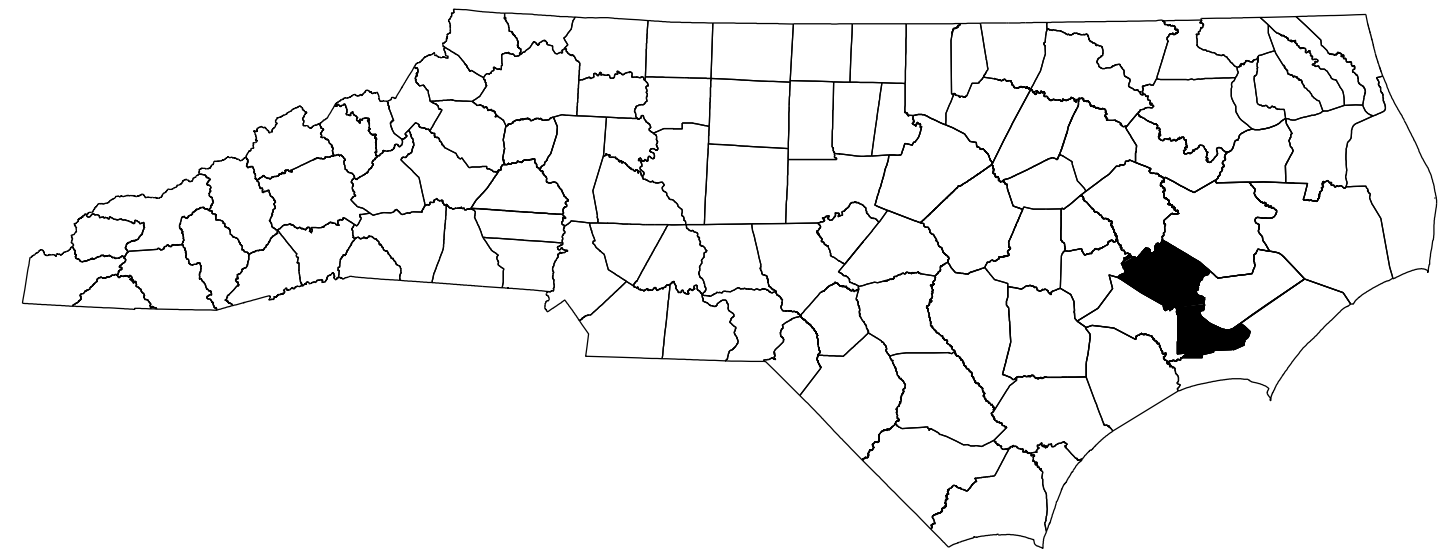


CONTRACT: DB00459 PROJECT NUMBER: 15402.1025800

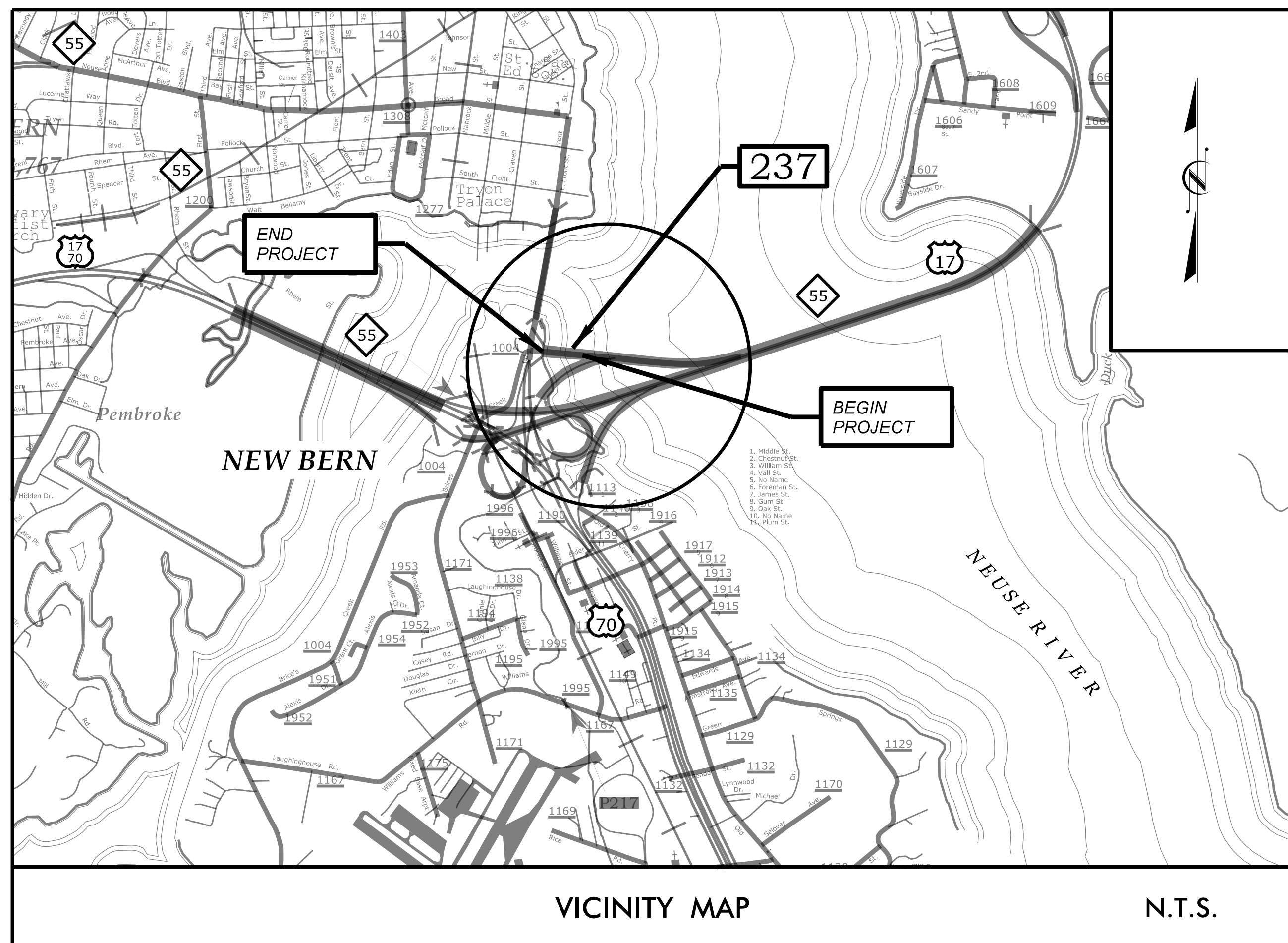


STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS
CRAVEN COUNTY

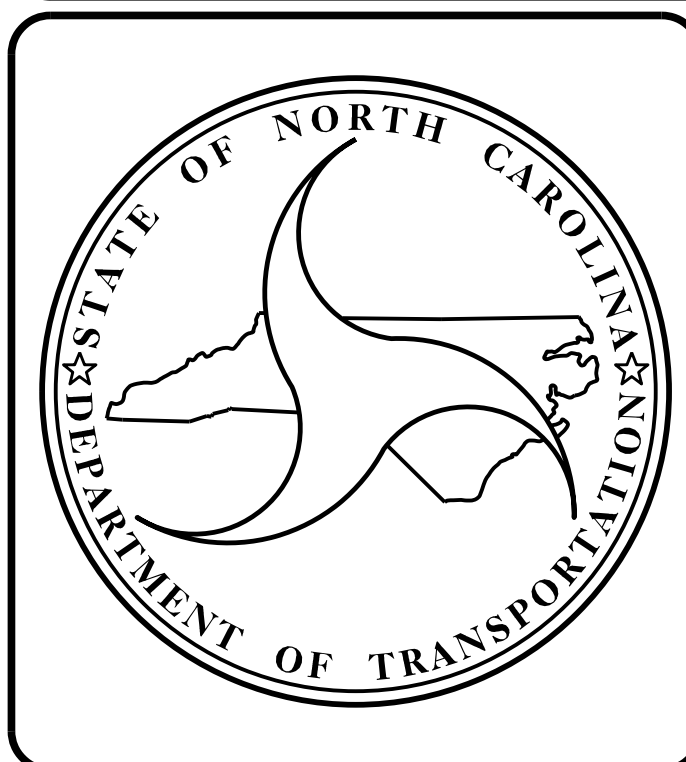
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N.C.	15402.1025800	1	11
STATE PROJ. NO.	P.A. PROJ. NO.	DESCRIPTION	
15402.1025800	-	P.E.	
15402.1025800	-	CONST.	

LOCATION: CRAVEN COUNTY
BRIDGE #237 ON NC 55, US 17 OVER THE NEUSE RIVER

TYPE OF WORK: APPROACH SLAB REPLACEMENT,
APPROACH ROADWAY REPAIR, GUARDRAIL REPLACEMENT



STRUCTURES



DESIGN DATA

CRAVEN COUNTY
#237 ADT 2016 = 490

PROJECT LENGTH

CRAVEN COUNTY
#237 = 0.17 MILE

2018 STANDARD SPECIFICATIONS

LETTING DATE :
NOVEMBER 20, 2018

Prepared for the Office of:
DIVISION OF HIGHWAYS
DIVISION 2
2815 ROUSE ROAD EXT.
KINSTON N.C. 28504

KCA 301 FAYETTEVILLE ST., SUITE 1500
RALEIGH, NC 27601
(919) 882-7839

SAMUEL L. CULLUM, P.E.
PROJECT ENGINEER

JACOB H. DUKE, P.E.
PROJECT DESIGN ENGINEER

DocuSigned by:
Samuel L. Cullum
18C9709C75A467
10/16/2018 9:20:11 AM

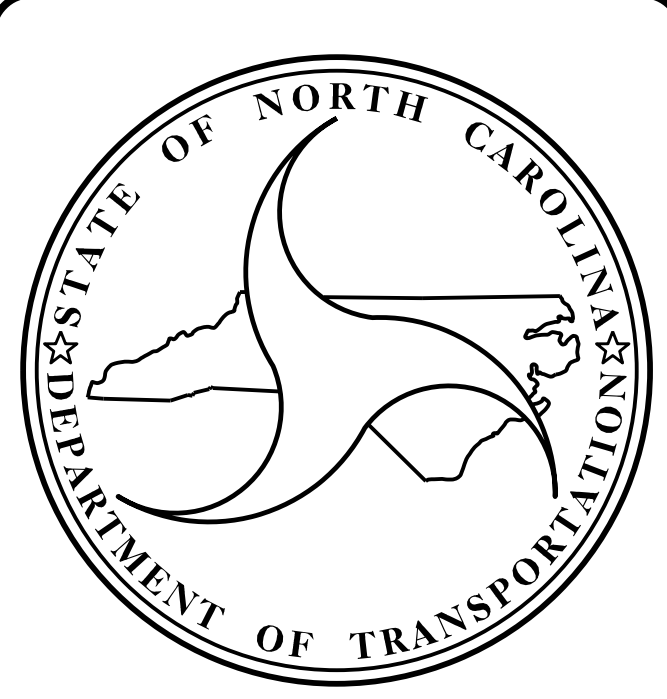
PROJECT: 15402.1025800

CONTRACT: DB00459

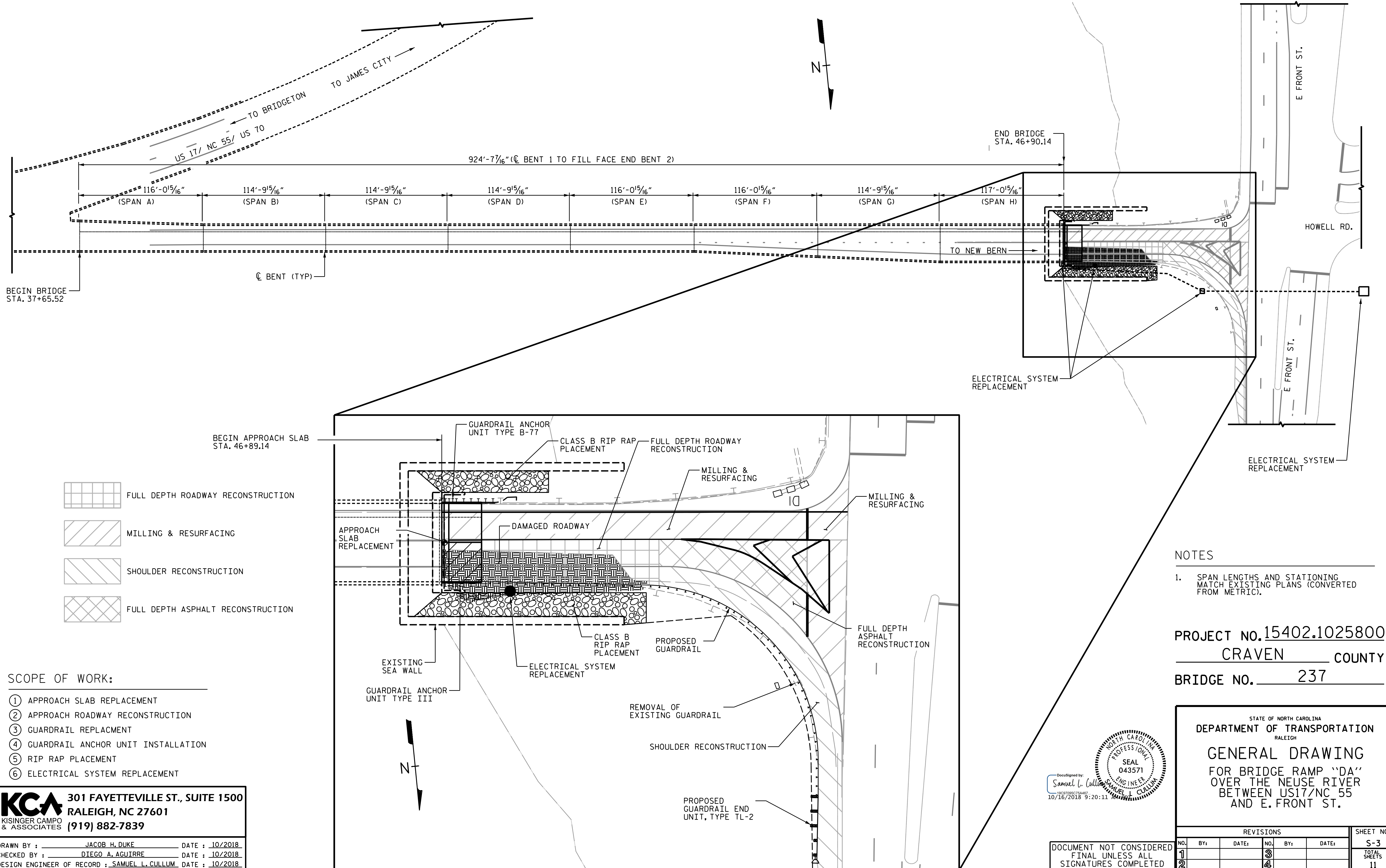
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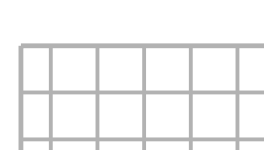



- 1 TITLE SHEET
- 1A INDEX OF SHEETS
- S-1 BILL OF MATERIALS
- S-2 GENERAL NOTES
- S-3 GENERAL DRAWING
- S-4 BRIDGE APPROACH SLAB FOR FLEXIBLE PAVEMENT
- S-5 BRIDGE APPROACH SLAB DETAILS
- S-6 APPROACH ROADWAY (1 OF 2)
- S-7 APPROACH ROADWAY (2 OF 2)
- S-8 ELECTRICAL SYSTEM REPLACEMENT
- S-9 STANDARD NOTES

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	15402.1025800	1A	11
STATE PROJ. NO.	P.A. PROJ. NO.	DESCRIPTION	
15402.1025800	-	P.E.	
15402.1025800	-	CONST.	



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 & ASSOCIATES
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 (919) 882-7839



-  FULL DEPTH ROADWAY RECONSTRUCTION
-  MILLING & RESURFACING
-  SHOULDER RECONSTRUCTION
-  FULL DEPTH ASPHALT RECONSTRUCTION

SCOPE OF WORK:

- ① APPROACH SLAB REPLACEMENT
- ② APPROACH ROADWAY RECONSTRUCTION
- ③ GUARDRAIL REPLACEMENT
- ④ GUARDRAIL ANCHOR UNIT INSTALLATION
- ⑤ RIP RAP PLACEMENT
- ⑥ ELECTRICAL SYSTEM REPLACEMENT

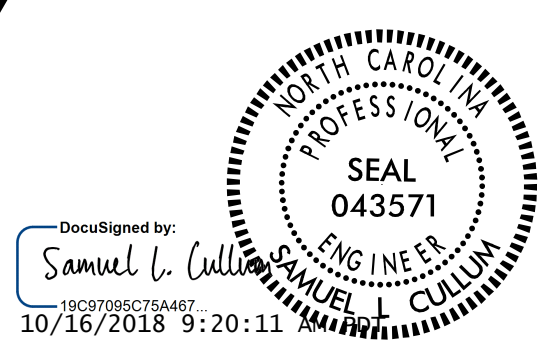
KCA 301 FAYETTEVILLE ST., SUITE 1500
 KISINGER CAMPO & ASSOCIATES RALEIGH, NC 27601
 (919) 882-7839

DRAWN BY : JACOB H. DUKE DATE : 10/2018
 CHECKED BY : DIEGO A. AGUIRRE DATE : 10/2018
 DESIGN ENGINEER OF RECORD : SAMUEL L. CULLUM DATE : 10/2018

NOTES

1. SPAN LENGTHS AND STATIONING MATCH EXISTING PLANS (CONVERTED FROM METRIC).

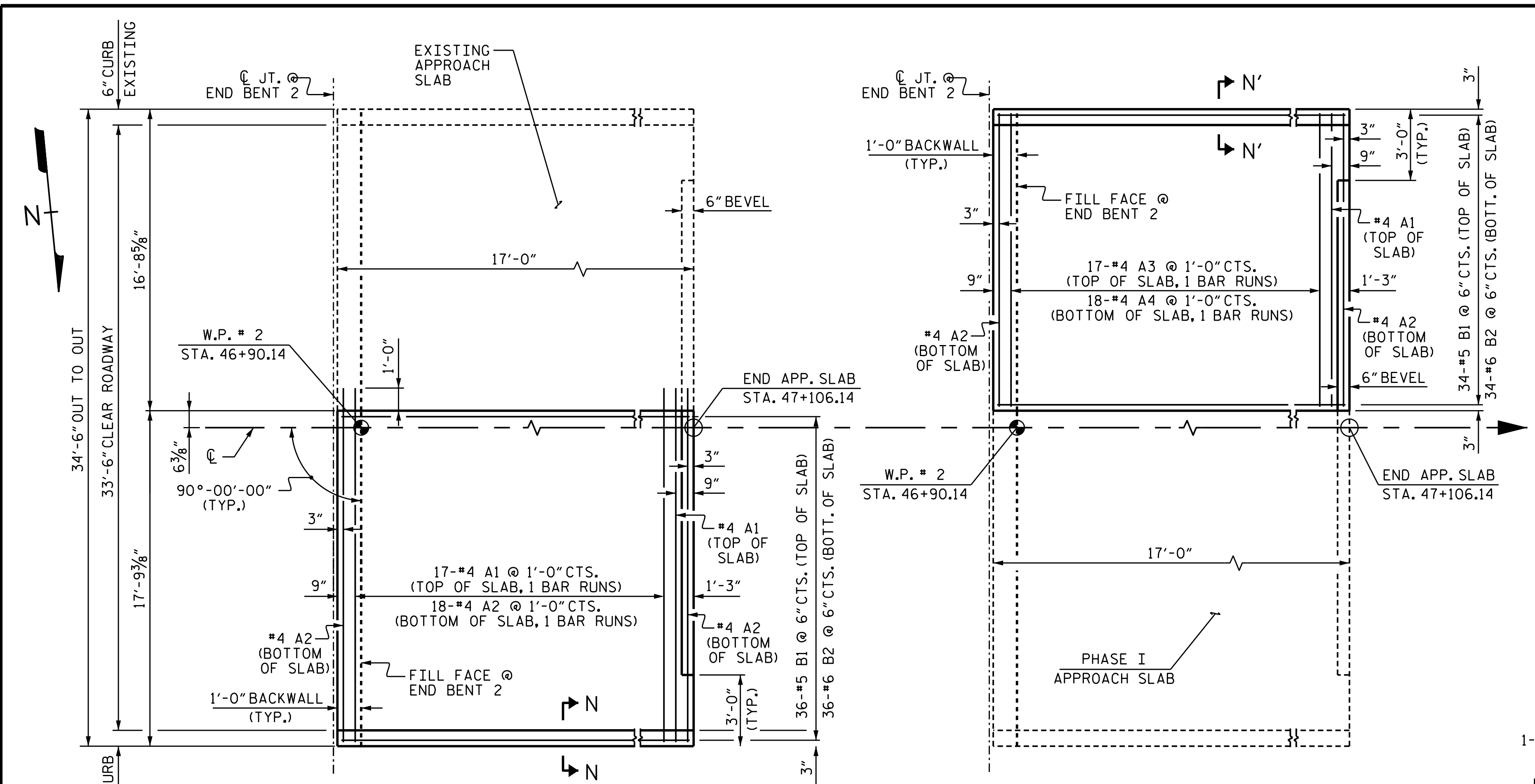
PROJECT NO. 15402.1025800
CRAVEN COUNTY
BRIDGE NO. 237



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
GENERAL DRAWING
 FOR BRIDGE RAMP "DA"
 OVER THE NEUSE RIVER
 BETWEEN US17/NC 55
 AND E. FRONT ST.

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-3
1			3			TOTAL SHEETS
2			4			11

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

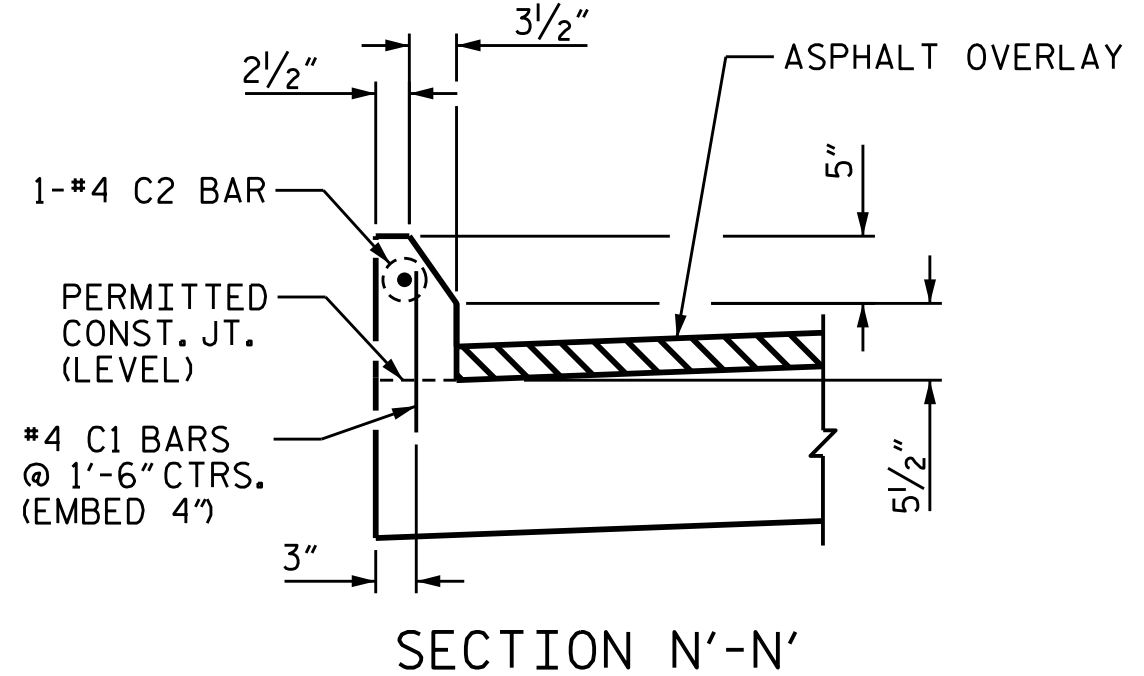


PLAN @ END BENT 2 (PHASE I)

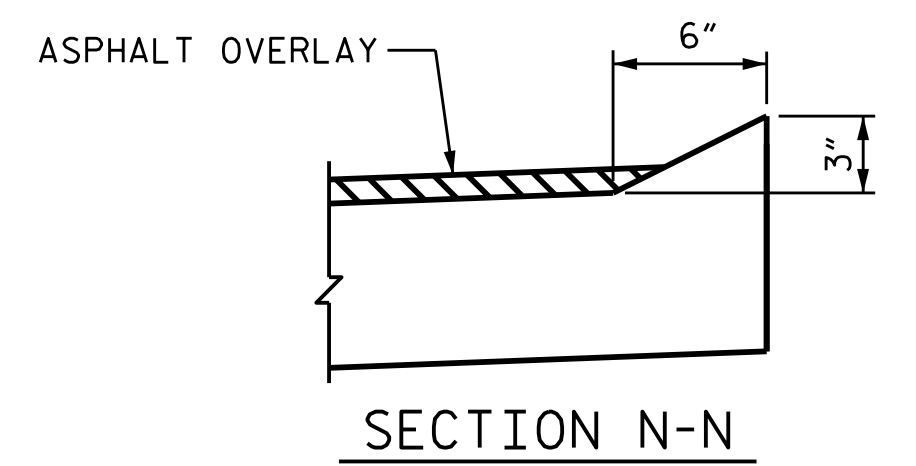
PLAN @ END BENT 2 (PHASE II)

- ### NOTES
1. GEOTEXTILE SHALL BE TYPE 1 IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS SECTION 1056.
 2. SELECT MATERIAL BACKFILL (CLASS V OR CLASS VI) SHALL BE IN ACCORDANCE WITH STANDARD SPECIFICATIONS SECTION 1016.
 3. SELECT MATERIAL BACKFILL IS TO BE CONTINUOUS ALONG FILL FACE OF BACKWALL FROM OUTSIDE EDGE TO EDGE OF EXISTING APPROACH SLAB.
 4. FOR THE 6" Ø DRAINAGE PIPE OUTLETS, SEE ROADWAY STANDARD DRAWINGS. INSTALL PIPES TO DRAIN TOWARD AND THROUGH WINGWALLS. AT THE CONTRACTOR'S OPTION, HE MAY PIPE AROUND WINGWALLS AT NO COST TO THE DEPARTMENT. TERMINATE PIPE ON THE WATERSIDE OF THE EXISTING SEAWALL CAP.
 5. AREA BETWEEN THE WINGWALL AND APPROACH SLAB SHALL BE GRADED TO DRAIN THE WATER AWAY FROM THE FILL FACE OF THE BRIDGE AND SHALL BE PAVED.
 6. FOR TEMPORARY SHORING SEE "GUARDRAIL, RIP RAP, AND TEMPORARY SHORING DETAILS" SHEET.

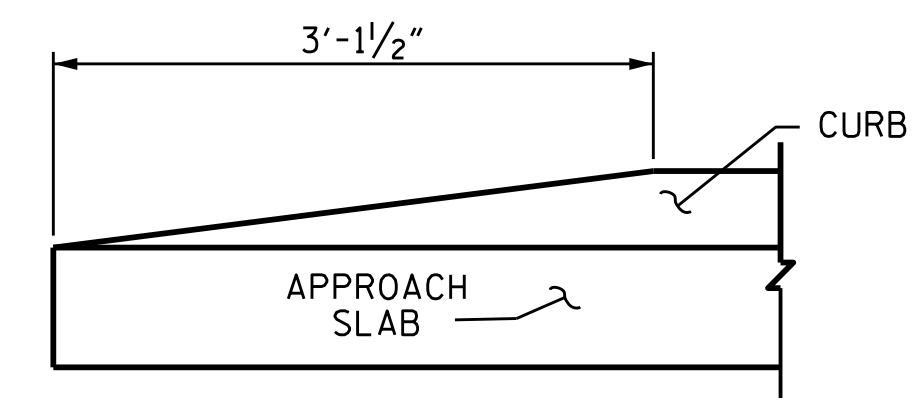
BILL OF MATERIAL					
APPROACH SLAB AT END BENT 2 - PHASE 1					
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
*A1	17	#4	STR	18'-6"	211
A2	18	#4	STR	18'-6"	223
REINFORCING STEEL					LBS. 1116
* EPOXY COATED REINFORCING STEEL					LBS. 822
CLASS AA CONCRETE					C. Y. 11.7
APPROACH SLAB AT END BENT 2 - PHASE 2					
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
*A3	17	#4	STR	16'-3"	185
A4	18	#4	STR	16'-3"	196
*B3	34	#5	STR	16'-3"	611
B4	34	#6	STR	16'-6"	893
C1	11	#4	STR	1'-0"	8
C2	1	#4	STR	13'-6"	10
REINFORCING STEEL					LBS. 1107
* EPOXY COATED REINFORCING STEEL					LBS. 796
CLASS AA CONCRETE					C. Y. 11.0



SECTION N'-N'



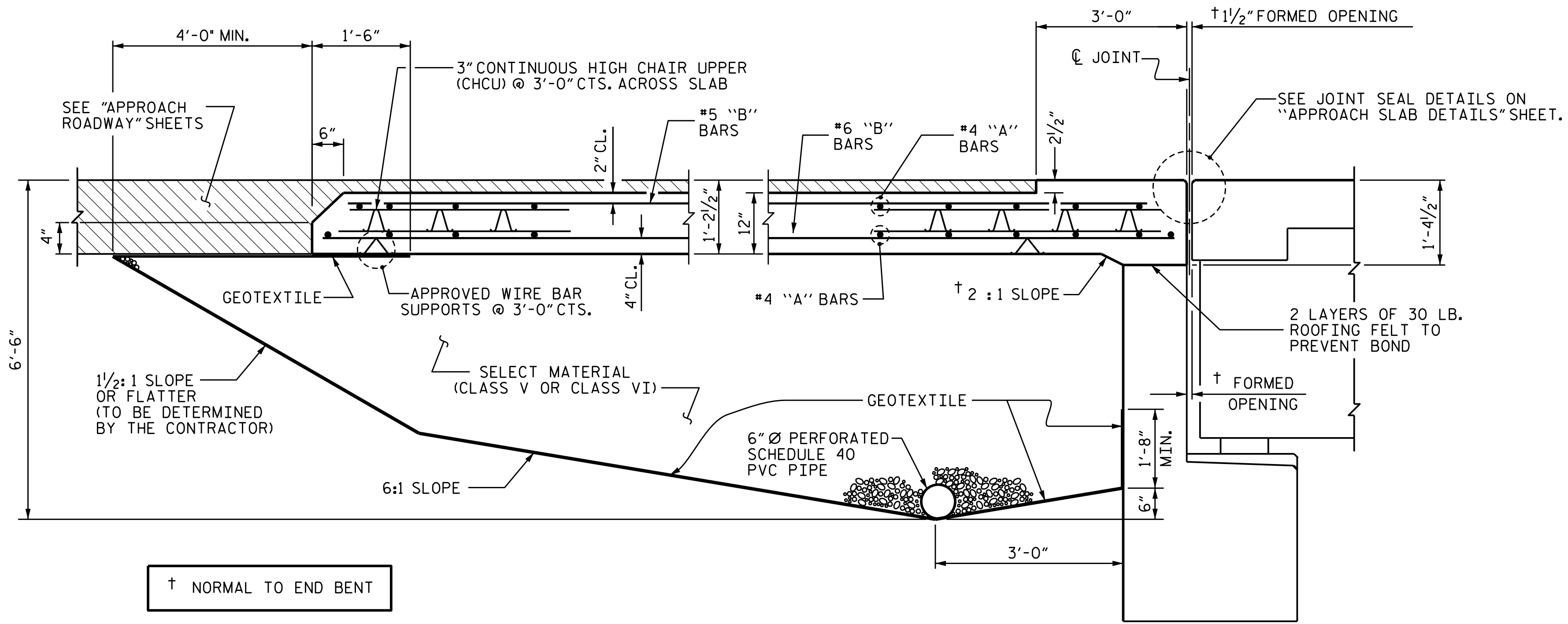
SECTION N-N



END OF CURB WITHOUT SHOULDER BERM GUTTER

CURB DETAILS

SPLICE LENGTHS		
BAR SIZE	EPOXY COATED	UNCOATED
#4	2'-0"	1'-9"
#5	2'-6"	2'-2"
#6	3'-10"	2'-7"

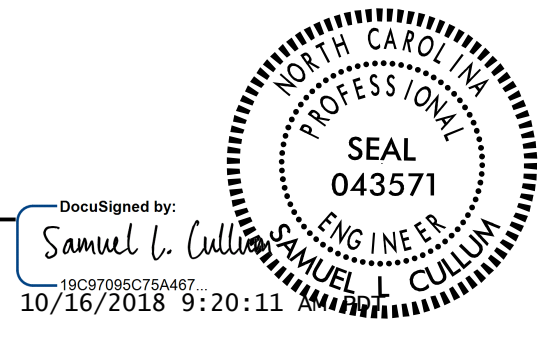


SECTION THRU SLAB

(TYPE I - STANDARD APPROACH FILL)

KCA 301 FAYETTEVILLE ST., SUITE 1500
 KISINGER CAMPO & ASSOCIATES RALEIGH, NC 27601
 (919) 882-7839

DRAWN BY : DIEGO A. AGUIRRE DATE : 10/2018
 CHECKED BY : JACOB H. DUKE DATE : 10/2018
 DESIGN ENGINEER OF RECORD : SAMUEL L. CULLUM DATE : 10/2018

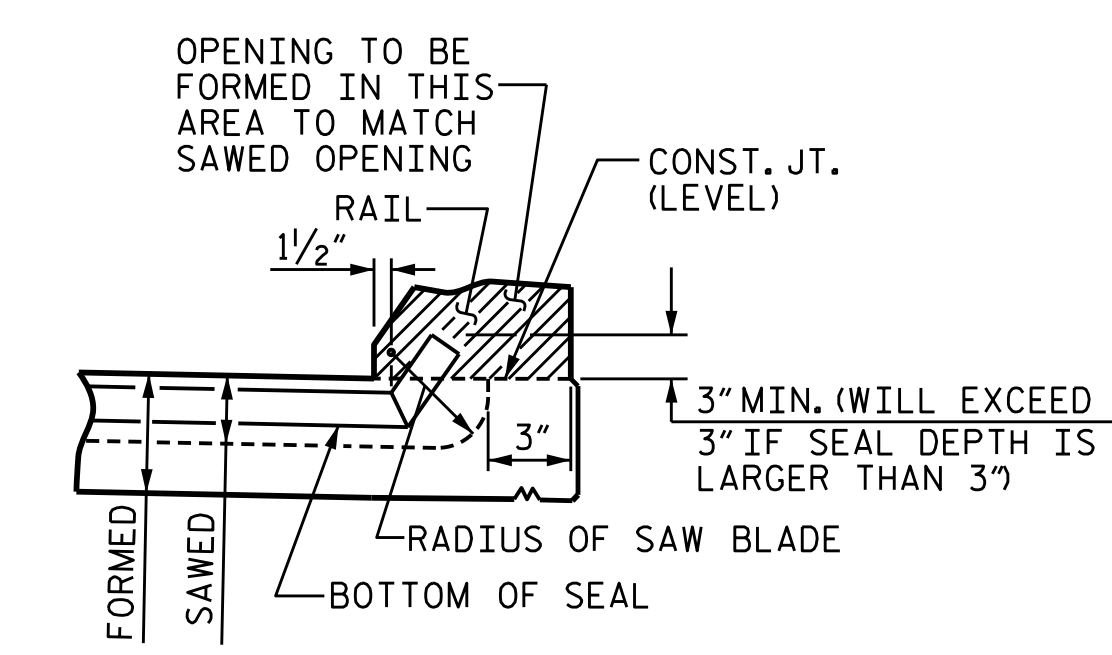
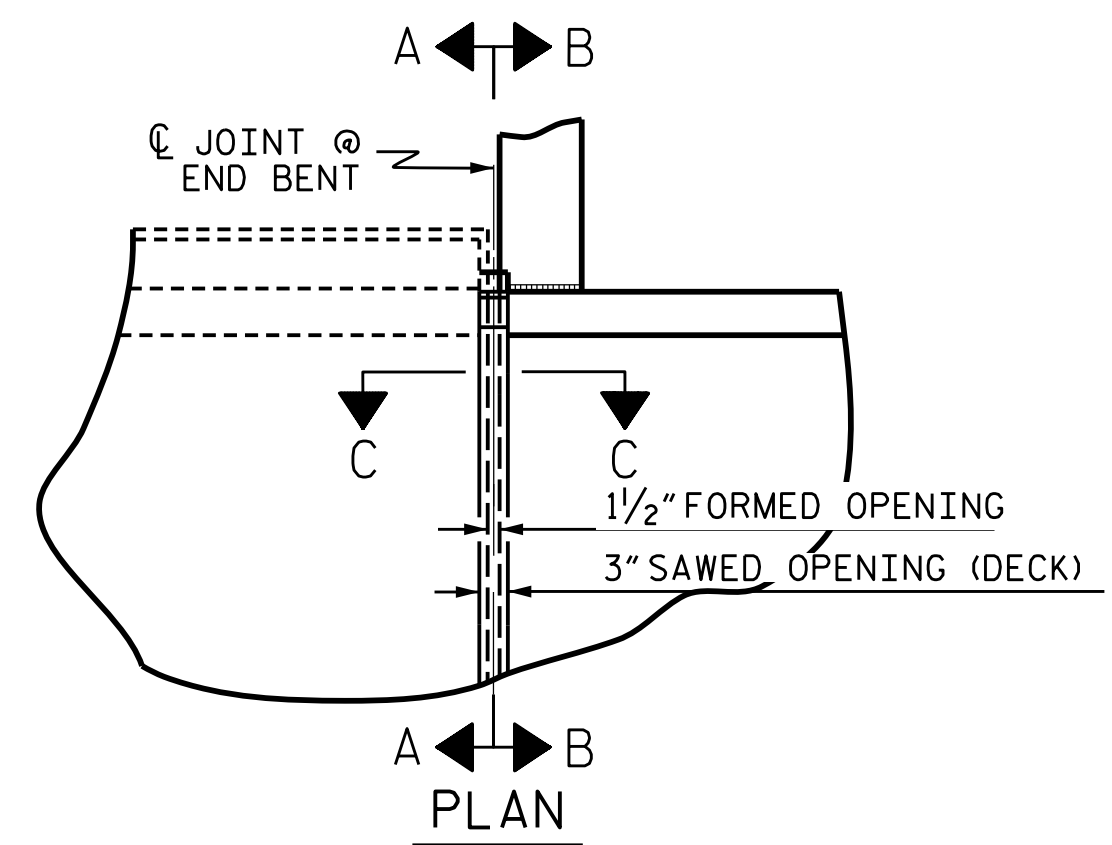
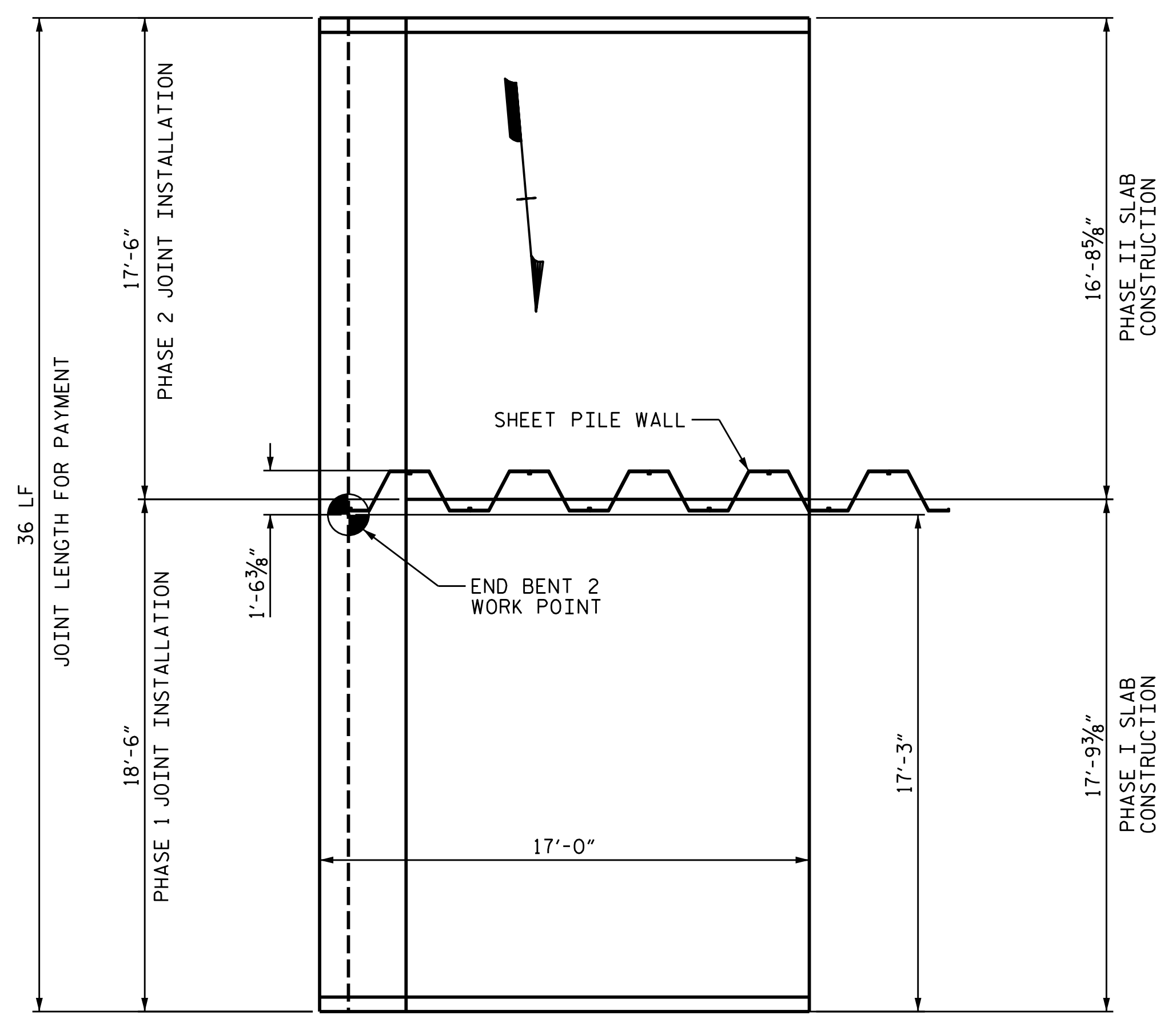


PROJECT NO. 15402.1025800
 CRAVEN COUNTY
 BRIDGE NO. 237

SHEET 1 OF 2
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 BRIDGE APPROACH SLAB FOR FLEXIBLE PAVEMENT

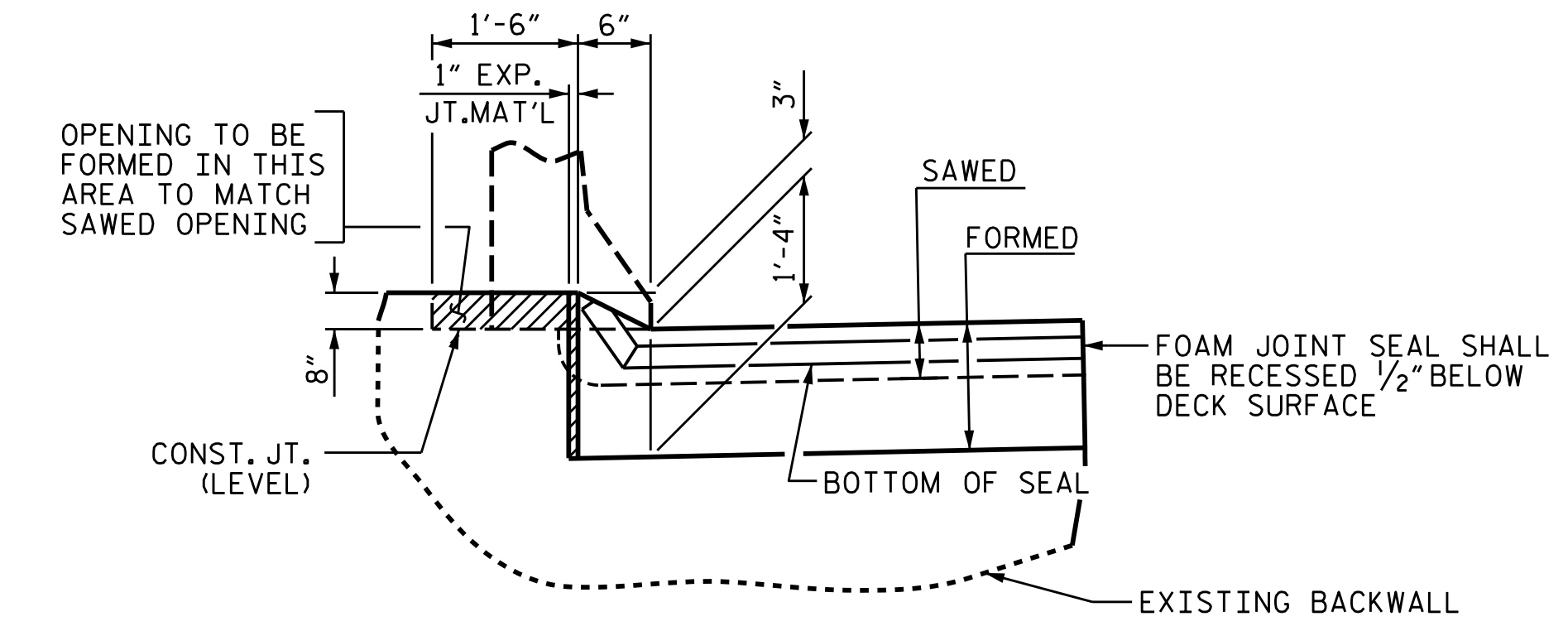
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-4
1			3			TOTAL SHEETS
2			4			11

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SECTION A-A

(SAWED OPENING AT EXISTING SUPERSTRUCTURE)

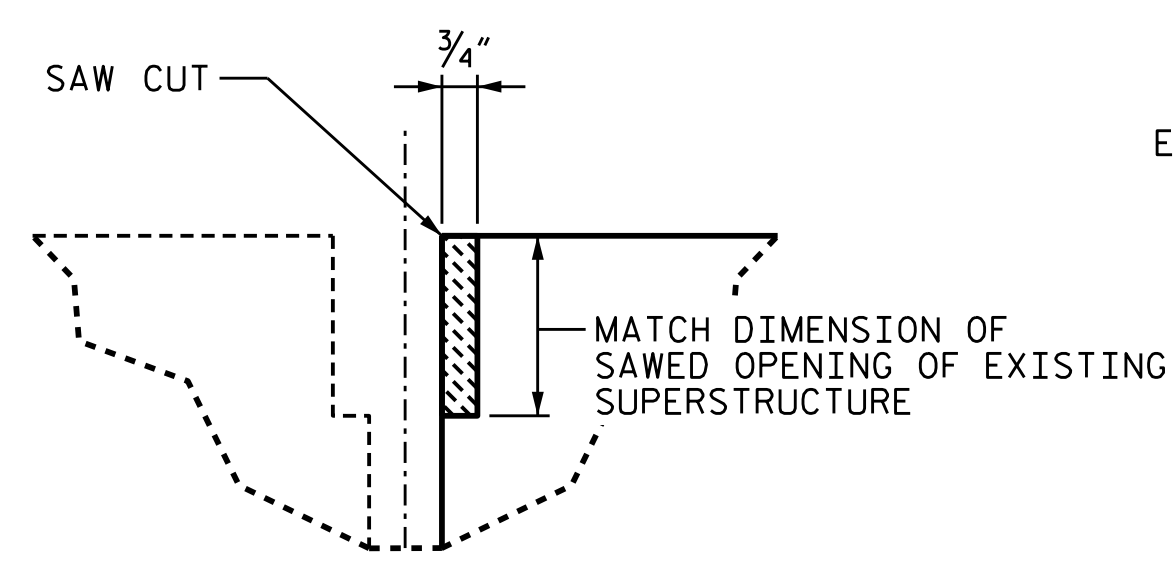


SECTION B-B

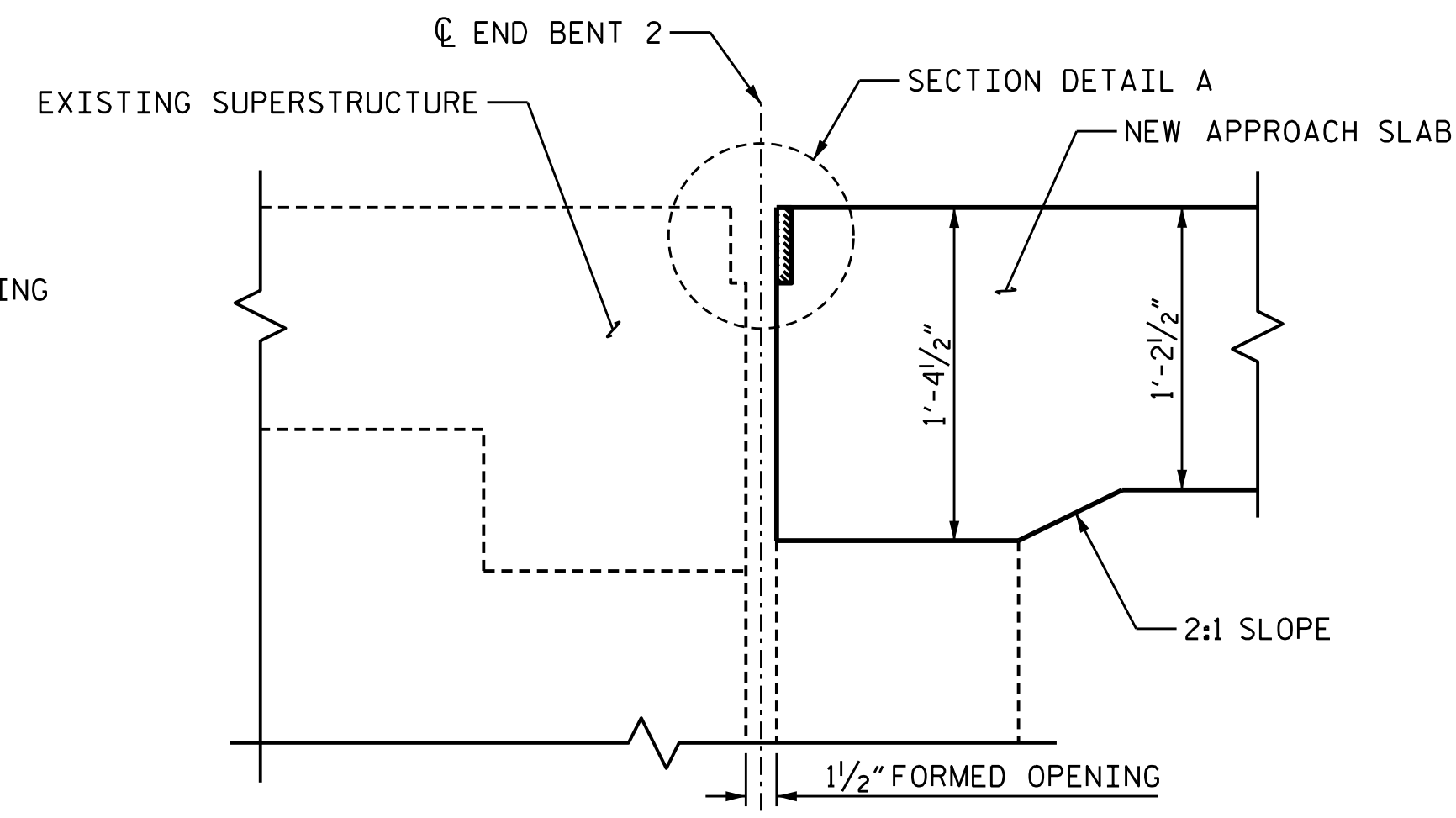
(SAWED OPENING AT PROPOSED APP. SLAB AT END BENT 2)

PHASED SLAB INSTALLATION

(JOINT LENGTHS INCLUDE UPTURN IN CURBS/BARRIERS)
(ROADWAY APPROACH NOT SHOWN)

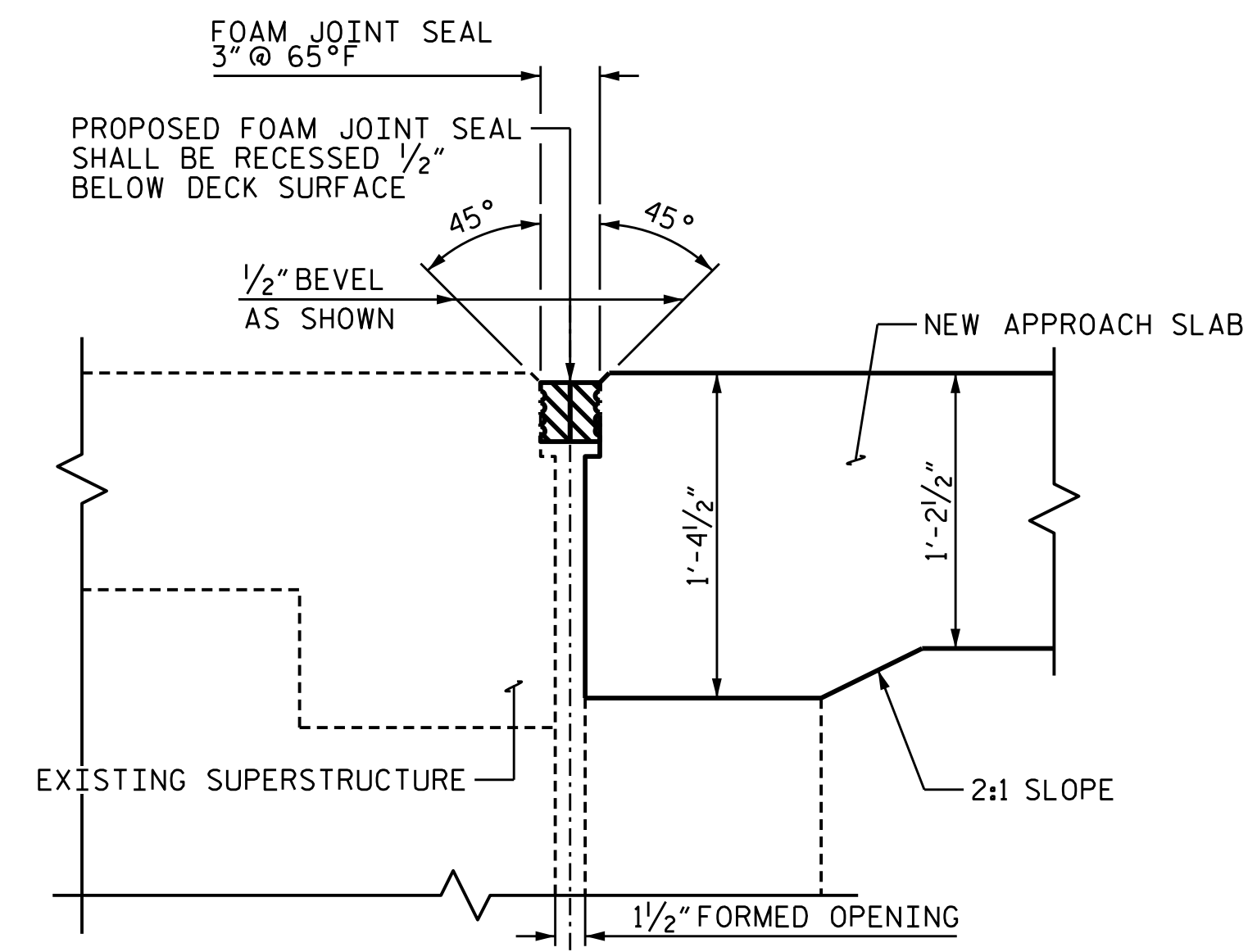


DETAIL A



SECTION C-C

(SAW CUT PROPOSED APPROACH SLAB AT END BENT 2)



SECTION C-C

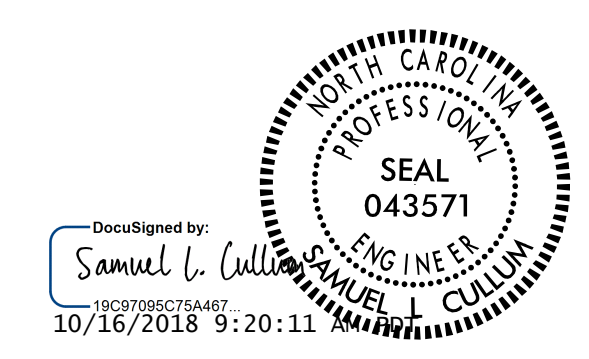
(FOAM JOINT SEAL)

NOTES:

- FOR FOAM JOINT SEALS, SEE SPECIAL PROVISIONS.
- SAW CUT MUST BE PERFORMED FOR NEW APPROACH SLAB AT END BENT 2 ONLY. MATCH DIMENSION OF SAWED SECTION OF EXISTING SUPERSTRUCTURE.
- BRIDGE JOINT REMOVAL IS CONSIDERED INCIDENTAL TO FOAM JOINT SEALS.
- THE CONTRACTOR SHALL FIELD VERIFY THE EXISTING JOINT OPENING PRIOR TO ORDERING JOINT SEAL MATERIAL. IF THE ACTUAL JOINT OPENING VARIES FROM THE OPENING INDICATED IN THE DETAIL BY MORE THAN 1/4", NOTIFY THE ENGINEER. REVISIONS TO THE JOINT SEAL SIZE MIGHT BE NECESSARY.
- THE MANUFACTURER IS TO PROVIDE THE NOMINAL UNCOMPRESSED SEAL WIDTH OF THE FOAM JOINT SEAL BASED ON JOINT OPENINGS.

PROJECT NO. 15402.1025800
 CRAVEN COUNTY
 BRIDGE NO. 237

SHEET 2 OF 2







STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 BRIDGE APPROACH
 SLAB DETAILS

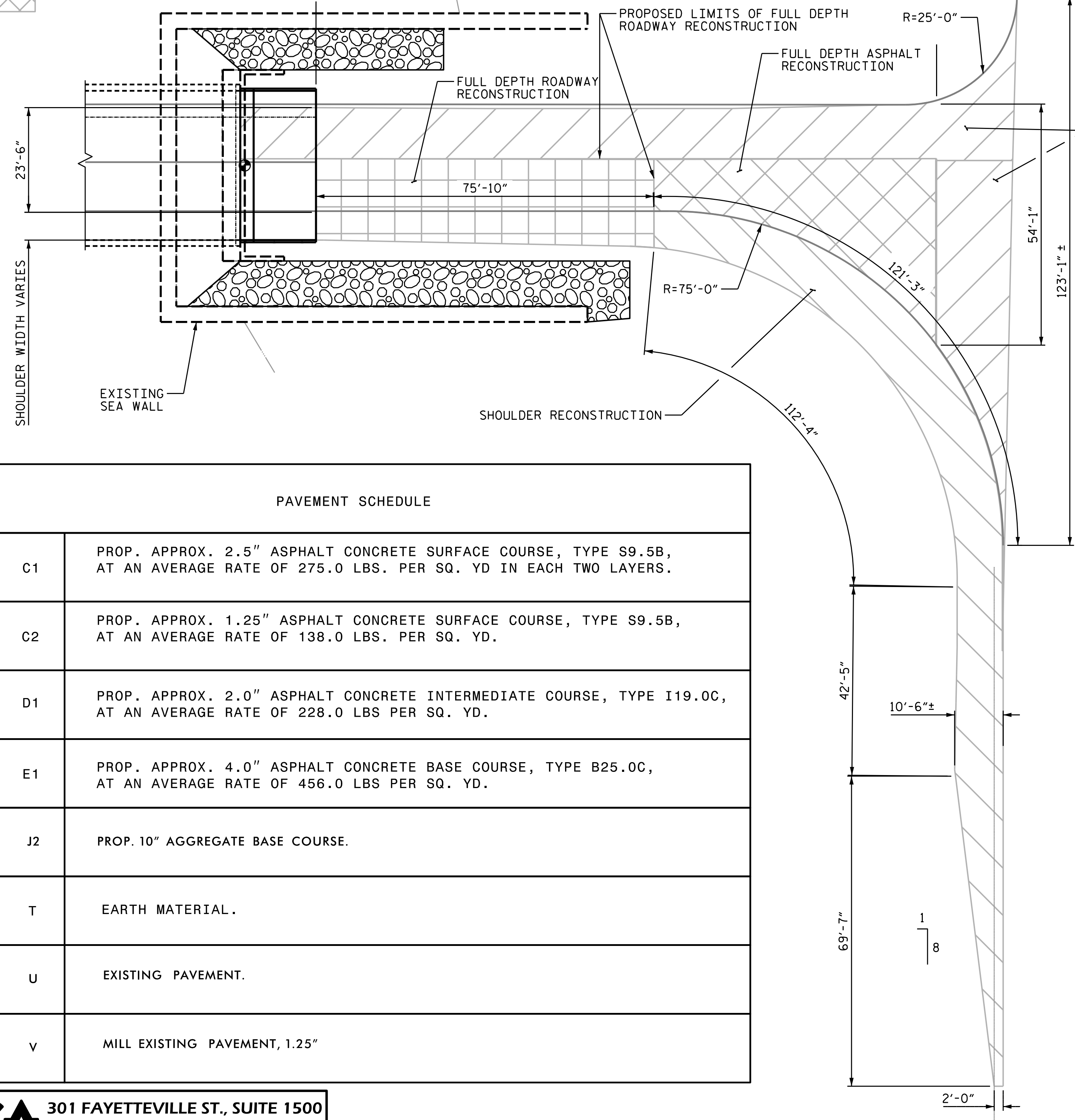
KCA 301 FAYETTEVILLE ST., SUITE 1500
 RALEIGH, NC 27601
 KISINGER CAMPO & ASSOCIATES (919) 882-7839

DRAWN BY : OMAR M. KHALAFALLA DATE : 10/2018
 CHECKED BY : DIEGO A. AGUIRRE DATE : 10/2018
 DESIGN ENGINEER OF RECORD : SAMUEL L. CULLUM DATE : 10/2018

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-5
1			3			TOTAL SHEETS
2			4			11

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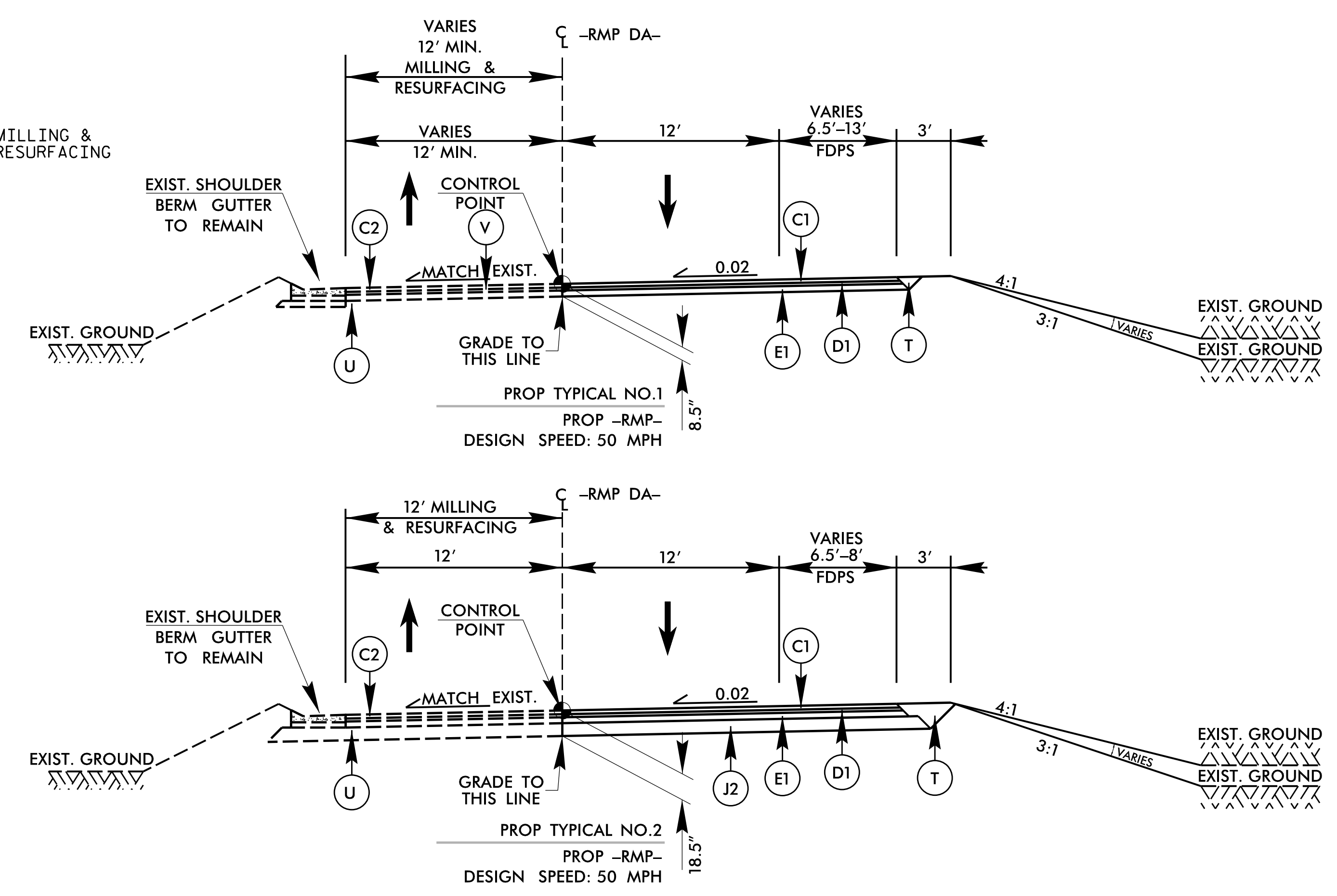
-  FULL DEPTH ROADWAY RECONSTRUCTION
-  MILLING & RESURFACING
-  SHOULDER RECONSTRUCTION
-  FULL DEPTH ASPHALT PAVEMENT RECONSTRUCTION



NOTES:

1. FULL DEPTH ROADWAY RECONSTRUCTION: (SEE ROADWAY TYPICAL NO.2) INCLUDES THE REMOVAL OF ALL EXISTING ASPHALT PAVEMENT AND AGGREGATE BASE COURSE.
2. FULL DEPTH ASPHALT PAVEMENT RECONSTRUCTION: (SEE ROADWAY TYPICAL NO.1) INCLUDES THE REMOVAL OF ALL EXISTING ASPHALT PAVEMENT, EXISTING AGGREGATE BASE COURSE TO REMAIN.
3. LIMITS OF FULL DEPTH ROADWAY RECONSTRUCTION IS FROM THE BEST INFORMATION AVAILABLE. THESE LIMITS MAY BE FIELD ADJUSTED AS DETERMINED BY THE ENGINEER.

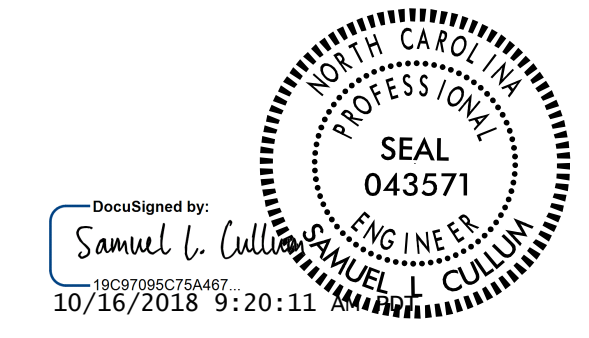
PAVEMENT SCHEDULE	
C1	PROP. APPROX. 2.5" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 275.0 LBS. PER SQ. YD IN EACH TWO LAYERS.
C2	PROP. APPROX. 1.25" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 138.0 LBS. PER SQ. YD.
D1	PROP. APPROX. 2.0" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 228.0 LBS PER SQ. YD.
E1	PROP. APPROX. 4.0" ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 456.0 LBS PER SQ. YD.
J2	PROP. 10" AGGREGATE BASE COURSE.
T	EARTH MATERIAL.
U	EXISTING PAVEMENT.
V	MILL EXISTING PAVEMENT, 1.25"



ROADWAY TYPICAL SECTIONS

PROJECT NO. 15402.1025800
 CRAVEN COUNTY
 BRIDGE NO. 237

SHEET 1 OF 2



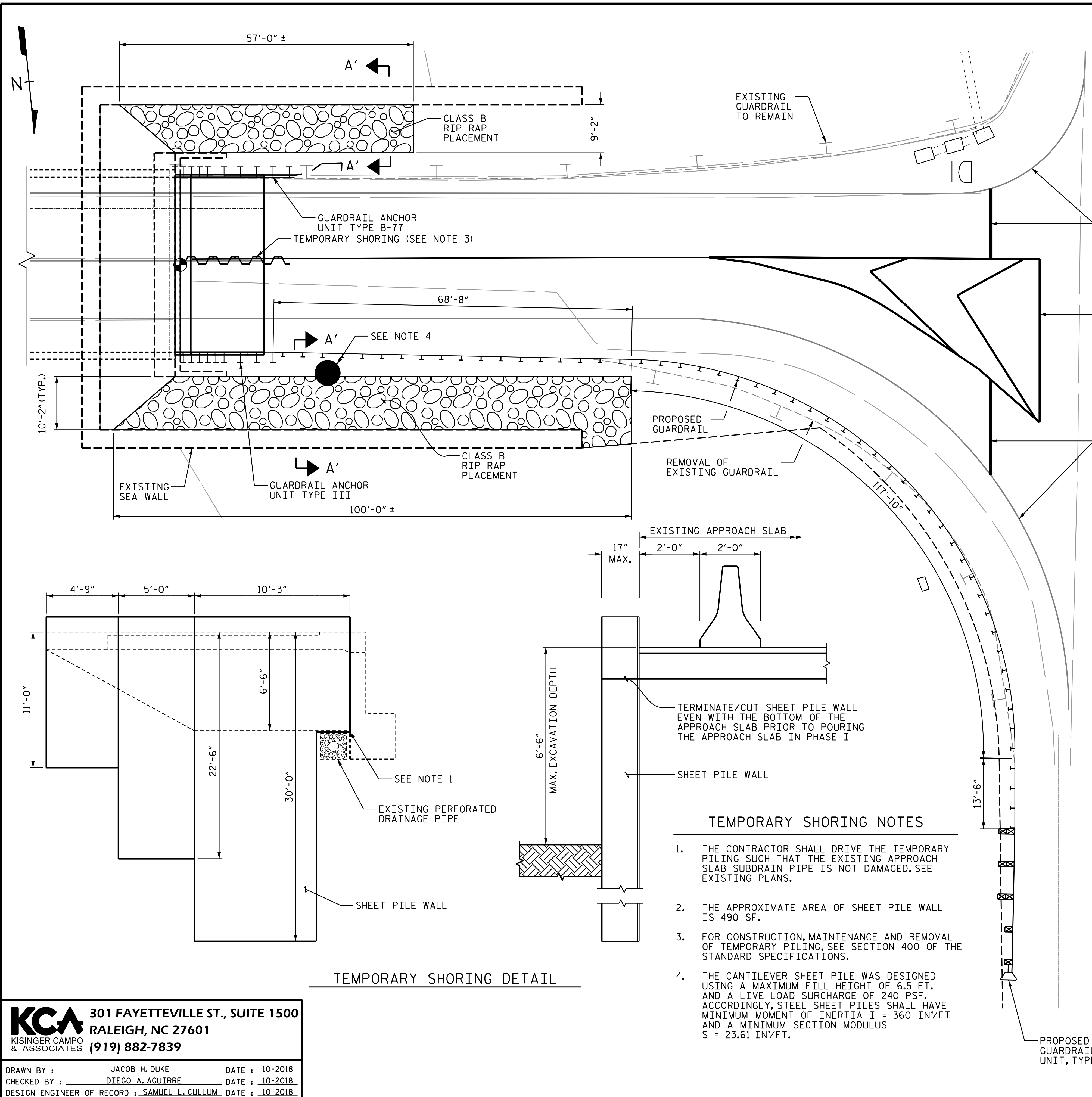
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
**APPROACH ROADWAY
 ROADWAY
 RECONSTRUCTION
 DETAILS**

KCA 301 FAYETTEVILLE ST., SUITE 1500
 KISINGER CAMPO & ASSOCIATES RALEIGH, NC 27601
 (919) 882-7839

DRAWN BY : JACOB H. DUKE DATE : 10/2018
 CHECKED BY : DIEGO A. AGUIRRE DATE : 10/2018
 DESIGN ENGINEER OF RECORD : SAMUEL L. CULLUM DATE : 10/2018

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NO.	BY:	DATE:	NO.	BY:	DATE:	S-6
1			3			TOTAL SHEETS
2			4			11

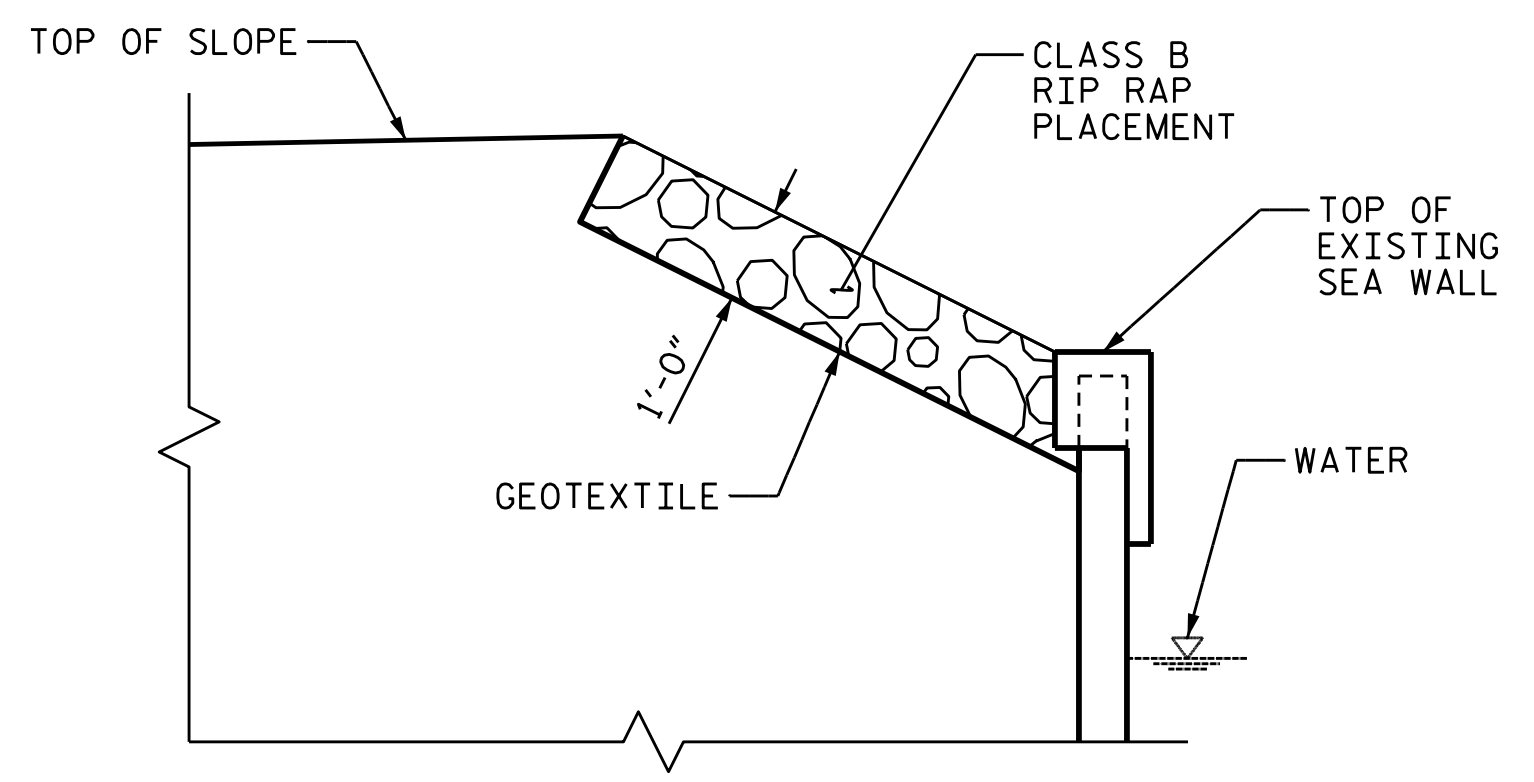
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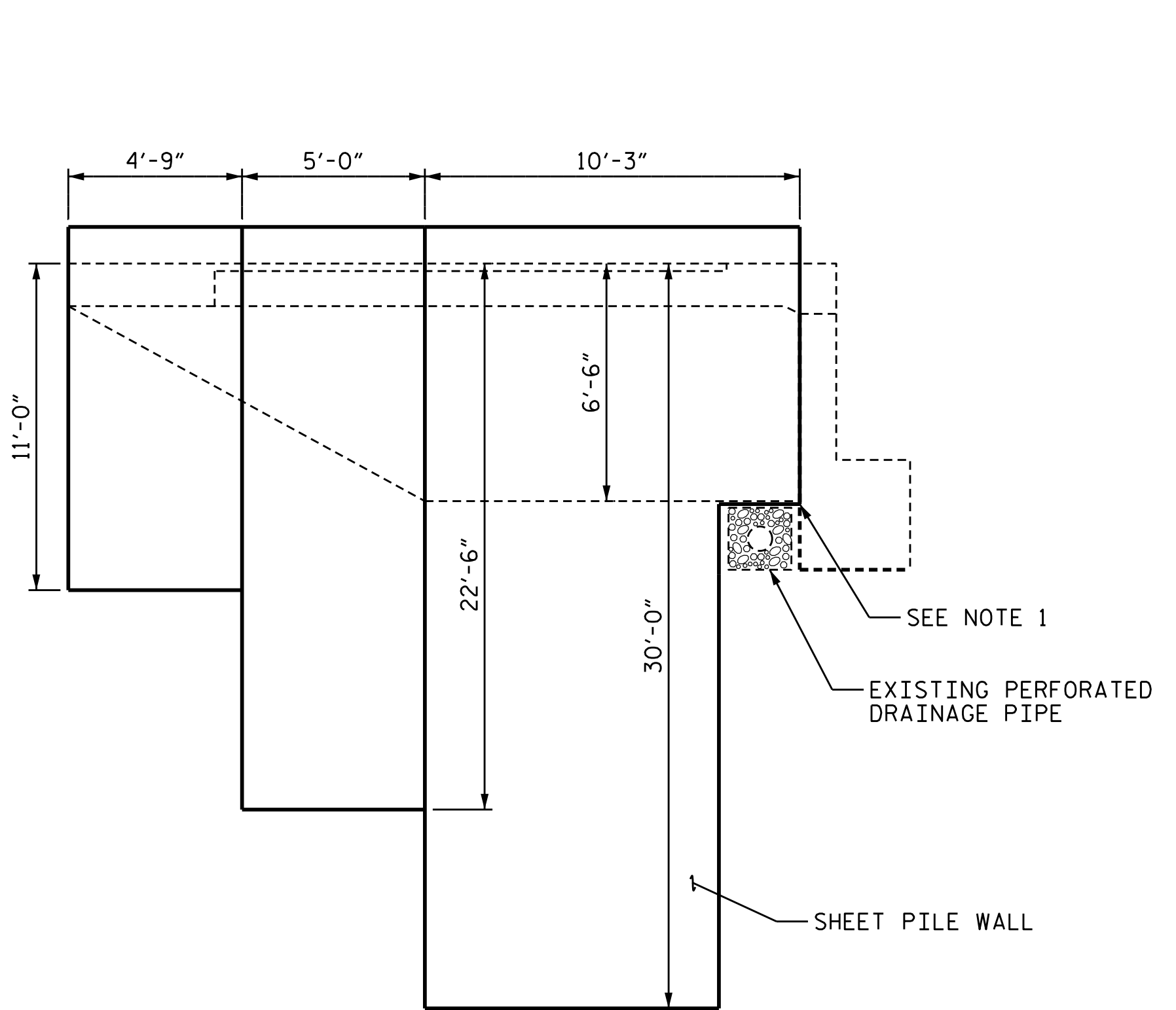
REVIEW AND RECORD EXISTING PAVEMENT MARKINGS, AND MARKERS. USE THIS RECORD TO REESTABLISH THE PROPOSED PAVEMENT MARKINGS AND MARKERS. (TYP.) FOR MORE INFORMATION, SEE TRANSPORTATION MANAGEMENT PLANS.

NOTES

- FOR STRUCTURE ANCHOR UNITS TYPE III AND B-77, SEE SECTION 862 OF THE STANDARD SPECIFICATIONS AND STANDARD DRAWINGS.
- UTILIZE EXISTING STRUCTURE ANCHOR UNIT BOLT HOLES WHERE POSSIBLE. THE CONTRACTOR MAY SHIFT AND DRILL NEW BOLT HOLES LOCATION FOR THE PROPOSED ANCHOR UNITS AS DIRECTED BY THE ENGINEER.
- FOR TEMPORARY SHORING LOCATION, SEE PHASED SLAB INSTALLATION ON "BRIDGE APPROACH SLAB DETAILS" SHEET.
- FOR ELECTRICAL SYSTEM REPLACEMENT, SEE SHEET S-8.



SECTION A-A'
(RIP RAP DETAIL)



TEMPORARY SHORING DETAIL

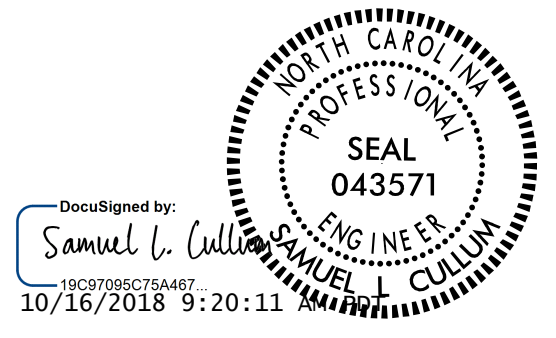
TEMPORARY SHORING NOTES

- THE CONTRACTOR SHALL DRIVE THE TEMPORARY PILING SUCH THAT THE EXISTING APPROACH SLAB SUBDRAIN PIPE IS NOT DAMAGED. SEE EXISTING PLANS.
- THE APPROXIMATE AREA OF SHEET PILE WALL IS 490 SF.
- FOR CONSTRUCTION, MAINTENANCE AND REMOVAL OF TEMPORARY PILING, SEE SECTION 400 OF THE STANDARD SPECIFICATIONS.
- THE CANTILEVER SHEET PILE WAS DESIGNED USING A MAXIMUM FILL HEIGHT OF 6.5 FT. AND A LIVE LOAD SURCHARGE OF 240 PSF. ACCORDINGLY, STEEL SHEET PILES SHALL HAVE MINIMUM MOMENT OF INERTIA I = 360 IN⁴/FT AND A MINIMUM SECTION MODULUS S = 23.61 IN³/FT.

QUANTITY TABLE	
GUARDRAIL AND RIP RAP	
	ESTIMATE
RIP RAP, CLASS B	94 TONS
GEOTEXTILE FOR DRAINAGE	163 SY
GUARDRAIL ANCHOR UNITS, TYPE B-77	1 UNIT
GUARDRAIL ANCHOR UNITS, TYPE III	1 UNIT
GUARDRAIL END UNITS, TYPE TL-2	1 UNIT
STEEL BEAM GUARDRAIL	81.25 LF
STEEL BEAM GUARDRAIL, SHOP CURVED	118.75 LF
REMOVE EXISTING GUARDRAIL	125 LF

PROJECT NO. 15402.1025800
CRAVEN COUNTY
 BRIDGE NO. 237

SHEET 2 OF 2



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
APPROACH ROADWAY
 GUARDRAIL, RIP RAP, AND
 TEMPORARY SHORING DETAILS

KCA 301 FAYETTEVILLE ST., SUITE 1500
 RALEIGH, NC 27601
 KISINGER CAMPO & ASSOCIATES (919) 882-7839

DRAWN BY : JACOB H. DUKE DATE : 10-2018
 CHECKED BY : DIEGO A. AGUIRRE DATE : 10-2018
 DESIGN ENGINEER OF RECORD : SAMUEL L. CULLUM DATE : 10-2018

REVISIONS						SHEET NO.
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1			3			TOTAL SHEETS
2			4			11

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STANDARD NOTES

DESIGN DATA:

SPECIFICATIONS	- - - - -	A.A.S.H.T.O. (CURRENT)
LIVE LOAD	- - - - -	SEE PLANS
IMPACT ALLOWANCE	- - - - -	SEE A.A.S.H.T.O.
STRESS IN EXTREME FIBER OF STRUCTURAL STEEL - AASHTO M270 GRADE 36	- -	20,000 LBS. PER SQ. IN.
- AASHTO M270 GRADE 50W	- -	27,000 LBS. PER SQ. IN.
- AASHTO M270 GRADE 50	- -	27,000 LBS. PER SQ. IN.
REINFORCING STEEL IN TENSION - GRADE 60	- - -	24,000 LBS. PER SQ. IN.
CONCRETE IN COMPRESSION	- - - - -	1,200 LBS. PER SQ. IN.
CONCRETE IN SHEAR	- - - - -	SEE A.A.S.H.T.O.
STRUCTURAL TIMBER - TREATED OR UNTREATED EXTREME FIBER STRESS	- - -	1,800 LBS. PER SQ. IN.
COMPRESSION PERPENDICULAR TO GRAIN OF TIMBER	- - - - -	375 LBS. PER SQ. IN.
EQUIVALENT FLUID PRESSURE OF EARTH	- - - - -	30 LBS. PER CU. FT. (MINIMUM)

MATERIAL AND WORKMANSHIP:

EXCEPT AS MAY OTHERWISE BE SPECIFIED ON PLANS OR IN THE SPECIAL PROVISIONS, ALL MATERIAL AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE 2018 "STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES" OF THE N.C. DEPARTMENT OF TRANSPORTATION.

STEEL SHEET PILING FOR PERMANENT OR TEMPORARY APPLICATIONS SHALL BE HOT ROLLED.

CONCRETE:

UNLESS OTHERWISE REQUIRED ON PLANS, CLASS A CONCRETE SHALL BE USED FOR ALL PORTIONS OF ALL STRUCTURES WITH THE EXCEPTION THAT: CLASS AA CONCRETE SHALL BE USED IN BRIDGE SUPERSTRUCTURES, ABUTMENT BACKWALLS, AND APPROACH SLABS; AND CLASS B CONCRETE SHALL BE USED FOR SLOPE PROTECTION AND RIP RAP.

CONCRETE CHAMFERS:

UNLESS OTHERWISE NOTED ON THE PLANS, ALL EXPOSED CORNERS ON STRUCTURES SHALL BE CHAMFERED $\frac{3}{4}$ " WITH THE FOLLOWING EXCEPTIONS: TOP CORNERS OF CURBS MAY BE ROUNDED TO $1\frac{1}{2}$ " RADIUS WHICH IS BUILT INTO CURB FORMS; CORNERS OF TRANSVERSE FLOOR EXPANSION JOINTS SHALL BE ROUNDED WITH A $\frac{1}{4}$ " FINISHING TOOL UNLESS OTHERWISE REQUIRED ON PLANS; AND CORNERS OF EXPANSION JOINTS IN THE ROADWAY FACES AND TOPS OF CURBS AND SIDEWALKS SHALL BE ROUNDED TO A $\frac{1}{4}$ " RADIUS WITH A FINISHING STONE OR TOOL UNLESS OTHERWISE REQUIRED ON PLANS.

DOWELS:

DOWELS WHEN INDICATED ON PLANS AS FOR CULVERT EXTENSIONS, SHALL BE EMBEDDED AT LEAST 12" INTO THE OLD CONCRETE AND GROUTED INTO PLACE WITH 1:2 CEMENT MORTAR.

ALLOWANCE FOR DEAD LOAD DEFLECTION, SETTLEMENT, ETC. IN CASTING SUPERSTRUCTURES:

BRIDGES SHALL BE BUILT ON THE GRADE OR VERTICAL CURVE SHOWN ON PLANS. SLABS, CURBS AND PARAPETS SHALL CONFORM TO THE GRADE OR CURVE.

ALL DIMENSIONS WHICH ARE GIVEN IN SECTION AND ARE AFFECTED BY DEAD LOAD DEFLECTIONS ARE DIMENSIONS AT CENTER LINE OF BEARING UNLESS OTHERWISE NOTED ON PLANS. IN SETTING FORMS FOR STEEL BEAM BRIDGES AND PRESTRESSED CONCRETE GIRDER BRIDGES, ADJUSTMENTS SHALL BE MADE DUE TO THE DEAD LOAD DEFLECTIONS FOR THE ELEVATIONS SHOWN. WHERE BLOCKS ARE SHOWN OVER BEAMS FOR BUILDING UP TO THE SLAB, THE VERTICAL DIMENSIONS OF THE BLOCKS SHALL BE ADJUSTED BETWEEN BEARINGS TO COMPENSATE FOR DEAD LOAD DEFLECTIONS, VERTICAL CURVE ORDINATE, AND ACTUAL BEAM CAMBER. WHERE BOTTOM OF SLAB IS IN LINE WITH BOTTOM OF TOP FLANGES, DEPTH OF SLAB BETWEEN BEARINGS SHALL BE ADJUSTED TO COMPENSATE FOR DEAD LOAD DEFLECTION, VERTICAL CURVE ORDINATE, AND ACTUAL BEAM CAMBER.

IN SETTING FALSEWORK AND FORMS FOR REINFORCED CONCRETE SPANS, AN ALLOWANCE SHALL BE MADE FOR DEAD LOAD DEFLECTIONS, SETTLEMENT OF FALSEWORK, AND PERMANENT CAMBER WHICH SHALL BE PROVIDED FOR IN ADDITION TO THE ELEVATIONS SHOWN. AFTER REMOVAL OF THE FALSEWORK, THE FINISHED STRUCTURES SHALL CONFORM TO THE PROFILE AND ELEVATIONS SHOWN ON THE PLANS AND CONSTRUCTION ELEVATIONS FURNISHED BY THE ENGINEER.

DETAILED DRAWINGS FOR FALSEWORK OR FORMS FOR BRIDGE SUPERSTRUCTURE AND ANY STRUCTURE OR PARTS OF A STRUCTURE AS NOTED ON THE PLANS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL BEFORE CONSTRUCTION OF THE FALSEWORK OR FORMS IS STARTED.

REINFORCING STEEL:

ALL REINFORCING STEEL SHALL BE DEFORMED. DIMENSIONS RELATIVE TO PLACEMENT OF REINFORCING ARE TO CENTERS OF BARS UNLESS OTHERWISE INDICATED IN THE PLANS. DIMENSIONS ON BAR DETAILS ARE TO CENTERS OF BARS OR ARE OUT TO OUT AS INDICATED ON PLANS.

WIRE BAR SUPPORTS SHALL BE PROVIDED FOR REINFORCING STEEL WHERE INDICATED ON THE PLANS. WHEN BAR SUPPORT PIECES ARE PLACED IN CONTINUOUS LINES, THEY SHALL BE SO PLACED THAT THE ENDS OF THE SUPPORTING WIRES SHALL BE LAPPED TO LOCK LEGS ON ADJOINING PIECES.

STRUCTURAL STEEL:

AT THE CONTRACTOR'S OPTION, HE MAY SUBSTITUTE $\frac{7}{8}$ " \emptyset SHEAR STUDS FOR THE $\frac{3}{4}$ " \emptyset STUDS SPECIFIED ON THE PLANS. THIS SUBSTITUTION SHALL BE MADE AT THE RATE OF 3 - $\frac{7}{8}$ " \emptyset STUDS FOR 4 - $\frac{3}{4}$ " \emptyset STUDS, AND STUD SPACING CHANGES SHALL BE MADE AS NECESSARY TO PROVIDE THE SAME EQUIVALENT NUMBER OF $\frac{7}{8}$ " \emptyset STUDS ALONG THE BEAM AS SHOWN FOR $\frac{3}{4}$ " \emptyset STUDS BASED ON THE RATIO OF 3 - $\frac{7}{8}$ " \emptyset STUDS FOR 4 - $\frac{3}{4}$ " \emptyset STUDS. STUDS OF THE LENGTH SPECIFIED ON THE PLANS MUST BE PROVIDED. THE MAXIMUM SPACING SHALL BE 2'-0".

EXCEPT AT THE INTERIOR SUPPORTS OF CONTINUOUS BEAMS WHERE THE COVER PLATE IS IN CONTACT WITH BEARING PLATE, THE CONTRACTOR MAY, AT HIS OPTION, SUBSTITUTE FOR THE COVER PLATES DESIGNATED ON THE PLANS COVER PLATES OF THE EQUIVALENT AREA PROVIDED THESE PLATES ARE AT LEAST $\frac{3}{16}$ " IN THICKNESS AND DO NOT EXCEED A WIDTH EQUAL TO THE FLANGE WIDTH LESS 2" OR A THICKNESS EQUAL TO 2 TIMES THE FLANGE THICKNESS. THE SIZE OF FILLET WELDS SHALL CONFORM TO THE REQUIREMENTS OF THE CURRENT ANSI/AASHTO/AWS "BRIDGE WELDING CODE". ELECTROSLAG WELDING WILL NOT BE PERMITTED.

WITH THE SOLE EXCEPTION OF EDGES AT SURFACES WHICH BEAR ON OTHER SURFACES, ALL SHARP EDGES AND ENDS OF SHAPES AND PLATES SHALL BE SLIGHTLY ROUNDED BY SUITABLE MEANS TO A RADIUS OF APPROXIMATELY $\frac{1}{16}$ " INCH OR EQUIVALENT FLAT SURFACE AT A SUITABLE ANGLE PRIOR TO PAINTING, GALVANIZING, OR METALLIZING.

HANDRAILS AND POSTS:

METAL STANDARDS AND FACES OF THE CONCRETE END POSTS FOR THE METAL RAIL SHALL BE SET NORMAL TO THE GRADE OF THE CURB, UNLESS OTHERWISE SHOWN ON PLANS. THE METAL RAIL AND TOPS OF CONCRETE POSTS USED WITH THE ALUMINUM RAIL SHALL BE BUILT PARALLEL TO THE GRADE OF THE CURB.

METAL HANDRAILS SHALL BE IN ACCORDANCE WITH THE PLANS. RAILS SHALL BE AS MANUFACTURED FOR BRIDGE RAILING. CASTINGS SHALL BE OF A UNIFORM APPEARANCE. FINS AND OTHER DEFORMATIONS RESULTING FROM CASTING OR OTHERWISE SHALL BE REMOVED IN A MANNER SO THAT A UNIFORM COLORING OF THE COMPLETED CASTING SHALL BE OBTAINED. CASTINGS WITH DISCOLORATIONS OR OF NON-UNIFORM COLORING WILL NOT BE ACCEPTED. CERTIFIED MILL REPORTS ARE REQUIRED FOR METAL RAILS AND POSTS.

SPECIAL NOTES:

GENERALLY, IN CASE OF DISCREPANCY, THIS STANDARD SHEET OF NOTES SHALL GOVERN OVER THE SPECIFICATIONS, BUT THE REMAINDER OF THE PLANS SHALL GOVERN OVER NOTES HEREON, AND SPECIAL PROVISIONS SHALL GOVERN OVER ALL. SEE SPECIFICATIONS ARTICLE 105-4.

ENGLISH

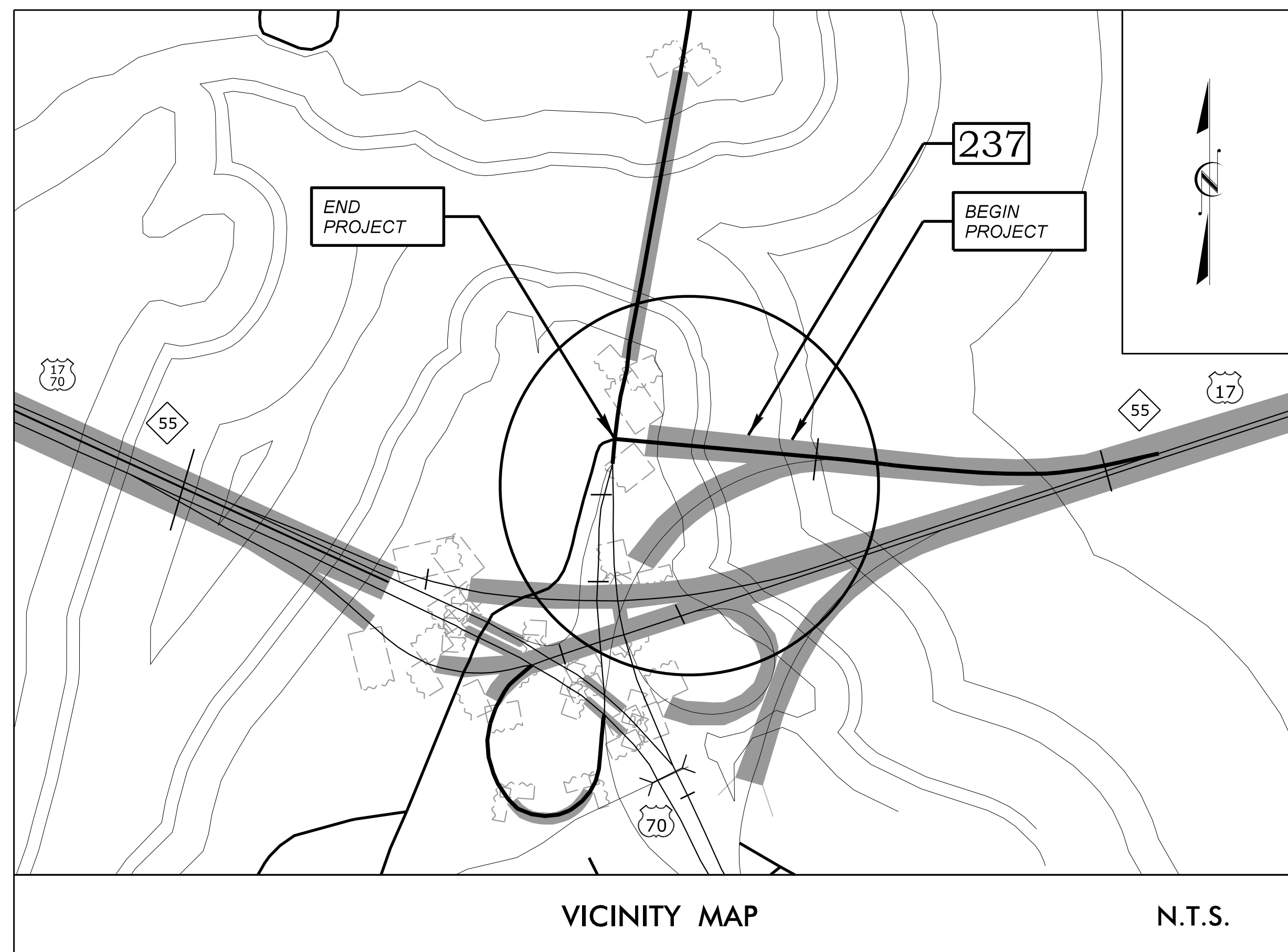
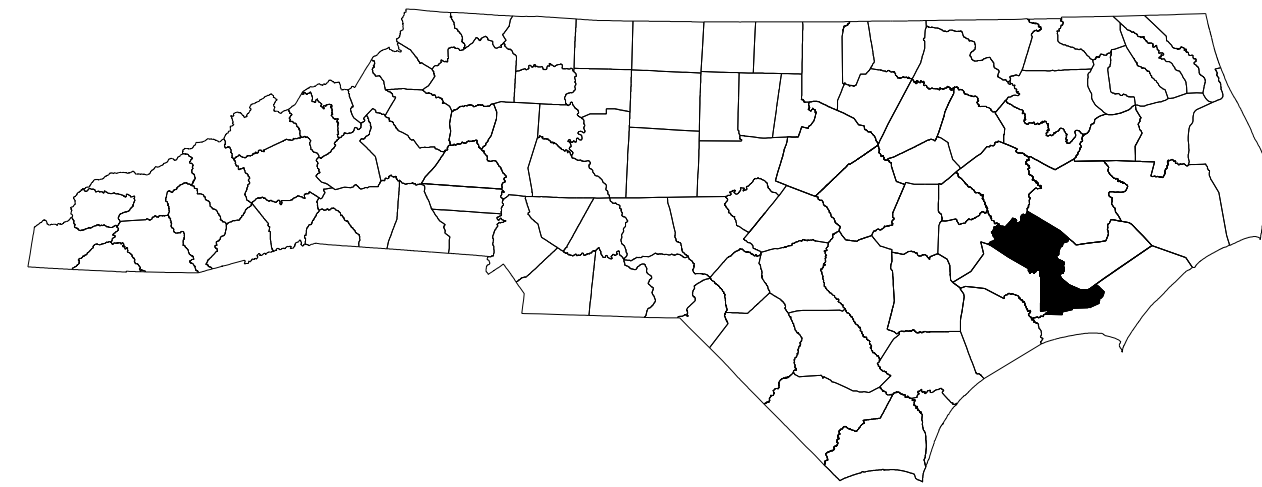
JANUARY, 1990

STD. NO. SN

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

TRANSPORTATION MANAGEMENT PLAN

CRAVEN COUNTY

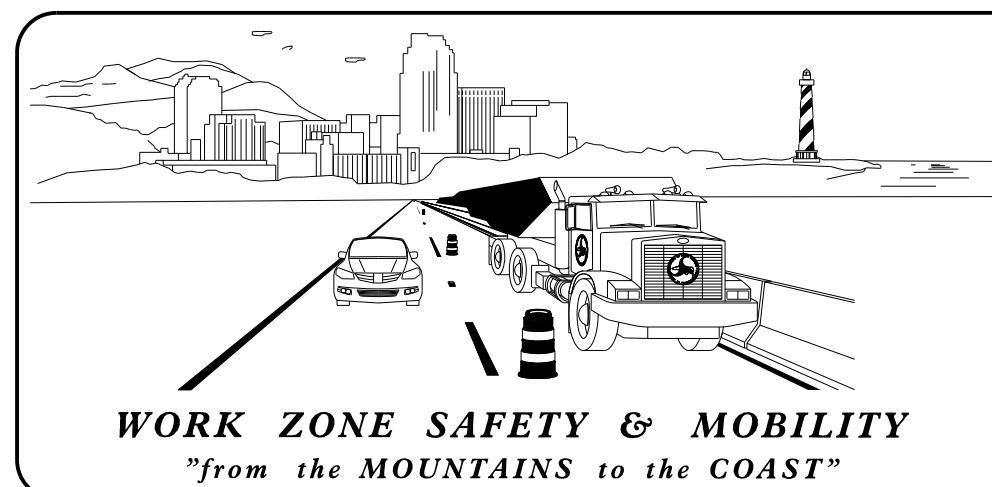


INDEX OF SHEETS

SHEET NO.	TITLE
TMP-1	TITLE SHEET, VICINITY MAP, AND INDEX OF SHEETS
TMP-1A	ROADWAY STANDARD DRAWINGS, AND LEGEND
TMP-1B	GENERAL NOTES (1 OF 2)
TMP-1C	GENERAL NOTES (2 OF 2) & PHASING NOTES
TMP-2	LANE CLOSURE DETAILS - PHASE I
TMP-3	LANE CLOSURE DETAILS - PHASE II

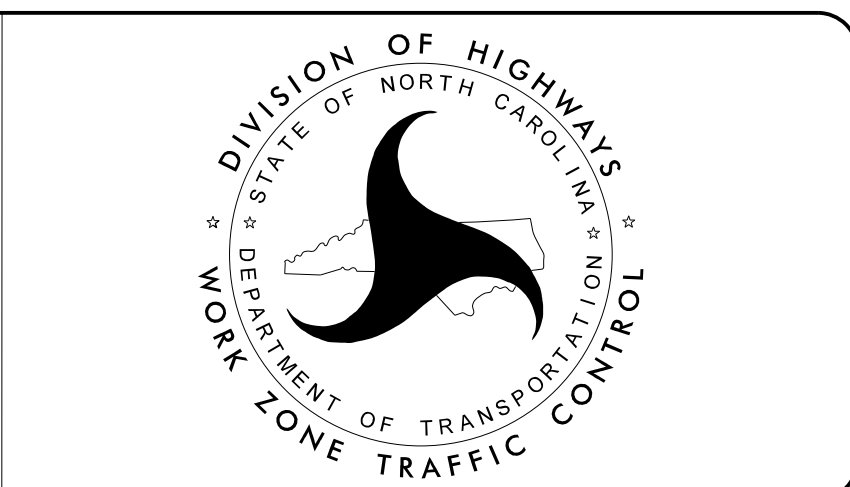
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TMP-1

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PLANS PREPARED BY:
JACOB H. DUKE, P.E.
WORK ZONE TRAFFIC CONTROL ENGINEER

NCDOT CONTACTS:
J.S. (STEVE) KITE, P.E.
PROJECT ENGINEER
MATT SPRINGER, P.E.
PROJECT DESIGN ENGINEER



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KCA
KISINGER CAMPO & ASSOCIATES
Kisinger Campo & Associates Corp.
301 FAYETTEVILLE ST.
Suite 1500
Raleigh, NC 27601
Jacob H. Duke, PE No. 043777

APPROVED: *Jacob H. Duke*
DocuSigned by: Jacob H. Duke
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DATE: 10/16/2018 9:14:03 AM PDT

SEAL

PROJECT: 15402.1025800

ROADWAY STANDARD DRAWINGS

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

STD. NO.	TITLE
1101.01	WORK ZONE WARNING SIGNS
1101.02	TEMPORARY LANE CLOSURES
1101.03	TEMPORARY ROAD CLOSURES
1101.04	TEMPORARY SHOULDER CLOSURES
1101.05	WORK ZONE VEHICLE ACCESSES
1101.06	WARNING SIGNS FOR BLASTING ZONES
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	TRUCK MOUNTED ATTENUATOR
1170.01	PORTABLE CONCRETE BARRIER
1180.01	SKINNY-DRUM
1205.01	PAVEMENT MARKINGS - LINE TYPES AND OFFSETS
1205.02	PAVEMENT MARKINGS - TWO-LANE AND MULTI-LANE ROADWAYS
1205.03	PAVEMENT MARKINGS - EXITS AND ENTRANCE RAMPS
1205.04	PAVEMENT MARKINGS - INTERSECTIONS
1205.05	PAVEMENT MARKINGS - TURN LANES
1205.06	PAVEMENT MARKINGS - LANE DROPS
1205.07	PAVEMENT MARKINGS - PEDESTRIAN CROSSWALKS
1205.08	PAVEMENT MARKINGS - SYMBOLS AND WORD MESSAGES
1205.09	PAVEMENT MARKINGS - PAINTED ISLANDS
1205.10	PAVEMENT MARKINGS - SCHOOL AREAS
1205.11	PAVEMENT MARKINGS - RAILROAD CROSSINGS
1205.12	PAVEMENT MARKINGS - BRIDGES
1205.13	PAVEMENT MARKINGS - LANE REDUCTIONS
1250.01	RAISED PAVEMENT MARKERS - INSTALLATION SPACING
1251.01	RAISED PAVEMENT MARKERS - PERMANENT AND TEMPORARY
1261.01	GUARDRAIL AND BARRIER DELINEATORS - INSTALLATION SPACING
1261.02	GUARDRAIL AND BARRIER DELINEATORS - TYPES AND MOUNTING
1262.01	GUARDRAIL END DELINEATION
1264.01	OBJECT MARKERS - TYPES
1264.02	OBJECT MARKERS - INSTALLATION

LEGEND

- DIRECTION OF TRAFFIC FLOW
- DRUM SKINNY DRUM TUBULAR MARKER
- PORTABLE SIGN
- STATIONARY SIGN
- STATIONARY OR PORTABLE SIGN
- TRUCK MOUNTED ATTENUATOR (TMA)
- CHANGEABLE MESSAGE SIGN
- FLASHING ARROW BOARD
- NORTH ARROW
- BARRICADE (TYPE III)
- FLASHING ARROW BOARD (TYPE C) (96"X48" MIN.) "CAUTION MODE"
- WORK AREA
- TEMPORARY CRASH CUSHION
- TEMPORARY PORTABLE CONCRETE BARRIER

TEMPORARY PAVEMENT MARKING

- P1 - WHITE PAINT STOPBAR (24")
- PA - WHITE PAINT EDGELINE (4")
- PB - YELLOW PAINT EDGELINE (4")

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GENERAL NOTES

PROJ. REFERENCE NO.	SHEET NO.
15402.1025800	TMP-1B

Kisinger Campo & Associates Corp.
 301 Fayetteville St.
 Suite 1500
 Raleigh, NC 27601
 Jacob H. Duke, PE No. 043777

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

1. US 17/US 70/NC 55
2. E Front St.

1. A DAY BEFORE MUMFEST ON THURSDAY OCTOBER 11TH 2018 THRU A DAY AFTER MUMFEST ON MONDAY OCTOBER 15TH 2018.
2. A DAY BEFORE JAYCEES CRAVEN COUNTY FAIR ON WEDNESDAY OCTOBER 24TH 2018 THRU A DAY AFTER JAYCEES CRAVEN COUNTY FAIR ON MONDAY NOVEMBER 5TH 2018.

HOLIDAY

1. FOR ANY UNEXPECTED OCCURRENCE THAT CREATES UNUSUALLY HIGH TRAFFIC VOLUMES, AS DIRECTED BY THE ENGINEER.
2. FOR NEW YEAR'S, BETWEEN THE HOURS OF 6:00 A.M. DECEMBER 31ST TO 9:00 P.M. JANUARY 2ND. IF NEW YEAR'S DAY IS ON A FRIDAY, SATURDAY, SUNDAY, OR MONDAY THEN UNTIL 9:00 P.M. THE FOLLOWING TUESDAY.
3. FOR EASTER, BETWEEN THE HOURS OF 6:00 A.M. THURSDAY AND 9:00 P.M. MONDAY.
4. FOR MEMORIAL DAY, BETWEEN THE HOURS OF 5:00 A.M. FRIDAY TO 9:00 P.M. TUESDAY.
5. FOR INDEPENDENCE DAY, BETWEEN THE HOURS OF 5:00 A.M. TWO DAYS BEFORE INDEPENDENCE DAY AND 9:00 P.M. TWO DAYS AFTER INDEPENDENCE DAY.

IF INDEPENDENCE DAY IS ON A FRIDAY, SATURDAY, SUNDAY OR MONDAY THEN BETWEEN THE HOURS OF 5:00 A.M. THE WEDNESDAY BEFORE INDEPENDENCE DAY AND 9:00 P.M. THE WEDNESDAY AFTER INDEPENDENCE DAY.

6. FOR LABOR DAY, BETWEEN THE HOURS OF 6:00 A.M. FRIDAY TO 9:00 P.M. TUESDAY.
7. FOR THANKSGIVING DAY, BETWEEN THE HOURS OF 6:00 A.M. TUESDAY TO 9:00 P.M. MONDAY.
8. FOR CHRISTMAS, BETWEEN THE HOURS OF 6:00 A.M. THE FRIDAY BEFORE THE WEEK OF CHRISTMAS DAY AND 9:00 P.M. THE FOLLOWING TUESDAY AFTER THE WEEK OF CHRISTMAS.

B) FOR ALL REMAINING REPAIR/REHAB WORK FOR THE DECK, RAILS, AND APPROACHES DO NOT CLOSE OR NARROW TRAVEL LANES IN EITHER DIRECTION BETWEEN THE HOURS LISTED IN GENERAL NOTE A.

GENERAL NOTES

- C) 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.
- D) ALL TRAFFIC CONTROL SETUP, MAINTENANCE AND BREAKDOWN/REMOVAL SHALL ADHERE TO THE STANDARDS AND SPECIFICATIONS SET FORTH BY THE MOST RECENT EDITION OF THE MANUAL FOR UNIFORM TRAFFIC CONTROL (MUTCD), THE NORTH CAROLINA DEPARTMENT OF TRANSPORTATION (NCDOT) STANDARDS AND SPECIFICATIONS AND ROADWAY STANDARD DRAWINGS.
- E) THE CONTRACTOR SHALL BE REQUIRED TO DO ALL NECESSARY WORK TO PROVIDE SUITABLE CONNECTIONS WITH ALL ROADS, STREETS AND DRIVEWAYS ENTERING THIS PROJECT.
- F) THE CONTRACTOR SHALL VERIFY THE LOCATION OF ALL UTILITIES BEFORE BEGINNING CONSTRUCTION BY CONTACTING THE NORTH CAROLINA ONE CALL CENTER (1-800-632-4949).
- G) THE CONTRACTOR SHALL COORDINATE THE FINAL PAVEMENT MARKING LAYOUT WITH ALL LONGITUDINAL PAVEMENT JOINTS ON THE FINAL SURFACE LAYER PRIOR TO PAVING.
- H) PERFORM WORK ONLY WHEN WEATHER AND VISIBILITY CONDITIONS ALLOW SAFE OPERATIONS.
- I) ALL PEDESTRIAN TRAFFIC SHALL BE MAINTAINED DURING THE LIFE OF THE PROJECT. INCLUDING ANY CROSSWALKS, SIDEWALKS, SIDE STREETS AND DRIVEWAYS.

LANE SHIFT AND SHOULDER CLOSURE REQUIREMENTS

- J) 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.
 - K) 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.
 - L) 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.
- M) 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.
 - N) DO NOT WORK SIMULTANEOUSLY WITHIN 15 FT ON BOTH SIDES OF AN OPEN TRAVELWAY, RAMP, OR LOOP WITHIN THE SAME LOCATION UNLESS PROTECTED WITH GUARDRAIL OR BARRIER.

PAVEMENT EDGE DROP OFF REQUIREMENTS

- O) 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) 500FT IN ADVANCE AND A MINIMUM OF EVERY HALF MILE THROUGHOUT THE UNEVEN AREA.

TRAFFIC PATTERN ALTERATIONS

- P) NOTIFY THE ENGINEER AND DIVISION THIRTY (30) CALENDAR DAYS PRIOR TO ANY TRAFFIC PATTERN ALTERATION.

SIGNING

- Q) 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.
- R) 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.
- S) 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.
- T) ENSURE ALL NECESSARY SIGNING IS IN PLACE PRIOR TO ALTERING ANY TRAFFIC PATTERN.

TRAFFIC CONTROL DEVICES

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

PAVEMENT MARKINGS AND MARKERS

- W) REVIEW AND RECORD EXISTING PAVEMENT MARKINGS AND MARKERS PRIOR TO MILLING AND ROADWAY RECONSTRUCTION. USE THE RECORD OF EXISTING PAVEMENT MARKINGS AND MARKERS IN CONJUNCTION WITH THE BRIDGE PLANS, THE TRANSPORTATION MANGEMENT PLANS AND THE MOST RECENT VERSION OF THE ROADWAY STANDARD DRAWINGS AND TO REESTABLISH THE PROPOSED PAVEMENT MARKINGS AND MARKERS UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
- X) REPLACE ANY CONFLICTING/DAMAGED PAVEMENT MARKINGS AND MARKERS, SYMBOLS AND CHARACTERS OBLITERATED BY WORK WITH TEMPORARY PAINT IN ACCORDANCE WITH SECTION 1205 OF THE LATEST VERSION OF THE NCDOT STANDARD SPECIFICATIONS BY THE END OF EACH WORK DAY AT NO COST TO THE DEPARTMENT.
- Y) PERFORM THE NECESSARY LAYOUT TO TIE IN EITHER TEMPORARY OR PROPOSED PAVEMENT MARKING LINES TO EXISTING PAVEMENT MARKING LINES.

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GENERAL NOTES (CONT.)

TRAFFIC BARRIER:

Z) 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.

AA) 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

PCMS MESSAGES

PCMS MESSAGE
ONE WEEK
PRIOR TO RAMP WORK

MESSAGE NO. 1	MESSAGE NO. 2
EXT 417A RAMP WORK	MM/DD TO MM/DD

CHANGEABLE MESSAGE
SIGN

PCMS MESSAGE
DURING
RAMP AND BRIDGE WORK

MESSAGE NO. 1	MESSAGE NO. 2
EXT 417A RAMP WRK AHEAD	STAY ALERT

CHANGEABLE MESSAGE
SIGN

PROVIDE PORTABLE CHANGEABLE MESSAGE SIGNS (PCMS) AT MINIMUM OF (7) CALENDAR DAYS IN ADVANCE OF ANY WORK AND RETAIN THESE MESSAGE BOARDS ON THE PROJECT WITH UPDATED MESSAGING THROUGHOUT THE DURATION OF THE PROJECT. THE PCMS' SHALL BE PLACED A MINIMUM OF 500' IN ADVANCE OF THE WORK ZONE. SEE ABOVE FOR TIMING AND MESSAGES. SIGN LOCATION AND MESSAGE CAN BE CHANGED AT THE APPROVAL OF THE ENGINEER.

PHASING NOTES

PERFORM ALL WORK AS SHOWN IN THE CONTRACT AND BRIDGE PLANS IN ACCORDANCE WITH ALL COAST GUARD REGULATIONS & REQUIREMENTS. FOR U.S. COAST GUARD CONTACT INFORMATION, SEE PROJECT SPECIAL PROVISIONS.

ALL LANE CLOSURES SHALL BE IN ACCORDANCE WITH THE MOST RECENT EDITION OF THE NCDOT STANDARD SPECIFICATIONS, STANDARD DRAWINGS AND THE TRANSPORTATION MANAGEMENT PLAN.

PHASING:

CONTRACTOR MAY WORK ON MULTIPLE LOCATIONS SIMULTANEOUSLY IF APPROVED BY THE ENGINEER.

USE NCDOT RSD 1101.01 SHEET 3 OF 3 TO INSTALL ADVANCED WARNING SIGNS AND DEVICES ON E. FRONT ST.

PHASE 1:

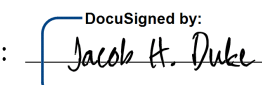
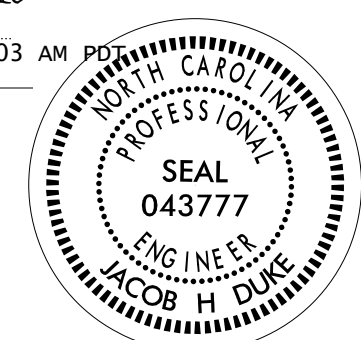

STEP 1: USE TMP-2 AND NCDOT RSD 1101.02 SHEET 3 OF 14 TO CLOSE THE RIGHT LANE OF RAMP DA AND L2 OF E FRONT STREET DURING ALLOWABLE LANE CLOSURE TIMES. PERFORM ALL WORK PER STRUCTURE PLANS.

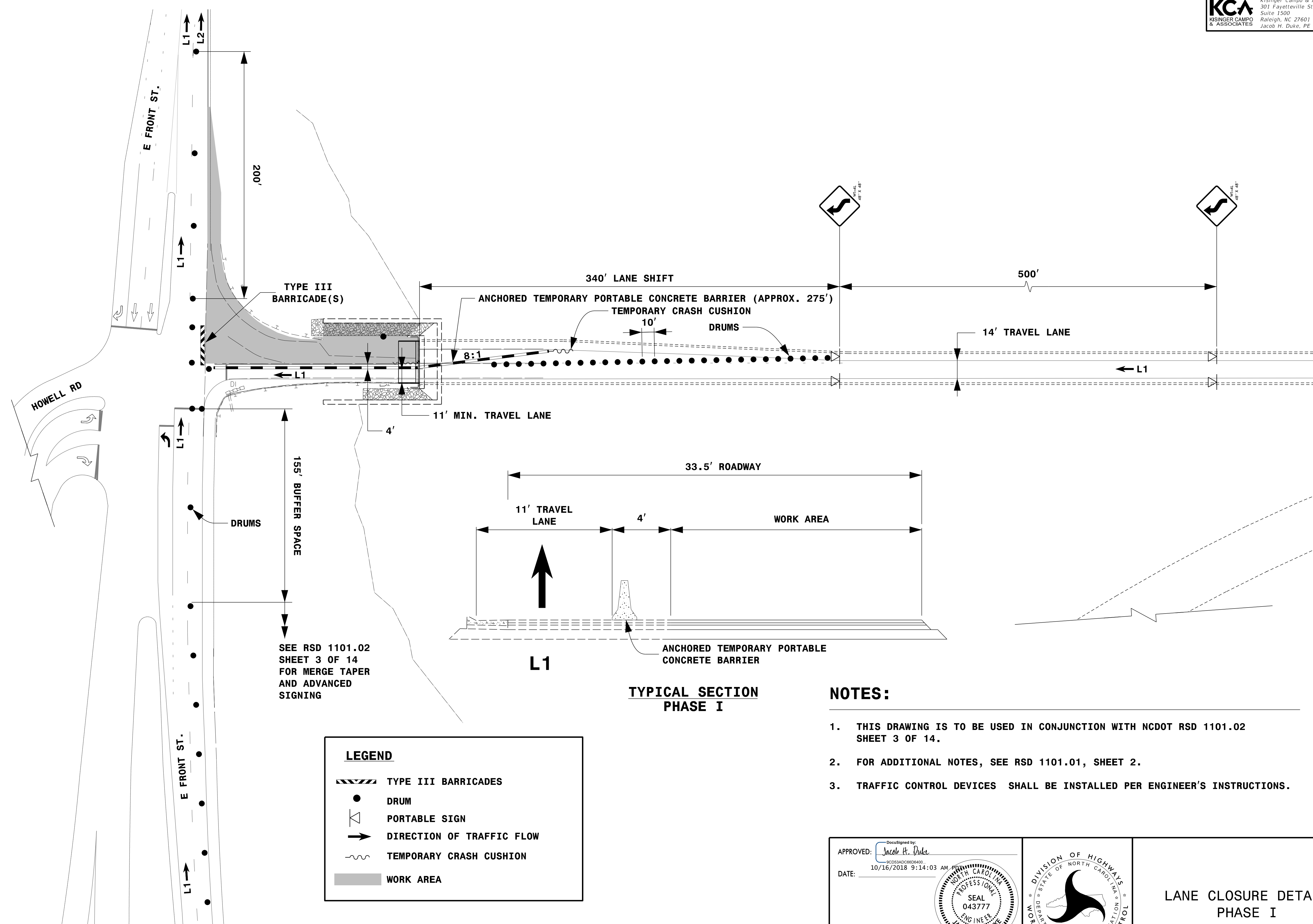
PHASE 2:

STEP 1: USE TMP-3 AND NCDOT RSD 1101.02 SHEET 3 OF 14 TO SHIFT TRAFFIC FROM LEFT TO RIGHT IN ORDER TO CLOSE THE LEFT TRAFFIC LANE OF RAMP DA AND L2 OF E FRONT STREET DURING ALLOWABLE LANE CLOSURE TIMES. PERFORM ALL WORK PER STRUCTURE PLANS.

STEP 2: COMPLETE ALL ROADWAY WORK, TIE-INS AND ASSOCIATED ITEMS. AT THE END OF THE WORK PERIOD REMOVE ALL SIGNS AND DEVICES, THEN REOPEN THE BRIDGE AND ROADWAY TO TRAFFIC.

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<p>APPROVED: </p> <p>DATE: 10/16/2018 9:14:03 AM</p>			<p>GENERAL NOTES (2 OF 2) & PHASING NOTES</p>
<p>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</p>			



LEGEND

	TYPE III BARRICADES
	DRUM
	PORTABLE SIGN
	DIRECTION OF TRAFFIC FLOW
	TEMPORARY CRASH CUSHION
	WORK AREA

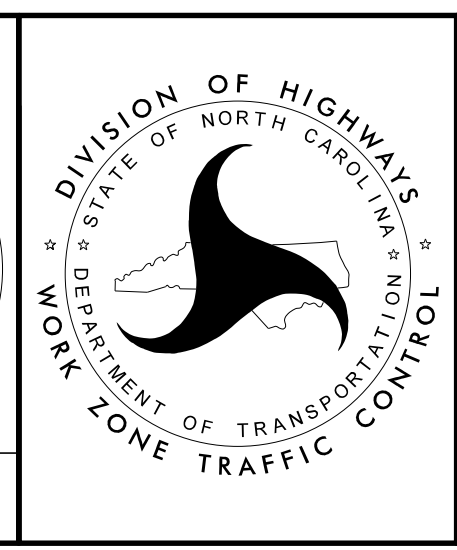
- NOTES:**
1. THIS DRAWING IS TO BE USED IN CONJUNCTION WITH NCDOT RSD 1101.02 SHEET 3 OF 14.
 2. FOR ADDITIONAL NOTES, SEE RSD 1101.01, SHEET 2.
 3. TRAFFIC CONTROL DEVICES SHALL BE INSTALLED PER ENGINEER'S INSTRUCTIONS.

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 Jacob H. Duke
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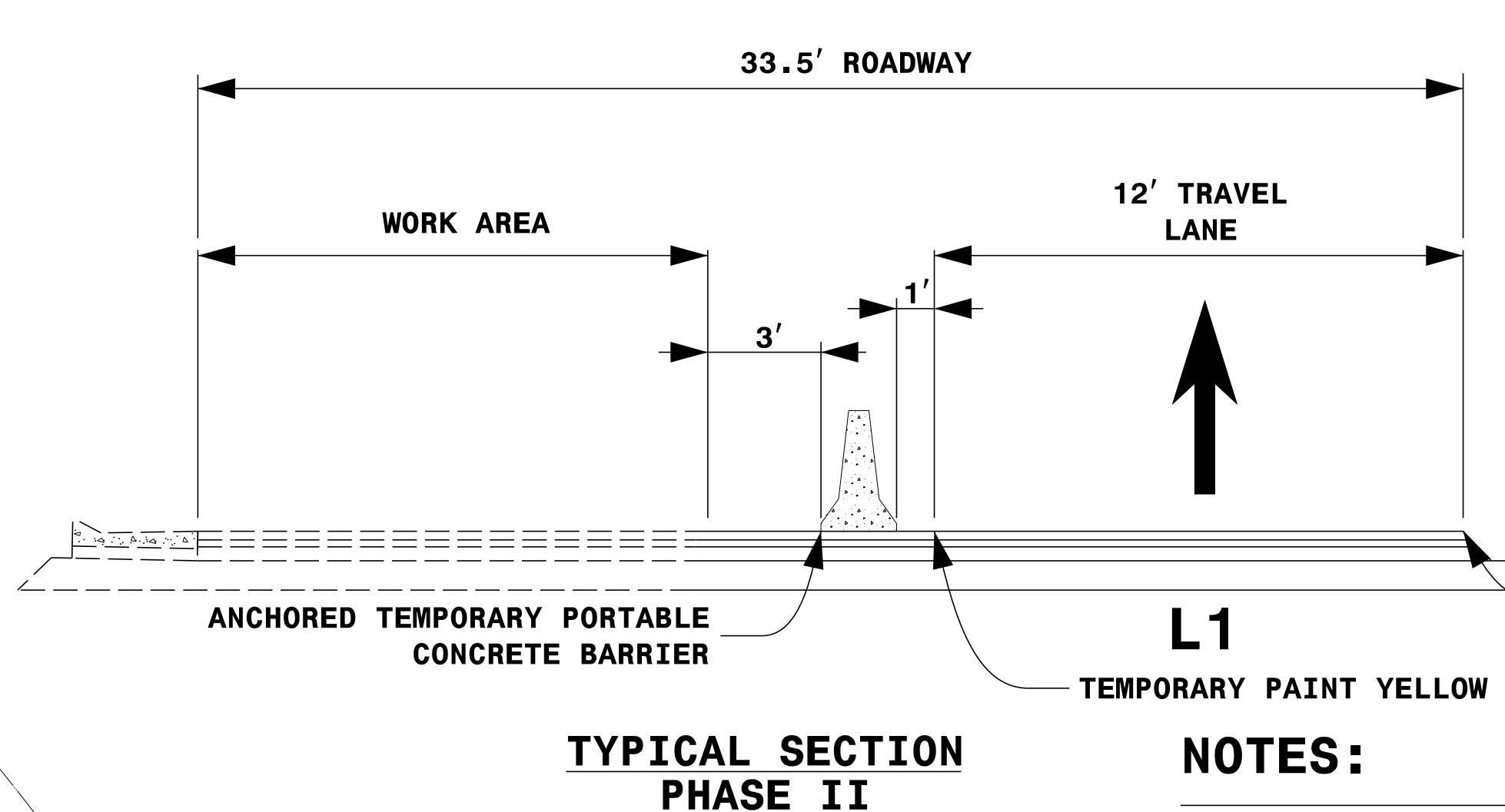
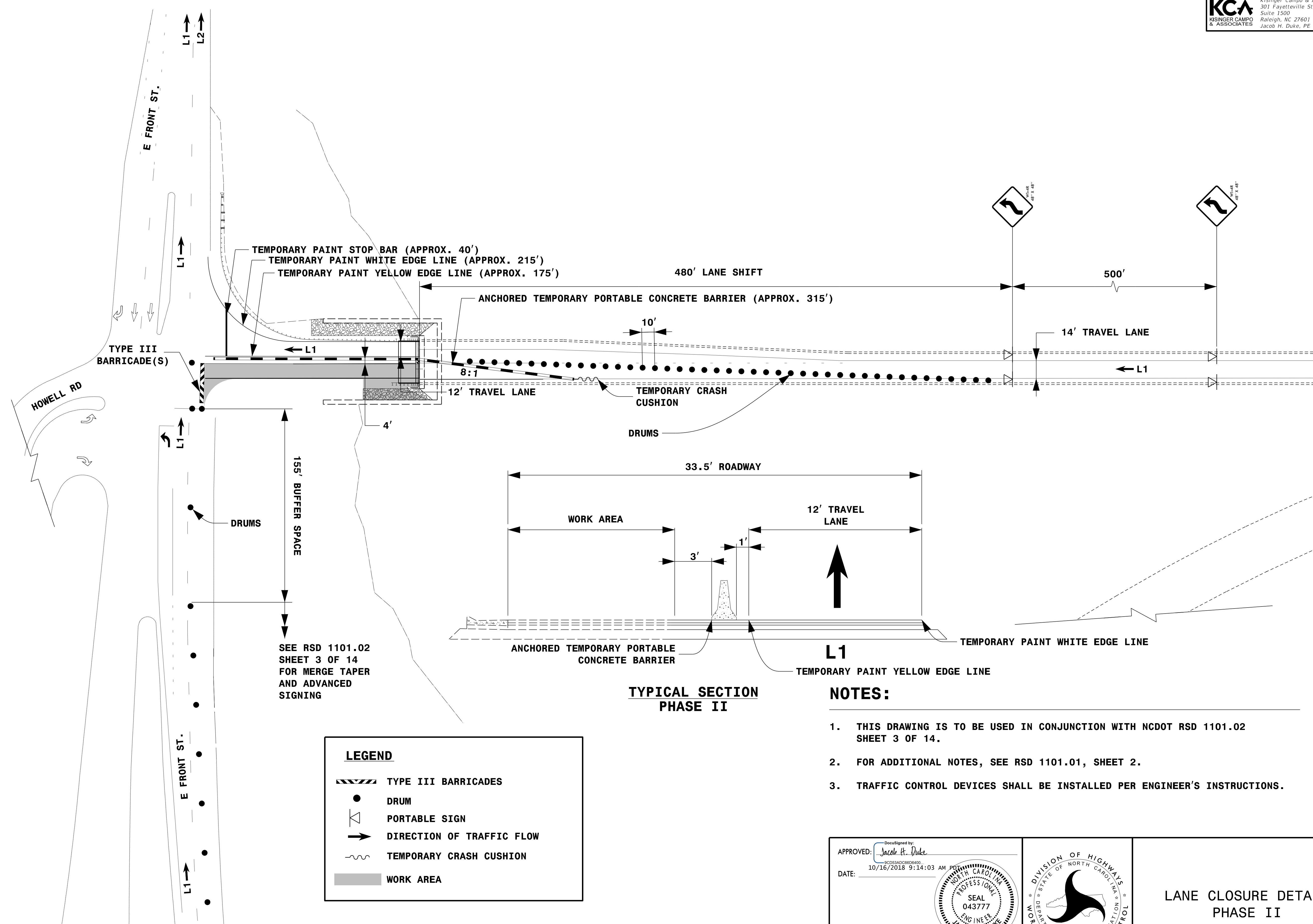
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 ENGINEER
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LANE CLOSURE DETAIL PHASE I

10/16/2018
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 User: jduke



LEGEND

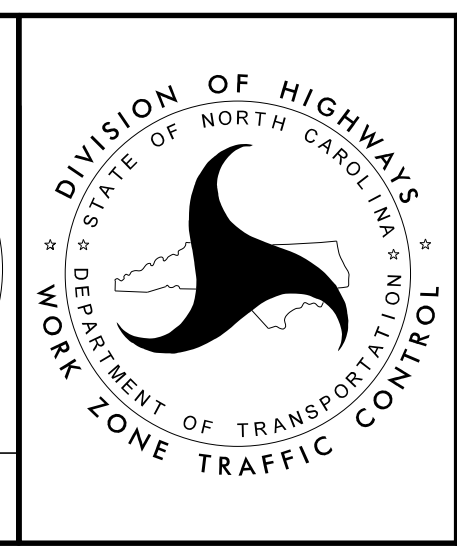
	TYPE III BARRICADES
	DRUM
	PORTABLE SIGN
	DIRECTION OF TRAFFIC FLOW
	TEMPORARY CRASH CUSHION
	WORK AREA

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 2. FOR ADDITIONAL NOTES, SEE RSD 1101.01, SHEET 2.
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JACOB H. DUKE
043777



LANE CLOSURE DETAIL
PHASE II

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