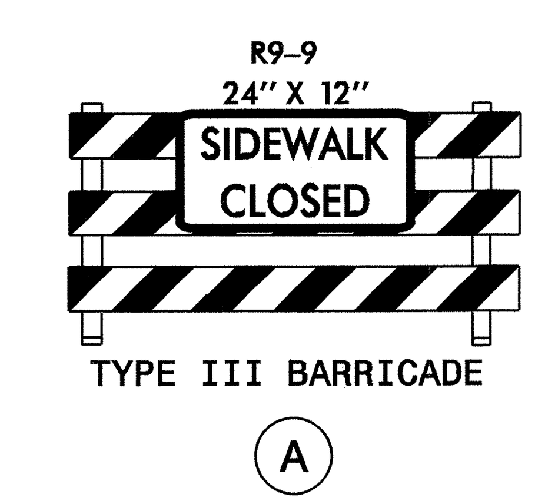
PROJ. REFERENCE NO.	SHEET NO.
U-2810A	TCP-04





-L- STA. 16+00 +/- A/A'

N.T.S.



APPROVED: Jessica Kuse DATE: 10/19/09

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 027811 ENGINEER JESSICA D. KUSE

PHASE I

SCALE:	NONE
DATE:	10/07
DWG. BY:	RMG
DESIGN BY:	RMG
REVIEWED BY:	JDK

DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION WORK ZONE TRAFFIC CONTROL UNIT

REVISIONS

CADD FILE

19-OCT-2009 08:10
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rmgarrett AT WZTC244747

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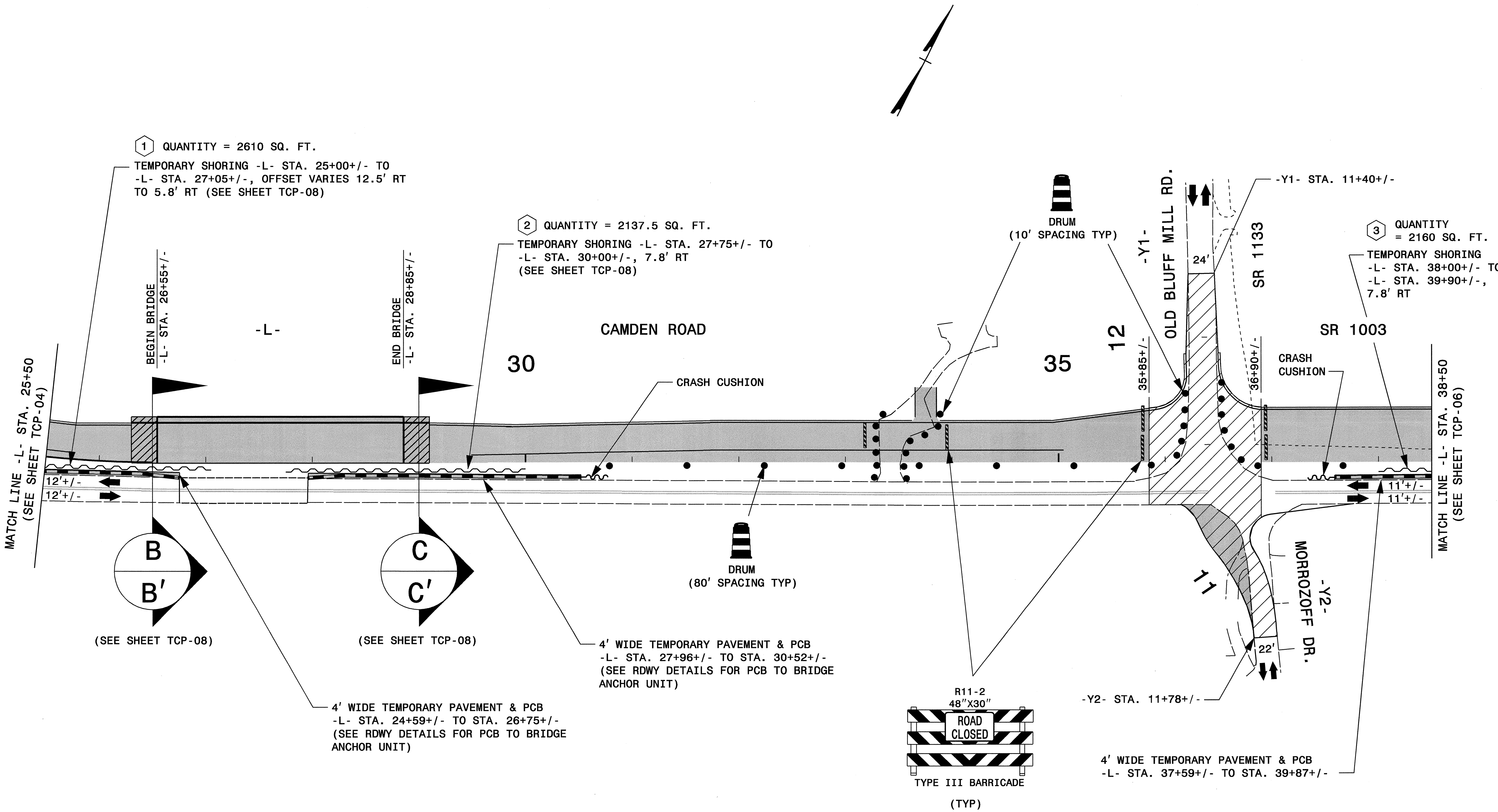
U-2810A	TCP-05



WEDGING WITH LANE CLOSURES
PHASE I STEP XX

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rmgarrett AT WZTC244747

APPROVED: Jessica Kuse DATE: 10/31/08

SEAL: NORTH CAROLINA PROFESSIONAL SEAL 027811 ENGINEER JESSICA D. KUSE

PHASE I

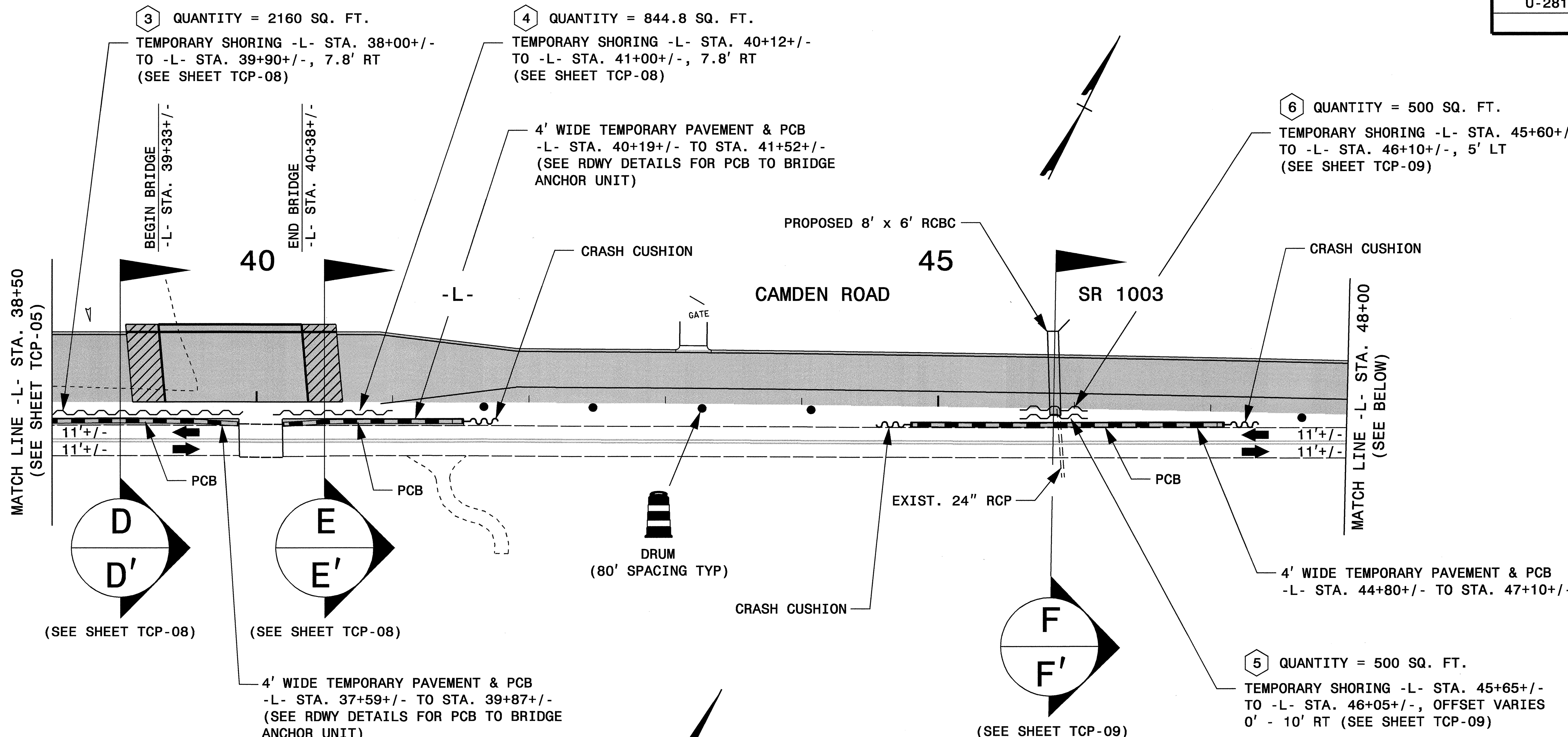
SCALE:	NONE
DATE:	12/07
DWG. BY:	RMG
DESIGN BY:	RMG
REVIEWED BY:	JDK

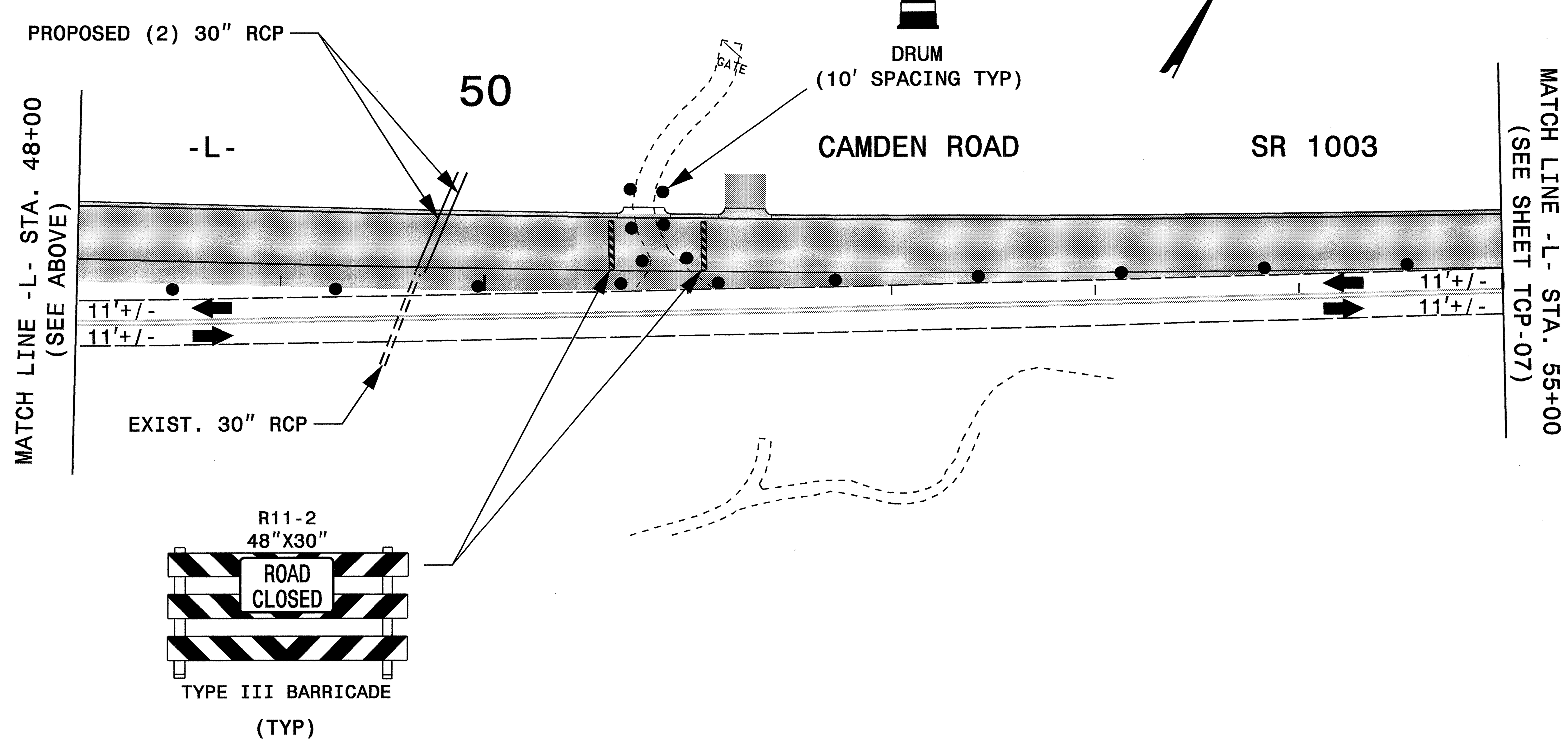
DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION WORK ZONE TRAFFIC CONTROL UNIT

REVISIONS

CADD FILE

PROJ. REFERENCE NO.	SHEET NO.
U-2810A	TCP-06





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rmgarrett AT WZTC244747

APPROVED: Jessica Kuse DATE: 10/31/08

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 027811 ENGINEER JESSICA D. KUSE

PHASE I

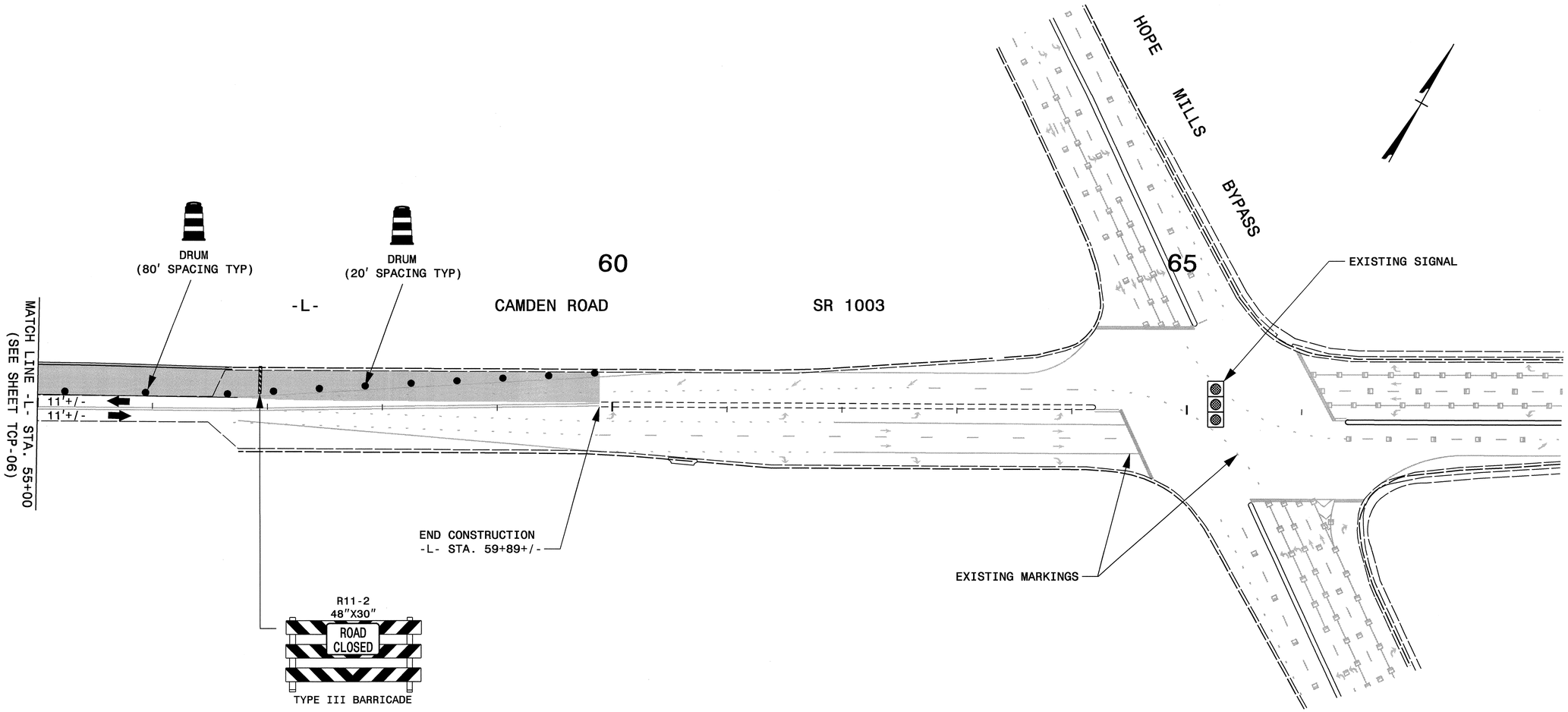
SCALE:	NONE
DATE:	12/07
DWG. BY:	RMG
DESIGN BY:	RMG
REVIEWED BY:	JDK

DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION WORK ZONE TRAFFIC CONTROL UNIT

REVISIONS

CADD FILE

PROJ. REFERENCE NO.	SHEET NO.
U-2810A	TCP-07



APPROVED: [signature] DATE: 10/6/08

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 027811 ENGINEER JESSICA D. KLUSE

PHASE I

SCALE:	NONE
DATE:	12/07
DWG. BY:	RMG
DESIGN BY:	RMG
REVIEWED BY:	JDK

REVISIONS	
CADD FILE	

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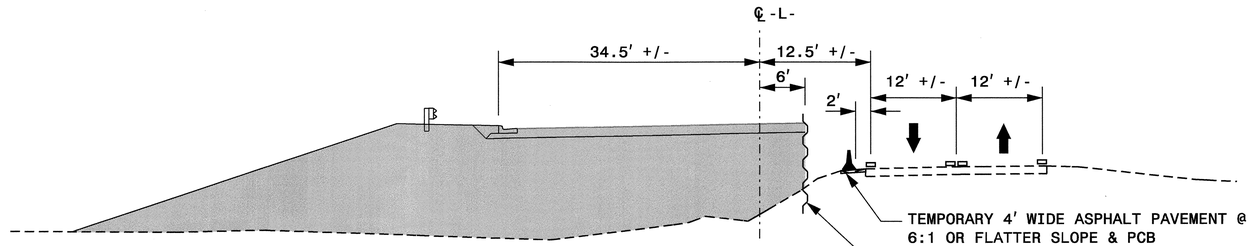
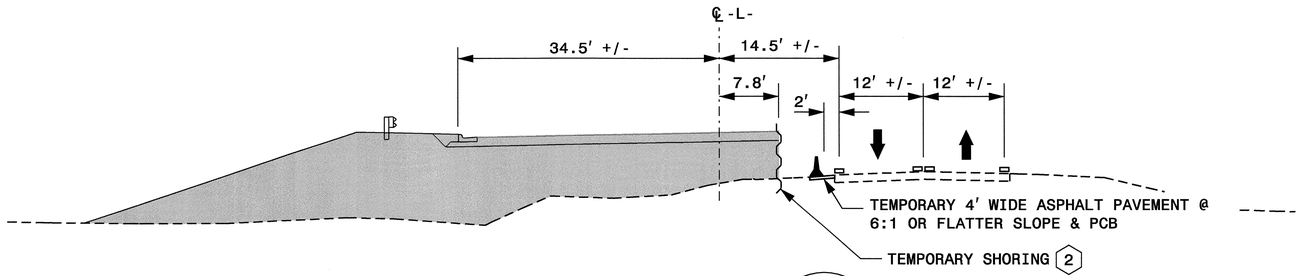
rmgarrett AT WZTC244747

PROJ. REFERENCE NO.	SHEET NO.
U-2810A	TCP-08



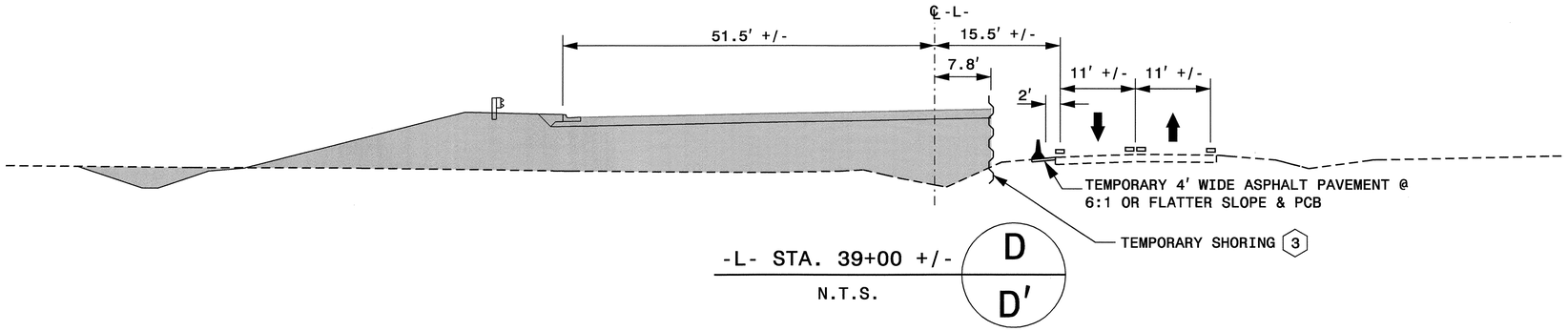
-L- STA. 26+50 +/- **B / B′**

N.T.S.



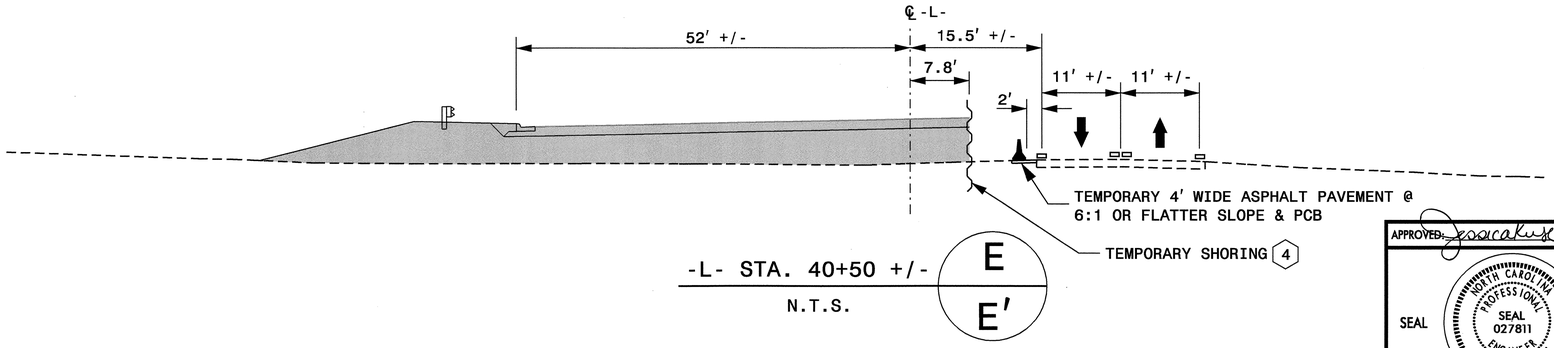
-L- STA. 29+00 +/- **C / C′**

N.T.S.



-L- STA. 39+00 +/- **D / D′**

N.T.S.



-L- STA. 40+50 +/- **E / E′**

N.T.S.

APPROVED: Jessica Kuyk DATE: 12/31/08

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 027811 ENGINEER JESSICA D. KUYK

PHASE I

SCALE:	NONE
DATE:	12/07
DWG. BY:	RMG
DESIGN BY:	RMG
REVIEWED BY:	JDK

REVISIONS	
CADD FILE	

30-OCT-2008 15:48
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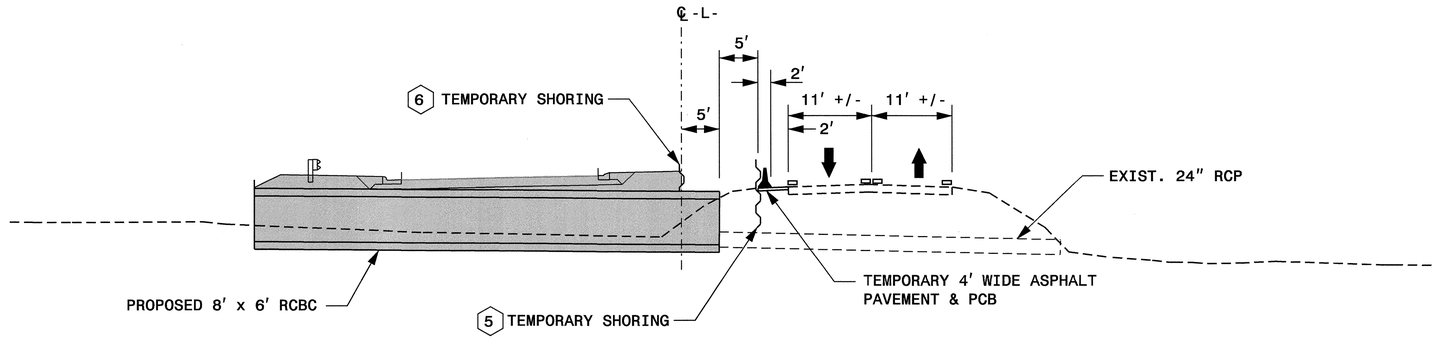
rmgarrett AT WZTC244747

PROJ. REFERENCE NO.	SHEET NO.
U-2810A	TCP-09



-L- STA. 46+05 +/- F / F′

N.T.S.

APPROVED: Jessica Kuse DATE: 10/31/08

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 027811 ENGINEER JESSICA D. KUSE

PHASE I

SCALE:	NONE
DATE:	07/08
DWG. BY:	RMG
DESIGN BY:	RMG
REVIEWED BY:	JDK

REVISIONS	
CADD FILE	

30-OCT-2008 15:48
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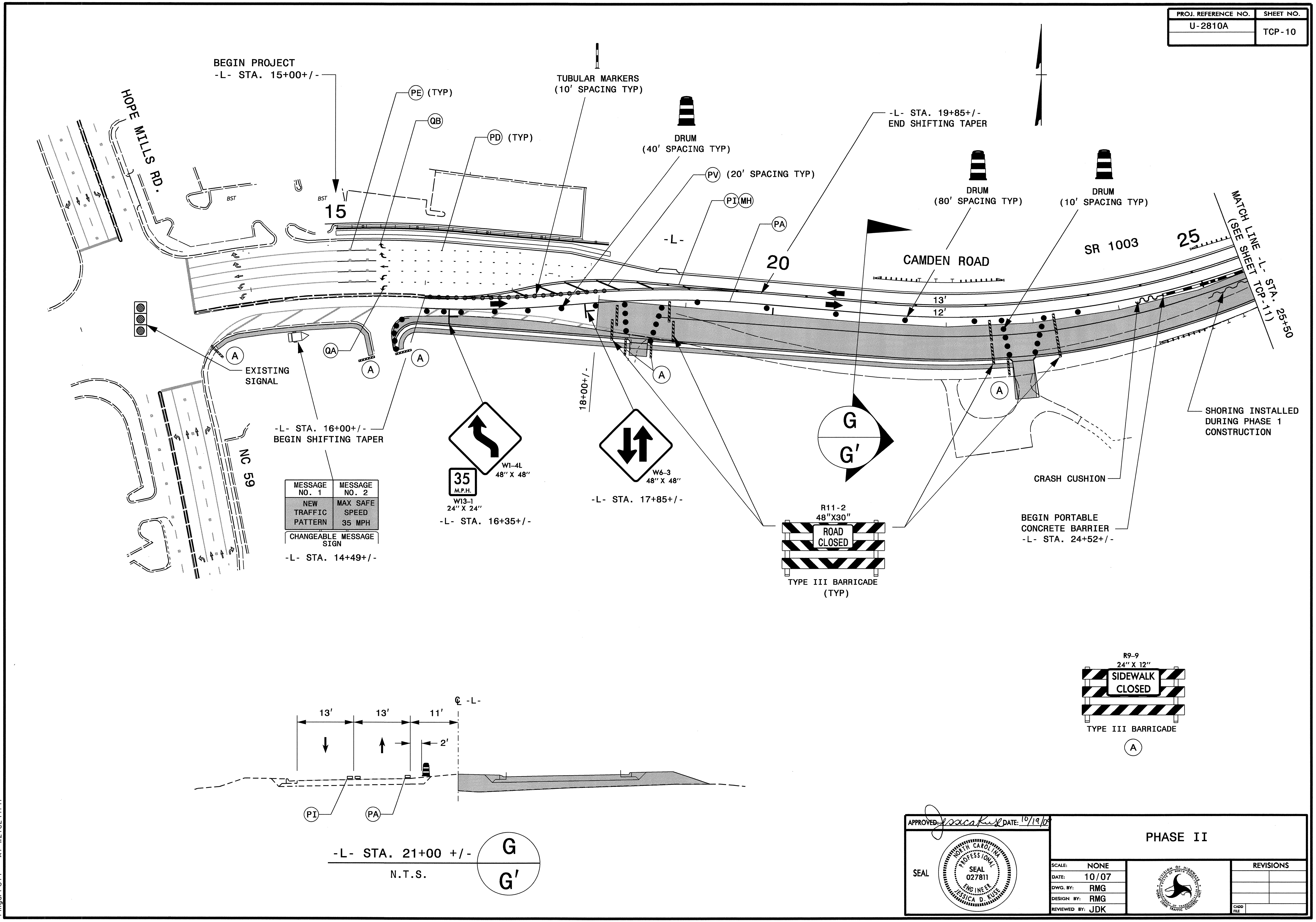

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PROJ. REFERENCE NO.	SHEET NO.
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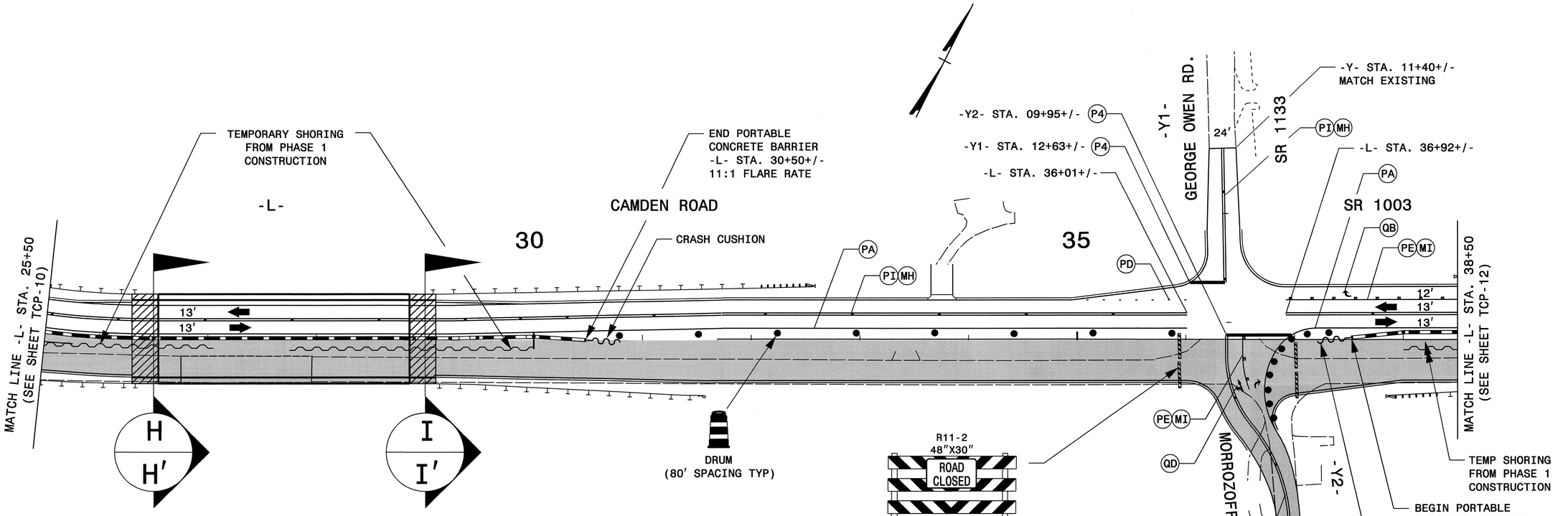

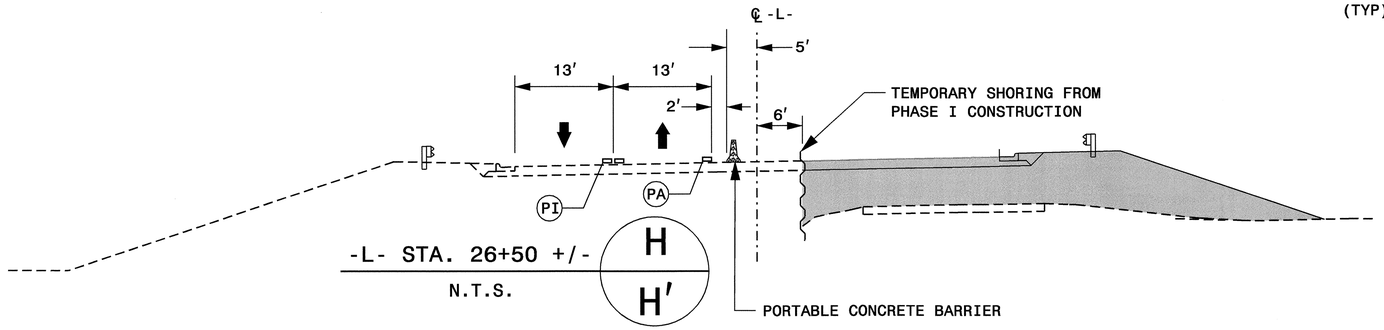

SEE SHEETS TCP-14 & TCP-15 FOR TRAFFIC CONTROL AT BOTH -Y1- & -Y2-

APPROVED: DATE: 10/31/08

SEAL 027811 NORTH CAROLINA PROFESSIONAL ENGINEER JESSICA D. KUSE

PHASE II

SCALE:	NONE
DATE:	12/07
DWG. BY:	RMG
DESIGN BY:	RMG
REVIEWED BY:	JDK

REVISIONS	
CADD FILE	

30-OCT-2008 15:48
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rmgarrett AT WZTC244747

PROJ. REFERENCE NO.	SHEET NO.
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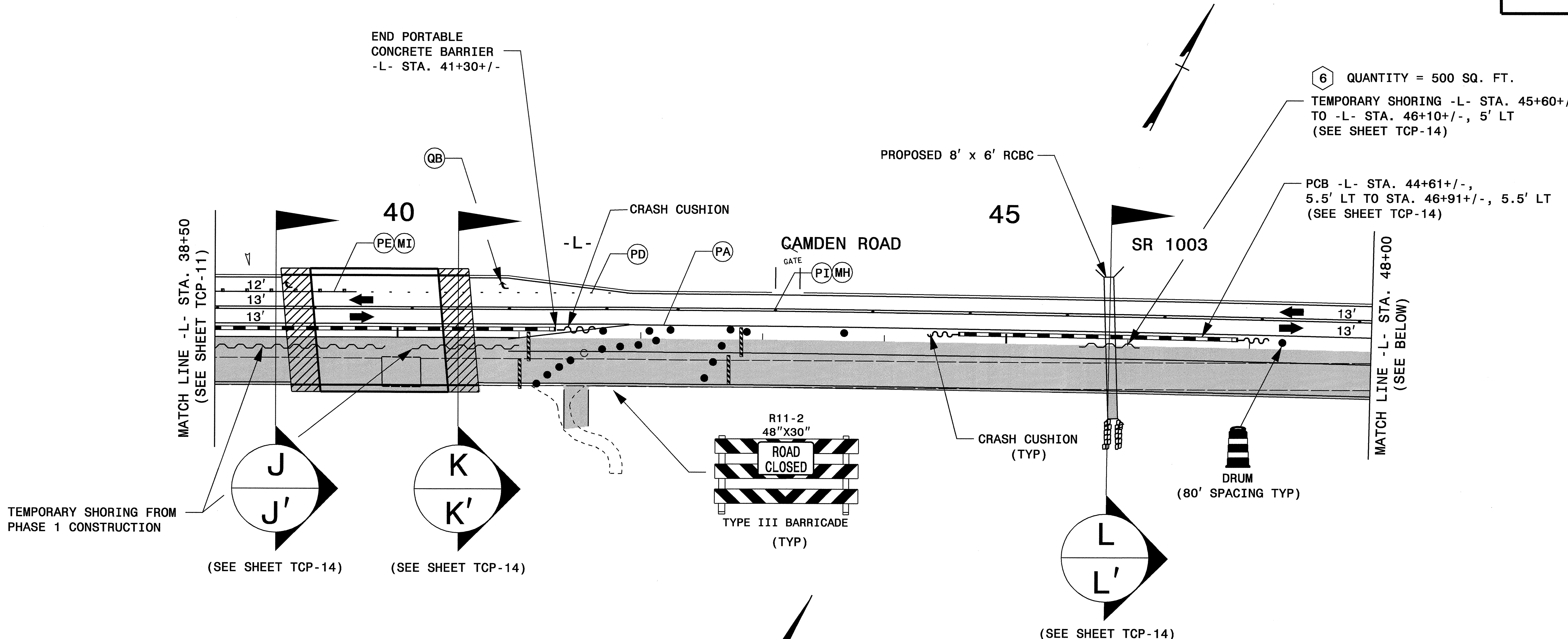

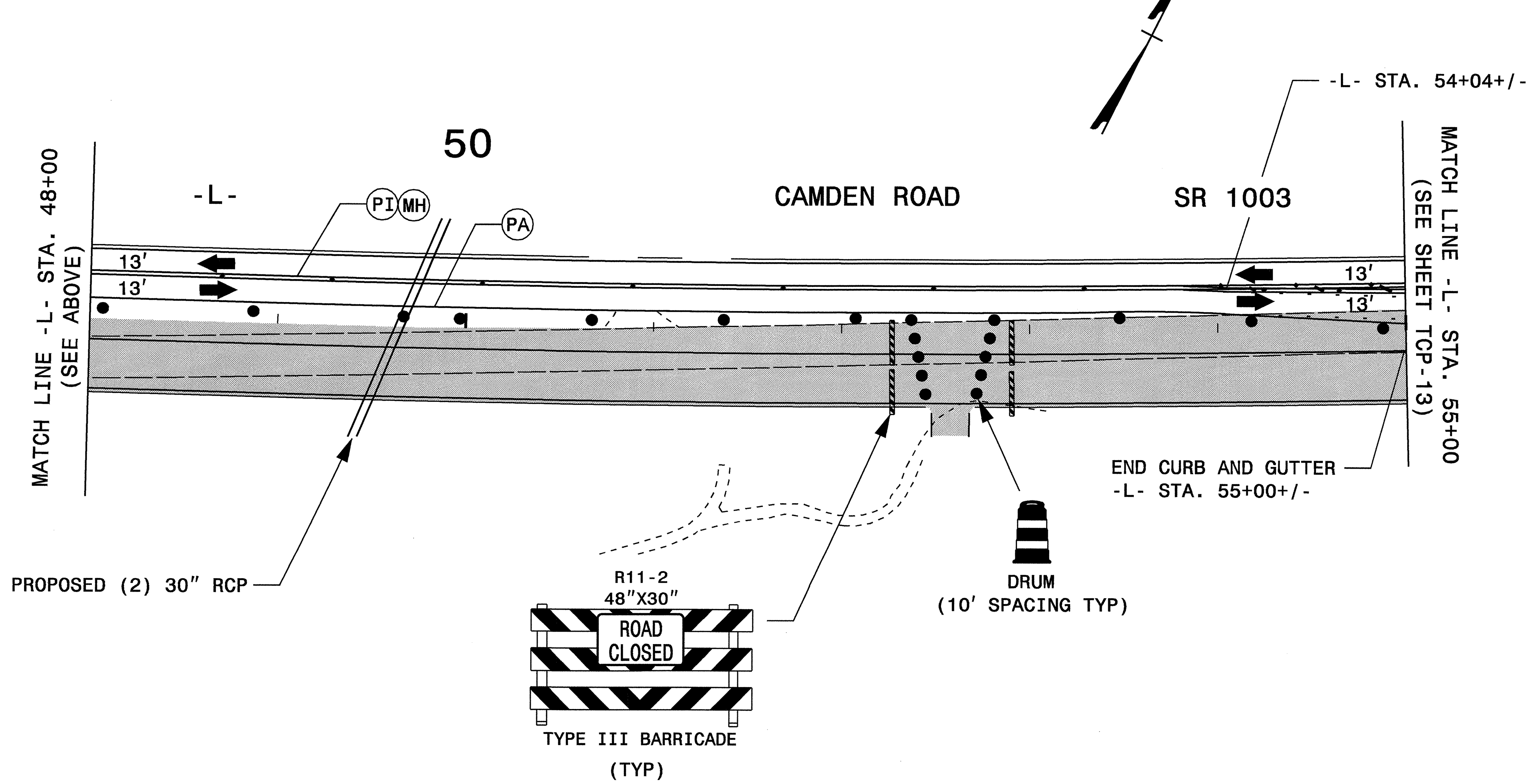

APPROVED: Jessica Kuse DATE: 10/31/08

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 027811 ENGINEER JESSICA D. KUSE

PHASE II

SCALE:	NONE
DATE:	12/07
DWG. BY:	RMG
DESIGN BY:	RMG
REVIEWED BY:	JDK

DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION WORK ZONE TRAFFIC CONTROL UNIT

REVISIONS

CADD FILE

31-OCT-2008 08:29
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rmgarrett AT WZTC244747

PROJ. REFERENCE NO.	SHEET NO.
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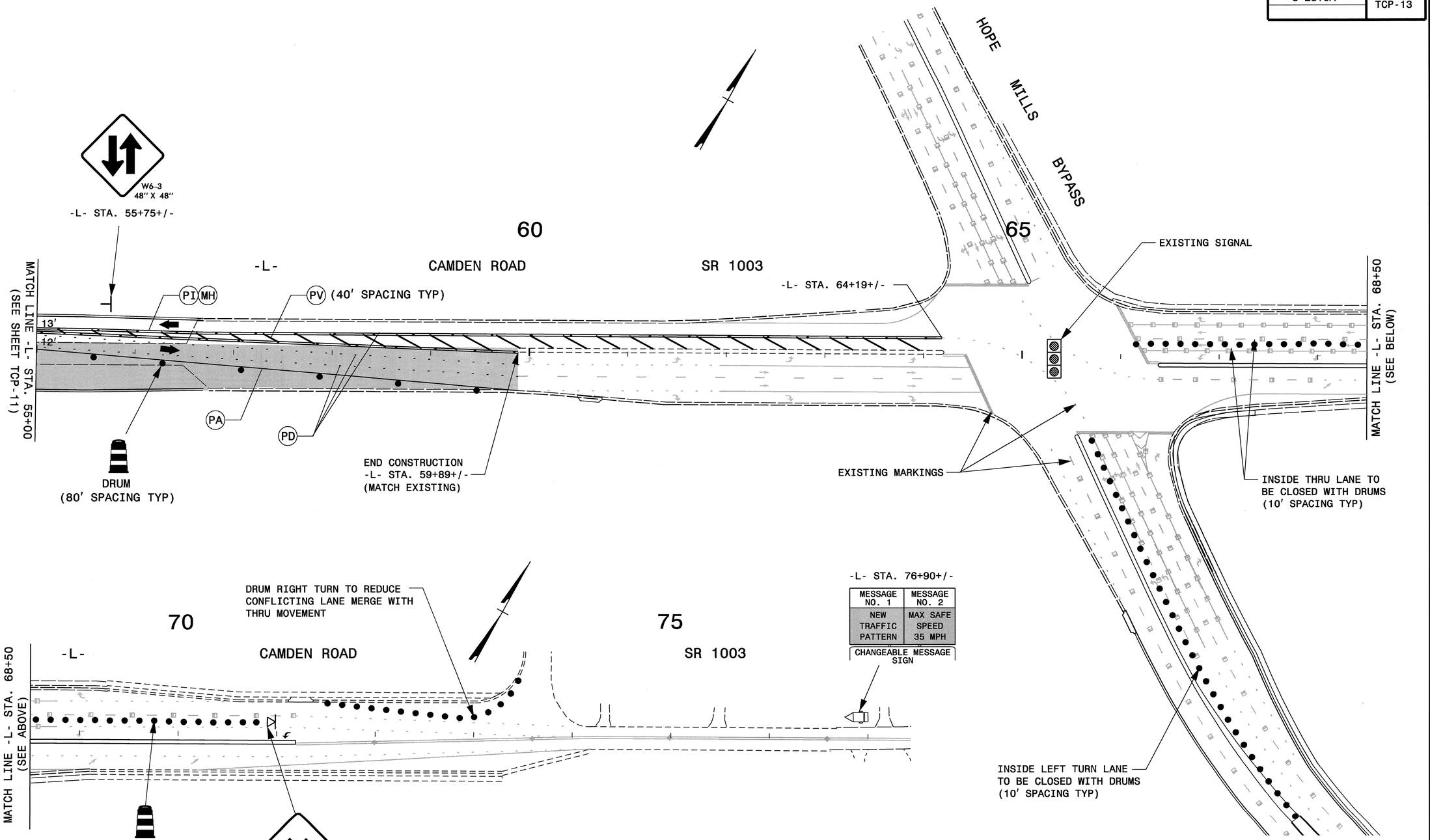

APPROVED: _____ DATE: 10/31/08

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 027811 ENGINEER JESSICA D. KUSE

PHASE II

SCALE:	NONE
DATE:	12/07
DWG. BY:	RMG
DESIGN BY:	RMG
REVIEWED BY:	JDK

REVISIONS	
CADD FILE	

30-OCT-2008 15:48
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rmgarrett AT WZTC244747

PROJ. REFERENCE NO.	SHEET NO.
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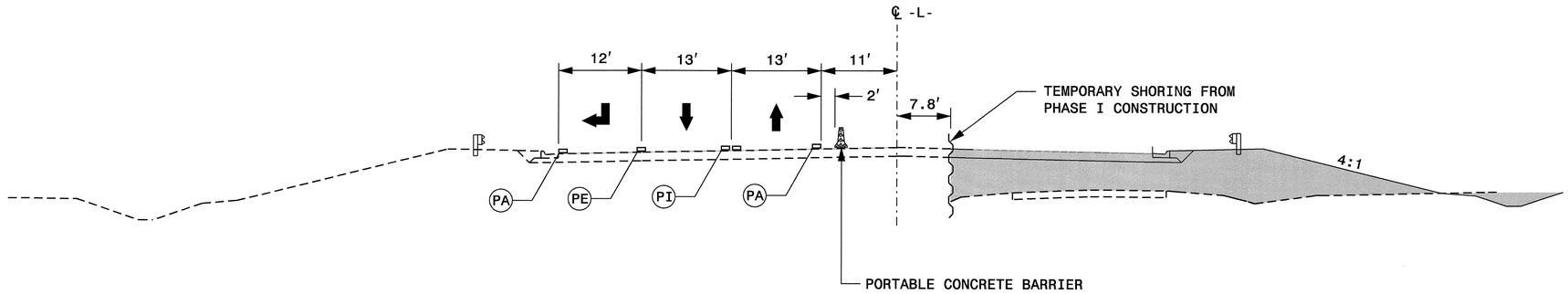
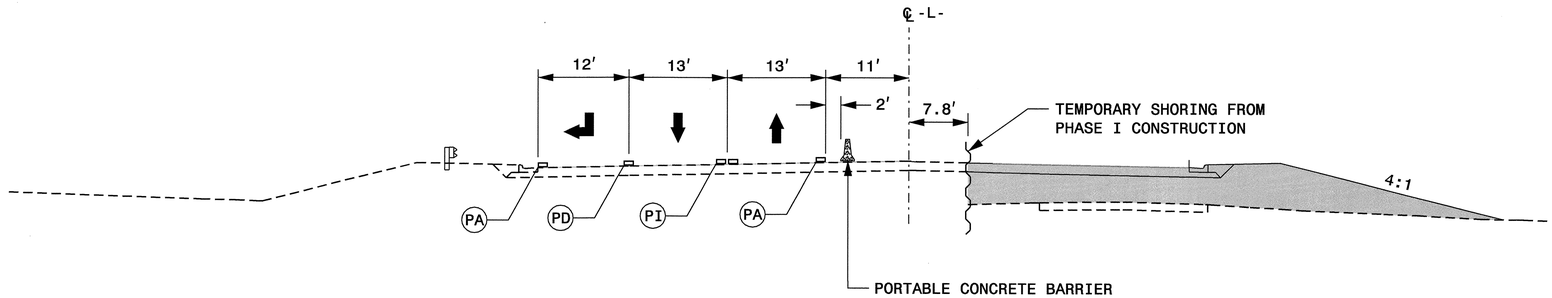


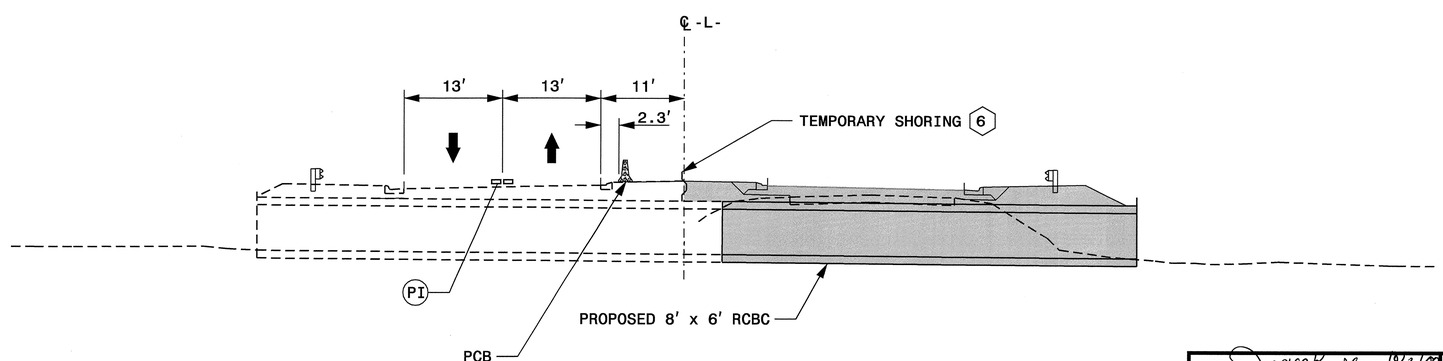
-L- STA. 39+00 +/- — J / J′

N.T.S.



-L- STA. 40+50 +/- — K / K′

N.T.S.



-L- STA. 46+86 +/- — L / L′

N.T.S.

APPROVED: [signature] DATE: 10/31/08

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 027811 ENGINEER JESSICA D. KUSE

PHASE II

SCALE:	NONE
DATE:	06/08
DWG. BY:	RMG
DESIGN BY:	RMG
REVIEWED BY:	JDK

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS TRAFFIC CONTROL

REVISIONS

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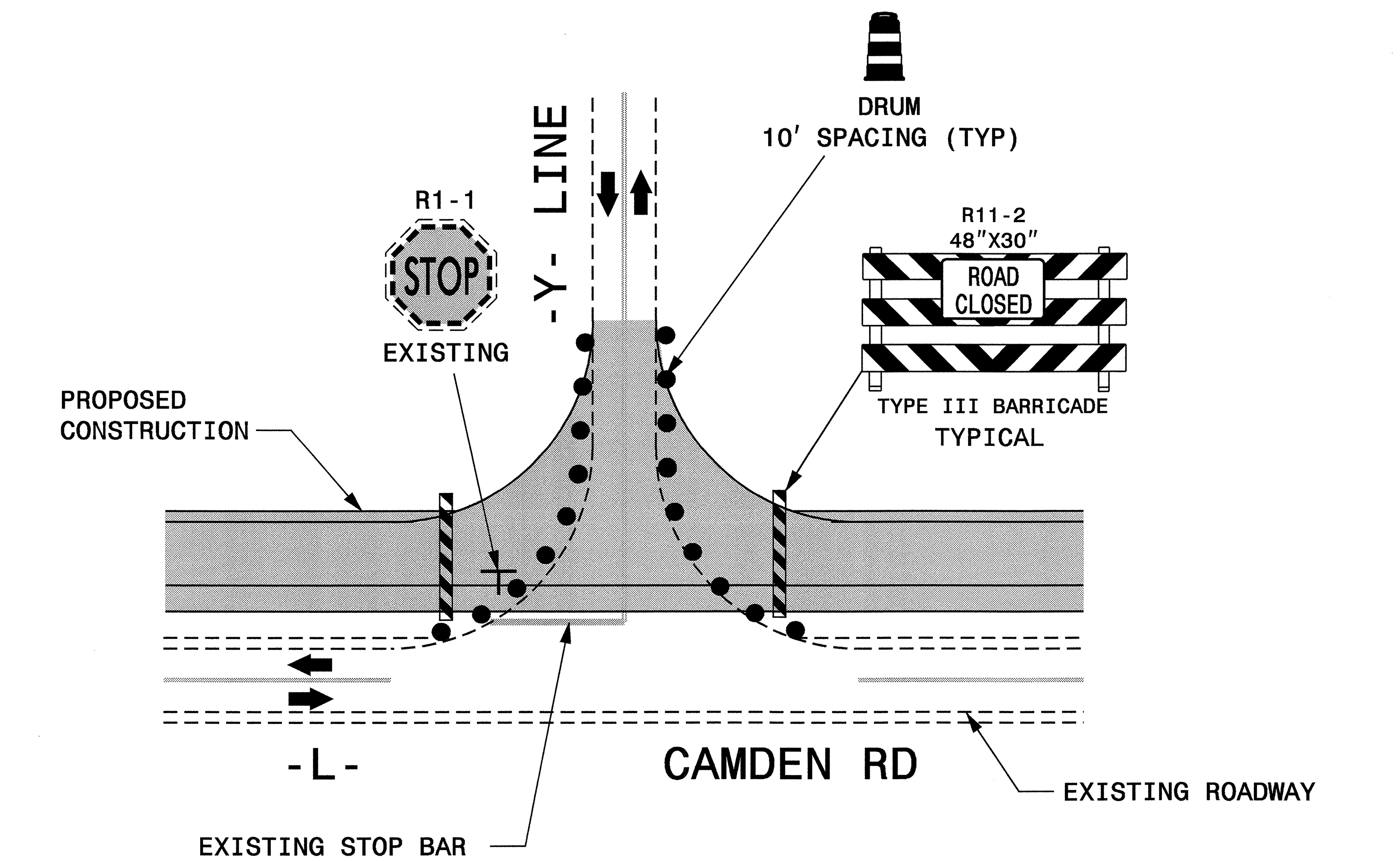
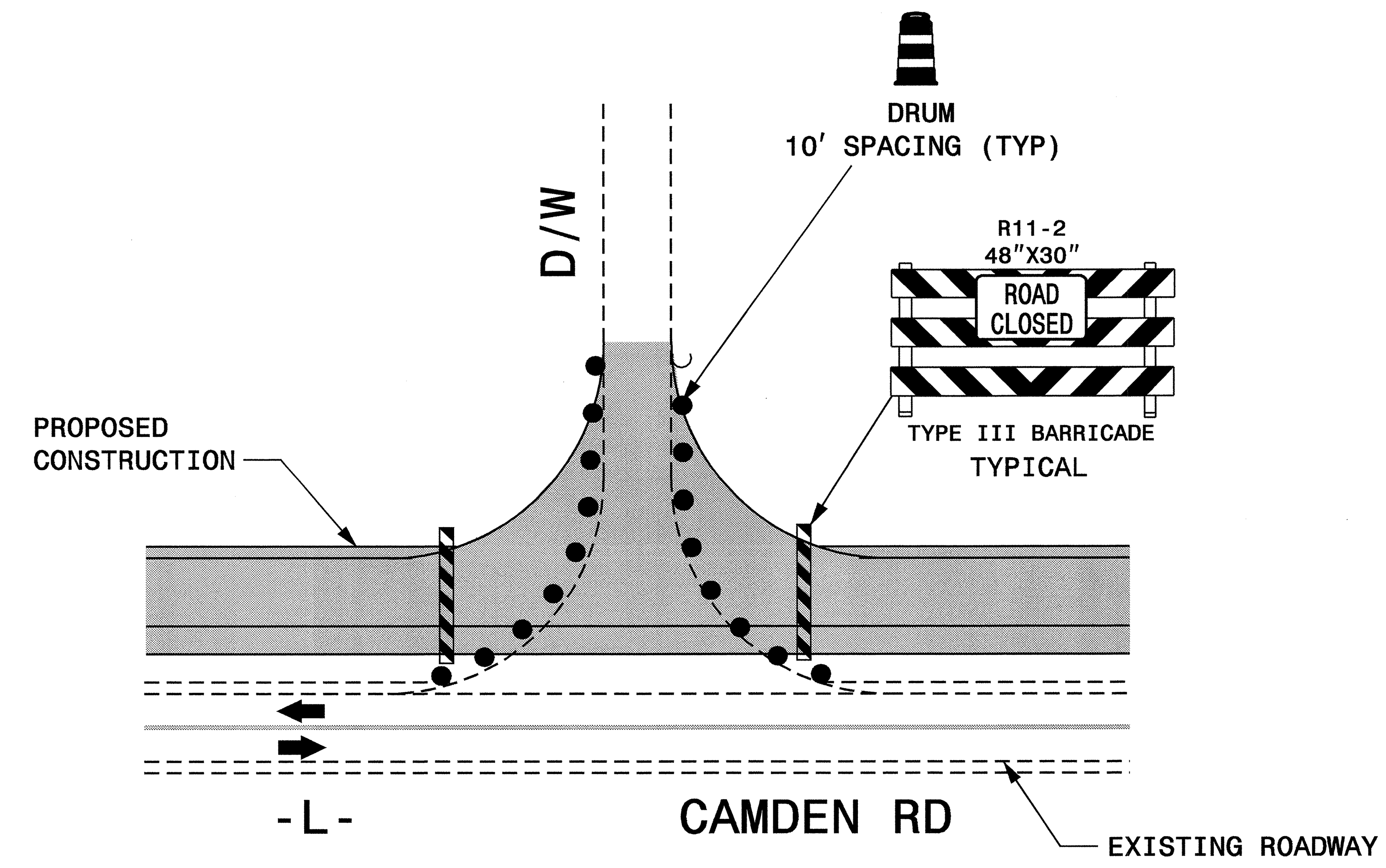
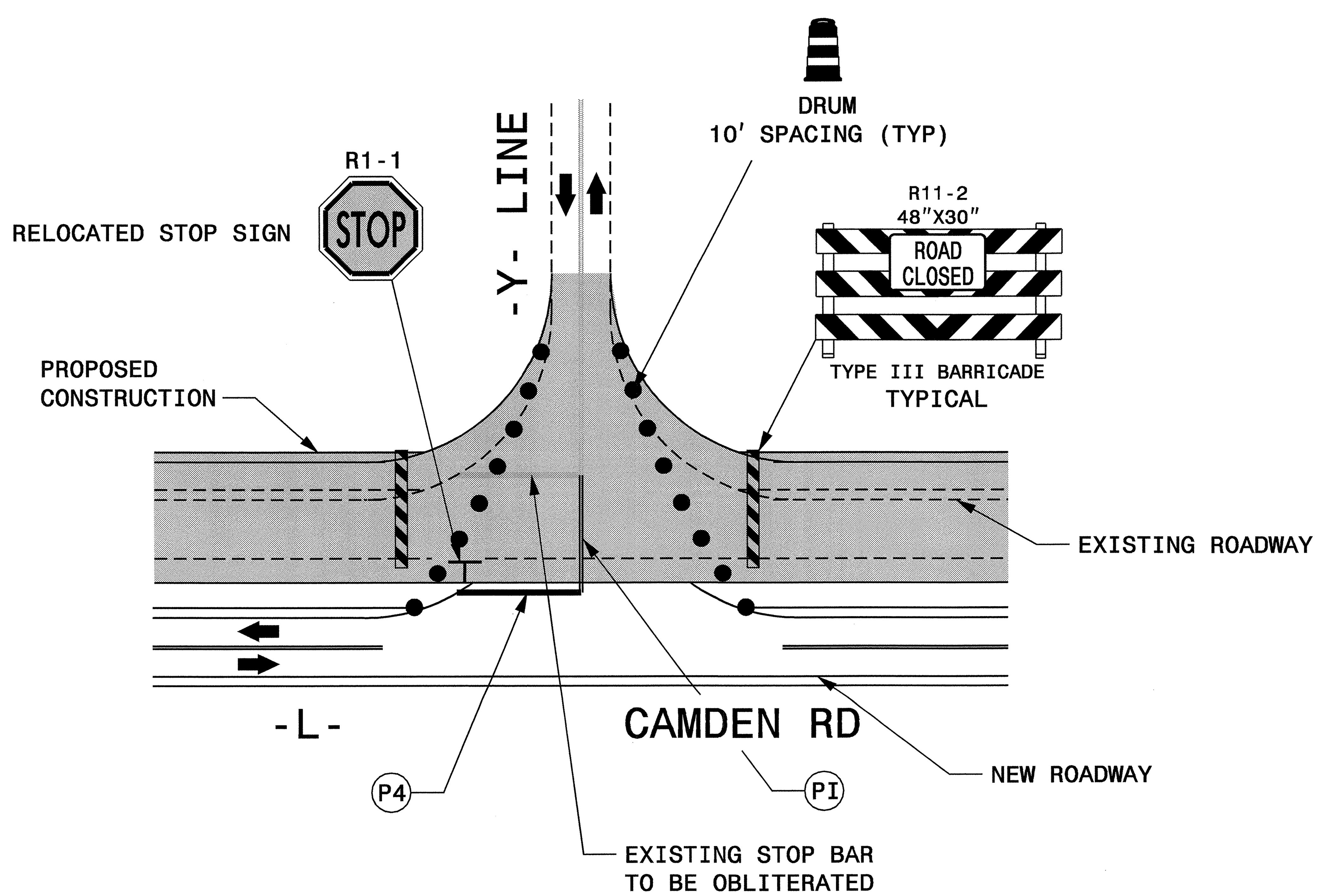
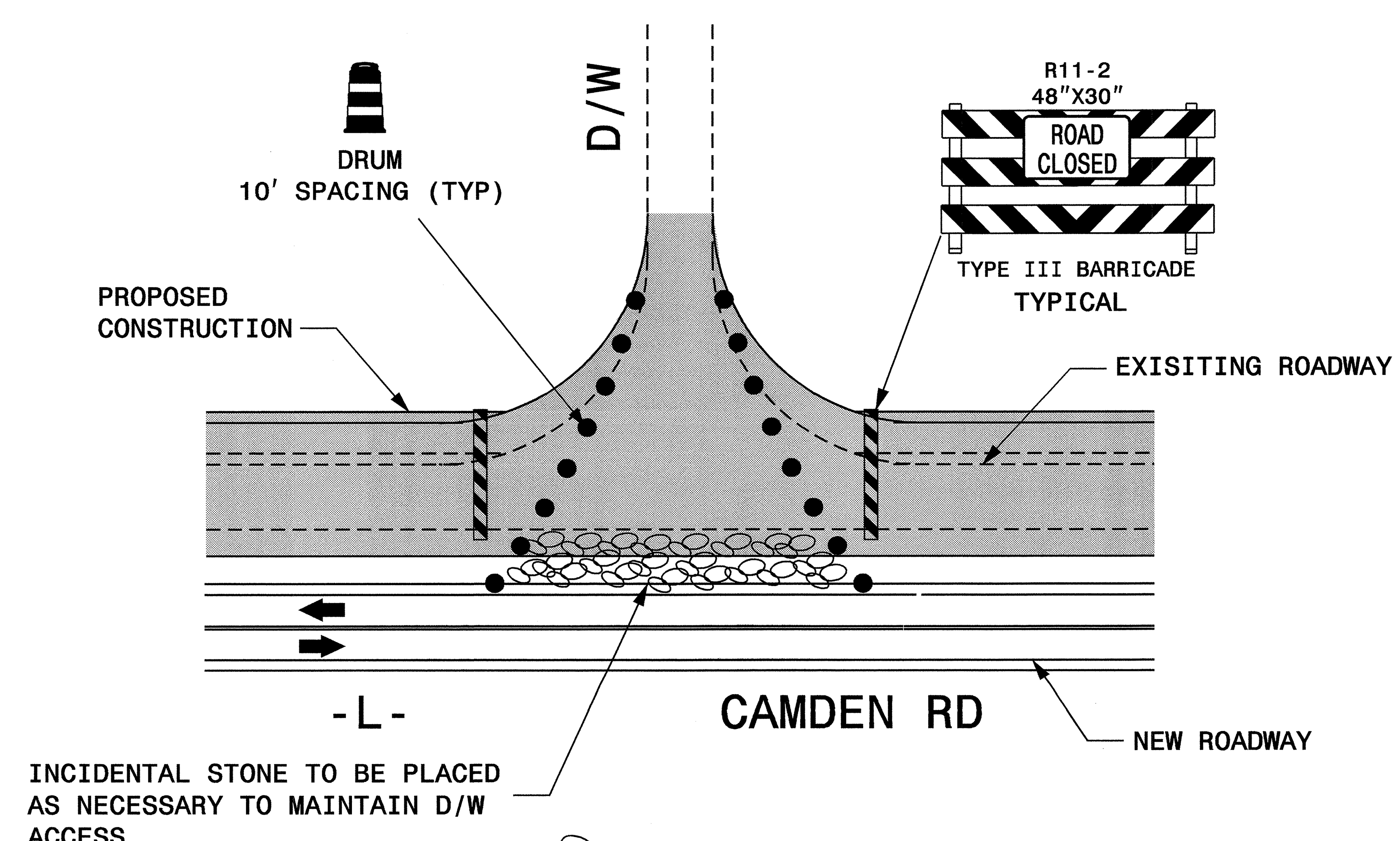
rmgarrett AT WZTC244747

PROJ. REFERENCE NO.	SHEET NO.
U-2810A	TCP-15









** NOTE: SEE SHEET TCP-15 CONCERNING TRAFFIC CONTROL FOR NEW STOP LOCATIONS FOR -Y- LINES

APPROVED: Jessica Kuse DATE: 10/31/08

SEAL: NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 027811 JESSICA D. KUSE

TYPICAL SIGN / DEVICES AT -Y- LINES AND DRIVEWAYS

SCALE:	NONE
DATE:	06/07
DWG. BY:	RMG
DESIGN BY:	RMG
REVIEWED BY:	JDK

DIVISION OF HIGHWAYS, STATE OF NORTH CAROLINA, DEPARTMENT OF TRANSPORTATION, WORK ZONE TRAFFIC CONTROL UNIT

REVISIONS

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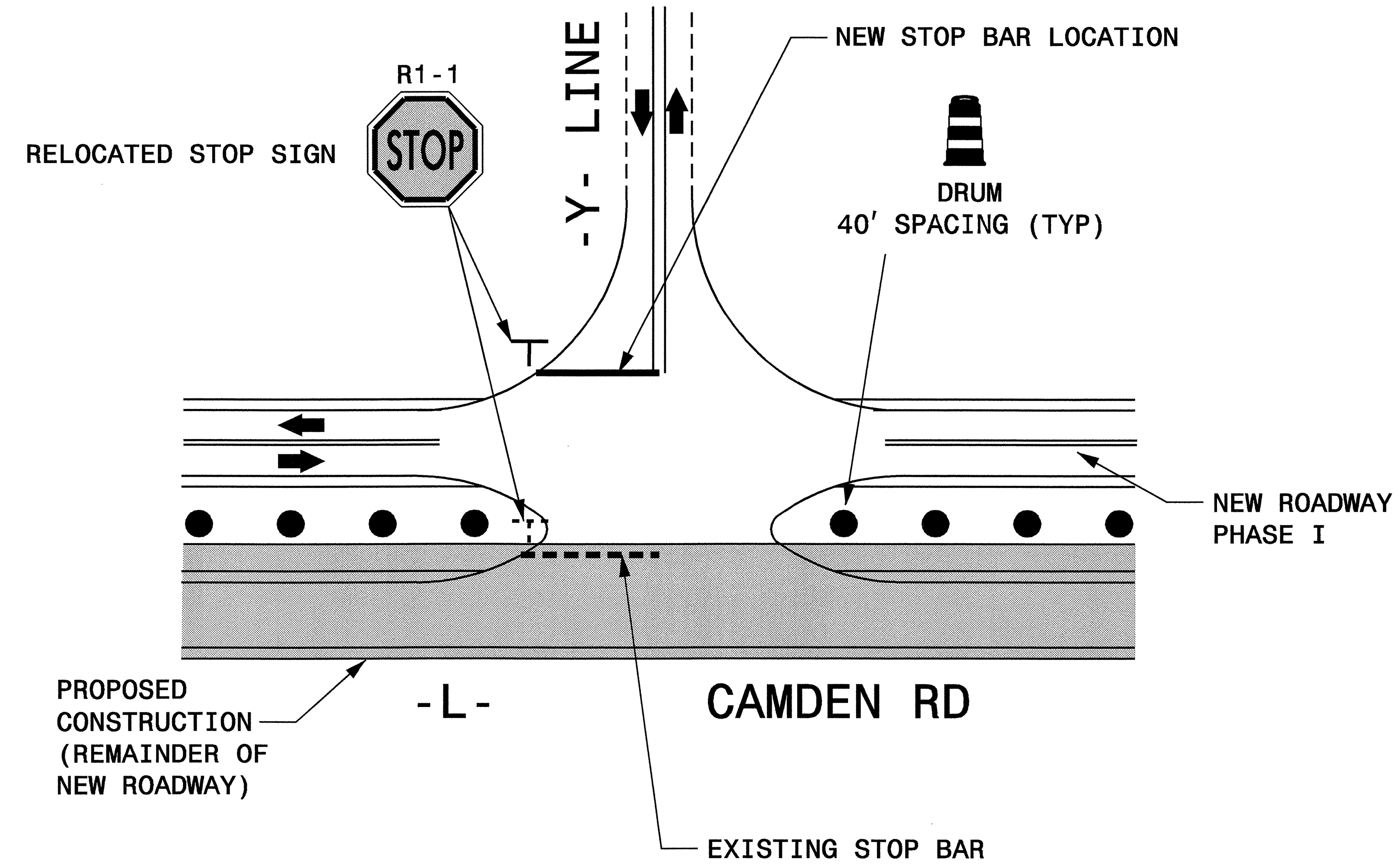
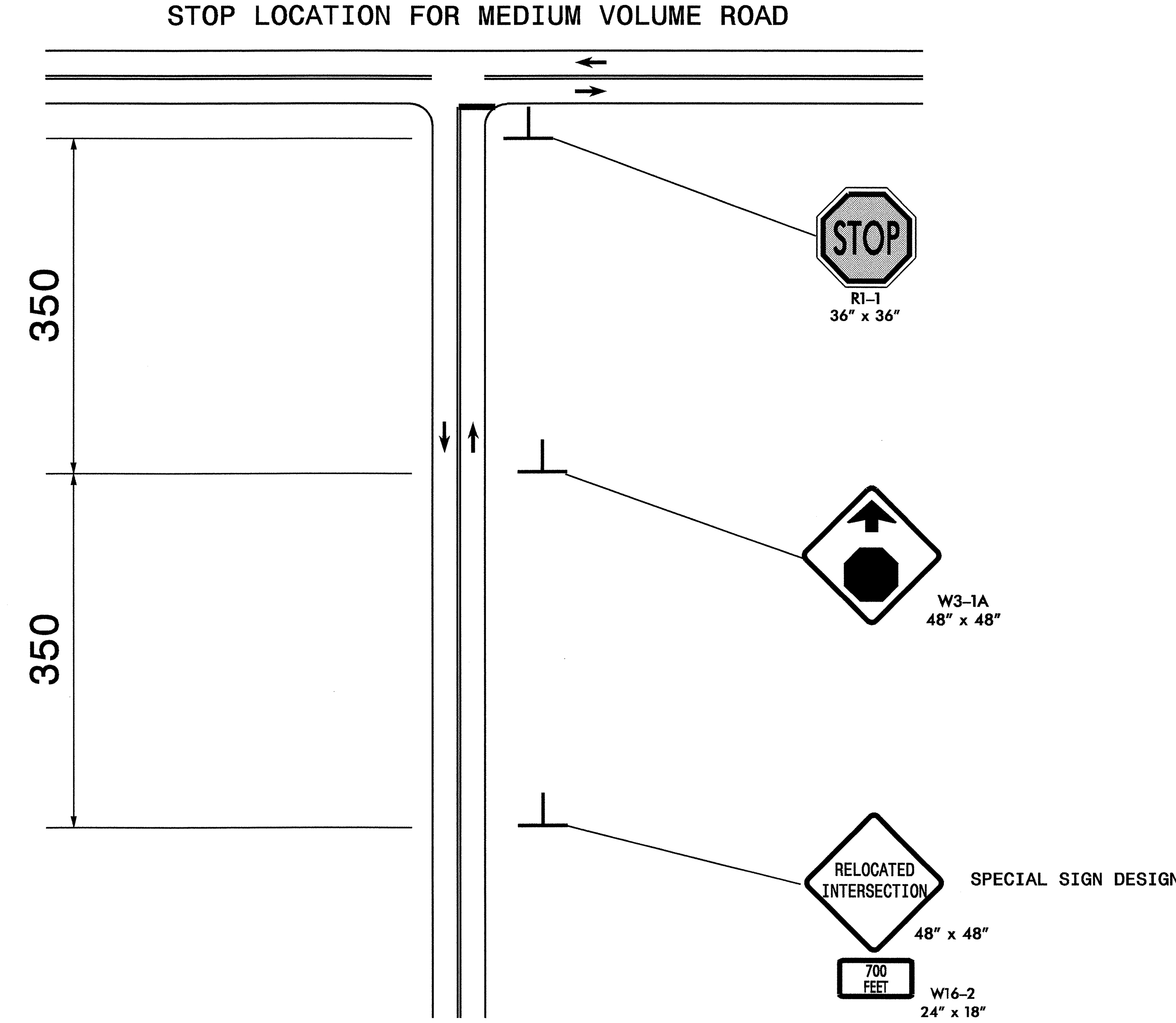
rmgarrett AT WZTC244747

PROJ. REFERENCE NO.	SHEET NO.
U-2810A	TCP-16



TRAFFIC CONTROL TREATMENT FOR NEW
STOP LOCATION FOR MEDIUM VOLUME ROAD



TO BE USED AT THE
FOLLOWING -Y- LINES:

-Y1- & -Y2-

APPROVED: Jessica Kuse DATE: 10/31/08

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 027811 ENGINEER JESSICA D. KUSE

TRAFFIC CONTROL FOR NEW STOP LOCATIONS FOR -Y- LINES

SCALE:	NONE
DATE:	06/07
DWG. BY:	RMG
DESIGN BY:	RMG
REVIEWED BY:	JDK

DIVISION OF HIGHWAYS · STATE OF NORTH CAROLINA · DEPARTMENT OF TRANSPORTATION · WORK ZONE TRAFFIC CONTROL UNIT

REVISIONS

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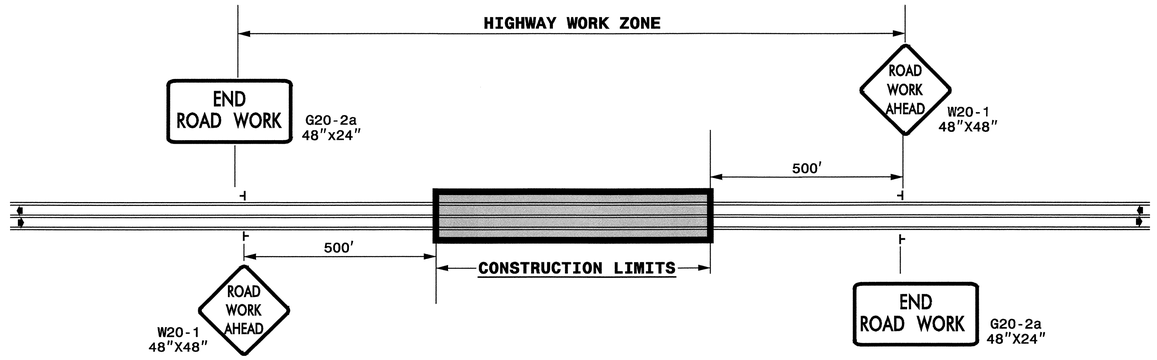
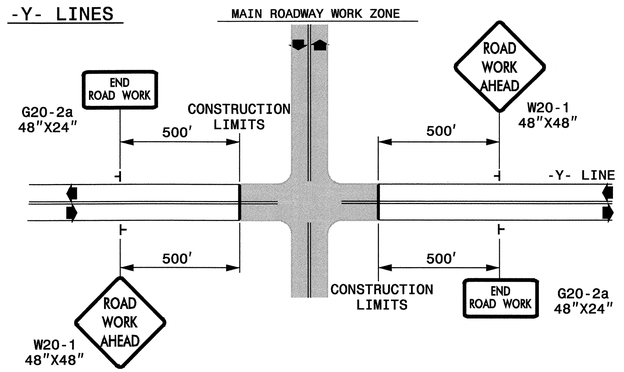
PROJ. REFERENCE NO.	SHEET NO.
U-2810A	TCP-17

TWO-WAY UNDIVIDED ** (L-LINES)



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: [signature] DATE: 12/31/08

SEAL — NORTH CAROLINA PROFESSIONAL SEAL 027811 ENGINEER JESSICA D. KUSE

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

SCALE:	NONE
DATE:	
DWG. BY:	
DESIGN BY:	
REVIEWED BY:	

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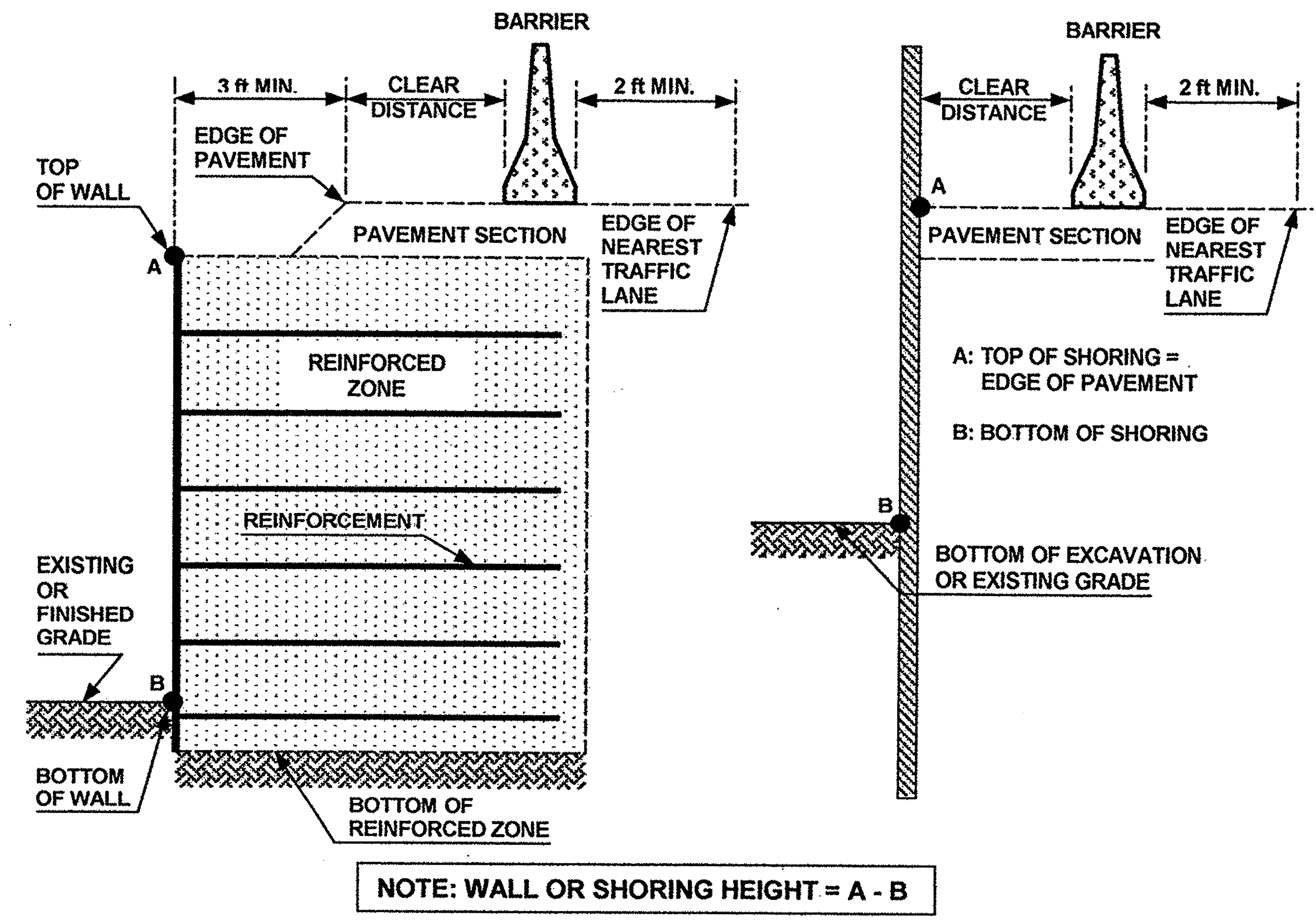

FIGURE A

NOTES

1- REFER TO THE TRAFFIC CONTROL PLANS FOR SHORING LOCATIONS AND SOIL PARAMETERS.

2- REFER TO THE "TEMPORARY SHORING" PROJECT SPECIAL PROVISION FOR MORE INFORMATION ABOUT TEMPORARY SHORING, MEASUREMENT AND PAYMENT.

3- PROVIDE PORTABLE CONCRETE BARRIER TO PROTECT TEMPORARY SHORING IF SHORING IS LOCATED WITHIN THE CLEAR ZONE AS DEFINED IN THE AASHTO ROADSIDE DESIGN GUIDE.

4- BASED ON THE CLEAR DISTANCE, OFFSET, DESIGN SPEED AND PAVEMENT TYPE, CHOOSE AN UNANCHORED PCB, ANCHORED PCB OR AN OREGON BARRIER FROM THE TABLE SHOWN IN FIGURE B. FOR TRAFFIC LANES AND PORTABLE CONCRETE BARRIER LOCATED ABOVE AND BEHIND TEMPORARY SHORING, THE FOLLOWING ARE DEFINED AS:

CLEAR DISTANCE - HORIZONTAL DISTANCE FROM THE BACK FACE OF THE BARRIER TO THE EDGE OF PAVEMENT FOR TEMPORARY MSE WALL OR TO THE FACE OF NON-ANCHORED TEMPORARY SHORING AS SHOWN IN FIGURE A.

OFFSET - HORIZONTAL DISTANCE FROM THE FRONT FACE OF THE BARRIER TO CENTERLINE OF THE FURTHEST TRAFFIC LANE AS SHOWN IN FIGURE B FOR 3 TRAFFIC LANES.

5- AT THE CONTRACTOR'S OPTION OR IF THE MINIMUM REQUIRED CLEAR DISTANCE IS NOT AVAILABLE, SET AN UNANCHORED PCB AGAINST THE TRAFFIC SIDE OF THE SHORING AND DESIGN SHORING FOR TRAFFIC IMPACT OR USE THE "SURCHARGE CASE WITH TRAFFIC IMPACT" FOR THE STANDARD TEMPORARY SHORING.

6- USE NCDOT PORTABLE CONCRETE BARRIER (PCB) IN ACCORDANCE WITH ROADWAY STANDARD DRAWING NO. 1170.01 AND SECTION 1170 OF THE STANDARD SPECIFICATIONS.

7- USE OREGON TALL F-SHAPE CONCRETE BARRIER IN ACCORDANCE WITH DETAIL DRAWING AND SPECIAL PROVISION OBTAINED FROM: HTTP://WWW.NCDOT.ORG/DOH/PRECONSTRUCT/WZTC/DESRES/ENGLISH/DESRESENG.HTML

8- UNLESS NOTED OTHERWISE ON THE PLANS, SET PORTABLE CONCRETE BARRIER WITH A MINIMUM DISTANCE OF 2 FT BETWEEN THE FRONT FACE OF THE BARRIER AND THE EDGE OF THE NEAREST TRAFFIC LANE AS SHOWN IN FIGURE A.

9- FOR PORTABLE CONCRETE BARRIER ABOVE AND BEHIND TEMPORARY MSE WALLS, PROVIDE A MINIMUM DISTANCE OF 3 FT BETWEEN THE EDGE OF PAVEMENT AND THE WALL FACE AS SHOWN IN FIGURE A. IF THESE MINIMUM REQUIRED DISTANCES ARE NOT AVAILABLE, CONTACT THE ENGINEER.

10- TABLE SHOWN IN FIGURE B IS BASED ON NCDOT RESEARCH PROJECT NO. 2005-010 WITH VEHICLE TYPE USED FOR NCHRP 350 CRASH TESTS. BARRIER DEFLECTIONS AND RESULTING MINIMUM REQUIRED CLEAR DISTANCES MIGHT VARY SIGNIFICANTLY FOR LARGER HEAVIER VEHICLES, RUNS OF BARRIER LESS THAN 200' IN LENGTH AND WET OR DRY PAVEMENT.

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rmgarrett AT WZTC22229I

MINIMUM REQUIRED CLEAR DISTANCE, inches

Barrier Type	Pavement Type	Offset * ft	Design Speed, mph					
			<30	31-40	41-50	51-60	61-70	71-80
Unanchored PCB	Asphalt	<8	24	26	29	32	36	40
		8-14	26	28	31	35	38	42
		14-20	27	29	34	36	39	43
		20-26	28	31	35	38	40	44
		26-32	29	32	36	39	42	45
		32-38	30	34	38	41	43	46
		38-44	31	34	41	43	45	48
		44-50	31	35	41	43	46	49
		50-56	32	36	42	44	47	50
		>56	32	36	42	45	47	51
	Concrete	<8	17	18	21	22	25	26
		8-14	19	20	23	25	26	29
		14-20	22	22	24	26	28	31
		20-26	23	24	26	27	30	34
		26-32	24	25	27	28	32	35
		32-38	24	26	27	30	33	36
		38-44	25	26	28	30	34	37
		44-50	26	26	28	32	35	37
		50-56	26	26	28	32	35	38
		>56	26	27	29	32	36	38
Anchored PCB or Oregon Barrier	Asphalt	All Offsets	24 for All Design Speeds					
Anchored PCB or Oregon Barrier	Concrete (including bridge approach slabs)	All Offsets	12 for All Design Speeds					

* See Figure Below

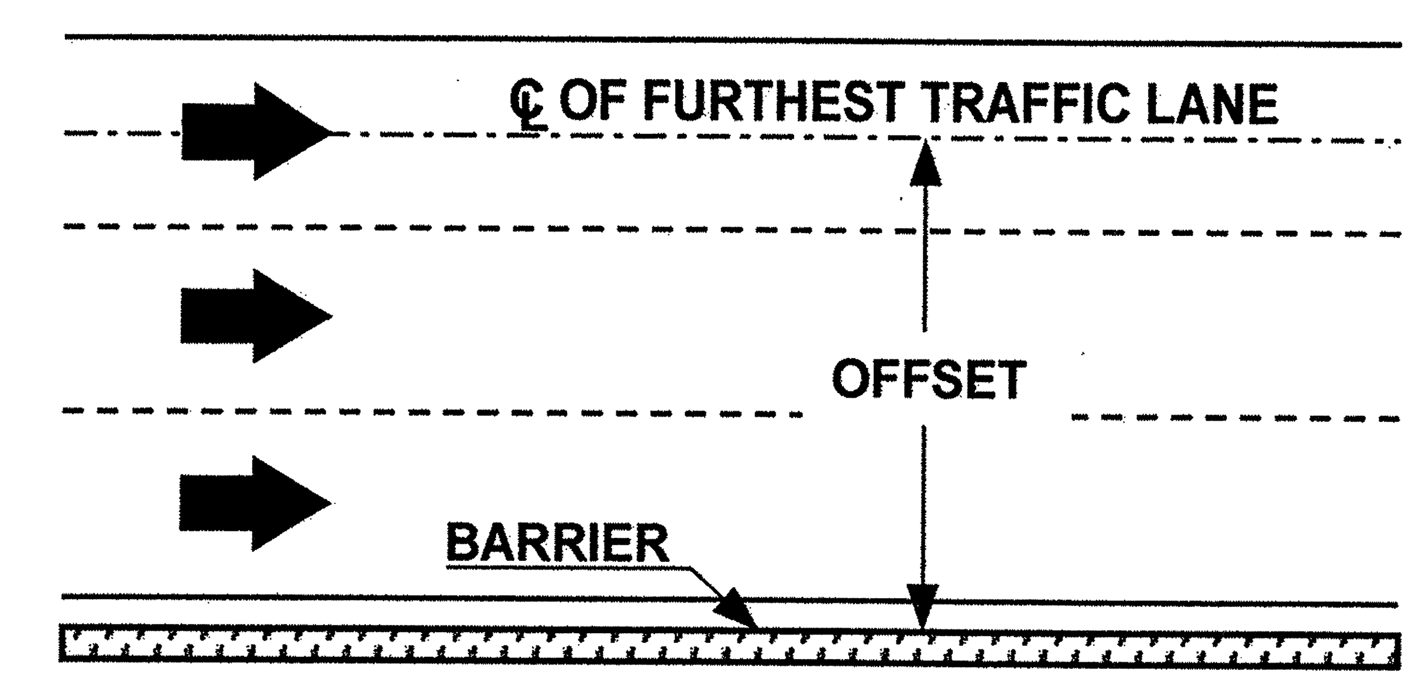

FIGURE B

APPROVED: ______ DATE: ______	PORTABLE CONCRETE BARRIER AT TEMPORARY SHORING LOCATIONS
SEAL — NORTH CAROLINA PROFESSIONAL ENGINEER, SEAL 028380, JOSEPH ISHAK	SCALE: NONE
	DATE: 3/07
	DWG. BY: JI
	DESIGN BY: JI
	REVIEWED BY: JI

DIVISION OF HIGHWAYS · STATE OF NORTH CAROLINA · DEPARTMENT OF TRANSPORTATION · WORK ZONE TRAFFIC CONTROL UNIT

REVISIONS

CADD FILE