STATE OF NORTH CAROLINA DIVISION OF HIGHWAYS

STATE PROJECT REFERENCE NO. SHEET NO. 37972 TCP-1

PLAN FOR PROPOSED TRAFFIC CONTROL, MARKING & DELINEATION

COLUMBUS COUNTY

ROADWAY STANDARD DRAWINGS

THE FOLLOWING ROADWAY STANDARDS AS APPEAR IN "ROADWAY STANDARD DRAWINGS"-PROJECT SERVICES UNIT-N.C. DEPARTMENT OF TRANSPORTATION-RALEIGH, N.C., DATED JULY 2006 ARE APPLICABLE TO THIS PROJECT AND BY REFERENCE HEREBY ARE CONSIDERED A PART OF THESE PLANS:

STD. NO.	TITLE
1101.02	TEMPORARY LANE CLOSURES
1101.04	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 PANELS
1130.01	DRUM
1135.01	CONES
1145.01	BARRICADES
1150.01	FLAGGING DEVICES
1165.01	TRUCK MOUNTED IMPACT ATTENUATOR
1180.01	SKINNY-DRUM
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)

INDEX OF SHEETS

SHEET NO. TITLE LIST OF APPLICABLE ROADWAY STANDARD DRAWINGS, LEGEND AND INDEX OF SHEETS TCP - 1 TCP-2 PHASING AND TEMPORARY PAVEMENT MARKING TCP-3 PROJECT NOTES TCP-4 THRU TCP-6 PHASE I DETAILS TCP-7 THRU TCP-9 PHASE II DETAILS TCP-10 ADVANCED WORK ZONE WARNING SIGNS

LEGEND

GENERAL

DIRECTION OF TRAFFIC FLOW ─── NORTH ARROW

PROPOSED PVMT. ----- EXIST. PVMT. **WORK AREA**

REMOVAL OF EXISTING PAVEMENT

TRAFFIC CONTROL DEVICES

T TYPE I BARRICADE

TYPE III BARRICADE

CONE

SKINNY DRUM

FLASHING ARROW PANEL (TYPE C)

— STATIONARY SIGN

PORTABLE SIGN

STATIONARY OR PORTABLE SIGN

---- CRASH CUSHION

CHANGEABLE MESSAGE SIGN

TRUCK MOUNTED IMPACT ATTENUATOR (TMIA)

POLICE

FLAGGER

PAVEMENT MARKINGS

CRYSTAL/CRYSTAL PAVEMENT MARKER

YELLOW/YELLOW PAVEMENT MARKER

CRYSTAL/RED PAVEMENT MARKER

PAVEMENT MARKING SYMBOLS

PLAN PREPARED BY: N.C.D.O.T. WORK ZONE TRAFFIC CONTROL UNIT J. S. BOURNE, PE TRAFFIC CONTROL ENGINEER J. S. KITE, PE TRAFFIC CONTROL PROJECT ENGINEER D. A. PARKER TRAFFIC CONTROL PROJECT DESIGN ENGINEER RICHARDSON/PATEL TRAFFIC CONTROL DESIGN ENGINEER/TECHNICIAN

PROJ. REFERENCE NO. SHEET NO.

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PHASING

PHASE I

- STEP 1 INSTALL ALL ADVANCED WORK ZONE WARNING SIGNS. (SEE TCP-10)
- STEP 2 USING RSD 1101.02, SHEET 2 OF 9, CONSTRUCT THE DRAINAGE AND PROPOSED WIDENING UP TO THE EDGE AND ELEVATION OF EXISTING PAVEMENT AT THE FOLLOWING LOCATIONS: (SEE TCP-4 & 5)
 - -L- STA 10+19+/- TO 25+86+/-
 - -Y1- STA 12+88+/- TO 23+90+/-
 - -Y1A- STA 10+00+/- TO 13+00+/-
 - -Y2- STA 18+30+/- TO 31+46+/-
 - USING RSD 1101.02, SHEETS 2 AND 3 OF 9, CONSTRUCT THE DRAINAGE AND PROPOSED WIDENING UP TO THE EDGE AND ELEVATION OF EXISTING PAVEMENT.
 - -Y3- STA 19+46+/- TO 40+75+/- (SEE TCP-4 & 5)
 - INSTALL AND COVER NEW SIGNALS. (SEE SIGNAL PLANS)
- STEP 3 PLACE TRAFFIC SIGNAL IN FLASH MODE (RED ON -Y2-/ YELLOW ON -Y1-) AT -Y1- AND -Y2-.
 - USING TCP-6, CLOSE -Y2- US 701 BUS. ACCESS FROM -Y3- US 701 BYPASS.
- STEP 4 USING RSD 1101.02, SHEET 3 OF 9, CONSTRUCT THE DRAINAGE AND PROPOSED WIDENING UP TO THE EDGE AND ELEVATION OF EXISTING PAVEMENT AT THE FOLLOWING LOCATIONS: (SEE TCP-6)
 -Y3- STA 10+90+/- TO 19+46+/-Y1- STA 10+00+/- TO 12+88+/-
 - AWAY FROM TRAFFIC AND BEHIND BARRICADES, CONSTRUCT GRAVEL DRIVEWAYS FOR REMAINDER OF -Y2- STA 12+00+/- TO 15+10+/-. (SEE TCP-6)

PHASE II

- STEP 1 USING RSD 1101.02, SHEET 2 OF 9, INSTALL FINAL LAYER OF SURFACE COURSE AND INSTALL PAINT PAVEMENT MARKING FOR FINAL PATTERNS IN THE FOLLOWING ORDER:
 - 1) SEGMENT #1 (-L- STA 10+19+/- TO 25+86+/-) SEE TCP-8 & 9
 - 2) SEGMENT #2 (-Y1- STA 10+00 TO 23+90+/-) SEE TCP-7 & 9 (-Y1A- STA 10+00+/- TO 13+00+/-) - SEE TCP-7
 - 3) SEGMENT #3 (-Y3- STA 10+90+/- TO 40+75+/-) SEE TCP-7 & 8
 - 4) SEGMENT #4 (-Y2- STA 18+30+/- TO 31+46+/-) SEE TCP-7 & 8
 - REMOVE AND MODIFY SIGNALS, AS NECESSARY, AND SHIFT TRAFFIC TO NEW PATTERNS AS SHOWN ON TCP-7 THRU TCP-9. (SEE SIGNAL PLANS)
- STEP 2 USING RSD 1101.02, CONSTRUCT ALL MONOLITHIC ISLANDS.
 (SEE TCP-7 THRU TCP-9)
- STEP 3 USING RSD 1101.02, SHEETS 2 AND 3 OF 9, PLACE FINAL PAVEMENT MARKINGS (THERMOPLASTIC) AS SHOWN ON PM-1 THRU PM-3.
- STEP 4 REMOVE ALL TRAFFIC CONTROL DEVICES.

TEMPORARY PAVEMENT MARKING SCHEDULE

	DESCRIPTION	QUANTITY E	BREAKDOWN	TOTAL QUANTITY
		PAINT	(4")	
PA	WHITE EDGELINE	11710	LF	
PB	YELLOW EDGELINE	12970	LF	
PC	WHITE SKIP LINES	5306	LF	
PD	WHITE MINI SKIP LINES	1354	LF	
PE	WHITE TURN LANES	13748		
PF	YELLOW SKIPLINE	1664		
PH	YELLOW SINGLE CENTER	6644		
ΡI	YELLOW DOUBLE CENTER	9604	LF	63000 LF
		PAINT	(8")	
PR	WHITE GORE	660	LF	
PS	WHITE DIAGONAL	100	LF	
PV	YELLOW DIAGONAL	300	LF	1060 LF
		PAINT	(24")	
P4	WHITE STOP BARS	2220	LF	2220 LF
	PAI	NT PAVEMENT N	MARKING CHA	RACTER
QI	ALPHANUMERIC CHARATER	112	EA	112 EA
	<u>P</u>	PAINT PAVEMENT	MARKING S	YMBOL
QA	LEFT TURN ARROW	128	EA	
QB	RIGHT TURN ARROW		EA	
QC	STRAIGHT ARROW	82		
QD	COMBO STRAIGHT LEFT ARROW	4	EA	
QE	COMBO STRAIGHT RIGHT ARROW	10	EA	320 EA

SEAL O22104

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PHASING AND TEMPORARY PAVEMENT MARKING SCHEDULE

ALE: NONE

ATE: 03/08

VG. BY: DR

SIGN BY: DR



REVISIONS

GENERAL NOTES

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COLUMBUS

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

ALL ROADS

7AM TO 9AM AND 4PM TO 6PM

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

ROAD NAME

ALL ROADS

HOLIDAY

- 1. FOR ANY UNEXPECTED OCCURRENCE THAT CREATES UNUSUALLY HIGH TRAFFIC VOLUMES, AS DIRECTED BY THE ENGINEER.
- 2. FOR NEW YEAR'S, BETWEEN THE HOURS OF 6:00 P.M. DECEMBER 31st TO 7:00 A.M. JANUARY 2ND. IF NEW YEAR'S DAY IS ON A FRIDAY, SATURDAY, SUNDAY, OR MONDAY THEN UNTIL 7:00 A.M. THE FOLLOWING TUESDAY.
- 3. FOR EASTER, BETWEEN THE HOURS OF 6:00 P.M. THURSDAY AND 7:00 A.M. MONDAY.
- 4. FOR MEMORIAL DAY, BETWEEN THE HOURS OF 6:00 P.M. FRIDAY TO 7:00 A.M. TUESDAY.
- 5. FOR INDEPENDENCE DAY, BETWEEN THE HOURS OF 6:00 P.M. THE DAY BEFORE INDEPENDENCE DAY AND 7:00 A.M. THE DAY AFTER INDEPENDENCE DAY.

IF INDEPENDENCE DAY IS ON A FRIDAY, SATURDAY, SUNDAY OR MONDAY THEN BETWEEN THE HOURS OF 6:00 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 6:00 P.M. FRIDAY AND 7:00 A.M. TUESDAY.
- 7. FOR THANKSGIVING DAY, BETWEEN THE HOURS OF 6:00 P.M. TUESDAY TO 7:00 A.M. MONDAY.
- 8. FOR CHRISTMAS, BETWEEN THE HOURS OF 6:00 P.M. THE FRIDAY BEFORE THE WEEK OF CHRISTMAS DAY AND 7:00 A.M. THE FOLLOWING TUESDAY 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 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.

CONTINUED

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

TRAFFIC CONTROL DEVICES

M) 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.

CONTINUED

- N) PLACE TYPE III BARRICADES, WITH "ROAD CLOSED" SIGN R11-2 ATTACHED, OF SUFFICIENT LENGTH TO CLOSE ENTIRE ROADWAY.
- O) PLACE ADDITIONAL SETS OF THREE CHANNELIZING DEVICES
 PERPENDICULAR TO THE EDGE OF TRAVELWAY ON 500 FT CENTERS WHEN
 UNOPENED LANES ARE CLOSED TO TRAFFIC.

PAVEMENT MARKINGS AND MARKERS

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

ROAD NAME MARKING MARKER

ALL ROADS THERMOPLASTIC PERMANENT RAISED

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

ROAD NAME MARKING MARKER

ALL ROADS PAINT NONE

- R) TIE PROPOSED PAVEMENT MARKING LINES TO EXISTING PAVEMENT MARKING LINES.
- S) REMOVE/REPLACE ANY CONFLICTING/DAMAGED PAVEMENT MARKINGS AND MARKERS BY THE END OF EACH DAY'S OPERATION.
- T) TRACE THE PROPOSED MONOLITHIC ISLAND LOCATIONS WITH PROPER COLOR PAVEMENT MARKINGS PRIOR TO INSTALLATION. PLACE DRUMS TO DELINEATE ANY PROPOSED MONOLITHIC ISLANDS BEFORE INSTALLATION

TEMPORARY / FINAL SIGNALS

U) SHIFT AND REVISE ALL SIGNAL HEADS AS SHOWN ON THE SIGNAL PLANS.

MISCELLANEOUS

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

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DATE: 10 14/08

SCALE: NONE

DATE: 03/08

DWG. BY: DR

DESIGN BY: DR

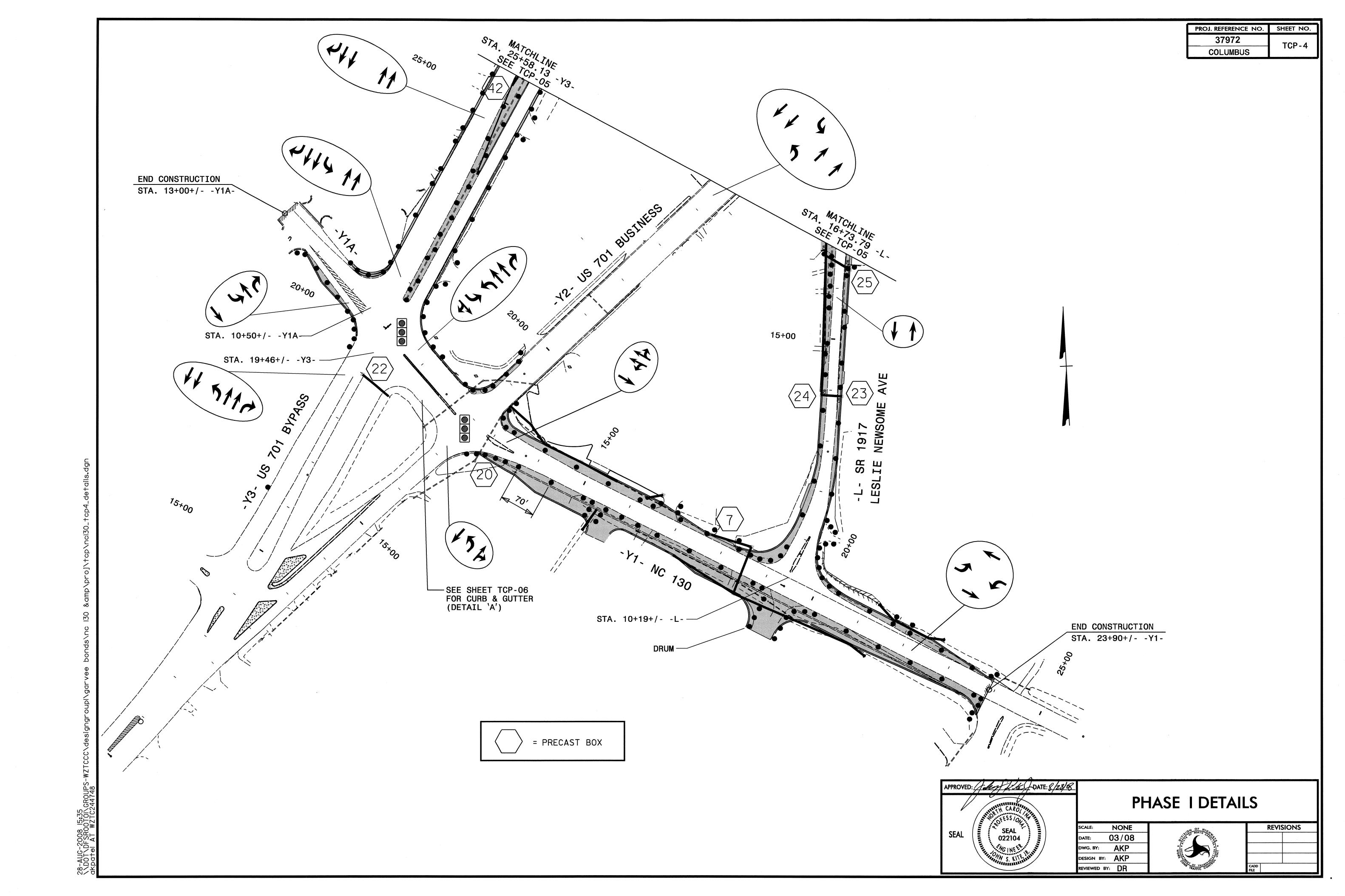
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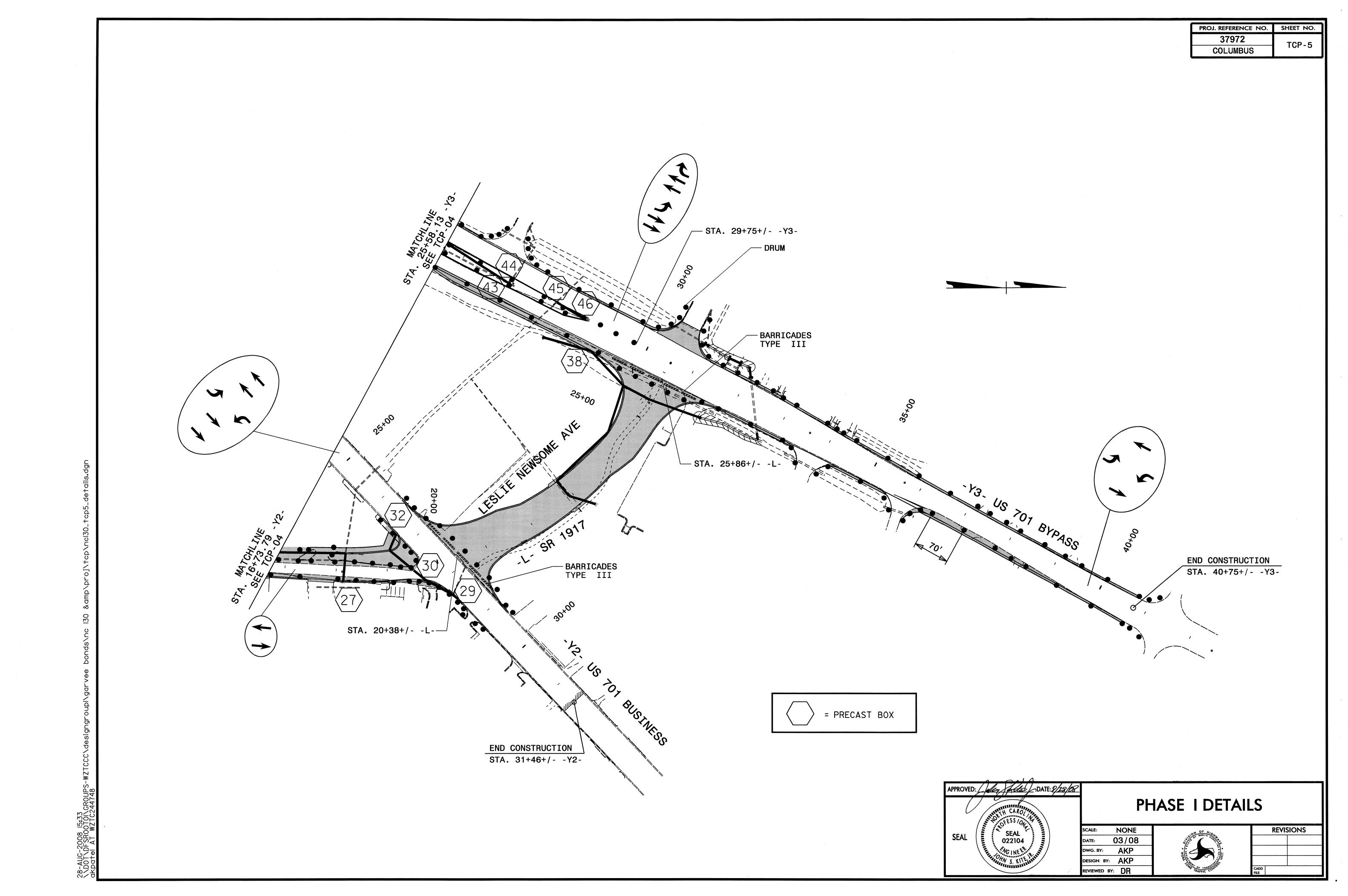
PROJECT NOTES

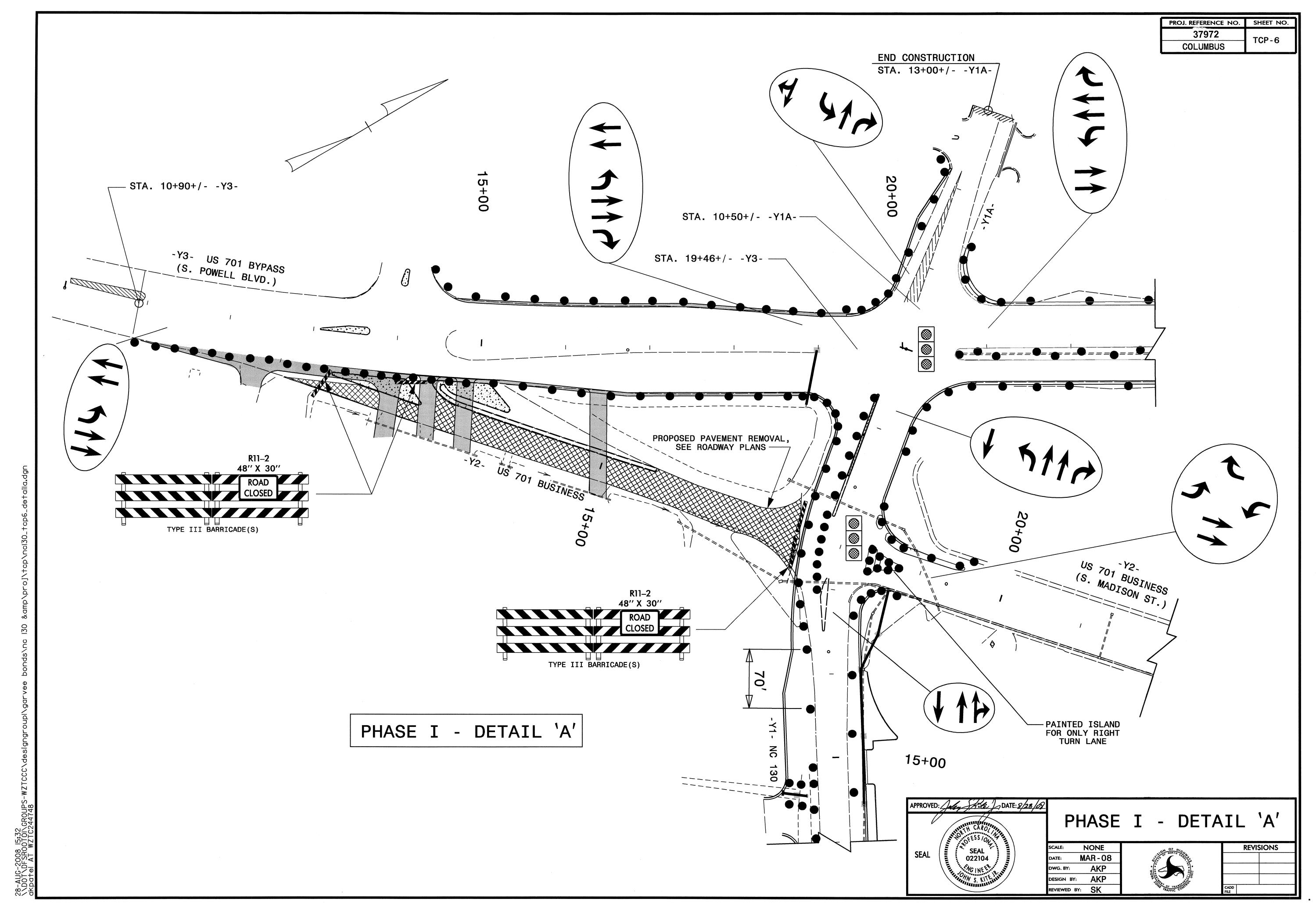
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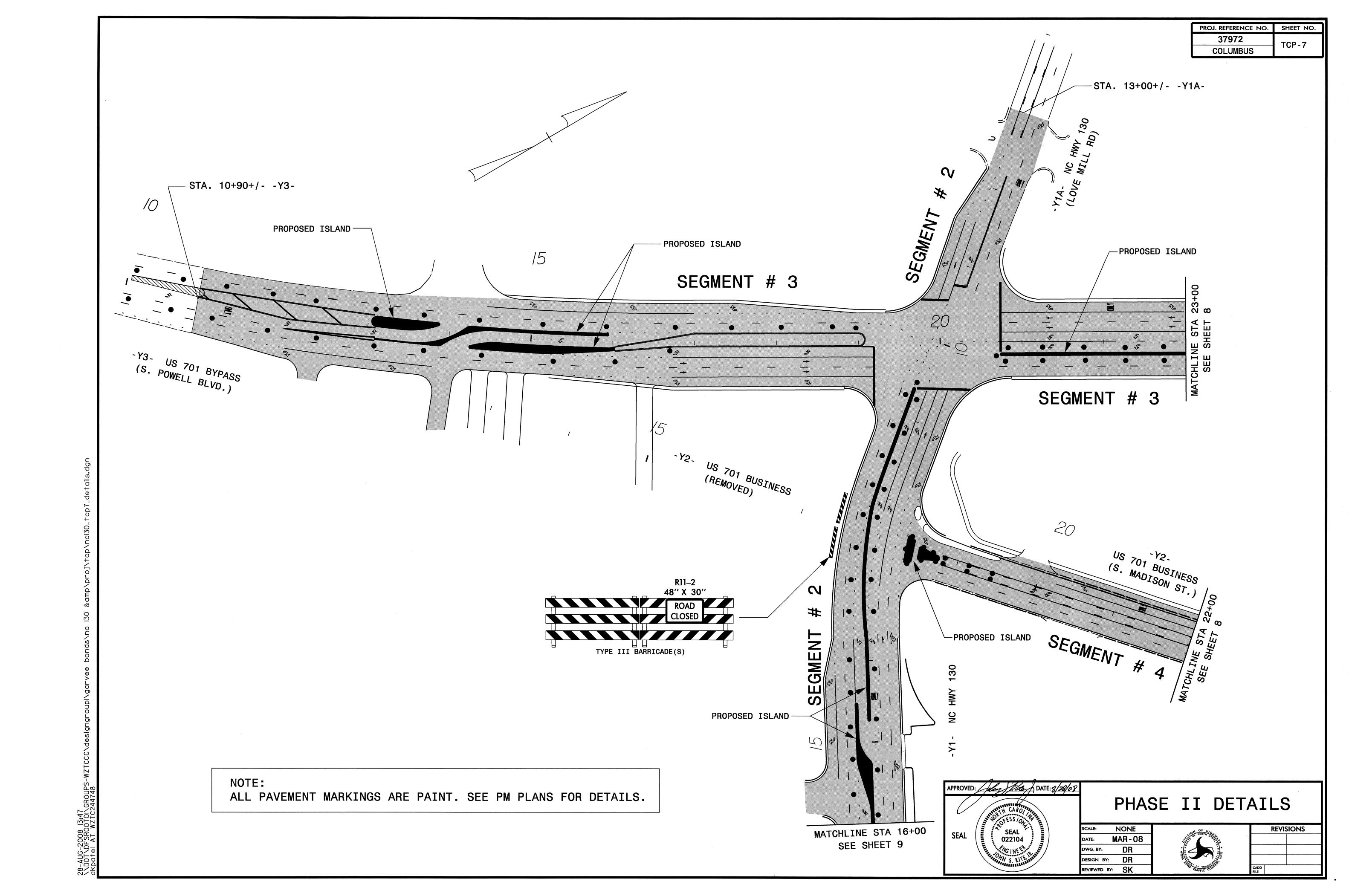
REVISIONS

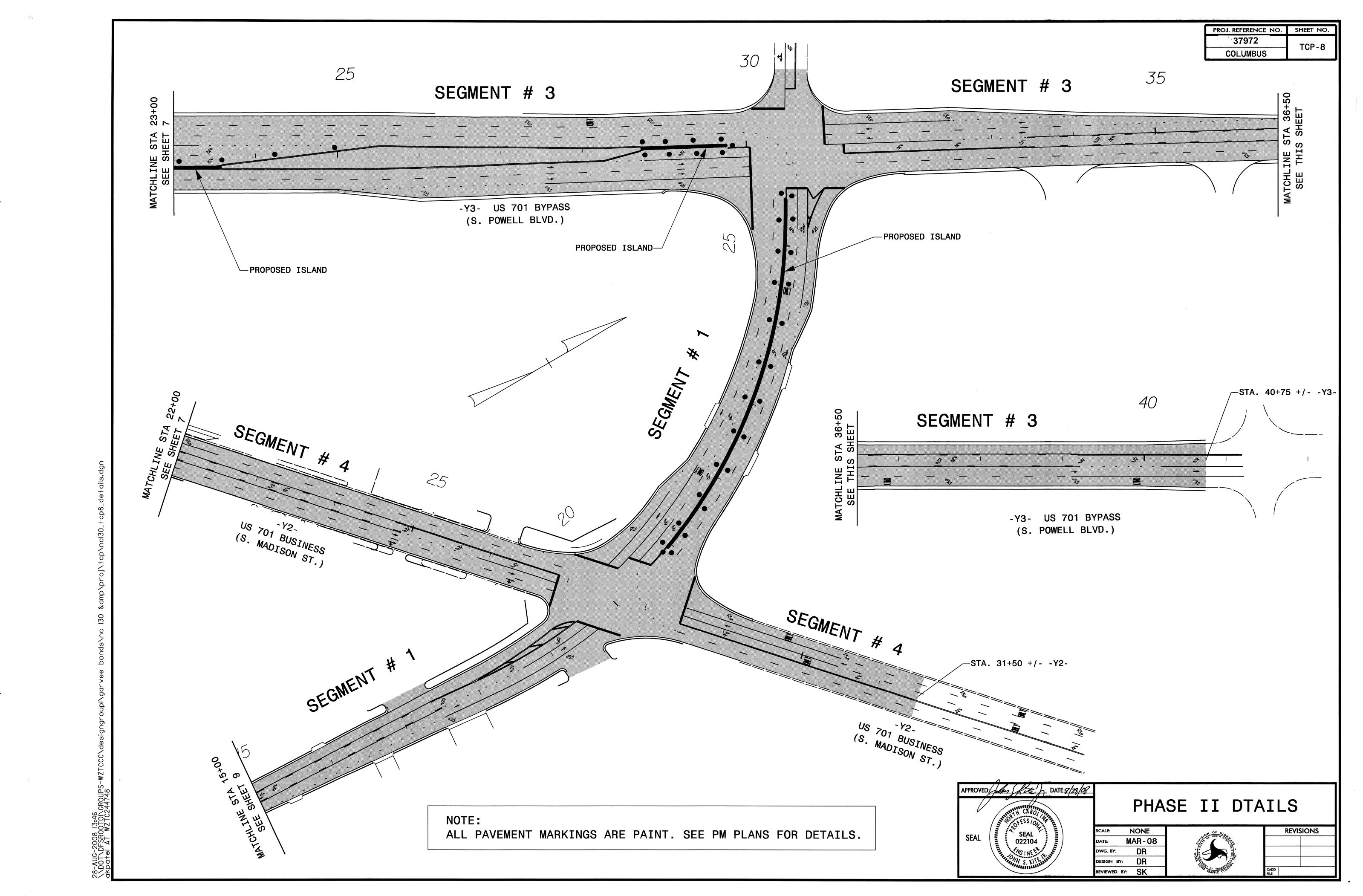
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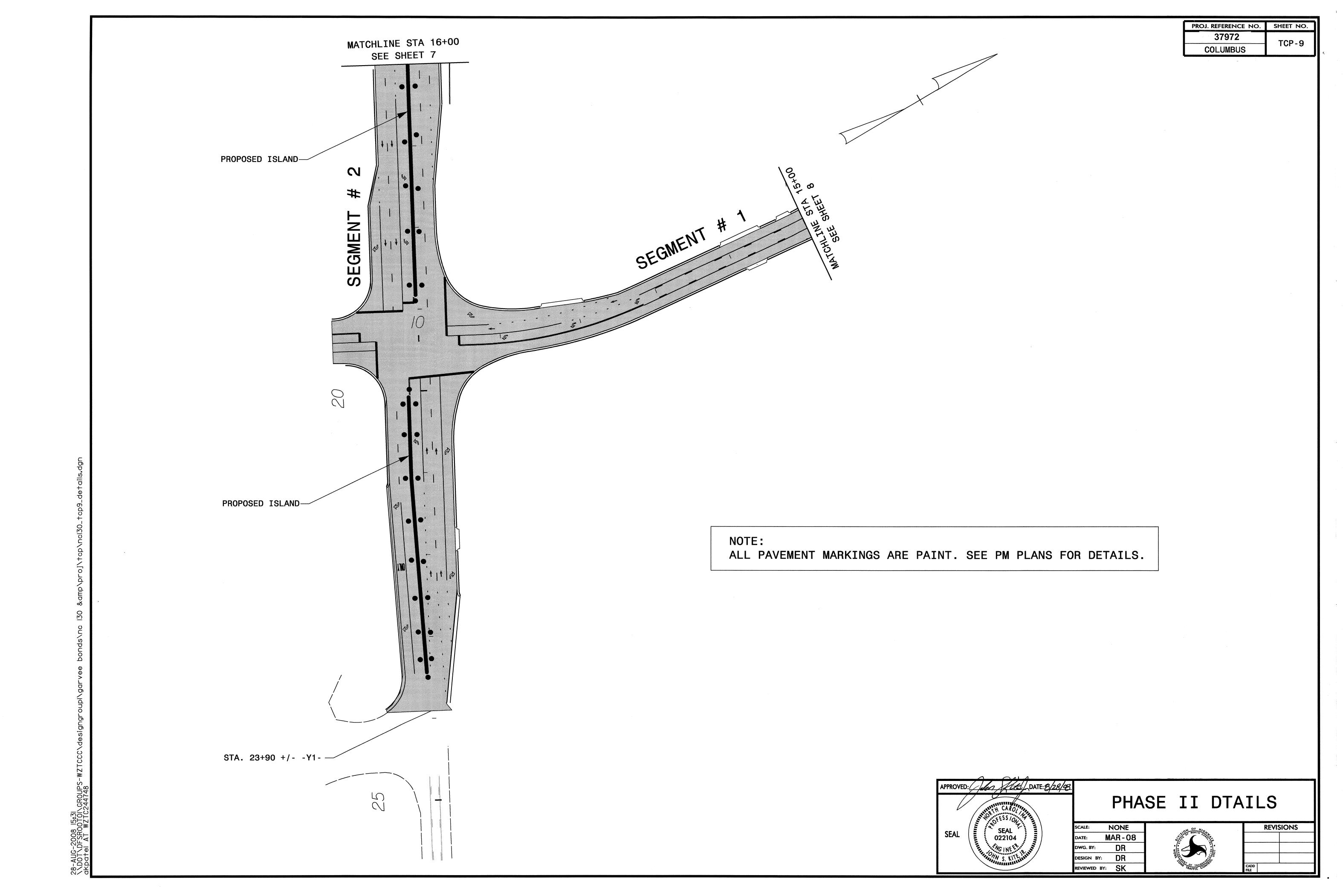












ADVANCED WORK ZONE WARNING SIGNING FOR FREEWAYS (4 LANES OR GREATER)

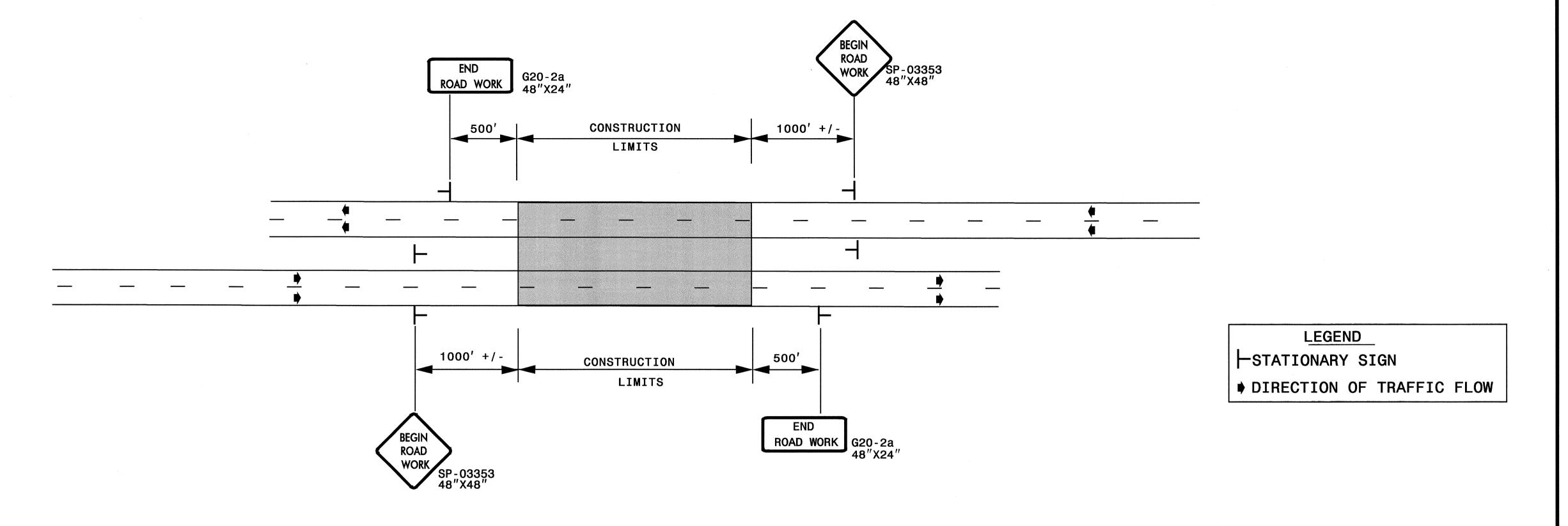
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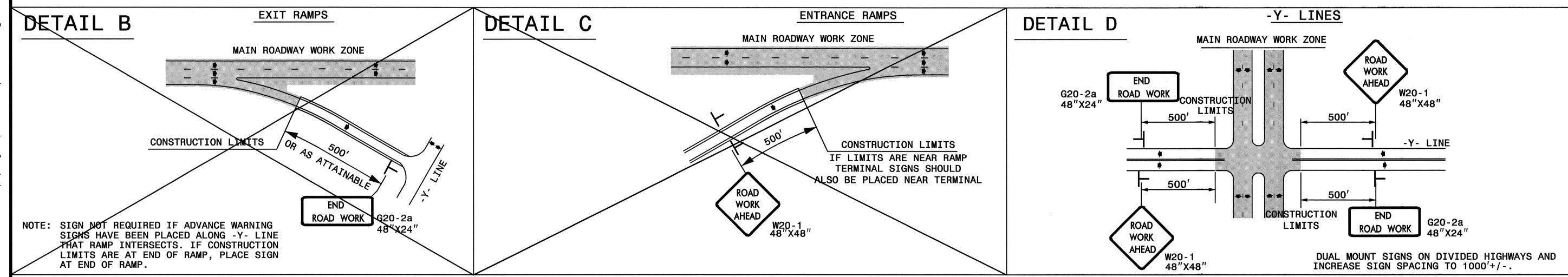
COLUMBUS

TCP-10

DETAIL A

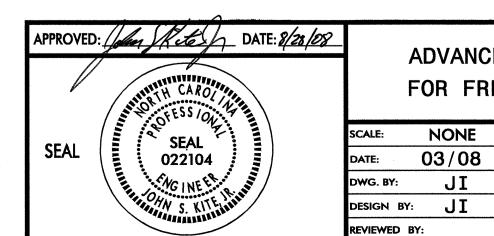


★ USE THE "\$250 SPEEDING PENALTY" SIGN, SPEED LIMIT SIGN, AND ORANGE PANEL; ONLY WHEN A "\$250 SPEEDING PENALTY" ORDINANCE HAS BEEN ISSUED BY THE REGIONAL TRAFFIC ENGINEER.



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.



ADVANCED WORK ZONE WARNING SIGNS FOR FREEWAYS (4 LANES OR GREATER)

NONE 03/08 : JI BY: JI REVISIONS
03/04

28-AUG-2008 13:41