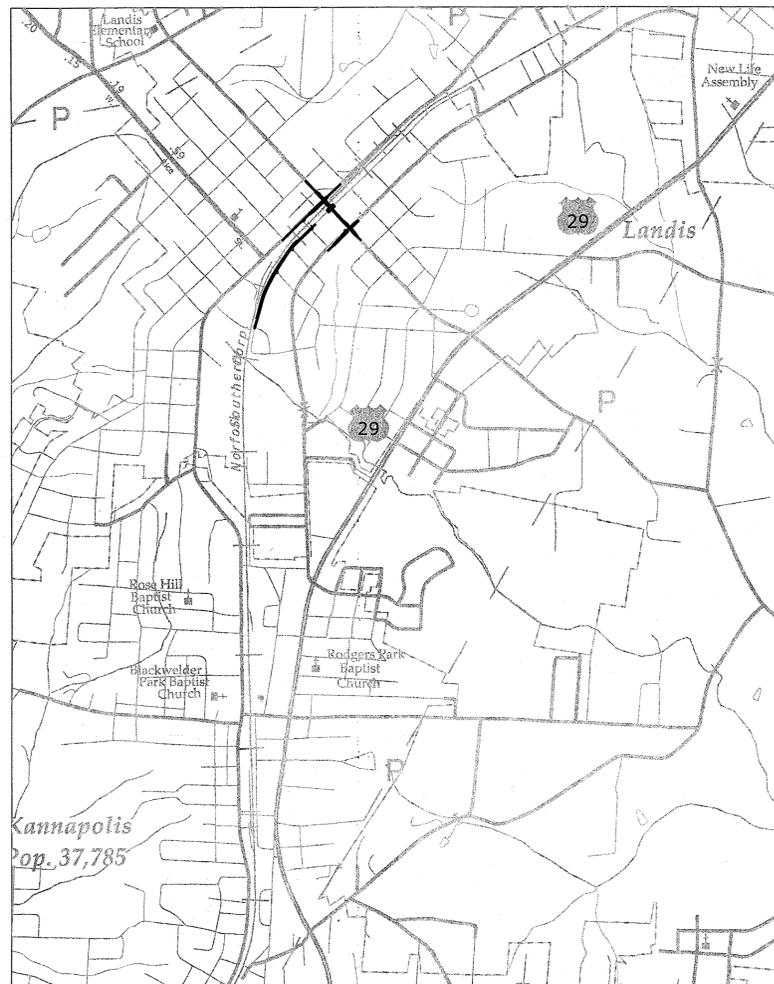
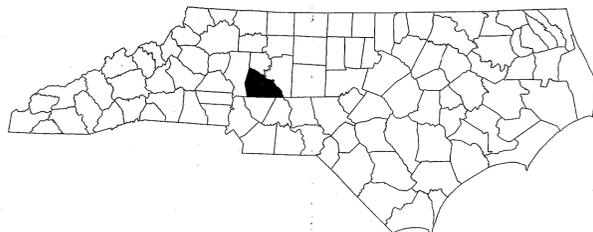


STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

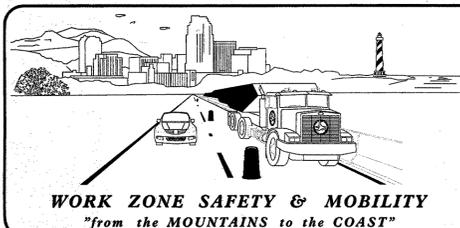
TRANSPORTATION MANAGEMENT PLAN

ROWAN COUNTY



INDEX OF SHEETS

SHEET NO.	TITLE
TMP-1	TITLE SHEET, VICINITY MAP, AND INDEX OF SHEETS
TMP-1A	LIST OF APPLICABLE ROADWAY STANDARD DRAWINGS AND LEGEND, TEMP. PAV'T MARKING
TMP-1B	TRANSPORTATION OPERATIONS PLAN: (GENERAL NOTES)
TMP-2	PHASING
TMP-3 THRU TMP-8	PHASE I
TMP-9	PHASE II
TMP-10 THRU TMP-14	SIGN DESIGNS



N.C.D.O.T. WORK ZONE TRAFFIC CONTROL
1561 MAIL SERVICE CENTER (MSC) RALEIGH, NC 27699-1561
750 N. GREENFIELD PARKWAY, GARNER, NC 27529 (DELIVERY)
PHONE: (919) 773-2800 FAX: (919) 771-2745

J. S. BOURNE, P.E. STATE TRAFFIC MANAGEMENT ENGINEER

TRAFFIC CONTROL PROJECT ENGINEER

TRAFFIC CONTROL PROJECT DESIGN ENGINEER

TRAFFIC CONTROL DESIGN ENGINEER



PLANS PREPARED BY:



STEWART

421 FAYETTEVILLE ST, STE 400 Firm License #: C-1051
RALEIGH, NC 27601 www.stewartinc.com
T 919.380.8750 PROJECT #: B11001

APPROVED: *David Ruggles*
DATE: 7-22-13

SEAL



\$\$\$\$\$SYTIME\$\$\$\$\$
\$\$\$\$\$DLN\$\$\$\$\$
\$\$\$\$\$USERAME\$\$\$\$\$

ROADWAY STANDARD DRAWINGS

THE FOLLOWING ROADWAY STANDARDS AS SHOWN IN "ROADWAY STANDARD DRAWINGS" - PROJECT SERVICES UNIT - N.C. DEPARTMENT OF TRANSPORTATION - RALEIGH, N.C., DATED JANUARY 2012 ARE APPLICABLE TO THIS PROJECT AND BY REFERENCE HEREBY ARE CONSIDERED A PART OF THESE PLANS:

STD. NO.	TITLE
1101.01	WORK ZONE WARNING SIGNS
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
1115.01	FLASHING ARROW BOARDS
1130.01	DRUMS
1135.01	CONES
1145.01	BARRICADES
1150.01	FLAGGING DEVICES
1160.01	TEMPORARY CRASH CUSHION
1170.01	PORTABLE CONCRETE BARRIER
1180.01	SKINNY - DRUM
1250.01	RAISED PAVEMENT MARKERS - INSTALLATION SPACING
1251.01	RAISED PAVEMENT MARKERS - (PERMANENT AND TEMPORARY)
1261.01	GUARDRAIL AND BARRIER DELINEATORS - INSTALLATION SPACING
1261.02	GUARDRAIL AND BARRIER DELINEATORS - TYPES AND MOUNTING

GENERAL

- DIRECTION OF TRAFFIC FLOW
- DIRECTION OF PEDESTRIAN TRAFFIC FLOW
- EXIST. PVMT.
- NORTH ARROW
- PROPOSED PVMT.

- WORK AREA
- REMOVAL
- USER DEFINED (IF NEEDED)
- USER DEFINED (IF NEEDED)

TRAFFIC CONTROL DEVICES

- BARRICADE (TYPE III)
- CONE
- DRUM SKINNY DRUM TUBULAR MARKER
- TEMPORARY CRASH CUSHION
- FLASHING ARROW PANEL (TYPE C)
- FLAGGER
- LAW ENFORCEMENT
- TRUCK MOUNTED IMPACT ATTENUATOR (TMIA)
- CHANGEABLE MESSAGE SIGN

TEMPORARY SIGNING

- PORTABLE SIGN
- STATIONARY SIGN
- STATIONARY OR PORTABLE SIGN

SIGNALS

- EXISTING
- PROPOSED
- TEMPORARY

PAVEMENT MARKINGS

- EXISTING LINES
- TEMPORARY LINES

PAVEMENT MARKERS

- CRYSTAL / CRYSTAL
- CRYSTAL / RED
- YELLOW / YELLOW

PAVEMENT MARKING SYMBOLS

- PAVEMENT MARKING SYMBOLS

LEGEND

TEMPORARY PAVEMENT MARKING

SYMBOL	DESCRIPTION	PVT_MKG	QUANTITY	TOTAL QUANTITY
PA	WHITE EDGE LINE (2X)	PAINT (4 IN)	5570	
PB	YELLOW EDGE LINE (2X)		3720	
PI	YELLOW DOUBLE CENTERLINE (2X)		5260	14550
P1	WHITE LINE, RRX (2X)	PAINT (16 IN)	88	88
P4	WHITE STOP BAR (2X)	PAINT (24 IN)	96	96
QC	STRAIGHT ARROW (2X)	STRAIGHT ARROW	18	18
QI	ALPHANUMERIC CHAR. (2X)	CHARACTER	4	4

PAVEMENT MARKING REMOVAL

REMOVAL OF PAVEMENT MARKING (4") 9260 FT

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

SYSTEMS TIME: 11/15/13 11:15:11 AM

APPROVED: <i>David Ruggles</i> DATE: 7-22-13 		ROADWAY STANDARD DRAWINGS & LEGEND
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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 UNDESIRE 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
MAIN STREET (-YL-)	MONDAY THRU FRIDAY 7:00AM TO 9:00AM
RYDER AVENUE (-Y12-)	4:00PM TO 7:00PM
CHAPEL STREET (-Y51-)	
CENTRAL AVE (-Y45-/-Y46-)	

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

ROAD NAME
MAIN STREET (-YL-)
RYDER AVENUE (-Y12-)
CHAPEL STREET (-Y51-)
CENTRAL AVE (-Y45-/-Y46-)

HOLIDAY

- FOR ANY UNEXPECTED OCCURRENCE THAT CREATES UNUSUALLY HIGH TRAFFIC VOLUMES, AS DIRECTED BY THE ENGINEER.
- FOR NEW YEAR'S, BETWEEN THE HOURS OF 7:00 A.M. DECEMBER 31st TO 7:00 P.M. JANUARY 2ND. IF NEW YEAR'S DAY IS ON A FRIDAY, SATURDAY, SUNDAY, OR MONDAY THEN UNTIL 7:00 P.M. THE FOLLOWING TUESDAY.
- FOR EASTER, BETWEEN THE HOURS OF 7:00 A.M. THURSDAY AND 7:00 P.M. MONDAY.
- FOR MEMORIAL DAY, BETWEEN THE HOURS OF 7:00 A.M. FRIDAY TO 7:00 P.M. TUESDAY.
- FOR INDEPENDENCE DAY, BETWEEN THE HOURS OF 7:00 A.M. THE DAY BEFORE INDEPENDENCE DAY AND 7:00 P.M. THE DAY AFTER INDEPENDENCE DAY.

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

C) DO NOT CONDUCT ANY HAULING OPERATIONS AGAINST THE FLOW OF TRAFFIC OF AN OPEN TRAVELWAY UNLESS THE HAULING OPERATION IS PROTECTED BY BARRIER OR GUARDRAIL OR AS DIRECTED BY THE ENGINEER.

LANE AND SHOULDER CLOSURE REQUIREMENTS

- D) 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.**
- E) WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING WITHIN 15 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 OR A LANE CLOSURE IS INSTALLED.**
- F) 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.

- G) 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.**
- H) 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.**
- I) PROVIDE TRAFFIC CONTROL FOR APPROPRIATE LANE CLOSURES FOR SURVEYING DONE BY THE DEPARTMENT.**

PAVEMENT EDGE DROP OFF REQUIREMENTS

J) 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.

K) 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) 500 FT IN ADVANCE AND A MINIMUM OF EVERY HALF MILE THROUGHOUT THE UNEVEN AREA.

TRAFFIC PATTERN ALTERATIONS

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

SIGNING

- M) 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.**
- N) PROVIDE SIGNING AND DEVICES REQUIRED TO CLOSE THE ROAD ACCORDING TO THE ROADWAY STANDARD DRAWINGS AND TRAFFIC CONTROL PLANS.**
- PROVIDE SIGNING REQUIRED FOR THE OFF-SITE DETOUR ROUTE AS SHOWN IN THE TRAFFIC CONTROL PLANS.
- 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) 500 FT IN ADVANCE OF THE UNEVEN AREA, OR AS DIRECTED BY THE ENGINEER.**

TRAFFIC BARRIER

Q) INSTALL TEMPORARY BARRIER ACCORDING TO THE TRANSPORTATION MANAGEMENT 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 TRANSPORTATION MANAGEMENT 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 TRANSPORTATION MANAGEMENT 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 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: (SEE ALSO 1101.05)

POSTED SPEED LIMIT	MINIMUM OFFSET
40 OR LESS	15 FT
45 - 50	20 FT
55	25 FT
60 MPH or HIGHER	30 FT

TRAFFIC CONTROL DEVICES

S) WHEN LANE CLOSURES ARE NOT IN EFFECT SPACE CHANNELIZING DEVICES IN WORK AREAS NO GREATER IN FEET THAN TWICE THE POSTED SPEED LIMIT (MPH) EXCEPT, 10 FT ON-CENTER IN RADII, AND 3 FT OFF THE EDGE OF AN OPEN TRAVELWAY. REFER TO STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES SECTIONS 1130 (DRUMS), 1135 (CONES) AND 1180 (SKINNY DRUMS) FOR ADDITIONAL REQUIREMENTS.

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

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

ROAD NAME	MARKING	MARKER
ALL ROADS	PAINT	TEMPORARY RAISED

V) 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.

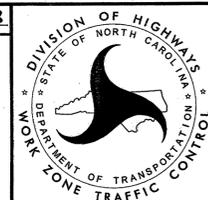
W) TIE PROPOSED PAVEMENT MARKING LINES TO EXISTING PAVEMENT MARKING LINES.

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

MISCELLANEOUS

- Y) LAW ENFORCEMENT MAY BE USED TO MAINTAIN TRAFFIC THROUGH THE WORK AREA AND/OR INTERSECTIONS AS DIRECTED BY THE ENGINEER.**
- Z) ALL CURB RAMP LOCATIONS SHALL BE DERIVED FROM STATIONING SHOWN ON PAVEMENT MARKING PLANS OR AS DIRECTED BY THE ENGINEER IN COORDINATION WITH THE SIGNING AND DELINEATION UNIT.**
- AA) CONTRACTOR SHALL MAINTAIN SIDEWALK ACCESS AT ALL TIMES AS STATED IN THE PHASING. CONTRACTOR SHALL BE RESPONSIBLE TO PROVIDE TEMPORARY SIDEWALKS (CONCRETE, ASPHALT, OR OTHER SUITABLE MATERIAL AS APPROVED BY THE ENGINEER) AT ALL LOCATIONS WHERE THE OPEN PEDESTRIAN TRAVELWAY HAS BEEN REMOVED FOR CONSTRUCTION OPERATIONS (UTILITIES, DRAINAGE, ETC.)**

APPROVED: *David Ruggles* DATE: 7-22-13



GENERAL NOTES

AREA 1 CONSISTS OF CHAPEL STREET, RYDER AVENUE EAST OF CENTRAL AVENUE, AND CENTRAL AVENUE SOUTH OF MILL STREET

AREA 2 CONSISTS OF RYDER AVENUE GRADE CROSSING AND RELATED ROADWAY WORK

AREA 3 CONSISTS OF 18TH STREET GRADE CROSSING, 22ND STREET GRADE CROSSING, AND RELATED ROADWAY WORK.

CONSTRUCTION IN ONE AREA SHALL PROCEED INDEPENDENTLY AND SIMULTANEOUSLY WITH CONSTRUCTION IN THE OTHER AREAS UNLESS OTHERWISE NOTED ON THE PLANS.

NOTE: THE GRADE CROSSINGS AT -Y52- (18TH STREET) AND -Y53- (22ND STREET) SHALL NOT BE CLOSED SIMULTANEOUSLY. IN ADDITION, THE WORK IN STEPS 1-9 BELOW SHALL BE COMPLETED BEFORE THE 29TH STREET GRADE CROSSING IS CLOSED.

PHASING

PHASE I - AREA 1

STEP 1 USING RSD 1101.01 SHEET 3 OF 3, INSTALL WORK ZONE ADVANCED WARNING SIGNS ON RYDER AVE., CHAPEL ST., MAIN ST. AND CENTRAL AVE.

STEP 2 REMOVE EXISTING PAVEMENT MARKINGS, INSTALL TEMPORARY PAVEMENT MARKINGS, AND INSTALL DRUMS FOR LINES -Y12- AND -Y51- AS SHOWN ON SHEET TMP-3. MAINTAIN ACCESS TO EXISTING DRIVEWAYS.

INSTALL WORK ZONE SIGNING AS SHOWN ON SHEETS TMP-3 AND TMP-4 AND CLOSE -Y46- CENTRAL AVE. TO SOUTHBOUND TRAFFIC FROM MILL ST. TO HILLSIDE STREET. DETOUR SOUTHBOUND -Y46- CENTRAL AVE. TRAFFIC TO CHAPEL ST AS SHOWN ON SHEET TMP-5. REMOVE EXISTING PAVEMENT MARKINGS, INSTALL TEMPORARY PAVEMENT MARKINGS AND ANCHORED PCB TO CREATE A ONE WAY ONE LANE ROAD FOR NORTHBOUND -Y46- CENTRAL AVE. TRAFFIC.

STEP 3 CONSTRUCT WIDENING UP TO BUT NOT INCLUDING FINAL LAYER OF SURFACE COURSE AT THE FOLLOWING LOCATIONS:

-Y12- STA. 5+85.00 TO -Y12- STA. 7+55± RT
-Y51- STA. 14+04± TO -Y51- STA. 17+68± RT

BEGIN CONSTRUCTION OF WALL, BARRIER, CURB AND GUTTER, AND PAVEMENT FROM -Y46- STA. 10+30± TO -Y46- STA. 22+90± RT

PHASE I - AREA 2

STEP 1 INSTALL DETOUR SIGNING TO ROUTE -Y12- RYDER AVE TRAFFIC TO MILL STREET AS SHOWN ON SHEET TMP-7.

THE FOLLOWING WORK (STEPS 2-4) MUST BE COMPLETED IN 45 CALENDAR DAYS (SEE SPECIAL PROVISIONS)

STEP 2 CLOSE RYDER AVE. RAIL CROSSING TO TRAFFIC. INSTALL DRUMS AND TYPE III BARRICADES ALONG -Y45- AND -YL- AS SHOWN ON SHEET TMP-3.

STEP 3 CONSTRUCT RYDER GRADE CROSSING AND ROADWAY PAVEMENT UP TO BUT NOT INCLUDING FINAL LAYER OF SURFACE COURSE FROM -Y12- STA. 12+44± TO -Y12- STA. 13+81± AND ROADWAY PAVEMENT FROM -YL- STA. 13+20± TO -YL- STA. 17+30± AS SHOWN ON SHEET TMP-3.

STEP 4 PLACE TEMPORARY PAVEMENT MARKINGS AND OPEN RYDER GRADE CROSSING TO TRAFFIC.

STEP 5 CLOSE MILL ST. GRADE CROSSING, CONSTRUCT CURB AND GUTTER, AND REMOVE EXISTING PAVEMENT. SEE "MILL STREET CLOSURE" DETAIL ON SHEET TMP-5.

PHASE I - AREA 3

STEP 1 USING RSD 1101.01 SHEET 3 OF 3, INSTALL WORK ZONE ADVANCED WARNING SIGNS ON 18TH STREET AND 22ND STREET.

STEP 2 INSTALL DETOUR SIGNING TO ROUTE -Y52- (18TH STREET) TRAFFIC TO -Y53- (22ND STREET) AS SHOWN ON TMP-6.

STEP 3 CLOSE -Y52- (18TH STREET) GRADE CROSSING TO TRAFFIC AND ROUTE TRAFFIC ON TO DETOUR AS SHOWN ON SHEET TMP-6. PLACE BARRICADES ON LINDA AVE. AT 18TH STREET INTERSECTION AND ROUTE LINDA AVE. TRAFFIC ONTO DETOUR AS SHOWN ON SHEET TMP-6.

STEP 4 CONSTRUCT NEW -Y52- GRADE CROSSING AND -Y52- PROPOSED ROADWAY UP TO BUT NOT INCLUDING FINAL LAYER OF SURFACE COURSE. PLACE TEMPORARY PAVEMENT MARKINGS.

STEP 5 OPEN -Y52- TO TRAFFIC AND REMOVE DETOUR SIGNING.

STEP 6 INSTALL DETOUR SIGNING TO ROUTE -Y53- (22ND STREET) TRAFFIC TO -Y52- (18TH STREET) AS SHOWN ON SHEET TMP-7 AND LINDA AVE. DETOUR SIGNING AS SHOWN ON SHEET TMP-8.

STEP 7 CLOSE -Y53- (22ND STREET) GRADE CROSSING TO TRAFFIC AND ROUTE TRAFFIC ON TO DETOURS AS SHOWN ON SHEET TMP-7. PLACE BARRICADES ON LINDA AVE. AT INTERSECTIONS WITH -Y53- AND ROUTE LINDA AVE. TRAFFIC ONTO DETOUR AS SHOWN ON SHEETS TMP-6 & TMP-7.

STEP 8 CONSTRUCT NEW -Y53- GRADE CROSSING AND -Y53- PROPOSED ROADWAY UP TO BUT NOT INCLUDING FINAL LAYER OF SURFACE COURSE. PLACE TEMPORARY PAVEMENT MARKINGS.

STEP 9 OPEN -Y53- TO TRAFFIC AND REMOVE DETOUR SIGNING.

PHASE II - AREA 1

STEP 1 INSTALL DRUMS, REMOVE OLD PAVEMENT MARKINGS AND INSTALL TEMPORARY PAVEMENT MARKINGS AND SHIFT TRAFFIC TO NEW ALIGNMENT FOR LINES -Y12-, -Y51-, AND -YL- AS SHOWN ON SHEET TMP-9.

STEP 2 CONSTRUCT WIDENING ALONG -Y51- FROM -Y51- STA. 12+00± TO -Y12- INTERSECTION AND ALONG -Y12- FROM -Y51- INTERSECTION TO -Y12- STA. 9+55± AS SHOWN ON SHEET TMP-9.

CONSTRUCT WIDENING FROM -Y12- STA. 14+12± TO -Y12- STA. 16+00.00 RT. AS SHOWN ON SHEET TMP-9.

CONTINUE WORK ON -Y46- (CENTRAL AVENUE) SOUTH OF MILL STREET.

PHASE III - AREA 1

STEP 1 COMPLETE CONSTRUCTION OF RETAINING WALL, CONCRETE MOMENT SLAB AND CONCRETE BARRIER ALONG CENTRAL AVENUE.

STEP 2 CONSTRUCT PAVEMENT FROM -Y46- STA. 10+28± TO -Y46- STA. 22+89± (CENTRAL AVENUE) ADJACENT TO RETAINING WALL.

STEP 3 COMPLETE CONSTRUCTION OF RETAINING WALL, BARRIER, AND PAVEMENT ALONG -Y46- UP TO BUT NOT INCLUDING FINAL LAYER OF SURFACE COURSE.

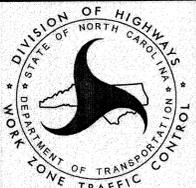
REMOVE ANCHORED PCB FROM -Y46- STA. 10+30± TO -Y46- STA. 28+90± AND REPLACE WITH DRUMS.

STEP 4 PLACE TEMPORARY PAVEMENT MARKINGS IN FINAL PATTERN, OPEN -Y46- TO SOUTHBOUND TRAFFIC AND REMOVE DETOUR SIGNING.

STEP 5 CONSTRUCT KEYED-IN MONOLITHIC ISLANDS ON -Y12- AS SHOWN ON ROADWAY PLANS.

PHASE III - ALL AREAS

STEP 1 PLACE FINAL LAYER OF SURFACE COURSE FOR ENTIRE PROJECT LIMITS USING FLAGGERS AND LANE CLOSURES AS REQUIRED. PLACE FINAL PAVEMENT MARKING AND SIGNS. REMOVE ALL TEMPORARY SIGNING.

APPROVED: <i>David Ruggles</i> DATE: 8-27-13			<h1 style="margin: 0;">PHASING</h1>
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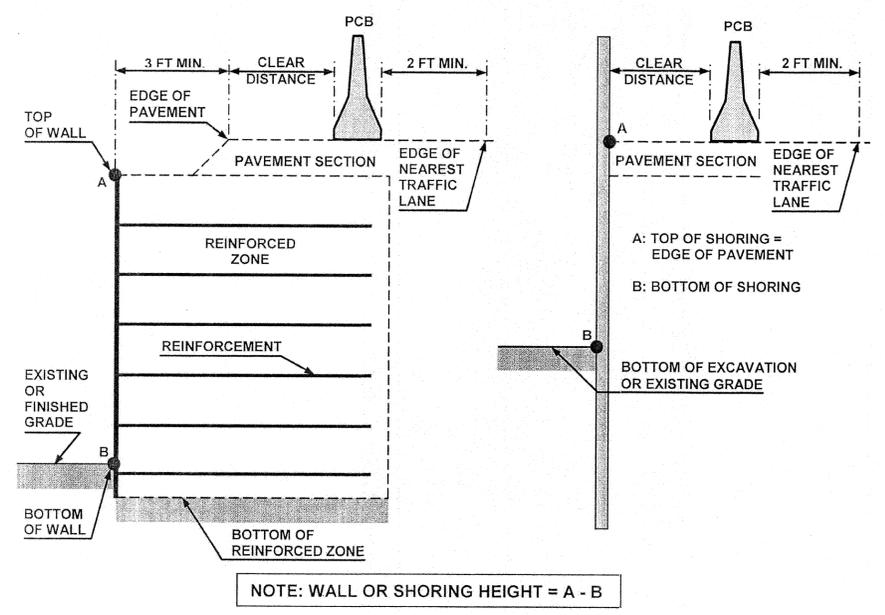


FIGURE A

NOTES

- 1- REFER TO THE TRAFFIC CONTROL PLANS FOR TEMPORARY SHORING LOCATIONS AND NOTES.
- 2- REFER TO THE "TEMPORARY SHORING" PROJECT SPECIAL PROVISION FOR INFORMATION ABOUT TEMPORARY SHORING AND PORTABLE CONCRETE BARRIER (PCB).
- 3- PCB IS REQUIRED IF TEMPORARY SHORING IS LOCATED WITHIN THE CLEAR ZONE IN ACCORDANCE WITH THE AASHTO ROADSIDE DESIGN GUIDE. DO NOT PLACE BARRIER DIRECTLY ON ANY SURFACE OTHER THAN ASPHALT OR CONCRETE. (CONTACT NCDOT PAVEMENT MANAGEMENT UNIT FOR APPLICABLE PAVEMENT DESIGN).
- 4- BASED ON THE CLEAR DISTANCE, OFFSET, DESIGN SPEED AND PAVEMENT TYPE, CHOOSE AN UNANCHORED OR ANCHORED PCB FROM THE TABLE SHOWN IN FIGURE B. CLEAR DISTANCE IS DEFINED AS SHOWN IN FIGURE A AND OFFSET IS DEFINED AS SHOWN IN FIGURE B.
- 5- AT THE CONTRACTOR'S OPTION OR IF THE MINIMUM REQUIRED CLEAR DISTANCE IS NOT AVAILABLE, SET PCB NEXT TO AND UP AGAINST THE TRAFFIC SIDE OF THE TEMPORARY SHORING EXCEPT FOR BARRIER ABOVE TEMPORARY WALLS. PCB WITH THE MINIMUM REQUIRED CLEAR DISTANCE IS REQUIRED ABOVE TEMPORARY WALLS.
- 6- USE NCDOT PORTABLE CONCRETE BARRIER (PCB) IN ACCORDANCE WITH ROADWAY STANDARD DRAWING NO. 1170.01 AND SECTION 1170 OF THE STANDARD SPECIFICATIONS.
- 7- PCB REQUIREMENTS FOR TEMPORARY WALLS APPLY TO TEMPORARY MECHANICALLY STABILIZED EARTH (MSE) WALLS AND TEMPORARY SOIL NAIL WALLS.
- 8- SET PCB WITH A MINIMUM HORIZONTAL DISTANCE OF 2 FT BETWEEN THE FRONT FACE OF THE BARRIER AND THE EDGE OF THE NEAREST TRAFFIC LANE AS SHOWN IN FIGURE A UNLESS OTHERWISE SHOWN IN THE PLANS AND OR AS APPROVED BY THE ENGINEER.
- 9- FOR PCB ABOVE AND BEHIND TEMPORARY 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 FT IN LENGTH AND WET OR DRY PAVEMENT.

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	Asphalt	All Offsets	24 for All Design Speeds					
Anchored PCB	Concrete (including bridge approach slabs)	All Offsets	12 for All Design Speeds					

* See Figure B

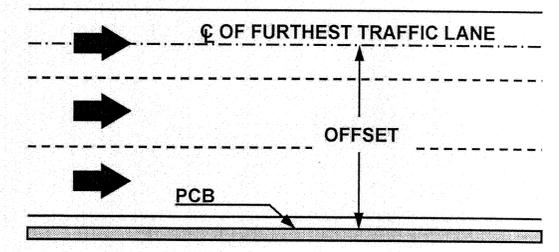


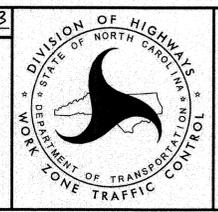
FIGURE B

TEMPORARY SHORING NOTES

TEMPORARY SHORING
 -Y46- STA. 13+50±(7' RT) TO 26+50± (7' RT)
 ESTIMATED QUANTITY = 3,760 SQ. FT.

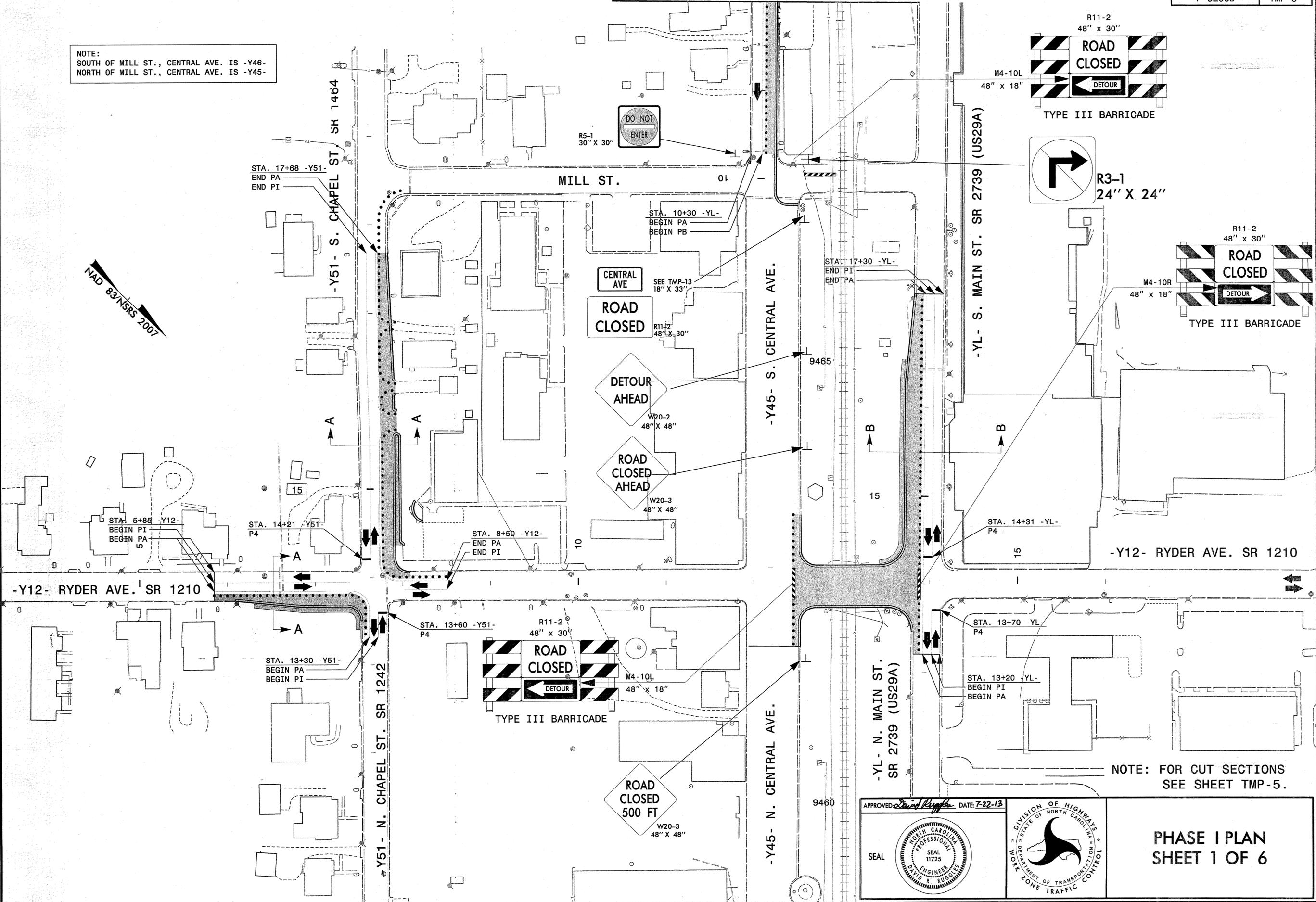
1. FOR TEMPORARY SHORING AND POSITIVE PROTECTION FOR TEMPORARY SHORING, SEE PLANS AND TEMPORARY SHORING PROVISION.
2. BEFORE BEGINNING TEMPORARY SHORING DESIGN OR CONSTRUCTION, SURVEY EXISTING GROUND ELEVATIONS IN THE VICINITY OF SHORING LOCATIONS TO DETERMINE ACTUAL SHORING HEIGHTS.
3. DESIGN TEMPORARY SHORING FROM STA. 13+50±-Y46-, 7 FT (RT) TO STA. 26+50±-Y46-, 7 FT (RT), FOR THE FOLLOWING ASSUMED SOIL PARAMETERS AND GROUNDWATER ELEVATION:
 UNIT WEIGHT = 120 LB/CF
 FRICTION ANGLE = 30 DEGREES
 COHESION (c) = 0 LB/SF
 GROUNDWATER ELEVATION = 830 FT ±
4. DO NOT USE A TEMPORARY WALL FOR TEMPORARY SHORING FROM STA. 13+50±-Y46-, 7 FT (RT) TO STA. 26+50±-Y46-, 7 FT (RT).
5. AT THE CONTRACTOR'S OPTION, USE STANDARD TEMPORARY SHORING FOR TEMPORARY SHORING FROM STA. 13+50±-Y46-, 7 FT (RT) TO STATION 26+50±-Y46-, 7 FT (RT). SEE STANDARD DRAWING NO. 1801.01 FOR STANDARD TEMPORARY SHORING.

APPROVED: *David Kuyper* DATE: 8-12-13
 SEAL
 NORTH CAROLINA PROFESSIONAL ENGINEER
 DAVID R. RUGGIE
 11725



PORTABLE CONCRETE BARRIER
 AT
 TEMPORARY SHORING LOCATIONS

NOTE:
SOUTH OF MILL ST., CENTRAL AVE. IS -Y46-
NORTH OF MILL ST., CENTRAL AVE. IS -Y45-



NOTE: FOR CUT SECTIONS
SEE SHEET TMP-5.

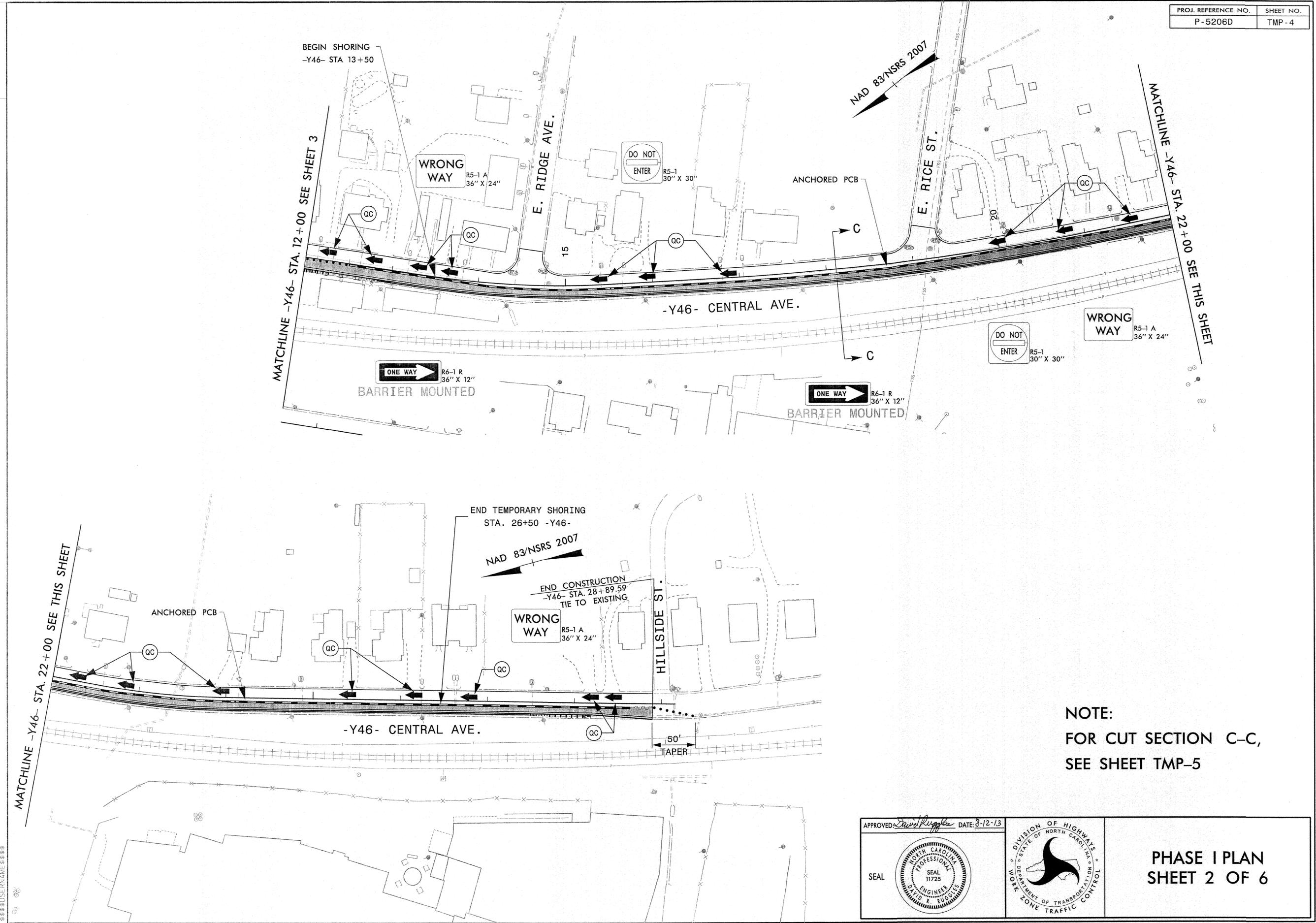
APPROVED: *David Ruffolo* DATE: 7-22-13



**PHASE I PLAN
SHEET 1 OF 6**

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USER:druggies

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NOTE:
FOR CUT SECTION C-C,
SEE SHEET TMP-5

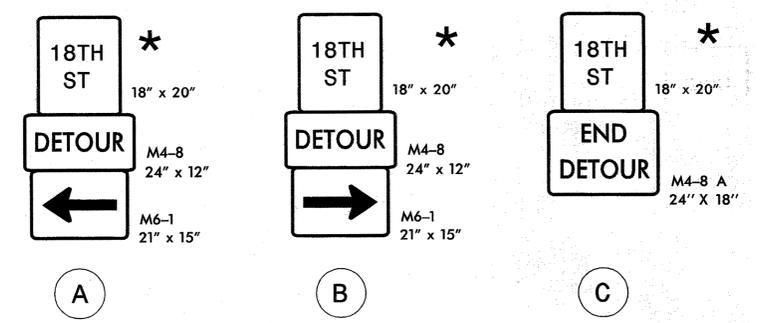
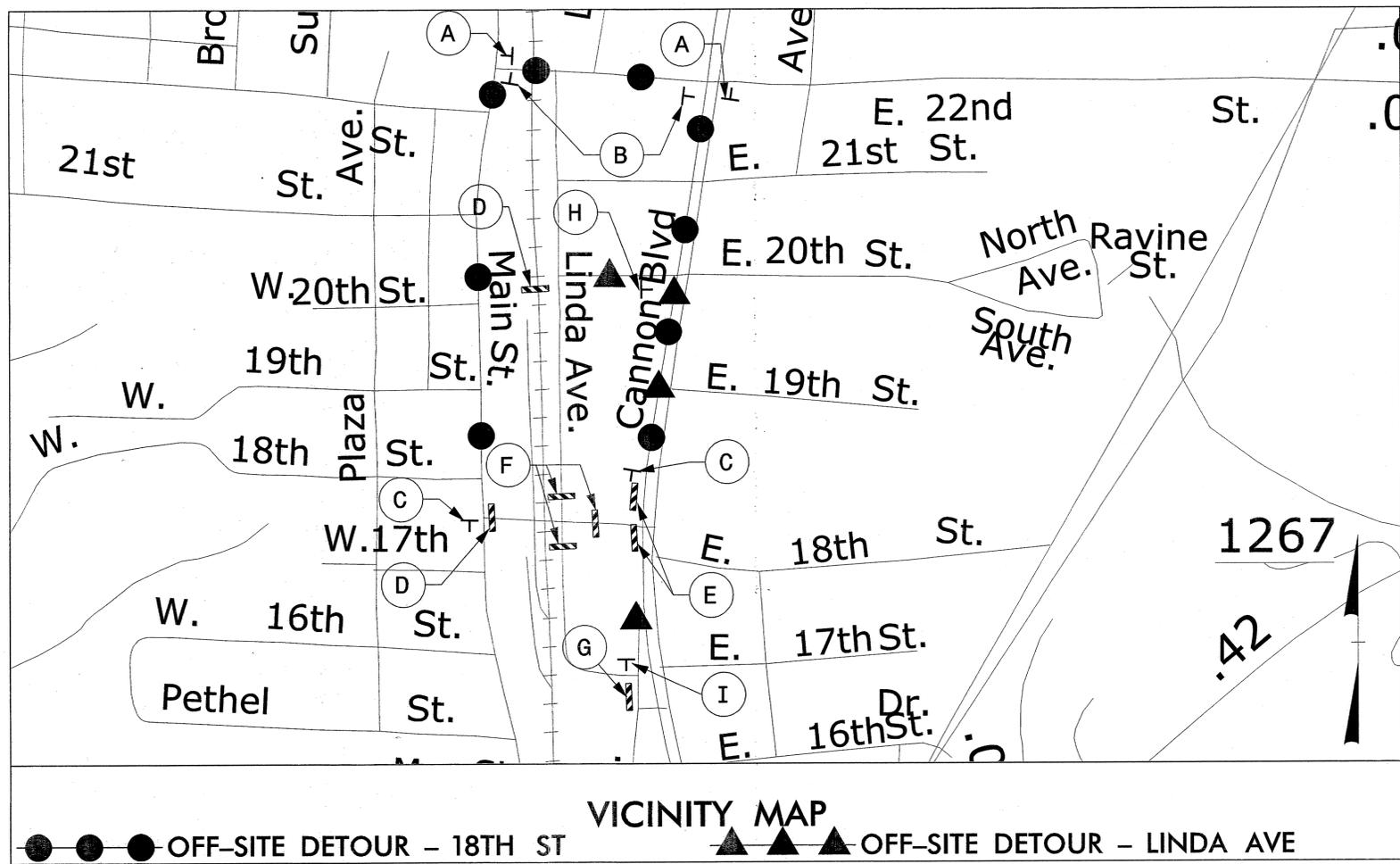
SYSTEM TIME
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APPROVED: *David Ruggles* DATE: 8-12-13

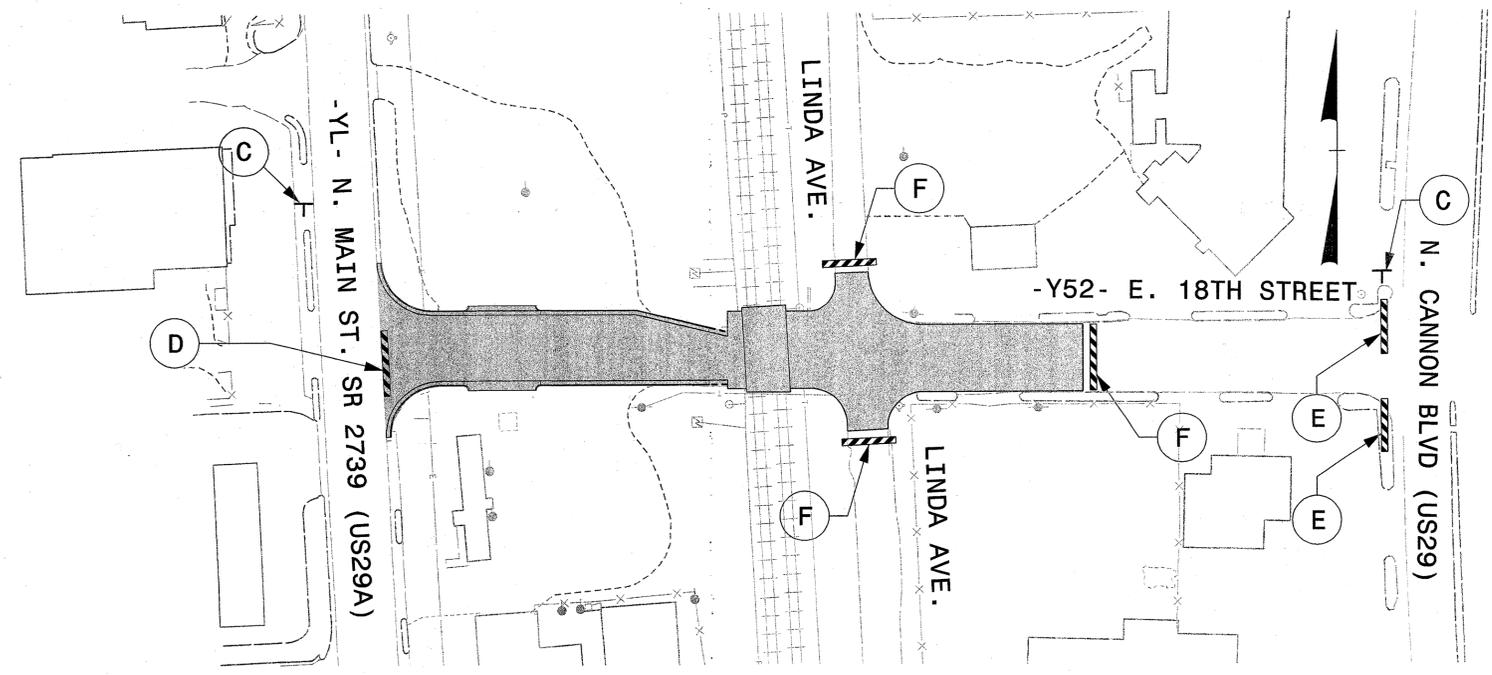
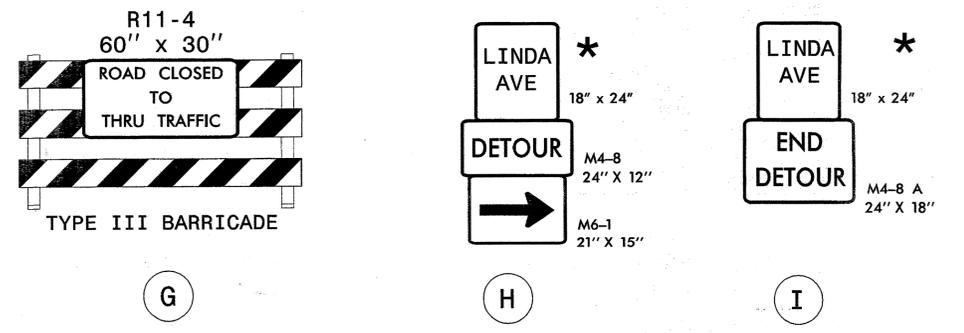
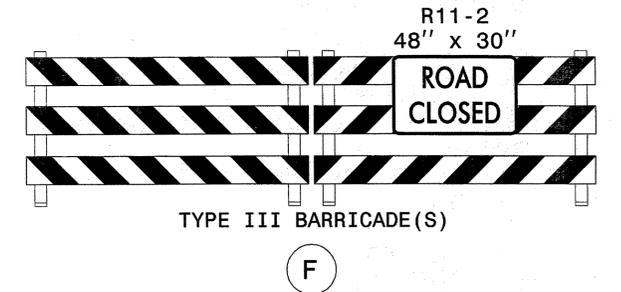
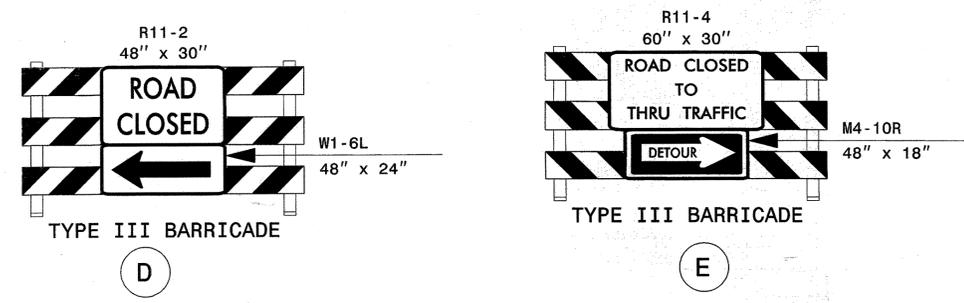
SEAL

PHASE I PLAN
SHEET 2 OF 6

0164DEL P10b2



* SEE SHEET TMP-11 & TMP-14 FOR SIGN DESIGNS

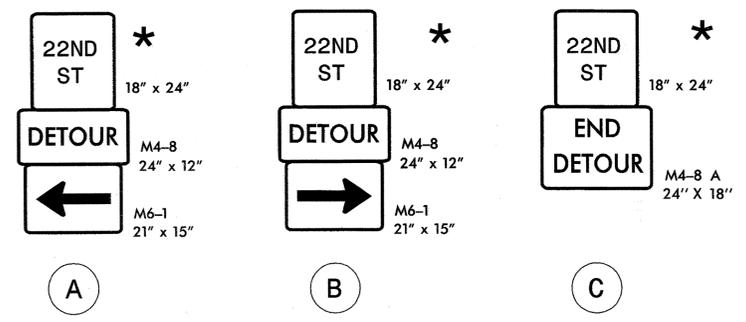
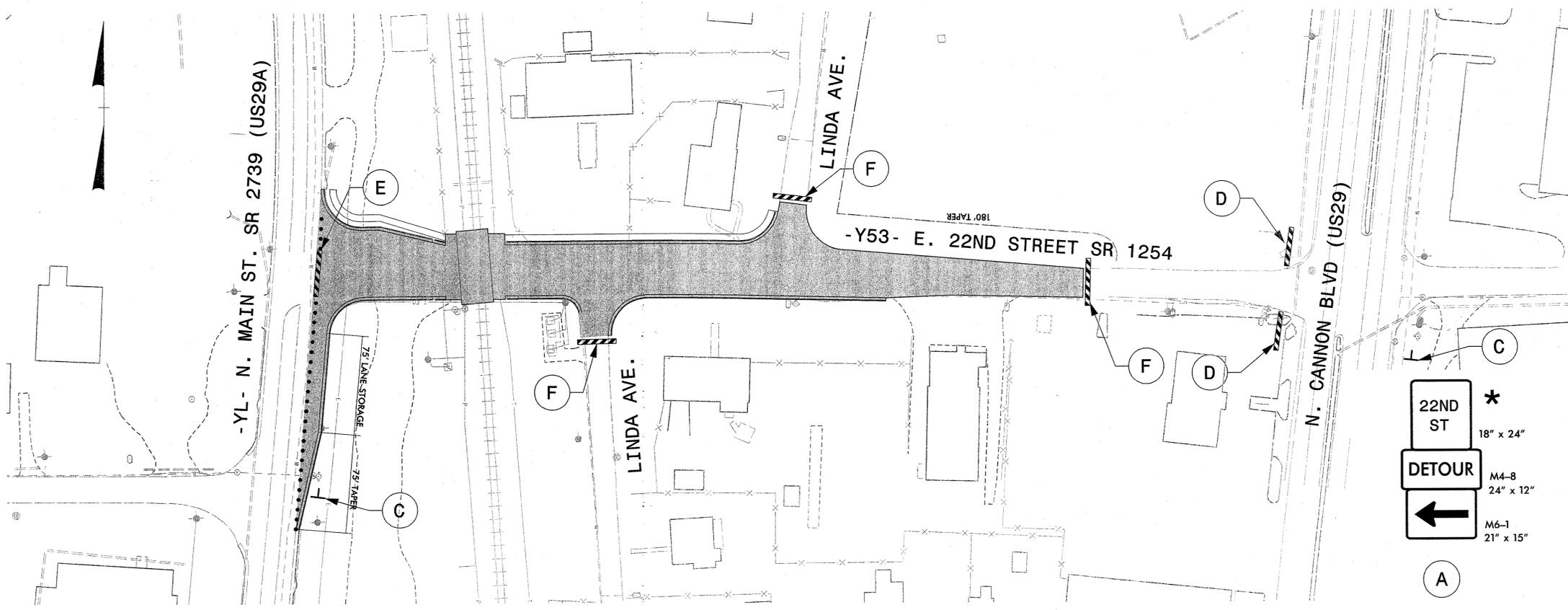


APPROVED: *David Ruggles* DATE: 7-22-13

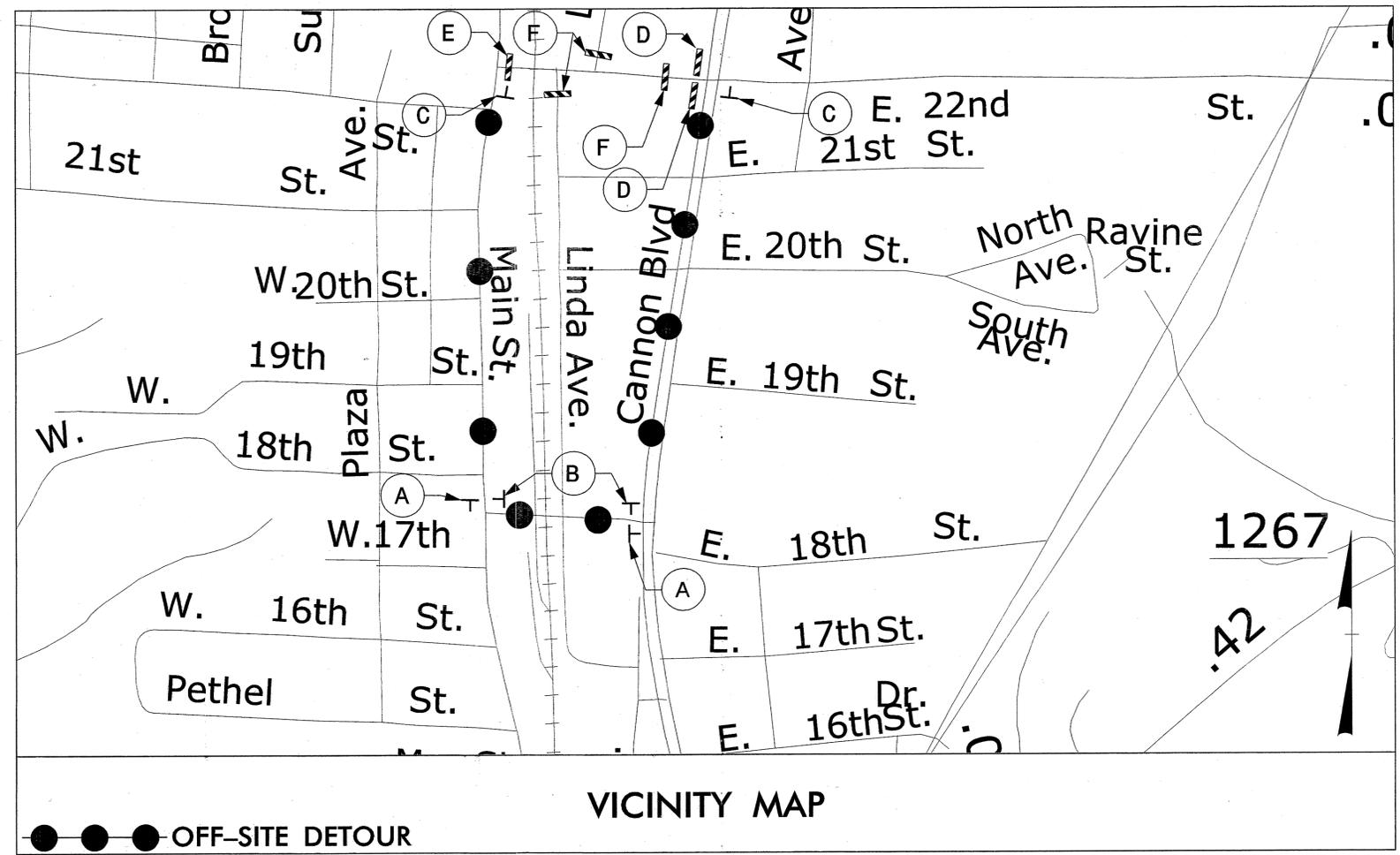
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18TH ST DETOUR
SHEET 4 OF 6**

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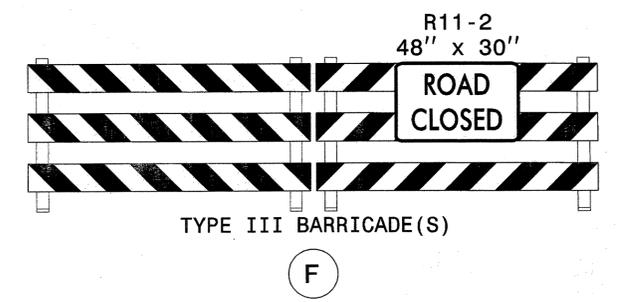
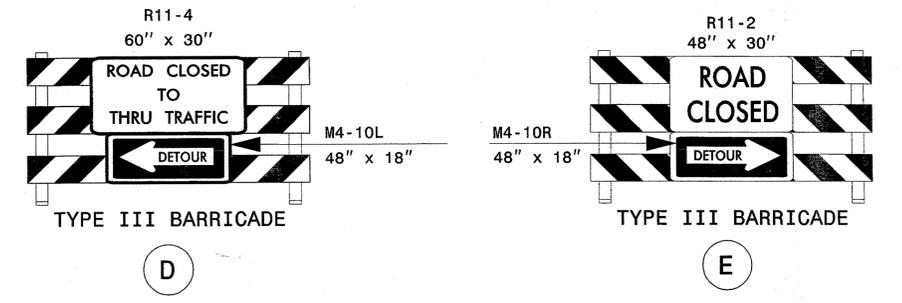
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*SEE SHEET TMP-13 FOR SIGN DESIGN



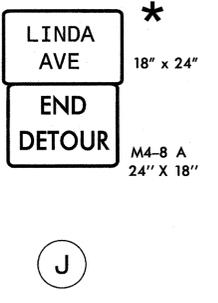
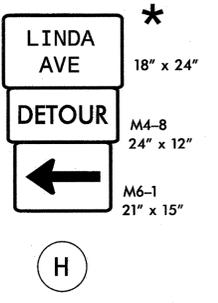
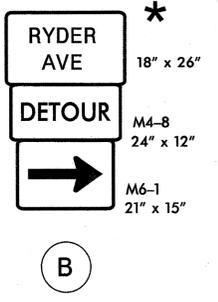
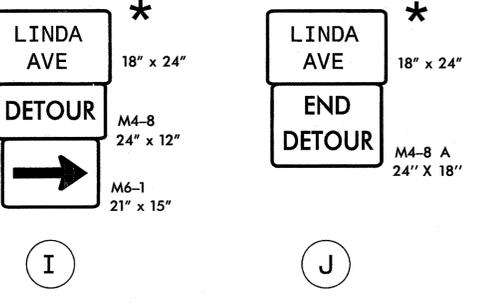
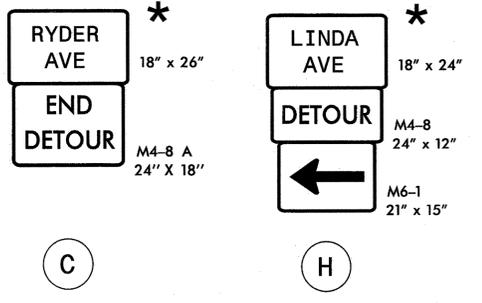
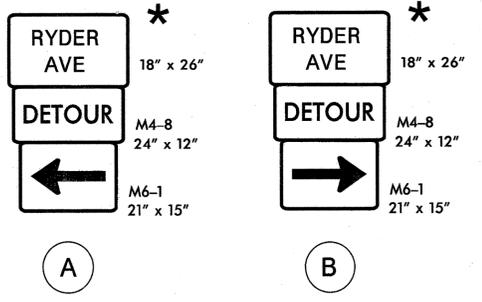
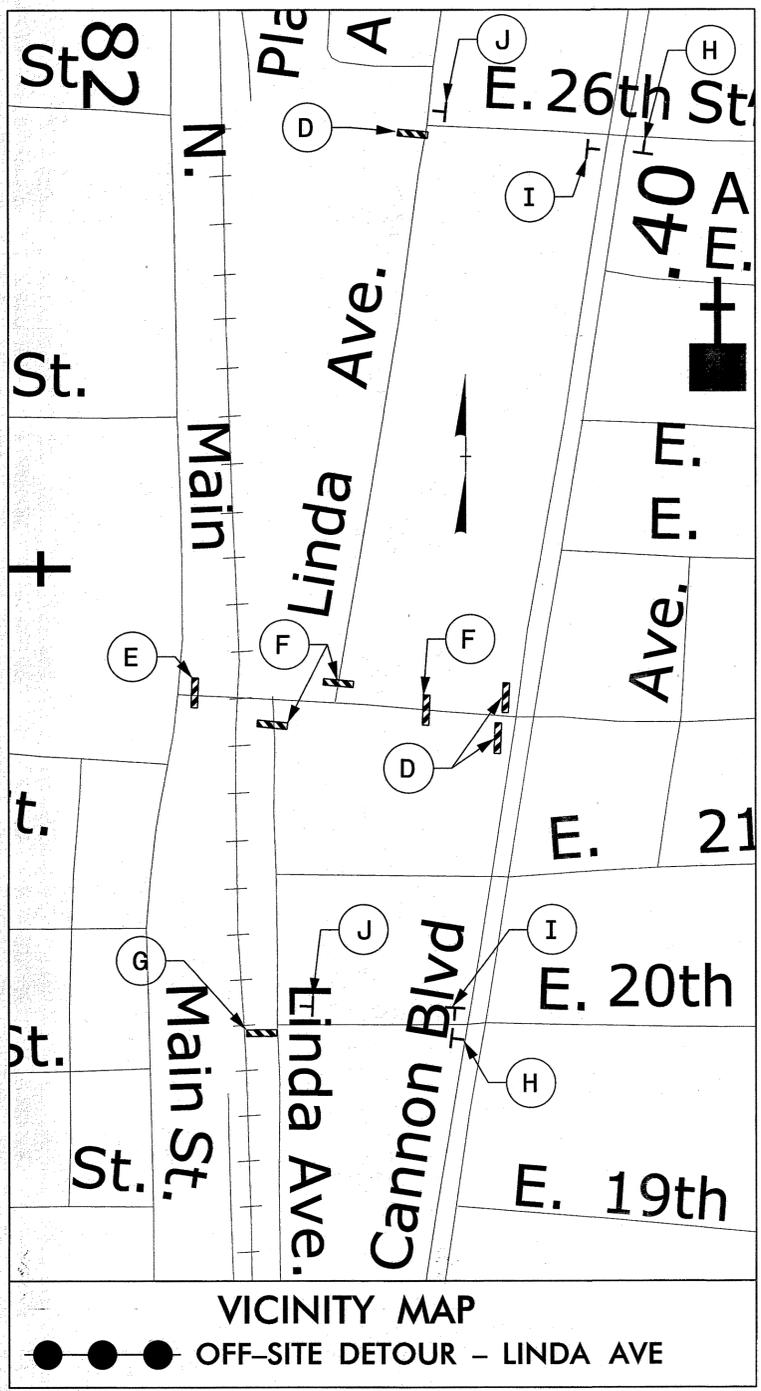
NOTE: FOR LINDA AVE. DETOUR, SEE SHEET TMP-8



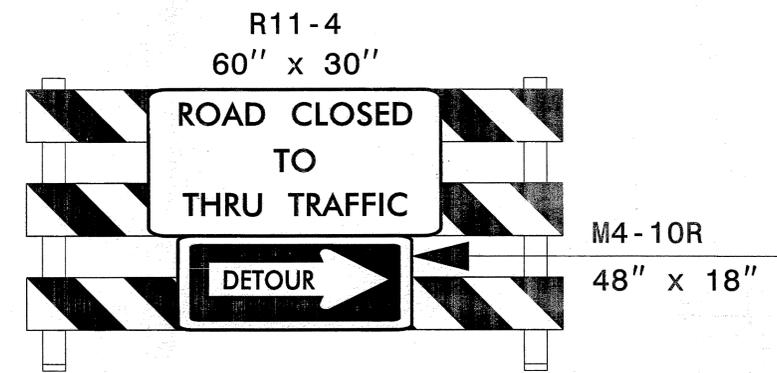
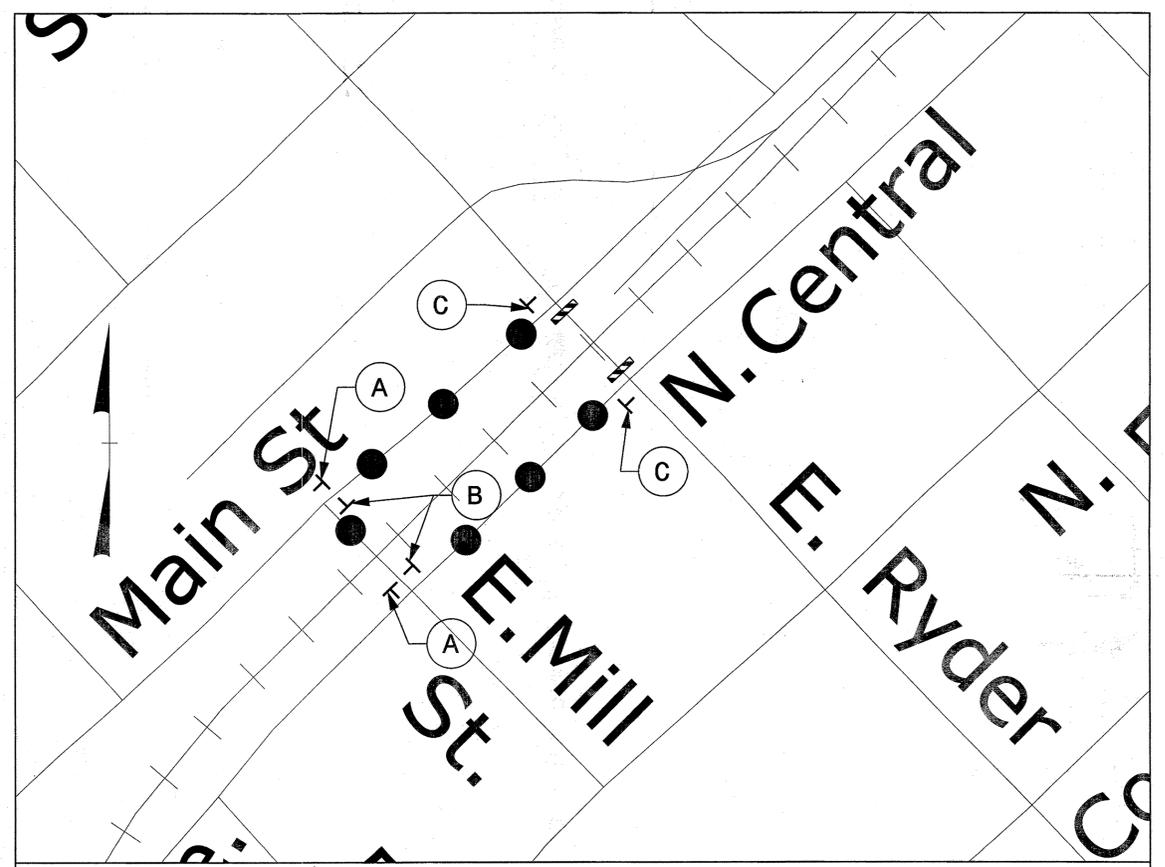
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0164DEL_P10b2



NOTE:
 * -SEE SHEETS TMP-10 & TMP-14 FOR SIGN DESIGNS
 -SEE SHEET TMP-3 & TMP-7 FOR BARRICADE DETAILS NOT SHOWN ON THIS SHEET



TYPE III BARRICADE

G

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 NORTH CAROLINA PROFESSIONAL ENGINEERS
 SEAL 11725
 DAVID R. RUGGLES



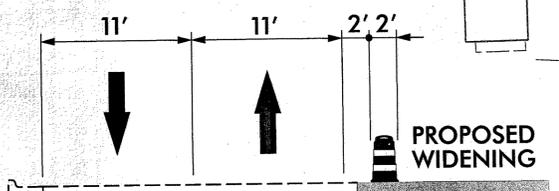
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 RYDER AVE DETOUR
 SHEET 6 OF 6

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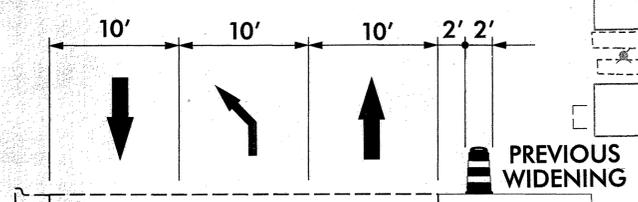
MATCHLINE -Y46- STA. 12+00 SEE SHEET 4

PROJ. REFERENCE NO. P-5206D	SHEET NO. TMP-9
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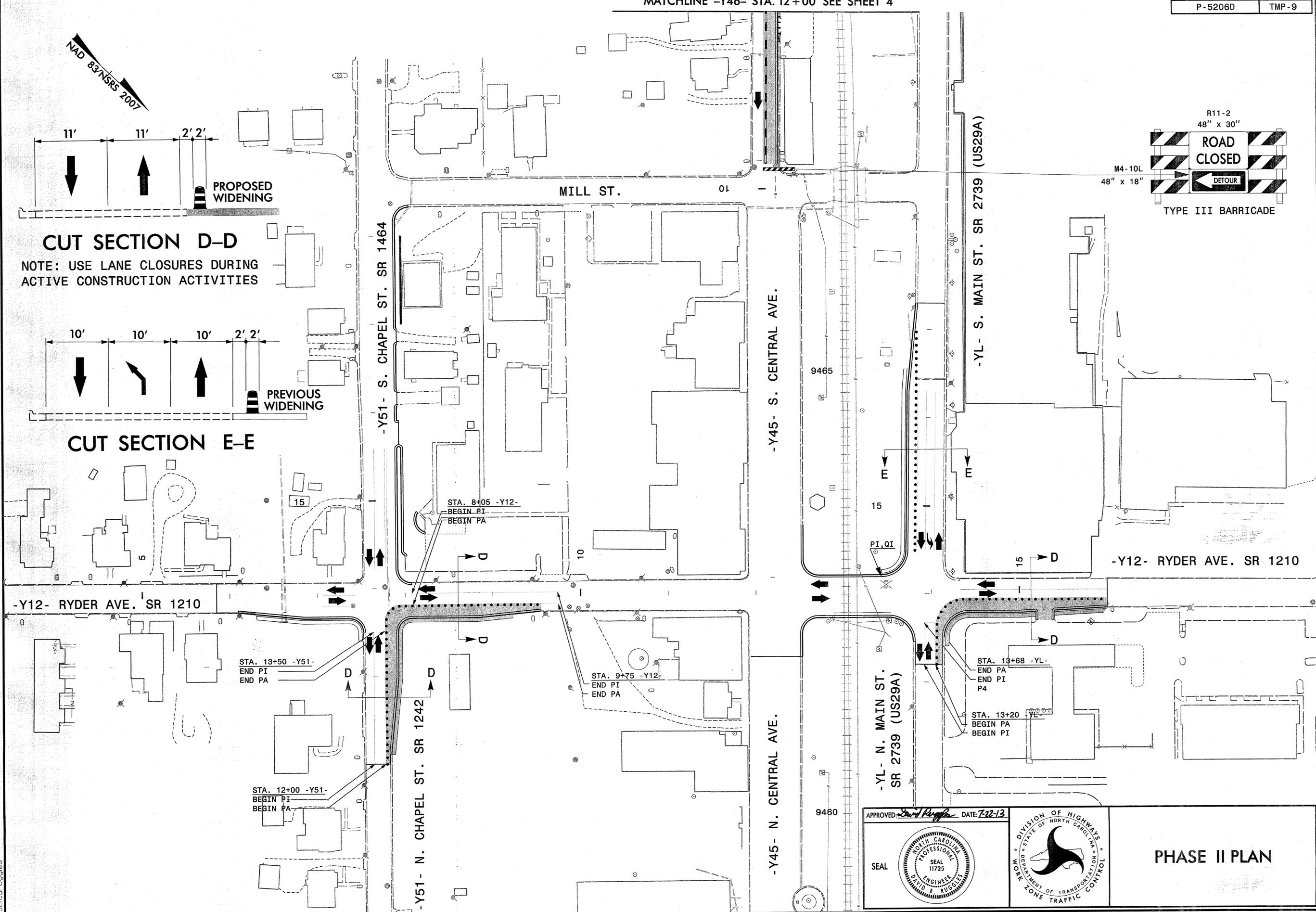
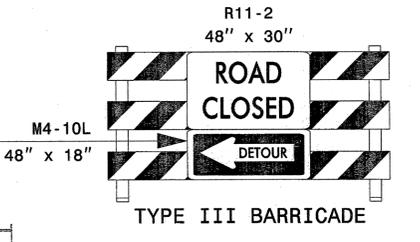


CUT SECTION D-D

NOTE: USE LANE CLOSURES DURING ACTIVE CONSTRUCTION ACTIVITIES

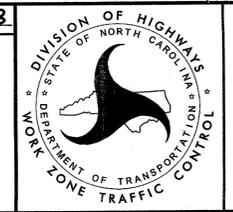


CUT SECTION E-E



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PHASE II PLAN

