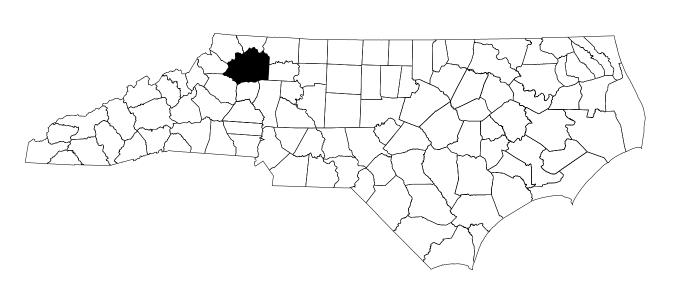
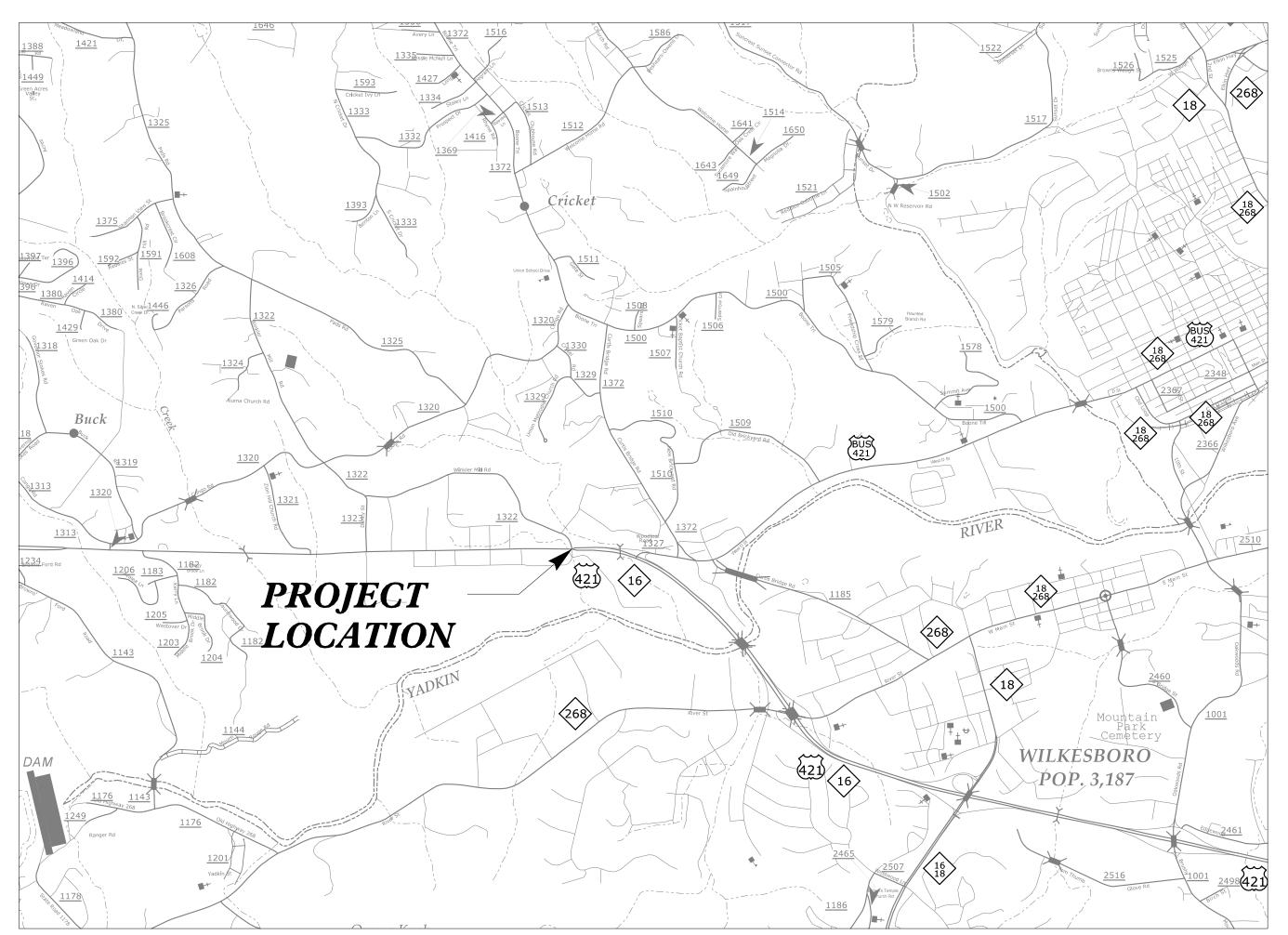
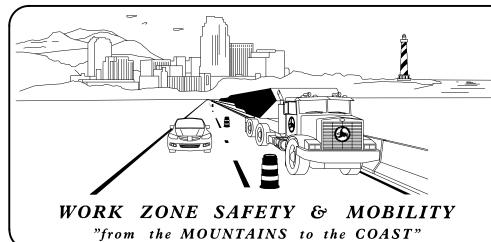
# TRANSPORTATION MANAGEMENT PLAN

# WILKES COUNTY





# VICINITY MAP



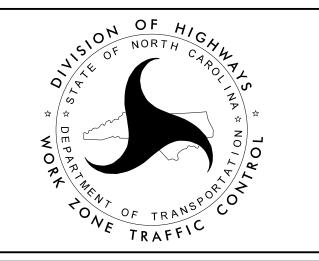
PLANS PREPARED BY:

J. TOWNSEND, PE (VHB)

RAMIE SHAW, PE

PROJECT ENGINEER

DIVISION CONSTRUCTION ENGINEER



# INDEX OF SHEETS

## SHEET NO.

TMP-4

TITLE

TMP-1 TITLE SHEET, VICINITY MAP, AND INDEX OF SHEETS

TMP-1A ROADWAY STANDARD DRAWINGS & LEGEND

TMP-3

THRU TEMPORARY TRAFFIC CONTROL PHASING TMP-3A

STRATEGIES AND GENERAL NOTES

THRU TEMPORARY TRAFFIC CONTROL PHASE 1 DETAIL TMP-6

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TMP-11
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THRU TEMPOARY TRAFFIC CONTROL PHASE 4 DETAIL
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THRU TEMPORARY TRAFFIC CONTROL PHASE 5 DETAIL
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TMP-45

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



DATE:

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TMP-

1-5312

PROJECT

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# ROADWAY STANDARD DRAWINGS

THE FOLLOWING ROADWAY STANDARDS AS SHOWN IN "ROADWAY STANDARD DRAWINGS" - N.C. DEPARTMENT OF TRANSPORTATION - RALEIGH, N.C., DATED JANUARY 2018 ARE APPLICABLE TO THIS PROJECT AND BY REFERENCE HEREBY ARE CONSIDERED A PART OF THESE PLANS:

## STD. NO.

## TITLE

1101.01 1101.02 1101.03 1101.04 1101.05 1101.11	WORK ZONE WARNING SIGNS TEMPORARY LANE CLOSURES TEMPORARY ROAD CLOSURES TEMPORARY SHOULDER CLOSURES WORK ZONE VEHICLE ACCESSES TRAFFIC CONTROL DESIGN TABLES STATIONARY WORK ZONE SIGNS PORTABLE WORK ZONE SIGNS
1110.02 1115.01	FLASHING ARROW BOARDS
1130.01	DRUMS
1135.01	CONES
1145.01	BARRICADES
	FLAGGING DEVICES
	TRUCK MOUNTED ATTENUATOR
1180.01	SKINNY - DRUMS
1205.01	PAVEMENT MARKINGS - LINE TYPES AND OFFSETS
1205.02	PAVEMENT MARKINGS - TWO LANE AND MULTILANE ROADWAYS
	PAVEMENT MARKINGS - INTERSECTIONS
1205.05	PAVEMENT MARKINGS - TURN LANES
1205.06	PAVEMENT MARKINGS - LANE DROPS
1205.08	PAVEMENT MARKINGS - SYMBOLS AND WORD MESSAGES
1205.09	PAVEMENT MARKINGS - PAINTED ISLANDS
1205.13	PAVEMENT MARKINGS - LANE REDUCTIONS
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 1262.01	GUARDRAIL AND BARRIER DELINEATORS - TYPES AND MOUNTING GUARDRAIL END DELINEATION
1264.01	OBJECT MARKERS - TYPES
1264.01	OBJECT MARKERS - ITTES OBJECT MARKERS - INSTALLATION
1207.02	ODOLO: M// // // TIVO! / LEL/ / I TOW

# **LEGEND**

PROJ. REFERENCE NO. SHEET NO. U-5312 TMP-1A

## GENERAL

DIRECTION OF TRAFFIC FLOW

DIRECTION OF PEDESTRIAN TRAFFIC FLOW

----- EXIST. PVMT.

NORTH ARROW

PROPOSED PVMT.

TEMP. SHORING (LOCATION PURPOSES ONLY)

WORK AREA

WEDGING

TEMPORARY WEDGING

TEMPORARY PAVEMENT

## SIGNALS



YELLOW DIAGONAL

WHITE CROSSWALK LINE

## PAVEMENT MARKINGS

——EXISTING LINES
——TEMPORARY LINES

## TRAFFIC CONTROL DEVICES

BARRICADE (TYPE III)

CONE

DRUM ⊙ SKINNY DRUM ⊙ TUBULAR MARKER

TEMPORARY CRASH CUSHION

FLASHING ARROW BOARD

FLAGGER

LAW ENFORCEMENT

TRUCK MOUNTED ATTENUATOR (TMA)

CHANGEABLE MESSAGE SIGN

## TEMPORARY SIGNING

PORTABLE SIGN

- STATIONARY SIGN

STATIONARY OR PORTABLE SIGN

## PAVEMENT MARKERS

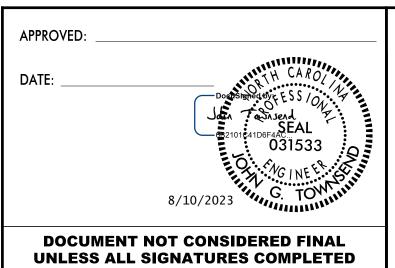
CRYSTAL/CRYSTAL

CRYSTAL/RED

◆ YELLOW/YELLOW

## TEMPORARY PAVEMENT MARKING

SYMBOL	DESCRIPTION PAINT (4")	SYMBOL	DESCRIPTION PAINT (24")
P1	WHITE EDGELINE	P61	WHITE STOPBAR
P2	WHITE SOLID LANE LINE		PAINT PAVEMENT MARKING SYMBOL
Р3	10 FT. WHITE SKIP	P70 🧲	LEFT TURN ARROW
P4	3 FT 9 FT./SP WHITE MINISKIP	P71 🔾	RIGHT TURN ARROW
P5	2 FT 6 FT./SP WHITE MINISKIP	P72 →	STRAIGHT ARROW
P10	YELLOW EDGELINE	P73 🗘	COMBO. STRAIGHT/LEFT
P11	YELLOW SINGLE CENTER	P74	COMBO. STRAIGHT/RIGHT
P12	10 FT. YELLOW SKIP	P75 🔾	COMBO. LEFT/RIGHT ARROW
P13	YELLOW DOUBLE CENTER	P76 🚓	COMBO. LEFT/RIGHT/STRAIGHT ARROW
P14	2 FT 6 FT./SP YELLOW MINISKIP	P77 🍮	U-TURN ARROW
	PAINT (8")	Autu	PAINT PAVEMENT MARKING CHARACTER
P40	WHITE GORELINE	P100 👭	ALPHANUMERIC CHAR.
P41	WHITE DIAGONAL		





ROADWAY STANDARD DRAWINGS & LEGEND

jtownsend

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# TRANSPORTATION MANAGEMENT STRATEGIES

THE FOLLOWING LISTED WORK ZONE STRATEGIES ARE RECOMMENDED FOR INCLUSION WITHIN THIS TRANSPORTATION MANAGEMENT PLAN (TMP).

#### **RECOMMENDED STRATEGIES:**

#### TRAFFIC MANAGEMENT STRATEGIES:

- LANE SHIFTS OR CLOSURES
- SHOULDER CLOSURES
- ONE-LANE, TWO WAY OPERATION (FLAGGING)
- NIGHT WORK
- WEEKEND WORK
- WORK HOUR RESTRICTIONS FOR PEAK TRAVEL

#### **WORK ZONE SAFETY & MOBILITY STRATEGIES:**

- TEMPORARY TRAFFIC SIGNALS

#### TRAFFIC / INCIDENT MANAGEMENT & SPEED ENFORCEMENT STRATEGIES:

- ITS FOR TRAFFIC MONITORING / MANAGEMENT (SMART WORK ZONE)
- COORDINATION WITH STATE TRAFFIC OPERATIONS CENTER (STOC)
- COORDINATION WITH MEDIA
- DEDICATED (PAID) LAW ENFORCEMENT
- COOPERATIVE LAW ENFORCEMENT (HAWKS)
- INCREASED PENALTIES FOR WORK ZONE VIOLATIONS

#### **CONTRACTING & INNOVATIVE CONSTRUCTION STRATEGIES:**

- INTERMEDIATE CONTRACT TIMES / LIQUIDATED DAMAGES

## 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, EXCEPT AS ALLOWED BY SHEETS TMP-4 THRU TMP-48:

ROAD NAME ALL ROADS DAY AND TIME RESTRICTIONS
MONDAY THRU SUNDAY,
6:00 A.M. TO 9:00 P.M.

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 A.M. DECEMBER 31st TO 9:00 P.M. JANUARY 2ND. IF NEW YEAR'S DAY IS ON A FRIDAY, SATURDAY, SUNDAY, OR MONDAY THEN UNTIL 9:00 P.M. THE FOLLOWING TUESDAY.
- 3. FOR EASTER, BETWEEN THE HOURS OF 6:00 A.M. THURSDAY AND 9:00 P.M. MONDAY.
- 4. FOR MEMORIAL DAY, BETWEEN THE HOURS OF 6:00 A.M. FRIDAY TO 9:00 P.M. TUESDAY.
- 5. FOR INDEPENDENCE DAY, BETWEEN THE HOURS OF 6:00 A.M. THE DAY BEFORE INDEPENDENCE DAY AND 9:00 P.M. THE DAY AFTER INDEPENDENCE DAY.

IF INDEPENDENCE DAY IS ON A FRIDAY, SATURDAY, SUNDAY, OR MONDAY THEN BETWEEN THE HOURS OF 6:00 A.M. THE THURSDAY BEFORE INDEPENDENCE DAY AND 9:00 P.M. THE TUESDAY AFTER INDEPENDENCE DAY.

- 6. FOR LABOR DAY, BETWEEN THE HOURS OF 6:00 A.M. FRIDAY AND 9:00 P.M. TUESDAY.
- 7. FOR THANKSGIVING DAY, BETWEEN THE HOURS OF 6:00 A.M. TUESDAY TO 9:00 P.M. MONDAY.
- 8. FOR CHRISTMAS, BETWEEN THE HOURS OF 6:00 A.M. THE FRIDAY BEFORE THE WEEK OF CHRISTMAS DAY AND 9:00 P.M. THE FOLLOWING TUESDAY AFTER THE WEEK OF CHRISTMAS.
- 9. FOR LEAF SEASON AND ASU FOOTBALL SEASON, BETWEEN THE HOURS OF 6:00 A.M. AND 9:00 P.M. EACH DAY FROM LABOR DAY TO THANKSGIVING.
- C) DO NOT CONDUCT ANY HAULING OPERATIONS AGAINST THE FLOW OF TRAFFIC OF AN OPEN TRAVEL WAY 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.

PROJ. REFERENCE NO. SHEET NO. TMP-2

- 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 TRAVEL WAY, 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.

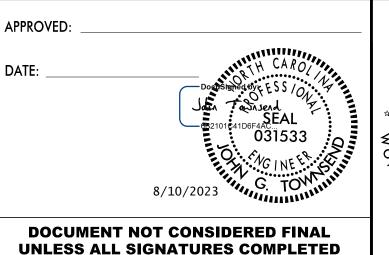
BACKFILL DROP-OFFS THAT EXCEED 3 INCHES ON ROADWAYS WITH POSTED SPEED LIMITS LESS THAN 45 MPH.

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

#### TRAFFIC PATTERN ALTERATIONS

L) NOTIFY THE ENGINEER THIRTY (30) CALENDAR DAYS PRIOR TO ANY TRAFFIC PATTERN ALTERATION.





TEMPORARY TRAFFIC CONTROL
MANAGEMENT STRATEGIES AND
GENERAL NOTES

ROJ. REFERENCE NO.	SHEET NO.
U-5312	TMP-2A

# GENERAL NOTES (CONTINUED)

#### <u>SIGNING</u>

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

P) 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.

Q) 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

R) 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 TRAVEL WAY.

REFER TO STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES SECTIONS 1130 (DRUMS), 1135 (CONES) AND 1180 (SKINNY DRUMS) FOR ADDITIONAL REQUIREMENTS.

- S) PLACE TYPE III BARRICADES, WITH "ROAD CLOSED" SIGN R11-2 ATTACHED, OF SUFFICIENT LENGTH TO CLOSE ENTIRE ROADWAY.
- T) PLACE ADDITIONAL SETS OF THREE CHANNELIZING DEVICES PERPENDICULAR TO THE EDGE OF TRAVEL WAY ON 350 FT CENTERS WHEN UNOPENED LANES ARE CLOSED TO TRAFFIC.

### PAVEMENT MARKINGS AND MARKERS

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

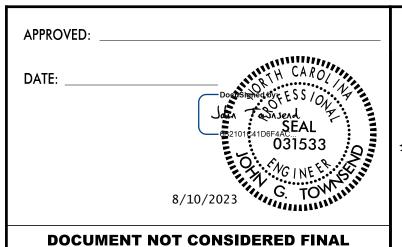
ROAD NAME	<u>MARKING</u>	<u>MARKER</u>
US 421, US 421 BUS	PAINT	TEMPORARY RAISED
ALL OTHER ROADS	PAINT	NONE

- 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.
- Y) TRACE THE EXISTING AND PROPOSED MONOLITHIC ISLAND LOCATIONS WITH PROPER COLOR PAVEMENT MARKINGS PRIOR TO REMOVAL AND INSTALLATION.

PLACE SKINNY DRUMS TO DELINEATE ANY EXISTING AND PROPOSED MONOLITHIC ISLANDS AFTER REMOVAL AND BEFORE INSTALLATION.

## MISCELLANEOUS

- Z) LAW ENFORCEMENT SHALL BE USED TO MAINTAIN TRAFFIC THROUGH THE WORK AREA AND/OR INTERSECTIONS AS DIRECTED BY THE ENGINEER.
- AA) IN THE EVENT A TIE-IN CANNOT BE MADE IN ONE DAY'S TIME, BRING THE TIE-IN AREA TO AN APPROPRIATE ROADWAY ELEVATION AS DETERMINED BY THE ENGINEER. PLACE BLACK ON ORANGE "LOOSE GRAVEL" SIGNS (W8-7) AND BLACK ON ORANGE "PAVEMENT ENDS" SIGNS (W8-3) 350 FT AND 700 FT RESPECTIVELY IN ADVANCE OF THE UNEVEN AREAS. USE DRUMS TO DELINEATE THE EDGE OF ROADWAY ALONG UNPAVED AREAS.
- BB) 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.
- CC) 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 TRAVEL WAY HAS BEEN REMOVED FOR CONSTRUCTION OPERATIONS (UTILITIES, DRAINAGE, ETC.).



**UNLESS ALL SIGNATURES COMPLETED** 



TEMPORARY TRAFFIC CONTROL
MANAGEMENT STRATEGIES AND
GENERAL NOTES

# NOTES:

MAINTAIN VEHICULAR ACCESS TO ALL RESIDENCES AND BUSINESSES DURING THE LIFE OF THE CONTRACT UNLESS OTHERWISE NOTED IN THE PHASING OR DIRECTED BY THE ENGINEER.

COMPLETE ANY PROPOSED WIDENING IN SUCH A MANNER THAT PONDING OF WATER WILL NOT OCCUR IN THE TRAVEL LANE. THIS MAY REQUIRE A COMBINATION OF INSTALLATION OF PROPOSED PIPES, TEMPORARY PIPES, STEEL PLATES, TEMPORARY MEDIAN, AND OUTSIDE DITCHES. PROVIDE WEDGING AS REQUIRED TO PROMOTE POSITIVE DRAINAGE AND SMOOTH TRANSITIONS.

INSTALL STEEL PLATES AS NEEDED FOR PARTIALLY COMPLETED CROSS PIPES.

PAVE PROPOSED CONSTRUCTION UP TO BUT NOT INCLUDING THE FINAL LAYER OF SURFACE COURSE, IN ALL PHASES UNTIL STATED TO INSTALL FINAL LAYER IN PHASING.

ALL SIGNALS BEING INSTALLED ARE BAGGED IF NOT IMMEDIATELY ACTIVATED.

ALL SIGNAL TIMINGS MAY BE ADJUSTED AS DIRECTED BY THE ENGINEER.

THE TERM RSD REFERS TO ROADWAY STANDARD DRAWINGS.

#### PHASE 1

STEP 1: USING RSD 1101.01 (SHEETS 2 AND 3 OF 3), INSTALL ADVANCE WARNING SIGNS ON -L- (US 421) AND ALL -Y- LINES AND SIDE STREETS.

STEP 2: INSTALL TEMPORARY SIGNALS AT THE INTERSECTIONS OF -L- (US 421) AND -Y10- (US 421 BUS) AND -Y10- (US 421 BUS) AND -Y11- (CURTIS BRIDGE RD).

STEP 3: USING RSD 1101.02 (SHEET 3 OF 14), CLOSE THE OUTSIDE TRAVEL LANES ON -Y10- (US 421 BUS) AND THE INSIDE LEFT TURN LANE ON SOUTHBOUND -Y11- (CURTIS BRIDGE RD) AND INSTALL TEMPORARY PAVEMENT MARKINGS AS SHOWN ON SHEET TMP-4 THRU TMP-6 AND ACTIVATE THE TEMPORARY SIGNALS INSTALLED IN STEP 2.

IN ACCORDANCE WITH THE TIME RESTRICTIONS ON TMP-2, CLOSE THE INSIDE TRAVEL LANE ON -L- (US 421) TO COMPLETE THE TEMPORARY WIDENING AS SHOWN ON SHEETS TMP-4 AND TMP-5.

IN ACCORDANCE WITH THE TIME RESTRICTIONS ON TMP-2, CLOSE THE OUTSIDE LANES ON -L- (US 421) TO CONSTRUCT THE OUTSIDES OF -L- (US 421) AS SHOWN ON SHEETS TMP-4 AND TMP-5.

CONSTRUCT THE PORTIONS OF -Y10- (US 421 BUS) AND -Y11- (CURTIS BRIDGE RD) AS SHOWN ON SHEETS TMP-4 THRU TMP-6.

## **PHASING**

PROVIDE TEMPORARY PORTABLE CONCRETE BARRIER WITH DRAINAGE SLOTS FOR DRAINAGE INSTALLATION FROM STRUCTURE 1514 TO 1644. SEQUENCE CONSTRUCTION AND ADJUST BARRIER AS NEEDED TO MAINTAIN AT LEAST ONE DRIVEWAY AT ALL TIMES.

CONSTRUCT MEDIAN AND CROSS PIPES ON -Y11- (CURTIS BRIDGE RD) USING TEMPORARY LANE CLOSURES AS NEEDED. FOR THE LEFT SIDE MEDIAN AND CROSS PIPE INSTALLATION, CLOSE THE NORTHBOUND TRAVEL LANE AND DETOUR TRAFFIC TO U-TURN AT THE NEXT INTERSECTION. SEE SHEETS TMP-4 AND TMP-5 FOR DETAIL.

#### PHASE 2

STEP 1: INSTALL TEMPORARY SIGNALS AT THE INTERSECTIONS OF -L- (US 421) AND -Y10- (US 421 BUS) AND -Y10- (US 421 BUS) AND -Y11- (CURTIS BRIDGE RD).

STEP 2: USING RSD 1101.02 (SHEET 3 OF 14) AS NEEDED, REMOVE ANY CONFLICTING MARKINGS, INSTALL TEMPORARY PAVEMENT MARKINGS AND SIGNAGE, ACTIVATE THE TRAFFIC SIGNALS INSTALLED IN STEP 1, AND SHIFT TRAFFIC INTO NEW PATTERN AS SHOWN ON SHEETS TMP-7 THRU TMP-10.

IN ACCORDANCE WITH THE TIME RESTRICTIONS ON TMP-2, CLOSE THE INSIDE TRAVEL LANES ON -Y10- (US 421 BUS) AND THE OUTSIDE TRAVEL LANES ON -Y11- (CURTIS BRIDGE RD) TO CONSTRUCT THE PORTIONS OF -Y10- (US 421 BUS) AND -Y11- (CURTIS BRIDGE RD) AS SHOWN ON SHEETS TMP-7 THRU TMP-10.

IN ACCORDANCE WITH THE TIME RESTRICTIONS ON TMP-2, CLOSE THE INSIDE LANES ON -L- (US 421) TO CONSTRUCT THE MIDDLE OF -L- (US 421) AS SHOWN ON SHEETS TMP-7 AND TMP-8.

CONSTRUCT MEDIAN, CROSS PIPES, AND TEMPORARY PLATED STRUCTURES USING TEMPORARY LANE CLOSURES AS NEEDED.

## PHASE 3

STEP 1: INSTALL TEMPORARY SIGNALS AT THE INTERSECTIONS OF -L- (US 421) AND -Y10- (US 421 BUS) AND -Y10- (US 421 BUS) AND -Y11- (CURTIS BRIDGE RD). INSTALL THE FINAL TRAFFIC SIGNAL AT THE INTERSECTION OF -L- (US 421) AND -Y11- (CURTIS BRIDGE RD).

STEP 2: USING RSD 1101.02 (SHEET 3 OF 14) AS NEEDED, CONSTRUCT TEMPORARY PAVEMENT AND WEDGING AS SHOWN ON SHEET TMP-11, REMOVE ANY CONFLICTING MARKINGS, INSTALL TEMPORARY PAVEMENT MARKINGS AND SIGNAGE, ACTIVATE THE TRAFFIC SIGNALS INSTALLED IN STEP 1, AND SHIFT TRAFFIC INTO NEW PATTERN AS SHOWN ON SHEETS TMP-11 THRU TMP-12.

PROJ. REFERENCE NO.	SHEET NO.
U-5312	TMP-3

STEP 3: WITH THE OUTSIDE TRAVEL LANE ON -Y10- (US 421 BUS) CLOSED, CONSTRUCT THE PORTIONS OF -Y10- (US 421 BUS) AS SHOWN ON SHEETS TMP-11 THRU TMP-12.

IN ACCORDANCE WITH THE TIME RESTRICTIONS ON TMP-2, CLOSE THE OUTSIDE TRAVEL LANE ON -L- (US 421) AND CONSTRUCT THE LEFT SIDE OF -L- (US 421) AS SHOWN ON SHEETS TMP-11 AND TMP-12.

STEP 4: INSTALL TEMPORARY TRAFFIC SIGNALS AT THE INTERSECTIONS OF -L- (US 421) AND -Y6- (DANCY RD), -L- (US 421) AND ADDISON AVE, AND -L- (US 421) AND -Y10- (US 421 BUS). INSTALL FINAL TRAFFIC SIGNAL AT THE INTERSECTION OF -Y10- (US 421 BUS) AND -Y11- (CURTIS BRIDGE RD).

### PHASE 4

STEP 1: USING RSD 1101.02 (SHEET 3 OF 14) AS NEEDED, REMOVE ANY CONFLICTING MARKINGS, INSTALL TEMPORARY PAVEMENT MARKINGS, LONGITUDINAL CHANNELIZING CURB SYSTEM, AND SIGNAGE IN ACCORDANCE WITH THE FINAL PAVEMENT MARKING AND SIGNING PLANS AND WITH SHEETS TMP-13 THRU TMP-22, ACTIVATE THE TRAFFIC SIGNALS INSTALLED IN PHASE 3, STEP 4, AND SHIFT TRAFFIC INTO NEW PATTERN AS SHOWN ON SHEETS TMP-13 THRU TMP-22.

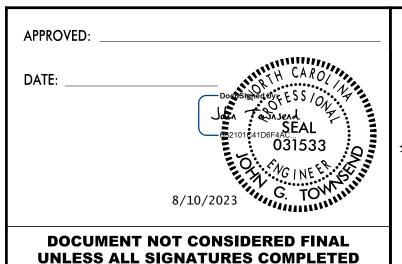
STEP 2: USING RSD 1101.02 (SHEET 3 OF 14) AND IN ACCORDANCE WITH THE TIME RESTRICTIONS ON TMP-2, CLOSE THE OUTSIDE TRAVEL LANE ON -L- (US 421) AND CONSTRUCT THE RIGHT SIDE OF -L- (US 421) INCLUDING -Y- LINES, SIDE STREETS, AND DRIVEWAYS AS SHOWN ON SHEETS TMP-13 THRU TMP-20.

CONSTRUCT MEDIAN, CROSS PIPES, AND TEMPORARY PLATED STRUCTURES USING TEMPORARY LANE CLOSURES AS NEEDED. FOR THE PIPE ACROSS WINKLER MILL RD. EXT., USE NIGHTLY CLOSURES TO CLOSE THE ROAD AND DETOUR TRAFFIC TO THE NEXT ENTRANCE. SEE SHEETS TMP-19 AND TMP-21 FOR DETAIL.

STEP 3: MODIFY THE TEMPORARY TRAFFIC SIGNALS AT THE INTERSECTIONS OF -L- (US 421) AND -Y6- (DANCY RD) AND -L- (US 421) AND ADDISON AVE AND INSTALL TEMPORARY TRAFFIC SIGNAL AT THE INTERSECTION OF -L- (US 421) AND -Y7- (WINKLER MILL RD).

#### PHASE 5

STEP 1: USING RSD 1101.02 (SHEET 3 OF 14) AS NEEDED, REMOVE ANY CONFLICTING MARKINGS AND LONGITUDINAL CHANNELIZING CURB SYSTEM, INSTALL TEMPORARY PAVEMENT MARKINGS AND SIGNAGE IN ACCORDANCE WITH THE FINAL PAVEMENT MARKING AND SIGNING PLANS AND WITH SHEETS TMP-23 THRU TMP-31, ACTIVATE THE TRAFFIC SIGNALS INSTALLED IN PHASE 4,





TEMPORARY TRAFFIC CONTROL PHASING

STEP 3, AND SHIFT TRAFFIC INTO NEW PATTERN AS SHOWN ON SHEETS TMP-23 THRU TMP-31.

STEP 2: USING RSD 1101.02 (SHEET 3 OF 14) AND IN ACCORDANCE WITH THE TIME RESTRICTIONS ON TMP-2, CLOSE THE OUTSIDE TRAVEL LANE ON -L- (US 421) AND CONSTRUCT THE LEFT SIDE OF -L- (US 421) INCLUDING -Y- LINES, SIDE STREETS, AND DRIVEWAYS AS SHOWN ON SHEETS TMP-23 THRU TMP-31.

CONSTRUCT CROSS PIPES USING TEMPORARY LANE CLOSURES AS NEEDED.

STEP 3: MODIFY THE TEMPORARY TRAFFIC SIGNALS AT THE INTERSECTIONS OF -L- (US 421) AND -Y6- (DANCY RD), -L- (US 421) AND ADDISON AVE, AND -L- (US 421) AND -Y7- (WINKLER MILL RD) AND INSTALL TEMPORARY TRAFFIC SIGNALS AT THE INTERSECTIONS OF -L- (US 421) AND -Y6- (DANCY RD WESTBOUND U-TURN), -L- (US 421) AND -Y6- (DANCY RD EASTBOUND U-TURN), -L- (US 421) AND ADDISON AVE WESTBOUND U-TURN, -L- (US 421) AND ADDISON AVE EASTBOUND U-TURN, AND -L- (US 421) AND -Y7- (WINKLER MILL RD WESTBOUND U-TURN).

#### PHASE 6

STEP 1: USING RSD 1101.02 (SHEET 3 OF 14) AS NEEDED, REMOVE ANY CONFLICTING MARKINGS, DELINEATE THE PROPOSED MEDIAN WITH SKINNY DRUMS, INSTALL TEMPORARY PAVEMENT MARKINGS AND SIGNAGE IN ACCORDANCE WITH THE FINAL PAVEMENT MARKING AND SIGNING PLANS AND WITH SHEETS TMP-32 THRU TMP-40, ACTIVATE THE TRAFFIC SIGNALS INSTALLED IN PHASE 5, STEP 3, AND SHIFT TRAFFIC INTO NEW PATTERN AS SHOWN ON SHEETS TMP-32 THRU TMP-40.

STEP 2: USING RSD 1101.02 (SHEET 3 OF 14) AND IN ACCORDANCE WITH THE TIME RESTRICTIONS ON TMP-2, CLOSE THE INSIDE TRAVEL LANES ON -L- (US 421) AND CONSTRUCT THE MEDIAN OF -L- (US 421) AS SHOWN ON SHEETS TMP-32 THRU TMP-40.

CLOSE MEDIAN OPENINGS/TURN LANES AS NEEDED TO COMPLETE THE DRAINAGE AND ROADWAY CONSTRUCTION. DO NOT CLOSE THE ADJACENT UPSTREAM/DOWNSTREAM MEDIAN OPENINGS/TURN LANES AT THE SAME TIME.

PROVIDE TEMPORARY PORTABLE CONCRETE BARRIER WITH DRAINAGE SLOTS ON -L- (US 421) ALONG BOTH SIDES OF THE MEDIAN AT THE INTERSECTION WITH -Y6- (DANCY RD) TO PROTECT THE EXCAVATION FOR THE DRAINAGE CONSTRUCTION. REMOVE THE BARRIER UPON COMPLETION OF THE DRAINAGE CONSTRUCTION.

STEP 3: INSTALL THE FINAL TRAFFIC SIGNALS AT THE INTERSECTIONS OF -L- (US 421) AND -Y6- (DANCY RD), -L- (US 421) AND ADDISON AVE, -L- (US 421) AND -Y6- (DANCY RD WESTBOUND U-TURN), -L- (US 421) AND -Y6- (DANCY RD

EASTBOUND U-TURN), -L- (US 421) AND ADDISON AVE WESTBOUND U-TURN, -L-(US 421) AND ADDISON AVE EASTBOUND U-TURN, AND -L- (US 421) AND -Y7-(WINKLER MILL RD WESTBOUND U-TURN) AND MODIFY THE TEMPORARY TRAFFIC SIGNAL AT THE INTERSECTION OF -L- (US 421) AND -Y7- (WINKLER MILL RD).

### PHASE 7

STEP 1: USING RSD 1101.02 (SHEET 3 OF 14) AS NEEDED, REMOVE ANY CONFLICTING MARKINGS, INSTALL TEMPORARY PAVEMENT MARKINGS AND SIGNAGE IN ACCORDANCE WITH THE FINAL PAVEMENT MARKING AND SIGNING PLANS FOR THE SECTION COMPLETED IN PHASE 6 AND WITH SHEETS TMP-41 THRU TMP-43, ACTIVATE THE TRAFFIC SIGNAL INSTALLED IN PHASE 6, STEP 3, AND SHIFT TRAFFIC INTO NEW PATTERN AS SHOWN ON SHEETS TMP-41 THRU TMP-43.

STEP 2: USING RSD 1101.02 (SHEET 3 OF 14) AND IN ACCORDANCE WITH THE TIME RESTRICTIONS ON TMP-2, CLOSE THE INSIDE TRAVEL LANES ON -L- (US 421) AND CONSTRUCT THE MEDIAN OF -L- (US 421) AS SHOWN ON SHEETS TMP-41 THRU TMP-43.

CLOSE MEDIAN OPENINGS/TURN LANES AS NEEDED TO COMPLETE THE DRAINAGE AND ROADWAY CONSTRUCTION. DO NOT CLOSE THE ADJACENT UPSTREAM/DOWNSTREAM MEDIAN OPENINGS/TURN LANES AT THE SAME TIME.

STEP 3: MODIFY THE TEMPORARY TRAFFIC SIGNAL AT THE INTERSECTION OF -L-(US 421) AND -Y7- (WINKLER MILL RD).

## PHASE 8

STEP 1: USING RSD 1101.02 (SHEET 3 OF 14) AS NEEDED, REMOVE ANY CONFLICTING MARKINGS, INSTALL TEMPORARY PAVEMENT MARKINGS AND SIGNAGE IN ACCORDANCE WITH THE FINAL PAVEMENT MARKING AND SIGNING PLANS AND WITH SHEETS TMP-44 THRU TMP-45, ACTIVATE THE TRAFFIC SIGNAL INSTALLED IN PHASE 7, STEP 3, AND SHIFT TRAFFIC INTO NEW PATTERN AS SHOWN ON SHEETS TMP-44 THRU TMP-45.

STEP 2: AWAY FROM TRAFFIC AND BEHIND PORTABLE CONCRETE BARRIER, CONSTRUCT THE CONSTRUCT THE RIGHT SIDE OF -L- (US 421) FROM STA. 167+10 TO 171+09 AS SHOWN ON SHEET TMP-45.

STEP 3: USING RSD 1101.02 (SHEET 3 OF 14) AND IN ACCORDANCE WITH THE TIME RESTRICTIONS ON TMP-2, CLOSE THE OUTSIDE TRAVEL LANE ON -L- (US 421) AND REMOVE THE PORTABLE CONCRETE BARRIER AND CRASH CUSHION AND REPLACE WITH DRUMS AND CONSTRUCT THE REMAINDER OF THE RIGHT SIDE OF -L- (US 421) INCLUDING -Y- LINES, SIDE STREETS, AND DRIVEWAYS AS SHOWN ON SHEETS TMP-44 THRU TMP-45.

STEP 4: USING RSD 1101.02 (SHEET 3 OF 14) AND IN ACCORDANCE WITH THE TIME RESTRICTIONS ON TMP-2, CLOSE THE INSIDE TRAVEL LANES ON -L- (US 421) AND CONSTRUCT THE MEDIAN OF -L- (US 421) AS SHOWN ON SHEETS TMP-44 THRU TMP-45.

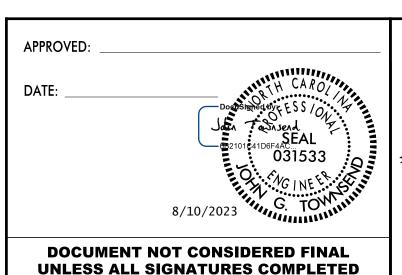
CLOSE MEDIAN OPENINGS/TURN LANES AS NEEDED TO COMPLETE THE DRAINAGE AND ROADWAY CONSTRUCTION. DO NOT CLOSE THE ADJACENT UPSTREAM/DOWNSTREAM MEDIAN OPENINGS/TURN LANES AT THE SAME TIME.

STEP 5: INSTALL FINAL TRAFFIC SIGNALS AT THE INTERSECTION OF -L- (US 421) AND -Y7- (WINKLER MILL RD) AND -L- (US 421) AND -Y7- (WINKLER MILL RD EASTBOUND U-TURN).

#### PHASE 9

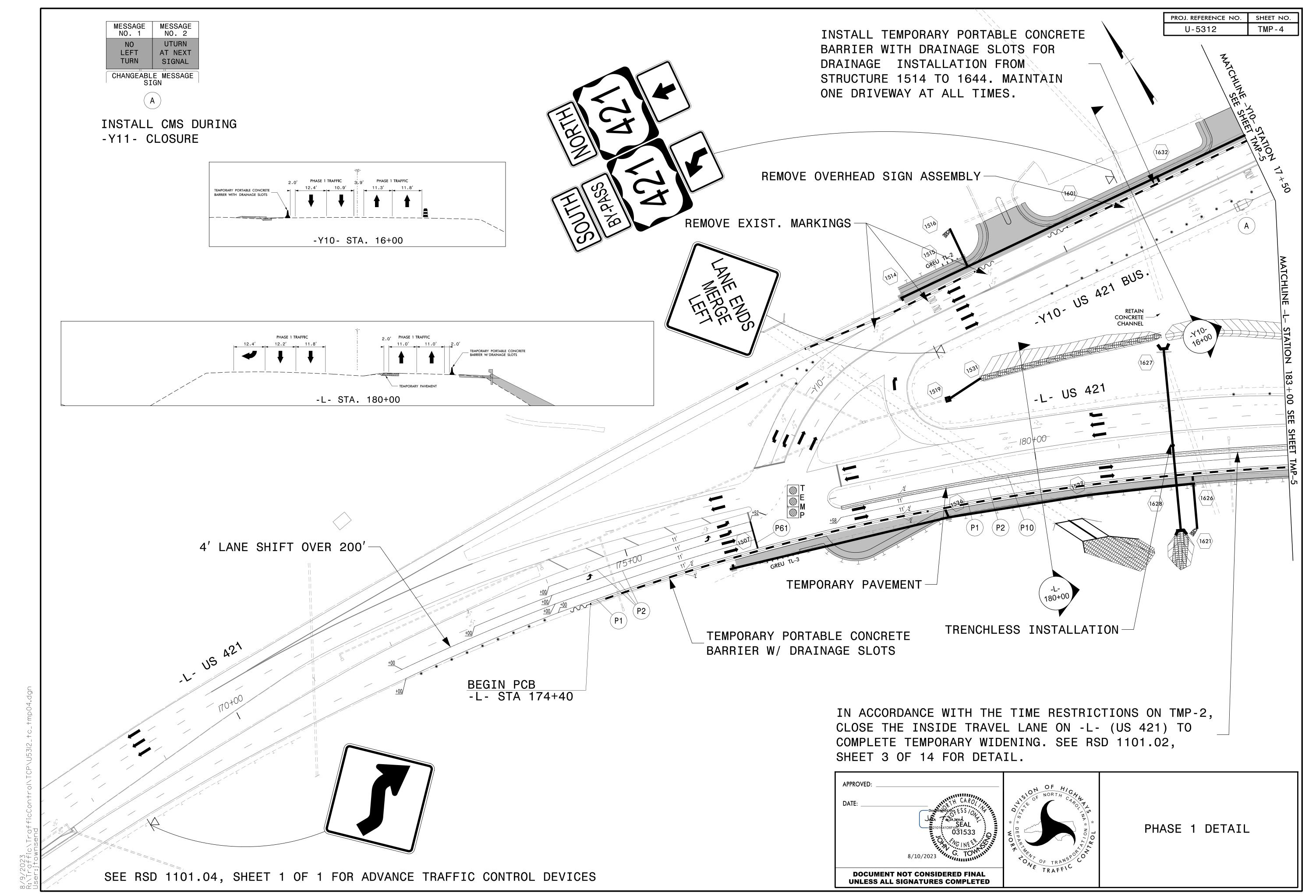
STEP 1: USING RSD 1101.02 (SHEET 3 OF 14) AS NEEDED, REMOVE ANY CONFLICTING MARKINGS, INSTALL TEMPORARY PAVEMENT MARKINGS AND SIGNAGE IN ACCORDANCE WITH THE FINAL PAVEMENT MARKING AND SIGNING PLANS, ACTIVATE THE TRAFFIC SIGNALS INSTALLED IN PHASE 8, STEP 5, AND SHIFT TRAFFIC INTO THE FINAL PATTERN.

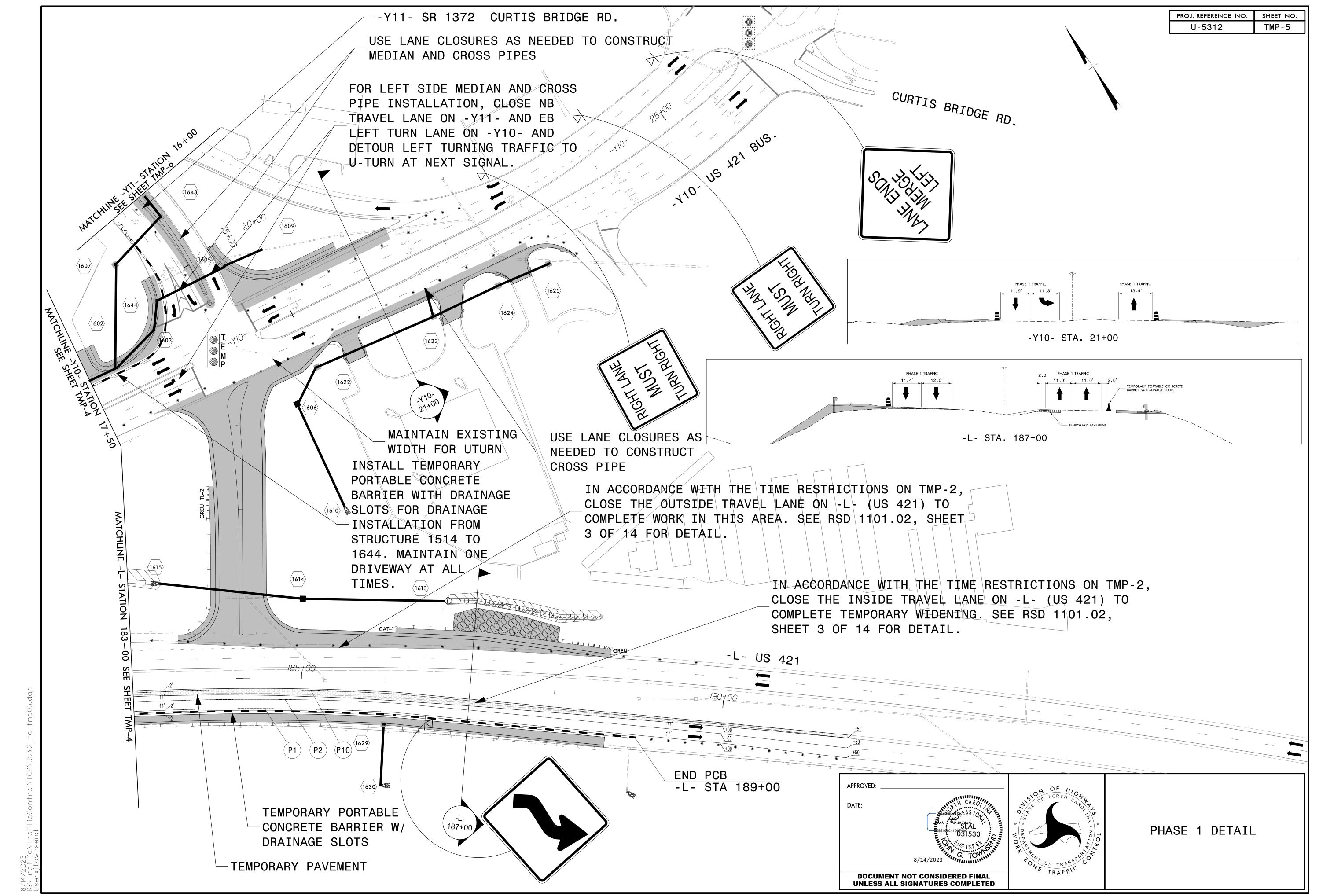
STEP 2: USING RSD 1101.02 (SHEET 3 OF 14) AS NECESSARY, INSTALL FINAL PAVEMENT LAYER AND FINAL PAVEMENT MARKINGS AND MARKERS AND SIGNAGE IN ACCORDANCE WITH THE FINAL PAVEMENT MARKING AND SIGNING PLANS AND REMOVE ALL TEMPORARY TRAFFIC CONTROL DEVICES AND OPEN ALL LANES TO TRAFFIC.

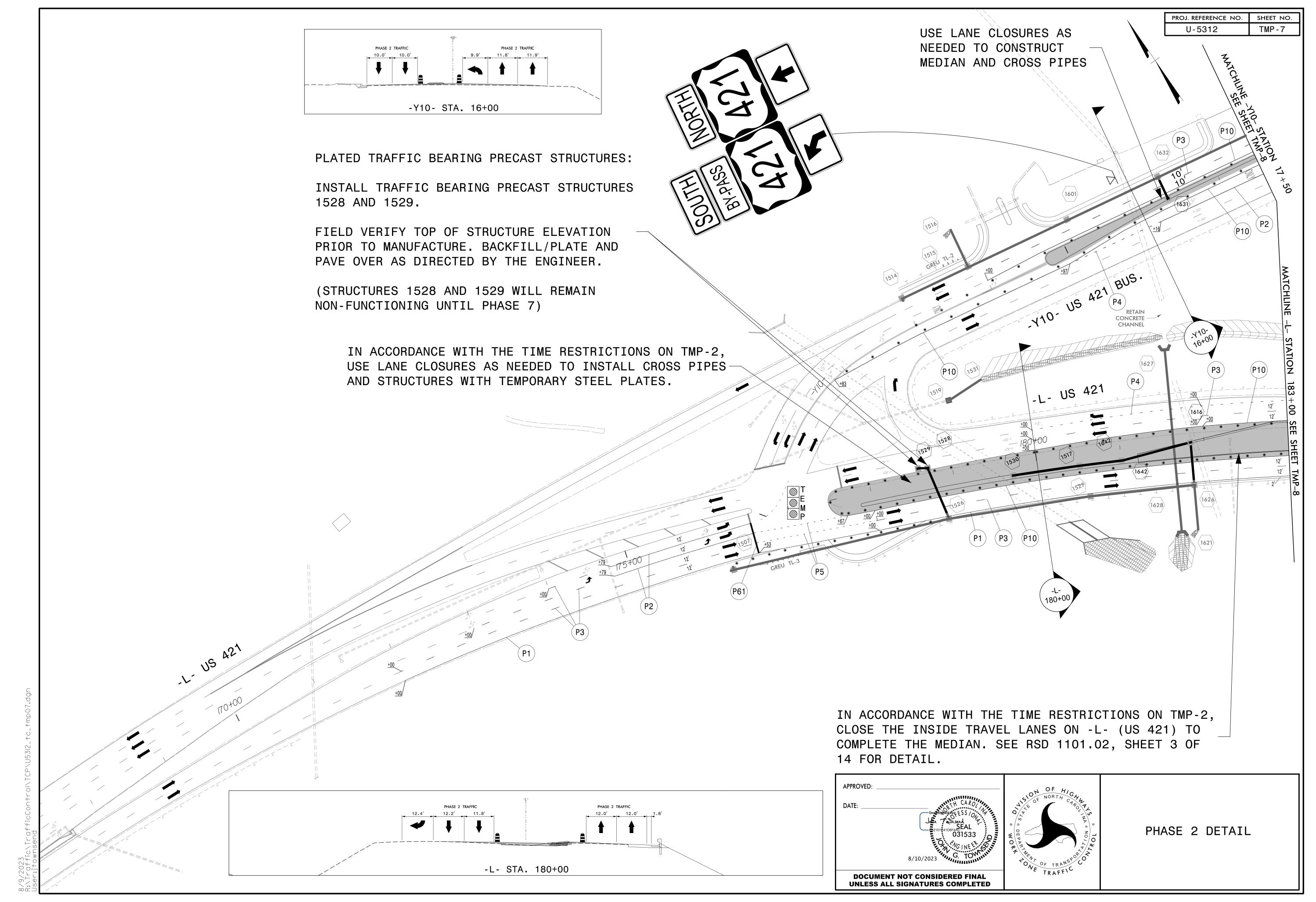


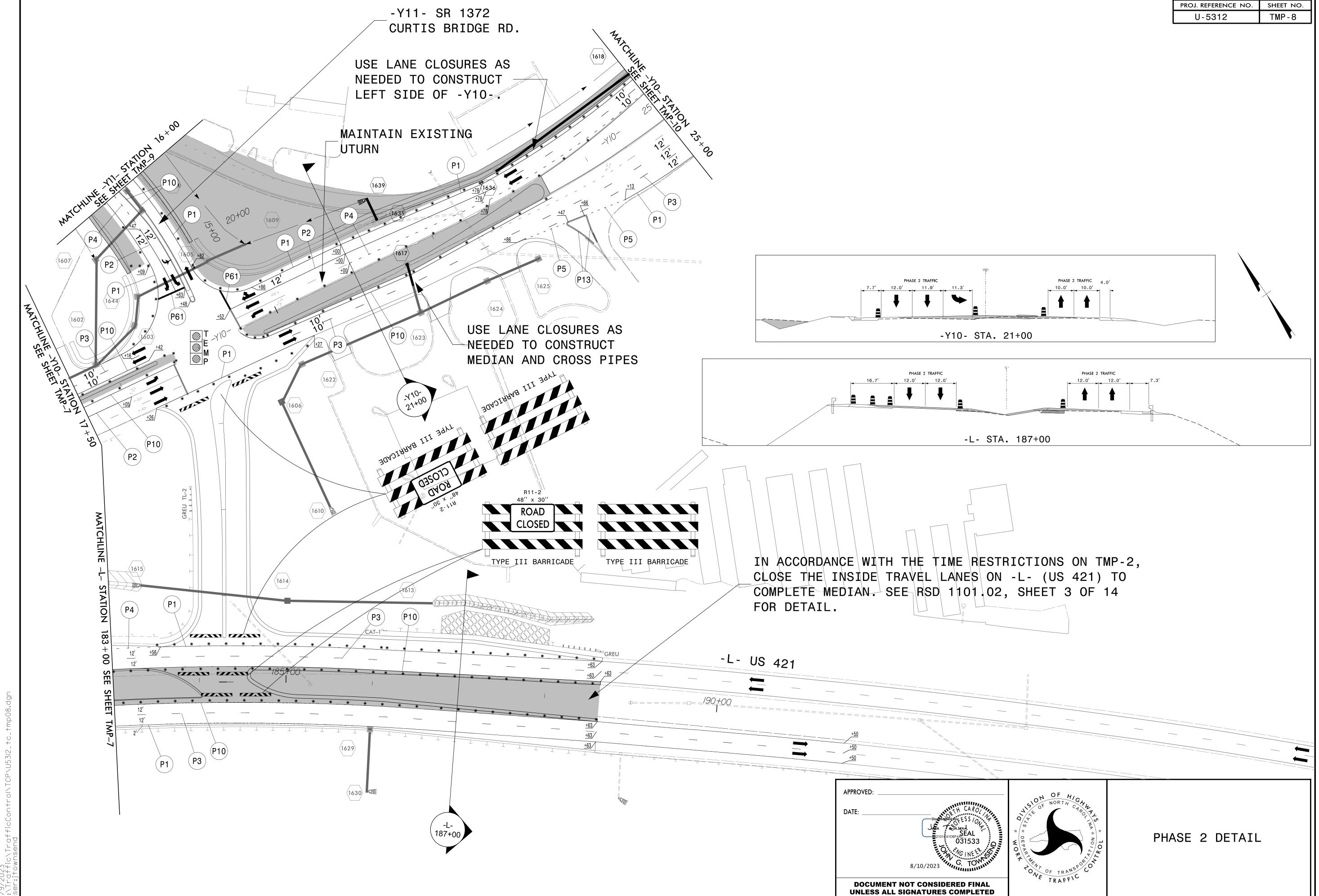


TEMPORARY TRAFFIC CONTROL PHASING





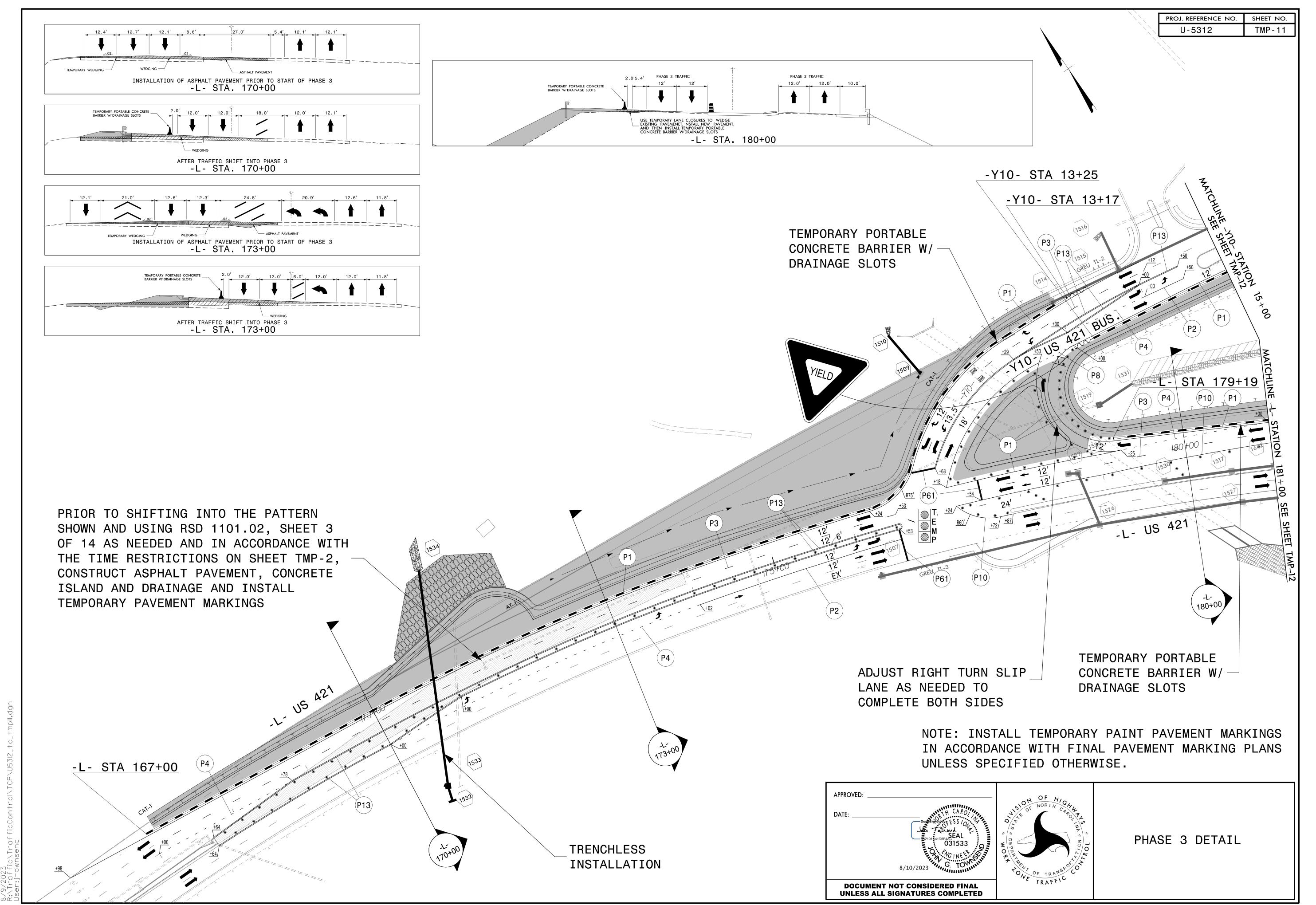




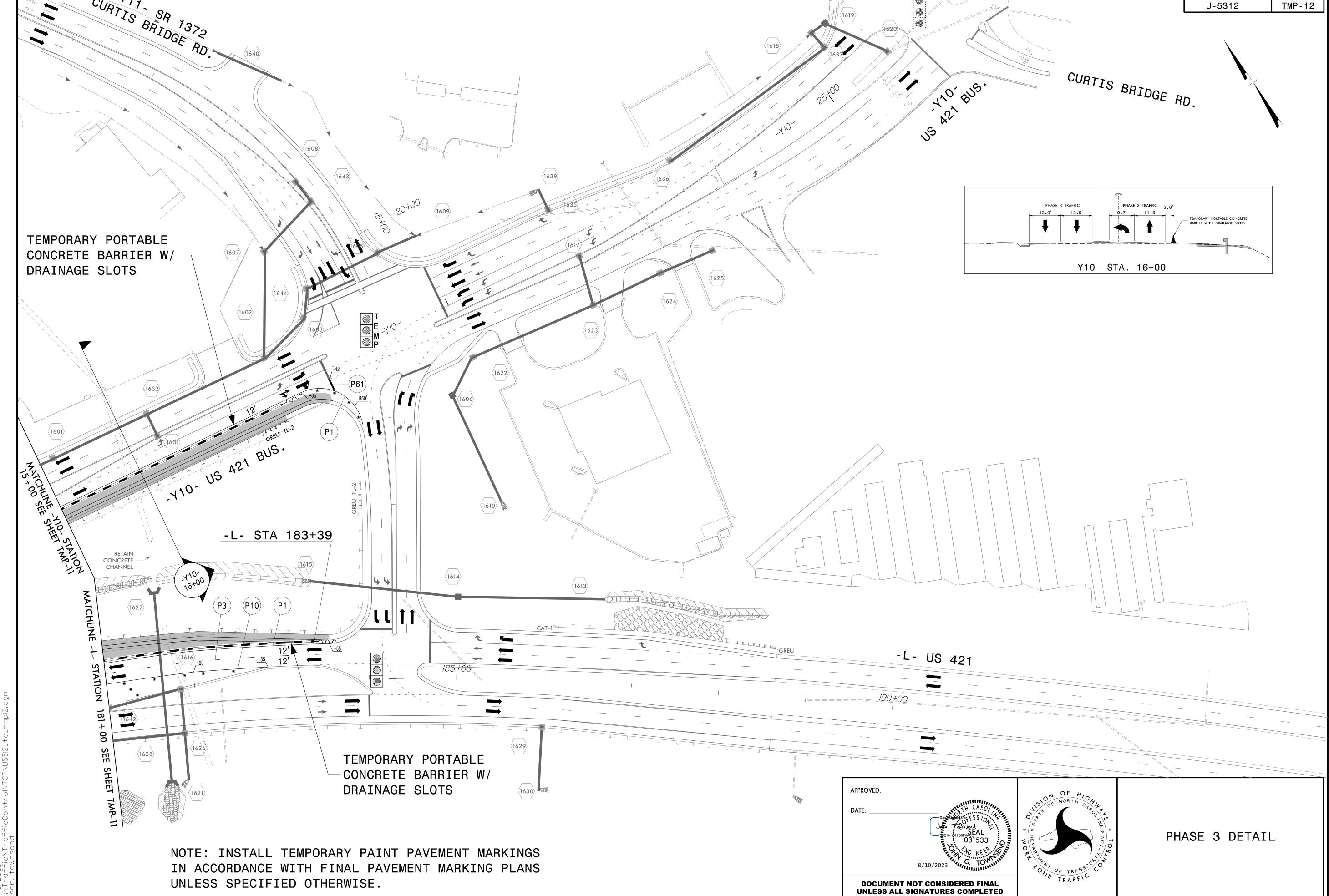
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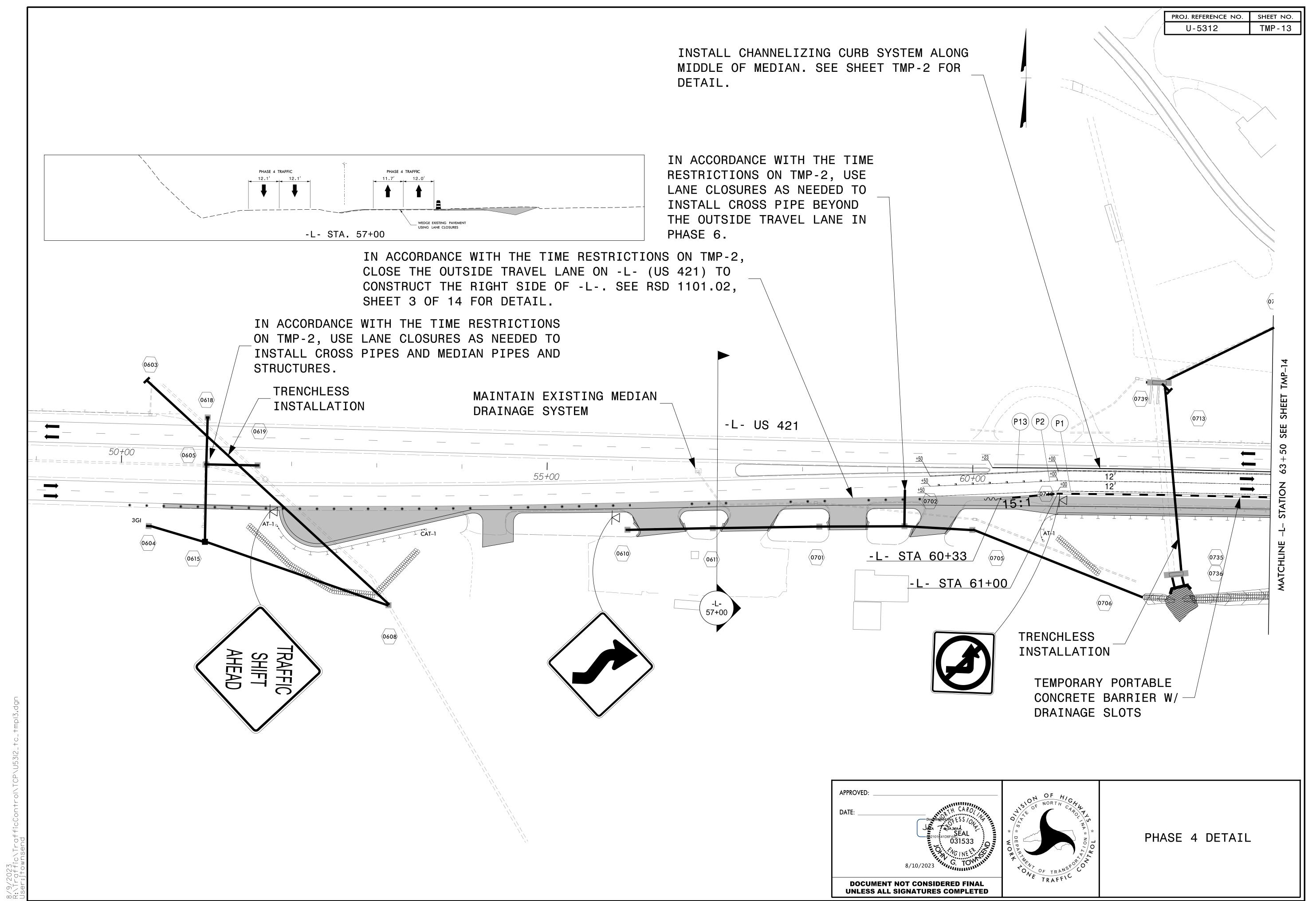
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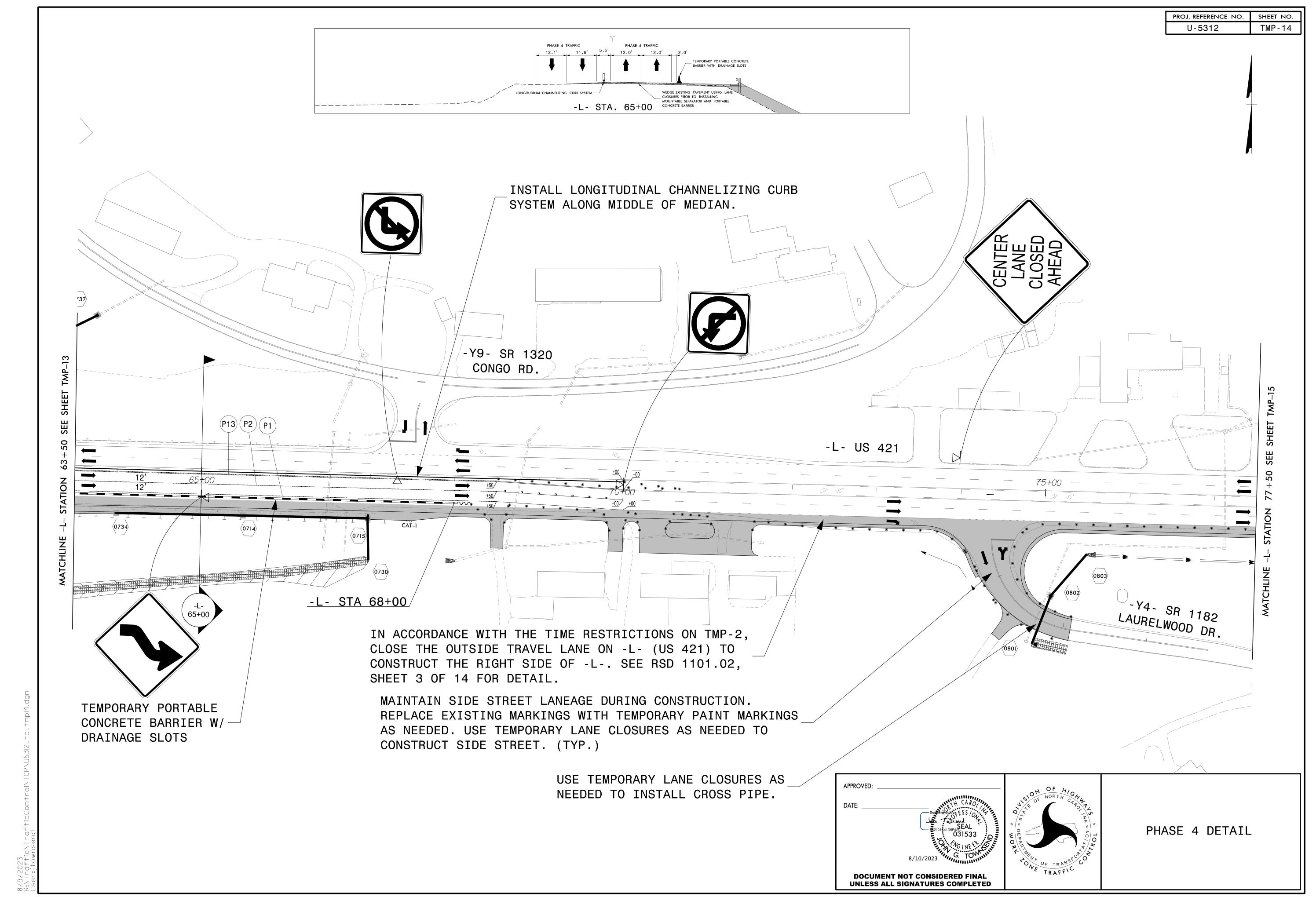
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TMP-15 U-5312 -L- STA. 82+00 IN ACCORDANCE WITH THE TIME RESTRICTIONS ON TMP-2, CLOSE THE OUTSIDE TRAVEL LANE ON -L- (US 421) TO CONSTRUCT THE RIGHT SIDE OF -L-. SEE RSD 1101.02, IN ACCORDANCE WITH THE TIME RESTRICTIONS ON TMP-2, SHEET 3 OF 14 FOR DETAIL. USE LANE CLOSURES AS NEEDED TO INSTALL CROSS PIPE BEYOND THE OUTSIDE TRAVEL LANE IN PHASE 6. -L- US (421 82+00

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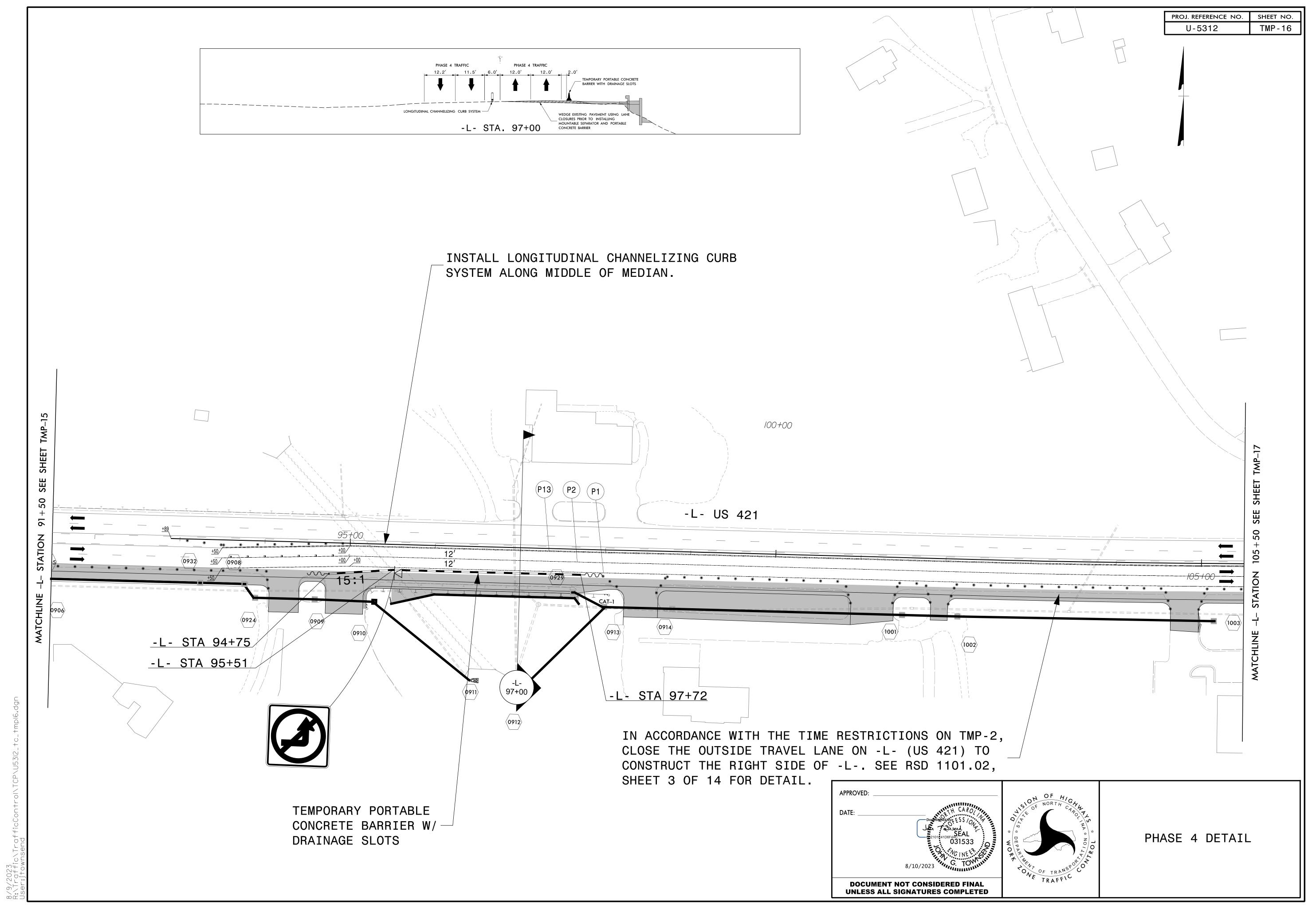
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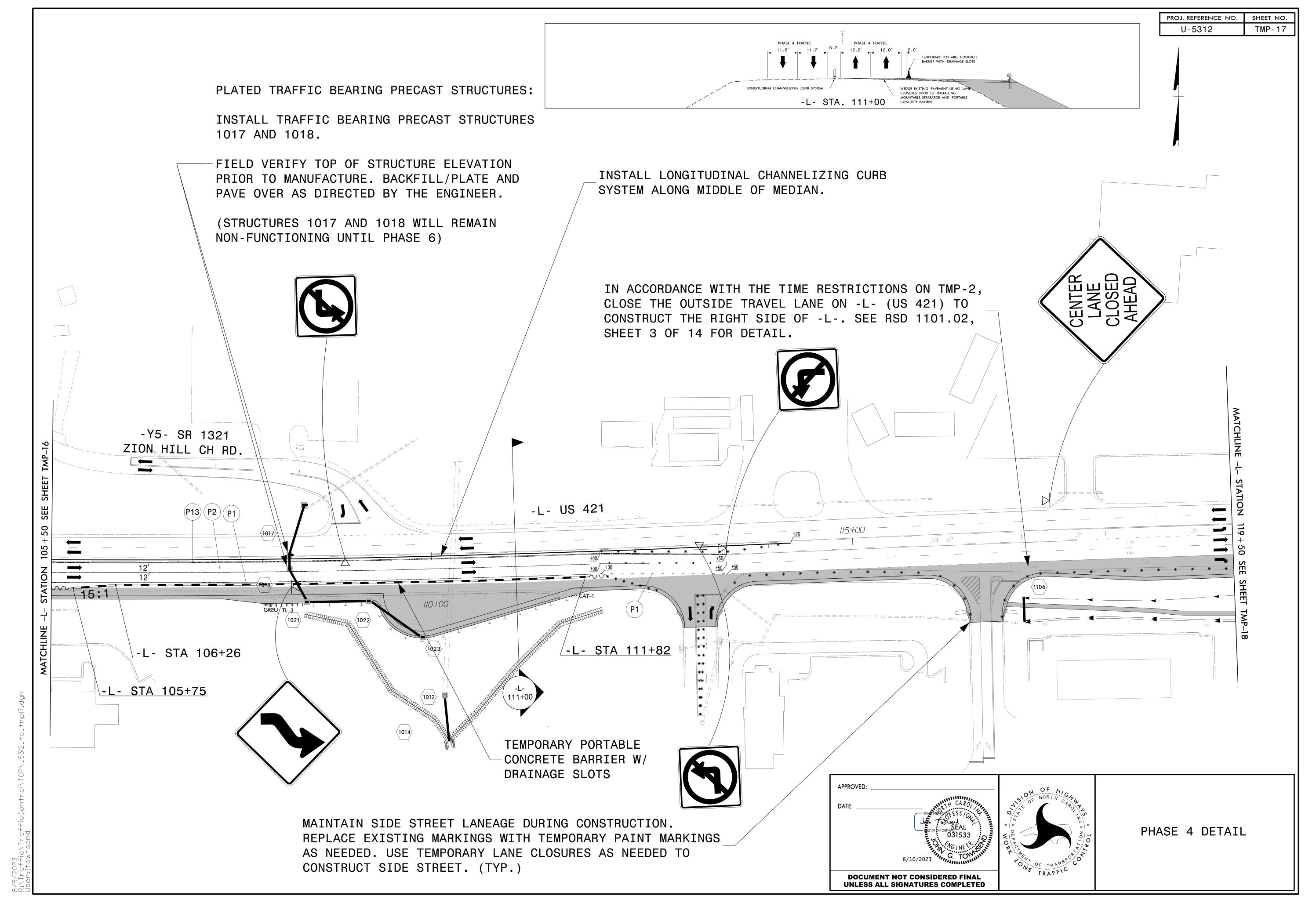
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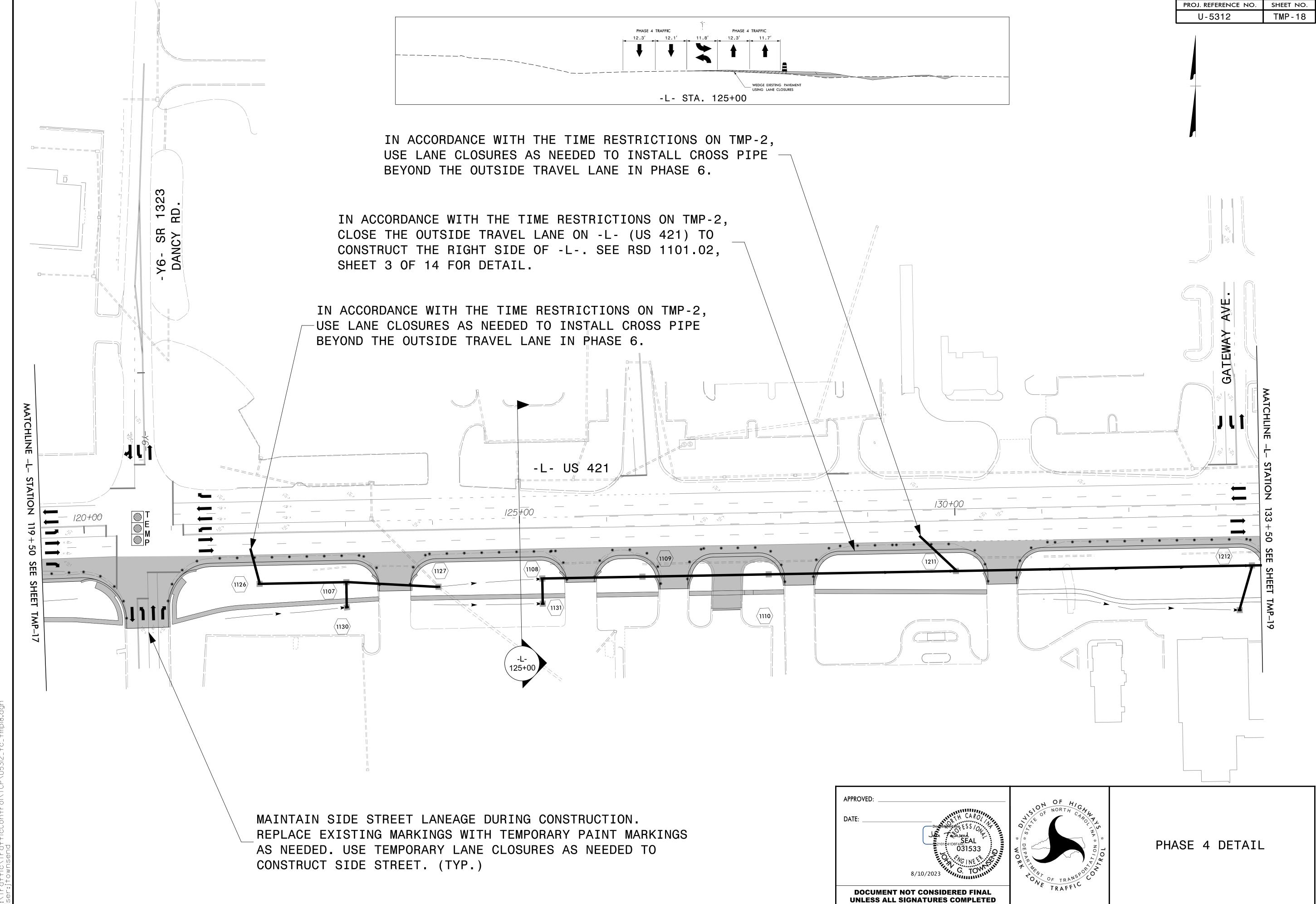
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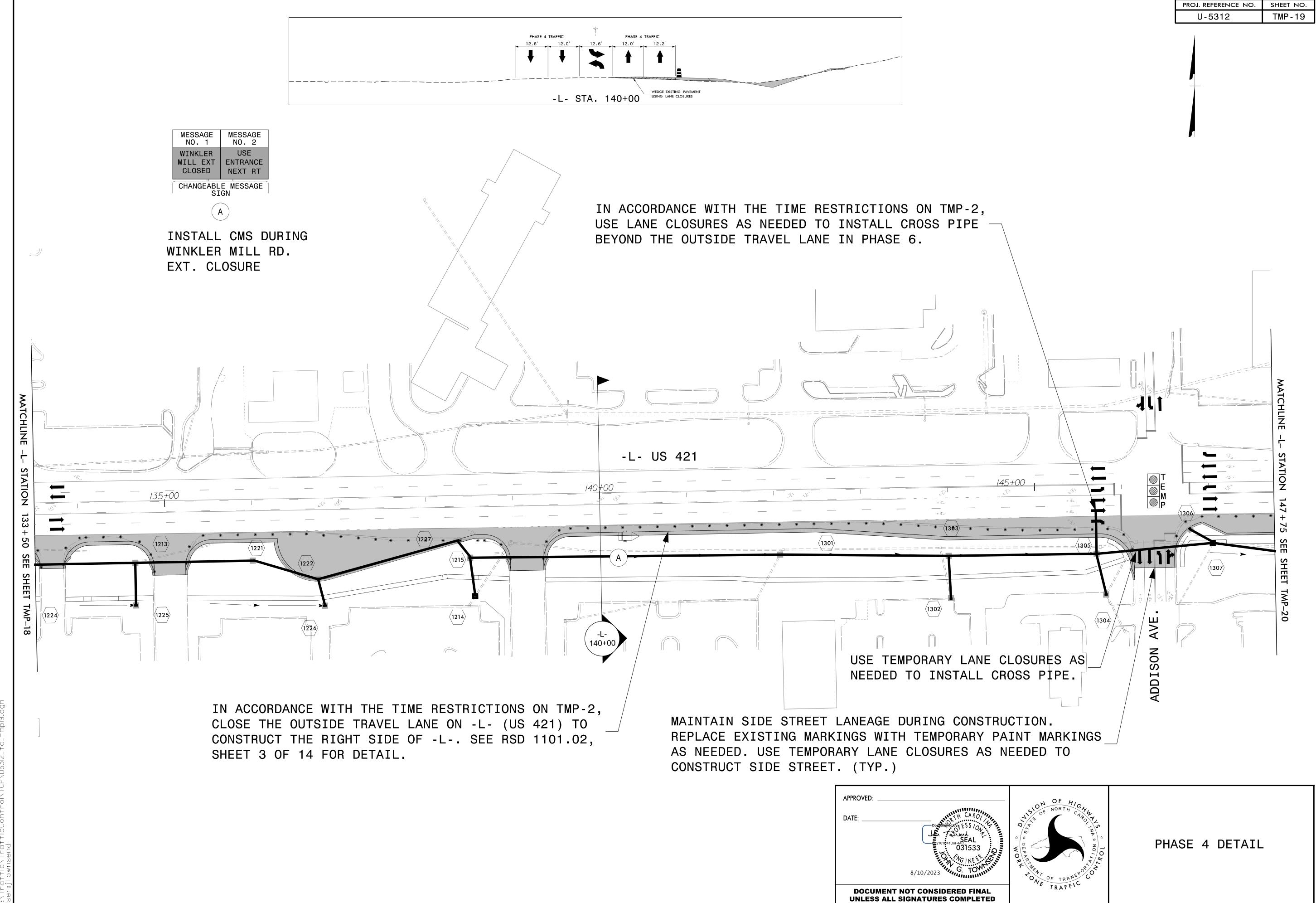
PHASE 4 DETAIL



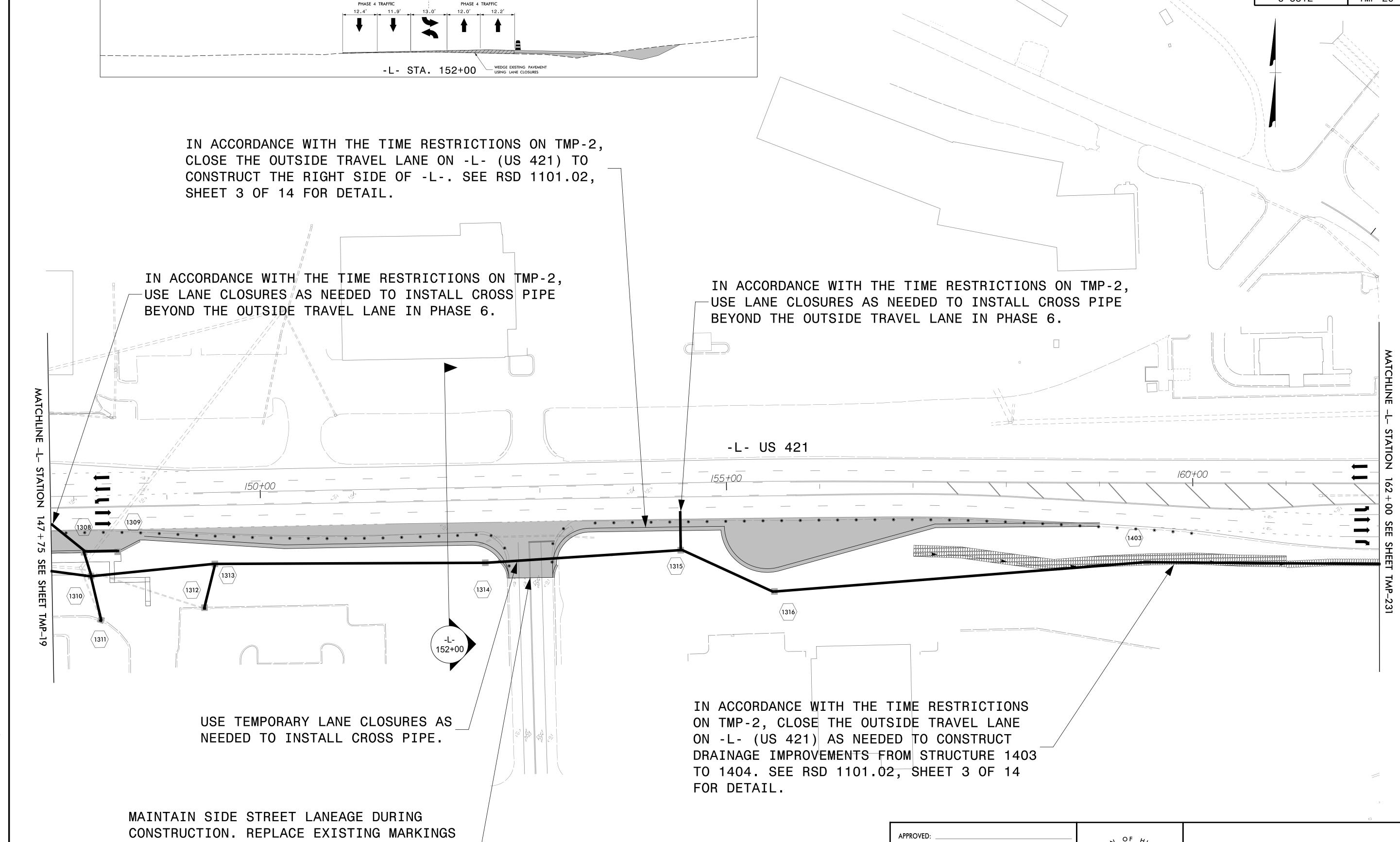


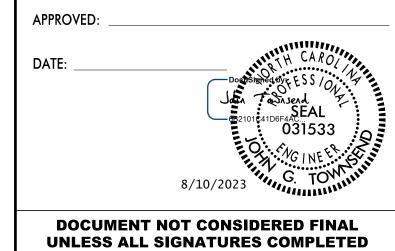


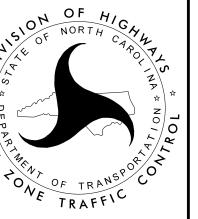
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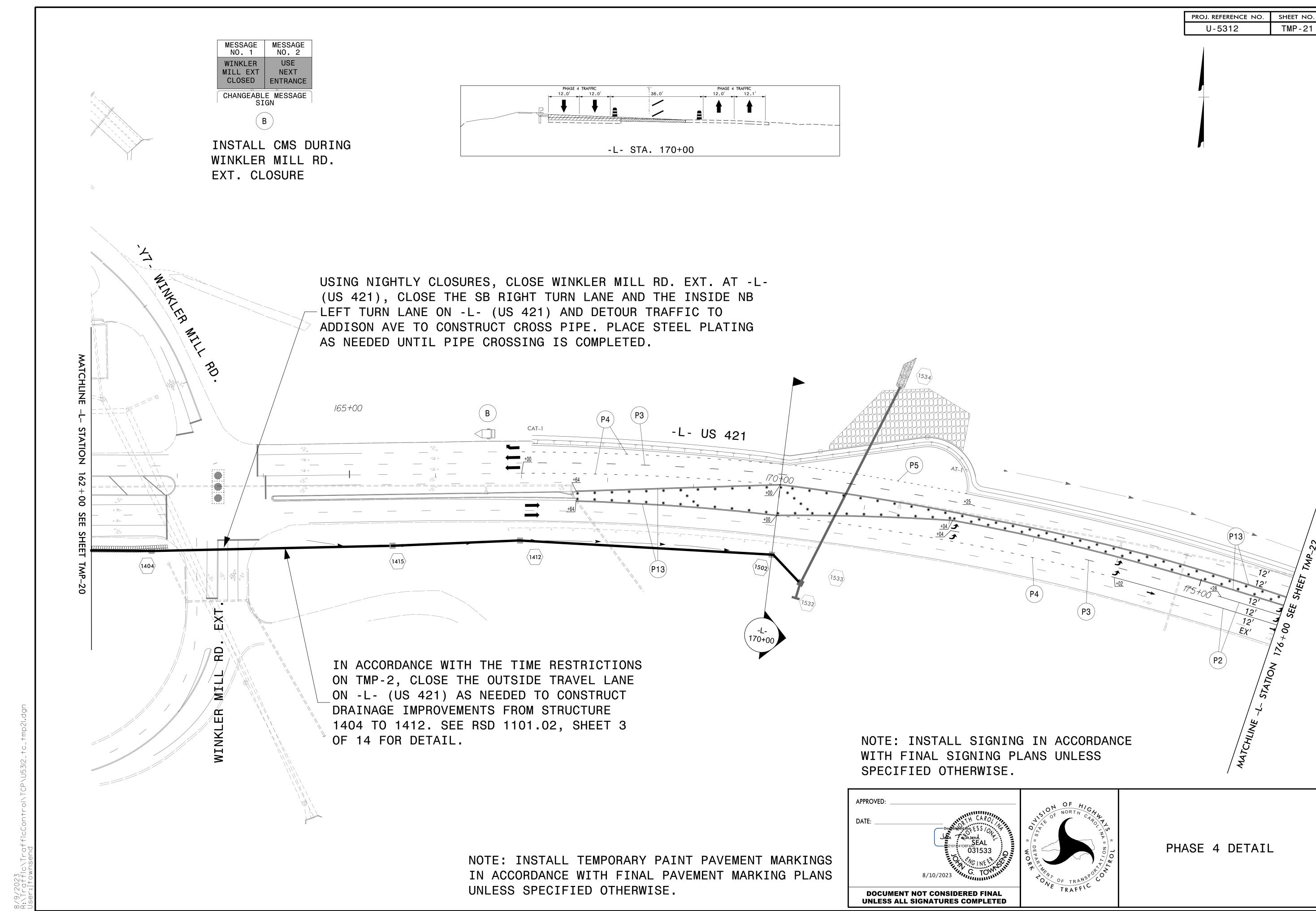


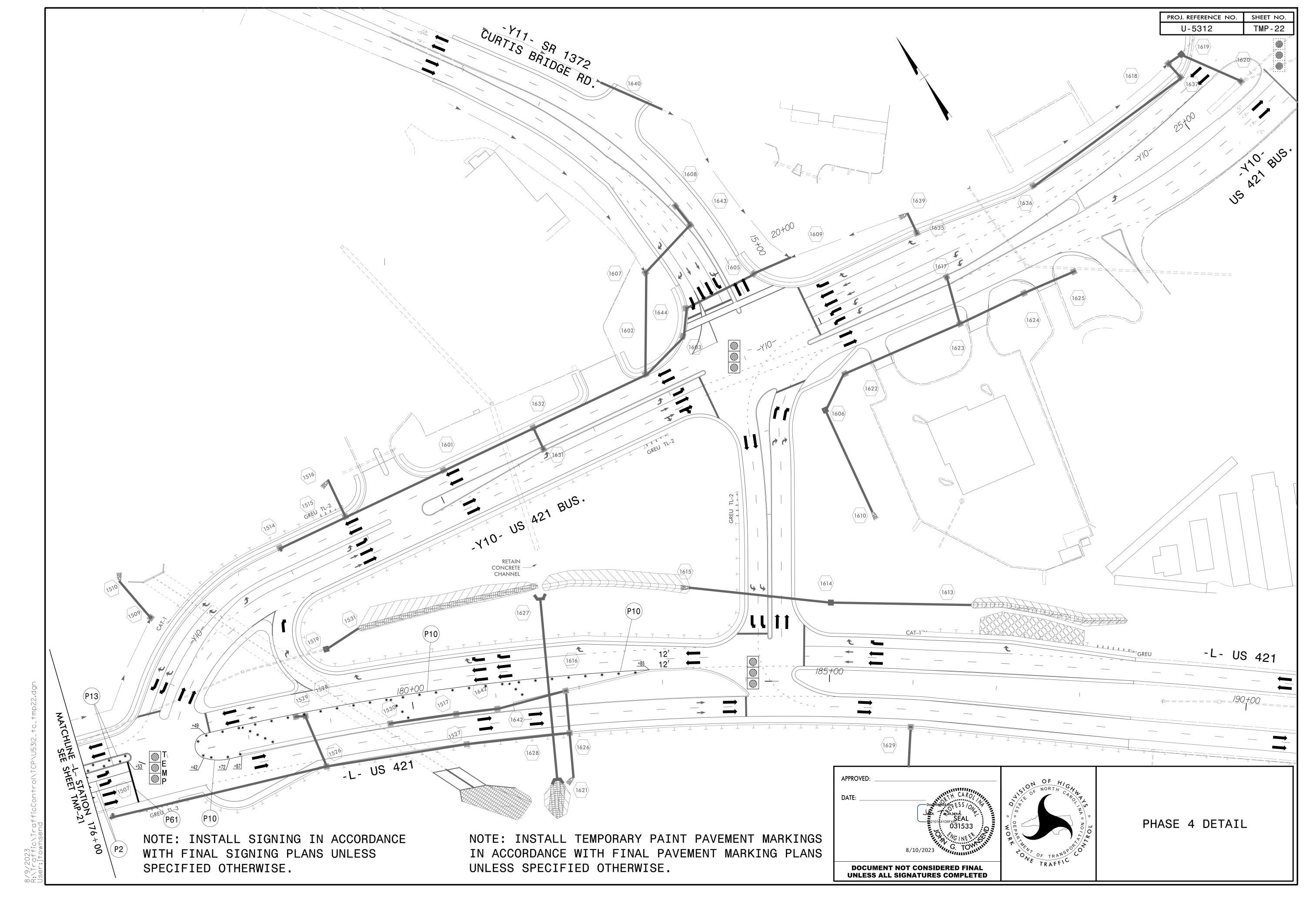
PHASE 4 DETAIL

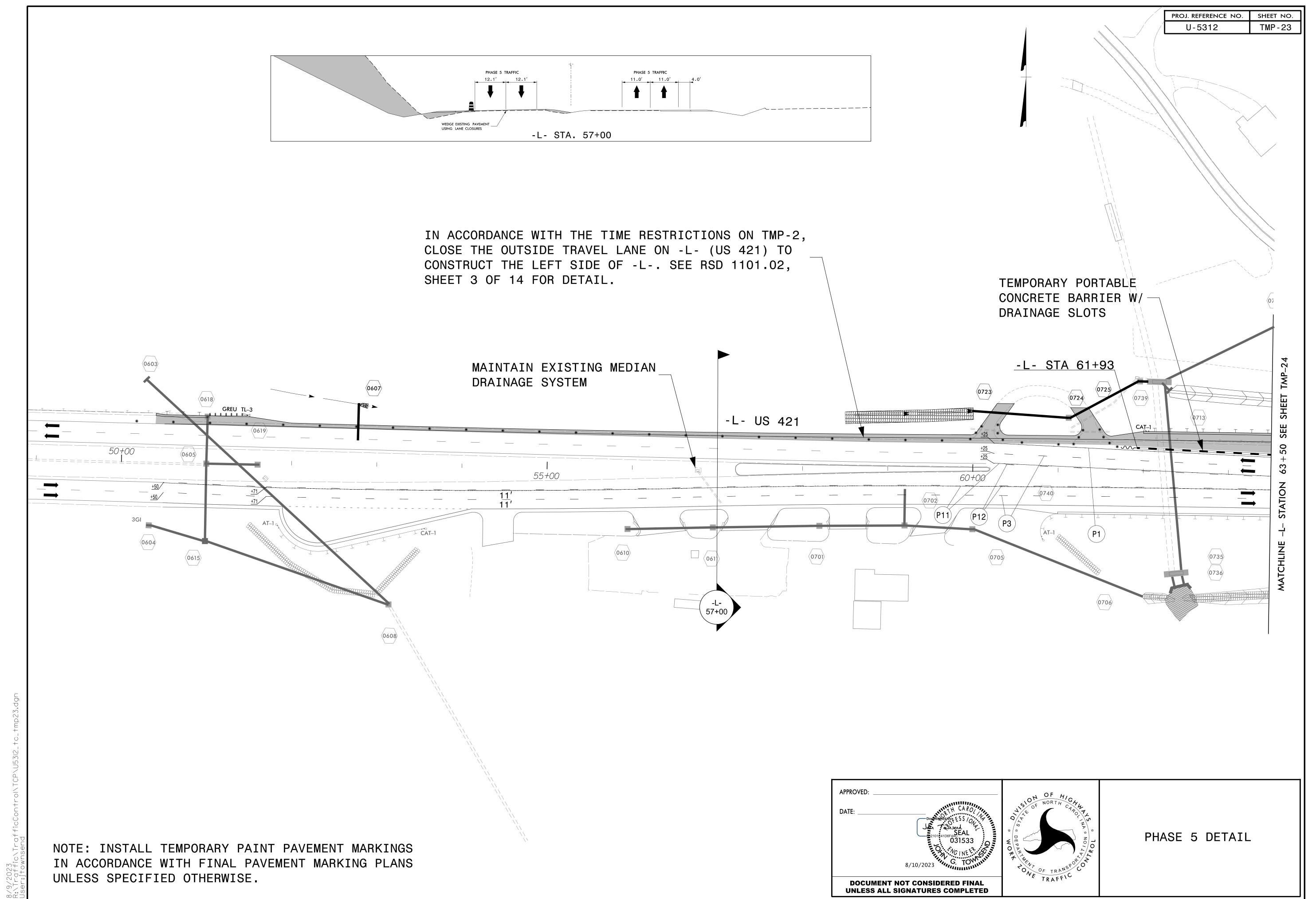
WITH TEMPORARY PAINT MARKINGS AS NEEDED. —

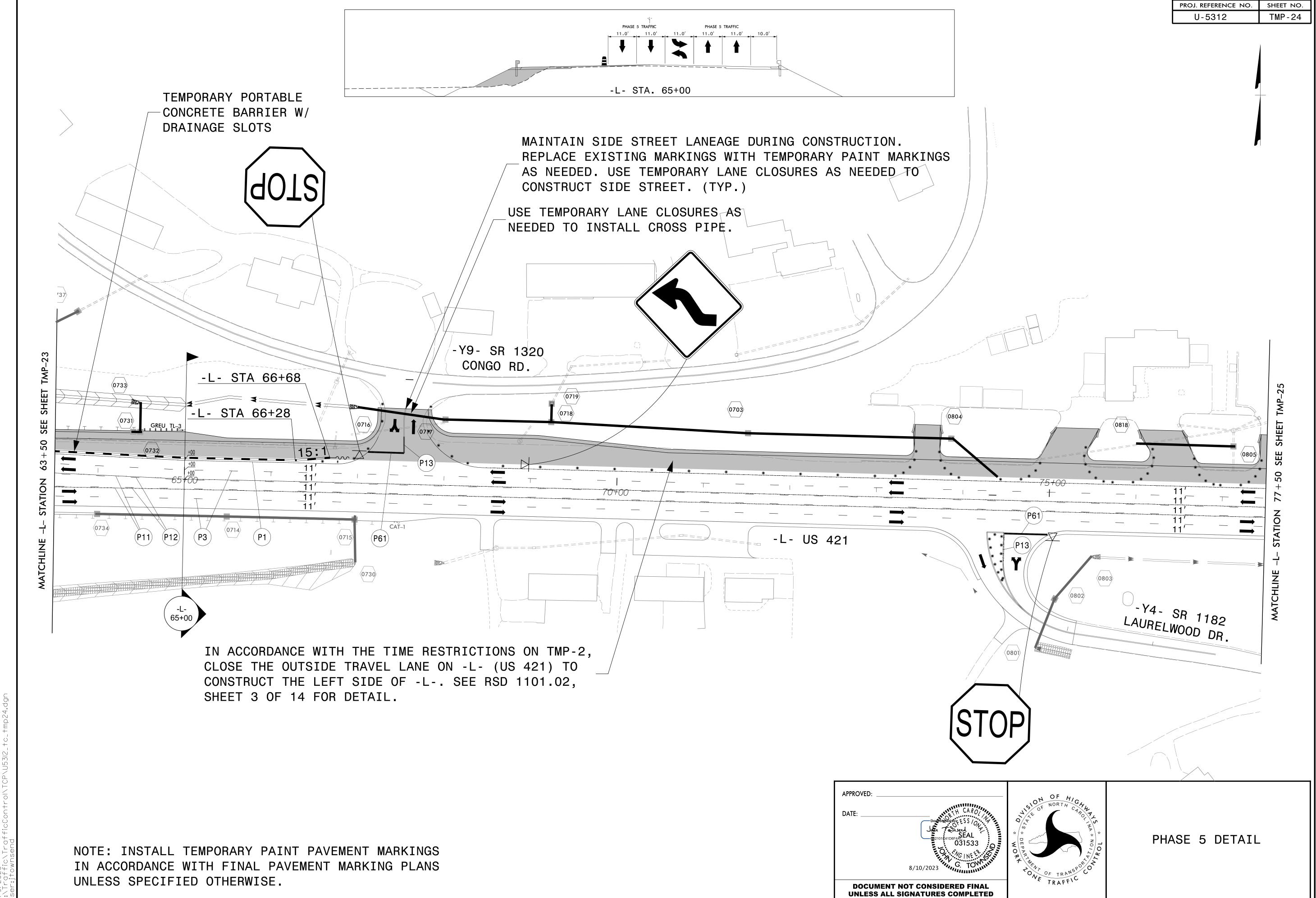
USE TEMPORARY LANE CLOSURES AS NEEDED TO

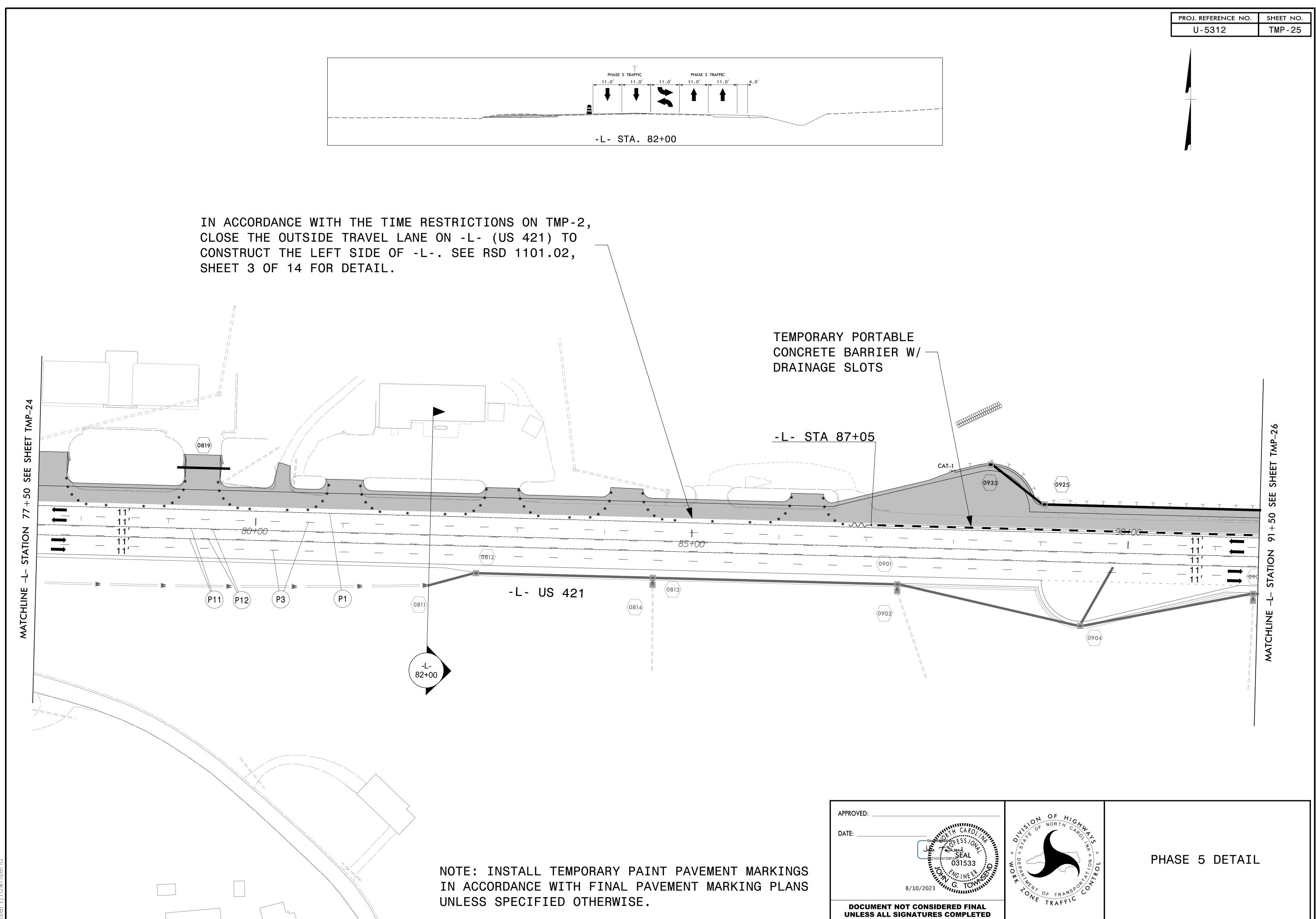
CONSTRUCT SIDE STREET. (TYP.)

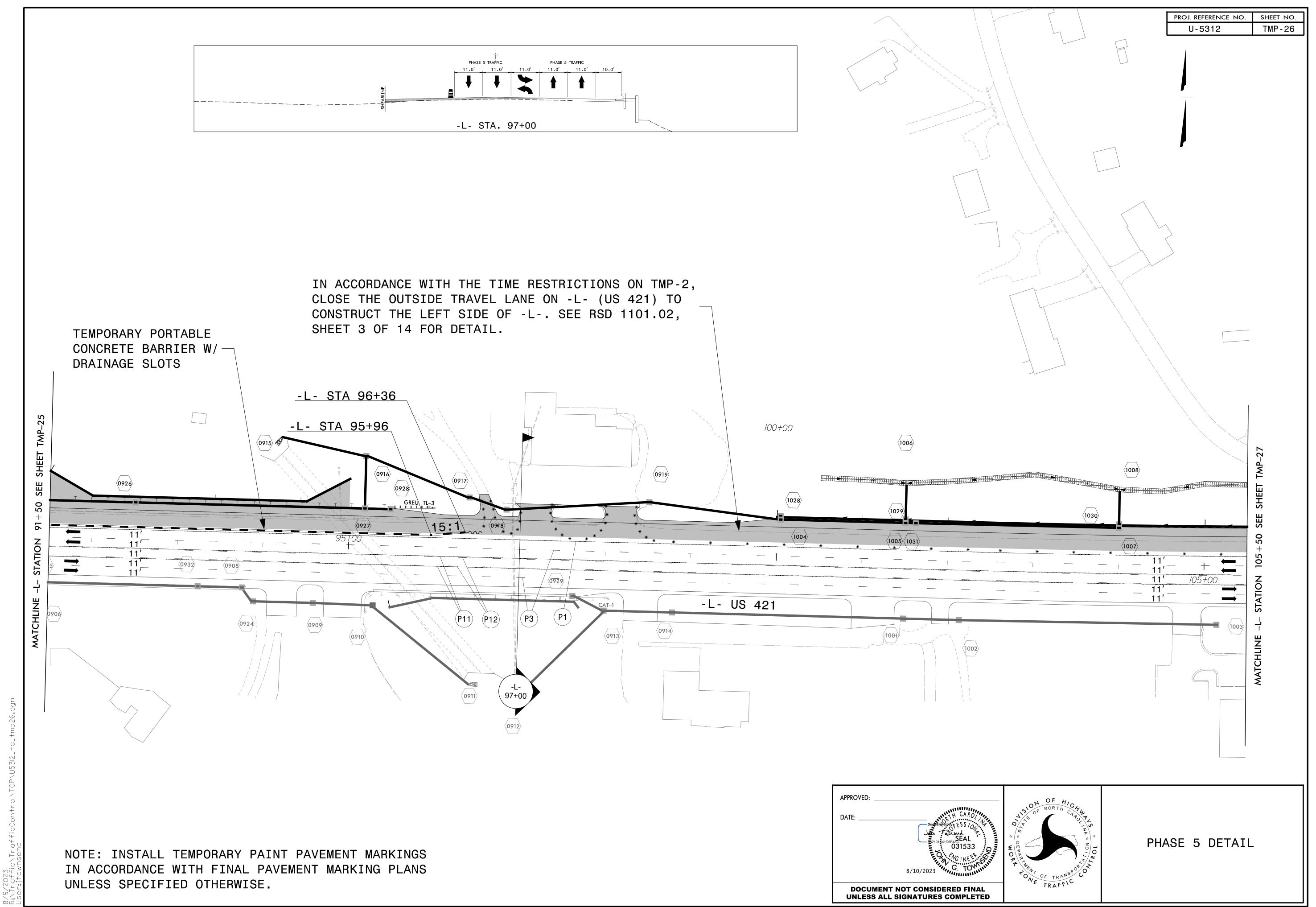


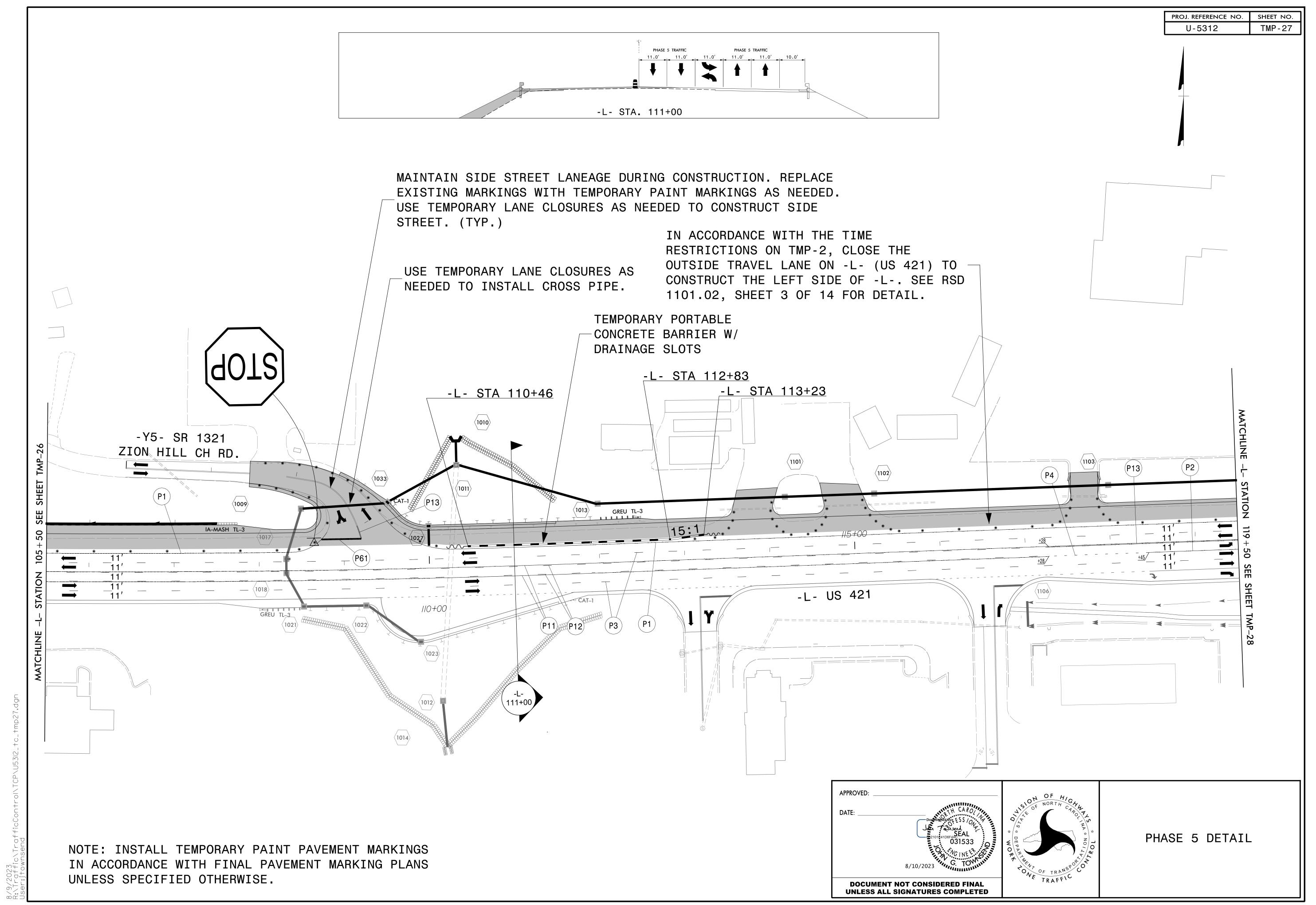


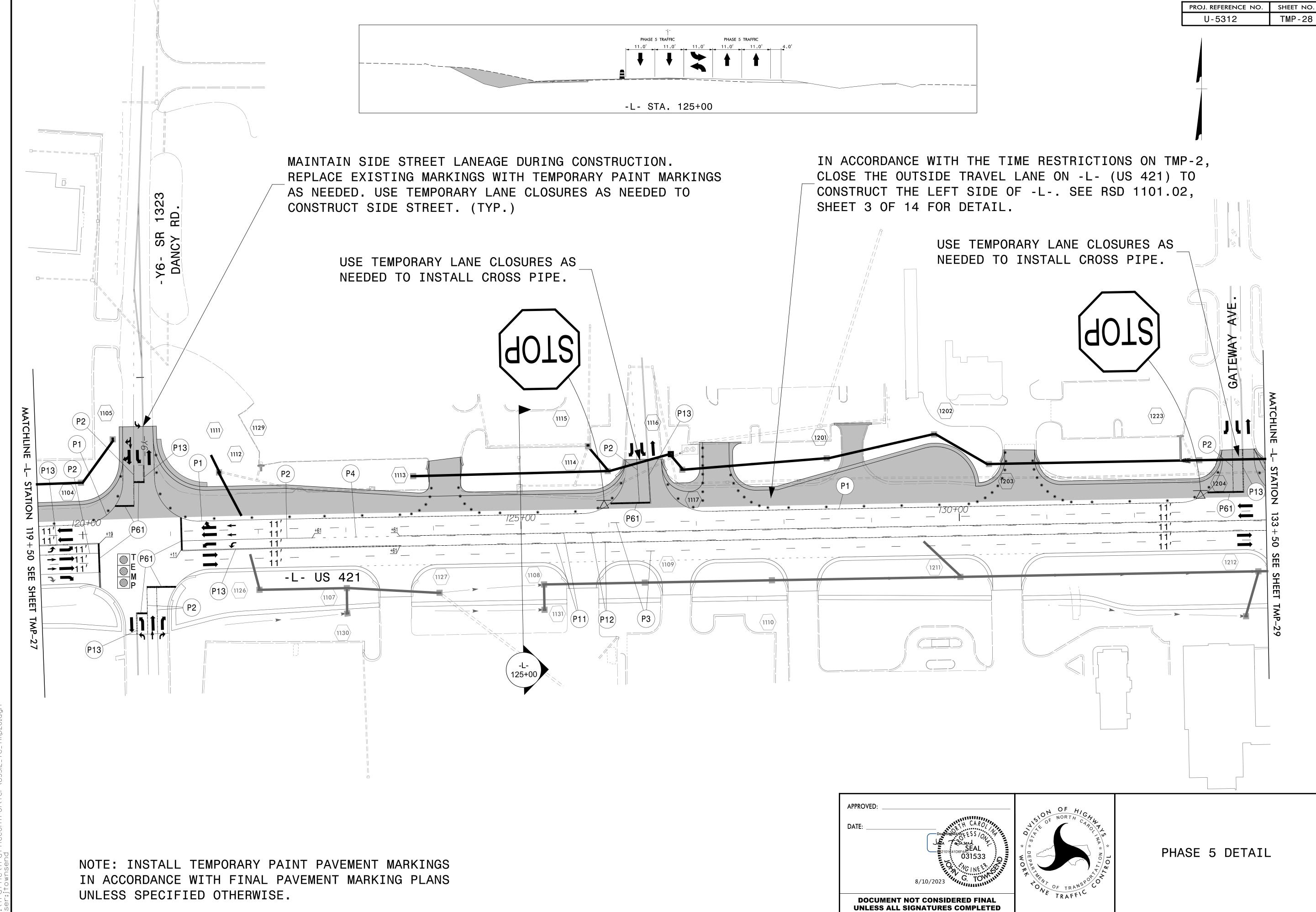




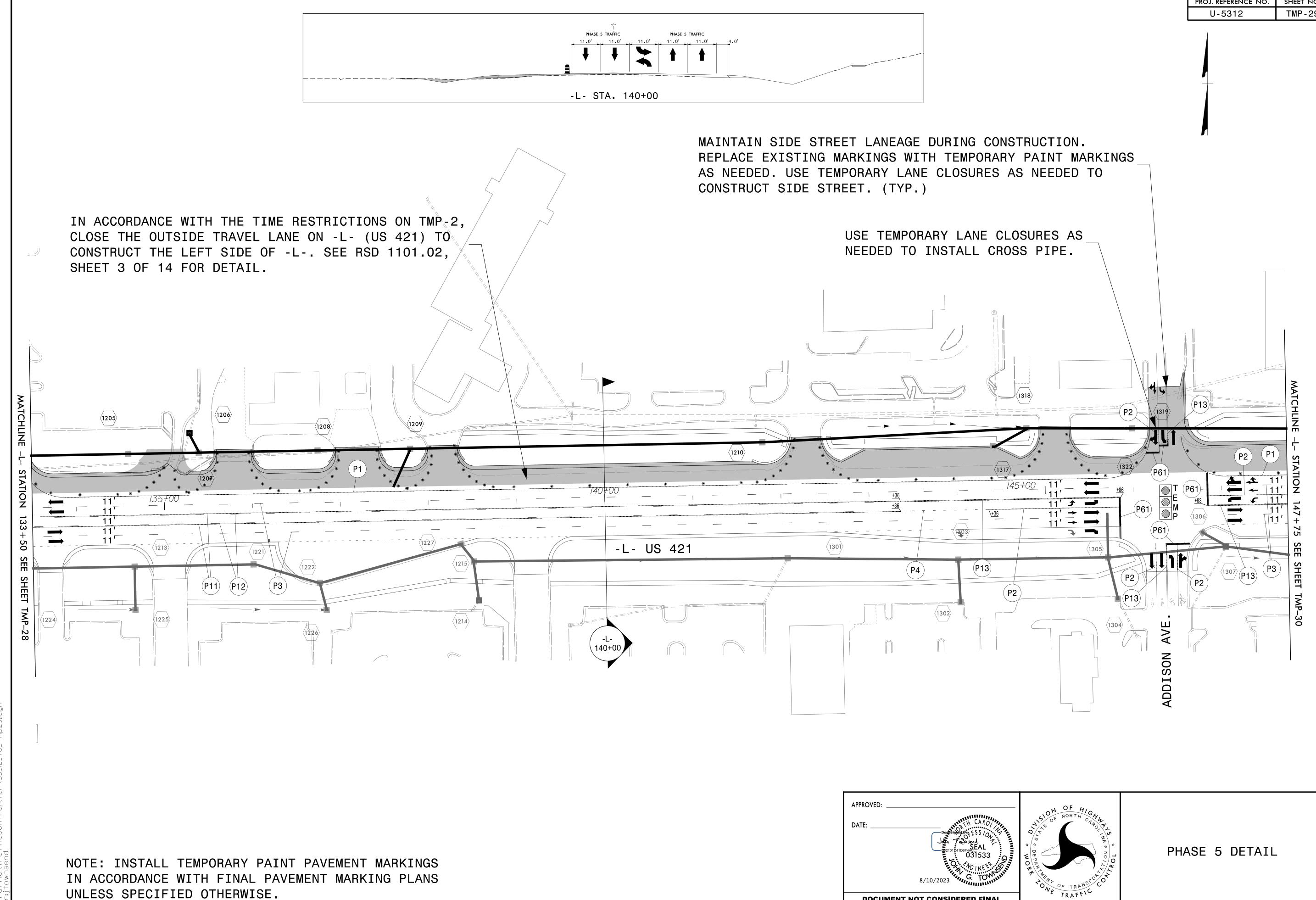






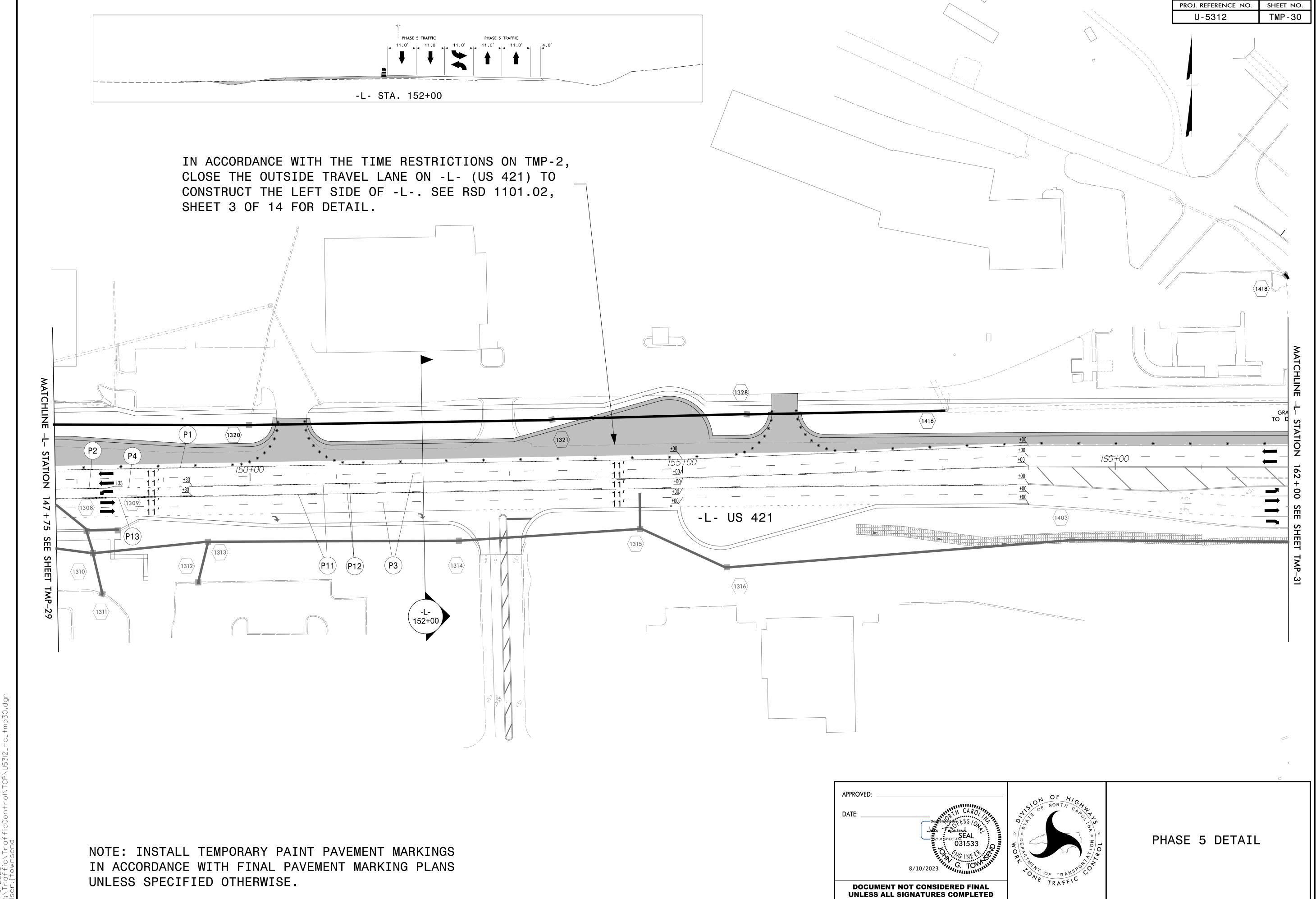


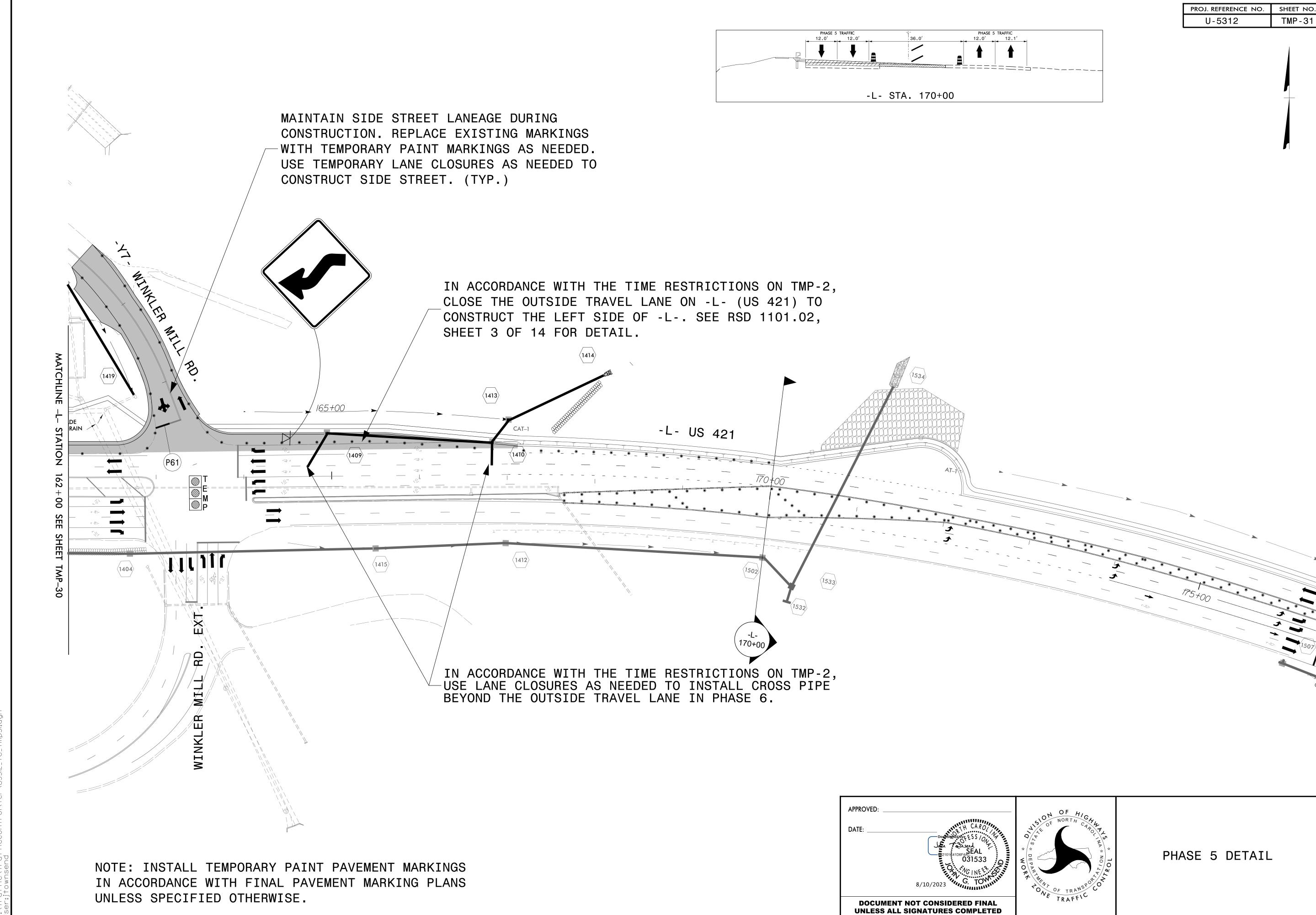
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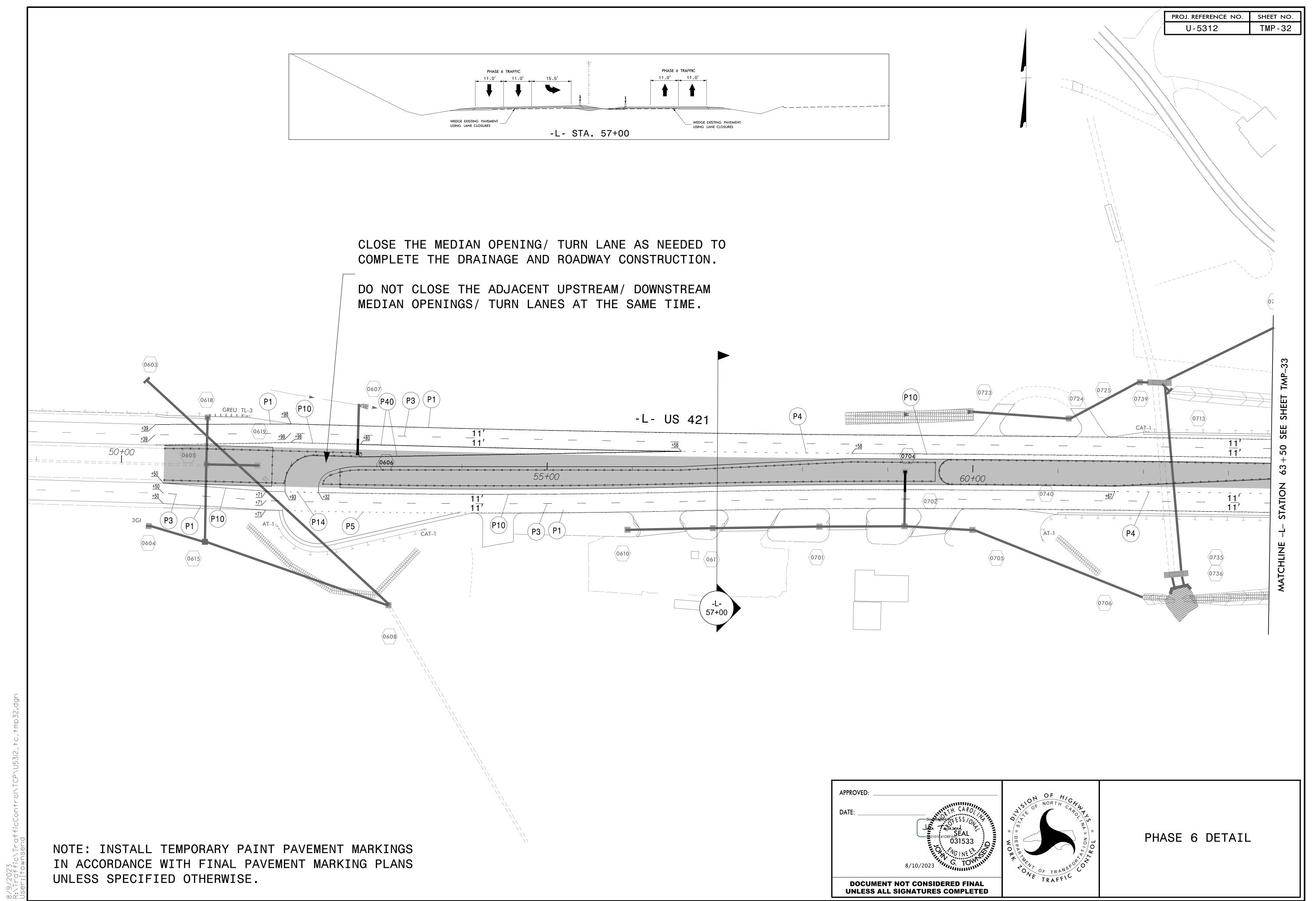
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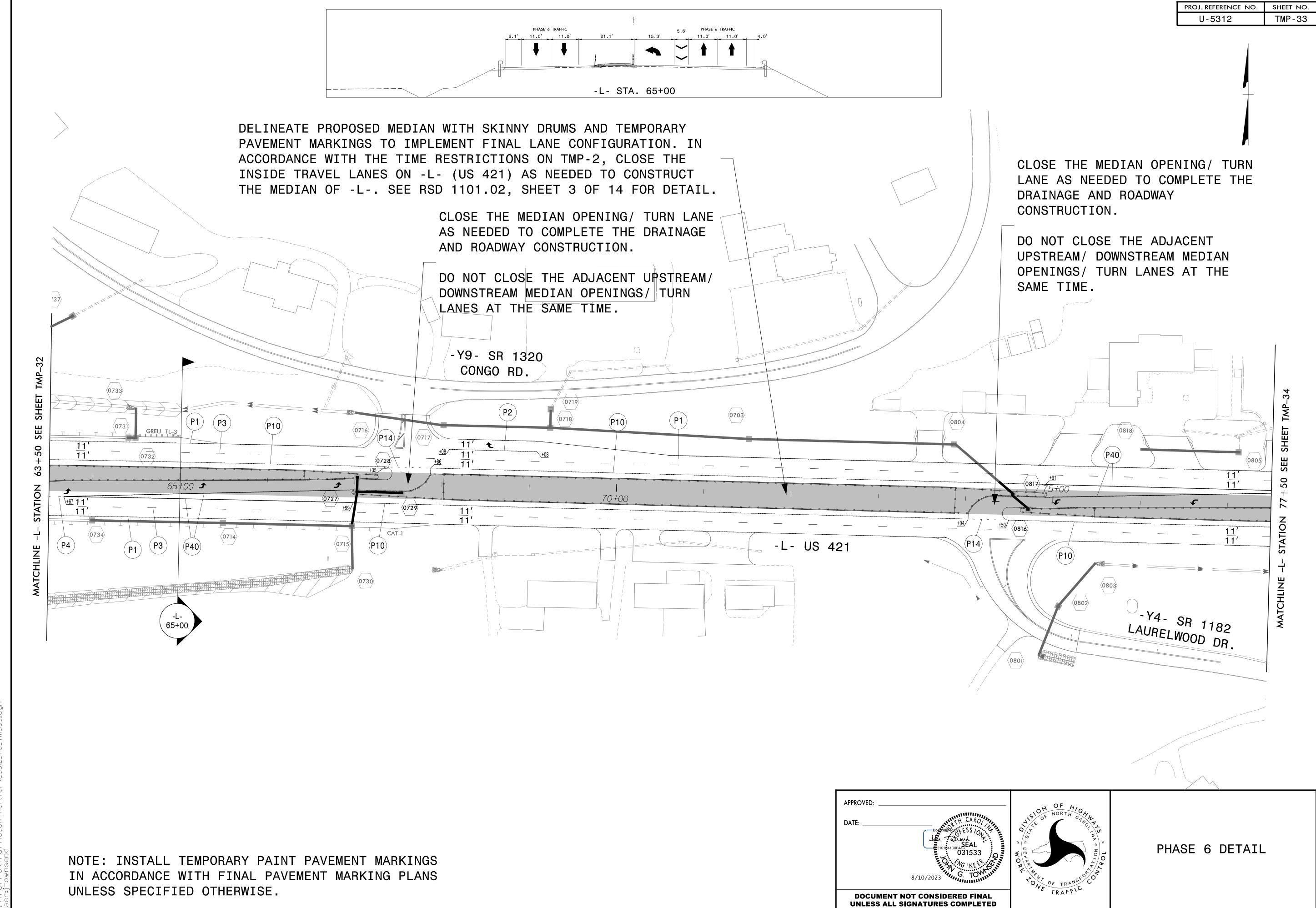
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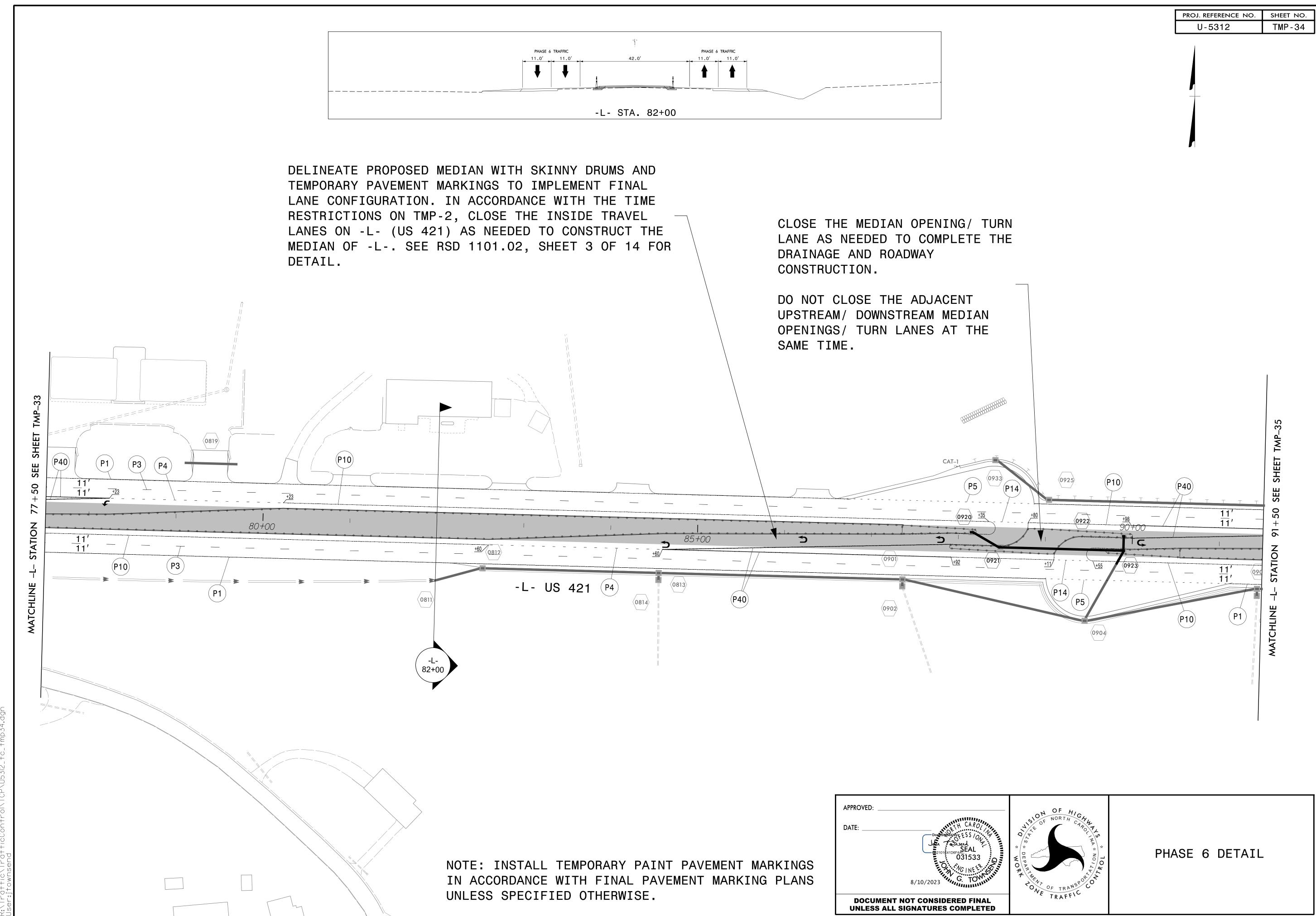


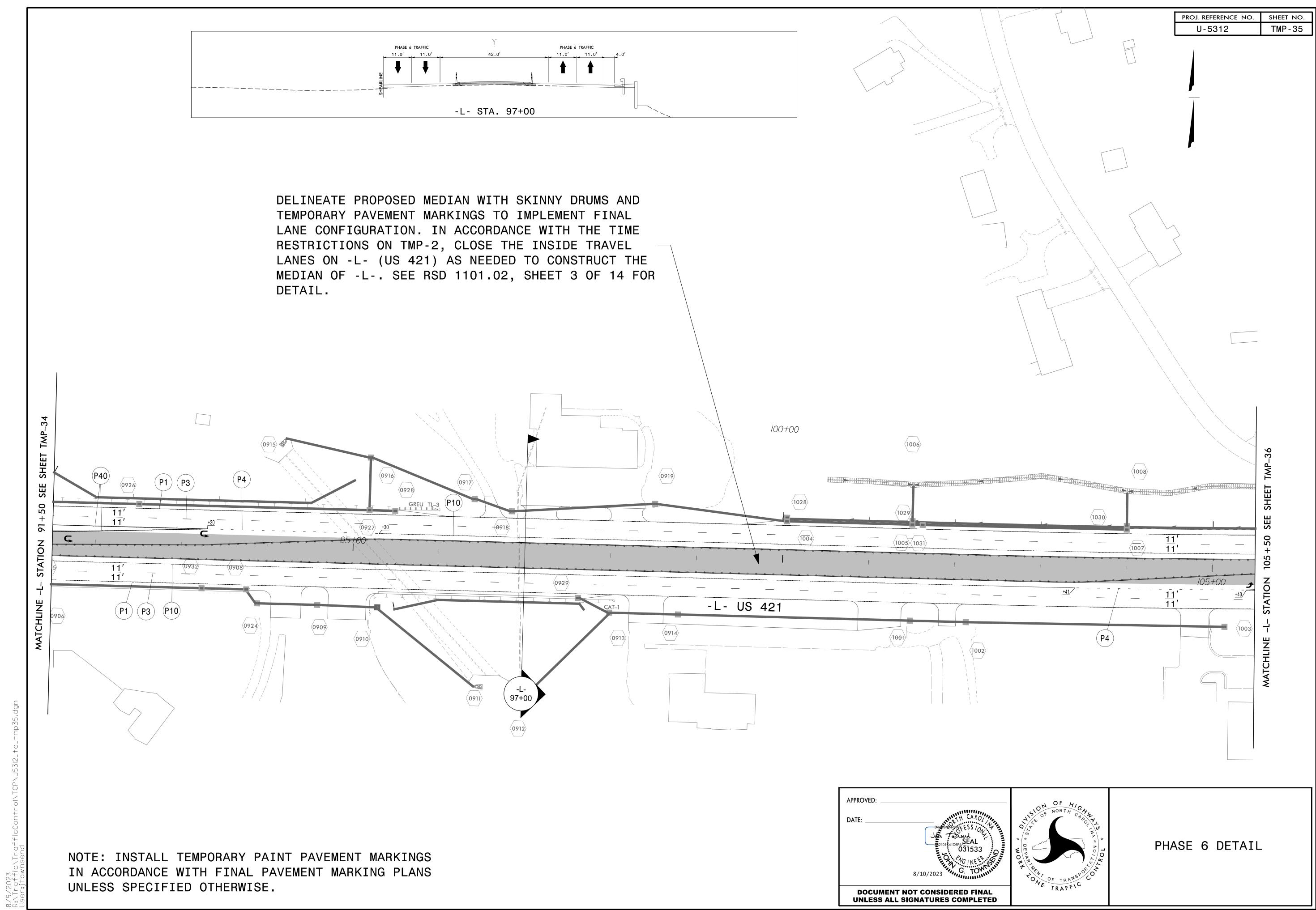
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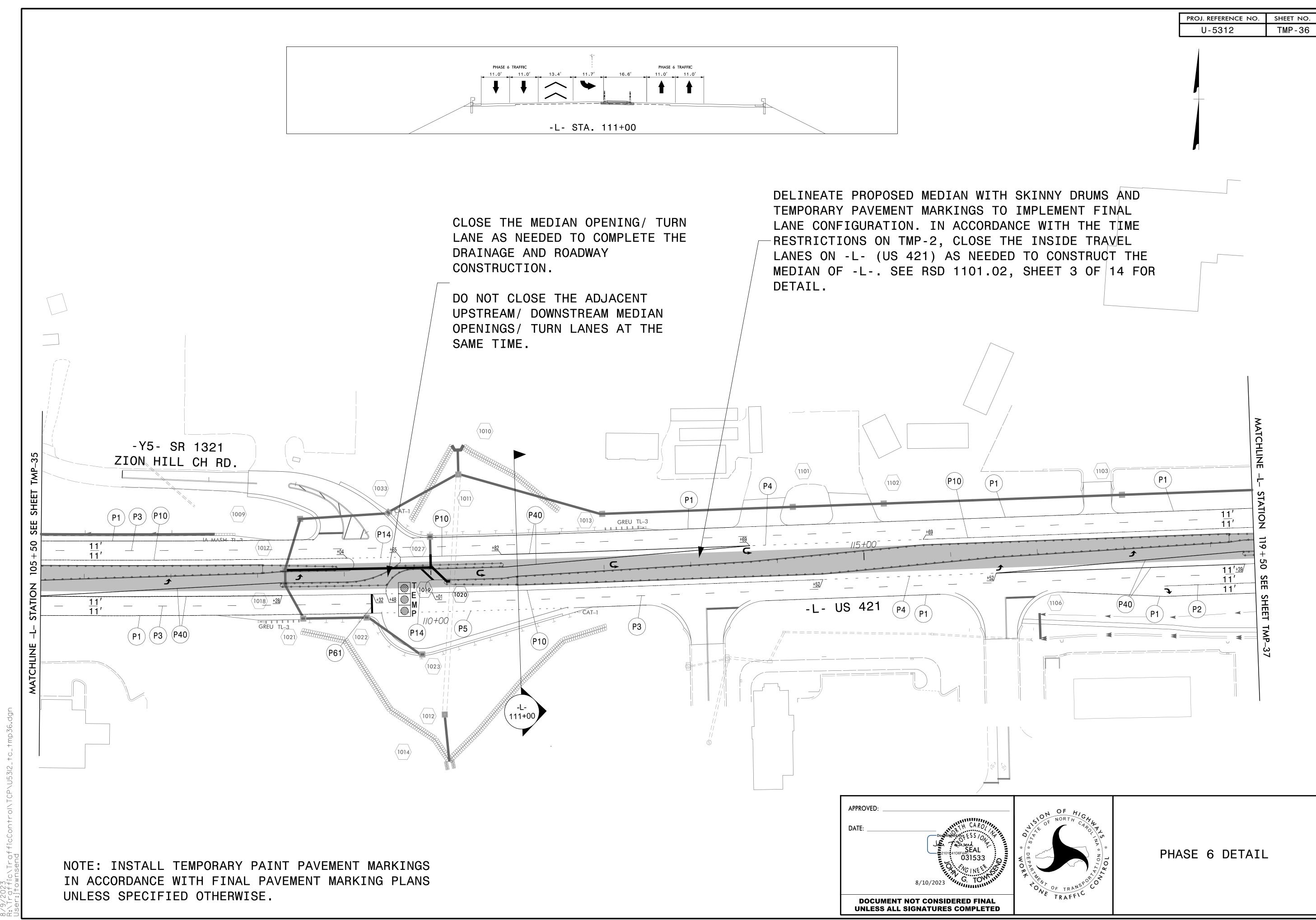


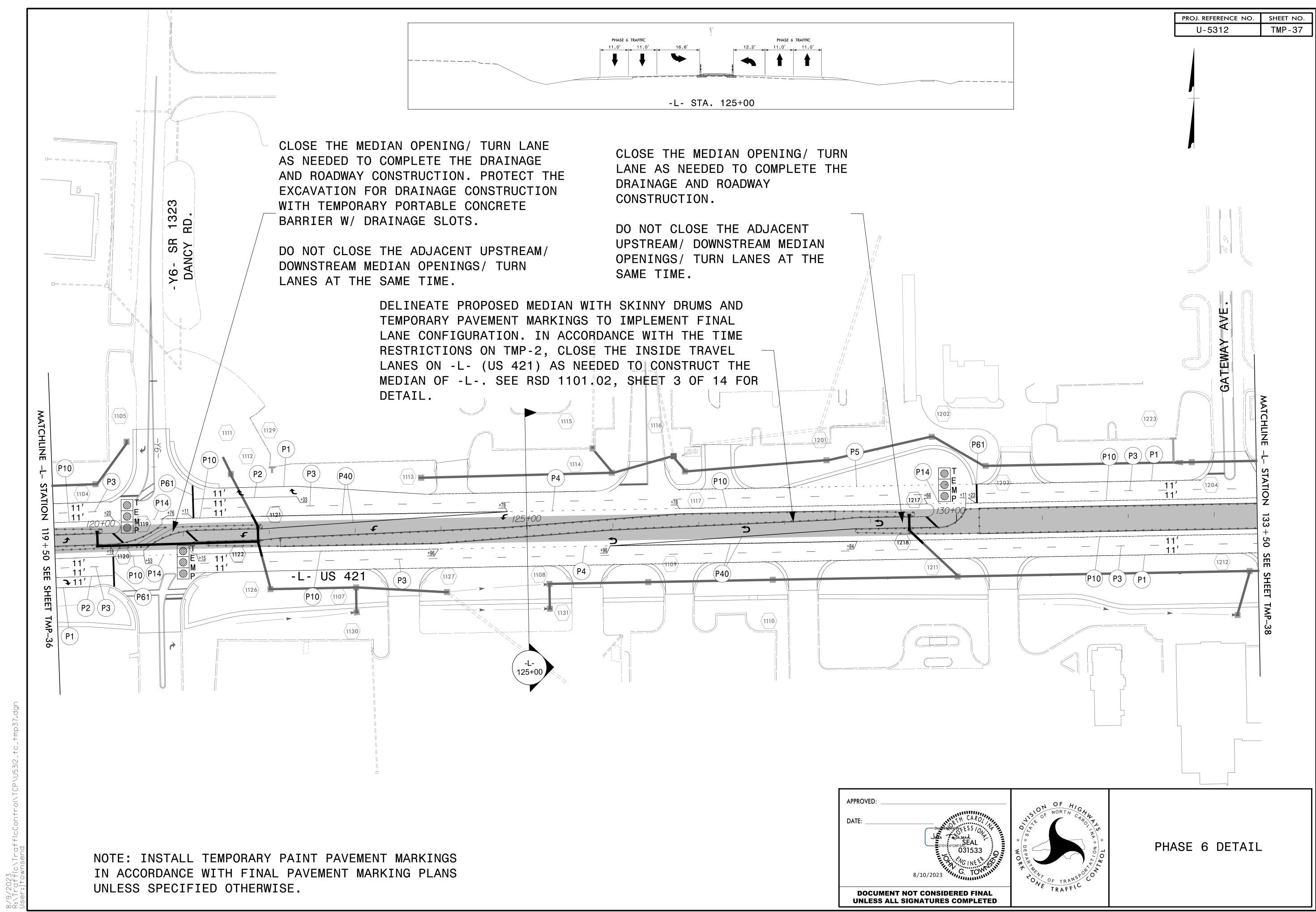


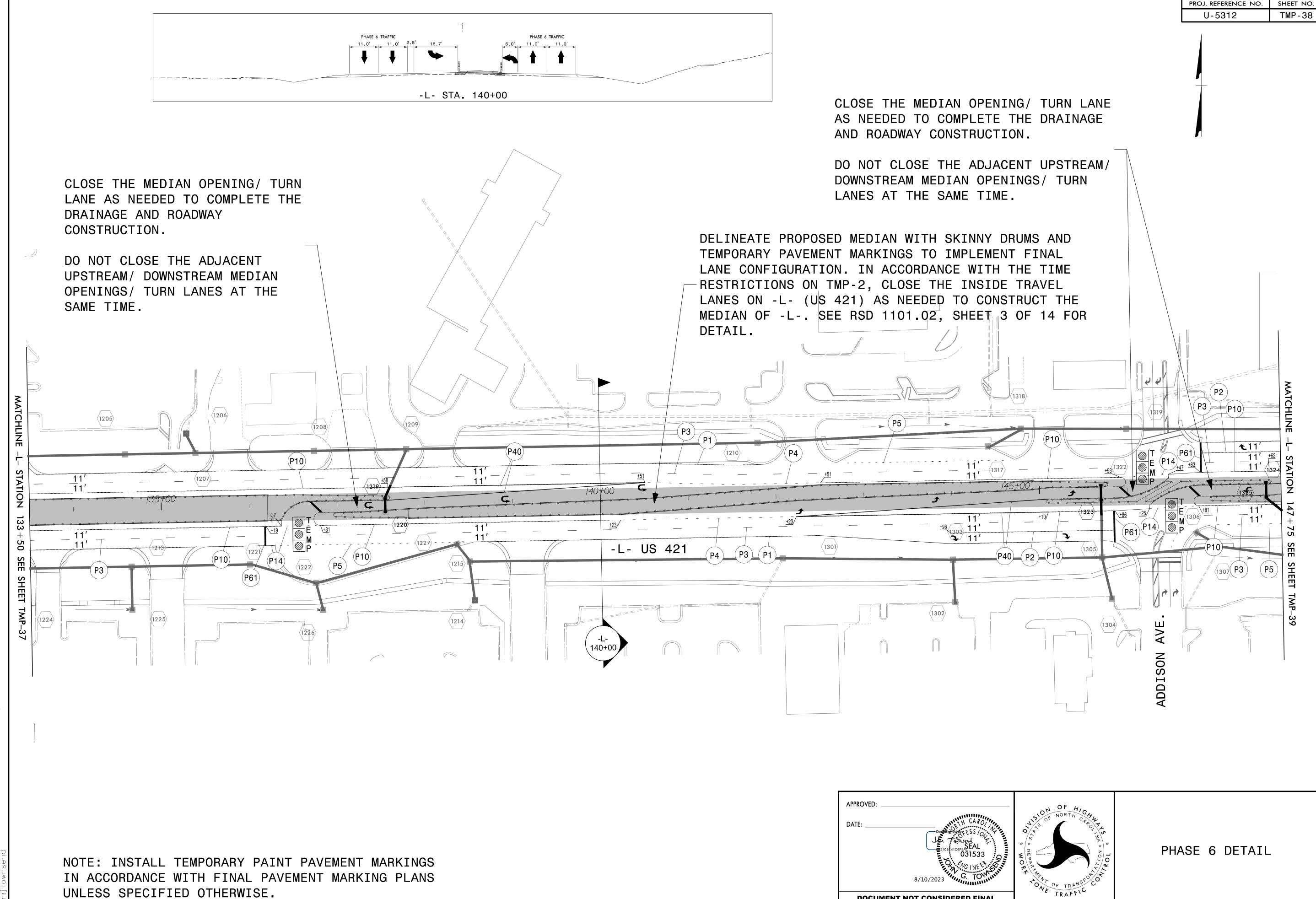
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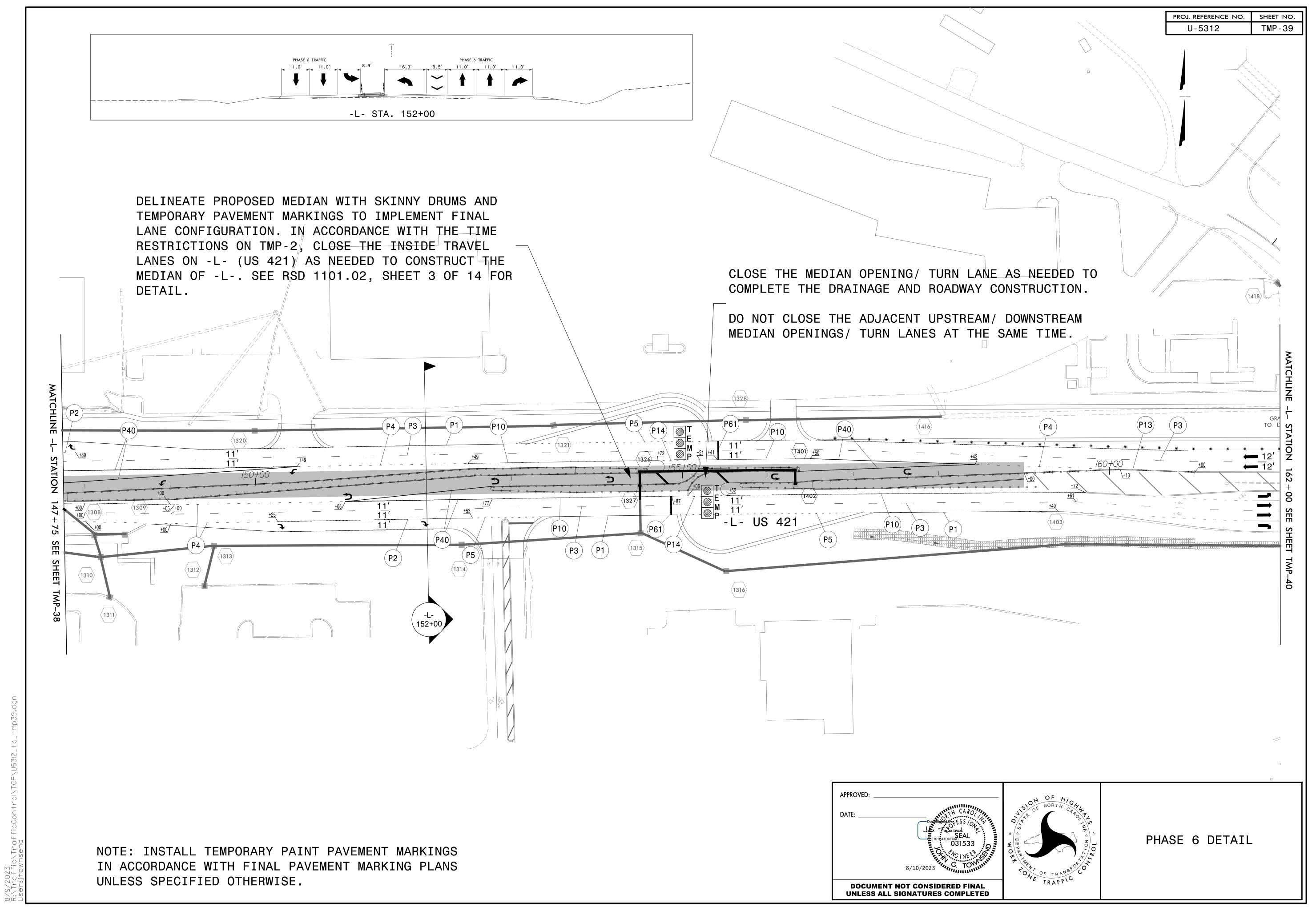


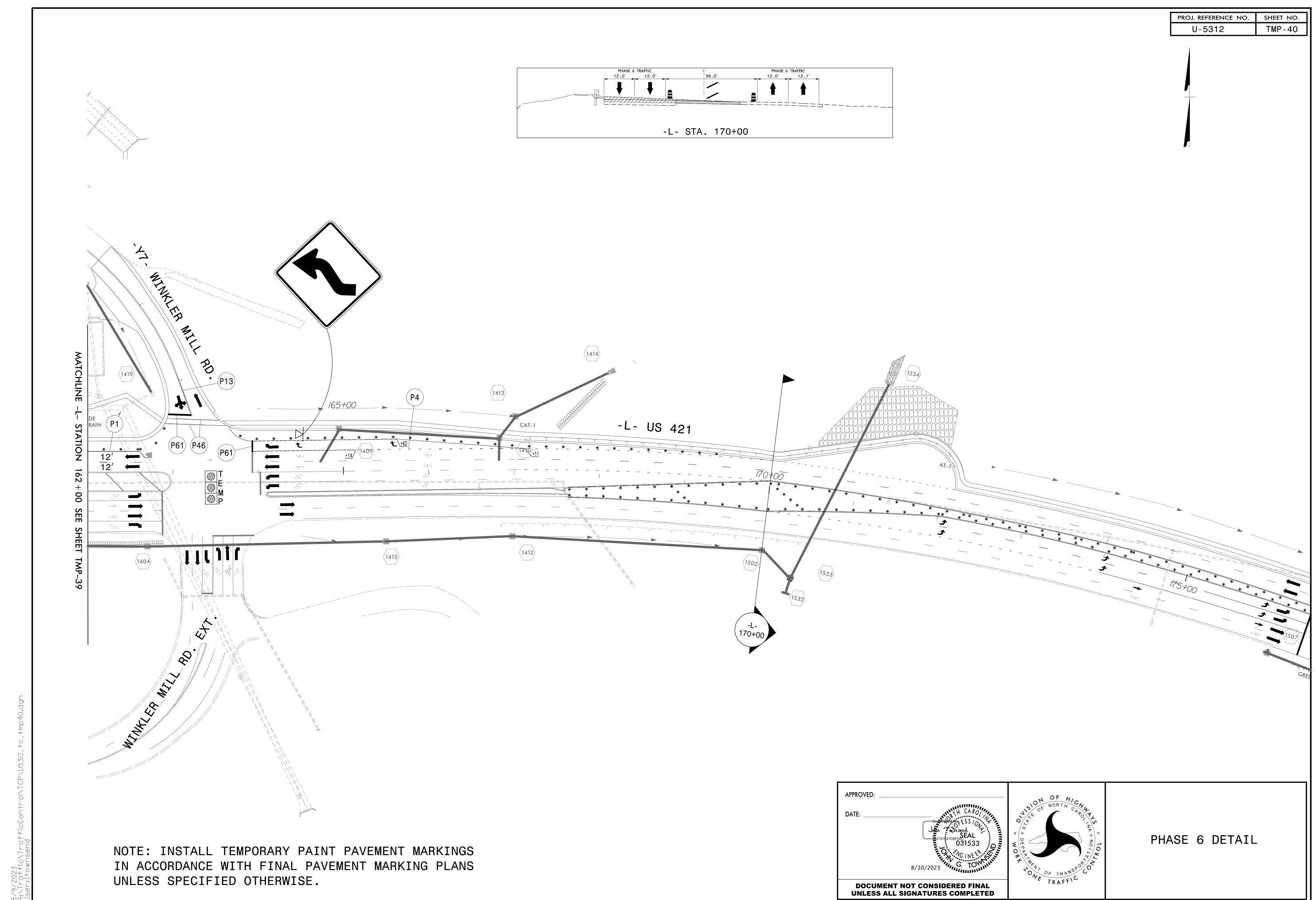




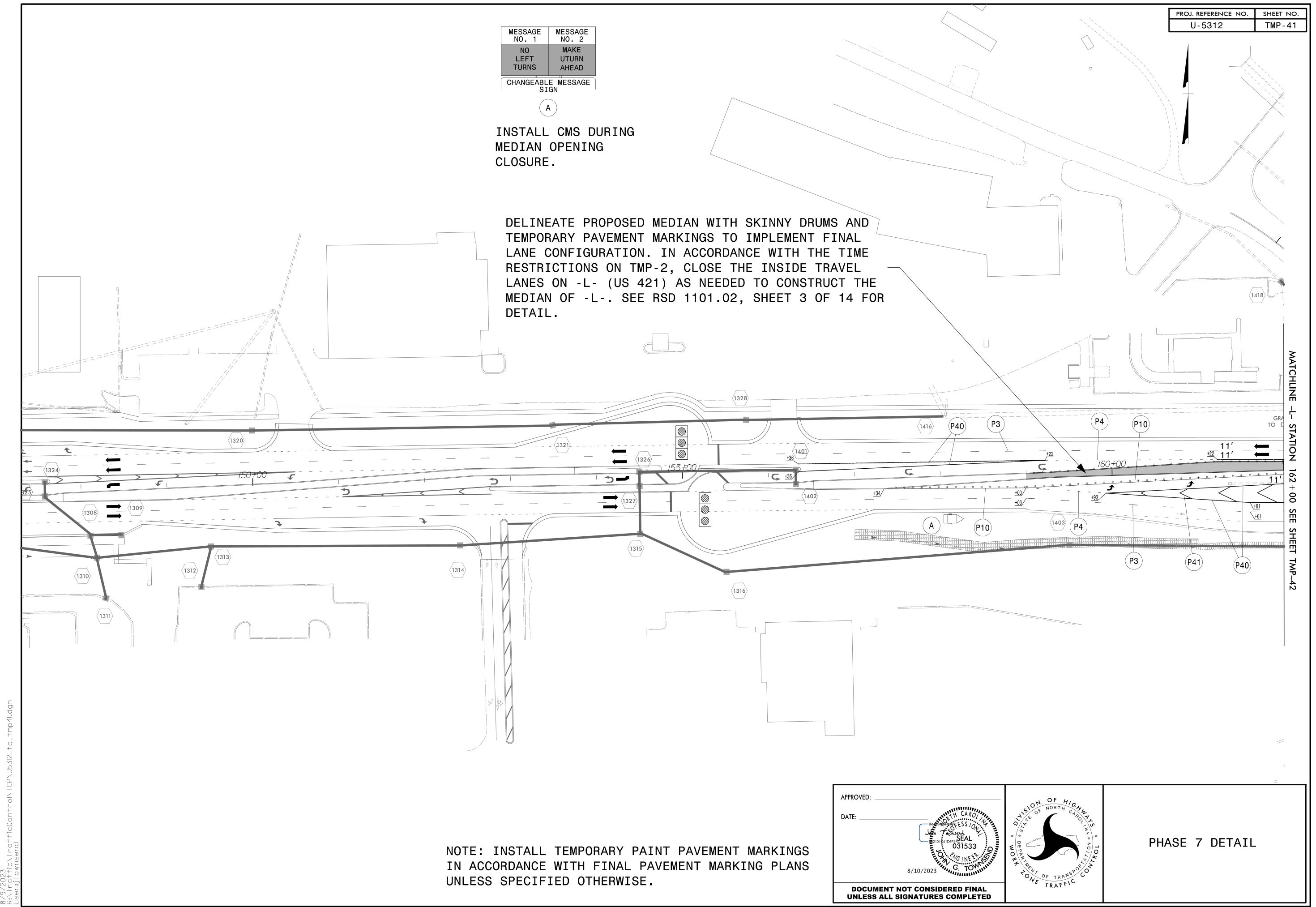
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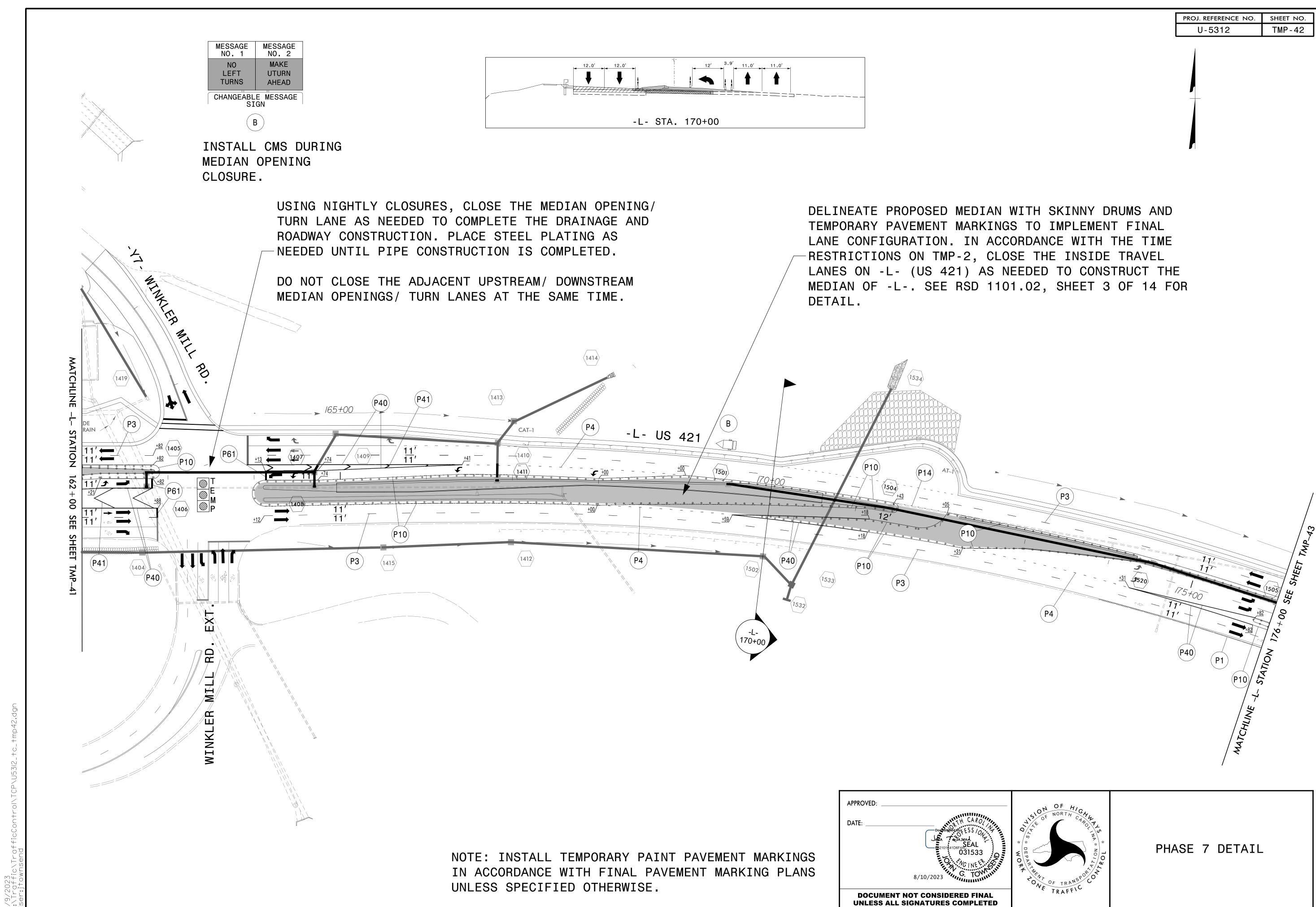
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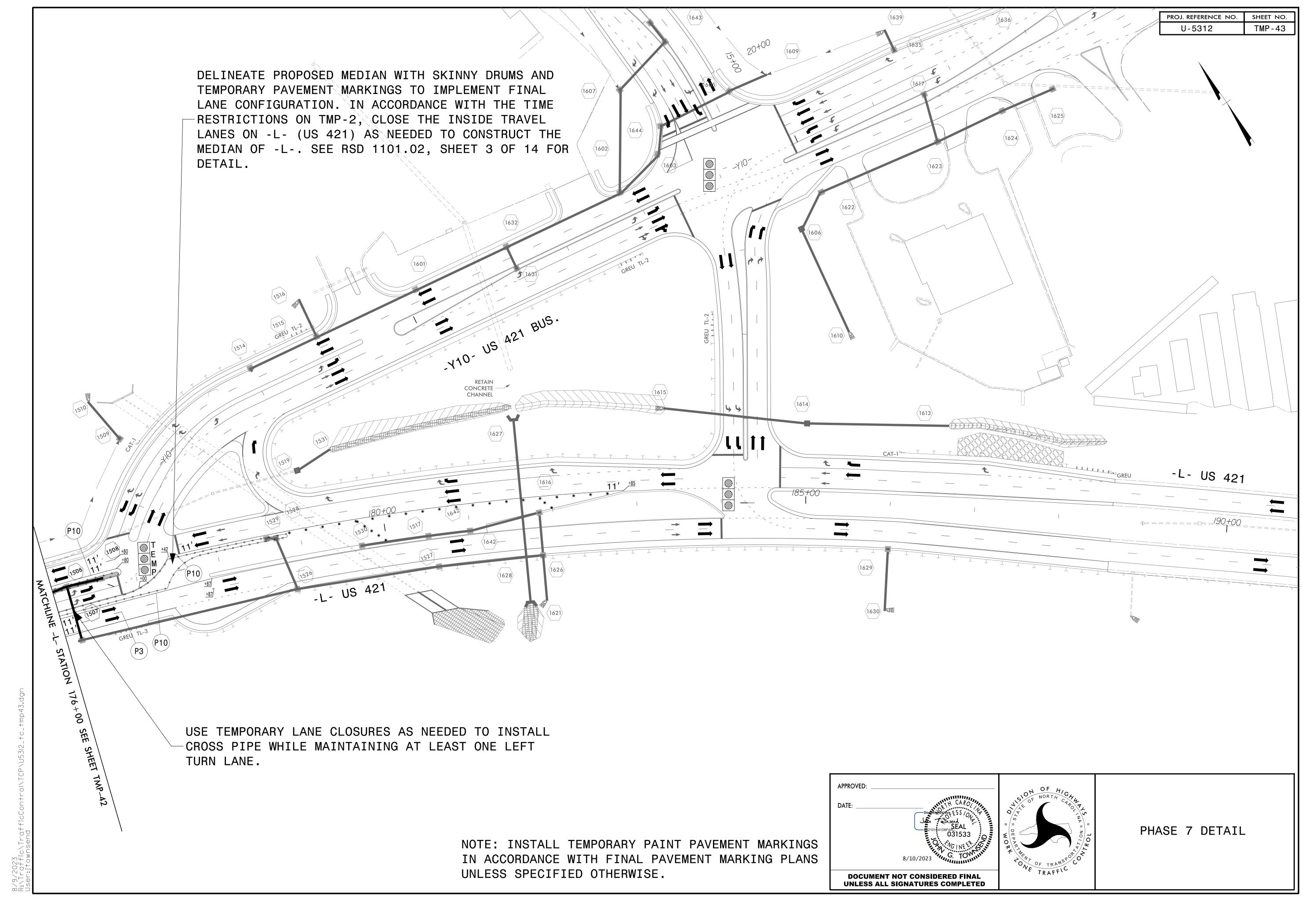


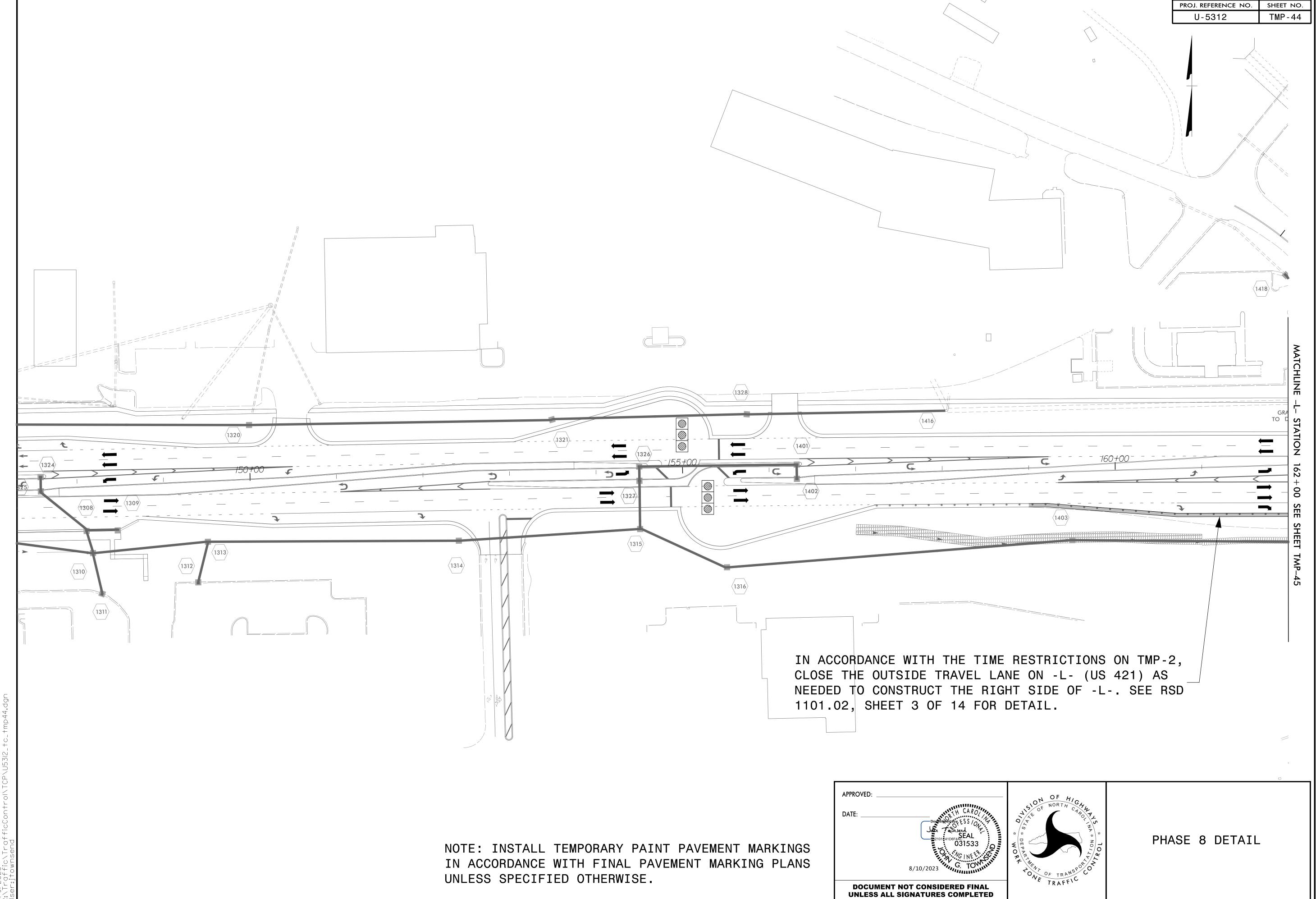


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