

**This electronic collection of documents is provided
for the convenience of the user
and is Not a Certified Document –**

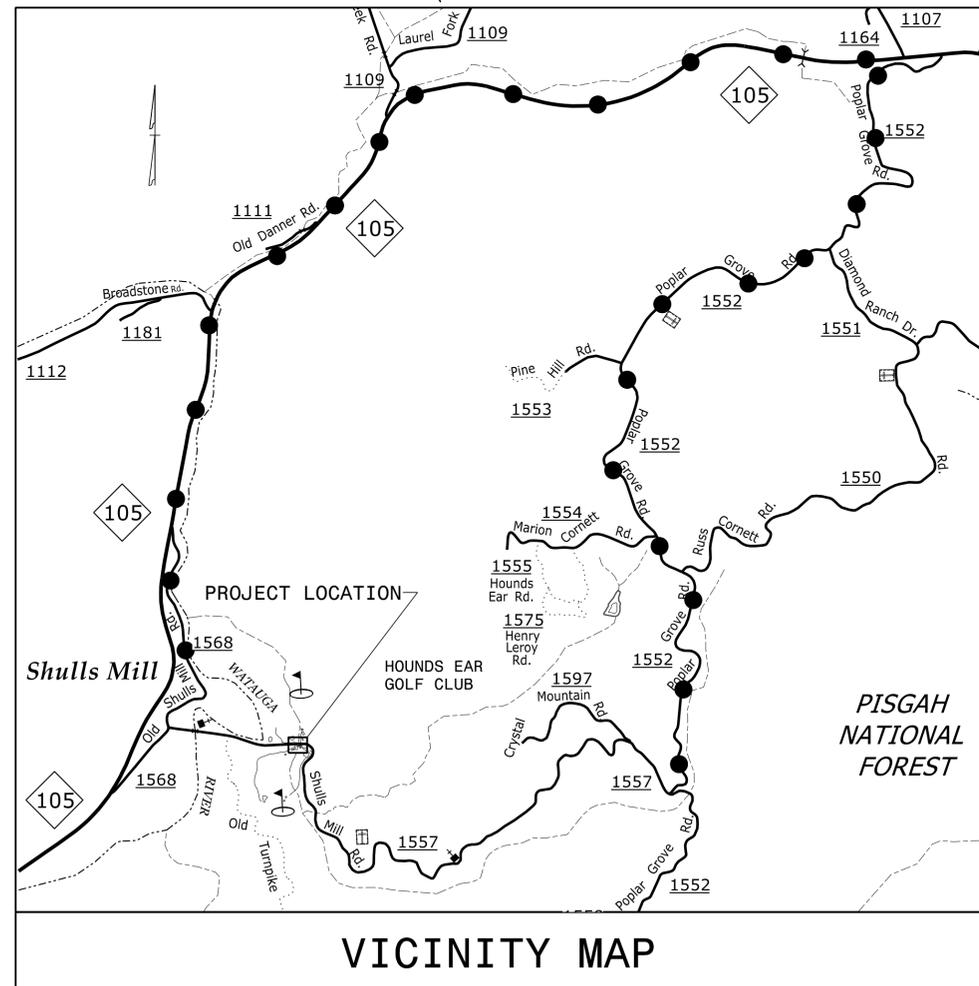
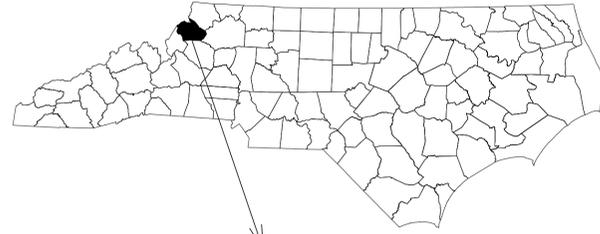
**The documents contained herein were originally issued
and sealed by the individuals whose names and license
numbers appear on each page, on the dates appearing
with their signature on that page.**

**This file or an individual page
shall not be considered a certified document.**

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

TRANSPORTATION MANAGEMENT PLAN

WATAUGA COUNTY



VICINITY MAP

INDEX OF SHEETS	
SHEET NO.	TITLE
TMP-1	TITLE SHEET, VICINITY MAP, AND INDEX OF SHEETS
TMP-1A	LIST OF APPLICABLE ROADWAY STANDARD DRAWINGS, AND LEGEND
TMP-1B	MANAGEMENT STRATEGIES, PHASING & GENERAL NOTES
TMP-2	SPECIAL SIGN DESIGNS
TMP-3	PHASE I DETAILS
TMP-4	PHASE II DETAILS
TMP-5	PHASE III DETAILS
TMP-6	OFF-SITE DETOUR PLAN

SHEET NO.
TMP-1

B - 5118

TIP PROJECT:

2/25/2016
P:\TIP\Projects\B-5118\TrafficControl\TIP\B-5118_TC_TMP_01.dgn
User:KBroadwell



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
J. W. WOOLARD, P.E. — TRAFFIC CONTROL PROJECT ENGINEER
ROGER M. GARRETT — TRAFFIC CONTROL PROJECT DESIGN ENGINEER
KEN BROADWELL — TRAFFIC CONTROL DESIGN ENGINEER



DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

APPROVED: *J. W. Woolard, Jr.*
DATE: 2/25/2016

SEAL



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:

<u>STD. NO.</u>	<u>TITLE</u>
1101.01	WORK ZONE ADVANCE WARNING SIGNS
1101.02	TEMPORARY LANE CLOSURES
1101.03	TEMPORARY ROAD CLOSURES
1101.11	TRAFFIC CONTROL DESIGN TABLES
1110.01	STATIONARY WORK ZONE SIGNS
1110.02	PORTABLE WORK ZONE SIGNS
1130.01	DRUM
1135.01	CONES
1145.01	BARRICADES
1150.01	FLAGGING DEVICES
1180.01	SKINNY-DRUM
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
- EXIST. PVMT.
- NORTH ARROW
- PROPOSED PVMT.

WORK AREA

REMOVAL

TRAFFIC CONTROL DEVICES

- BARRICADE (TYPE III)
- CONE
- DRUM SKINNY DRUM
- FLAGGER

TEMPORARY SIGNING

- PORTABLE SIGN
- STATIONARY SIGN
- STATIONARY OR PORTABLE SIGN

2/25/2016
P:\TIP\Projects-B\B5118\TrafficControl\TCP\B-5118_TC_TMP_01A.dgn
User:Kbrodwell

APPROVED: <small>019C18E8AD84427...</small> DATE: 2/25/2016		
ROADWAY STANDARD DRAWINGS & LEGEND		
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED		

MANAGEMENT STRATEGIES

- A TEMPORARY ON-SITE DETOUR WILL BE CONSTRUCTED FOR EMERGENCY VEHICLES ONLY PRIOR TO CLOSING SR 1557 (SHULLS MILL ROAD).
- CONSTRUCTION OF THE NEW BRIDGE WILL OCCUR DURING THE WINTER MONTHS WHEN THE HOUNDS EAR GOLF COURSE IS CLOSED. TRAFFIC WILL BE DETOURED OFF-SITE.
- AFTER THE NEW BRIDGE IS CONSTRUCTED SR 1557 (SHULLS MILL ROAD) WILL BE RE-OPENED TO TRAFFIC PRIOR TO THE ROADWAY APPROACHES BEING CONSTRUCTED. THE ROADWAY APPROACHES WILL BE CONSTRUCTED WHEN ASPHALT BECOMES AVAILABLE USING FLAGGING OPERATIONS. THE EMERGENCY VEHICLE DETOUR WILL BE REMOVED AFTER SR 1557 (SHULLS MILL ROAD) IS RE-OPENED TO TRAFFIC.

PHASING

NOTE: DURING ALL PHASES AND STEPS A MINIMUM 12' CLEAR PATHWAY IS TO BE MAINTAINED THROUGH THE PROJECT FOR EMERGENCY VEHICLES.

PHASE I

- STEP 1: - PLACE ADVANCE WORK ZONE WARNING SIGNS ALONG SR 1557 (SHULLS MILL ROAD) IN ACCORDANCE WITH ROADWAY STANDARD DRAWING NO. 1101.01 SHEET 3 OF 3.
- STEP 2: - INSTALL DRUMS ALONG THE EXISTING SHOULDERS OF SR 1557 (SHULLS MILL ROAD) AS SHOWN ON SHEET TMP-3.
- STEP 3: - AWAY FROM TRAFFIC AND USING FLAGGING OPERATIONS PER ROADWAY STANDARD DRAWING NO. 1101.02 SHEET 1 OF 15 CONSTRUCT THE EMERGENCY VEHICLE DETOUR AND DETOUR BRIDGE (-DET-). SEE SHEET TMP-3.
- PLACE OFF-SITE DETOUR AND ROAD CLOSURE SIGNS AND COVER UNTIL PHASE II, STEP 1 BELOW.

NOTE: ASSURE THAT THE HOUNDS EAR CLUB GOLF COURSE WILL BE CLOSED PRIOR TO STARTING PHASE II, STEP 1.

NOTE: STATE FORCES IS PLANNING TO PLACE NEW PAVEMENT MARKINGS (PAINT, NO MARKERS) ON THE OFF-SITE DETOUR PRIOR TO PLACING SHULLS MILL ROAD TRAFFIC ONTO IT.

THE CONTRACTOR SHALL COMPLETE THE CONSTRUCTION REQUIRED OF PHASE II BETWEEN THE DATES SHOWN ON THE INTERMEDIATE CONTRACT TIME. SEE INTERMEDIATE CONTRACT TIME AND LIQUIDATED DAMAGES.

PHASE II

- STEP 1: - UNCOVER OFF-SITE DETOUR AND ROAD CLOSURE SIGNS, INSTALL TYPE III BARRICADES AS SHOWN ON SHEETS TMP-4, TMP-5 AND ROADWAY STANDARD DRAWING NUMBER 1101.03 SHEET 1 OF 9 THEN CLOSE SR 1557 (SHULLS MILL ROAD) AND PLACE TRAFFIC ONTO THE OFF-SITE DETOUR (SEE SHEET TMP-6).
- STEP 2: - AWAY FROM TRAFFIC REMOVE EXISTING BRIDGE AND CONSTRUCT NEW BRIDGE AND NEW ROADWAY DRAINAGE. TIE THE NEW BRIDGE INTERMEDIATE RIDING SURFACE (CONCRETE) TO THE EXISTING ROADWAY PAVEMENT AT THE DIRECTION OF THE ENGINEER AND INSTALL "BUMP" SIGNS (W8-1) 200 FEET IN ADVANCE OF THE BUMPS.
- STEP 3: - REMOVE OFF-SITE DETOUR AND ROAD CLOSURE SIGNS AND ASSOCIATED TYPE III BARRICADES AND RE-OPEN SR 1557 (SHULLS MILL ROAD) TO THE FINAL TRAFFIC PATTERN (LEAVE THE ADVANCE WORK ZONE SIGNS IN PLACE).

PHASE III

- STEP 1: - AWAY FROM TRAFFIC AND USING FLAGGING OPERATIONS PER ROADWAY STANDARD DRAWING NO. 1101.02 SHEET 1 OF 15 REMOVE THE EMERGENCY VEHICLE DETOUR (-DET-) AND DETOUR BRIDGE (SEE SHEET TMP-5).
- USING FLAGGING OPERATIONS PER ROADWAY STANDARD DRAWING NO. 1101.02 SHEET 1 OF 9 CONSTRUCT REMAINING -L- ROADWAY ITEMS.
- STEP 2: - REMOVE ANY REMAINING TRAFFIC CONTROL SIGNS AND DEVICES.

PROJ. REFERENCE NO.	SHEET NO.
B-5118	TMP-1B

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.

LANE AND SHOULDER CLOSURE REQUIREMENTS

- A) 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.
- B) 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.
- C) 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.
- D) 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.

PAVEMENT EDGE DROP OFF REQUIREMENTS

- E) 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.

TRAFFIC PATTERN ALTERATIONS

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

SIGNING

- G) 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.
- H) 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.
- I) 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.
- J) ENSURE ALL NECESSARY SIGNING IS IN PLACE PRIOR TO ALTERING ANY TRAFFIC PATTERN.

TRAFFIC CONTROL DEVICES

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

PAVEMENT MARKINGS AND MARKERS

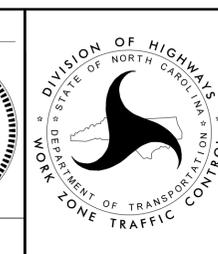
- M) THE CONTRACTOR WILL INSTALL PAVEMENT MARKINGS AND PAVEMENT MARKERS ON THE FINAL SURFACE COURSE AT THE DIRECTION OF THE ENGINEER.

APPROVED: J. W. Woolard, Jr.
079C18E6AD8427

DATE: 2/25/2016



**DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED**



**MANAGEMENT STRATEGIES,
PHASING & GENERAL NOTES**

2/25/2016 P:\p\projects-B\B5118\TrafficControl\TCP\B-5118_TC_TMP_01B.dgn User:Kbrodwell

SIGN NUMBER: SP16062 BACKG COLOR: Fluorescent Orange
 TYPE: STATIONARY COPY COLOR: Black
 QUANTITY: SEE PLANS

SYMBOL	X	Y	WID	HT

SIGN WIDTH: 3'-6"
 HEIGHT: 3'-0"
 TOTAL AREA: 10.5 Sq.Ft.

BORDER TYPE: INSET
 RECESS: 0.38"
 WIDTH: 0.63"
 RADII: 1.5"

NO. Z BARS:
 LENGTH:

MAT'L: 0.080" (2.0 mm) ALUMINUM

DESIGN BY: J.NAVARRETE CHECKED BY:
 PROJECT ID: B-5118 DIV: 11 Feb 18, 2016

BORDER
 R=1.5"
 TH=0.63"
 IN=0.38"

USE NOTES: 1,2

- Legend and border shall be direct applied black non-reflective sheeting.
- Background shall be NC GRADE B fluorescent orange retroreflective sheeting.

Spacing Factor is 1 unless specified otherwise

LETTER POSITIONS

Letter spacings are to start of next letter

	E	M	E	R	G	E	N	C	Y		Series/Size Text Length	
	4.8	3.4	4.4	3.4	3.6	3.8	3.4	3.8	3.4	3.2	4.8	C 2000 32.4
	8.1	3.8	3.4	3.9	1.7	3.8	3.3	3.1	2.8	8.1		C 2000 25.8
	14.1	4	3.9	2.9	3.2	14						C 2000 13.9

FILENAME: Special Signs4 NORTH CAROLINA D.O.T. SIGN DETAIL

SIGN NUMBER: SP16064 BACKG COLOR: Fluorescent Orange
 TYPE: STATIONARY COPY COLOR: Black
 QUANTITY: SEE PLANS

SYMBOL	X	Y	WID	HT

SIGN WIDTH: 4'-0"
 HEIGHT: 1'-0"
 TOTAL AREA: 4.0 Sq.Ft.

BORDER TYPE: INSET
 RECESS: 0.38"
 WIDTH: 0.63"
 RADII: 1.5"

NO. Z BARS:
 LENGTH:

MAT'L: 0.080" (2.0 mm) ALUMINUM

DESIGN BY: J.NAVARRETE CHECKED BY:
 PROJECT ID: B-5118 DIV: 11 Feb 18, 2016

BORDER
 R=1.5"
 TH=0.63"
 IN=0.38"

USE NOTES: 1,2

- Legend and border shall be direct applied black non-reflective sheeting.
- Background shall be NC GRADE B fluorescent orange retroreflective sheeting.

Spacing Factor is 1 unless specified otherwise

LETTER POSITIONS

Letter spacings are to start of next letter

	S	H	U	L	L	S	M	I	L	L	R	D		Series/Size Text Length			
	4.4	2.9	3.1	3.1	2.6	2.4	2.2	4	3.5	1.4	2.6	2	4	2.9	2.2	4.4	C 2000 39.2

FILENAME: Special Signs4 NORTH CAROLINA D.O.T. SIGN DETAIL

SIGN NUMBER: SP16063 BACKG COLOR: Fluorescent Orange
 TYPE: STATIONARY COPY COLOR: Black
 QUANTITY: SEE PLANS

SYMBOL	X	Y	WID	HT

SIGN WIDTH: 3'-6"
 HEIGHT: 2'-0"
 TOTAL AREA: 7.0 Sq.Ft.

BORDER TYPE: INSET
 RECESS: 0.38"
 WIDTH: 0.63"
 RADII: 1.5"

NO. Z BARS:
 LENGTH:

MAT'L: 0.080" (2.0 mm) ALUMINUM

DESIGN BY: J.NAVARRETE CHECKED BY:
 PROJECT ID: B-5118 DIV: 11 Feb 18, 2016

BORDER
 R=1.5"
 TH=0.63"
 IN=0.38"

USE NOTES: 1,2

- Legend and border shall be direct applied black non-reflective sheeting.
- Background shall be NC GRADE B fluorescent orange retroreflective sheeting.

Spacing Factor is 1 unless specified otherwise

LETTER POSITIONS

Letter spacings are to start of next letter

	N	O	P	U	B	L	I	C		Series/Size Text Length		
	5.6	3.8	3	5	3.8	3.9	3.7	3.3	1.7	2.8	5.6	C 2000 30.9
	10.7	3.8	3.7	3.8	3.2	3.4	2.8	10.7				C 2000 20.7

FILENAME: Special Signs4 NORTH CAROLINA D.O.T. SIGN DETAIL

APPROVED: *Ronald W. King*
 DATE: 3/4/2016

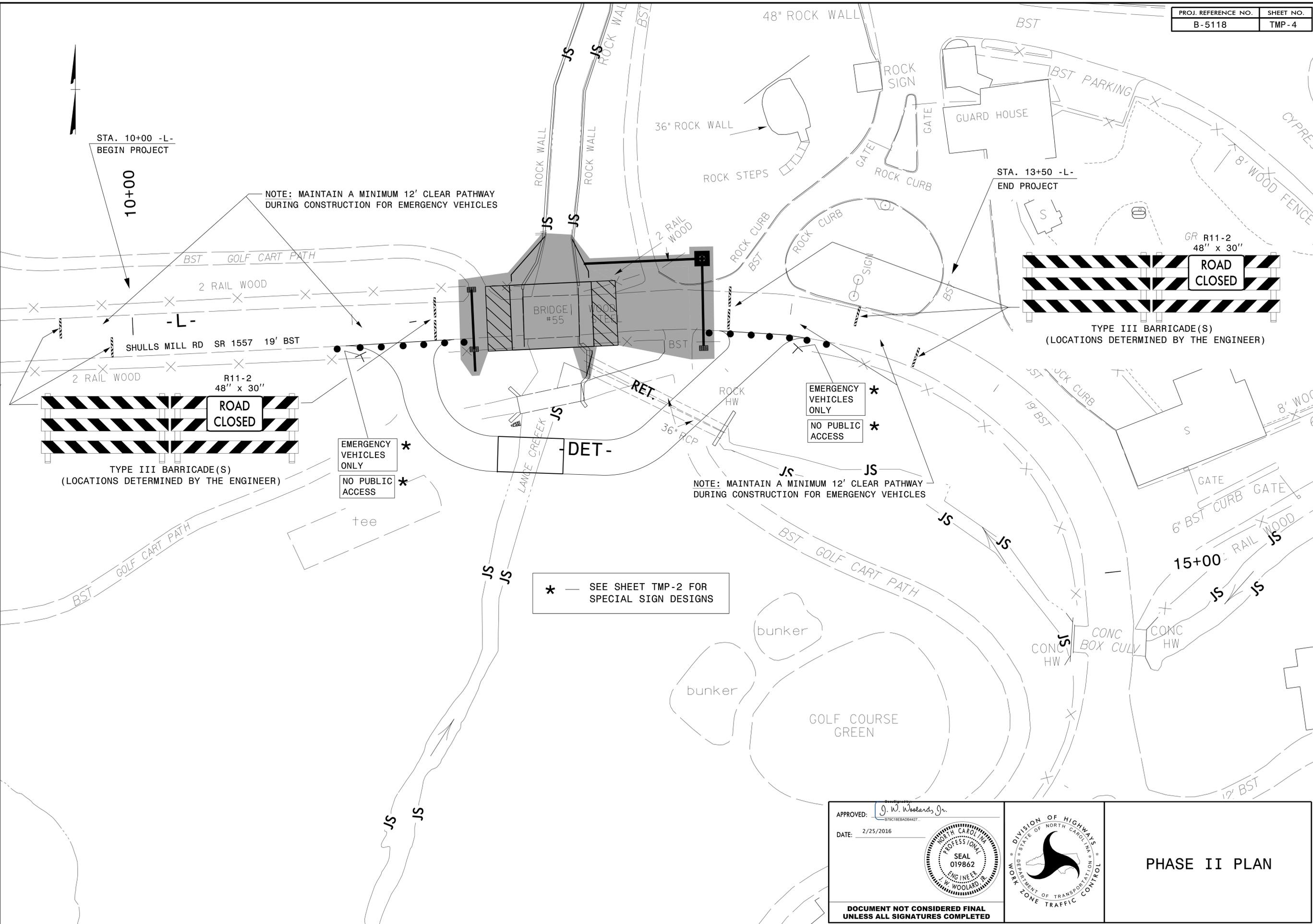
SEAL 022959
 ENGINEER
 RONALD W. KING

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

SPECIAL SIGN DESIGNS

DOCUMENT NOT CONSIDERED FINAL
 UNLESS ALL SIGNATURES COMPLETED

2/25/2016
 P:\projects\B5118\TrafficControl\CP\B-5118_TC_TMP_02.dgn
 User:kbroadwell



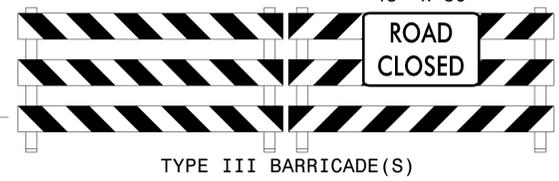
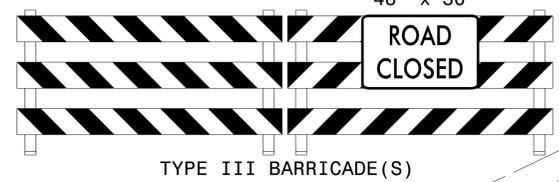
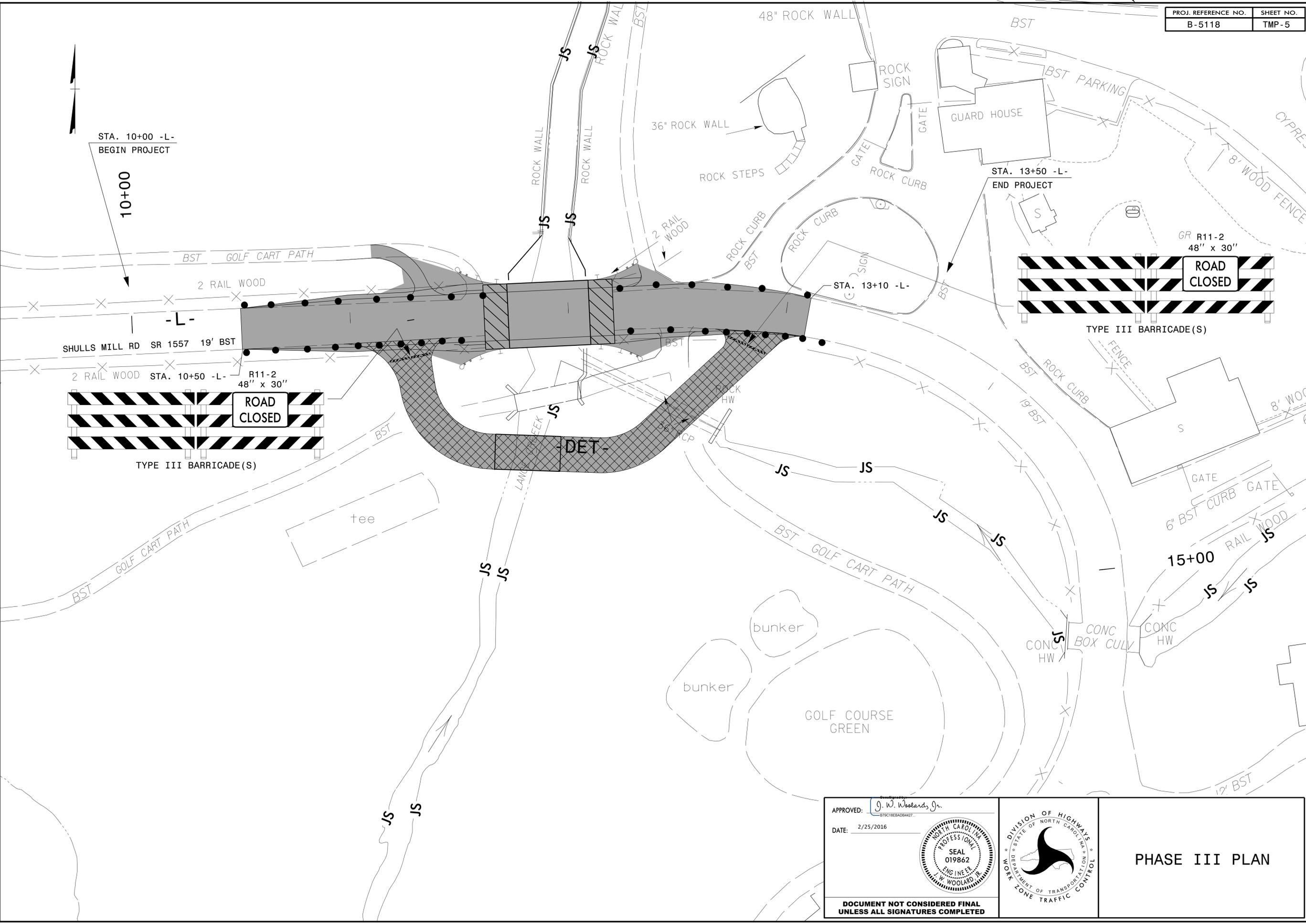
2/25/2016
 P:\TIP\Projects-B\B5118\TrafficControl\TCP\B5118.TC_TMP_04.dgn
 User:kbroadwell



STA. 10+00 -L-
BEGIN PROJECT

10+00

STA. 13+50 -L-
END PROJECT



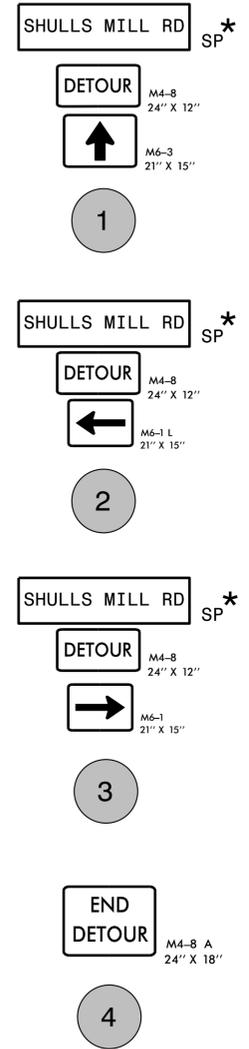
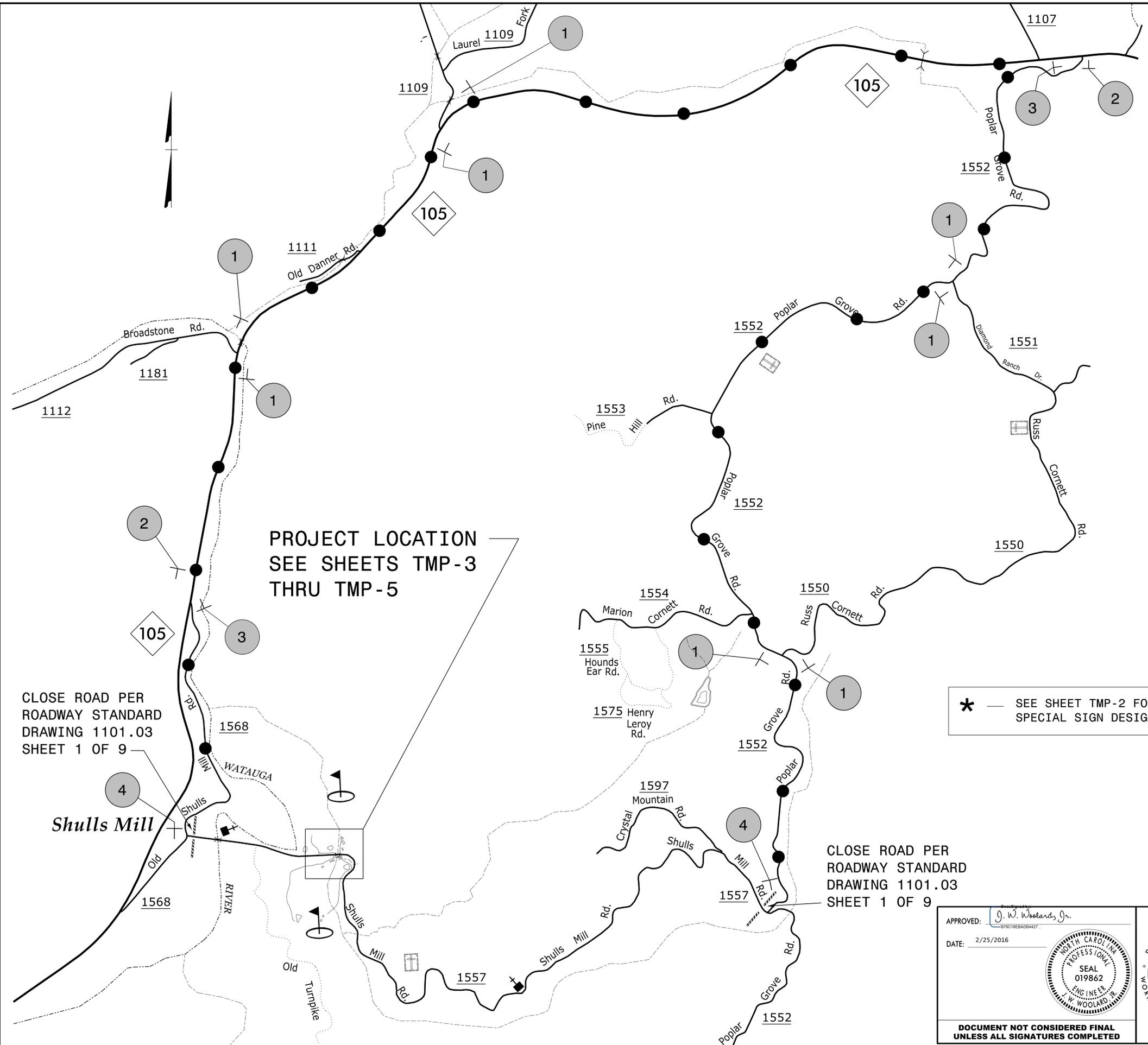
APPROVED: *J. W. Woolard, Jr.*
DATE: 2/25/2016

**DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED**



PHASE III PLAN

2/25/2016
 P:\TIP\Projects-B\B5118\TrafficControl\TCP\B5118.TC_TMP_05.dgn
 User:kbroadwell



* — SEE SHEET TMP-2 FOR SPECIAL SIGN DESIGNS

CLOSE ROAD PER ROADWAY STANDARD DRAWING 1101.03 SHEET 1 OF 9

CLOSE ROAD PER ROADWAY STANDARD DRAWING 1101.03 SHEET 1 OF 9

2/25/2016 P:\TIP\Projects-B\B5118\TrafficControl\TCP\B-5118_TC_TMP_06.dgn User:Kbrodwell

APPROVED: *J. W. Woolard, Jr.*
079C18E6AD8427

DATE: 2/25/2016

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



OFF-SITE DETOUR PLAN