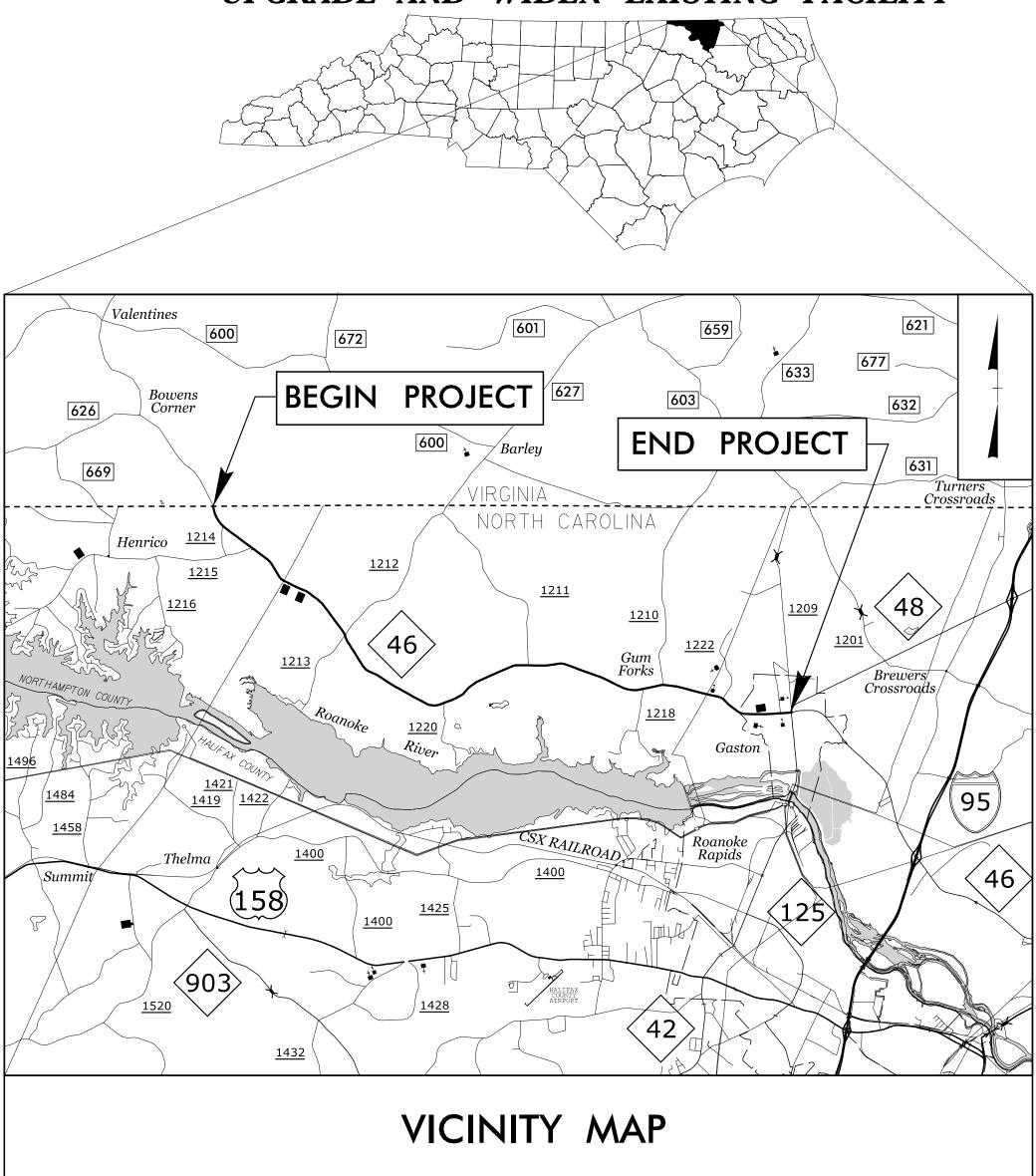
TRANSPORTATION MANAGEMENT PLAN

NORTHAMPTON COUNTY

LOCATION: NC 46 FROM THE VIRGINIA STATE LINE TO NC 48 IN GASTON UPGRADE AND WIDEN EXISTING FACILITY



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

PLANS PREPARED BY:

DON A. PARKER, P.E.

PROJECT ENGINEER

CODA BRANNAN, E.I.

PROJECT DESIGN ENGINEER

NCDOT CONTACT:

ROGER D. BULLOCK

DIVISION PROJECT

ENGINEER



INDEX OF SHEETS

SHEET NO.

TMP-1

PRO/IE

SHEET NO. TITLE

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

TMP-1A LIST OF APPLICABLE ROADWAY STANDARD DRAWINGS, LEGEND, AND TEMPORARY PAVEMENT MARKING SCHEDULE

TMP-1B THRU TRANSPORTATION OPERATIONS PLAN: (GENERAL NOTES)

TMP-1D AREA OVERVIEW

TMP-1C

TMP-2 PCB AT SHORING LOCATIONS

TMP-2 THRU SHORING NOTES TMP-2B

TMP-2C ADVANCE WARNING SIGNING

TMP-2D REVISED ROADWAY STANDARD DRAWING (1250D01)

TMP-3 THRU PHASING TMP-3B

TMP-4 THRU AREA 2 TMP-7

TMP-8 THRU AREA 3

TMP-14 THRU AREA 4

TMP-16 THRU AREA 5

TMP-20 THRU AREA 6

TMP-22 THRU AREA 7

TMP-27 THRU AREA 8

TMP-29 THRU AREA 9 TMP-30

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

APPROVED:______D

DATE:_



PROJ. REFERENCE NO. R-5739 TMP-1A

ROADWAY STANDARD DRAWINGS

THE FOLLOWING ROADWAY STANDARDS AS SHOWN IN "ROADWAY STANDARD DRAWINGS" -N.C. DEPARTMENT OF TRANSPORTATION - RALEIGH, N.C., DATED JANUARY 2024 ARE APPLICABLE TO THIS PROJECT AND BY REFERENCE HEREBY ARE CONSIDERED A PART OF THESE PLANS:

STD. NO.

TITLE

1101.01	WORK ZONE WARNING SIGNS
1101.02	TEMPORARY LANE CLOSURES
1101.04	TEMPORARY SHOULDER CLOSURES
1101.11	TRAFFIC CONTROL DESIGN TABLES
1110.01	STATIONARY WORK ZONE SIGNS
1110.02	PORTABLE WORK ZONE SIGNS
1130.01	DRUMS
1135.01	CONES
1145.01	BARRICADES
1150.01	FLAGGING DEVICES
1160.01	TEMPORARY CRASH CUSHION
1170.01	PORTABLE CONCRETE BARRIER
	PAVEMENT MARKINGS - LINE TYPES AND OFFSETS
1205.02	PAVEMENT MARKINGS - TWO LANE AND MULTILANE ROADWAYS
	PAVEMENT MARKINGS - INTERSECTIONS
1205.05	PAVEMENT MARKINGS - TURN LANES
	PAVEMENT MARKINGS - PEDESTRIAN CROSSWALKS
1205.08	PAVEMENT MARKINGS - SYMBOLS AND WORD MESSAGES
	PAVEMENT MARKINGS - PAINTED ISLANDS
1205.10	PAVEMENT MARKINGS - SCHOOL AREAS
1250.01	RAISED PAVEMENT MARKERS - INSTALLATION SPACING
1251.01	,
1261.01	
1261.02	
1262.01	GUARDRAIL END DELINEATION

LEGEND

GENERAL

DIRECTION OF TRAFFIC FLOW

DIRECTION OF PEDESTRIAN TRAFFIC FLOW

---- EXIST. PVMT.

───── NORTH ARROW

—— PROPOSED PVMT.

TEMP. SHORING (LOCATION PURPOSES ONLY)

WORK AREA

REMOVAL

PAVEMENT MARKINGS

----EXISTING LINES ----TEMPORARY LINES

TRAFFIC CONTROL DEVICES

BARRICADE (TYPE III)

DRUM SKINNY DRUM O TUBULAR MARKER

TEMPORARY PCB/WATER FILLED BARRIER

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

PAVEMENT MARKING SYMBOLS

PAVEMENT MARKING SYMBOLS

TEMPORARY PAVEMENT MARKING SCHEDULE

PAINT PAVEMENT MARKINGS

WHITE EDGE LINE (4'')

3 FT./9 FT. WHITE MINISKIP (4") DOUBLE YELLOW CENTER (4") P13

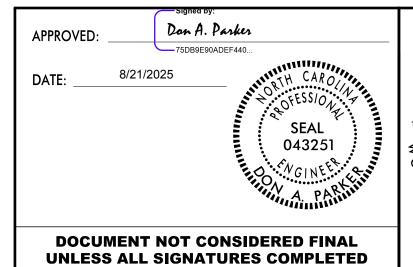
WHITE STOPBAR (24") ALPHANUMERIC CHARACTER P100

COLD APPLIED PLASTIC PAVEMENT MARKINGS

WHITE EDGE LINE (4") TYPE 4 C13 DOUBLE YELLOW CENTER (4") TYPE 4 WHITE STOPBAR (24") TYPE 4

TEMPORARY PAVEMENT MARKERS

YELLOW/YELLOW TEMP. RAISED MARKER





ROADWAY STANDARD DRAWINGS & LEGEND

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:

ROAD NAME

DATE AND TIME

NC 46 (-L-) EAST OF GUS SMITH RD. (-Y5-)
NC 48

MONDAY THRU FRIDAY 6:00AM TO 8:00AM AND 4:00PM TO 6:00PM

NOTE: NO RESTRICTIONS ON NC 46 (-L-) WEST OF GUS SMITH RD. (-Y5-)

LANE AND SHOULDER CLOSURE REQUIREMENTS

- B) 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. (THIS NOTE DOES NOT APPLY TO A SEGMENT OF ROADWAY CONTROLLED BY A TEMPORARY SIGNAL FOR 1 LANE 2 WAY TRAFFIC.)
- C) 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.
- D) 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.

- E) 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.
- F) 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.
- 3) DO NOT INSTALL MORE THAN 1 MILE OF LANE CLOSURE ON NC 46 (-L-) MEASURED FROM THE BEGINNING OF THE MERGE TAPER TO THE END OF THE LANE CLOSURE.
- H) THE MINIMUM DISTANCE BETWEEN LANE CLOSURES, INCLUDING LANE CLOSURES OCCURING IN ADJACENT AREAS AND THOSE CONTROLLED BY A TEMPORARY SIGNAL IS 2 MILES UNLESS PERMITTED OTHERWISE BY THE ENGINEER.

MILLING AND PAVING OPERATIONS

- I) THE FOLLOWING OPTIONS ARE AVAILABLE DURING RESURFACING AND MILLING OPERATIONS ON TWO-WAY, TWO-LANE FACILITIES WHEN THE ENTIRE ROADWAY OR ENTIRE LANE IS TO BE MILLED:
 - 1. MILL A SINGLE LANE AND PAVE BACK BY THE END OF EACH WORK DAY.
 - 2. MILL THE ENTIRE WIDTH OF ROADWAY AND PAVE BACK WITHIN 72 HOURS.

SLOPE THE PAVEMENT AT THE BEGINNING AND END OF THE DAILY MILLING OPERATION AS DIRECTED BY THE ENGINEER. SWEEP AND REMOVE ALL MILLED MATERIAL FROM THE ROADWAY AS SOON AS THE DAILY MILLING OPERATION IS COMPLETE.

- J) FOR PAVING LIFTS OF 2 INCHES OR LESS, BRING ALL NEWLY RESURFACED LANES TO THE SAME STATION AND ELEVATION WITHIN 72 HOURS. IF NOT BROUGHT UP TO THE SAME ELEVATION WITHIN 72 HOURS, PLACE PORTABLE UNEVEN PAVEMENT SIGNS IN ADVANCE OF THE UNEVEN PAVEMENT AND SPACED EVERY 1/2 MILE ALONG THE SECTION OF UNEVEN PAVEMENT. ONCE MITIGATED, ALL PORTABLE UNEVEN PAVEMENT SIGNS SHALL BE REMOVED.
- K) FOR PAVING LIFTS GREATER THAN 2 INCHES, BRING ALL NEWLY RESURFACED LANES TO THE SAME STATION AND ELEVATION BY THE END OF EACH WORKDAY UNLESS THE CONTRACTOR UTILIZES THE NOTCHED WEDGE PAVING METHODS AS DESCRIBED BELOW:

DURING PAVING OPERATIONS, ANY PAVING LIFT GREATER THAN 2 INCHES FOR ASPHALT SURFACE COURSE MIXES SHALL BE MITIGATED BY HAVING AN APPROVED WEDGE APPARATUS ON THE PAVER THAT SHAPES THE EDGE 1 INCH VERTICALLY AND THE REMAINING AT A MAXIMUM SLOPE STEEPNESS OF 2:1. FOR INTERMEDIATE AND BASE COURSE MIXES, USE AN APPROVED WEDGE DEVICE THAT SHAPES THE EDGE WITH A MAXIMUM SLOPE STEEPNESS OF 2:1. THE MAXIMUM PAVING LIFT ALLOWED TO USE THIS METHOD IS 3 INCHES.

AT THE END OF THE WORKDAY, PLACE PORTABLE UNEVEN PAVEMENT SIGNS IN ADVANCE OF THE UNEVEN PAVEMENT AND SPACED EVERY 1/2 MILE ALONG THE SECTION OF UNEVEN PAVEMENT. ONCE MITIGATED, REMOVE THE PORTABLE UNEVEN PAVEMENT SIGNS.

IN THE NEXT DAYS PAVING OPERATION AND NOT TO EXCEED 72 HOURS, BRING THE ADJACENT LANE TO THE SAME STATION AND ELEVATION.

PAVEMENT EDGE DROP OFF REQUIREMENTS

L) 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

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

SIGNING

- N) 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.
- O) ENSURE ALL NECESSARY SIGNING IS IN PLACE PRIOR TO ALTERING ANY TRAFFIC PATTERN.
- P) INSTALL BLACK ON ORANGE "DIP" SIGNS (W8-2) AND/OR "BUMP" SIGNS (W8-1) 500 FT IN ADVANCE OF THE UNEVEN AREA, OR AS DIRECTED BY THE ENGINEER.

R-5739 TMP-1B

SHEET NO.

PROJ. REFERENCE NO.

TRAFFIC BARRIER

Q) INSTALL TEMPORARY BARRIER ACCORDING TO THE TRANSPORTATION MANAGEMENT PLANS A MAXIMUM OF TWO (2) WEEKS PRIOR TO BEGINNING WORK IN ANY LOCATION. ONCE TEMPORARY BARRIER IS INSTALLED AT ANY LOCATION PROCEED IN A CONTINUOUS MANNER TO COMPLETE THE PROPOSED WORK IN THAT LOCATION UNLESS OTHERWISE STATED IN THE TRANSPORTATION MANAGEMENT PLANS OR AS DIRECTED BY THE ENGINEER.

DO NOT PLACE BARRIER DIRECTLY ON ANY SURFACE OTHER THAN ASPHALT OR CONCRETE.

ONCE TEMPORARY BARRIER IS INSTALLED AT ANY LOCATION AND NO WORK IS PERFORMED BEHIND THE TEMPORARY BARRIER FOR A PERIOD LONGER THAN TWO (2) MONTHS, REMOVE / RESET TEMPORARY BARRIER AT NO COST TO THE DEPARTMENT UNLESS OTHERWISE STATED IN THE TRANSPORTATION MANAGEMENT PLANS, TEMPORARY BARRIER IS PROTECTING A HAZARD, OR AS DIRECTED BY THE ENGINEER.

INSTALL TEMPORARY BARRIER WITH THE TRAFFIC FLOW BEGINNING WITH THE UPSTREAM SIDE OF TRAFFIC. REMOVE TEMPORARY BARRIER AGAINST THE TRAFFIC FLOW BEGINNING WITH THE DOWNSTREAM SIDE OF TRAFFIC.

INSTALL AND SPACE DRUMS NO GREATER THAN TWICE THE POSTED SPEED LIMIT (MPH) TO CLOSE OR KEEP THE SECTION OF THE ROADWAY CLOSED UNTIL THE TEMPORARY BARRIER CAN BE PLACED OR AFTER THE TEMPORARY BARRIER IS REMOVED.

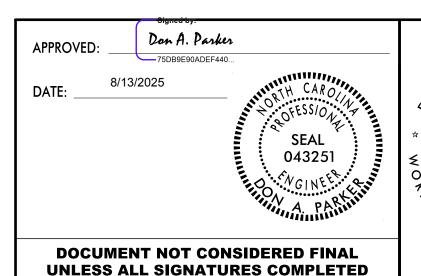
R) PROTECT THE APPROACH END OF MOVABLE/PORTABLE CONCRETE BARRIER AT ALL TIMES DURING THE INSTALLATION AND REMOVAL OF THE BARRIER BY EITHER A TRUCK MOUNTED ATTENUATOR (MAXIMUM 72 HOURS) OR A TEMPORARY CRASH CUSHION.

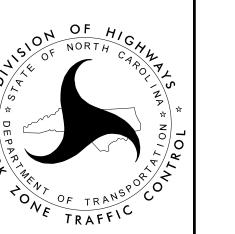
PROTECT THE APPROACH END OF MOVABLE/PORTABLE CONCRETE BARRIER FROM ONCOMING TRAFFIC AT ALL TIMES BY A TEMPORARY CRASH CUSHION UNLESS THE APPROACH END OF MOVABLE/PORTABLE CONCRETE BARRIER IS OFFSET FROM ONCOMING TRAFFIC AS FOLLOWS OR AS SHOWN IN THE PLANS: (SEE ALSO 1101.05)

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

TRAFFIC CONTROL DEVICES

- S) WHEN LANE CLOSURES ARE NOT IN EFFECT SPACE CHANNELIZING DEVICES IN WORK AREAS NO GREATER IN FEET THAN TWICE THE POSTED SPEED LIMIT (MPH) EXCEPT, 10 FT ON-CENTER IN RADII, AND 3 FT OFF THE EDGE OF AN OPEN TRAVELWAY. REFER TO STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES SECTIONS 1130 (DRUMS), 1135 (CONES) AND 1180 (SKINNY DRUMS) FOR ADDITIONAL REQUIREMENTS.
- T) PLACE TYPE III BARRICADES, WITH "ROAD CLOSED" SIGN R11-2 ATTACHED, OF SUFFICIENT LENGTH TO CLOSE ENTIRE ROADWAY.
- U) PLACE ADDITIONAL SETS OF THREE CHANNELIZING DEVICES DRUMS PERPENDICULAR TO THE EDGE OF TRAVELWAY ON 500 FT CENTERS WHEN UNOPENED LANES ARE CLOSED TO TRAFFIC.





TRANSPORTATION
OPERATIONS
PLAN

GENERAL NOTES

PAVEMENT MARKINGS AND MARKERS

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

ROAD NAME	MARKING	MARKER
NC 46	PAINT	TEMPORARY RAISED
OAK GROVE CHURCH RD	PAINT	NONE
OLD GASTON RD	PAINT	NONE

- 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.

MISCELLANEOUS

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

MANAGEMENT STRATEGIES

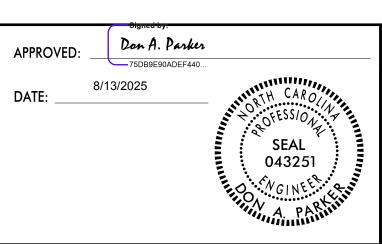
PROJ. REFERENCE NO. SHEET NO. R-5739 TMP-1C

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)
ONE-LANE, TWO WAY OPERATION (SIGNALIZED)
WEEKEND WORK
WORK HOUR RESTRICTIONS FOR PEAK TRAVEL

CONTRACTING & INNOVATIVE CONSTRUCTION STRATEGIES:
INTERMEDIATE CONTRACT TIMES / LIQUIDATED DAMAGES

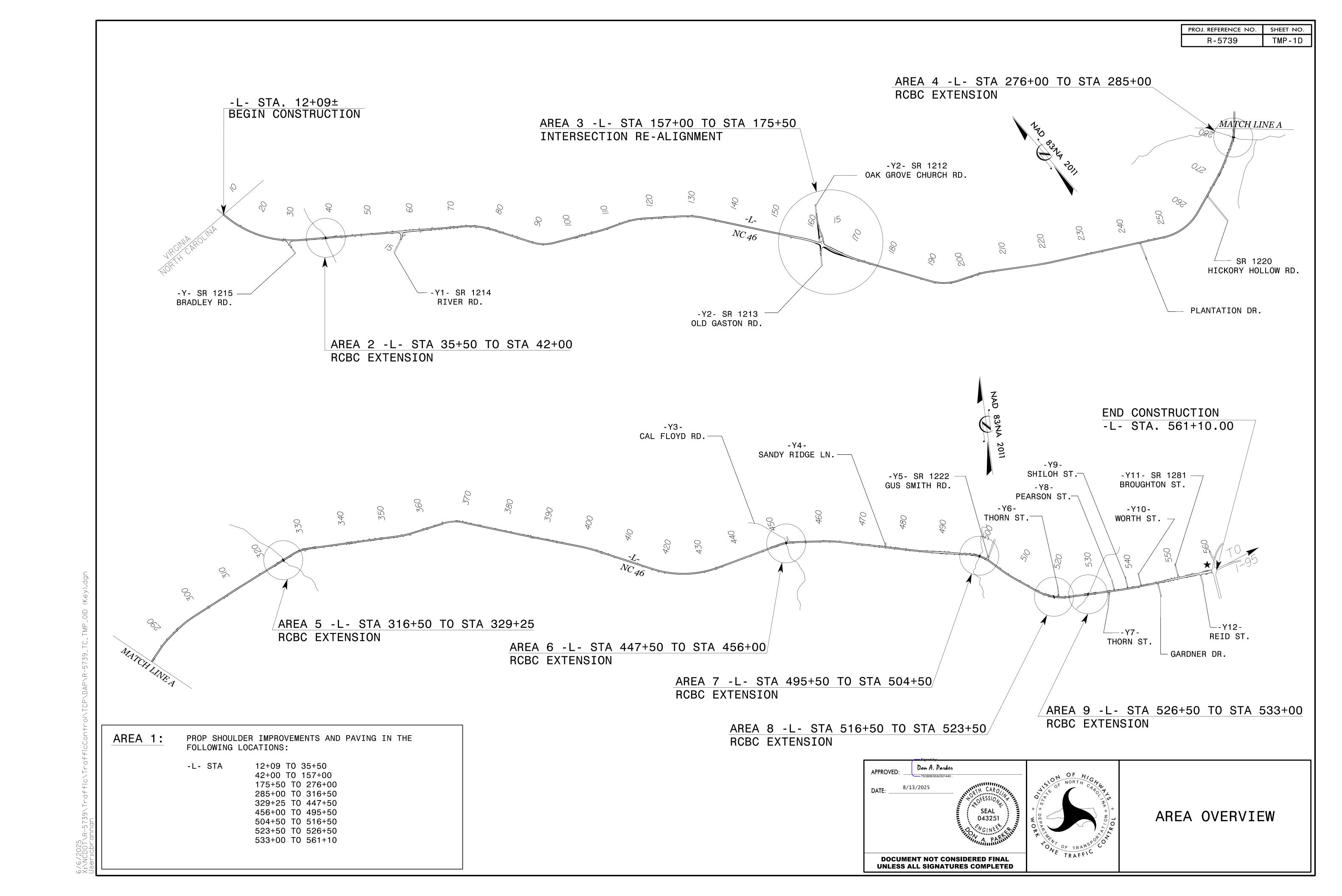


DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



TRANSPORTATION OPERATIONS PLAN

5/6/2025 x:\NCD0T\R-5739\Traffic\TrafficCon



TEMPORARY SOIL NAIL WALL TEMPORARY MSE WALL

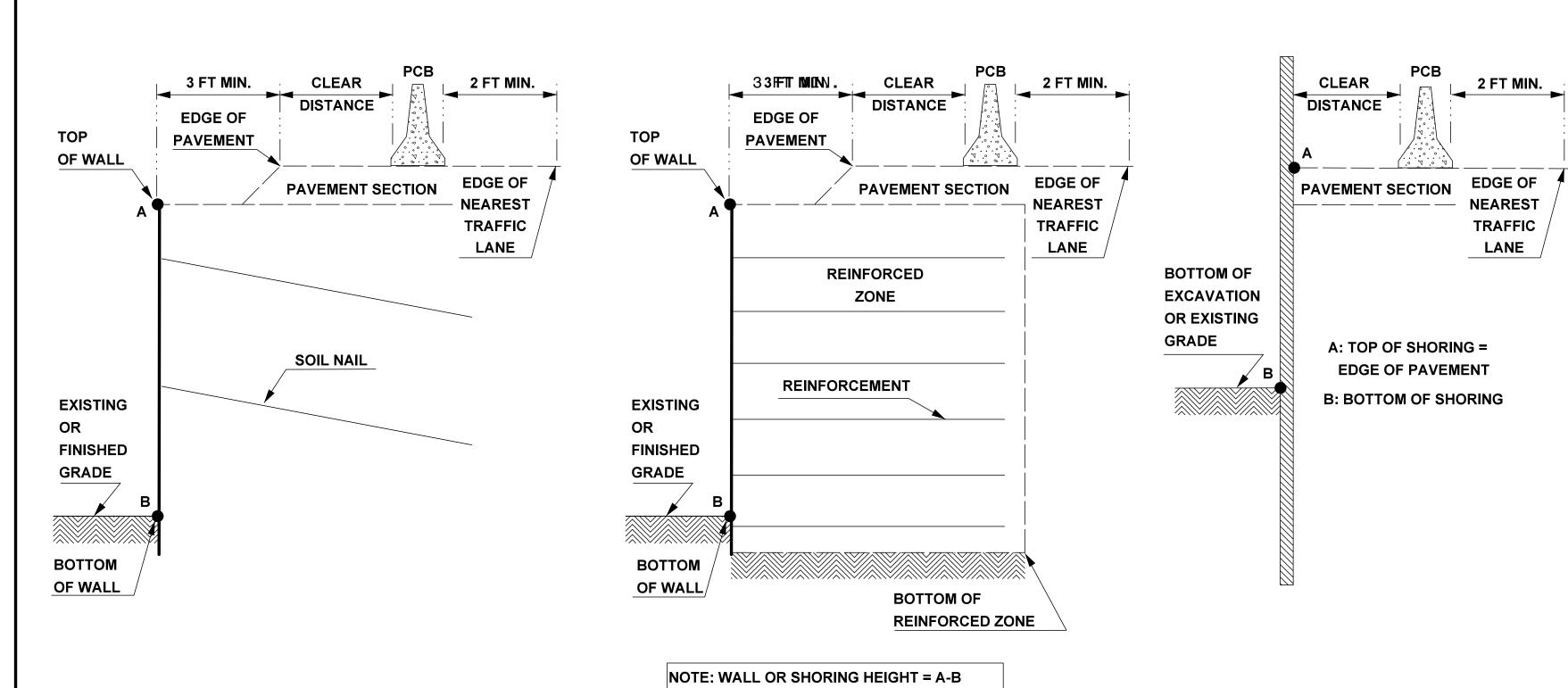


FIGURE A

NOTES

- 1- REFER TO THE TRAFFIC CONTROL PLANS FOR TEMPORARY SHORING LOCATIONS AND NOTES.
- 2- REFER TO THE "TEMPORARY SHORING" STANDARD PROVISION FOR INFORMATION ABOUT TEMPORARY SHORING AND PORTABLE CONCRETE BARRIER (PCB).
- 3- PCB IS REQUIRED IF TEMPORARY SHORING/WALL IS LOCATED WITHIN THE CLEAR ZONE IN ACCORDANCE WITH THE AASHTO ROADSIDE DESIGN GUIDE. DO NOT PLACE BARRIER DIRECTLY ON ANY SURFACE OTHER THAN ASPHALT OR CONCRETE.

 (CONTACT NCDOT PAVEMENT MANAGEMENT FOR APPLICABLE PAVEMENT DESIGN).
- 4- BASED ON THE CLEAR DISTANCE, OFFSET, DESIGN SPEED AND PAVEMENT TYPE, CHOOSE AN UNANCHORED OR ANCHORED PCB FROM THE TABLE SHOWN IN FIGURE B. CLEAR DISTANCE IS DEFINED AS SHOWN IN FIGURE A AND OFFSET IS DEFINED AS SHOWN IN FIGURE B.
- 5- AT THE CONTRACTOR'S OPTION OR IF THE MINIMUM REQUIRED CLEAR DISTANCE IS NOT AVAILABLE, SET PCB NEXT TO AND UP AGAINST THE TRAFFIC SIDE OF THE TEMPORARY SHORING/WALLS EXCEPT FOR BARRIER ABOVE TEMPORARY WALLS. PCB WITH THE MINIMUM REQUIRED CLEAR DISTANCE IS REQUIRED ABOVE TEMPORARY WALLS.
- 6- USE NCDOT PORTABLE CONCRETE BARRIER (PCB) IN ACCORDANCE WITH ROADWAY STANDARD DRAWING NO. 1170.01 AND SECTION 1170 OF THE STANDARD SPECIFICATIONS.
- 7- SET PCB WITH A MINIMUM HORIZONTAL DISTANCE OF 2 FT BETWEEN THE FRONT FACE OF THE BARRIER AND THE EDGE OF THE NEAREST TRAFFIC LANE AS SHOWN IN FIGURE A UNLESS OTHERWISE SHOWN IN THE PLANS OR APPROVED BY THE ENGINEER.
- 8- FOR PCB ABOVE AND BEHIND TEMPORARY WALLS, PROVIDE A MINIMUM DISTANCE OF 3 FT BETWEEN THE EDGE OF PAVEMENT AND THE WALL FACE AS SHOWN IN FIGURE A. IF THIS MINIMUM REQUIRED DISTANCE IS NOT AVAILABLE, CONTACT THE ENGINEER.
- 9- TABLE SHOWN IN FIGURE B IS BASED ON NCDOT RESEARCH PROJECT NO. 2005-010 WITH VEHICLE TYPE USED FOR NCHRP 350 CRASH TESTS.

MINIMUM REQUIRED CLEAR DISTANCE, inches

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
	Asphalt	14-20	27	29	34	36	39	43
		20-26	28	31	35	38	40	44
		26-32	29	32	36	39	42	45
		32-38	30	34	38	41	43	46
9		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
re		>56	32	36	42	45	47	51
.ho		<8	17	18	21	22	25	26
nc		8-14	19	20	23	25	26	29
Unanchored		14-20	22	22	24	26	28	31
$\mathbf{\Omega}$		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	Asphalt	All Offsets	24 for All Design Speeds					
Anchored PCB	Concrete (including bridge approach slabs)	All Offsets	12 for All Design Speeds					

^{*} See Figure Below

TEMPORARY SHORING

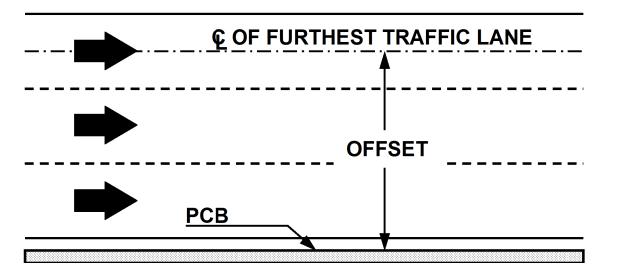
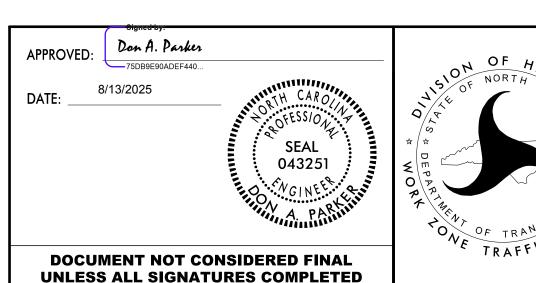


FIGURE B



PORTABLE CONCRETE
BARRIER AT TEMPORARY
SHORING LOCATIONS

oline ologonia delegine deleggene della contra traditionale della contra della cont

Shoring Location No. 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.

DESIGN TEMPORARY SHORING FROM STATION -L- 38+68±, 15 FT LT, TO STATION -L- 38+80±, 15 FT LT, FOR THE FOLLOWING ASSUMED SOIL PARAMETERS AND GROUNDWATER ELEVATION:

ABOVE ELEVATION 290'

UNIT WEIGHT (γ) = 120 PCF

FRICTION ANGLE (ϕ) = 30 DEGREES

COHESION (c) = 0 PSF

BELOW ELEVATION 290'

UNIT WEIGHT (γ) = 120 PCF

FRICTION ANGLE (ϕ) = 28 DEGREES

COHESION (c) = 0 PSF

GROUNDWATER ELEVATION = 291.5'±

BASED ON THE VARIABLE SUBSURFACE CONDITIONS ALONG THE PROJECT ALIGNMENT, USE H-PILES WITH TIMBER LAGGINGS OR TEMPORARY SOIL NAIL WALLS FOR TEMPORARY SHORING. ANTICIPATE ENCOUNTERING DENSE AND VERY DENSE SANDS, HARD SILT, HARD CLAY, WEATHERED ROCK, AND/OR CRYSTALLINE ROCK WITHIN THE EXPECTED PENETRATION DEPTHS OF THE H-PILES OR SOIL NAILS.

FOR TEMPORARY SOIL NAIL WALLS, SEE TEMPORARY SOIL NAIL WALLS PROVISION.

Shoring Location No. 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.

DESIGN TEMPORARY SHORING FROM STATION -L- 38+70±, 16 FT RT, TO STATION -L- 38+80±, 16 FT RT, FOR THE FOLLOWING ASSUMED SOIL PARAMETERS AND GROUNDWATER ELEVATION:

ABOVE ELEVATION 290'

UNIT WEIGHT (γ) = 120 PCF

FRICTION ANGLE (ϕ) = 30 DEGREES

COHESION (c) = 0 PSF

BELOW ELEVATION 290'

UNIT WEIGHT (γ) = 120 PCF

FRICTION ANGLE (ϕ) = 28 DEGREES

COHESION (c) = 0 PSF

GROUNDWATER ELEVATION = 293'±

BASED ON THE VARIABLE SUBSURFACE CONDITIONS ALONG THE PROJECT ALIGNMENT, USE H-PILES WITH TIMBER LAGGINGS OR TEMPORARY SOIL NAIL WALLS FOR TEMPORARY SHORING. ANTICIPATE ENCOUNTERING DENSE AND VERY DENSE SANDS, HARD SILT, HARD CLAY, WEATHERED ROCK, AND/OR CRYSTALLINE ROCK WITHIN THE EXPECTED PENETRATION DEPTHS OF THE H-PILES OR SOIL NAILS.

FOR TEMPORARY SOIL NAIL WALLS, SEE TEMPORARY SOIL NAIL WALLS PROVISION.

Shoring Location No. 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.

DESIGN TEMPORARY SHORING FROM STATION -L-280+75±, 21 FT RT, TO STATION -L-280+98±, 21 FT RT, FOR THE FOLLOWING ASSUMED SOIL PARAMETERS AND GROUNDWATER ELEVATION:

ABOVE ELEVATION 207'

UNIT WEIGHT (γ) = 120 PCF

FRICTION ANGLE (ϕ) = 30 DEGREES

COHESION (c) = 0 PSF

BETWEEN ELEVATION 207' & 195'

UNIT WEIGHT (γ) = 120 PCF

FRICTION ANGLE (ϕ) = 28 DEGREES

COHESION (c) = 0 PSF

BELOW ELEVATION 195'

UNIT WEIGHT (γ) = 120 PCF

FRICTION ANGLE (ϕ) = 30 DEGREES

COHESION (c) = 0 PSF

GROUNDWATER ELEVATION = 198.4'±

BASED ON THE VARIABLE SUBSURFACE CONDITIONS ALONG THE PROJECT ALIGNMENT, USE H-PILES WITH TIMBER LAGGINGS OR TEMPORARY SOIL NAIL WALLS FOR TEMPORARY SHORING. ANTICIPATE ENCOUNTERING DENSE AND VERY DENSE SANDS, HARD SILT, HARD CLAY, WEATHERED ROCK, AND/OR CRYSTALLINE ROCK WITHIN THE EXPECTED PENETRATION DEPTHS OF THE H-PILES OR SOIL NAILS.

FOR TEMPORARY SOIL NAIL WALLS, SEE TEMPORARY SOIL NAIL WALLS PROVISION.

Shoring Location No. 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.

DESIGN TEMPORARY SHORING FROM STATION -L-280+76±, 17 FT LT, TO STATION -L- 280+99±, 17 FT LT, FOR THE FOLLOWING ASSUMED SOIL PARAMETERS AND GROUNDWATER ELEVATION:

ABOVE ELEVATION 206'

UNIT WEIGHT (γ) = 120 PCF

FRICTION ANGLE (ϕ) = 28 DEGREES

COHESION (c) = 0 PSF

BETWEEN ELEVATION 206' & 197'

UNIT WEIGHT (γ) = 120 PCF

FRICTION ANGLE (ϕ) = 35 DEGREES

COHESION (c) = 0 PSF

BELOW ELEVATION 197'

UNIT WEIGHT (γ) = 120 PCF

FRICTION ANGLE (ϕ) = 38 DEGREES

COHESION (c) = 0 PSF

GROUNDWATER ELEVATION = 197.1'±

BASED ON THE VARIABLE SUBSURFACE CONDITIONS ALONG THE PROJECT ALIGNMENT, USE H-PILES WITH TIMBER LAGGINGS OR TEMPORARY SOIL NAIL WALLS FOR TEMPORARY SHORING. ANTICIPATE ENCOUNTERING DENSE AND VERY DENSE SANDS, HARD SILT, HARD CLAY, WEATHERED ROCK, AND/OR CRYSTALLINE ROCK WITHIN THE EXPECTED PENETRATION DEPTHS OF THE H-PILES OR SOIL NAILS.

FOR TEMPORARY SOIL NAIL WALLS, SEE TEMPORARY SOIL NAIL WALLS PROVISION.

Shoring Location No. 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 TEMPORARY SHORING FROM STATION -L-324+13±, 15 FT LT, TO STATION -L- 324+40±, 15 FT LT, FOR THE FOLLOWING ASSUMED SOIL PARAMETERS AND GROUNDWATER ELEVATION:

ABOVE ELEVATION 185'

UNIT WEIGHT (γ) = 120 PCF

FRICTION ANGLE (ϕ) = 30 DEGREES

COHESION (c) = 0 PSF

BETWEEN ELEVATION 185' & 178.7'

UNIT WEIGHT (γ) = 120 PCF

FRICTION ANGLE (ϕ) = 28 DEGREES

COHESION (c) = 0 PSF

BELOW ELEVATION 178.7'

UNIT WEIGHT (γ) = 120 PCF

FRICTION ANGLE (ϕ) = 38 DEGREES

COHESION (c) = 0 PSF

GROUNDWATER ELEVATION = 182'±

BASED ON THE VARIABLE SUBSURFACE CONDITIONS ALONG THE PROJECT ALIGNMENT, USE H-PILES WITH TIMBER LAGGINGS OR TEMPORARY SOIL NAIL WALLS FOR TEMPORARY SHORING. ANTICIPATE ENCOUNTERING DENSE AND VERY DENSE SANDS, HARD SILT, HARD CLAY, WEATHERED ROCK, AND/OR CRYSTALLINE ROCK WITHIN THE EXPECTED PENETRATION DEPTHS OF THE H-PILES OR SOIL NAILS.

FOR TEMPORARY SOIL NAIL WALLS, SEE TEMPORARY SOIL NAIL WALLS PROVISION.

Shoring Location No. 6

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 TEMPORARY SHORING FROM STATION -L-324+14±, 16 FT RT, TO STATION -L-324+40±, 16 FT RT, FOR THE FOLLOWING ASSUMED SOIL PARAMETERS AND GROUNDWATER ELEVATION:

ABOVE ELEVATION 178.4'

UNIT WEIGHT (γ) = 120 PCF

FRICTION ANGLE (ϕ) = 28 DEGREES

COHESION (c) = 0 PSF

BELOW ELEVATION 178.7'

UNIT WEIGHT (γ) = 120 PCF

FRICTION ANGLE (ϕ) = 38 DEGREES

COHESION (c) = 0 PSF

GROUNDWATER ELEVATION = 182.4'±

BASED ON THE VARIABLE SUBSURFACE CONDITIONS ALONG THE PROJECT ALIGNMENT, USE H-PILES WITH TIMBER LAGGINGS OR TEMPORARY SOIL NAIL WALLS FOR TEMPORARY SHORING. ANTICIPATE ENCOUNTERING DENSE AND VERY DENSE SANDS, HARD SILT, HARD CLAY, WEATHERED ROCK, AND/OR CRYSTALLINE ROCK WITHIN THE EXPECTED PENETRATION DEPTHS OF THE H-PILES OR SOIL NAILS.

FOR TEMPORARY SOIL NAIL WALLS, SEE TEMPORARY SOIL NAIL WALLS PROVISION.

R - 5739 TMP - 2A

TGS ENGINEERS
706 HILLSBOROUGH ST. SUITE 200
RALEIGH, NC 27603
PH (919) 773-8887
CORP. LICENSE NO.: C-0275

PROJ. REFERENCE NO.

SHEET NO.

Shoring Location No. 7

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 TEMPORARY SHORING FROM STATION -L-451+83±, 17.8 FT LT, TO STATION -L- 452+11±, 17.8 FT LT, FOR THE FOLLOWING ASSUMED SOIL PARAMETERS AND GROUNDWATER ELEVATION:

ABOVE ELEVATION 180'

UNIT WEIGHT (γ) = 120 PCF

FRICTION ANGLE (ϕ) = 30 DEGREES

COHESION (c) = 0 PSF

BELOW ELEVATION 180'

UNIT WEIGHT (γ) = 120 PCF

FRICTION ANGLE (ϕ) = 28 DEGREES

COHESION (c) = 0 PSF

GROUNDWATER ELEVATION = 177.7'±

BASED ON THE VARIABLE SUBSURFACE CONDITIONS ALONG THE PROJECT ALIGNMENT, USE H-PILES WITH TIMBER LAGGINGS OR TEMPORARY SOIL NAIL WALLS FOR TEMPORARY SHORING. ANTICIPATE ENCOUNTERING DENSE AND VERY DENSE SANDS, HARD SILT, HARD CLAY, WEATHERED ROCK, AND/OR CRYSTALLINE ROCK WITHIN THE EXPECTED PENETRATION DEPTHS OF THE H-PILES OR SOIL NAILS.

FOR TEMPORARY SOIL NAIL WALLS, SEE TEMPORARY SOIL NAIL WALLS PROVISION.

THE TEMPORARY SHORING NOTES SHOWN ON THIS SHEET WERE PROVIDED THROUGH A SEALED DOCUMENT FROM THE GEOTECHNICAL ENGINEERING UNIT. THE DOCUMENT WAS PROVIDED TO TGS ENGINEERS ON 08/04/2025 AND SEALED BY A PROFESSIONAL ENGINEER, THEIN TUN ZAN, LICENSE # 030943



TEMPORARY SHORING DATA

Shoring Location No. 8

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 TEMPORARY SHORING FROM STATION -L-451+84±, 13.8 FT RT, TO STATION -L- 452+10±, 13.8 FT RT, FOR THE FOLLOWING ASSUMED SOIL PARAMETERS AND GROUNDWATER ELEVATION:

ABOVE ELEVATION 180'

UNIT WEIGHT (γ) = 120 PCF

FRICTION ANGLE (ϕ) = 30 DEGREES

COHESION (c) = 0 PSF

BELOW ELEVATION 180'

UNIT WEIGHT (γ) = 120 PCF

FRICTION ANGLE (ϕ) = 28 DEGREES

COHESION (c) = 0 PSF

GROUNDWATER ELEVATION = 179.1'±

BASED ON THE VARIABLE SUBSURFACE CONDITIONS ALONG THE PROJECT ALIGNMENT, USE H-PILES WITH TIMBER LAGGINGS OR TEMPORARY SOIL NAIL WALLS FOR TEMPORARY SHORING. ANTICIPATE ENCOUNTERING DENSE AND VERY DENSE SANDS, HARD SILT, HARD CLAY, WEATHERED ROCK, AND/OR CRYSTALLINE ROCK WITHIN THE EXPECTED PENETRATION DEPTHS OF THE H-PILES OR SOIL NAILS.

FOR TEMPORARY SOIL NAIL WALLS, SEE TEMPORARY SOIL NAIL WALLS PROVISION.

Shoring Location No. 9

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 TEMPORARY SHORING FROM STATION -L-499+51±, 18.3 FT LT, TO STATION -L- 499+79±, 18.3 FT LT, FOR THE FOLLOWING ASSUMED SOIL PARAMETERS AND GROUNDWATER ELEVATION:

ABOVE ELEVATION 124.8'

UNIT WEIGHT (γ) = 120 PCF

FRICTION ANGLE (ϕ) = 30 DEGREES

COHESION (c) = 0 PSF

GROUNDWATER ELEVATION = 131'±

BASED ON THE VARIABLE SUBSURFACE CONDITIONS ALONG THE PROJECT ALIGNMENT, USE H-PILES WITH TIMBER LAGGINGS OR TEMPORARY SOIL NAIL WALLS FOR TEMPORARY SHORING. ANTICIPATE ENCOUNTERING DENSE AND VERY DENSE SANDS, HARD SILT, HARD CLAY, WEATHERED ROCK, AND/OR CRYSTALLINE ROCK WITHIN THE EXPECTED PENETRATION DEPTHS OF THE H-PILES OR SOIL NAILS.

FOR TEMPORARY SOIL NAIL WALLS, SEE TEMPORARY SOIL NAIL WALLS PROVISION.

Shoring Location No. 10

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 TEMPORARY SHORING FROM STATION -L-499+51±, 13.3 FT RT, TO STATION -L-499+79±, 13.3 FT RT, FOR THE FOLLOWING ASSUMED SOIL PARAMETERS AND GROUNDWATER ELEVATION:

ABOVE ELEVATION 125.6'

UNIT WEIGHT (γ) = 120 PCF

FRICTION ANGLE (ϕ) = 30 DEGREES

COHESION (c) = 0 PSF

GROUNDWATER ELEVATION = 127.9'±

BASED ON THE VARIABLE SUBSURFACE CONDITIONS ALONG THE PROJECT ALIGNMENT, USE H-PILES WITH TIMBER LAGGINGS OR TEMPORARY SOIL NAIL WALLS FOR TEMPORARY SHORING. ANTICIPATE ENCOUNTERING DENSE AND VERY DENSE SANDS, HARD SILT, HARD CLAY, WEATHERED ROCK, AND/OR CRYSTALLINE ROCK WITHIN THE EXPECTED PENETRATION DEPTHS OF THE H-PILES OR SOIL NAILS.

FOR TEMPORARY SOIL NAIL WALLS, SEE TEMPORARY SOIL NAIL WALLS PROVISION.

Shoring Location No. 11

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 TEMPORARY SHORING FROM STATION -L-520+70±, 25 FT RT, TO STATION -L- 520+94±, 25 FT RT, FOR THE FOLLOWING ASSUMED SOIL PARAMETERS AND GROUNDWATER ELEVATION:

ABOVE ELEVATION 115'

UNIT WEIGHT (γ) = 120 PCF

FRICTION ANGLE (ϕ) = 28 DEGREES

COHESION (c) = 0 PSF

BELOW ELEVATION 115'

UNIT WEIGHT (γ) = 120 PCF

FRICTION ANGLE (ϕ) = 30 DEGREES

COHESION (c) = 0 PSF

GROUNDWATER ELEVATION = 125.0'±

BASED ON THE VARIABLE SUBSURFACE CONDITIONS ALONG THE PROJECT ALIGNMENT, USE H-PILES WITH TIMBER LAGGINGS OR TEMPORARY SOIL NAIL WALLS FOR TEMPORARY SHORING. ANTICIPATE ENCOUNTERING DENSE AND VERY DENSE SANDS, HARD SILT, HARD CLAY, WEATHERED ROCK, AND/OR CRYSTALLINE ROCK WITHIN THE EXPECTED PENETRATION DEPTHS OF THE H-PILES OR SOIL NAILS.

FOR TEMPORARY SOIL NAIL WALLS, SEE TEMPORARY SOIL NAIL WALLS PROVISION.

Shoring Location No. 12

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 TEMPORARY SHORING FROM STATION -L- 520+35±, 22 FT LT, TO STATION -L- 520+52±, 22 FT LT, FOR THE FOLLOWING ASSUMED SOIL PARAMETERS AND GROUNDWATER ELEVATION:

UNIT WEIGHT (γ) = 120 PCF FRICTION ANGLE (ϕ) = 28 DEGREES COHESION (c) = 0 PSF GROUNDWATER ELEVATION = 128.9'±

BASED ON THE VARIABLE SUBSURFACE CONDITIONS ALONG THE PROJECT ALIGNMENT, USE H-PILES WITH TIMBER LAGGINGS OR TEMPORARY SOIL NAIL WALLS FOR TEMPORARY SHORING. ANTICIPATE ENCOUNTERING DENSE AND VERY DENSE SANDS, HARD SILT, HARD CLAY, WEATHERED ROCK, AND/OR CRYSTALLINE ROCK WITHIN THE EXPECTED PENETRATION DEPTHS OF THE H-PILES OR SOIL NAILS.

FOR TEMPORARY SOIL NAIL WALLS, SEE TEMPORARY SOIL NAIL WALLS PROVISION.

Shoring Location No. 13

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 TEMPORARY SHORING FROM STATION -L-528+96±, 17 FT LT, TO STATION -L- 529+22±, 17 FT LT, FOR THE FOLLOWING ASSUMED SOIL PARAMETERS AND GROUNDWATER ELEVATION:

JNDWATER ELEVATION:

ABOVE ELEVATION 110'

UNIT WEIGHT (γ) = 120 PCF

FRICTION ANGLE (ϕ) = 28 DEGREES

COHESION (c) = 0 PSF

BETWEEN ELEVATION 110' & 98'

UNIT WEIGHT (γ) = 120 PCF

FRICTION ANGLE (ϕ) = 30 DEGREES

COHESION (c) = 0 PSF

BELOW ELEVATION 98'

UNIT WEIGHT (γ) = 120 PCF

FRICTION ANGLE (ϕ) = 35 DEGREES

COHESION (c) = 0 PSF

GROUNDWATER ELEVATION = 109.7'±

BASED ON THE VARIABLE SUBSURFACE CONDITIONS ALONG THE PROJECT ALIGNMENT, USE H-PILES WITH TIMBER LAGGINGS OR TEMPORARY SOIL NAIL WALLS FOR TEMPORARY SHORING. ANTICIPATE ENCOUNTERING DENSE AND VERY DENSE SANDS, HARD SILT, HARD CLAY, WEATHERED ROCK, AND/OR CRYSTALLINE ROCK WITHIN THE EXPECTED PENETRATION DEPTHS OF THE H-PILES OR SOIL NAILS.

FOR TEMPORARY SOIL NAIL WALLS, SEE TEMPORARY SOIL NAIL WALLS PROVISION.

R-5739 TMP-2B

TGS ENGINEERS
706 HILLSBOROUGH ST. SUITE 200
RALEIGH, NC 27603
PH (919) 773-8887
CORP. LICENSE NO.: C-0275

PROJ. REFERENCE NO.

SHEET NO.

Shoring Location No. 14

ABOVE ELEVATION 115'

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 TEMPORARY SHORING FROM STATION -L-528+86±, 16 FT RT, TO STATION -L- 529+05±, 16 FT RT, FOR THE FOLLOWING ASSUMED SOIL PARAMETERS AND GROUNDWATER ELEVATION:

FRICTION ANGLE (ϕ) = 28 DEGREES COHESION (c) = 0 PSF

BETWEEN ELEVATION 115' & 98'

UNIT WEIGHT (γ) = 120 PCF

FRICTION ANGLE (ϕ) = 30 DEGREES COHESION (c) = 0 PSF

BELOW ELEVATION 98'

UNIT WEIGHT (γ) = 120 PCF

FRICTION ANGLE (ϕ) = 38 DEGREES COHESION (c) = 0 PSF

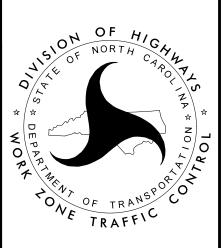
GROUNDWATER ELEVATION = 105.9'±

UNIT WEIGHT (γ) = 120 PCF

BASED ON THE VARIABLE SUBSURFACE CONDITIONS ALONG THE PROJECT ALIGNMENT, USE H-PILES WITH TIMBER LAGGINGS OR TEMPORARY SOIL NAIL WALLS FOR TEMPORARY SHORING. ANTICIPATE ENCOUNTERING DENSE AND VERY DENSE SANDS, HARD SILT, HARD CLAY, WEATHERED ROCK, AND/OR CRYSTALLINE ROCK WITHIN THE EXPECTED PENETRATION DEPTHS OF THE H-PILES OR SOIL NAILS.

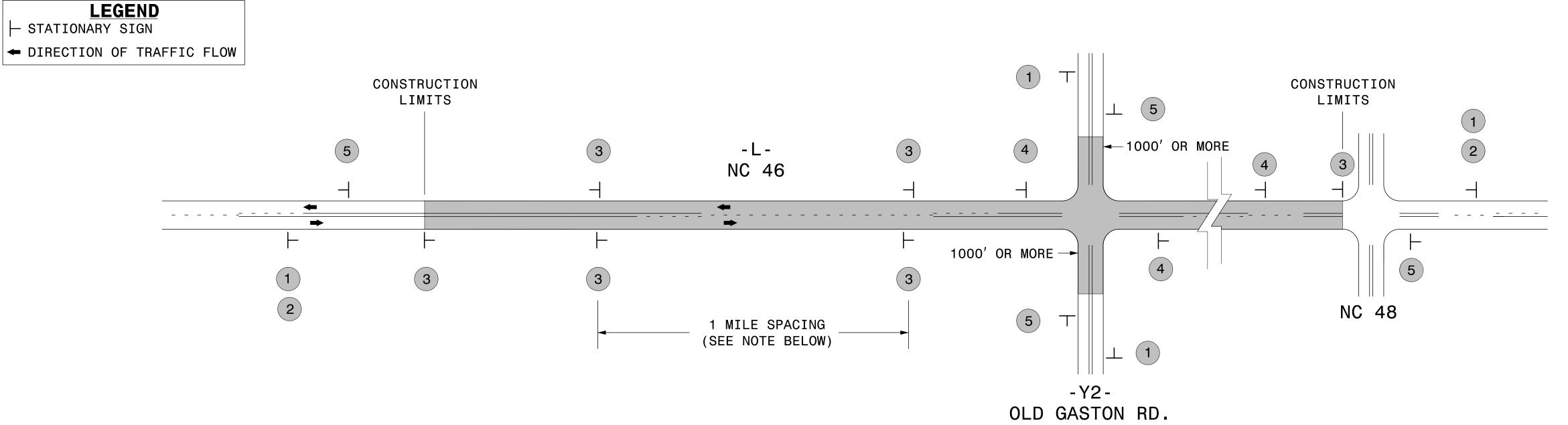
FOR TEMPORARY SOIL NAIL WALLS, SEE TEMPORARY SOIL NAIL WALLS PROVISION.

THE TEMPORARY SHORING NOTES SHOWN ON THIS SHEET WERE PROVIDED THROUGH A SEALED DOCUMENT FROM THE GEOTECHNICAL ENGINEERING UNIT. THE DOCUMENT WAS PROVIDED TO TGS ENGINEERS ON 08/04/2025 AND SEALED BY A PROFESSIONAL ENGINEER, THEIN TUN ZAN, LICENSE # 030943



TEMPORARY SHORING DATA

PROJ. REFERENCE NO. TMP-2C R-5739 TGS ENGINEERS 706 HILLSBOROUGH ST. SUITE 200 RALEIGH, NC 27603



MAINLINE (-L-) SIGNING

ROAD WORK ECTION AHEAD W20-1 48" X 48" \Box SH

0 2

ŽШ

Z

I GNII EMEN

SO

PLACE 1000' PRIOR TO BEGINNING OF CONSTRUCTION LIMITS. ONLY USED ON -Y- LINES IF RESURFACING LIMITS EXTEND 1000' ALONG -Y- LINE.

#2 SIGN ONLY USED WHEN CONSTRUCTION LIMITS ARE 2 OR MORE MILES IN LENGTH. ROUND UP TO NEXT WHOLE NUMBER. (NO FRACTIONAL OR DECIMAL NUMBERS)

- LOW/SOFT **SHOULDER** 48" X 48"
- PLACE INITIALLY AT THE CONSTRUCTION LIMITS AND SPACE 1 MILE APART
- AT TEE INTERSECTIONS INSTALL INITIALLY 1/2 MILE FROM INTERSECTION AND SPACE 1 MILE APART THEREAFTER.
- ROAD UNDER CONST SP 13106 48" X 48"
 - THESE ARE FOR -Y- LINES THAT ARE "THROUGH" ROADWAYS.
 - DEAD END AND SUBDIVISION ROADS ARE NOT "THROUGH" ROADWAYS.
 - INSTALL 500' +/- FROM EACH -Y- LINE APPROACH AS SHOWN ABOVE.
 - FOR MULTIPLE -Y- LINES THAT ARE SEPARATED BY 0.25 MILES OR LESS, TREAT AS A SINGLE UNIT AND INSTALL WITHIN 500' OF EACH APPROACH.
 - A MAXIMUM OF 2 SIGN SETS PER MILE. DO NOT INSTALL WHEN -Y- LINES
 - ARE WITHIN 0.5 MILES FROM "END ROAD WORK" SIGN.
 - FOR TEE INTERSECTIONS, INSTALL WITHIN 500' +/- OF THE INTERSECTION ALONG -L- LINE.

PLACE 500' FOLLOWING THE END OF CONSTRUCTION LIMITS OR AS SHOWN ROAD WORK WHEN WORK ENDS AT A 3-WAY TEE INTERSECTION. G20–2 A 48'' X 24''

NO REQUIRED STATIONARY SIGNING FOR THE FOLLOWING -Y- LINE CONDITIONS:

-Y- LINE SIGNING

- 1) LESS THAN 1000' OF CONSTRUCTION ALONG -Y- LINE
- 2) SUBDIVISION ROADS
- 3) DEAD END ROADS

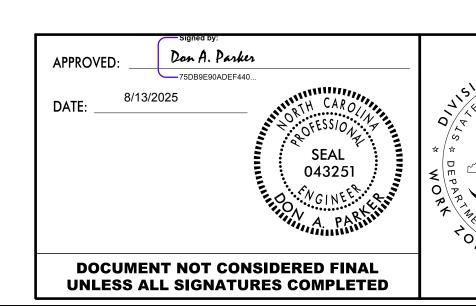
WHEN PAVING/CONSTRUCTION ACTIVITIES PROCEED ACROSS AN UNSIGNED -Y- LINE, PORTABLE ADVANCE WARNING SIGNS SHALL BE USED ALONG THE -Y- LINE AS SHOWN BELOW. REMOVE UPON COMPLETION OF WORK.



PLACED 500' IN ADVANCE OF FLAGGER.

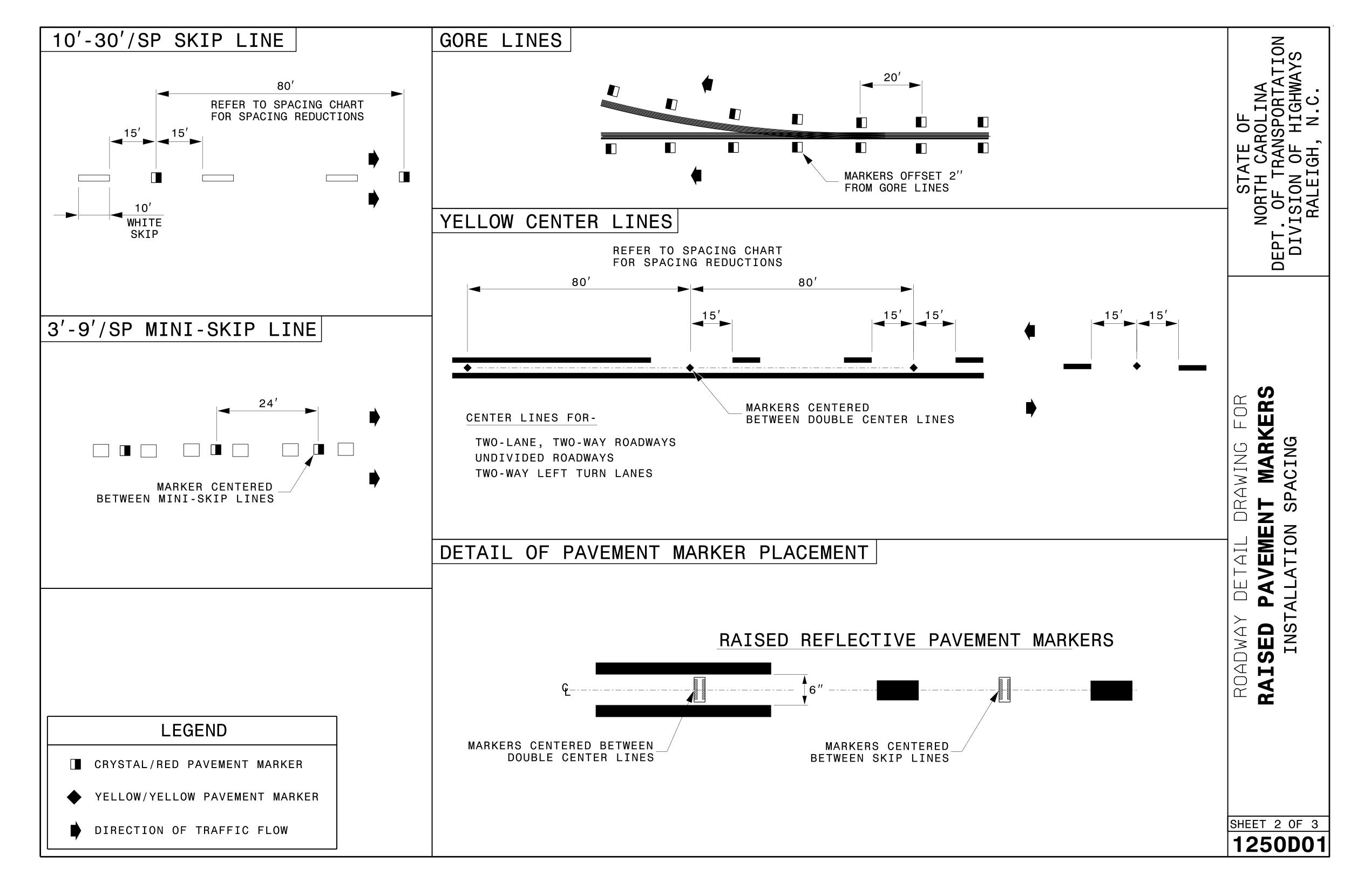


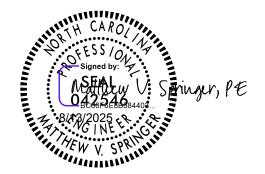
PLACED 250' IN ADVANCE OF FLAGGER.



WORK ZONE ADVANCE WARNING SIGNS

PROJECT REFERENCE NO. SHEET NO. R-5739 TMP-2D





CONTRACTS STANDARDS
AND DEVELOPMENT UNIT
Office 919-707-8950 FAX 919-250-4119

SEE TITLE BLOCK

ORIGINAL BY: M.V. SPRINGER DATE: 2-15-24

MODIFIED BY: DATE: DATE: FILE SPEC.:

PRIOR TO BEGINNING CONSTRUCTION IN ANY AREA, INSTALL WORK ZONE ADVANCE WARNING SIGNS IN ACCORDANCE WITH TMP-2C.

UNLESS STATED OTHERWISE, RETURN TRAFFIC TO THE EXISTING PATTERN AT THE END OF EACH WORK PERIOD.

MAINTAIN ACCESS TO RESIDENCES AND BUSINESSES AT ALL TIMES.

CONDUCT GRADING AND PAVING OPERATIONS IN A MANNER THAT DOES NOT POND WATER.

AREA 1

```
-L- STA 12+09 +/- TO STA. 35+50 +/-
-L- STA 42+00 +/- TO STA. 157+00 +/-
-L- STA 175+50 +/- TO STA. 276+00 +/-
-L- STA 285+00 +/- TO STA. 316+50 +/-
-L- STA 329+25 +/- TO STA. 447+50 +/-
-L- STA 456+00 +/- TO STA. 495+50 +/-
-L- STA 504+50 +/- TO STA. 516+50 +/-
-L- STA 523+50 +/- TO STA. 526+50 +/-
-L- STA 533+00 +/- TO STA. 561+10 +/-
```

CONTRACTOR MAY CONSTRUCT AREA 1 IN A SEQUENCE OF THEIR CHOOSING AS FOLLOWS:

- 1. MAINTAIN TRAFFIC IN ACCORDANCE WITH DIVISIONS 10, 11, AND 12 OF THE 2024 STANDARD SPECIFICATIONS.
- 2. REFER TO RSD 1101.02 WHEN CLOSING A LANE OF TRAVEL IN A STATIONARY WORK ZONE. A PILOT VEHICLE OPERATION MAY BE USED IN CONJUNCTION WITH FLAGGERS AND THE APPROPRIATE PILOT VEHICLE WARNING SIGNING AS DIRECTED BY THE ENGINEER.
- 3. INSTALL -L- CROSSPIPES AS FOLLOWS UNLESS PERMITTED OR DIRECTED OTHERWISE BY THE ENGINEER:
 - A. TO PROVIDE SPACE FOR A 1 LANE 2 WAY FLAGGING OPERATION DURING STAGED PIPE INSTALLATION, PLACE 4 FT. X 250 FT. PAD OF INCIDENTAL STONE ON EACH SHOULDER AT EACH PIPE LOCATION. (SEE RSD 1101.02)
 - B. USING FLAGGERS, INSTALL FIRST HALF OF PIPE TO CENTERLINE OF EXISTING ROAD. (SEE RSD 1101.02)
 - C. BACK FILL AND PATCH BEFORE REOPENING TO TRAFFIC. INSTALL PORTABLE 48" X 48" "DIP" (W8-2) AND/OR "BUMP" (W8-1) 500 FT. IN ADVANCE OF THE UNEVEN AREA. SWEEP THE ROAD OF ANY LOOSE STONE AT THE END OF EACH WORK PERIOD.
 - D. REPEAT A THRU C FOR SECOND HALF OF THE CROSSPIPE.
 - E. REPAIR ASPHALT, REMOVE STONE AND REGRADE SHOULDER.
- 4. THE TEMPORARY USE OF PORTABLE CONCRETE BARRIER, TEMPORARY GUARDRAIL, WATERFILLED BARRIER AND LONG TERM TEMPORARY TRAFFIC PATTERNS ARE NOT ANTICIPATED IN AREA 1 AND SHALL NOT BE PERMITTED WITHOUT APPROVAL OF THE ENGINEER.

AREA 2

-L- STA 35+50 +/- TO STA. 42+00 +/- INCLUDING RCBC EXTENSION, SHOULDER CONSTRUCTION, PAVING AND PROPOSED GUARDRAIL INSTALLATION

PHASE I

- STEP 1 -- USING FLAGGERS, INSTALL TEMPORARY SIGNAL AND DRIVEWAY ASSISTANCE DEVICES (DS) TO CLOSE WESTBOUND LANE OF NC 46 (-L-) (SEE TMP 4-6, RSD 1101.02, AND SPECIAL PROVISION).
- STEP 2 -- INSTALL WATERFILLED BARRIER (WFB) (SEE TMP-5).
 - -- INSTALL TEMPORARY SHORING #1 PRIOR TO REMOVAL OF EXISTING WINGS (SEE TMP-5)
 - -- CONSTRUCT LEFT RCBC EXTENSION AND TEMPORARY SHOULDER LEVEL WITH EXISTING SHOULDER BREAK (SEE TMP-5).

COMPLETE THE WORK OF PHASE I, STEPS 3-4 IN 30 CALENDAR DAYS. (SEE INTERMEDIATE CONTRACT TIME AND LIQUIDATED DAMAGES.)

- STEP 3 -- USING FLAGGERS, REMOVE TEMPORARY SHORING #1, WFB, AND PORTABLE SIGNAL. INSTALL DRUMS ON WESTBOUND SHOULDER AT 40 FT. CENTERS. (SEE RSD 1101.02)
- STEP 4 -- USING FLAGGERS COMPLETE PROPOSED WESTBOUND SHOULDER, INSTALL PROPOSED GUARDRAIL, AND PAVE/WEDGE NC 46 UP TO BUT NOT INCLUDING THE FINAL LAYER OF SURFACE COURSE FROM -L- STA. 35+50 +/- TO -L- STA. 42+00 +/-. (SEE SECTION AA-AA ON TMP-5, AND RSD 1101.02)

INSTALL THE PHASE II TRAFFIC PATTERN (SEE TMP-7, AND RSD 1101.02)

PHASE II

- STEP 1 -- USING FLAGGERS, INSTALL PCB AND CRASH CUSHIONS (SEE TMP-7 AND RSD 1101.02)
- STEP 2 -- USING FLAGGERS, INSTALL TEMPORARY SHORING #2 PRIOR TO REMOVAL OF EXISTING WINGS (SEE TMP-7 AND RSD 1101.02)
 - CONSTRUCT RIGHT RCBC EXTENSION AND TEMPORARY SHOULDER LEVEL WITH EXISTING SHOULDER BREAK (SEE TMP-7)

COMPLETE THE WORK OF PHASE II, STEPS 3-4 IN 30 CALENDAR DAYS. (SEE INTERMEDIATE CONTRACT TIME AND LIQUIDATED DAMAGES.)

- STEP 3 -- USING FLAGGERS, REMOVE TEMPORARY SHORING #2, PCB, AND CRASH CUSHIONS. INSTALL DRUMS ON EASTBOUND SHOULDER AT 40 FT. CENTERS (SEE RSD 1101.02)
- STEP 4 -- USING FLAGGERS COMPLETE PROPOSED EASTBOUND SHOULDER FROM -L- STA. 35+50 +/- TO -L- STA. 42+00 +/- AND INSTALL PROPOSED GUARDRAIL. (SEE TMP-7, SECTION BB-BB, AND RSD 1101.02)

PHASE III

- STEP 1 -- IN COORDINATION WITH ADJACENT AREAS, INSTALL FINAL LAYER OF SURFACE COURSE AND FINAL PAVEMENT MARKINGS. (SEE RSD 1101.02)
- STEP 2 -- REMOVE ALL TRAFFIC CONTROL DEVICES.

AREA 3

-L- STA 157+00 +/- TO STA. 175+00 +/- AND -Y2- STA 12+35+/-TO STA. 22+91+/- INCLUDING GRADING, PAVING, ASPHALT REMOVAL, AND STRIPING.

PHASE I

STEP 1 -- USING FLAGGERS, INSTALL TEMPORARY PAINT STOPBARS ON OAK GROVE CHURCH RD (-Y2-) AND OLD GASTON ROAD (-Y2-) AND INSTALL W2-1/W13-P ON NC 46 (-L-) WESTBOUND (SEE TMP-2D, 8, 9)

NOTE: STEPS 2 AND 3 MAY BE PERFORMED CONCURRENTLY.

- STEP 2 -- AWAY FROM TRAFFIC, AND USING FLAGGERS AS
 NEEDED, PERFORM DRAINAGE INSTALLATION, GRADING
 AND PAVING UP TO BUT NOT INCLUDING FINAL LAYER OF SURFACE
 COURSE IN THE FOLLOWING LOCATIONS (SEE TMP-8 AND 9 AND
 RSD 1101.02)
 -- -L- STA. 162+50±TO STA. 169+48±
 - -- -Y2- STA. 16+00±T0 STA. 20+00±

NOTE: REMOVE AND DISPOSE OF EXISTING TRAFFIC SIGNAL IN ACCORDANCE WITH SECTION 1757.

- STEP 3 -- USING FLAGGERS, PERFORM DRAINAGE INSTALLATION, GRADING AND PAVING UP TO EDGE AND ELEVATION OF EXISTING PAVEMENT IN THE FOLLOWING LOCATIONS (SEE TMP-8 AND 9 AND RSD 1101.02)
 - -- -L- STA. 157+50± TO STA. 160+87± (RT.) -- -L- STA. 157+50± TO STA. 162+13± (LT.) -- -L- STA. 169+48± TO STA. 175+00± (LT.) -- -L- STA. 171+01± TO STA. 175+00± (RT.) -- -Y2- STA. 13+83± TO STA. 16+00± (LT.)

-- -Y2- STA. 20+85± TO STA. 22+91± (LT.)

PROJ. REFERENCE NO. SHEET NO.

R - 5739

TMP - 3

TGS ENGINEERS
706 HILLSBOROUGH ST. SUITE 200
RALEIGH, NC 27603
PH (919) 773-8887
CORP. LICENSE NO.: C-0275

PHASE II

STEP 1 -- INSTALL AND COVER "NEW TRAFFIC PATTERN AHEAD" (W23-2) SIGNS

NOTE: WORK IN A CONTINUOUS MANNER TO COMPLETE STEP 2 (TIE IN OF NEW -L- ALIGNMENT) IN A SINGLE WORK PERIOD

- STEP 2 -- TIE IN THE NEW ALIGNMENT OF -L- AS FOLLOWS UNLESS DIRECTED OTHERWISE BY THE ENGINEER:
 - A. USING FLAGGERS, PLACE NC 46 1L-2W TRAFFIC IN THE EXISTING EASTBOUND TRAVEL LANE AND TIE IN THE PROPOSED WESTBOUND LANE. PLACE WHITE EDGE LINE, DOUBLE YELLOW CENTERLINE, AND ADJUST STOP BAR AND STOP SIGN ON -Y2- SOUTHBOUND APPROACH.
 - B. USING FLAGGERS, PLACE NC 46 1L-2W TRAFFIC IN THE PROPOSED WESTBOUND TRAVEL LANE AND TIE IN THE PROPOSED EASTBOUND LANE. PLACE WHITE EDGE LINE AND ADJUST STOP BAR AND STOP SIGN ON -Y2- NORTH BOUND APPROACH.
 - C. UNCOVER "NEW TRAFFIC PATTERN AHEAD" SIGNS ON ALL APPROACHES.

NOTE: WORK IN A CONTINUOUS MANNER TO COMPLETE STEP 3 (TIE IN NEW ALIGNMENT OF -Y2-) IN A SINGLE WORK PERIOD

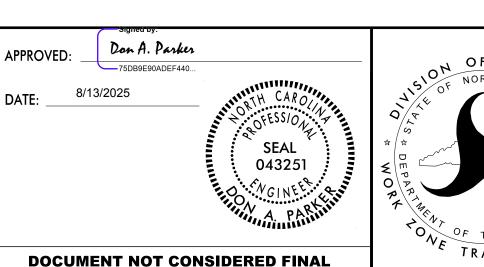
- STEP 3 -- TIE IN THE NEW ALIGNMENT OF -Y2- AS FOLLOWS UNLESS DIRECTED OTHERWISE BY THE ENGINEER:
 - A. USING FLAGGERS, PLACE -Y2- 1L-2W TRAFFIC IN THE EXISTING SOUTHBOUND TRAVEL LANE AND TIE IN THE PROPOSED NORTHBOUND LANE. PLACE WHITE EDGE LINE AND DOUBLE YELLOW CENTERLINE.
 - B. USING FLAGGERS, PLACE -Y2- 1L-2W TRAFFIC IN THE PROPOSED NORTHBOUND TRAVEL LANE AND TIE IN THE PROPOSED SOUTHBOUND LANE AND PLACE WHITE EDGE LINE.

NOTE: STEPS 4 AND 5 MAY BE PERFORMED CONCURRENTLY

- STEP 4 -- USING FLAGGERS, CONSTRUCT -L- FROM -L- STA. 163+80±
 TO STA. 175+00± UP TO BUT NOT INCLUDING THE FINAL
 LAYER OF SURFACE COURSE. (SEE TMP-12 AND 13 AND
 RSD 1101.02)
- STEP 5 -- AWAY FROM TRAFFIC, AND USING FLAGGERS AS NEEDED, REMOVE EXISTING ASPHALT PAVEMENT AS SHOWN IN THE ROADWAY PLAN. (SEE TMP-12 AND 13 AND RSD 1101.02)

PHASE III

- STEP 1 -- IN COORDINATION WITH ADJACENT AREAS, INSTALL FINAL LAYER OF SURFACE COURSE AND FINAL PAVEMENT MARKINGS.
- STEP 2 -- REMOVE ALL TRAFFIC CONTROL DEVICES.



UNLESS ALL SIGNATURES COMPLETED

PHASING

PHASE I

- STEP 1 -- USING FLAGGERS, INSTALL YELLOW/YELLOW TEMPORARY RAISED PAVEMENT MARKERS ON EXIST CENTERLINE (SEE TMP-14 AND RSD 1101.02)
 - -- USING FLAGGERS, INSTALL TEMPORARY GUARDRAIL ON EASTBOUND SHOULDER (SEE TMP-14 AND RSD 1101.02)
- STEP 2 -- USING FLAGGERS, INSTALL TEMPORARY SHORING #3 PRIOR TO REMOVAL OF EXISTING WINGS (SEE TMP-14 AND RSD 1101.02)
 - -- CONSTRUCT RIGHT RCBC EXTENSION AND TEMPORARY SHOULDER LEVEL WITH EXISTING SHOULDER BREAK (SEE TMP-14).
- COMPLETE THE WORK OF PHASE I, STEPS 3-4 IN 30 CALENDAR DAYS. (SEE INTERMEDIATE CONTRACT TIME AND LIQUIDATED DAMAGES.
- STEP 3 -- USING FLAGGERS, REMOVE TEMPORARY SHORING #3 AND TEMPORARY GUARDRAIL. INSTALL DRUMS ON EASTBOUND SHOULDER AT 40 FT. CENTERS (SEE RSD 1101.02)
- STEP 4 -- USING FLAGGERS COMPLETE PROPOSED EASTBOUND SHOULDER, INSTALL PROPOSED GUARDRAIL, AND PAVE/WEDGE NC 46 UP TO BUT NOT INCLUDING THE FINAL LAYER OF SURFACE COURSE FROM -L- STA. 276+00± TO STA. 285+00± (SEE SECTION EE-EE ON TMP-14 AND RSD 1101.02).

INSTALL THE PHASE II TRAFFIC PATTERN (SEE TMP-15 AND RSD 1101.02)

PHASE II

- STEP 1 -- USING FLAGGERS, INSTALL PCB AND CRASH CUSHIONS ON WESTBOUND SHOULDER (SEE TMP-15 AND RSD 1101.02)
- STEP 2 -- USING FLAGGERS, INSTALL TEMPORARY SHORING #4 PRIOR TO REMOVAL OF EXISTING WINGS (SEE TMP-15 AND RSD 1101.02)
 - -- CONSTRUCT LEFT RCBC EXTENSION AND TEMPORARY SHOULDER LEVEL WITH EXISTING SHOULDER BREAK (SEE TMP-15).
- COMPLETE THE WORK OF PHASE II, STEPS 3-4 IN 30 CALENDAR DAYS. (SEE INTERMEDIATE CONTRACT TIME AND LIQUIDATED DAMAGES)
- STEP 3 -- USING FLAGGERS, REMOVE TEMPORARY SHORING #4, PCB, AND CRASH CUSHIONS. INSTALL DRUMS ON WESTBOUND SHOULDER AT 40 FT. CENTERS (SEE RSD 1101.02)
- STEP 4 -- USING FLAGGERS COMPLETE PROPOSED WESTBOUND SHOULDER AND INSTALL PROPOSED GUARDRAIL. (SEE SECTION FF-FF ON TMP-15 AND RSD 1101.02)

PHASE III

- STEP 1 -- IN COORDINATION WITH ADJACENT AREAS, INSTALL FINAL LAYER OF SURFACE COURSE AND FINAL PAVEMENT MARKINGS.
- STEP 2 -- REMOVE ALL TRAFFIC CONTROL DEVICES.

AREA 5

-L- STA 316+50 +/- TO STA. 329+25 +/- INCLUDING RCBC EXTENSION, SHOULDER CONSTRUCTION, PAVING, AND PROPOSED GUARDRAIL INSTALLATION

PHASE I

- STEP 1 -- USING FLAGGERS, INSTALL TEMPORARY SIGNAL AND DRIVEWAY ASSISTANCE DEVICE (DS) TO CLOSE WESTBOUND LANE OF NC 46 (-L-) (SEE SPECIAL PROVISION, TMP-16-18, AND RSD 1101.02)
- STEP 2 -- INSTALL WATERFILLED BARRIER (SEE TMP-17)
 - -- INSTALL TEMPORARY SHORING #5 PRIOR TO REMOVAL OF EXISTING WINGS (SEE TMP-17 AND RSD 1101.02)
 - -- CONSTRUCT LEFT RCBC EXTENSION AND TEMPORARY SHOULDER LEVEL WITH EXISTING SHOULDER BREAK. (SEE TMP-17)
 - -- CONSTRUCT DRAINAGE NETWORK AND EXPRESSWAY GUTTER ON WESTBOUND SHOULDER FROM -L- STA. 317+20± TO -L- STA. 318+25±.

COMPLETE THE WORK OF PHASE I, STEPS 3-4 IN 30 CALENDAR DAYS. (SEE INTERMEDIATE CONTRACT TIME AND LIQUIDATED DAMAGES.

- STEP 3 -- USING FLAGGERS, REMOVE TEMPORARY SHORING #5, PCB, AND PORTABLE SIGNAL. INSTALL DRUMS ON WESTBOUND SHOULDER AT 40 FT. CENTERS. (SEE RSD 1101.02)
- STEP 4 -- USING FLAGGERS COMPLETE PROPOSED WESTBOUND SHOULDER, INSTALL PROPOSED GUARDRAIL, AND PAVE/WEDGE NC 46 UP TO BUT NOT INCLUDING THE FINAL LAYER OF SURFACE COURSE FROM -L- STA. 316+50± TO STA. 329+25±. (SEE SECTION GG-GG ON TMP-17 AND RSD 1101.02)

INSTALL THE PHASE II TRAFFIC PATTERN (SEE TMP-19, AND RSD 1101.02)

PHASE II

- STEP 1 -- USING FLAGGERS, INSTALL PCB AND CRASH CUSHIONS (SEE TMP-19 AND RSD 1101.02)
- STEP 2 -- USING FLAGGERS, INSTALL TEMPORARY SHORING #6 PRIOR TO REMOVAL OF EXISTING WINGS (SEE TMP-19 AND RSD 1101.02)
 - -- CONSTRUCT RIGHT RCBC EXTENSION AND TEMPORARY SLOPE

COMPLETE THE WORK OF PHASE II, STEPS 3-4 IN 30 CALENDAR DAYS. (SEE INTERMEDIATE CONTRACT TIME AND LIQUIDATED DAMAGES)

- STEP 3 -- USING FLAGGERS, REMOVE TEMPORARY SHORING #6, PCB, AND CRASH CUSHIONS. INSTALL DRUMS ON EASTBOUND SHOULDER
- STEP 4 -- USING FLAGGERS COMPLETE PROPOSED EASTBOUND SHOULDER FROM -L- STA. 316+50± TO STA. 329+25±

 AND INSTALL PROPOSED GUARDRAIL. (SEE SECTION HH-HH ON TMP-19 AND RSD 1101.02)

PHASE III

- STEP 1 -- IN COORDINATION WITH ADJACENT AREAS, INSTALL FINAL LAYER OF SURFACE COURSE AND FINAL PAVEMENT MARKINGS.
- STEP 2 -- REMOVE ALL TRAFFIC CONTROL DEVICES.

AREA 6

PROJ. REFERENCE NO. SHEET NO.

R - 5739

TMP - 3A

TGS ENGINEERS
706 HILLSBOROUGH ST. SUITE 200
RALEIGH, NC 27603
PH (919) 773-8887
CORP. LICENSE NO.: C-0275

-L- STA 447+50 +/- TO STA. 456+00 +/- INCLUDING RCBC EXTENSION, SHOULDER CONSTRUCTION AND PROPOSED GUARDRAIL INSTALLATION

PHASE I

- STEP 1 -- USING FLAGGERS, INSTALL YELLOW/YELLOW TEMPORARY RAISED PAVEMENT MARKERS ON EXIST CENTERLINE (SEE TMP-20 AND RSD 1101.02)
 - -- USING FLAGGERS, INSTALL TEMPORARY GUARDRAIL ADJACENT TO WESTBOUND NC 46 (-L-) (SEE TMP-20 AND RSD 1101.02)
- STEP 2 -- USING FLAGGERS, INSTALL TEMPORARY SHORING #7 PRIOR TO REMOVAL OF EXISTING WINGS
 - -- CONSTRUCT LEFT RCBC EXTENSION AND TEMPORARY SHOULDER LEVEL WITH EXISTING SHOULDER BREAK (SEE TMP-20)

COMPLETE THE WORK OF PHASE I, STEPS 3-4 IN 30 CALENDAR DAYS. (SEE INTERMEDIATE CONTRACT TIME AND LIQUIDATED DAMAGES)

- STEP 3 -- USING FLAGGERS, REMOVE TEMPORARY SHORING #7 AND TEMPORARY GUARDRAIL. INSTALL DRUMS ON WESTBOUND SHOULDER AT 40 FT. CENTERS. (SEE RSD 1101.02)
- STEP 4 -- USING FLAGGERS COMPLETE PROPOSED WESTBOUND SHOULDER,
 INSTALL PROPOSED GUARDRAIL, AND PAVE/WEDGE NC 46 UP TO
 BUT NOT INCLUDING THE FINAL LAYER OF SURFACE COURSE
 FROM -L- STA. 447+50± TO STA. 456+00±
 (SEE SECTION II-II ON TMP-20 AND RSD 1101.02)

INSTALL THE PHASE II TRAFFIC PATTERN (SEE TMP-21, AND RSD 1101.02)

PHASE II

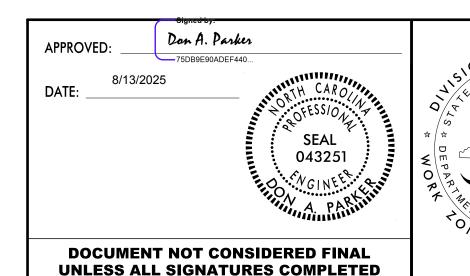
- STEP 1 -- USING FLAGGERS, INSTALL PCB AND CRASH CUSHIONS ON EASTBOUND SHOULDER (SEE TMP-21 AND RSD 1101.02).
- STEP 2 -- USING FLAGGERS, INSTALL TEMPORARY SHORING #8 PRIOR TO REMOVAL OF EXISTING WINGS
 - -- CONSTRUCT RIGHT RCBC EXTENSION AND TEMPORARY SLOPE LEVEL WITH EXISTING SHOULDER BREAK

COMPLETE THE WORK OF PHASE II, STEPS 3-4 IN 30 CALENDAR DAYS. (SEE INTERMEDIATE CONTRACT TIME AND LIQUIDATED DAMAGES)

- STEP 3 -- USING FLAGGERS, REMOVE TEMPORARY SHORING #8, PCB, AND CRASH CUSHIONS. INSTALL DRUMS ON EASTBOUND SHOULDER AT 40 FT. CENTERS. (SEE RSD 1101.02)
- STEP 4 -- USING FLAGGERS COMPLETE PROPOSED EASTBOUND SHOULDER AND INSTALL PROPOSED GUARDRAIL FROM -L- STA. 447+50± TO STA. 456+00±.

PHASE III

- STEP 1 -- IN COORDINATION WITH ADJACENT AREAS, INSTALL FINAL LAYER OF SURFACE COURSE AND FINAL PAVEMENT MARKINGS.
- STEP 2 -- REMOVE ALL TRAFFIC CONTROL DEVICES.



PHASING

PHASE I

COMPLETE THE WORK OF PHASE I, STEP 1 THRU 3 IN 14 CALENDAR DAYS. (SEE INTERMEDIATE CONTRACT TIME AND LIQUIDATED DAMAGES)

- STEP 1 -- USING FLAGGERS, INSTALL TEMPORARY PORTABLE SIGNAL AND WATERFILLED BARRIER (SEE TMP-22 THRU 24, RSD 1101.02, AND SPECIAL PROVISION).
- STEP 2 -- CONSTRUCT TBJBS AND 30" RCP FROM -L- STA. 497+00± TO 498+50±. CONSTRUCT TBJBS TO TEMPORARY ELEVATION, COVER WITH STEEL PLATE, AND BACKFILL AS DIRECTED BY THE ENGINEER (SEE TMP-23).
- STEP 3 -- USING FLAGGERS, REMOVE TEMPORARY PORTABLE SIGNAL AND WATERFILLED BARRIER. RETURN TRAFFIC TO EXISTING PATTERN. (SEE RSD 1101.02)

PHASE II

- STEP 1 -- USING FLAGGERS, CONSTRUCT 4' TEMPORARY PAVEMENT FROM -L- STA 498+30± TO STA. 501+00± (SEE TMP-25 AND RSD 1101.02)
- STEP 2 -- USING FLAGGERS, INSTALL PCB AND CRASH CUSHION FROM -L- STA 498+65± TO STA. 500+65± (SEE TMP-25 AND RSD 1101.02)
 - -- USING FLAGGERS, INSTALL YELLOW/YELLOW TEMPORARY RAISED PAVEMENT MARKERS ON EXIST CENTERLINE (SEE TMP-25 AND RSD 1101.02)
- STEP 3 -- USING FLAGGERS, INSTALL TEMPORARY SHORING #9 PRIOR TO REMOVAL OF EXISTING WINGS (SEE TMP-25 AND RSD 1101.02)
 - -- CONSTRUCT LEFT RCBC EXTENSION AND TEMPORARY SHOULDER LEVEL WITH EXISTING SHOULDER BREAK (SEE TMP-25).

COMPLETE THE WORK OF PHASE II, STEPS 4-5 IN 30 CALENDAR DAYS. (SEE INTERMEDIATE CONTRACT TIME AND LIQUIDATED DAMAGES)

- STEP 4 -- USING FLAGGERS, REMOVE TEMPORARY SHORING #9, PCB, AND CRASH CUSHIONS. INSTALL DRUMS ON WESTBOUND SHOULDER AT 40 FT. CENTERS (SEE RSD 1101.02)
- STEP 5 -- USING FLAGGERS COMPLETE LEFT SHOULDER INCLUDING FINAL ADJUSTMENTS TO TBJB, INSTALL PROPOSED GUARDRAIL AND PAVE/WEDGE OVER NC 46 UP TO BUT NOT INCLUDING FINAL LAYER FROM -L- STA 495+50± TO STA. 504+50± AND TO -Y5- STA. 10+95±. (SEE SECTION EE-EE ON TMP-25 AND RSD 1101.02)

PHASE III

- STEP 1 -- USING FLAGGERS, INSTALL PCB AND CRASH CUSHION ON EASTBOUND SHOULDER (SEE TMP-26 AND RSD 1101.02)
- STEP 2 -- USING FLAGGERS, INSTALL TEMPORARY SHORING #10 PRIOR TO REMOVAL OF EXISTING WINGS (SEE TMP-26 AND RSD 1101.02)
 - -- CONSTRUCT RIGHT RCBC EXTENSION AND TEMPORARY SHOULDER LEVEL WITH EXISTING SHOULDER BREAK (SEE TMP-26).

COMPLETE THE WORK OF PHASE III, STEPS 3-4 IN 30 CALENDAR DAYS. (SEE INTERMEDIATE CONTRACT TIME AND LIQUIDATED DAMAGES.

- STEP 3 -- USING FLAGGERS, REMOVE TEMPORARY SHORING #10, PCB, AND CRASH CUSHIONS. INSTALL DRUMS ON EASTBOUND SHOULDER AT 40 FT. CENTERS (SEE RSD 1101.02)
- STEP 4 -- USING FLAGGERS COMPLETE RIGHT SHOULDER FROM -L- STA. 495+50± TO STA. 504+50± AND INSTALL PROPOSED GUARDRAIL

PHASE IV

- STEP 1 -- IN COORDINATION WITH ADJACENT AREAS, USE FLAGGERS TO INSTALL FINAL LAYER OF SURFACE COURSE INCLUDING FINAL ADJUSTMENTS TO TBJB. INSTALL FINAL PAVEMENT MARKINGS/MARKERS.
- STEP 2 -- REMOVE ALL TRAFFIC CONTROL DEVICES.

PHASING

AREA 8

-L- STA 516+50 +/- TO STA. 523+50 +/- INCLUDING RCBC EXTENSION, SHOULDER CONSTRUCTION AND PROPOSED GUARDRAIL INSTALLATION

PHASE I

- STEP 1 -- USING FLAGGERS, INSTALL YELLOW/YELLOW TEMPORARY RAISED PAVEMENT MARKERS ON EXIST CENTERLINE (SEE TMP-27 AND RSD 1101.02)
 - -- USING FLAGGERS, INSTALL TEMPORARY GUARDRAIL ON EASTBOUND SHOULDER (SEE TMP-27 AND RSD 1101.02)
- STEP 2 -- USING FLAGGERS, INSTALL TEMPORARY SHORING #11 PRIOR TO REMOVAL OF EXISTING WINGS (SEE TMP-27 AND RSD 1101.02)
 - -- CONSTRUCT RIGHT RCBC EXTENSION AND TEMPORARY SHOULDER LEVEL WITH EXISTING SHOULDER BREAK (SEE TMP-27).

COMPLETE THE WORK OF PHASE I, STEPS 3-4 IN 30 CALENDAR DAYS. (SEE INTERMEDIATE CONTRACT TIME AND LIQUIDATED DAMAGES)

- STEP 3 -- USING FLAGGERS, REMOVE TEMPORARY SHORING #11 AND TEMPORARY GUARDRAIL. INSTALL DRUMS ON EASTBOUND SHOULDER AT 40 FT. CENTERS. (SEE RSD 1101.02)
- STEP 4 -- USING FLAGGERS COMPLETE PROPOSED EASTBOUND SHOULDER, INSTALL PROPOSED GUARDRAIL, AND PAVE/WEDGE NC 46 UP TO BUT NOT INCLUDING THE FINAL LAYER OF SURFACE COURSE FROM -L- STA. 516+50± TO STA. 523+50± (SEE SECTION NN-NN ON TMP-27 AND RSD 1101.02).
 - INSTALL THE PHASE II TRAFFIC PATTERN (SEE TMP-28 AND RSD 1101.02)

PHASE II

- STEP 1 -- USING FLAGGERS, INSTALL PCB AND CRASH CUSHIONS ON WESTBOUND SHOULDER (SEE TMP-28 AND RSD 1101.02)
- STEP 2 -- USING FLAGGERS, INSTALL TEMPORARY SHORING #12 PRIOR TO REMOVAL OF EXISTING WINGS (SEE TMP-28 AND RSD 1101.02)
 - -- CONSTRUCT LEFT RCBC EXTENSION AND TEMPORARY SHOULDER LEVEL WITH EXISTING SHOULDER BREAK (SEE TMP-28)

COMPLETE THE WORK OF PHASE II, STEPS 3-4 IN 30 CALENDAR DAYS. (SEE INTERMEDIATE CONTRACT TIME AND LIQUIDATED DAMAGES)

- STEP 3 -- USING FLAGGERS, REMOVE TEMPORARY SHORING #12, PCB, AND CRASH CUSHIONS. INSTALL DRUMS ON WESTBOUND SHOULDER AT 40 FT. CENTERS. (SEE RSD 1101.02)
- STEP 4 -- USING FLAGGERS COMPLETE PROPOSED WESTBOUND SHOULDER AND INSTALL PROPOSED GUARDRAIL FROM -L- STA. 516+50± TO STA. 523+50±. (SEE SECTION 00-00 ON TMP-28 AND RSD 1101.02)

PHASE III

- STEP 1 -- IN COORDINATION WITH ADJACENT AREAS, INSTALL FINAL LAYER OF SURFACE COURSE AND FINAL PAVEMENT MARKINGS.
- STEP 2 -- REMOVE ALL TRAFFIC CONTROL DEVICES.

AREA 9

PROJ. REFERENCE NO. SHEET NO.

R - 5739

TMP - 3B

TGS ENGINEERS
706 HILLSBOROUGH ST. SUITE 200
RALEIGH, NC 27603
PH (919) 773-8887
CORP. LICENSE NO.: C-0275

-L- STA 526+50 +/- TO STA. 533+00 +/- INCLUDING RCBC EXTENSION, SHOULDER CONSTRUCTION AND PROPOSED GUARDRAIL INSTALLATION

PHASE I

- STEP 1 -- USING FLAGGERS, INSTALL YELLOW/YELLOW TEMPORARY
 RAISED PAVEMENT MARKERS ON EXIST CENTERLINE (SEE
 TMP-29 AND RSD 1101.02)
 - -- USING FLAGGERS, INSTALL TEMPORARY GUARDRAIL ADJACENT TO WESTBOUND NC 46 (-L-) (SEE TMP-29 AND RSD 1101.02)
- STEP 2 -- USING FLAGGERS, INSTALL TEMPORARY SHORING #13 PRIOR TO REMOVAL OF EXISTING WINGS (SEE TMP-29 AND RSD 1101.02)
 - -- CONSTRUCT LEFT RCBC EXTENSION AND TEMPORARY SLOPE LEVEL WITH EXISTING SHOULDER BREAK (SEE TMP-29)

COMPLETE THE WORK OF PHASE I, STEPS 3-4 IN 30 CALENDAR DAYS. (SEE INTERMEDIATE CONTRACT TIME AND LIQUIDATED DAMAGES)

- STEP 3 -- USING FLAGGERS, REMOVE TEMPORARY SHORING #13 AND TEMPORARY GUARDRAIL. INSTALL DRUMS ON WESTBOUND SHOULDER AT 40 FT. CENTERS. (SEE RSD 1101.02)
- STEP 4 -- USING FLAGGERS COMPLETE PROPOSED WESTBOUND SHOULDER,
 INSTALL PROPOSED GUARDRAIL, AND PAVE/WEDGE NC 46 UP TO
 BUT NOT INCLUDING THE FINAL LAYER OF SURFACE COURSE
 FROM -L- STA. 526+50± TO STA. 533+00±.
 (SEE SECTION PP-PP ON TMP-29 AND RSD 1101.02)

PHASE II

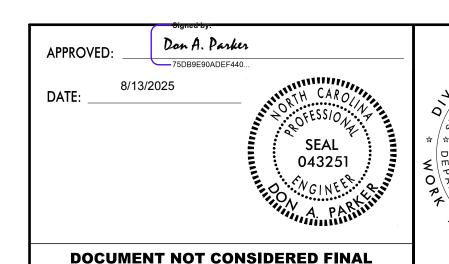
- STEP 1 -- USING FLAGGERS, INSTALL PCB AND CRASH CUSHIONS ON EASTBOUND SHOULDER (SEE TMP-30 AND RSD 1101.02)
- STEP 2 -- USING FLAGGERS, INSTALL TEMPORARY SHORING #14 PRIOR TO REMOVAL OF EXISTING WINGS (SEE TMP-30 AND RSD 1101.02)
 - -- CONSTRUCT RIGHT RCBC EXTENSION AND TEMPORARY SLOPE LEVEL WITH EXISTING SHOULDER BREAK (SEE TMP-30)

COMPLETE THE WORK OF PHASE II, STEPS 3-4 IN 30 CALENDAR DAYS. (SEE INTERMEDIATE CONTRACT TIME AND LIQUIDATED DAMAGES.

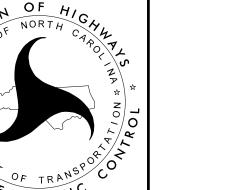
- STEP 3 -- USING FLAGGERS, REMOVE TEMPORARY SHORING #14, PCB, AND CRASH CUSHIONS. INSTALL DRUMS ON EASTBOUND SHOULDER AT 40 FT. CENTERS. (SEE RSD 1101.02)
- STEP 4 -- USING FLAGGERS COMPLETE PROPOSED EASTBOUND SHOULDER AND INSTALL PROPOSED GUARDRAIL FROM -L- STA. 526+50± TO STA. 533+25±. (SEE SECTION QQ-QQ ON TMP-30 AND RSD 1101.02)

PHASE III

- STEP 1 -- IN COORDINATION WITH ADJACENT AREAS, INSTALL FINAL LAYER OF SURFACE COURSE AND FINAL PAVEMENT MARKINGS.
- STEP 2 -- REMOVE ALL TRAFFIC CONTROL DEVICES.



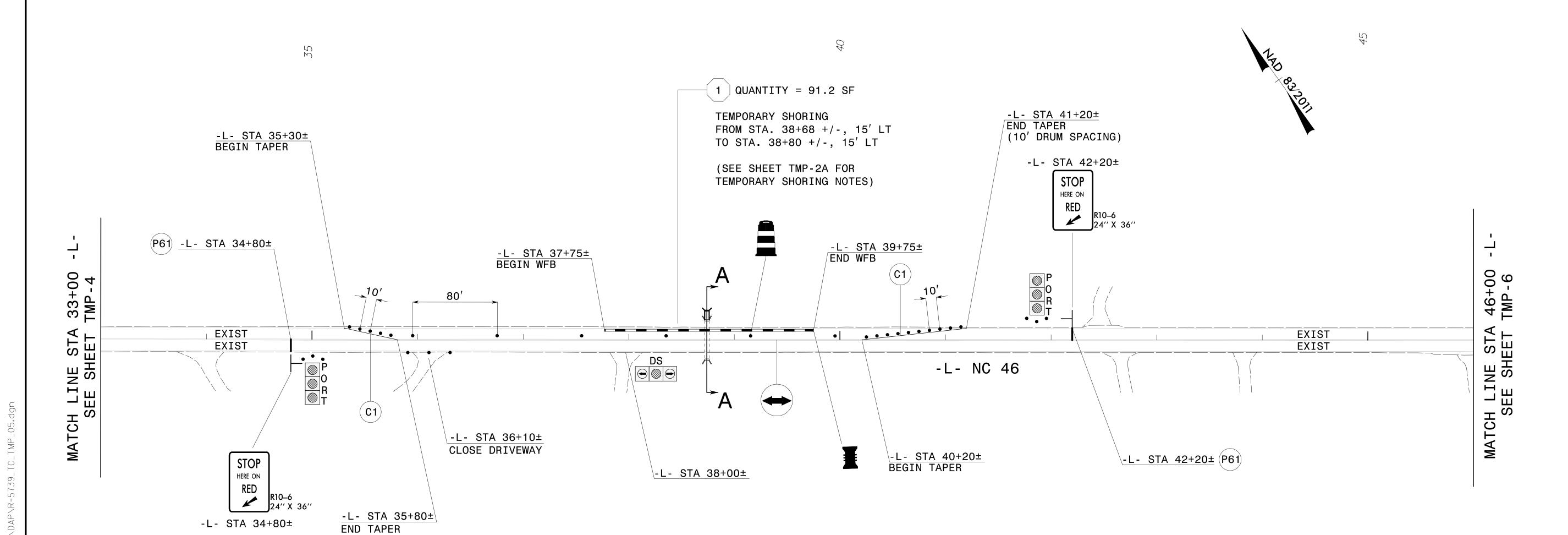
UNLESS ALL SIGNATURES COMPLETED



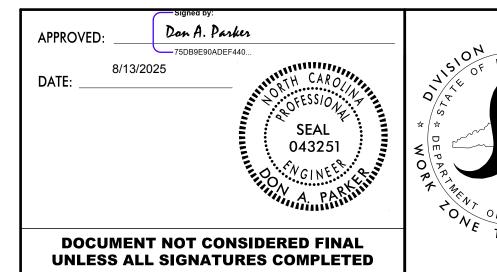
PHASING



6/6/2025



NOTE:
IF SHOULDER IS NOT WIDE ENOUGH FOR PORTABLE SIGNAL, INSTALL BEHIND TAPER OR AS DIRECTED BY THE ENGINEER



AREA 2 PHASE I

PROJ. REFERENCE NO.

SHEET NO.

Don A. Parker

75DB9E90ADEF440...

DATE:

8/13/2025

SEAL

043251

OFESS/ONER

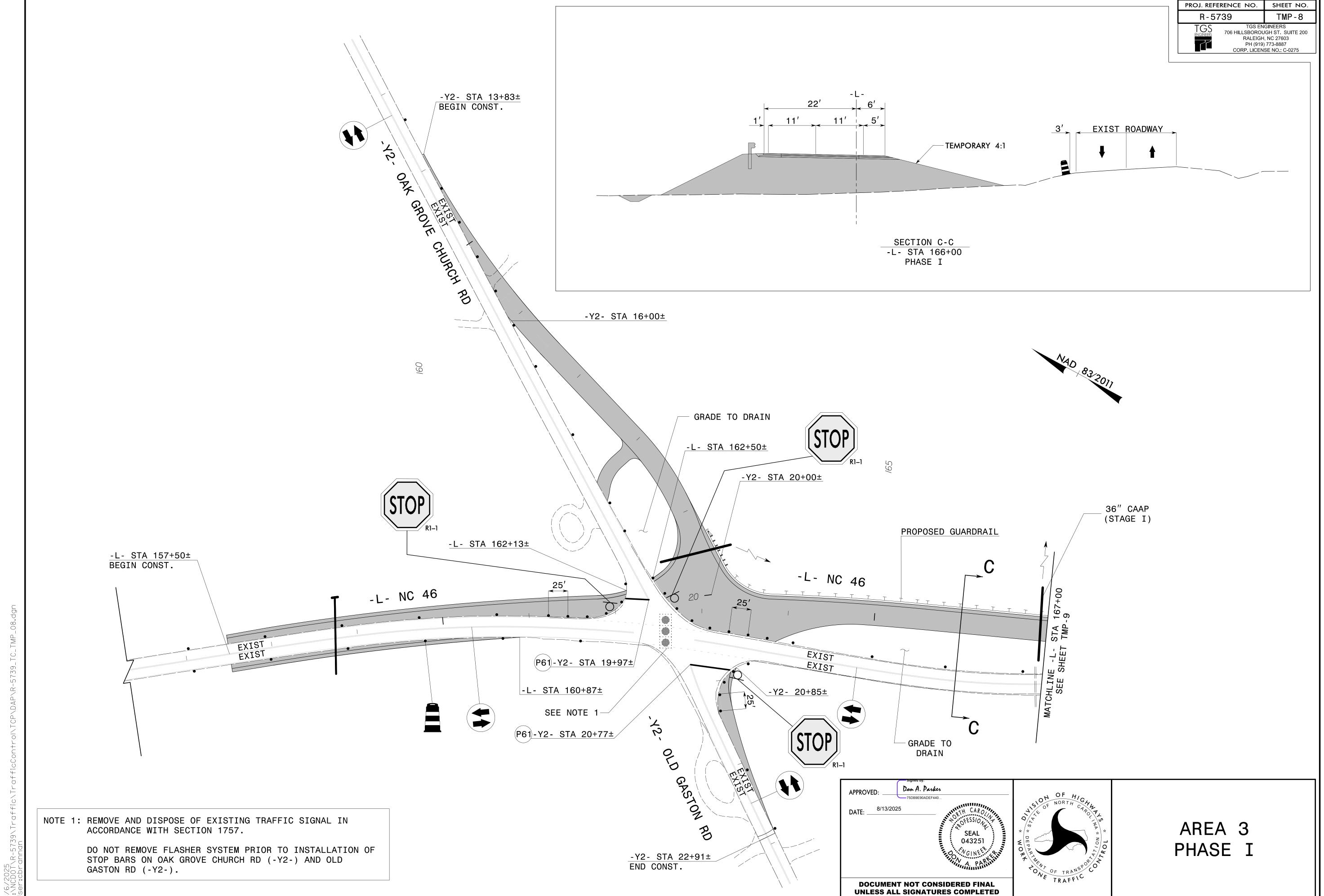
ON

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

AREA 2 PHASE I

PROJ. REFERENCE NO.

SHEET NO.



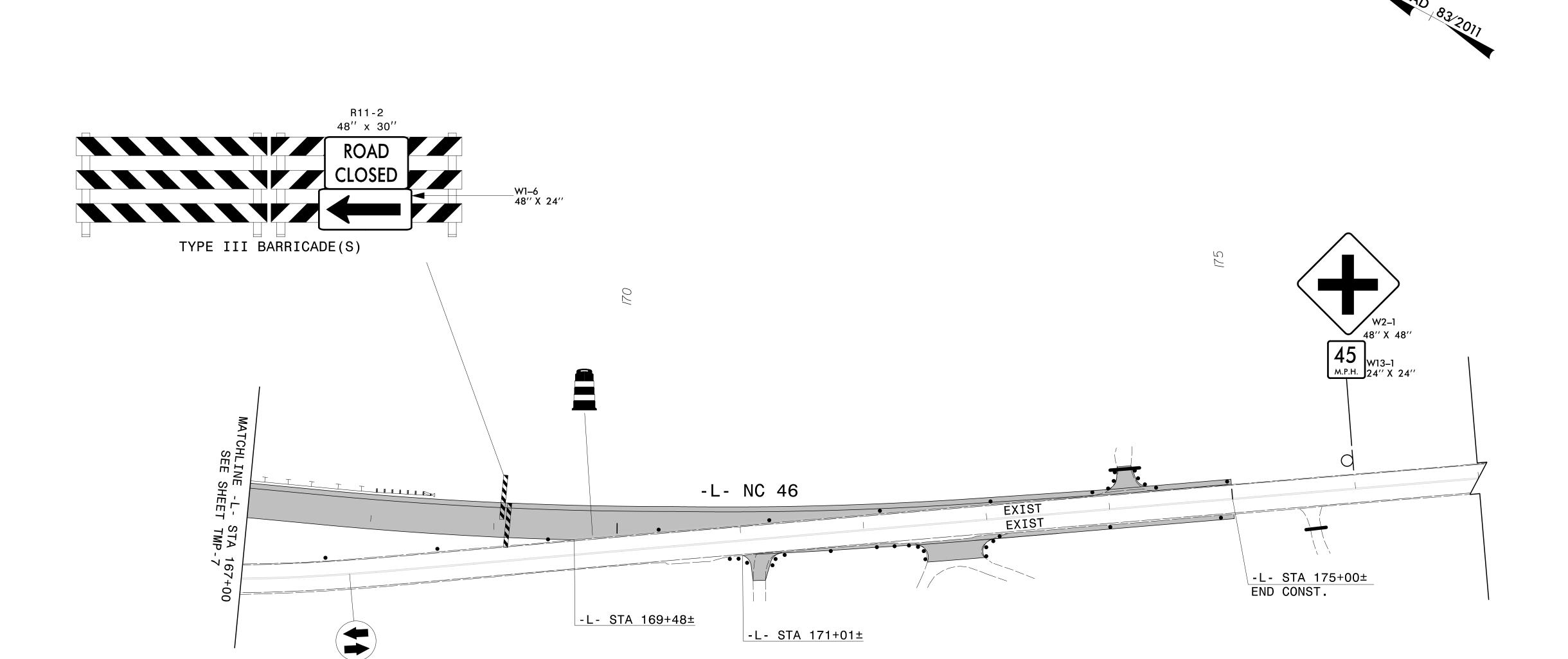
Docusign Envelope ID: A0B8246C-D97E-4EF9-BF62-4F115028FDDF

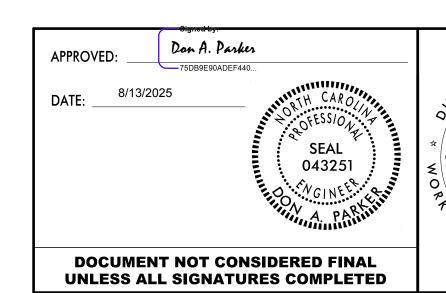
PROJ. REFERENCE NO.

R - 5739

TMP - 9

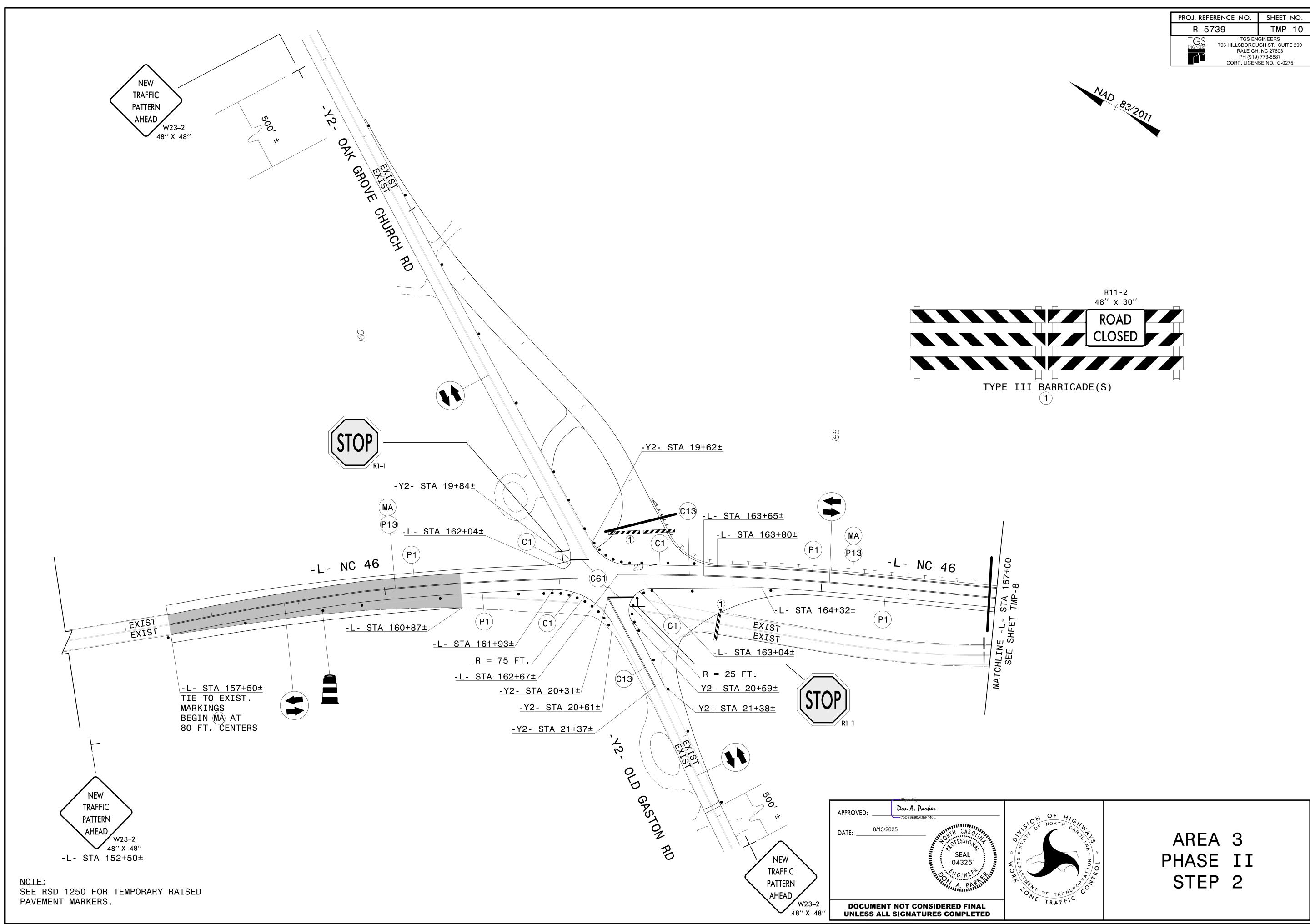
TGS ENGINEERS
706 HILLSBOROUGH ST. SUITE 200
RALEIGH, NC 27603
PH (919) 773-8887
CORP. LICENSE NO.: C-0275







AREA 3 PHASE I



PROJ. REFERENCE NO. SHEET NO.

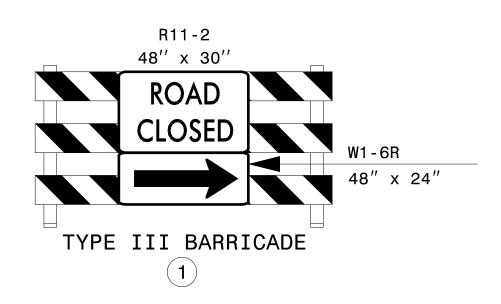
R - 5739

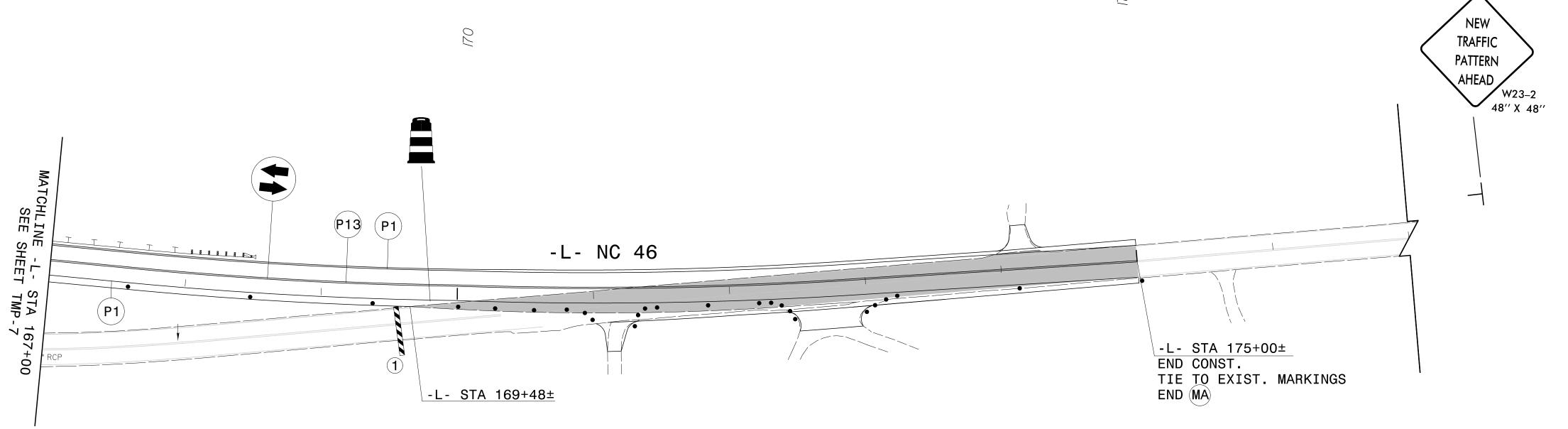
TMP - 11

TGS ENGINEERS
706 HILLSBOROUGH ST. SUITE 200
RALEIGH, NC 27603
PH (919) 773-8887
CORP. LICENSE NO.: C-0275

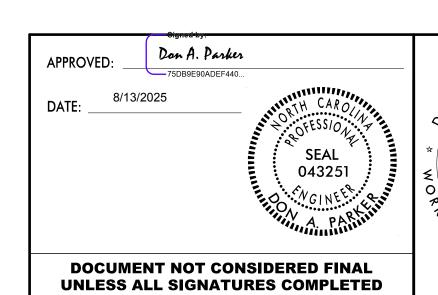
NAD 83/2011

-L- STA 180+00±

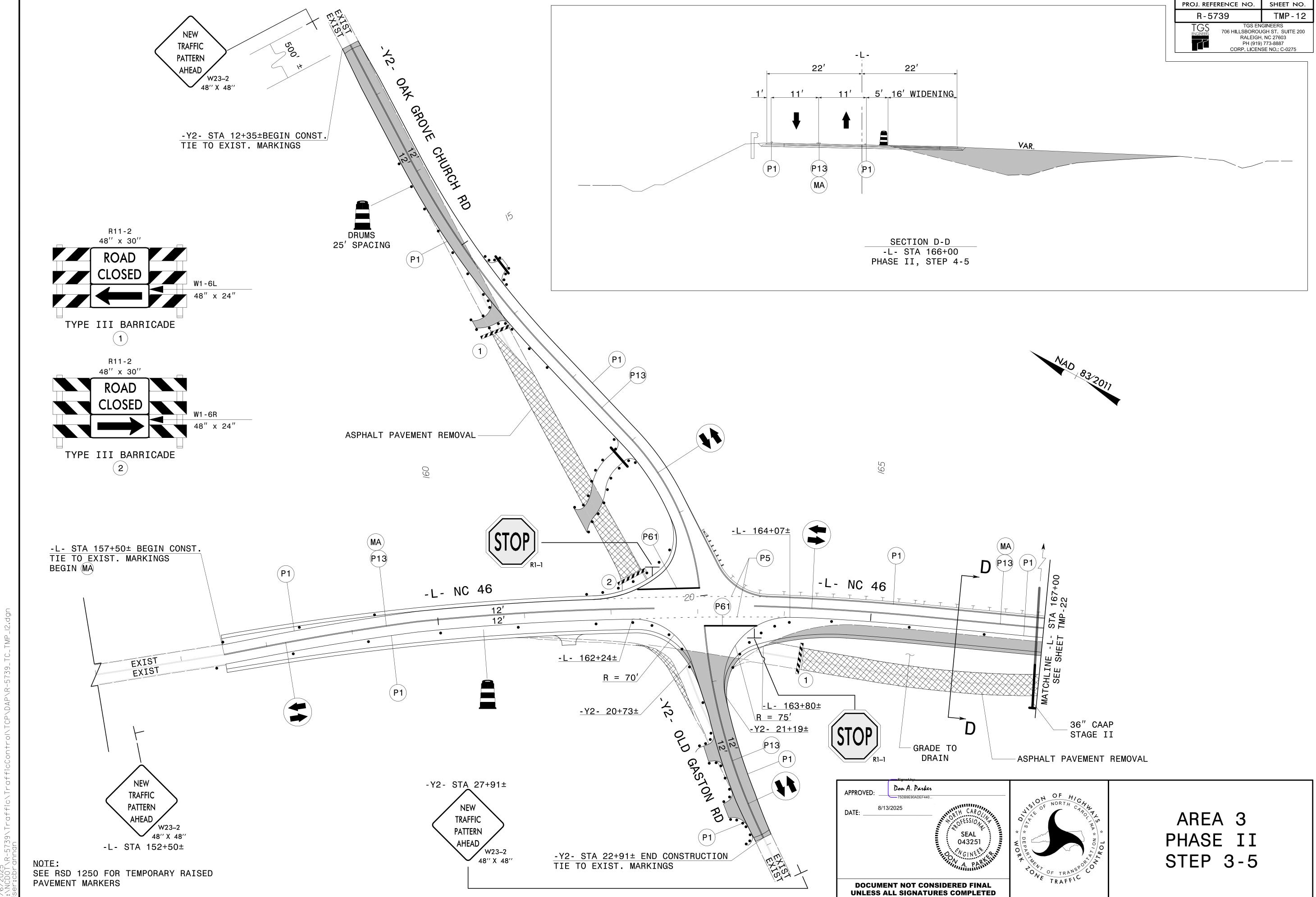




NOTE: SEE RSD 1250 FOR TEMPORARY RAISED PAVEMENT MARKERS



AREA 3 PHASE II STEP 2

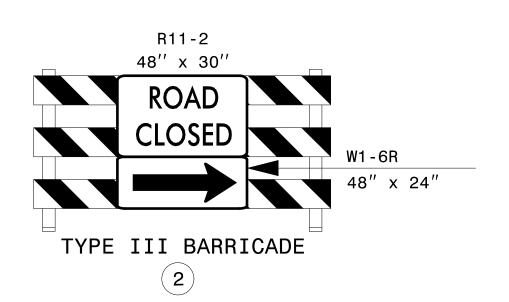


PROJ. REFERENCE NO. SHEET NO. TMP-13 R-5739 TGS ENGINEERS 706 HILLSBOROUGH ST. SUITE 200 RALEIGH, NC 27603 PH (919) 773-8887 CORP. LICENSE NO.: C-0275

-L- STA 180+00±

TRAFFIC **PATTERN** AHEAD

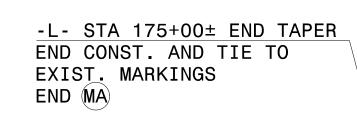
W23-2 48" X 48"

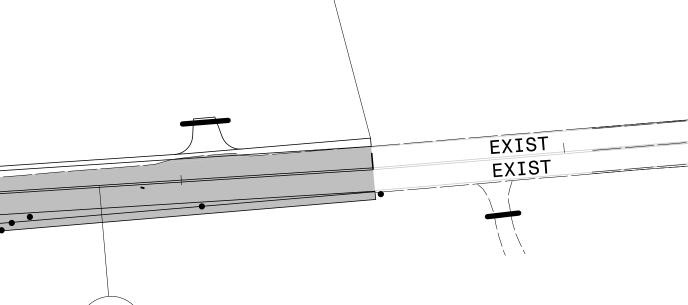


-ASPHALT PAVEMENT REMOVAL

-L- STA 170+00 BEGIN TAPER

P1



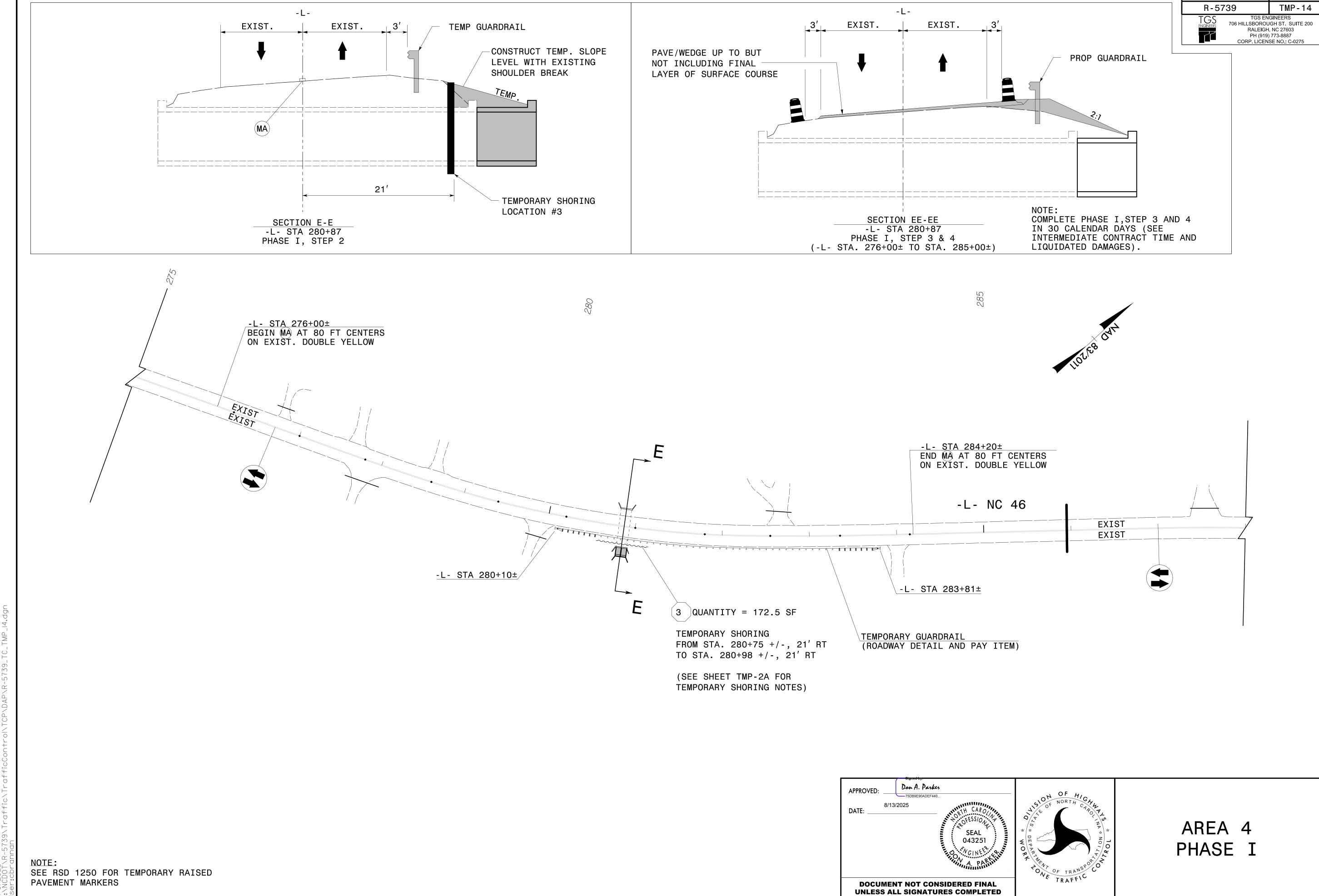


GRADE TO

APPROVED: Dan A. Parker
75DB9E90ADEF440...

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

AREA 3 PHASE II STEP 3-5

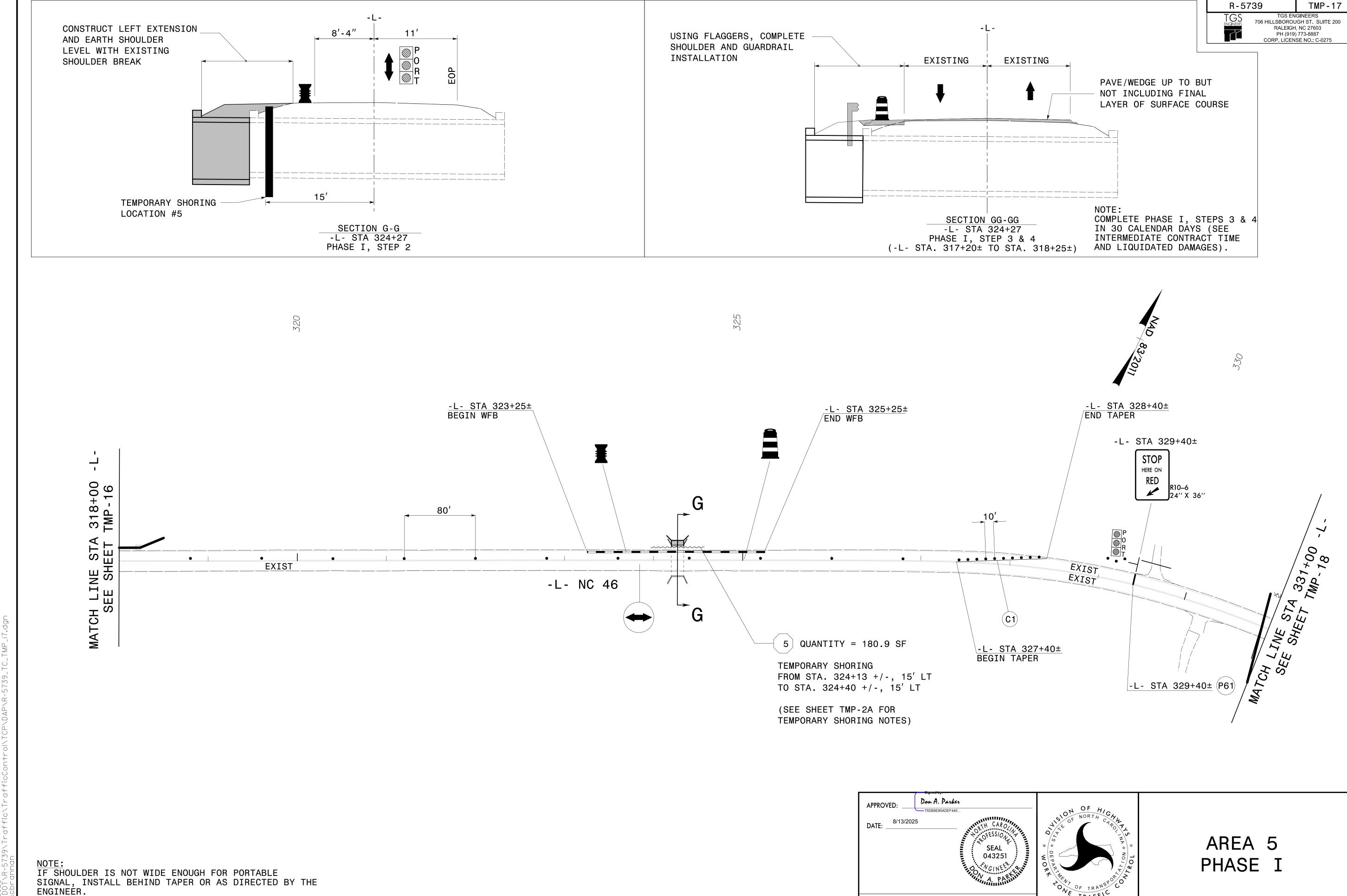


PROJ. REFERENCE NO.

SHEET NO.

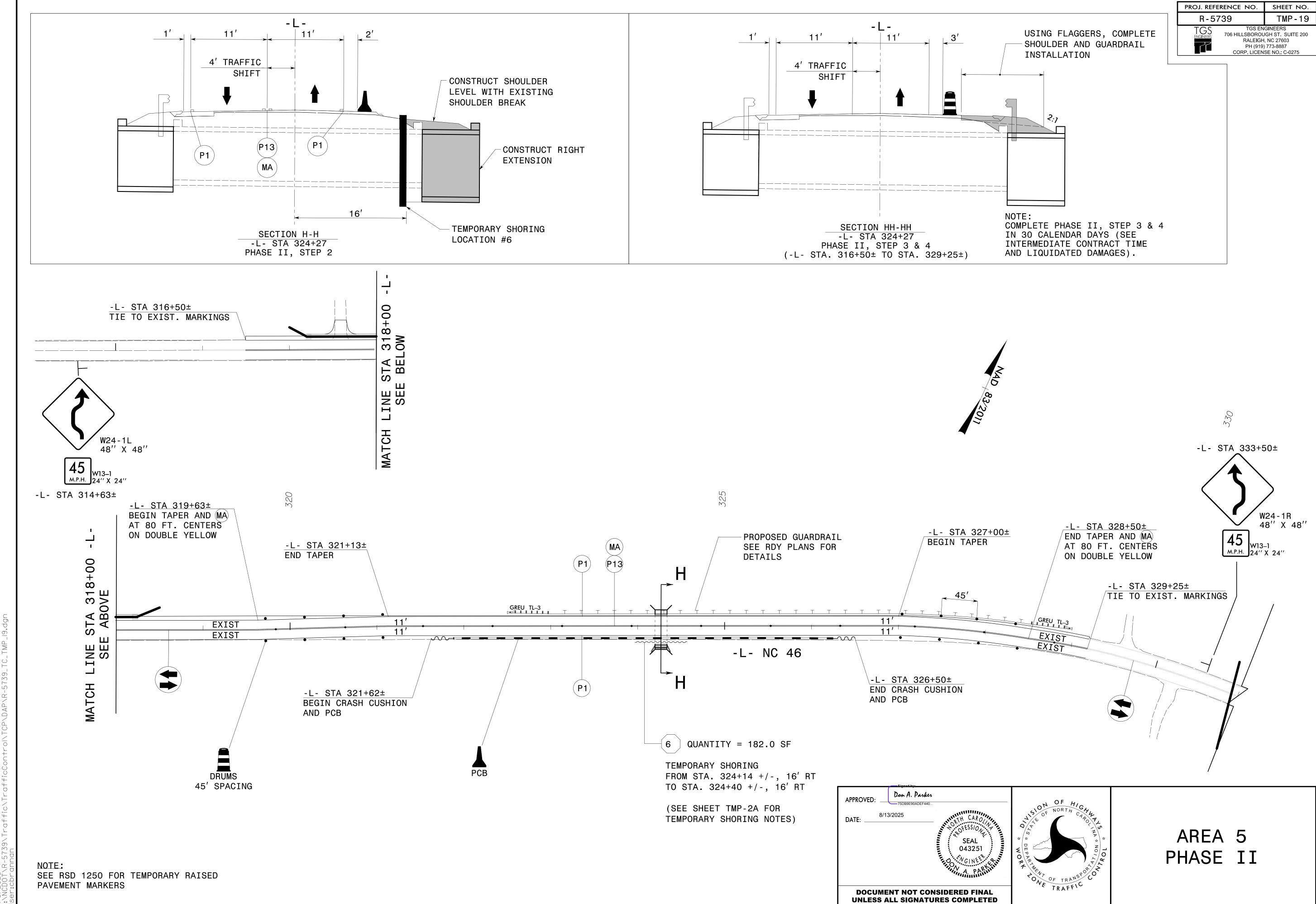
AREA 4 PHASE II

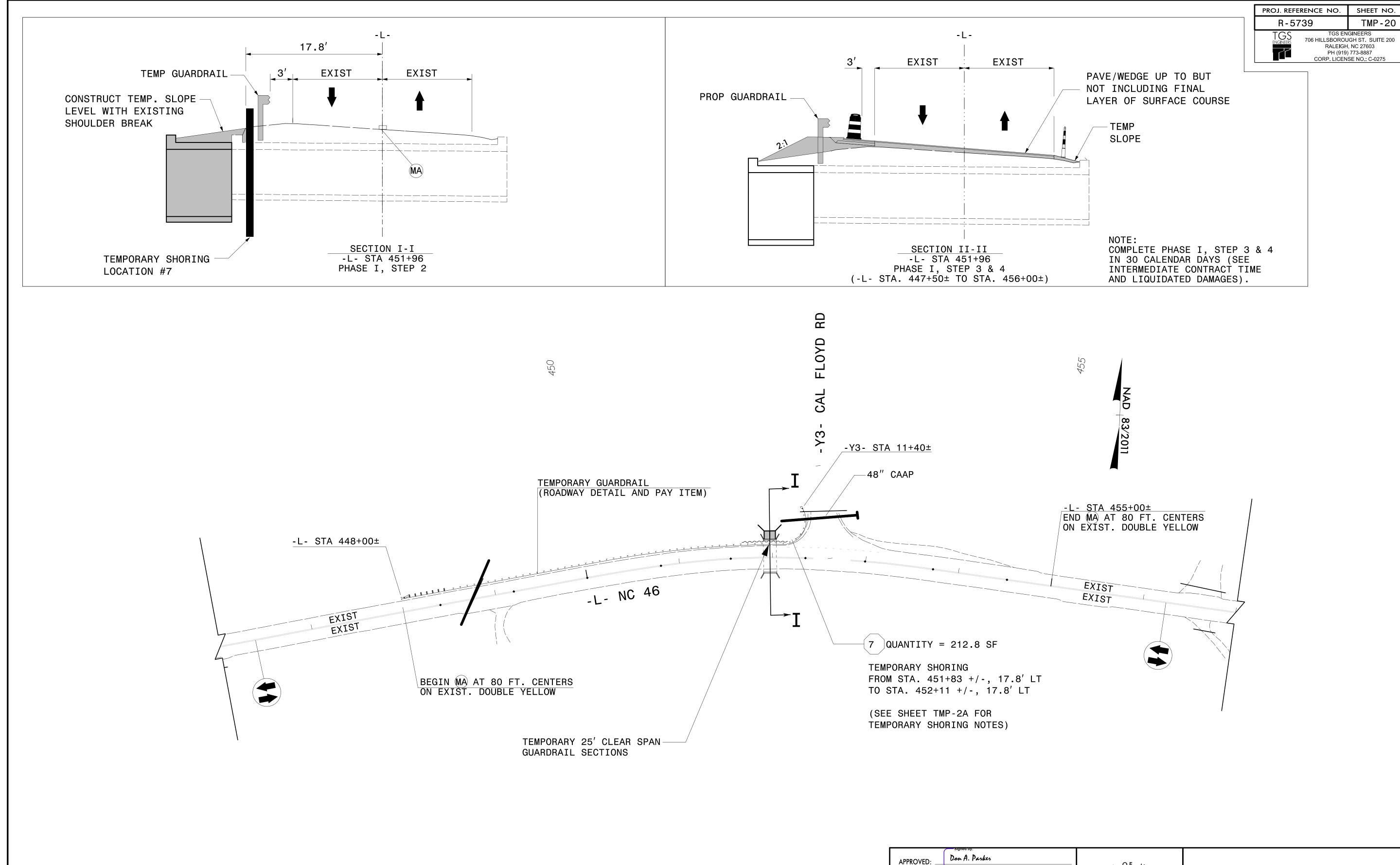
(*\NCDOT\R-5739\Traffic\TrafficControl\T\)



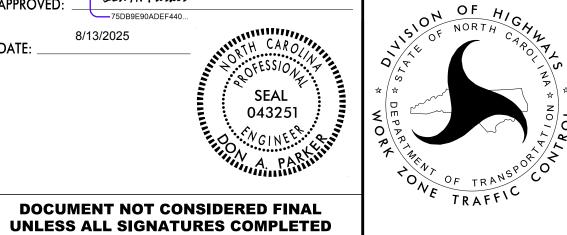
PROJ. REFERENCE NO.

SHEET NO.



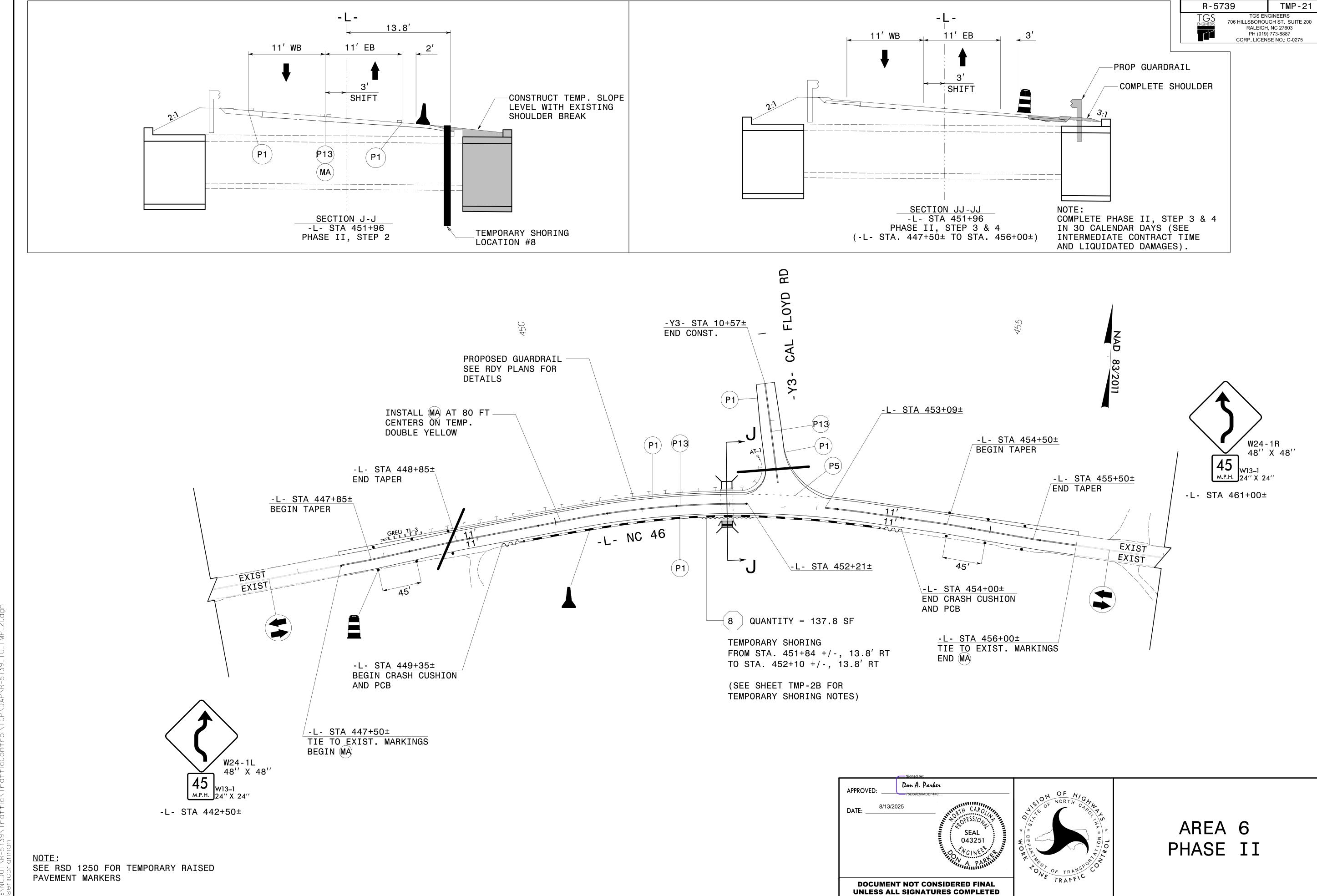


NOTE: SEE RSD 1250 FOR TEMPORARY RAISED PAVEMENT MARKERS



DATE:

AREA 6 PHASE I



PROJ. REFERENCE NO.

SHEET NO.

3/6/2025 %:\NCDOT\R-5739\Traffic\TrafficControl\TCP\DA Docusign Envelope ID: A0B8246C-D97E-4EF9-BF62-4F115028FDDF PROJ. REFERENCE NO. TMP-22 TGS ENGINEERS 706 HILLSBOROUGH ST. SUITE 200 RALEIGH, NC 27603 PH (919) 773-8887 CORP. LICENSE NO.: C-0275 -L- NC 46 -L- STA 489+75±

PREPARED

TO STOP

-L- STA 484+75±

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

P

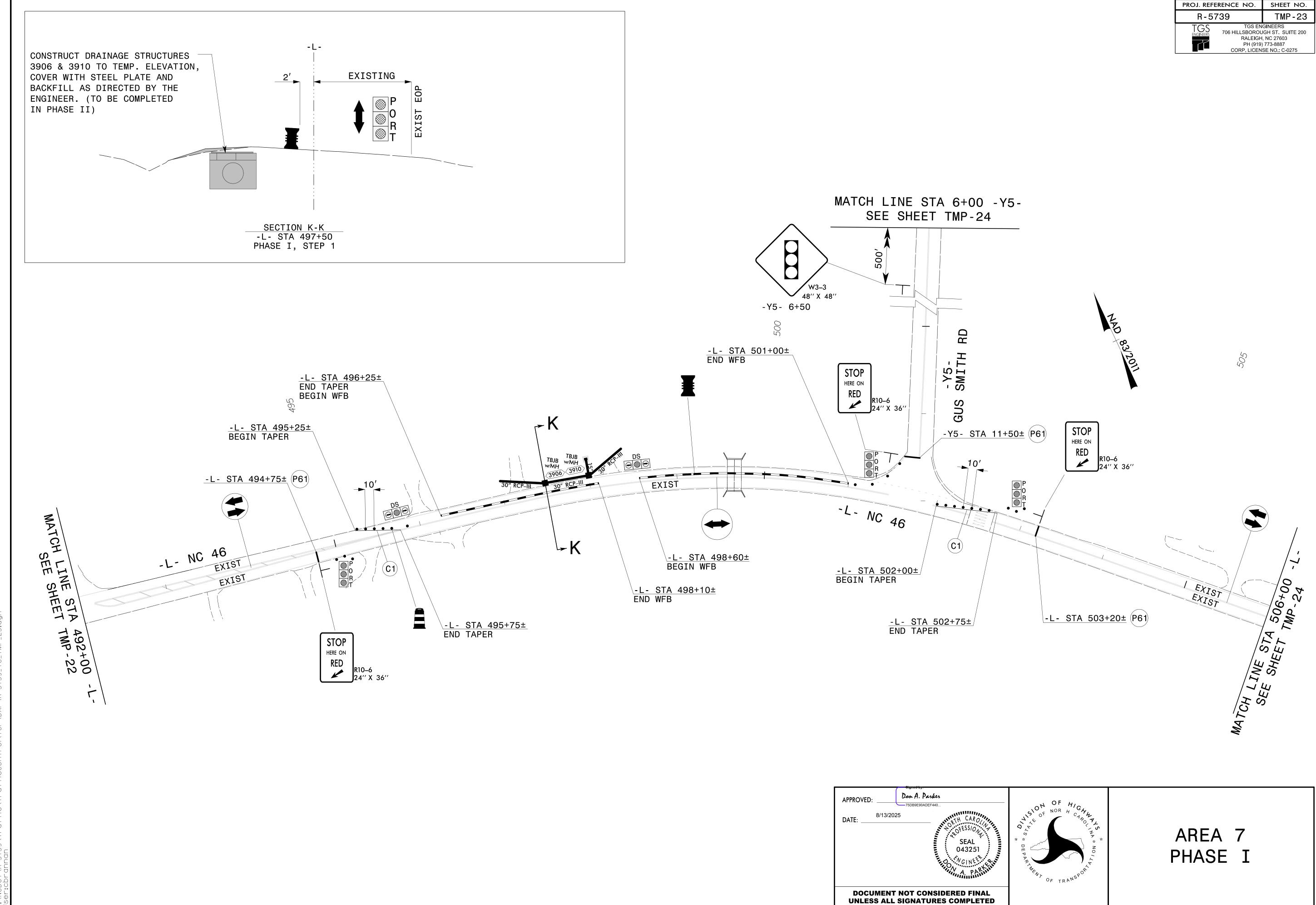
AREA 7 PHASE I

X:\NCDOT\R-5739\Traffic\TrafficControl\TCP\DAP\R-5739_1 ||ser:chrannan

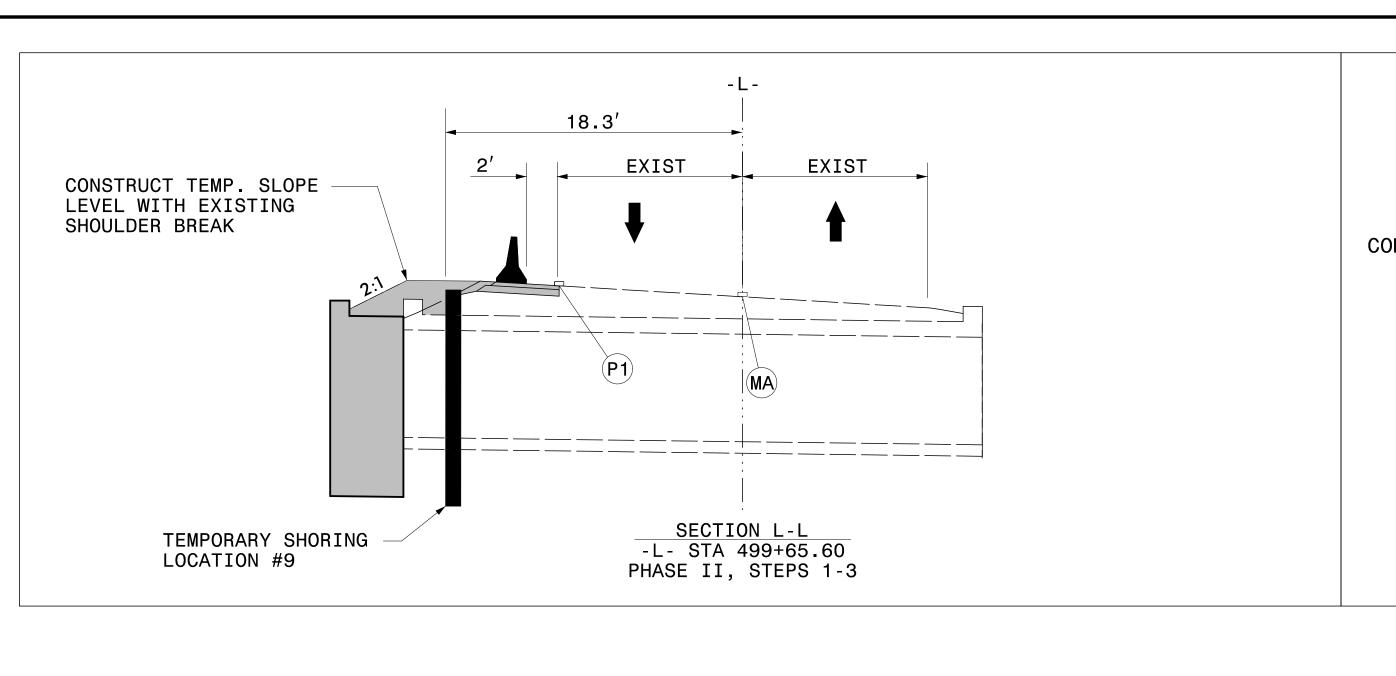
ONE LANE

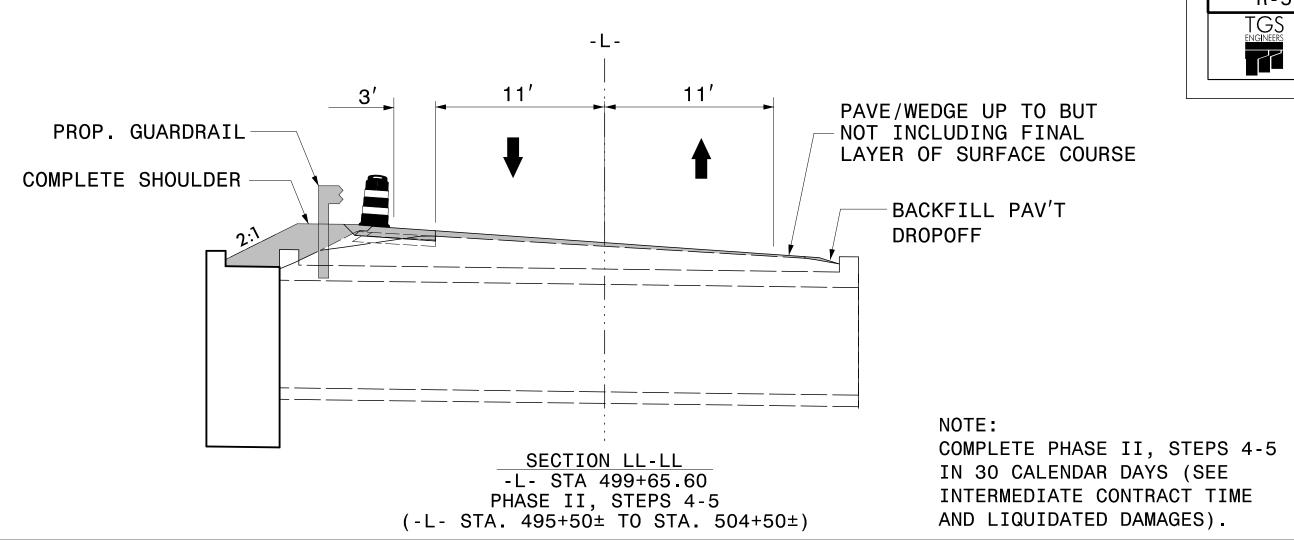
ROAD

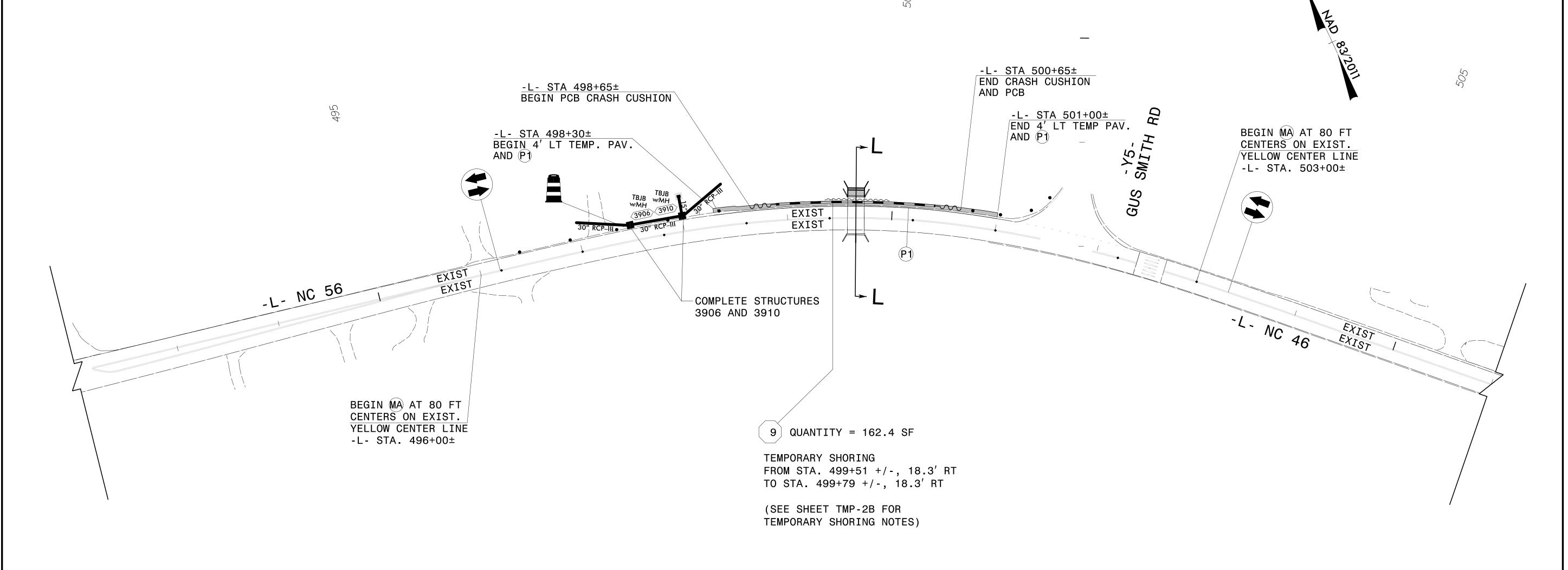
-L- STA 479+75±



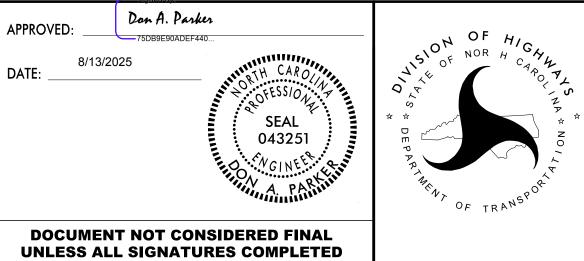
6/6/2025 X:\NCDOT\R-5739\Traffic\TrafficContr







NOTE: SEE RSD 1250 FOR TEMPORARY RAISED PAVEMENT MARKERS



DATE: _

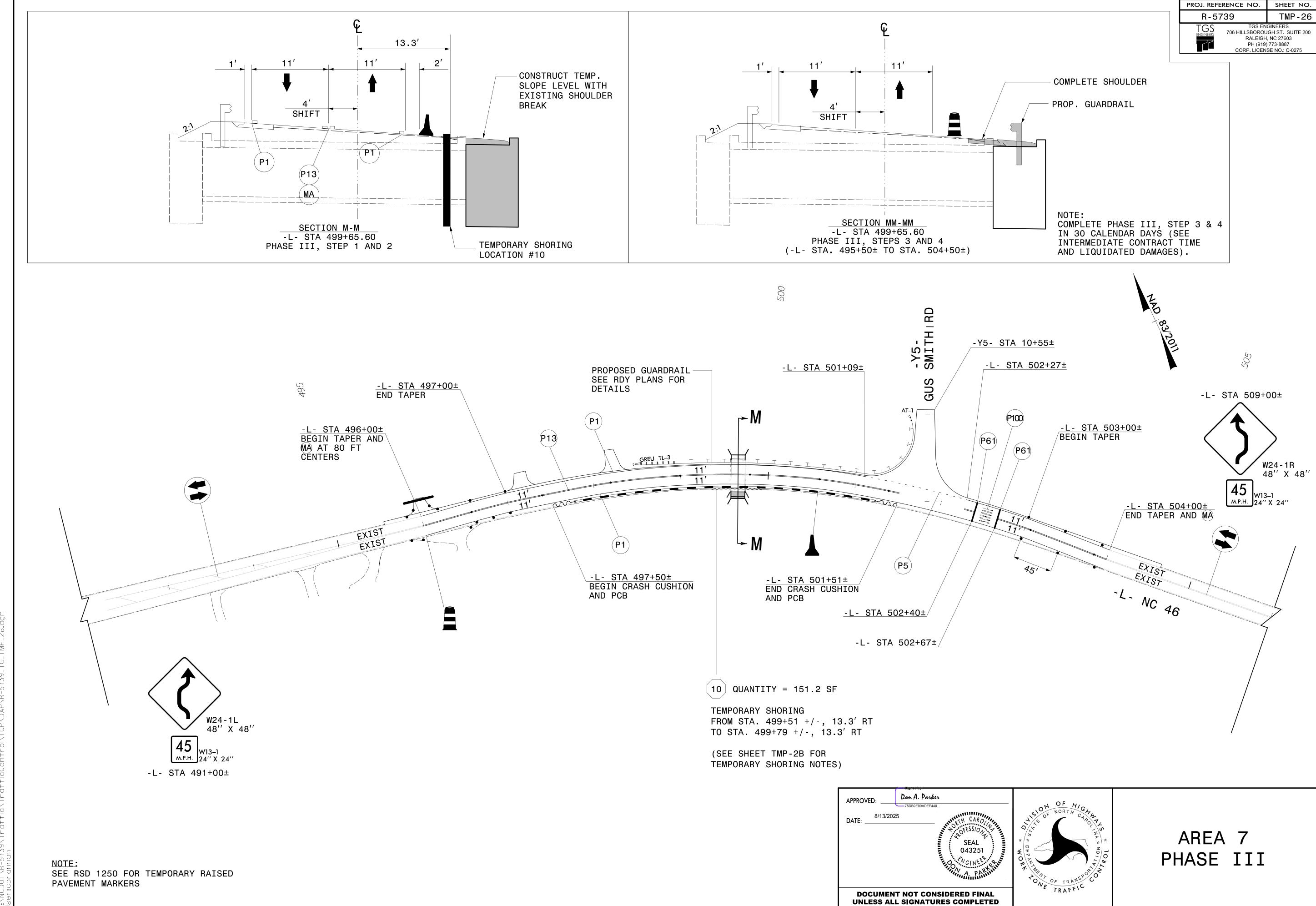
AREA 7 PHASE II

PROJ. REFERENCE NO.

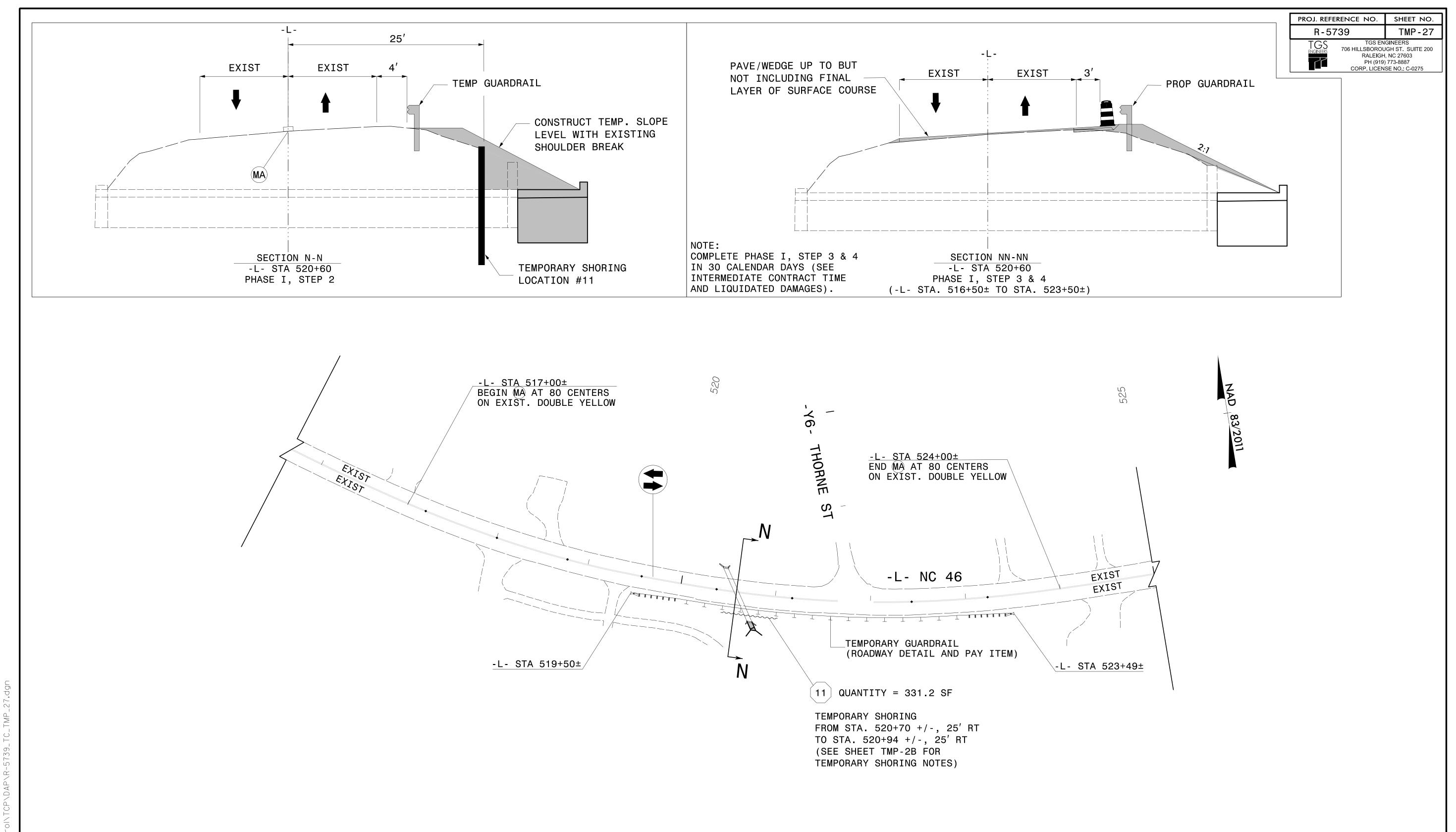
SHEET NO.

TGS ENGINEERS 706 HILLSBOROUGH ST. SUITE 200 RALEIGH, NC 27603 PH (919) 773-8887 CORP. LICENSE NO.: C-0275

TMP-25



6/6/2025 X:\NCDOT\R-5739\Traffic\T



Don A. Parker

75DB9E90ADEF440...

DATE:

8/13/2025

DATE:

SEAL

043251

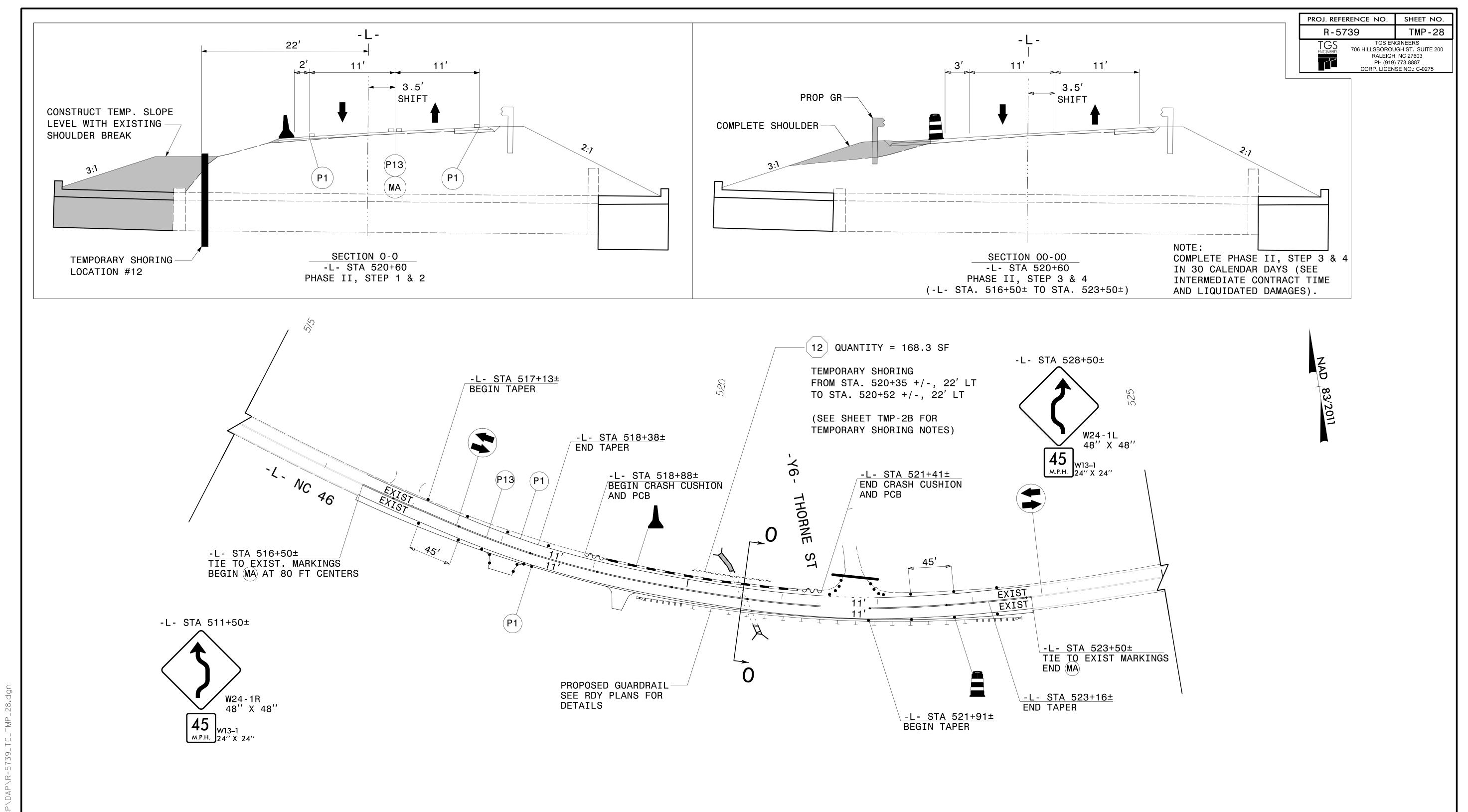
043251

OPPARIMENTAL PARKETING

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

AREA 8 PHASE I

VCDOT\R-5739\Traffic\Traf



Don A. Panker

75DB9E90ADEF440...

DATE:

8/13/2025

SEAL

043251

ORD

REPARKTION

OFESS/ON

A PARKTION

OFESS/ON

A PARKTION

OFESS/ON

A PARKTION

OFESS/ON

OFESS/ON

A PARKTION

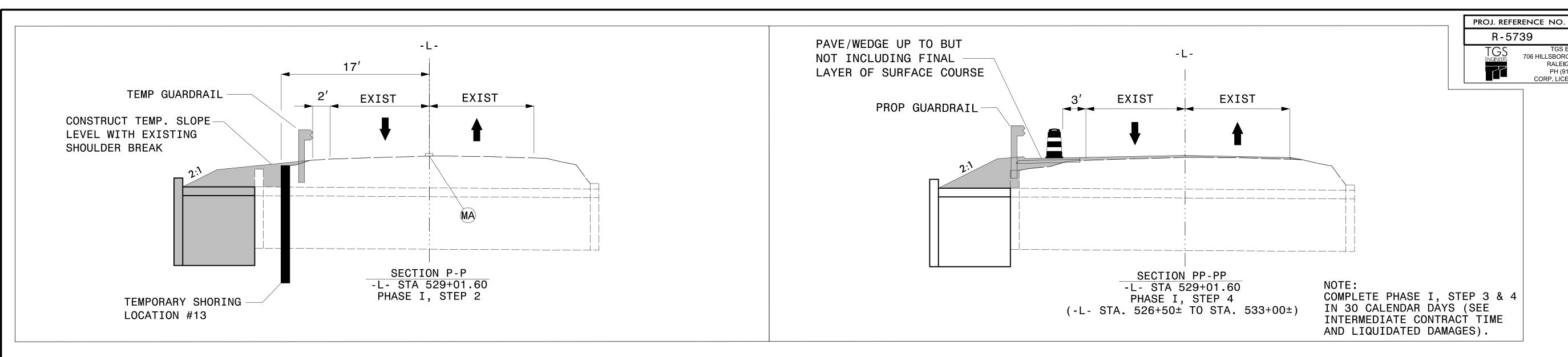
OFESS/ON

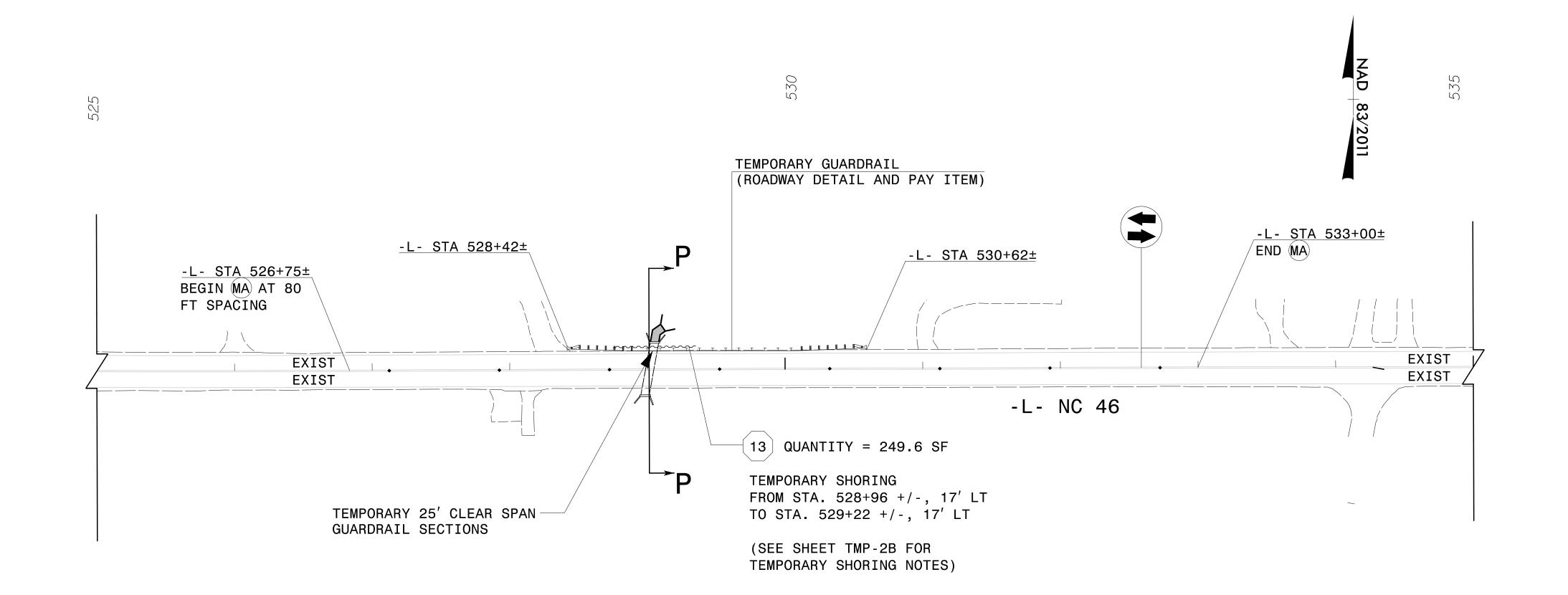
OFES

UNLESS ALL SIGNATURES COMPLETED

AREA 8 PHASE II

DOT\R-5739\Traffic\Traffic cbrannan





Don A. Parker

75DB9E90ADEF440...

DATE:

8/13/2025

SEAL

043251

OF HIGH

NORTH

CAROL

NORTH

CAR

AREA 9 PHASE I SHEET NO.

TGS ENGINEERS 706 HILLSBOROUGH ST. SUITE 200 RALEIGH, NC 27603 PH (919) 773-8887 CORP. LICENSE NO.: C-0275

<:\NCDOT\R-5739\Traffic\TrafficControl\TCP\DAP\R-573 |ser:cbrannan

