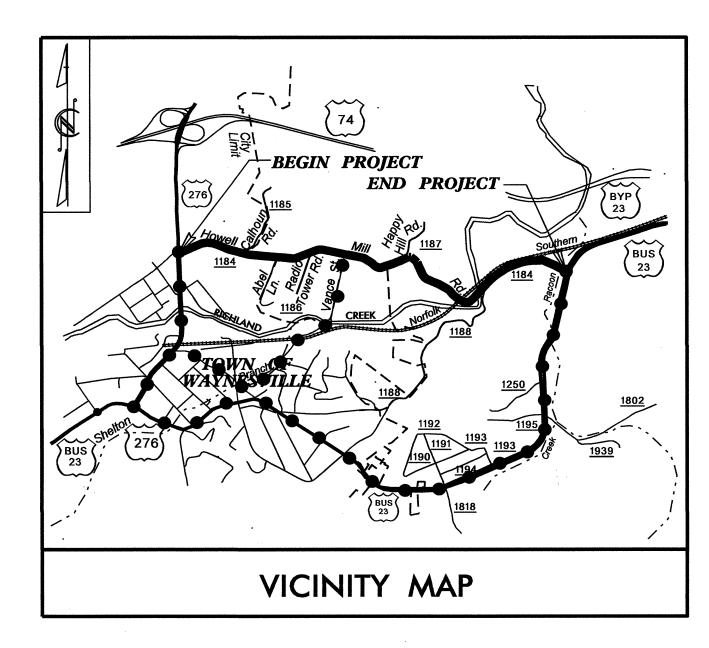
# STATE OF NORTH CAROLINA DIVISION OF HIGHWAYS

## TRANSPORTATION MANAGEMENT PLAN

## HAYWOOD COUNTY





**LOCATION:** SR 1184 (HOWELL MILL ROAD) FROM US 276 (RUSS AVENUE) TO US 23 BUSINESS (ASHVILLE HWY).

WORK ZONE SAFETY & MOBILITY  "from the MOUNTAINS to the COAST"

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

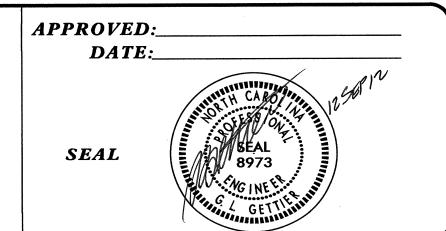
J. S. BOURNE, P.E. STATE TRAFFIC MANAGEMENT ENGINEER

G. L. GETTIER, P.E. TRAFFIC CONTROL PROJECT ENGINEER J. W. GILSTRAP WE TRAFFIC CONTROL PROJECT DESIGN ENGINEER

S. N. GREEN TRAFFIC CONTROL DESIGN ENGINEER

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### 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
	WORK ZONE ADVANCE WARNING SIGNS
1101.01 1101.02	TEMPORARY LANE CLOSURES
1101.02	TEMPORARY CANE CLOSURES 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	DRUM
1135.01	CONES
1145.01	BARRICADES
1150.01	FLAGGING DEVICES
1160.01	TEMPORARY CRASH CUSHION
1165.01	WORK VEHICLE LIGHTING SYSTEMS AND TMA DELINEATION
1170.01	PORTABLE CONCRETE BARRIER
1180.01	SKINNY - DRUM
1205.01	PAVEMENT MARKINGS - LINE TYPES & OFFSETS
1205.02	PAVEMENT MARKINGS - TWO-LANE AND MULTI-LANE ROADWAYS
1205.04	PAVEMENT MARKINGS - INTERSECTIONS
1205.05	PAVEMENT MARKINGS - TURN LANES
1205.08	PAVEMENT MARKINGS - SYMBOLS AND WORD MESSAGES
1205.09	PAVEMENT MARKINGS - PAINTED ISLANDS
1205.12	PAVEMENT MARKINGS - BRIDGES
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
1262.01	GUARDRAIL END DELINEATION

### **LEGEND**

#### **GENERAL**

DIRECTION OF TRAFFIC FLOW

DIRECTION OF PEDESTRIAN TRAFFIC FLOW

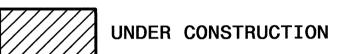
----- EXIST. PVMT.

NORTH ARROW

--- PROPOSED PVMT.

**WORK AREA** 





#### TRAFFIC CONTROL DEVICES

BARRICADE (TYPE III)



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

#### PAVEMENT MARKINGS

----EXISTING LINES

----TEMPORARY LINES

#### PAVEMENT MARKERS

CRYSTAL/CRYSTAL

CRYSTAL/RED ◆ YELLOW/YELLOW

#### PAVEMENT MARKING SYMBOLS

PAVEMENT MARKING SYMBOLS

#### TEMPORARY PAVEMENT MARKING

4" PAINT

WHITE EDGELINE WHITE SKIP

WHITE MINI SKIP PI YELLOW DOUBLE CENTER

24" PAINT WHITE STOP BAR

LEFT ARROW

RIGHT ARROW STRAIGHT ARROW

STRAIGHT THRU RIGHT ARROW

TEMPORARY MARKERS

YELLOW & YELLOW CRYSTAL & RED



ROADWAY STANDARD DRAWINGS, LEGEND AND TEMPORARY PAVEMENT MARKING

## TRANSPORTATION OPERATIONS

PROJ. REFERENCE NO. SHEET NO. U-4412 TMP-1B

#### CONSTRUCTION

REPLACE EXISTING TWO-LANE HOWELL MILL ROAD (SR 1184/-L-) WITH A PROPOSED THREE LANE FACILITY IN WAYNESVILLE.

#### TMP DESIGN PARAMETERS

THIS PROJECT IS DIVIDED INTO TWO AREAS (SEE SHEET TMP-3). THE CONTRACTOR SHALL WORK IN BOTH AREAS AT THE SAME TIME.

CONTRACTOR SHALL HAVE AVAILABLE FIVE (5) CHANGEABLE MESSAGE SIGNS (CMS) TO BE UTILIZED FOR PUBLIC INFORMATION, TRAVEL ALERTS AND TRAFFIC CONDITIONS AS DIRECTED BY THE ENGINEER. THESE CMS' SHALL BE IN ADDITION TO ANY OTHER CMS' REQUIRED FOR LANE CLOSURES AND/OR CONSTRUCTION.

CONTRACTOR SHALL UTILIZE OFF-SITE DETOURS TO CONSTRUCT SELECTED SECTIONS OF HOWELL MILL ROAD (SR 1184/-L-).

**GENERAL OUTLINE:** 

#### AREA I

(STA. 10+00 +/- -L- TO STA. 38+50 +/- -L-)

- 1. CONSTRUCT TEMPORARY PAVEMENT ON THE LEFT SIDE AND SHIFT TRAFFIC TO THE LEFT IN A TEMPORARY TWO-LANE, TWO-WAY TRAFFIC PATTERN UTILIZING 10 FOOT LANES.
- 2. CONSTRUCT PROPOSED RIGHT SIDE, STAGE I OF BOTH PROPOSED CULVERTS AND PROPOSED -Y- LINES, UTILIZING TEMPORARY SHORING, AND FLAGGING OPERATIONS AS REQUIRED.
- 3. SHIFT TRAFFIC TO THE RIGHT SIDE (PROPOSED PAVEMENT) IN A TEMPORARY TWO-LANE, TWO-WAY TRAFFIC PATTERN UTILIZING 10 FOOT LANES.
- 4. CONSTRUCT PROPOSED LEFT SIDE, STAGE II OF BOTH PROPOSED CULVERTS AND PROPOSED -Y- LINES, UTILIZING TEMPORARY SHORING, AND FLAGGING OPERATIONS AS REQUIRED. INSTALL REVISED SIGNAL AT THE INTERSECTIONS OF HOWELL MILL ROAD (SR 1184/-L-) AND US 276 (RUSS AVENUE/-EY1-).
- 5. ACTIVATE REVISED SIGNAL AND OPEN AREA I TO THE FINAL TRAFFIC PATTERN.
- 6. WHEN CONSTRUCTION IS COMPLETED IN BOTH AREAS: CONDUCT PAVING OPERATIONS TO PAVE THE FINAL LAYER OF SURFACE, PLACE FINAL PAVEMENT MARKINGS AND INSTALL FINAL PAVEMENT MARKERS IN BOTH AREAS.

#### AREA II

(STA. 38+50 +/- -L- TO STA. 85+60 +/- -L-)

- 1. UNDER AN ALL ENCOMPASSING ICT PROPOSED HOWELL MILL ROAD (SR 1184/-L-) WILL BE CONSTRUCTED UNDER A ROAD CLOSURE IN THE FOLLOWING SEQUENCE:
  - A. UNDER AN ICT, CLOSE HOWELL MILL ROAD (SR 1184/-L-) AND CONSTRUCT PROPOSED FROM STA. 42+00 +/- -L- TO STA. 53+00 +/- -L- TO INCLUDE PROPOSED HAPPY HILL ROAD (SR 1187/-Y7-) & PROPOSED -Y7A-.
  - B. DURING CONSTRUCTION OF PROPOSED ROADWAYS IN PARAGRAPH "1.A." ABOVE, UNDER AN ICT, CLOSE THE INTERSECTION OF HOWELL MILL ROAD (SR 1184/-L-) & VANCE STREET (-Y6-) AND CONSTRUCT PROPOSED ROUND-ABOUT.
- 2. OPEN PROPOSED HOWELL MILL ROAD (SR 11784/-L-) FROM STA. 38+50 +/- -L- TO STA. 53+00 +/- -L-, PROPOSED HAPPY HILL ROAD (SR 1187/-Y7-) AND PROPOSED -Y7A- TO TRAFFIC.
- 3. CLOSE HOWELL MILL ROAD FROM STA. 53+00 +/- -L- TO THE INTERSECTION OF EXISTING HOWELL MILL ROAD (SR 1184/-L-) & WOODLAND DRIVE (SR 1188) AND THE SECTION OF WOODLAND DRIVE INCORPORATING THE CONSTRUCTION LIMITS OF THE PROPOSED STRUCTURE.
- 4. COMPLETE CONSTRUCTION OF THE REMAINDER OF AREA II TO INCLUDE THE PROPOSED BRIDGE AND THE INSTALLATION OF THE REVISED SIGNAL AT THE INTERSECTION OF HOWELL MILL ROAD (SR 1184/-L-) & US 23 BUS (ASHEVILLE HIGHWAY/-Y10-).
- 5. ACTIVATE REVISED SIGNAL AND OPEN AREA II TO THE FINAL TRAFFIC PATTERN.
- 6. WHEN CONSTRUCTION IS COMPLETED IN BOTH AREAS: CONDUCT PAVING OPERATIONS TO PAVE THE FINAL LAYER OF SURFACE, PLACE FINAL PAVEMENT MARKINGS AND INSTALL FINAL PAVEMENT MARKERS IN BOTH AREAS.

SEAL DATE:

SEAL



TRANSPORTATION OPERATIONS

dot/dfsroot0Nproj/IIPProjects-UNU4412NIratticNIratticControNtcpNU-4412\_IU\_IMP\_UIB-U.ag green AT TE265817

PROJ. REFERENCE NO. SHEET NO. U-4412 TMP-1C

## 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 STOP TRAFFIC AS FOLLOWS:

ROAD NAME	DAY AND TIME RESTRICTIONS	DURATION AND OPERATION
1. ALL ROADS	NONE	15 MINUTES, TRAFFIC OPERATIONS.

B) 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

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

#### PAVEMENT EDGE DROP OFF REQUIREMENTS

I) BACKFILL AT A 6:1 SLOPE UP TO THE EDGE AND ELEVATION OF EXISTING PAVEMENT IN AREAS ADJACENT TO AN OPENED TRAVEL LANE THAT HAS A DROP-OFF AS FOLLOWS:

BACKFILL DROP-OFFS THAT EXCEED 2 INCHES ON ROADWAYS WITH POSTED SPEED LIMITS OF 45 MPH OR GREATER.

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

BACKFILL WITH SUITABLE COMPACTED MATERIAL, AS APPROVED BY THE ENGINEER, AT NO EXPENSE TO THE DEPARTMENT.

J) 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) 200 FT IN ADVANCE AND A MINIMUM OF ONCE EVERY HALF MILE THROUGHOUT THE UNEVEN AREA.

#### TRAFFIC PATTERN ALTERATIONS

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

#### SIGNING

- L) 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.
- M) 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.

N) COVER OR REMOVE ALL SIGNS AND DEVICES REQUIRED TO CLOSE THE ROAD WHEN ROAD CLOSURE IS NOT IN OPERATION.

COVER OR REMOVE ALL SIGNS REQUIRED FOR THE OFF-SITE DETOUR WHEN THE 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) 200 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:

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

#### PAVEMENT MARKINGS AND MARKERS

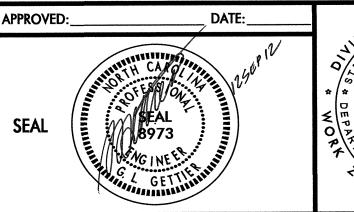
V) INSTALL TEMPORARY PAVEMENT MARKINGS AND TEMPORARY PAVEMENT MARKERS ON INTERIM LAYERS OF PAVEMENT AS FOLLOWS:

ROAD NAME	MARKING	MARKER
1. ALL ROADWAY 2. PROPOSED ST	_	

- W) 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.
- X) TIE PROPOSED PAVEMENT MARKING LINES TO EXISTING PAVEMENT MARKING LINES.
- Y) REMOVE/REPLACE ANY CONFLICTING/DAMAGED PAVEMENT MARKINGS AND MARKERS BY THE END OF EACH DAY'S OPERATION.
- Z) TRACE THE EXISTING AND PROPOSED MONOLITHIC ISLAND LOCATIONS WITH THE PROPER COLOR PAVEMENT MARKING PRIOR TO REMOVAL AND INSTALLATION. PLACE DRUMS TO DELINEATE ANY EXISTING AND PROPOSED MONOLITHIC ISLANDS AFTER REMOVAL AND BEFORE INSTALLATION).

#### MISCELLANEOUS

- AA) LAW ENFORCEMENT MAY BE USED TO MAINTAIN TRAFFIC THROUGH THE WORK AREA AND/OR INTERSECTIONS, AS DIRECTED BY THE ENGINEER.
- 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.





#### \*TEMPORARY SHORING 1:

FOR TEMPORARY SHORING AND POSITIVE PROTECTION FOR TEMPORARY SHORING, SEE PLANS AND TEMPORARY SHORING PROVISION.

BEFORE BEGINNING TEMPORARY SHORING DESIGN OR CONSTRUCTION, SURVEY EXISTING GROUND ELEVATIONS IN THE VICINITY OF SHORING LOCATIONS TO DETERMINE ACTUAL SHORING HEIGHTS.

DO NOT USE A TEMPORARY WALL FOR TEMPORARY SHORING FROM STATION 14+00.00+/- -L-, 5.0 FT. LEFT OF -L-, TO STATION 14+50.00+/- -L-, 5.0 FT. LEFT OF -L-.

AT THE CONTRACTOR'S OPTION, USE A STANDARD TEMPORARY SHORING FOR TEMPORARY SHORING FROM STATION 14+00.00+/- -L-, 5.0 FT. LEFT OF -L-, TO STATION 14+50.00+/- -L-, 5.0 FT. LEFT OF -L-. SEE STANDARD DRAWING NO. 1801.01 FOR STANDARD TEMPORARY SHORING.

DESIGN SHORING FROM STATION 14+00.00+/- -L-, 5.0 FT. LEFT OF -L-, TO STATION 14+50.00+/- -L-, 5.0 FT. LEFT OF -L-, FOR THE FOLLOWING ASSUMED SOIL PARAMETERS AND GROUNDWATER ELEVATION: UNIT WEIGHT (  $\gamma$  ) = 120 PCF FRICTION ANGLE,  $\phi$  = 30 DEGREES COHESION, c = 0 PSF

NO SUBSURFACE INFORMATION IS AVAILABLE IN THE VICINITY OF THE TEMPORARY SHORING FROM STATION 14+00.00+/- -L-, 5.0 FT. LEFT OF -L-, TO STATION 14+50.00+/- -L-, 5.0 FT. LEFT OF -L-. THE INFORMATION PROVIDED FOR TEMPORARY SHORING DESIGN WAS ASSUMED AND MAY NOT BE APPLICABLE TO THE ACTUAL SITE CONDITIONS ENCOUNTERED DURING CONSTRUCTION.

#### \*TEMPORARY SHORING 2:

FOR TEMPORARY SHORING AND POSITIVE PROTECTION FOR TEMPORARY SHORING, SEE PLANS AND TEMPORARY SHORING PROVISION.

BEFORE BEGINNING TEMPORARY SHORING DESIGN OR CONSTRUCTION, SURVEY EXISTING GROUND ELEVATIONS IN THE VICINITY OF SHORING LOCATIONS TO DETERMINE ACTUAL SHORING HEIGHTS.

AT THE CONTRACTOR'S OPTION, USE A STANDARD TEMPORARY WALL FOR TEMPORARY SHORING FROM STATION 14+00.00+/- -L-, 2.0 FT. LEFT OF -L-, TO STATION 14+50.00+/- -L-, 2.0 FT. LEFT OF -L-. SEE STANDARD DRAWING NO. 1801.02 FOR STANDARD TEMPORARY WALL.

DESIGN SHORING FROM STATION 14+00.00+/- -L-, 2.0 FT. LEFT OF -L-, TO STATION 14+50.00+/- -L-, 2.0 FT. LEFT OF -L-, FOR THE FOLLOWING ASSUMED SOIL PARAMETERS AND GROUNDWATER ELEVATION: UNIT WEIGHT ( $\gamma$ ) = 120 PCF FRICTION ANGLE,  $\phi$  = 30 DEGREES COHESION, c = 0 PSF

NO SUBSURFACE INFORMATION IS AVAILABLE IN THE VICINITY OF THE TEMPORARY SHORING FROM STATION 14+00.00+/- -L-, 2.0 FT. LEFT OF -L-, TO STATION 14+50.00+/- -L-, 2.0 FT. LEFT OF -L-. THE INFORMATION PROVIDED FOR TEMPORARY SHORING DESIGN WAS ASSUMED AND MAY NOT BE APPLICABLE TO THE ACTUAL SITE CONDITIONS ENCOUNTERED DURING CONSTRUCTION.

#### \*TEMPORARY SHORING 3:

FOR TEMPORARY SHORING AND POSITIVE PROTECTION FOR TEMPORARY SHORING, SEE PLANS AND TEMPORARY SHORING PROVISION.

BEFORE BEGINNING TEMPORARY SHORING DESIGN OR CONSTRUCTION, SURVEY EXISTING GROUND ELEVATIONS IN THE VICINITY OF SHORING LOCATIONS TO DETERMINE ACTUAL SHORING HEIGHTS.

DO NOT USE A TEMPORARY WALL FOR TEMPORARY SHORING FROM STATION 24+00.00+/- -L-, 7.0 FT. LEFT OF -L-, TO STATION 24+50.00+/- -L-, 7.0 FT. LEFT OF -L-.

AT THE CONTRACTOR'S OPTION, USE A STANDARD TEMPORARY SHORING FOR TEMPORARY SHORING FROM STATION 24+00.00+/- -L-, 7.0 FT. LEFT OF -L-, TO STATION 24+50.00+/- -L-, 7.0 FT. LEFT OF -L-. SEE STANDARD DRAWING NO. 1801.01 FOR STANDARD TEMPORARY SHORING.

DESIGN SHORING FROM STATION 24+00.00+/- -L-, 7.0 FT. LEFT OF -L-, TO STATION 24+50.00+/- -L-, 7.0 FT. LEFT OF -L-, FOR THE FOLLOWING ASSUMED SOIL PARAMETERS AND GROUNDWATER ELEVATION: UNIT WEIGHT ( $\gamma$ ) = 120 PCF FRICTION ANGLE,  $\phi$  = 30 DEGREES COHESION, c = 0 PSF

NO SUBSURFACE INFORMATION IS AVAILABLE IN THE VICINITY OF THE TEMPORARY SHORING FROM STATION 24+00.00+/- -L-, 7.0 FT. LEFT OF -L-, TO STATION 24+50.00+/- -L-, 7.0 FT. LEFT OF -L-. THE INFORMATION PROVIDED FOR TEMPORARY SHORING DESIGN WAS ASSUMED AND MAY NOT BE APPLICABLE TO THE ACTUAL SITE CONDITIONS ENCOUNTERED DURING CONSTRUCTION.

#### \*TEMPORARY SHORING 5:

FOR TEMPORARY SHORING AND POSITIVE PROTECTION FOR TEMPORARY SHORING, SEE PLANS AND TEMPORARY SHORING PROVISION.

BEFORE BEGINNING TEMPORARY SHORING DESIGN OR CONSTRUCTION, SURVEY EXISTING GROUND ELEVATIONS IN THE VICINITY OF SHORING LOCATIONS TO DETERMINE ACTUAL SHORING HEIGHTS.

DESIGN SHORING FROM STATION 83+75.00+/- -L-, 25.0 FT. RIGHT OF -L-, TO STATION 84+50.00+/- -L-, 25.0 FT. RIGHT OF -L-, FOR THE FOLLOWING ASSUMED SOIL PARAMETERS AND GROUNDWATER ELEVATION: UNIT WEIGHT (  $\gamma$  ) = 120 PCF FRICTION ANGLE,  $\phi$  = 30 DEGREES COHESION, c = 0 PSF

NO SUBSURFACE INFORMATION IS AVAILABLE IN THE VICINITY OF THE TEMPORARY SHORING FROM STATION 83+75.00+/- -L-, 25.0 FT. RIGHT OF -L-, TO STATION 84+50.00+/- -L-, 25.0 FT. RIGHT OF -L-. THE INFORMATION PROVIDED FOR TEMPORARY SHORING DESIGN WAS ASSUMED AND MAY NOT BE APPLICABLE TO THE ACTUAL SITE CONDITIONS ENCOUNTERED DURING CONSTRUCTION.

#### \*TEMPORARY SHORING 4:

FOR TEMPORARY SHORING AND POSITIVE PROTECTION FOR TEMPORARY SHORING, SEE PLANS AND TEMPORARY SHORING PROVISION.

BEFORE BEGINNING TEMPORARY SHORING DESIGN OR CONSTRUCTION, SURVEY EXISTING GROUND ELEVATIONS IN THE VICINITY OF SHORING LOCATIONS TO DETERMINE ACTUAL SHORING HEIGHTS.

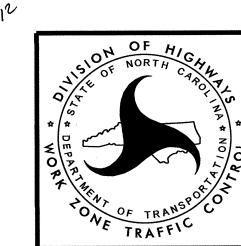
AT THE CONTRACTOR'S OPTION, USE A STANDARD TEMPORARY WALL FOR TEMPORARY SHORING FROM STATION 24+00.00+/- -L-, 3.0 FT. LEFT OF -L-, TO STATION 24+50.00/- -L-, 3.0 FT. LEFT OF -L-. SEE STANDARD DRAWING NO. 1801.02 FOR STANDARD TEMPORARY WALL.

DESIGN SHORING FROM STATION 24+00.00+/- -L-, 3.0 FT. LEFT OF -L-, TO STATION 24+50.00+/- -L-, 3.0 FT. LEFT OF -L-, FOR THE FOLLOWING ASSUMED SOIL PARAMETERS AND GROUNDWATER ELEVATION: UNIT WEIGHT ( $\gamma$ ) = 120 PCF FRICTION ANGLE,  $\phi$  = 30 DEGREES COHESION, c = 0 PSF

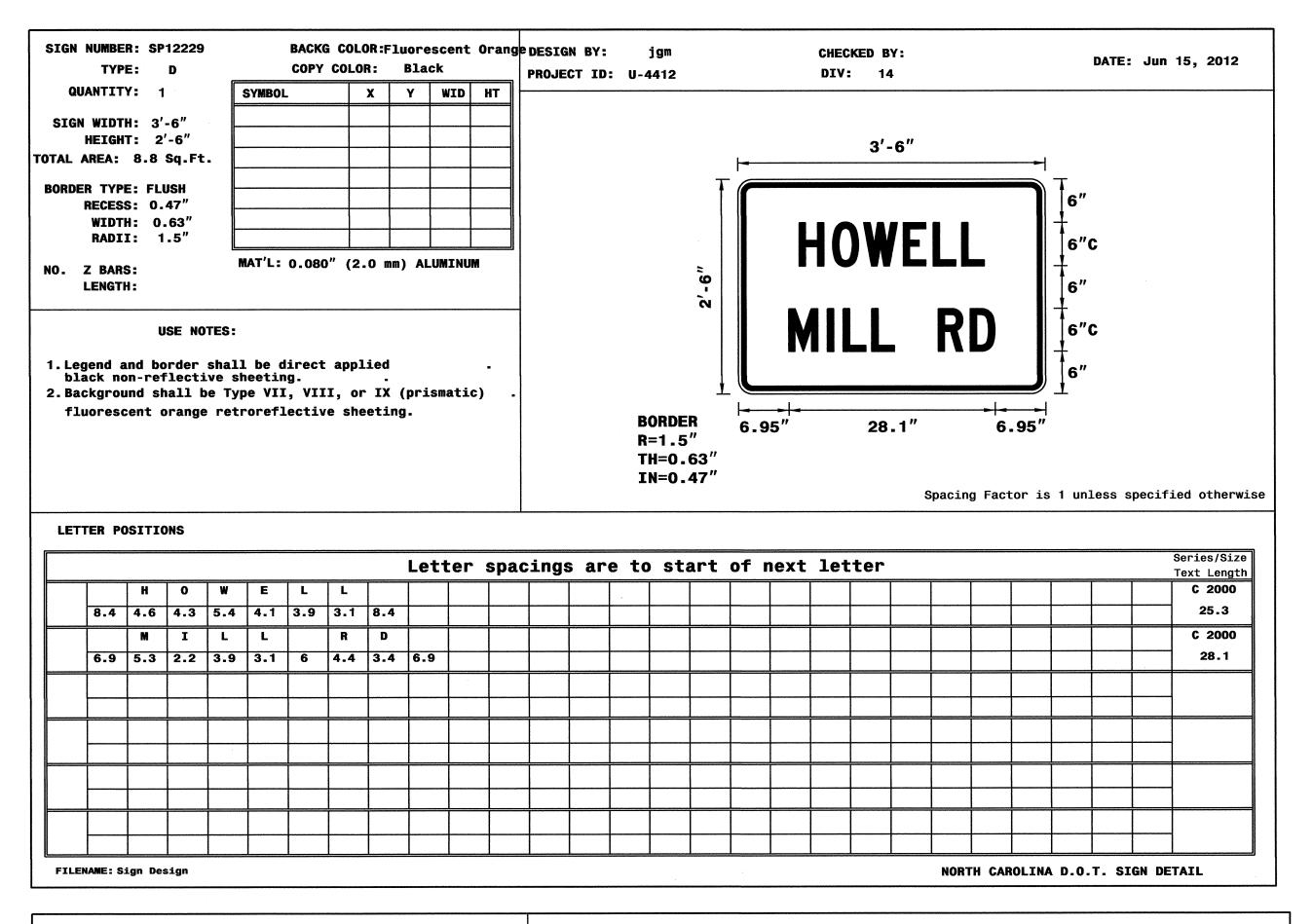
NO SUBSURFACE INFORMATION IS AVAILABLE IN THE VICINITY OF THE TEMPORARY SHORING FROM STATION 24+00.00+/- -L-, 3.0 FT. LEFT OF -L-, TO STATION 24+50.00+/- -L-, 3.0 FT. LEFT OF -L-. THE INFORMATION PROVIDED FOR TEMPORARY SHORING DESIGN WAS ASSUMED AND MAY NOT BE APPLICABLE TO THE ACTUAL SITE CONDITIONS ENCOUNTERED DURING CONSTRUCTION.

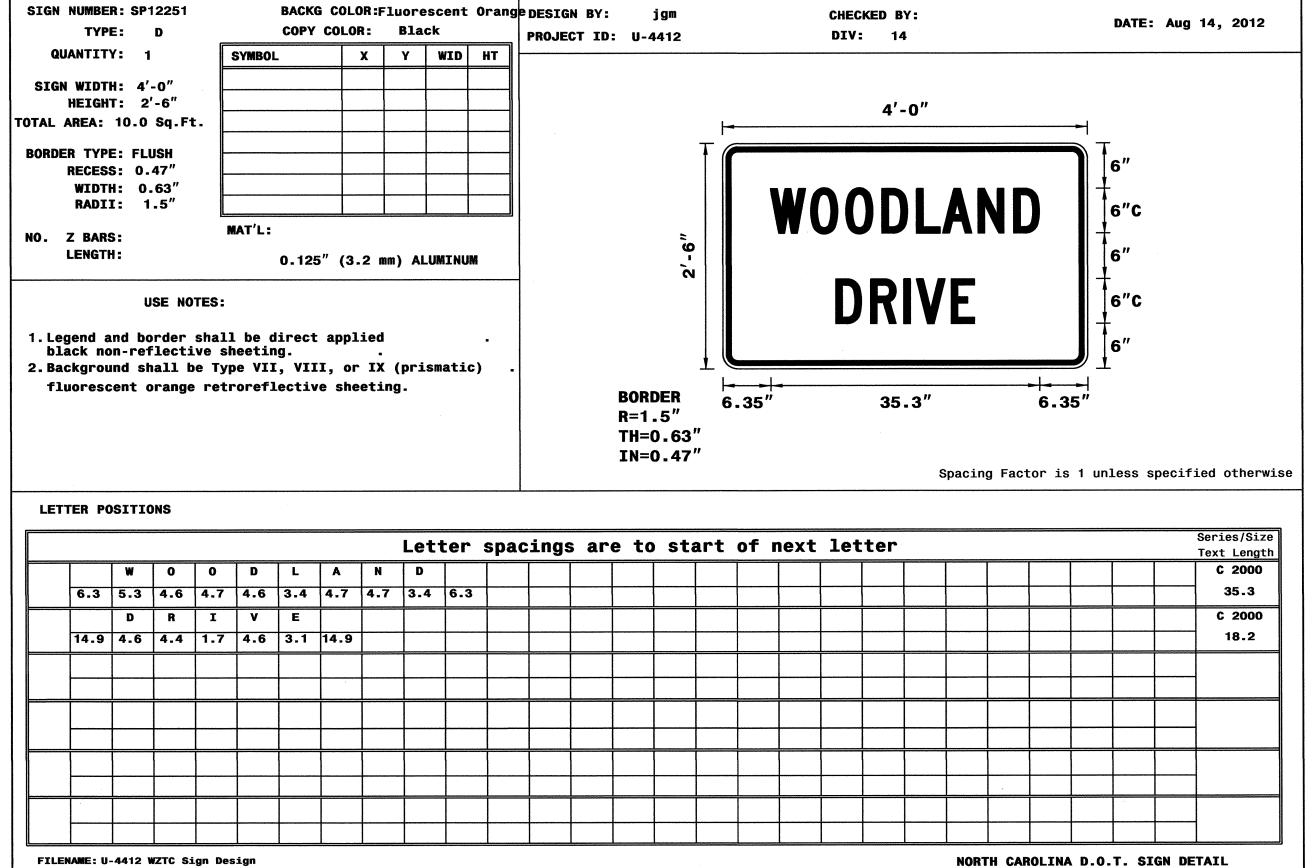
\*THE TEMPORARY SHORING NOTES SHOWN ON THIS SHEET WERE PROVIDED THROUGH A SEALED DOCUMENT FROM THE GEOTECHNICAL ENGINEERING UNIT. THE DOCUMENT WAS SUBMITTED TO THE WZTC SECTION ON SEPTEMBER 11, 2012 AND SEALED BY A PROFESSIONAL ENGINEER, SHANE C. CLARK, LICENSE # 029869\*.





TEMPORARY SHORING DATA

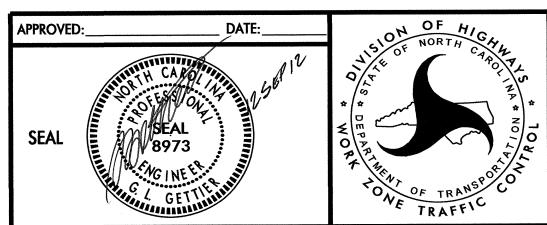




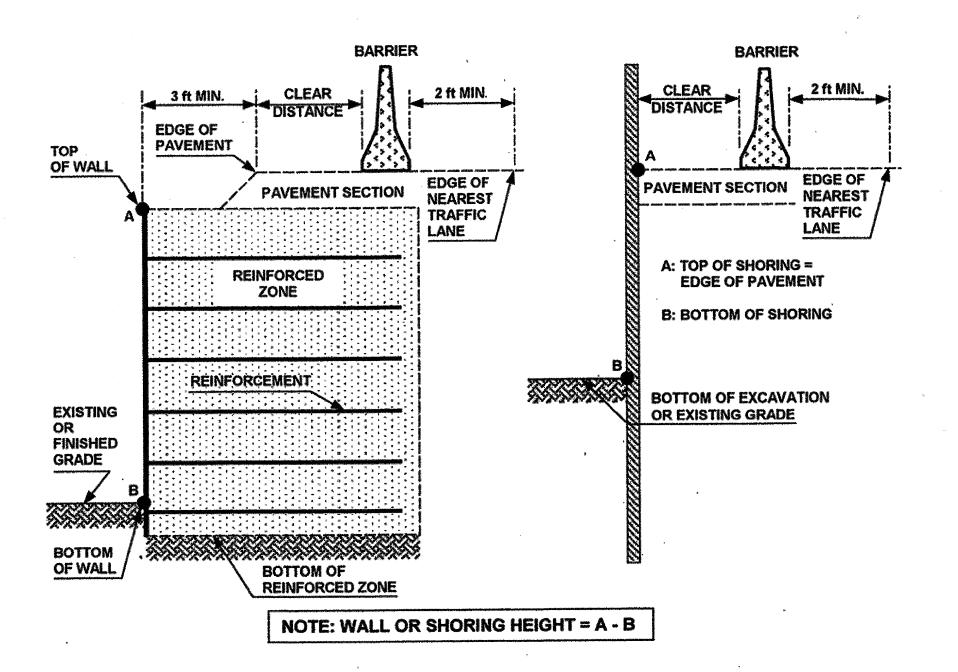
07-SEP-2012 08:30 \\dot\dfsroot0|\ sngreen AT TE PROJ. REFERENCE NO. SHEET NO. U-4412 TMP-2A

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"The special sign designs shown on this sheet were provided through a sealed document from Signing and Delineation. The document was submitted to WZTC on 08-14-2012 and sealed by a Professional Engineer, Ronald W. King, license # 022959".



SPECIAL SIGN DETAIL



## 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. 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 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.

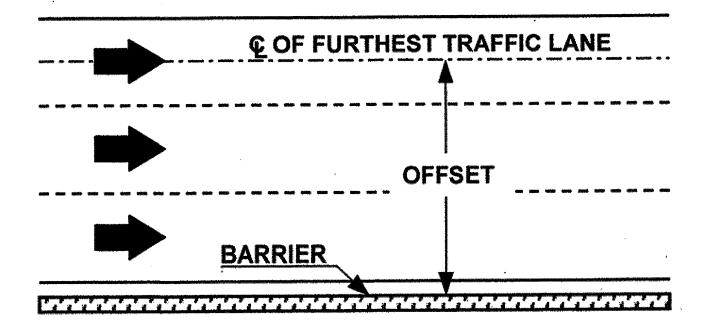
OFFSET - HORIZONTAL DISTANCE FROM THE FRONT FACE OF THE BARRIER TO CENTERLINE OF THE FURTHEST TRAFFIC LANE AS SHOWN IN FIGURE B FOR 3 TRAFFIC LANES.

- 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. DO NOT PLACE BARRIER DIRECTLY ON ANY SURFACE OTHER THAN ASPHALT OR CONCRETE. (CONTACT NCDOT PAVEMENT MANAGEMENT UNIT FOR APPLICABLE PAVEMENT DESIGN).
- 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: WORK ZONE TRAFFIC CONTROL UNIT WEB PAGE.
- 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.

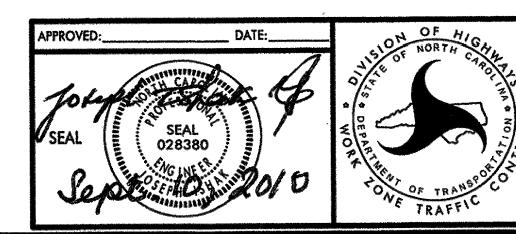
MINIMUM	REQUIRED	CLEAR	DISTANCE,	inches
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Barrier	Pavement	Offset *	Design Speed, mph									
Type	Type	ft	<30	31-40	41-50	51-60	61-70	71-80				
		<8	24	26	29	32	36	40				
		8-14	26	28	31	35	38	42				
		14-20	27	29	34	36	39	43				
		20-26	28	31	35	38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

<sup>\*</sup> See Figure Below



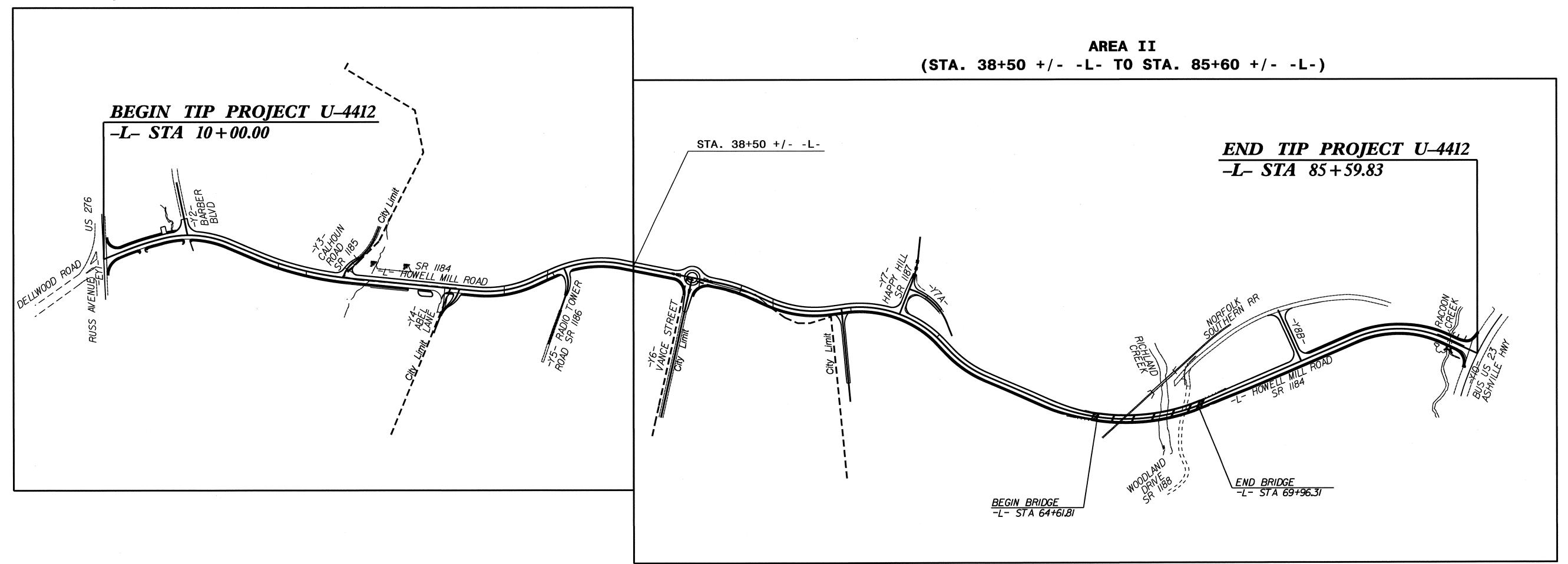
## FIGURE B

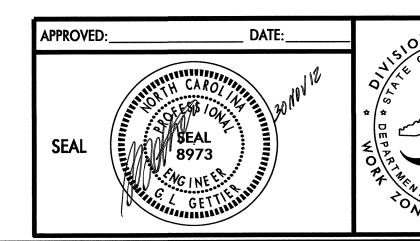


PORTABLE CONCRETE BARRIER
AT
TEMPORARY SHORING LOCATIONS



AREA I (STA. 10+00 +/- -L- TO STA. 38+50 +/- -L-)





PROJECT OVERVIEW DETAIL

AREA I: STA. 10+00 +/- -L- TO STA. 38+50 +/- -L-. AREA II: STA. 38+50 +/- -L- TO STA. 85+60 +/- -L-.

THE CONTRACTOR SHALL WORK IN BOTH AREAS SIMULTANEOUSLY.

NOTE: BEFORE BEGINNING CONSTRUCTION THE CONTRACTOR SHALL:

- PLACE ADVANCE WORK ZONE WARNING SIGNS ALONG EXISTING HOWELL MILL ROAD (SR 1184/-L-), DELLWOOD ROAD AND ALL -Y- LINES (SEE ROADWAY STANDARD DRAWING NO. 1101.01 01, SHEET 3 of 3).
- AS DIRECTED BY THE ENGINEER, INSTALL CHANGEABLE MESSAGE SIGNS (CMS) ON US 276 (RUSS AVENUE/-EY1-), DELLWOOD ROAD, AND US 23 BUS (ASHEVILLE HIGHWAY/-Y10-). HAVE AVAILABLE FIVE (5) CHANGEABLE MESSAGES SIGNS TO BE UTILIZED TO INFORM & ALERT THE TRAVELING PUBLIC TO TRAFFIC CONDITIONS AND ARE IN ADDITION TO OTHER CHANGEABLE MESSAGE SIGNS THAT ARE REQUIRED FOR TRAFFIC CONTROL OPERATIONS DURING CONSTRUCTION.

AREA I (STA. 10+00 +/- -L- TO STA. 38+50 +/- -L-)

NOTE: SECTIONS OF HOWELL MILL ROAD (SR 1184/-L-) WILL BE CLOSED FOR CONSTRUCTION, SEE AREA II, PHASE I, STEP 2 THRU PHASE II, STEP 2 FOR SEQUENCE AND LOCATIONS.

THE FOLLOWING NOTES ARE APPLICABLE FOR AREA I.

NOTE: CONTRACTOR SHALL CONSTRUCT ALL PAVEMENT (TEMPORARY AND/OR PROPOSED) TO MAINTAIN DRAINAGE AND NOT POND WATER IN THE TRAFFIC LANES.

NOTE: CONTRACTOR SHALL PLACE TRAFFIC BACK INTO THE EXISTING PATTERN AT THE END OF EACH WORK PERIOD.

NOTE: CONTRACTOR SHALL PLACE TYPE III BARRICADES & DRUMS AT ALL -Y- LINES AND DRUMS AT ALL DRIVEWAYS TO KEEP PROPOSED/ TEMPORARY WIDENING CLOSED TO TRAFFIC.

NOTE: WHEN CONSTRUCTING DRAINAGE STRUCTURES ADJACENT TO TRAFFIC, INSTALL TEMPORARY STEEL PLATES, AS DIRECTED BY THE ENGINEER. MAY WORK EACH LOCATION INDEPENDENTLY OR CONCURRENTLY, UNLESS OTHERWISE DIRECTED BY THE ENGINEER. WORK IN A CONTINUOUS MANNER TO PERFORM THE WORK IN THE FOLLOWING SEQUENCE, IN STEPS "A" THRU "E".

- A: CLOSE THE APPROPRIATE TRAVEL LANE TO TRAFFIC USING ROADWAY STANDARD DRAWING NO. 1101.02 SHEETS 1 & 2 OF 15.
- B: CONSTRUCT PROPOSED STRUCTURE OR INSTALL PRE-CAST DRAINAGE STRUCTURE AS SHOWN IN THE CONSTRUCTION PLANS AND COVER WITH STEEL PLATES TO PROTECT STRUCTURE DURING CURING.
- C: OPEN TRAVEL LANE TO EXISTING TRAFFIC PATTERN BY THE END OF EACH WORK PERIOD.
- D: WHEN PROPERLY CURED, CLOSE THE APPROPRIATE TRAVEL LANE USING ROADWAY STANDARD DRAWING NO. 1101.02. SHEETS 1 & 2 OF 15. BACKFILL & PAVE, IF REQUIRED, UP TO THE EDGE AND ELEVATION OF EXISTING PAVEMENT (SEE CONSTRUCTION PLANS).
- E: OPEN TRAVEL LANE TO EXISTING TRAFFIC PATTERN BY THE END OF THE WORK PERIOD.

PHASE I

- STEP 1: CONTRACTOR, USING ROADWAY STANDARD DRAWING NO. 1101.02, SHEET 1, 2 & 3 OF 15:
  - -- MAY BEGIN CLEARING/GRUBBING & GRADING OPERATIONS, AND CONSTRUCTION OF PROPOSED DRAINAGE (INCLUDING CURB & GUTTER AND SIDEWALK) ALONG & ACROSS EXISTING HOWELL MILL ROAD (SR 1184/-L-) AND ALL -Y- LINES/DRIVEWAYS, AS DIRECTED BY THE ENGINEER (SEE CONSTRUCTION PLANS).
  - -- SHALL BEGIN CONSTRUCTION OF WIDENING OF PROPOSED HOWELL MILL ROAD (SR 1184/-L-) (INCLUDING DRAINAGE, CURB & GUTTER AND SIDEWALK) UP TO, BUT NOT INCLUDING THE FINAL LAYER OF SURFACE COURSE AS FOLLOWS (SEE CONSTRUCTION PLANS AND SHEETS TMP-4. TMP-5 AND TMP-6):
    - --- FROM STA. 10+00 +/- -L- TO STA. 12+00 +/- -L-(BOTH SIDES)
    - --- STA. 16+00 +/- -L- TO STA. 23+00 +/- -L- (RIGHT SIDE)
    - --- STA. 27+00 +/- -L- TO STA. 38+50 +/- -L- (RIGHT SIDE)
    - NOTE: INSTALL TEMPORARY GUARDRAIL ALONG RIGHT SIDE OF EXISTING HOWELL MILL ROAD (SR 1184/-L-) AS DIRECTED BY THE ENGINEER.
    - NOTE: CONTRACTOR SHALL UTILIZE PAVING & WEDGING OPERATIONS AND/OR TEMPORARY 2:1 SLOPES DURING CONSTRUCTION TO MAINTAIN THE EXISTING TRAFFIC PATTERN.
    - NOTE: INSTALL TYPE III BARRICADES AND DRUMS TO KEEP PROPOSED CONSTRUCTION AREA CLOSED TO TRAFFIC.
  - -- SHALL BEGIN INSTALLATION OF REVISED TRAFFIC SIGNAL AT THE INTERSECTION OF PROPOSED HOWELL MILL ROAD (SR 1184/ -L-) & US 276 (RUSS AVENUE/-EY1-) (SEE SIGNAL PLANS).
  - SHALL BEGIN CONSTRUCTION OF PROPOSED CULVERT (AWAY FROM TRAFFIC) BY INSTALLING TYPE III BARRICADES AND DRUMS TO CLOSE THE EXISTING DRIVEWAY RIGHT OF STA. 14+50 +/- -L-TO THE PARKING LOT/DELIVERY AREA OF RITE AID AND TO CLOSE THE CONSTRUCTION AREA IN THE PARKING LOT (SEE CONSTRUCTION PLANS AND SHEET TMP-4).
  - -- SHALL CONSTRUCT TEMPORARY PAVEMENT ALONG EXISTING HOWELL MILL ROAD (SR 1184/-L-) UP TO THE EDGE & ELEVATION OF THE EXISTING PAVEMENT AS FOLLOWS (SEE CONSTRUCTION PLANS AND SHEETS TMP-4 AND TMP-5):
    - --- STA. 11+75 +/- -L- TO STA. 15+35 +/- -L- (LEFT SIDE) TO SHIFT TRAFFIC FOR THE CONSTRUCTION OF STAGE I OF PROPOSED CULVERT RIGHT OF STA. 14+25 +/- -L-.
      - NOTE: TEMPORARY PAVEMENT MAY BE UTILIZED IN THE CONSTRUCTION OF THE PROPOSED PAVEMENT AS DIRECTED BY THE ENGINEER.
    - STA. 23+25 +/- -L- TO STA. 25+25 +/- -L- (RIGHT SIDE) FOR PLACEMENT OF PORTABLE CONCRETE BARRIER (PCB) TO CONSTRUCT STAGE I OF PROPOSED CULVERT RIGHT OF STA. 24+25 +/- -L-.
      - NOTE: CONTRACTOR MAY BEGIN CONSTRUCTION OF STAGE I OF PROPOSED CULVERT AS DESCRIBED IN AREA I, PHASE II, STEP 1.
- CONTRACTOR SHALL, USING ROADWAY STANDARD DRAWING NO. 1101.02, SHEET 1 & 2 OF 15, PLACE TEMPORARY PAVEMENT MARKINGS & TEMPORARY PAVEMENT MARKERS ON THE TEMPORARY/ EXISTING PAVEMENT FOR TWO 10 FOOT TRAVEL LANES AND SHIFT TRAFFIC TO TEMPORARY PATTERN FROM STA. 11+75 +/- -L- TO STA. 15+35 + / - - L - (SEE SHEET TMP-7).

#### PHASE II

- STEP 1: CONTRACTOR, USING ROADWAY STANDARD DRAWING NO. 1101.02, SHEET 1 & 2 OF 15:
  - -- SHALL CONSTRUCT THE RIGHT SIDE OF PROPOSED HOWELL MILL ROAD (SR 1184/-L-) & PROPOSED ABEL LANE (-Y4-) AND PROPOSED RADIO TOWER ROAD (SR 1186/-Y5-) (INCLUDING STAGE I OF PROPOSED CULVERTS, DRAINAGE, CURB & GUTTER) AND SIDEWALK UP TO, BUT NOT INCLUDING THE FINAL LAYER OF SURFACE COURSE AS FOLLOWS (SEE CONSTRUCTION PLANS AND SHEETS TMP-4 THRU TMP-8):
    - NOTE: CONTRACTOR SHALL UTILIZE PAVING & WEDGING OPERATIONS AND/OR TEMPORARY 2:1 SLOPES DURING CONSTRUCTION TO MAINTAIN THE EXISTING TRAFFIC PATTERN.
    - NOTE: INSTALL TYPE III BARRICADES AND DRUMS TO KEEP PROPOSED CONSTRUCTION AREA CLOSED TO TRAFFIC.
    - --- INSTALL PORTABLE CONCRETE BARRIER (PCB) ON TEMPORARY PAVEMENT AND CONSTRUCT STAGE I OF PROPOSED CULVERT (UTILIZING TEMPORARY SHORING) RIGHT OF STA. 14+25 +/- -L- AND RIGHT SIDE OF PROPOSED HOWELL MILL ROAD (SR 1184/-L-) (INCLUDING TEMPORARY SHORING AND DRAINAGE, BUT NOT INCLUDING CURB & GUTTER AND SIDEWALK) UP TO, BUT NOT INCLUDING THE FINAL LAYER OF SURFACE COURSE FROM STA. 12+00 +/- -L- TO STA. 16+00 +/- -L- (SEE CONSTRUCTION PLANS AND SHEET TMP-7).
    - PAVEMENT AND CONSTRUCT STAGE I OF PROPOSED CULVERT (UTILIZING TEMPORARY SHORING) RIGHT OF STA. 24+25 +/- -L- AND RIGHT SIDE OF PROPOSED HOWELL MILL ROAD (SR 1184/-L-) (INCLUDING TEMPORARY SHORING, DRAINAGE, CURB & GUTTER AND SIDEWALK) UP TO, BUT NOT INCLUDING THE FINAL LAYER OF SURFACE COURSE FROM STA. 23+00 +/- -L- TO STA 27+00 +/- -L- (SEE CONSTRUCTION PLANS AND SHEET TMP-8).
    - --- CONSTRUCTION OF PROPOSED ABEL LANE (-Y4-) AND PROPOSED RADIO TOWER ROAD (SR 1186/-Y5-) WILL REQUIRE FILL SECTIONS OF EXISTING ROADWAYS. SINCE THERE ARE NO OUTLETS THE CONTRACTOR SHALL (AS DIRECTED BY THE ENGINEER), USING ROADWAY STANDARD DRAWING NO. 1101.02, SHEET 1 OF 15, CONSTRUCT PROPOSED ROADWAY (INCLUDING DRAINAGE, CURB & GUTTER AND SIDEWALK) UP TO, BUT NOT INCLUDING THE FINAL LAYER OF SURFACE COURSE BY PLACING AGGREGATE BASE COURSE, INCIDENTAL STONE OR ASPHALT BASE COURSE & BINDER COURSE TO MAINTAIN ACCESS. PLACE TEMPORARY PAVEMENT MARKERS AND OPEN TO TRAFFIC.
      - NOTE: CONTRACTOR SHALL PLACE TEMPORARY PAVEMENT MARKINGS (PAINT) ON ASPHALT BASE COURSE/BINDER COURSE OR DRUMS ON AGGREGATE BASE COURSE/INCIDENTAL STONE TO DELINEATE THE TRAVEL WAY DURING CONSTRUCTION.
    - --- SHALL COMPLETE CONSTRUCTION OF THE RIGHT SIDE OF PROPOSED HOWELL MILL ROAD (SR 1184/-L-) (INCLUDING PROPOSED DRAINAGE, CURB & GUTTER AND SIDEWALK) UP TO, BUT NOT INCLUDING THE FINAL LAYER OF SURFACE COURSE BEGUN IN AREA I, PHASE I, STEP 1 AS FOLLOWS (SEE CONSTRUCTION PLANS AND SHEETS TMP-5 THRU TMP-8):
      - ---- STA. 10+00 +/- -L- TO STA. 23+00 +/- -L-
      - ---- STA. 27+00 +/- -L- TO STA. 38+50 +/- -L-

- STEP 2: CONTRACTOR SHALL, USING ROADWAY STANDARD DRAWING NO. 1101.02, SHEET 1 & 2 OF 15, PLACE TEMPORARY PAVEMENT MARKINGS (PAINT) & TEMPORARY PAVEMENT MARKERS ON THE RIGHT SIDE OF HOWELL MILL ROAD (SR 1184/-L-) FROM STA. 10+00 +/- -L- TO STA. 38+50 +/- -L- AND SHIFT TRAFFIC TO THE TEMPORARY TRAFFIC PATTERN (SEE SHEETS TMP-9 THRU TMP-11).
- STEP 3: CONTRACTOR SHALL, USING ROADWAY STANDARD DRAWING NO. 1101.02, SHEET 1 & 2 OF 15:
  - -- CONSTRUCT THE LEFT SIDE OF PROPOSED HOWELL MILL ROAD (SR 1184/-L-) & PROPOSED BARBER BLVD. (-Y2-) AND CALHOUN ROAD (SR 1185/-Y3-) (INCLUDING STAGE II OF CULVERTS, DRAINAGE, CURB & GUTTER AND SIDEWALK) UP TO, BUT NOT INCLUDING THE FINAL LAYER OF SURFACE COURSE AS FOLLOWS (SEE CONSTRUCTION PLANS AND SHEETS TMP-9 THRU TMP-11):
    - NOTE: INSTALL TYPE III BARRICADES AND DRUMS TO KEEP PROPOSED CONSTRUCTION AREA CLOSED TO TRAFFIC.
    - --- INSTALL PORTABLE CONCRETE BARRIER (PCB) ON PROPOSED PAVEMENT AND CONSTRUCT STAGE II OF PROPOSED CULVERTS (UTILIZING TEMPORARY SHORING) LEFT OF STA. 14+25 +/- -L- & LEFT OF STA. 24+25 +/- -L- AND LEFT SIDE OF PROPOSED HOWELL MILL ROAD (SR 1184/-L-) (INCLUDING DRAINAGE, CURB & GUTTER AND SIDEWALK) UP TO, BUT NOT INCLUDING THE FINAL LAYER OF SURFACE COURSE FROM STA. 13+00 +/- -L- TO STA. 38+50 +/- -L- (SEE CONSTRUCTION PLANS AND SHEETS TMP-9 THRU TMP-11).
      - NOTE: INSTALL TYPE III BARRICADES TO CLOSE BARBER BLVD. (-Y2-) TO TRAFFIC.
    - --- CONSTRUCT PROPOSED BARBER BLVD. (-Y2-) (INCLUDING DRAINAGE, CURB & GUTTER AND SIDEWALK) UP TO, BUT NOT INCLUDING THE FINAL LAYER OF SURFACE COURSE (SEE CONSTRUCTION PLANS AND SHEET TMP-9).
    - --- CONSTRUCTION OF PROPOSED CALHOUN ROAD (SR 1185/
      -Y3-) WILL REQUIRE A CUT SECTION OF EXISTING
      ROADWAY. SINCE THERE IS NO OUTLET THE CONTRACTOR
      SHALL, AS DIRECTED BY THE ENGINEER, CONSTRUCT
      PROPOSED ROADWAY (INCLUDING DRAINAGE, CURB & GUTTER
      AND SIDEWALK) UP TO, BUT NOT INCLUDING THE FINAL
      LAYER OF SURFACE COURSE BY PLACING AGGREGATE BASE
      COURSE, INCIDENTAL STONE OR ASPHALT BASE COURSE &
      BINDER COURSE TO MAINTAIN ACCESS. PLACE TEMPORARY
      PAVEMENT MARKINGS (PAINT) & MARKERS AND OPEN TO
      TRAFFIC.
      - NOTE: CONTRACTOR SHALL PLACE TEMPORARY PAVEMENT MARKINGS (PAINT) ON ASPHALT BASE COURSE/BINDER COURSE OR DRUMS ON AGGREGATE BASE COURSE/INCIDENTAL STONE TO DELINEATE THE TRAVEL WAY DURING CONSTRUCTION.
  - CONTRACTOR SHALL, USING ROADWAY STANDARD DRAWING NO. 1101.02, SHEET 1, 2 & 3 OF 15:
  - -- COMPLETE CONSTRUCTION OF WIDENING OF PROPOSED HOWELL MILL ROAD (SR 1184/-L-) (INCLUDING DRAINAGE, CURB & GUTTER AND SIDEWALK) UP TO, BUT NOT INCLUDING THE FINAL LAYER OF SURFACE COURSE FROM STA. 10+00 +/- -L-TO STA. 13+00 +/- -L- (LEFT SIDE) BEGUN IN AREA I, PHASE I, STEP 1 (SEE CONSTRUCTION PLANS AND SHEET TMP-9).
  - -- COMPLETE INSTALLATION OF REVISED TRAFFIC SIGNAL AT THE INTERSECTION OF PROPOSED HOWELL MILL ROAD (SR 1184/-L-) & US 276 (RUSS AVENUE/-EY1-) BEGUN IN AREA I, PHASE I, STEP 1 (SEE SIGNAL PLANS).

- STEP 4: CONTRACTOR SHALL, USING ROADWAY STANDARD DRAWING NO. 1101.02, SHEET 1, 2 & 3 OF 15:
  - -- PLACE TEMPORARY PAVEMENT MARKINGS (PAINT) AND INSTALL TEMPORARY RAISED PAVEMENT MARKER FROM STA. 10+00 +/- -L- TO STA. 38+50 +/- -L-, ACTIVATE REVISED SIGNAL AT THE INTERSECTION OF PROPOSED HOWELL MILL ROAD (SR 1184/-L-) & US 276 (RUSS AVENUE/-EY1-), AND OPEN TO THE FINAL TRAFFIC PATTERN (SEE FINAL PAVEMENT MARKING PLANS).
    - NOTE: DURING CONSTRUCTION, AS DIRECTED BY THE ENGINEER, THE CONTRACTOR SHALL ADJUST THE TEMPORARY PAVEMENT MARKINGS/MARKERS IN THE TRANSITION SECTION BETWEEN AREA I & AREA II TO MAINTAIN TRAFFIC UNTIL BOTH AREAS ARE OPEN TO TRAFFIC.
    - NOTE: THE ENTIRE PROJECT MAY OR MAY NOT BE OPEN TO THROUGH TRAFFIC, SEE AREA II FOR CONSTRUCTION SEQUENCE.
  - -- CONSTRUCT THE REMAINDER OF THE CURB & GUTTER AND SIDEWALK RIGHT SIDE OF PROPOSED HOWELL MILL ROAD (SR 1184/-L-) FROM STA. 13+00 +/- -L- TO STA. 16+00 +/- -L- (SEE CONSTRUCTION PLANS).

NOTE: AS DIRECTED BY THE ENGINEER, THE CONTRACTOR SHALL, USING ROADWAY STANDARD DRAWING NO. 1101.02, SHEET 1, 2 & 3 OF 15, PAVE THE FINAL LAYER OF SURFACE COURSE, PLACE THE FINAL PAVEMENT MARKINGS AND INSTALL FINAL PAVEMENT MARKERS ON THE ENTIRE PROJECT, WHEN BOTH AREAS OF CONSTRUCTION HAVE BEEN COMPLETED, AND OPEN TO FINAL TRAFFIC PATTERN (SEE CONSTRUCTION PLANS AND FINAL PAVEMENT MARKING PLANS).



#### AREA II

(STA. 38+50 +/- -L- TO STA. 85+60 +/- -L-)

- THE FOLLOWING NOTES ARE APPLICABLE FOR AREA II.
  - NOTE: CONTRACTOR SHALL CONSTRUCT ALL PAVEMENT (TEMPORARY AND/OR PROPOSED) TO MAINTAIN DRAINAGE AND NOT POND WATER IN THE TRAFFIC LANES.
  - NOTE: CONTRACTOR SHALL PLACE TRAFFIC BACK INTO THE EXISTING PATTERN AT THE END OF EACH WORK PERIOD.
  - NOTE: CONTRACTOR SHALL PLACE TYPE III BARRICADES & DRUMS AT ALL -Y- LINES AND DRUMS AT ALL DRIVEWAYS TO KEEP PROPOSED/ TEMPORARY WIDENING CLOSED TO TRAFFIC.
  - NOTE: WHEN CONSTRUCTING DRAINAGE STRUCTURES ADJACENT TO TRAFFIC, INSTALL TEMPORARY STEEL PLATES, AS DIRECTED BY THE ENGINEER. MAY WORK EACH LOCATION INDEPENDENTLY OR CONCURRENTLY. UNLESS OTHERWISE DIRECTED BY THE ENGINEER. WORK IN A CONTINUOUS MANNER TO PERFORM THE WORK IN THE FOLLOWING SEQUENCE, IN STEPS "A" THRU "E".
    - A: CLOSE THE APPROPRIATE TRAVEL LANE TO TRAFFIC USING ROADWAY STANDARD DRAWING NO. 1101.02 SHEETS 1. 2 & 3 OF 15.
    - B: CONSTRUCT PROPOSED STRUCTURE OR INSTALL PRE-CAST DRAINAGE STRUCTURE AS SHOWN IN THE CONSTRUCTION PLANS AND COVER WITH STEEL PLATES TO PROTECT STRUCTURE DURING CURING.
    - C: OPEN TRAVEL LANE TO EXISTING TRAFFIC PATTERN BY THE END OF EACH WORK PERIOD.
    - D: WHEN PROPERLY CURED, CLOSE THE APPROPRIATE TRAVEL LANE USING ROADWAY STANDARD DRAWING NO. 1101.02, SHEETS 1, 2 & 3 OF 15. BACKFILL & PAVE, IF REQUIRED, UP TO THE EDGE AND ELEVATION OF EXISTING PAVEMENT (SEE CONSTRUCTION PLANS).
    - E: OPEN TRAVEL LANE TO EXISTING TRAFFIC PATTERN BY THE END OF THE WORK PERIOD.

#### PHASE I

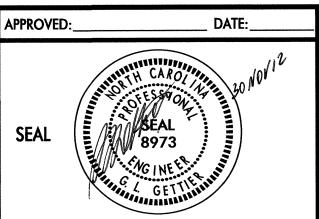
- STEP 1: CONTRACTOR, USING ROADWAY STANDARD DRAWING NO. 1101.02, SHEET 1, 2 & 3 OF 15:
  - -- MAY BEGIN CLEARING/GRUBBING & GRADING OPERATIONS, AND CONSTRUCTION OF PROPOSED DRAINAGE (INCLUDING CURB & GUTTER AND SIDEWALK) ALONG & ACROSS EXISTING HOWELL MILL ROAD (SR 1184/-L-) AND ALL -Y- LINES/DRIVEWAYS, AS DIRECTED BY THE ENGINEER (SEE CONSTRUCTION PLANS).
  - -- SHALL BEGIN CONSTRUCTION (AWAY FROM TRAFFIC) OF PROPOSED HOWELL MILL ROAD (SR 1184/-L-), PROPOSED HAPPY HILL ROAD (SR 1187/-Y7-) & DRIVEWAY (-DRV1-) (INCLUDING DRAINAGE, CURB & GUTTER AND SIDEWALK) UP TO, BUT NOT INCLUDING THE FINAL LAYER OF SURFACE COURSE AND SUBSTRUCTURE OF PROPOSED BRIDGE AS FOLLOWS (SEE CONSTRUCTION PLANS AND SHEETS TMP-12 THRU TMP-15):
    - --- STA. 51+00 +/- -L- TO STA. 56+00 +/- -L-
    - NOTE: MAINTAIN ACCESS TO PARCEL NO. 31 AS DIRECTED BY THE ENGINEER (SEE SHEET TMP-17).
    - --- STA. 64+37 +/- -L- TO STA. 70+20 +/- -L-(SUBSTRUCTURE OF PROPOSED STRUCTURE ONLY)
    - --- STA. 70+20 +/- -L- TO STA. 82+00 +/- -L-
    - --- STA. 13+00 +/- -Y7- TO STA. 14+28 +/- -Y7-
    - --- STA. 10+12 +/- -Y8B- TO STA. 13+00 +/- -Y8B-
    - NOTE: INSTALL TYPE III BARRICADES AND DRUMS TO KEEP PROPOSED CONSTRUCTION AREAS CLOSED TO TRAFFIC.

- -- SHALL BEGIN CONSTRUCTION (UTILIZING PAVING & WEDGING OPERATIONS) OF PROPOSED WIDENING OF HOWELL MILL ROAD (SR 1184/-L-) (INCLUDING DRAINAGE, AND CURB & GUTTER AND SIDEWALK ONLY ON THE RIGHT SIDE) UP TO, BUT NOT INCLUDING THE FINAL LAYER OF SURFACE COURSE FROM STA. 82+00 +/- -L- TO STA. 85+59 +/- -L- (SEE CONSTRUCTION PLANS AND SHEET TMP-15):
  - --- INSTALLATION OF TEMPORARY SHORING AND BEGIN CONSTRUCTION OF PROPOSED CULVERT EXTENSION RIGHT OF STA. 84+00 +/- -L- (SEE CONSTRUCTION PLANS AND SHEET TMP-15).
  - --- INSTALLATION OF REVISED TRAFFIC SIGNAL AT THE INTERSECTION OF PROPOSED HOWELL MILL ROAD (SR 1184/-L-) & US 23 BUS (ASHEVILLE HIGHWAY/-Y10-) (SEE SIGNAL PLANS).
- THE CONTRACTOR SHALL WORK IN A CONTINUOUS MANNER TO COMPLETE THE WORK IN AREA II, PHASE I, STEP 2 THRU STEP 6 IN 90 CONSECUTIVE DAYS (SEE INTERMEDIATE CONTRACT TIME AND SPECIAL PROVISIONS).
- CONTRACTOR SHALL, USING ROADWAY STANDARD DRAWINGS NO. 1101.03. SHEET 1 OF 9 AND SHEETS TMP-16, TMP-17 AND TMP-24 TO CLOSE EXISTING HOWELL MILL ROAD (SR 1184/-L-) FROM STA. 42+00 +/- -L- TO STA. 52+50 +/- -L- TO TRAFFIC.

#### CONTRACTOR MAY WORK AREA II, PHASE I, STEP 3 AND STEP 4 SIMULTANEOUSLY.

- STEP 3: CONTRACTOR SHALL, USING ROADWAY STANDARD DRAWING NO. 1101.02, SHEET 1 OF 15 AS REQUIRED, CONSTRUCT THE FOLLOWING (INCLUDING PROPOSED DRAINAGE, CURB & GUTTER AND SIDEWALK) UP TO, BUT NOT INCLUDING THE FINAL LAYER OF SURFACE COURSE (SEE CONSTRUCTION PLANS AND SHEETS TMP-16 AND TMP-17):
  - -- PROPOSED HOWELL MILL ROAD (SR 1184/-L-) FROM STA. 42+00 +/- -L- TO STA. 53+00 +/- -L-
  - -- PROPOSED HAPPY HILL ROAD (SR 1187/-Y7-) FROM STA. 12+00 +/- -Y7- TO STA 14+28 +/- -Y7-
  - PROPOSED -Y7A- FROM STA. 10+00 +/- -Y7A- TO STA. 12+00 +/- -Y7A-
  - NOTE: MAINTAIN ACCESS TO PARCEL NO. 31 AS DIRECTED BY THE ENGINEER (SEE SHEET TMP-17).
- THE CONTRACTOR SHALL WORK IN A CONTINUOUS MANNER TO COMPLETE THE WORK IN AREA II, PHASE I, STEP 4A THRU STEP 4D IN 45 CONSECUTIVE DAYS (SEE INTERMEDIATE CONTRACT TIME AND SPECIAL PROVISIONS).
- STEP 4: CONTRACTOR SHALL CONSTRUCT PROPOSED ROUND-ABOUT AS FOLLOWINGS:
  - A. USING ROADWAY STANDARD DRAWING NO. 1101.03, SHEET 1 OF 9, REMOVE & RESET TYPE III BARRICADES & CONSTRUCTION WARNING SIGNS FROM STA. 42+00 +/- -L- TO STA. 38+50 +/- -L- AND CLOSE VANCE STREET (-Y6-) AT STA. 11+50 +/- -Y6-(SEE SHEETS TMP-18 & TMP-25).
    - NOTE: MAINTAIN ACCESS TO DRIVEWAY ON PARCEL NO. 25 AS DIRECTED BY THE ENGINEER (SEE SHEET TMP-17).
    - NOTE: UTILIZE DRUMS TO MAINTAIN ACCESS TO DRIVEWAYS LEFT OF STA. 41+25 +/- -L- AND WAYNESVILLE PARKS & RECREATION'S DRIVEWAY LEFT OF STA. 11+50 +/- -Y6-AS DIRECTED BY THE ENGINEER (SEE SHEET TMP-18).

- B. CONSTRUCT PROPOSED ROUND-ABOUT AND VANCE ST (-Y6-) (INCLUDING DRAINAGE, CURB & GUTTER AND SIDEWALK) UP TO, BUT NOT INCLUDING THE FINAL LAYER OF SURFACE COURSE FROM STA. 38+50 +/- -L- TO STA. 42+00 +/- -L-(SEE CONSTRUCTION PLANS AND SHEET TMP-18).
- C. PLACE TEMPORARY PAVEMENT MARKING (PAINT) AND TEMPORARY RAISED PAVEMENT MARKERS FOR A TEMPORARY ROUND-ABOUT TRAFFIC PATTERN (SEE FINAL PAVEMENT MARKING PLANS).
- D. USING ROADWAY STANDARD DRAWING NO. 1101.03, SHEET 1 OF 9, REMOVE & RESET TYPE III BARRICADES & CONSTRUCTION WARNING SIGNS FROM STA. 38+50 +/- -L- TO STA. 42+25 +/- -L- AND OPEN BOTH THE PROPOSED ROUND-ABOUT & VANCE STREET (-Y6-) TO TRAFFIC (SEE SHEET TMP-19).
  - NOTE: EXISTING HOWELL MILL ROAD (SR 1184/-L-) IS NOW CLOSED FROM STA. 42+25 +/- -L- TO STA. 52+50 +/- -L-TO TRAFFIC.
- STEP 5: CONTRACTOR SHALL PLACE TEMPORARY PAVEMENT MARKING (PAINT) AND TEMPORARY RAISED PAVEMENT MARKERS FOR A TEMPORARY TRAFFIC PATTERN AS FOLLOWS (SEE FINAL PAVEMENT MARKING PLANS AND SHEETS TMP-20 AND TMP-21):
  - -- PROPOSED HOWELL MILL ROAD (SR 1184/-L-) FROM STA. 42+00 +/- -L- TO STA. 53+00 +/- -L-
  - -- PROPOSED HAPPY HILL ROAD (SR 1187/-Y7-) FROM STA. 12+00 +/- -Y7- TO STA 14+28 +/- -Y7-
  - -- PROPOSED -Y7A- FROM STA. 10+00 +/- -Y7A- TO STA. 12+00 +/- -Y7A-
- STEP 6: CONTRACTOR SHALL, USING ROADWAY STANDARD DRAWINGS NO. 1101.03, SHEET 1 OF 9, TO CLOSE PROPOSED HOWELL MILL ROAD (SR 1184/-L-) AT STA. 53+00 +/- -L- AND OPEN PROPOSED HOWELL MILL ROAD (SR 1184/-L-) [INCLUDING PROPOSED HAPPY HILL ROAD (SR 1187/-Y7-) AND PROPOSED -Y7A-] FROM STA. 42+00 -L- TO STA. 53+00 +/- -L- TO TRAFFIC (SEE SHEETS TMP-20 AND TMP-21).
  - CONTRACTOR SHALL, USING ROADWAY STANDARD DRAWING NO. 1101.03, SHEET 1 OF 9 AND SHEETS TMP-23 AND TMP-26, TO CLOSE EXISTING HOWELL ROAD (SR 1184/-L-) AT STA. 69+25 +/- -L- [JUST SOUTH OF THE INTERSECTION OF HOWELL MILL ROAD (SR 1184/-L-) & WOODLAND DRIVE (SR 1188)] AND TO CLOSE WOODLAND DRIVE (SR 1188) FROM JUST SOUTH OF THE FIRST DRIVEWAY TO A LOCATION SOUTH OF THE PROPOSED BRIDGE, AS DIRECTED BY THE ENGINEER, TO TRAFFIC.
  - NOTE: HOWELL MILL ROAD IS NOW OPEN TO TRAFFIC FROM THE BEGINNING OF THE PROJECT TO STA. 53+00 +/- -L- AND EXISTING HOWELL MILL ROAD FROM STA. 69+25 +/- -L-TO THE END OF THE PROJECT. EXISTING WOODLAND DRIVE (SR 1188) IS CLOSED IN THE CONSTRUCTION AREA OF THE PROPOSED BRIDGE (SEE SHEET TMP-23).





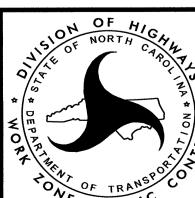
TEMPORARY TRAFFIC CONTROL PHASING AREA II

PROJ. REFERENCE NO. SHEET NO.
U-4412 TMP-3D

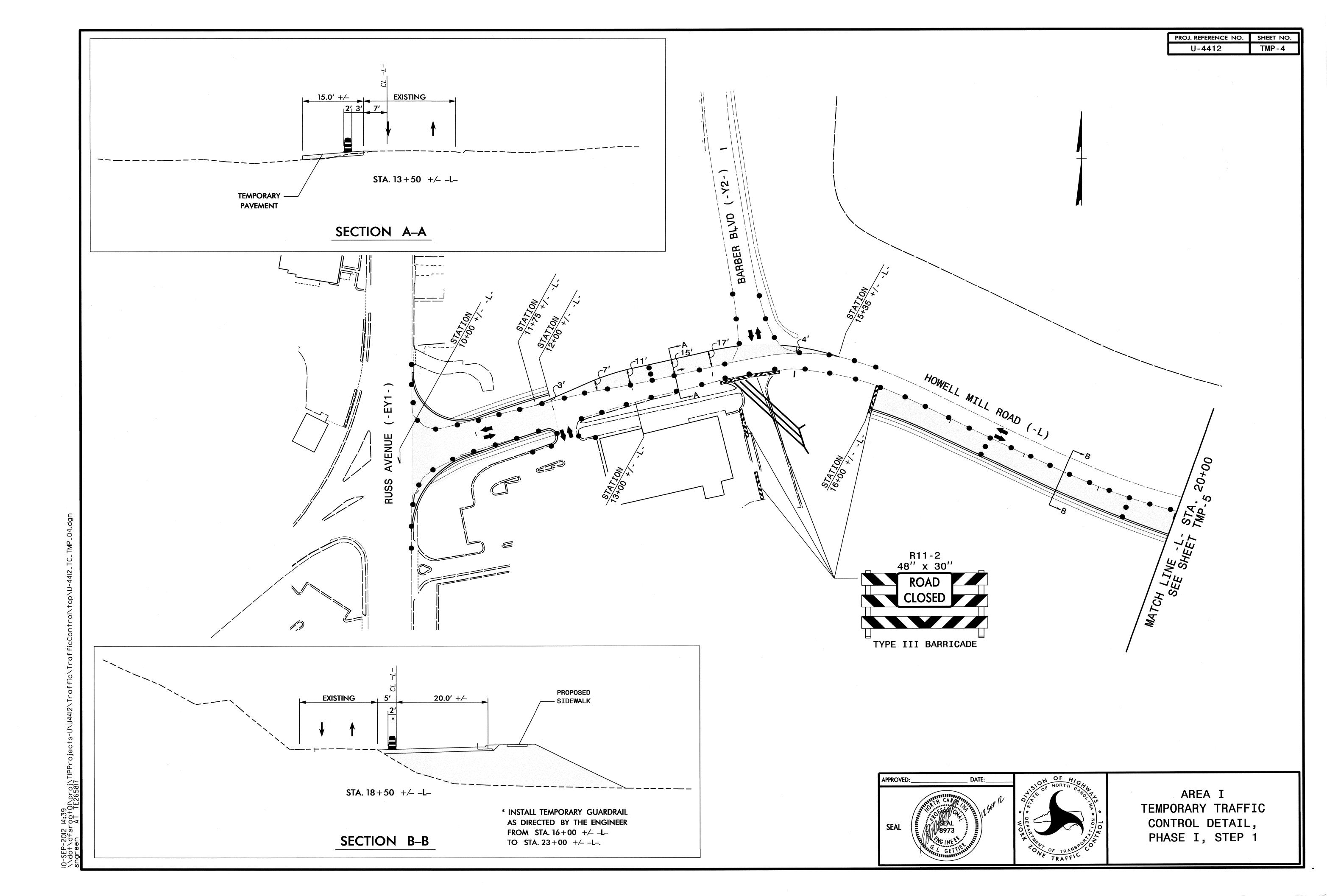
#### PHASE II

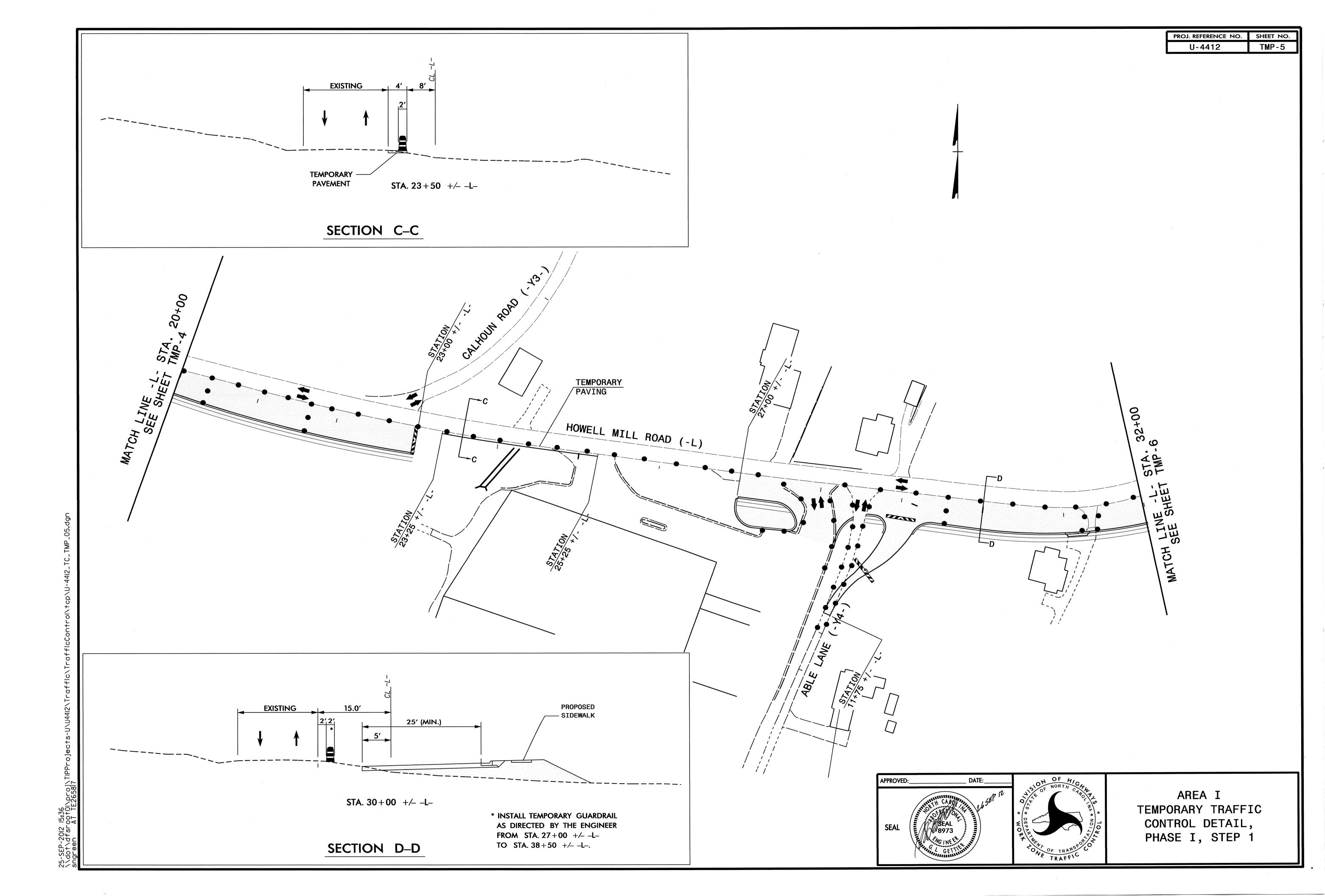
- STEP 1: CONTRACTOR SHALL, USING ROADWAY STANDARD DRAWING NO. 1101.02, SHEET 1, 2 & 3 OF 15:
  - -- COMPLETE/CONSTRUCT PROPOSED HOWELL MILL ROAD (SR 1184/-L-) (INCLUDING DRAINAGE, CURB & GUTTER) UP TO, BUT NOT INCLUDING THE FINAL LAYER OF SURFACE COURSE (INCLUDING PROPOSED CULVERT EXTENSION & PROPOSED BRIDGE) FROM STA. 53+00 +/- -L- TO STA. 85+59 +/- -L-, AND PROPOSED -Y8B- (SEE CONSTRUCTION PLANS AND SHEETS TMP-15, TMP-21 TMP-22 AND TMP-23).
  - -- <u>COMPLETE</u> INSTALLATION OF REVISED TRAFFIC SIGNAL AT THE INTERSECTION OF PROPOSED HOWELL MILL ROAD (SR 1184/-L-) & US 23 BUS (ASHEVILLE HIGHWAY/-Y10-) BEGUN IN AREA II, PHASE I, STEP 1 (SEE SIGNAL PLANS).
- STEP 2: CONTRACTOR SHALL, USING ROADWAY STANDARD DRAWING NO. 1101.02, SHEET 1, 2 & 3 OF 15:
  - -- PLACE TEMPORARY PAVEMENT MARKINGS (PAINT) (REMOVAL TAPE ON THE PROPOSED BRIDGE) & INSTALL TEMPORARY RAISED PAVEMENT MARKERS FROM STA. 53+00 +/- -L- TO STA. 85+59 +/- -L-, ACTIVATE REVISED SIGNAL AT THE INTERSECTION OF PROPOSED HOWELL MILL ROAD (SR 1184/-L-) & US 23 BUS (ASHEVILLE HIGHWAY/-Y10-) AND OPEN TO THE FINAL TRAFFIC PATTERN (SEE FINAL PAVEMENT MARKING PLANS).
    - NOTE: THE ENTIRE PROJECT IS NOW OPEN TO THROUGH TRAFFIC, HOWEVER, AREA I MAY STILL BE UNDER CONSTRUCTION.
  - -- CONSTRUCT THE REMAINDER OF THE PROPOSED CURB & GUTTER LEFT OF STA. 82+00 +/- -L- TO STA. 85+15 +/- -L- AND PROPOSED CONCRETE ISLAND AT THE INTERSECTION OF HOWELL MILL ROAD (SR 1184/-L-) AND US 23 BUS (ASHEVILLE HIGHWAY/-Y10-) (SEE CONSTRUCTION PLANS).
- NOTE: AS DIRECTED BY THE ENGINEER, THE CONTRACTOR SHALL, USING ROADWAY STANDARD DRAWING NO. 1101.02, SHEET 1, 2 & 3 OF 15, PAVE THE FINAL LAYER OF SURFACE COURSE, PLACE THE FINAL PAVEMENT MARKINGS AND INSTALL FINAL PAVEMENT MARKERS ON THE ENTIRE PROJECT, WHEN BOTH AREAS OF CONSTRUCTION HAVE BEEN COMPLETED, AND OPEN TO FINAL TRAFFIC PATTERN (SEE CONSTRUCTION PLANS AND FINAL PAVEMENT MARKING PLANS).

SEAL

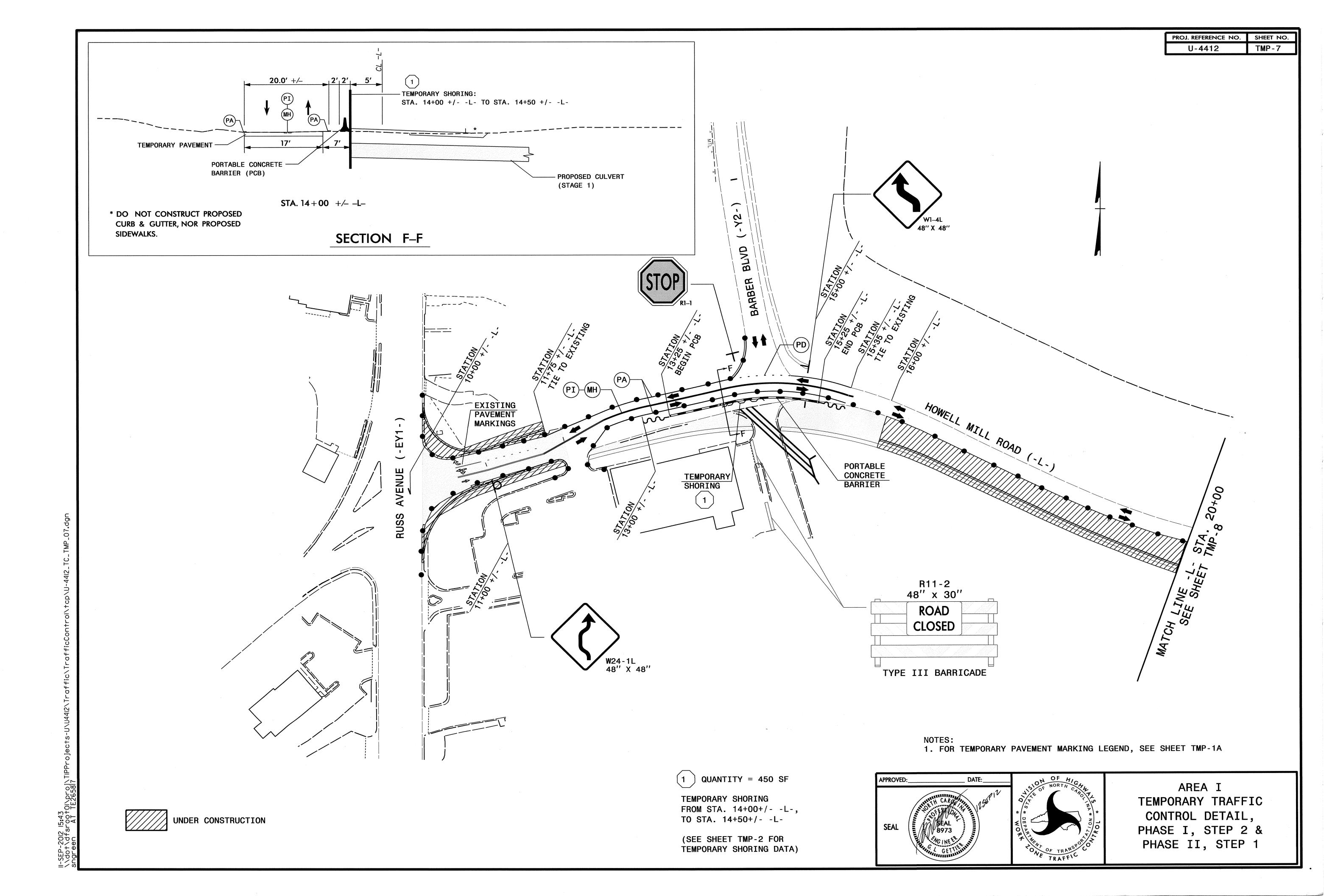


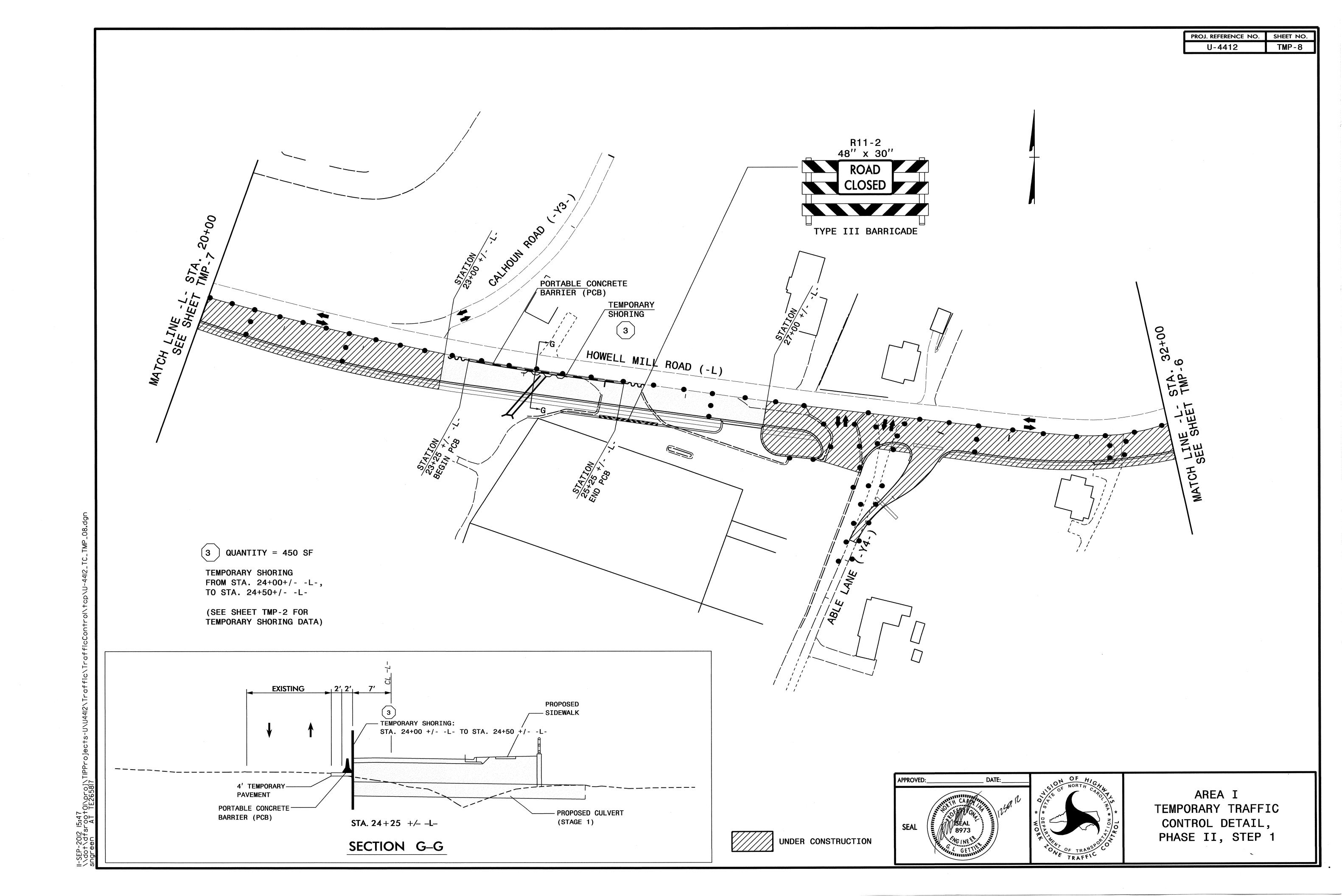
TEMPORARY TRAFFIC CONTROL PHASING AREA II

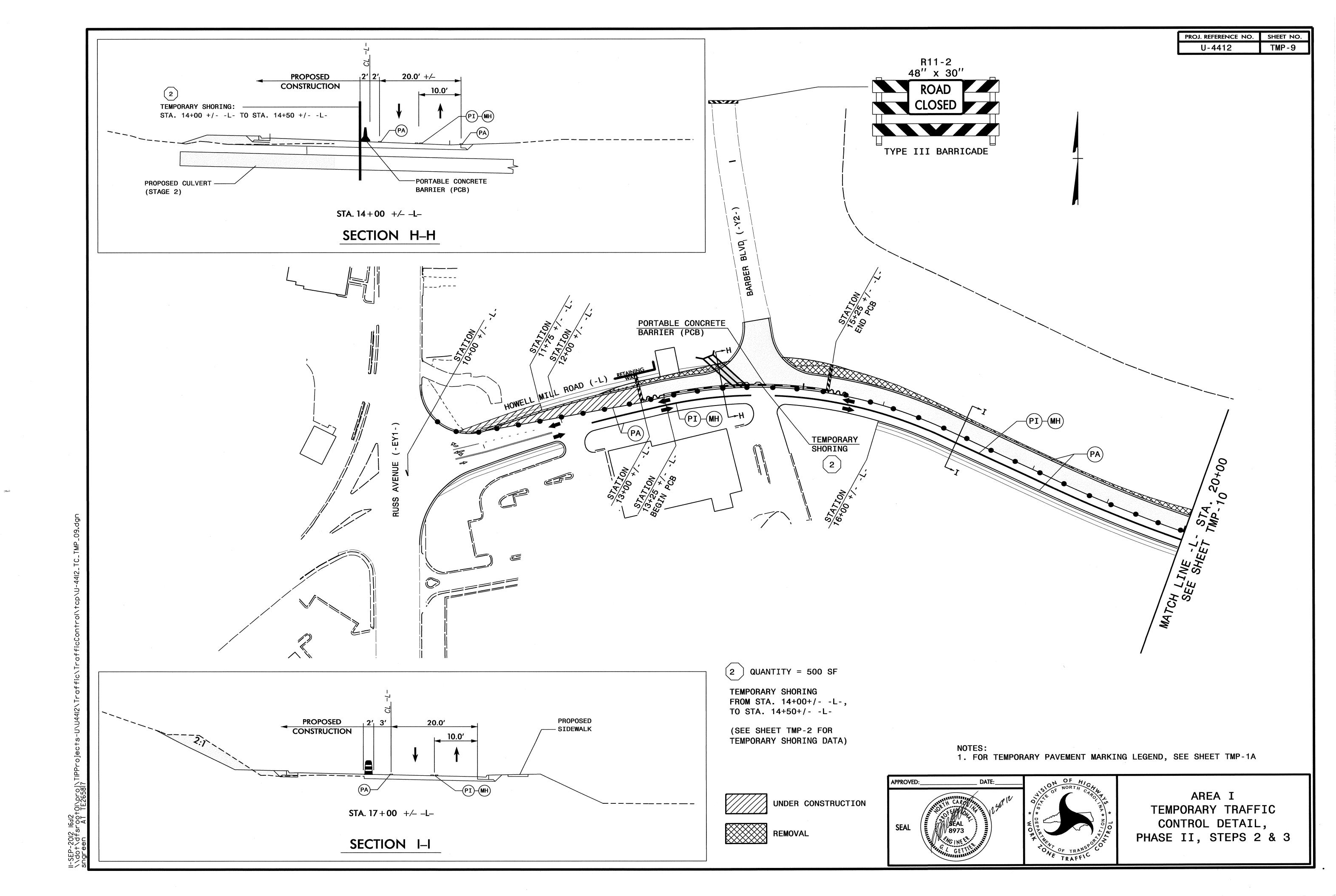


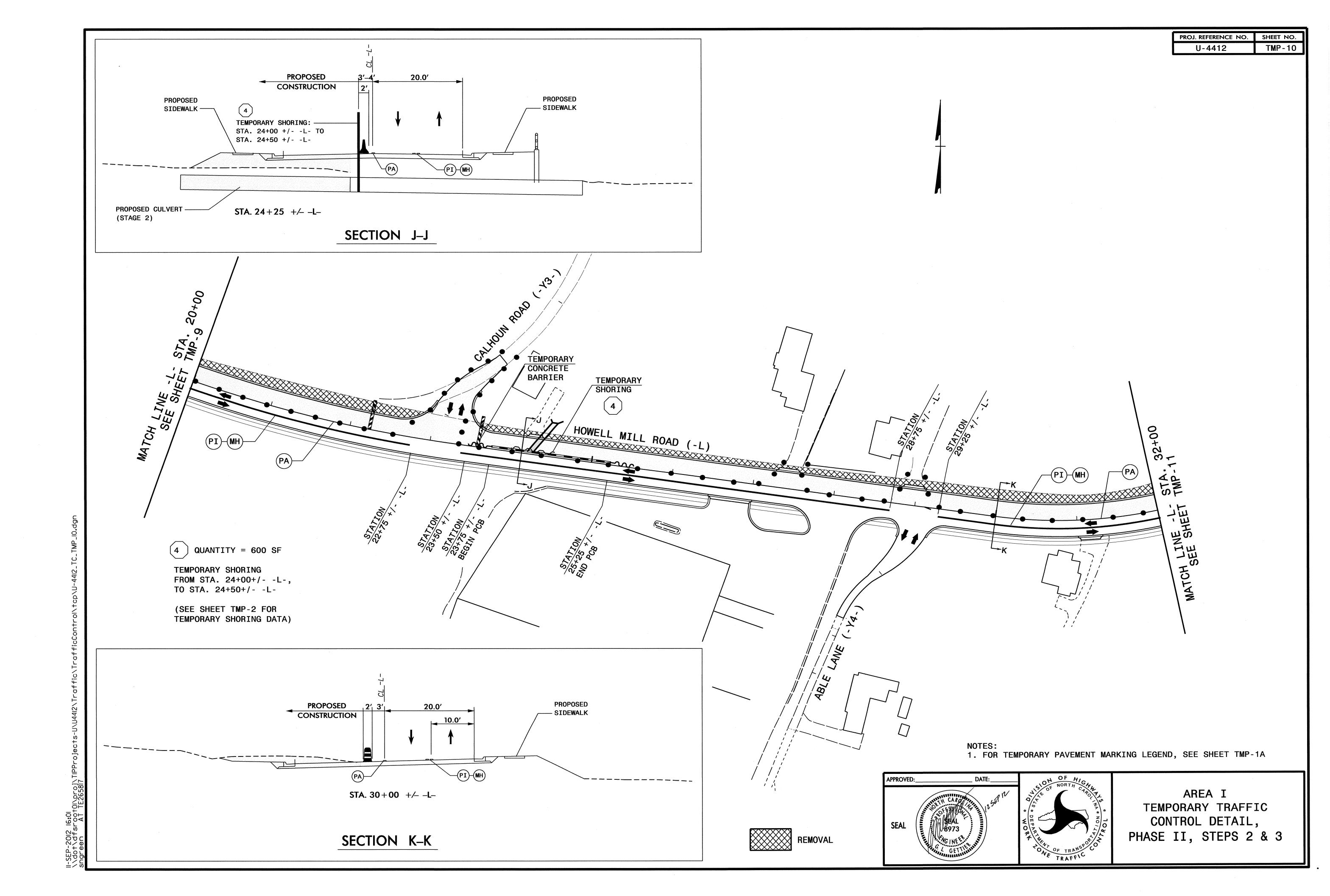


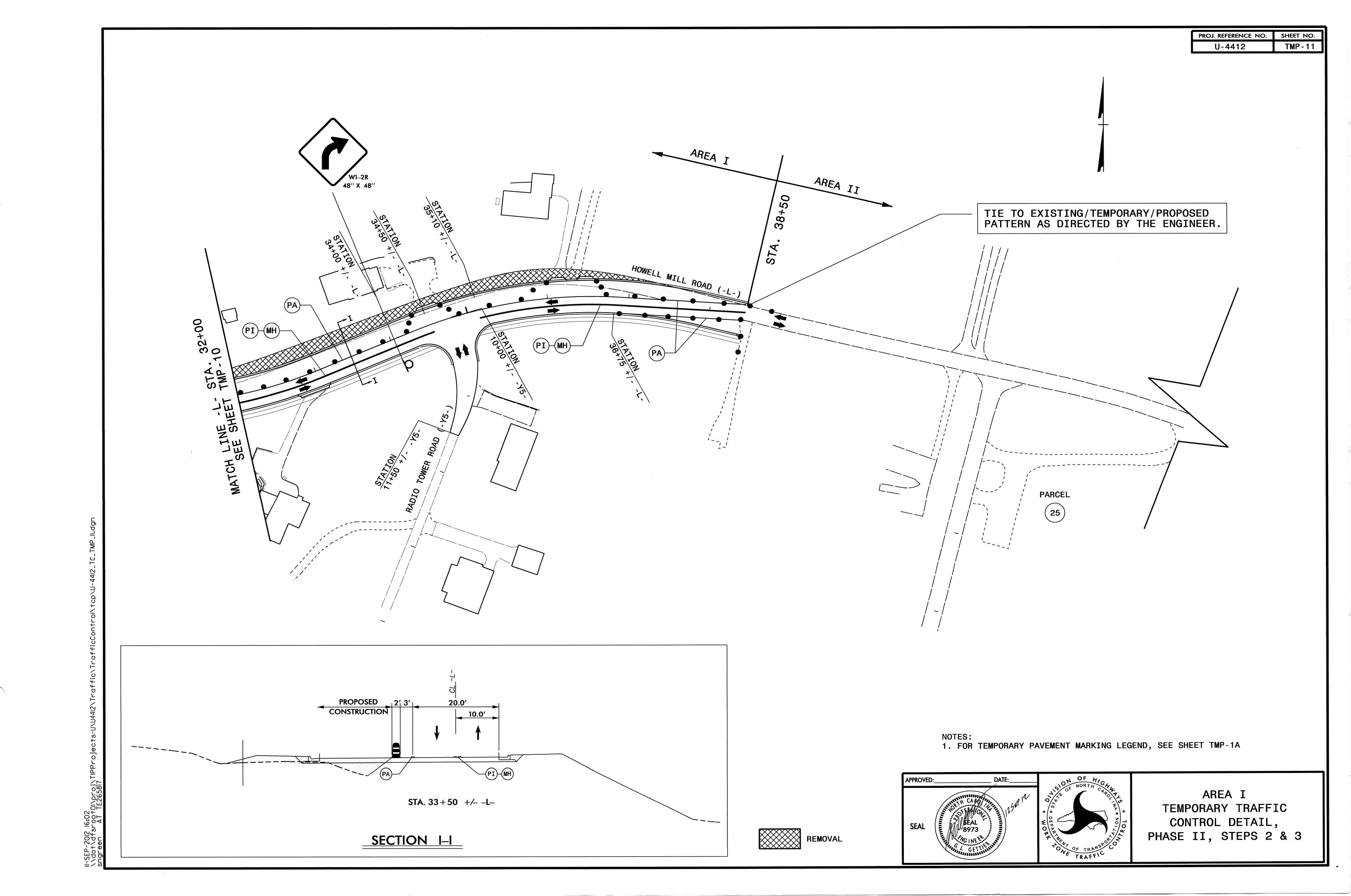
PROJ. REFERENCE NO. SHEET NO. U-4412 TMP-6 32+00 STA. MATCH LINE -L-T TYPE III BARRICADE PROPOSED - SIDEWALK EXISTING 25' (MIN.) TEMP. 2:1-STA. 33+50 +/- -L-AREA I TEMPORARY TRAFFIC \* INSTALL TEMPORARY GUARDRAIL CONTROL DETAIL, AS DIRECTED BY THE ENGINEER FROM STA. 27+00 +/- -L-PHASE I, STEP 1 SECTION E-E TO STA. 38 + 50 +/- -L-.

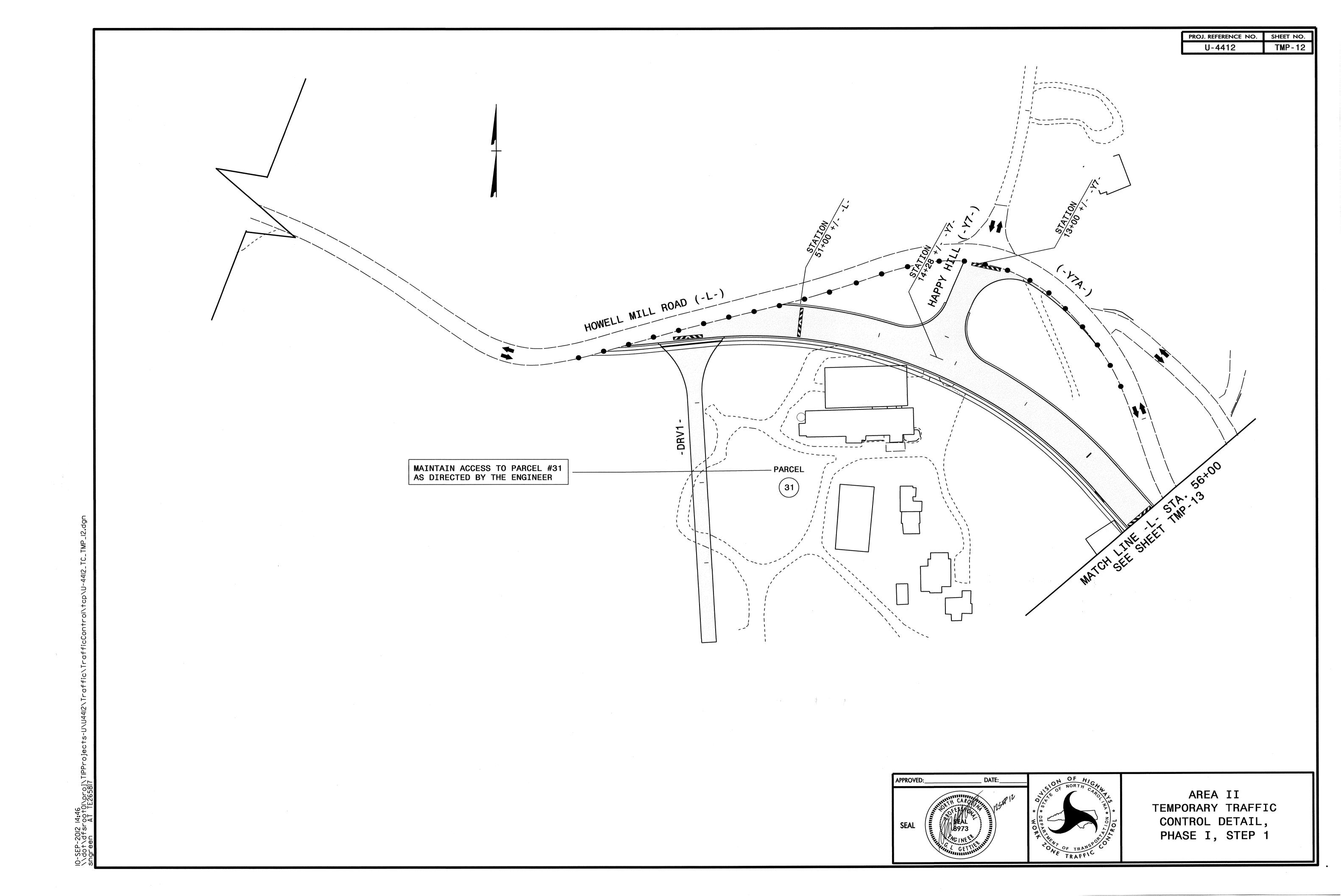


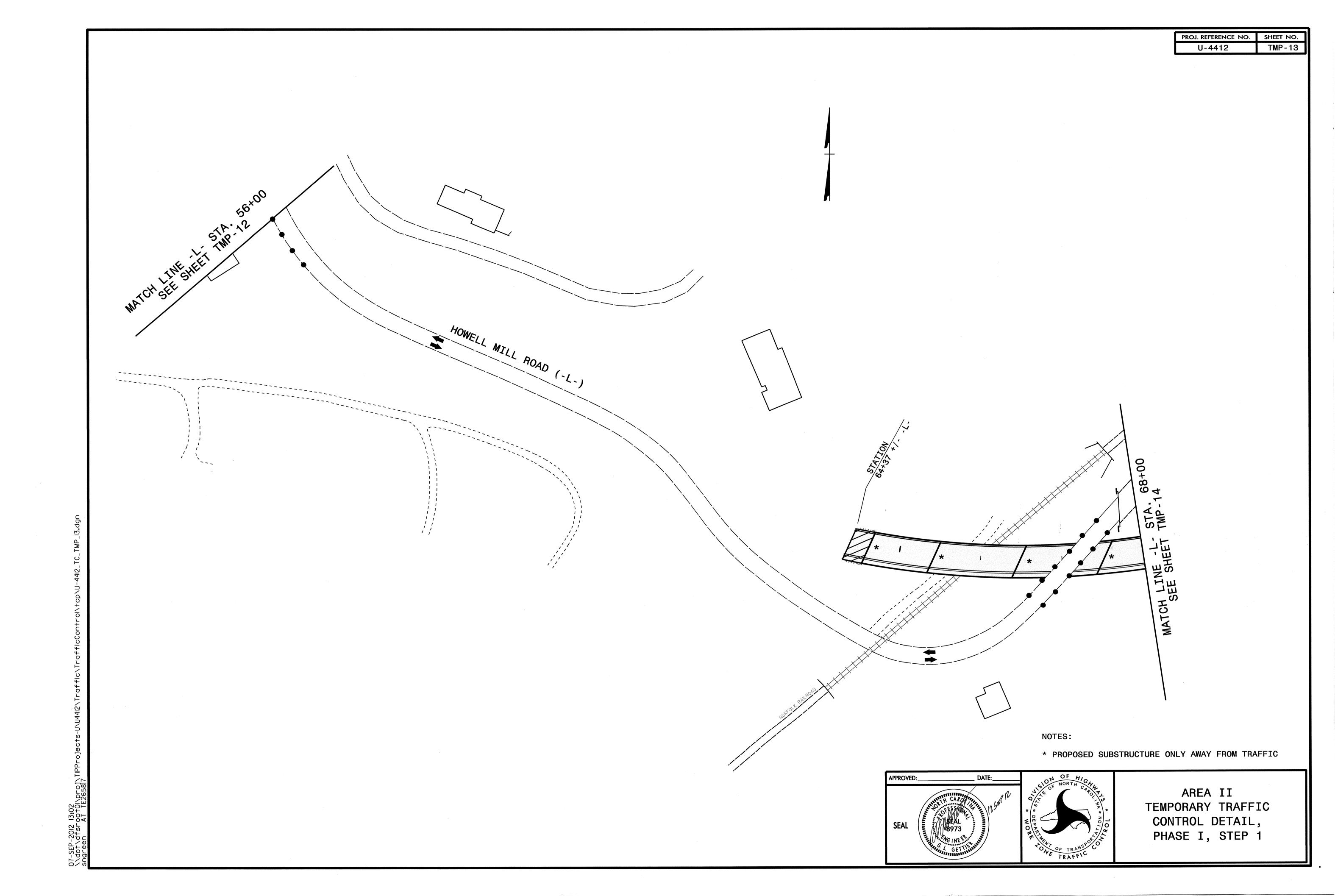




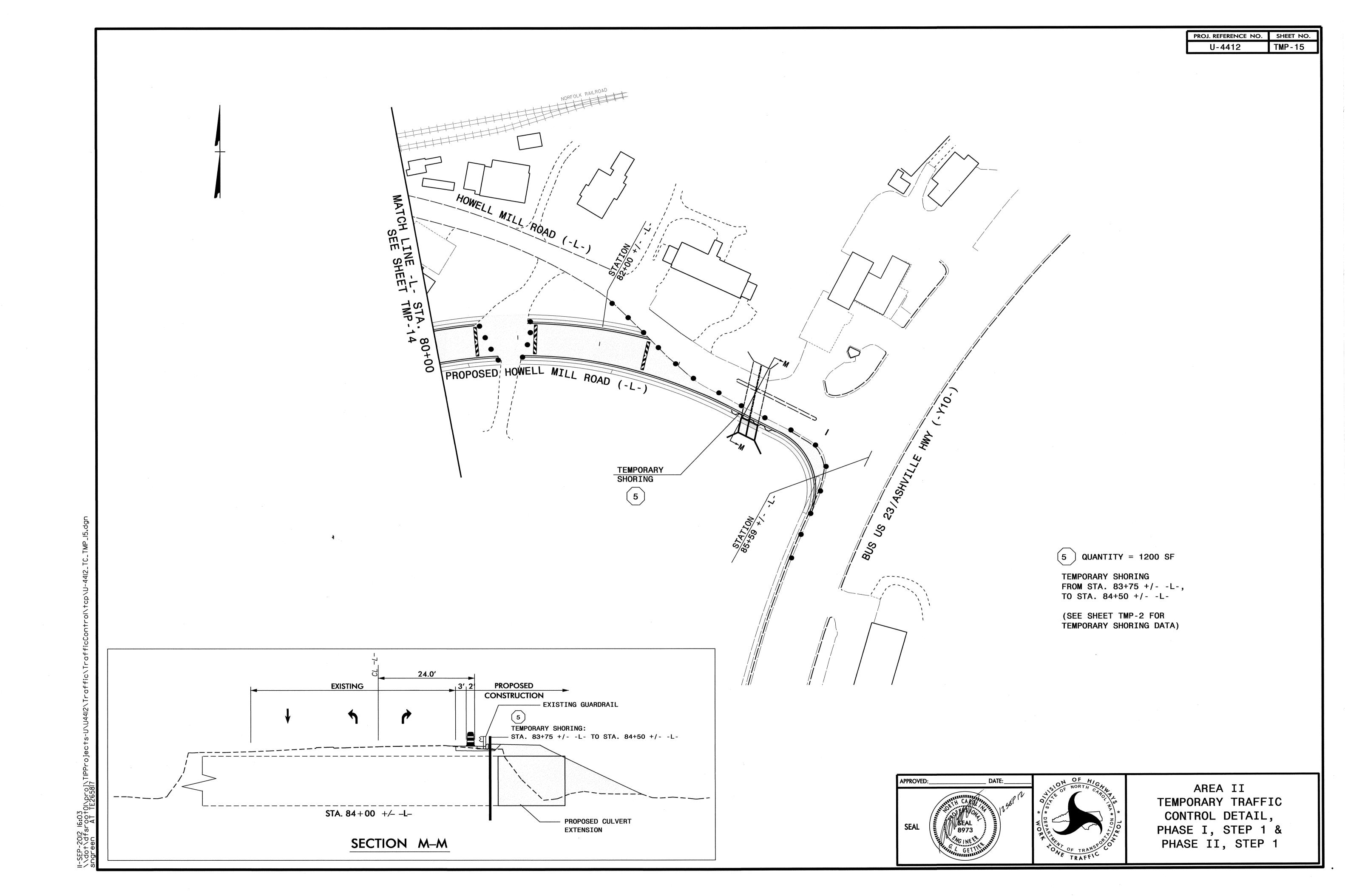




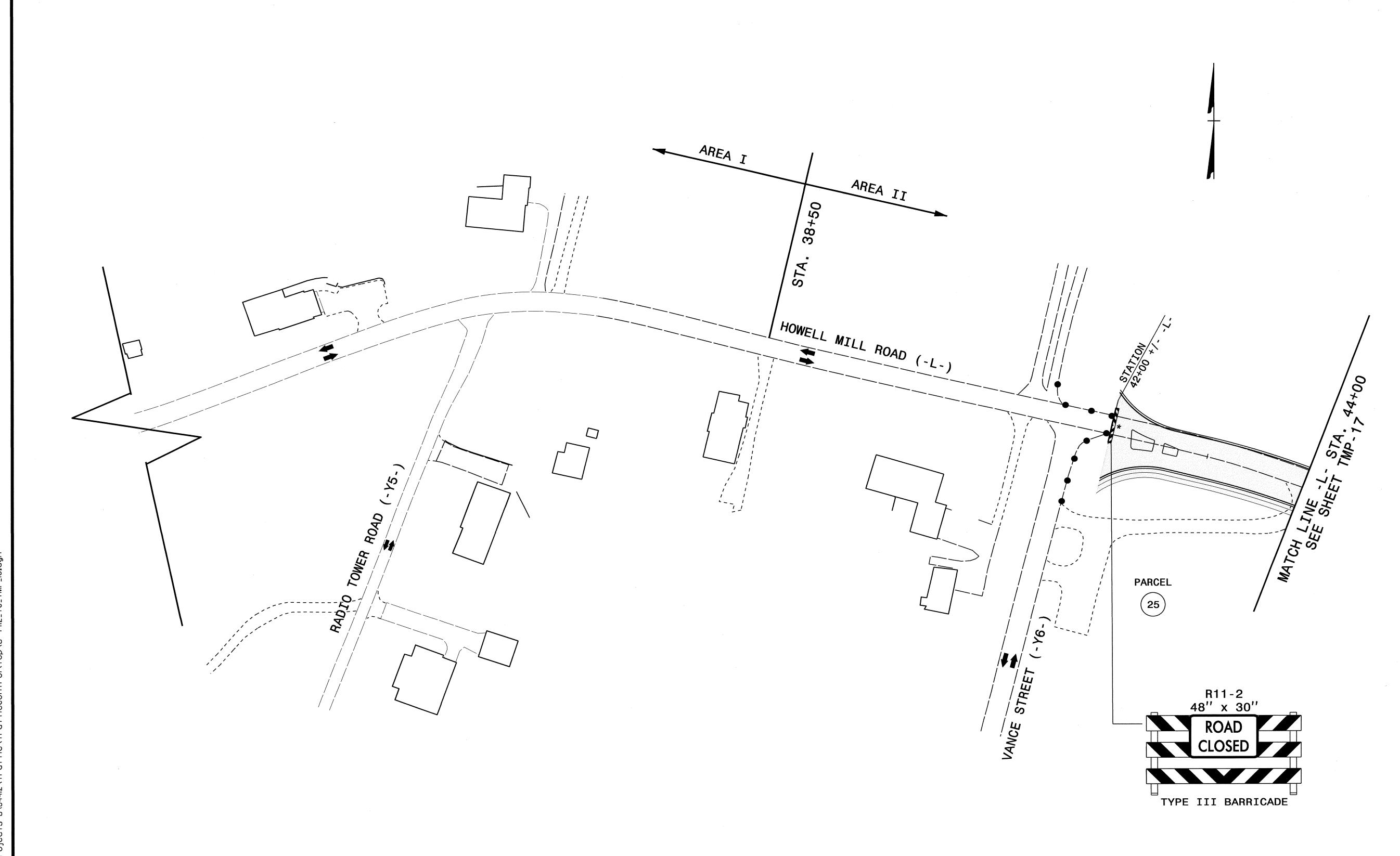




PROJ. REFERENCE NO. U-4412 PROPOSED HOWELL MILL ROAD (-L-) STA. MATCH LINE -L-SEE SHEET 1188) NOTES: \* PROPOSED SUBSTRUCTURE ONLY AWAY FROM TRAFFIC AREA II TEMPORARY TRAFFIC CONTROL DETAIL, PHASE I, STEP 1

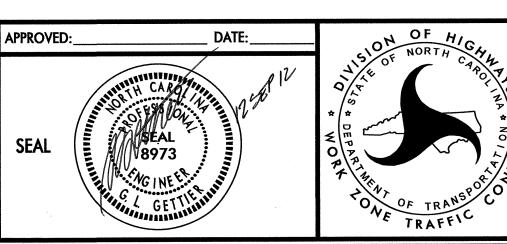


PROJ. REFERENCE NO. SHEET NO. TMP-16

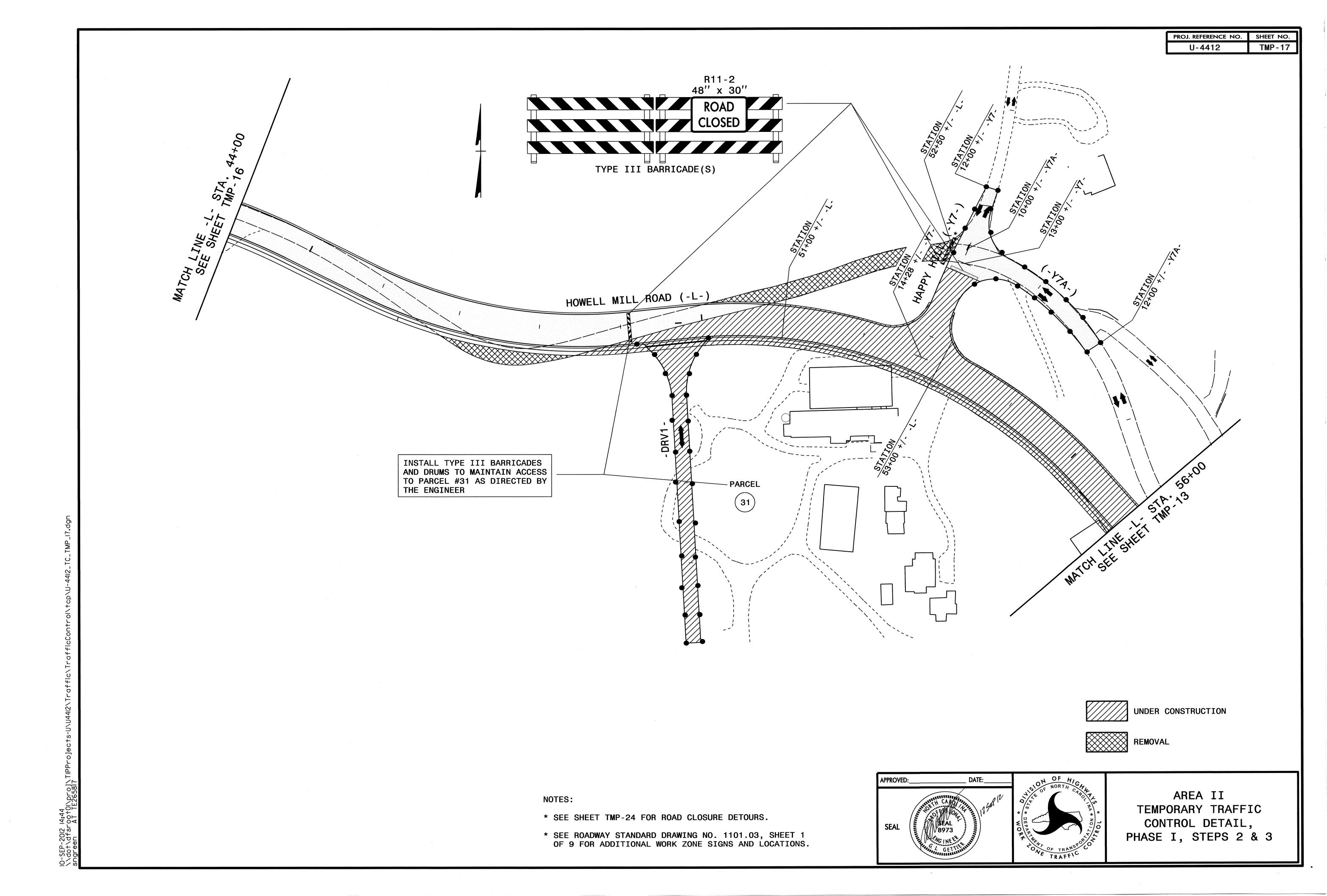


#### NOTES:

- \* SEE ROADWAY STANDARD DRAWING NO. 1101.03, SHEET 1 OF 9 FOR ADDITIONAL WORK ZONE SIGNS AND LOCATIONS.
- \* SEE SHEET TMP-24 FOR ROAD CLOSURE DETOURS.



AREA II
TEMPORARY TRAFFIC
CONTROL DETAIL,
PHASE I, STEPS 2 & 3



PROJ. REFERENCE NO. SHEET NO. TMP-18 U-4412 R11-2 48" x 30" CLOSED TYPE III BARRICADE(S)

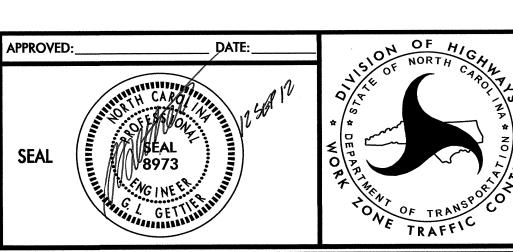
NOTES:

\* SEE SHEET TMP-25 FOR ROAD CLOSURE DETOURS.

MAINTAIN ACCESS TO DRIVEWAYS AS DIRECTED BY THE ENGINEER

TYPE III BARRICADE(S)

\* SEE ROADWAY STANDARD DRAWING NO. 1101.03, SHEET 1 OF 9 FOR ADDITIONAL WORK ZONE SIGNS AND LOCATIONS.

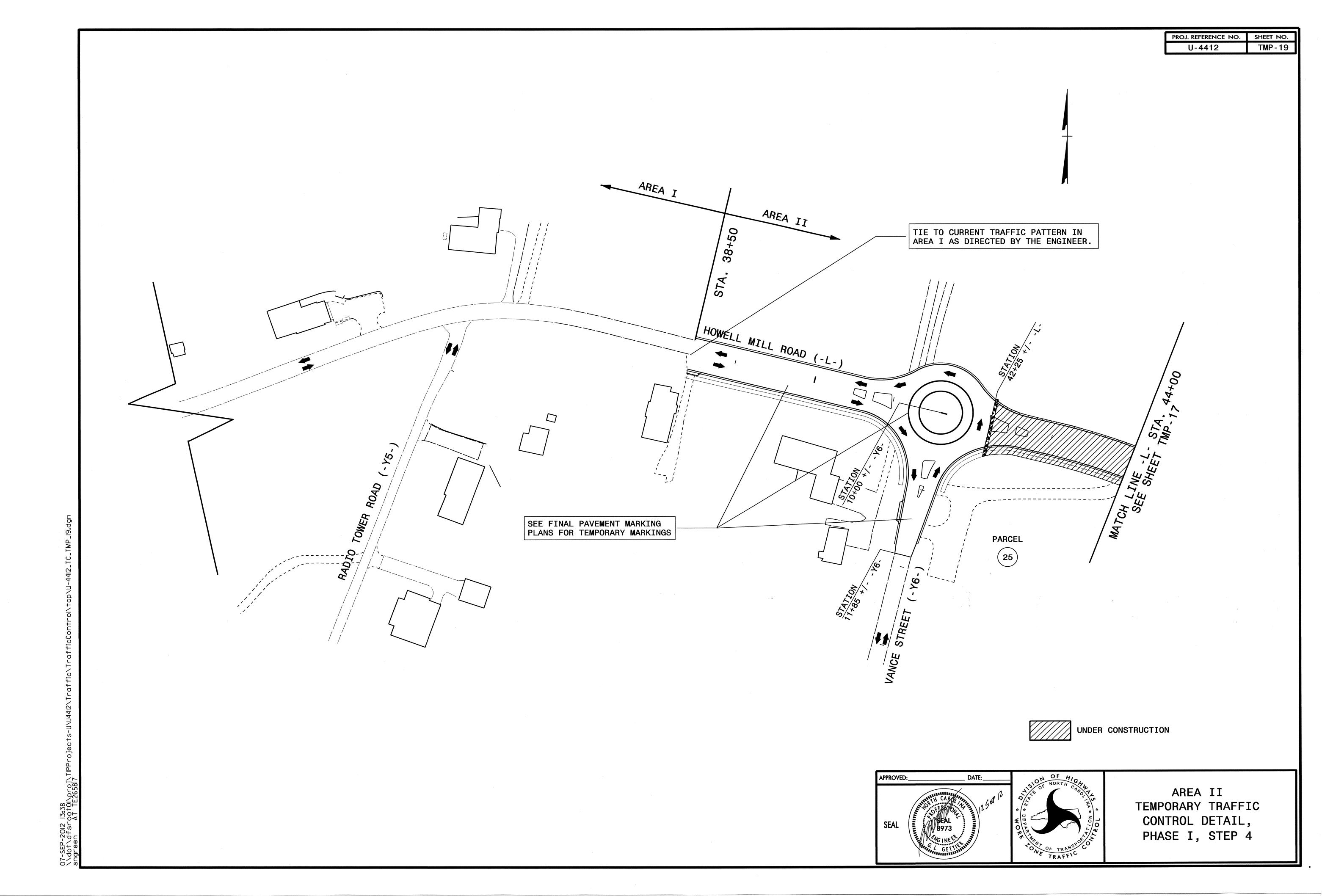


**PARCEL** 

25

AREA II TEMPORARY TRAFFIC CONTROL DETAIL, PHASE I, STEP 4

UNDER CONSTRUCTION



PROJ. REFERENCE NO. SHEET NO. TMP-20 U-4412 HOWELL MILL ROAD (-L-) SEE FINAL PAVEMENT MARKING PLANS FOR TEMPORARY MARKINGS PARCEL 25 AREA II TEMPORARY TRAFFIC CONTROL DETAIL,
PHASE I, STEPS 5 & 6

