

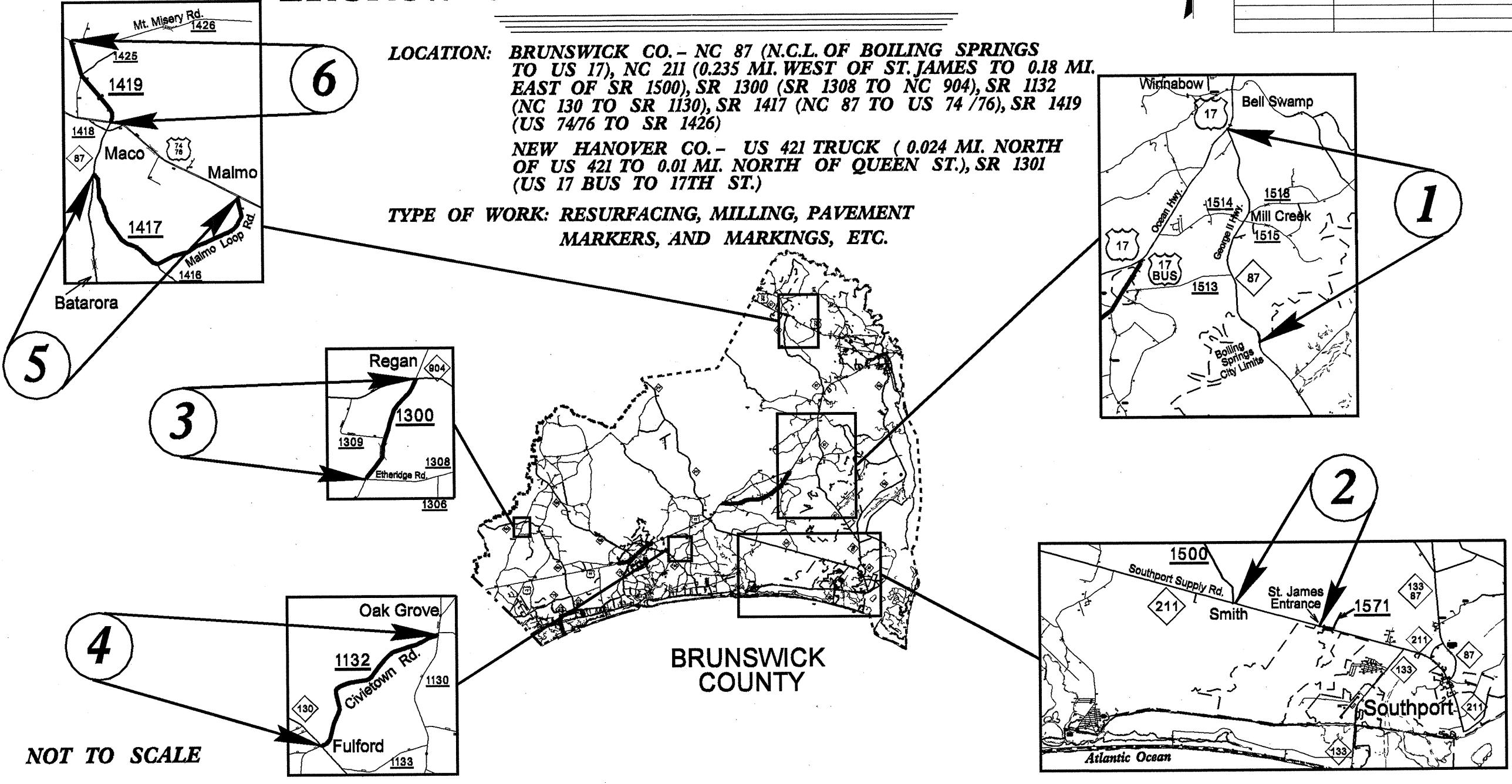
WBS NO: 3CR.10101.76, ETC.

CONTRACT:

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	3CR.10101.76, 3CR.10651.76, 3CR.20101.76, & 3CR.20651.76	1	
STATE PROJ. NO.	P.A. PROJ. NO.	DESCRIPTION	

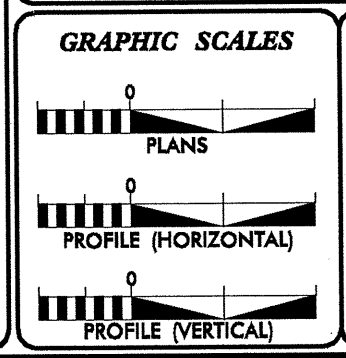
BRUNSWICK NEW HANOVER COUNTIES



LOCATION: BRUNSWICK CO. - NC 87 (N.C.L. OF BOILING SPRINGS TO US 17), NC 211 (0.235 MI. WEST OF ST. JAMES TO 0.18 MI. EAST OF SR 1500), SR 1300 (SR 1308 TO NC 904), SR 1132 (NC 130 TO SR 1130), SR 1417 (NC 87 TO US 74/76), SR 1419 (US 74/76 TO SR 1426)

NEW HANOVER CO. - US 421 TRUCK (0.024 MI. NORTH OF US 421 TO 0.01 MI. NORTH OF QUEEN ST.), SR 1301 (US 17 BUS TO 17TH ST.)

TYPE OF WORK: RESURFACING, MILLING, PAVEMENT MARKERS, AND MARKINGS, ETC.



DESIGN DATA

ADT	=		
ADT	=		
DHV	=	%	
D	=	%	
T	=	% *	
V	=	MPH	
* TTST	DUAL		

PROJECT LENGTH

MAP NO. 1 = 6.47 MI.	MAP NO. 5 = 4.35 MI.
MAP NO. 2 = 2.11 MI.	MAP NO. 6 = 1.71 MI.
MAP NO. 3 = 1.27 MI.	MAP NO. 7 = 1.02 MI.
MAP NO. 4 = 2.33 MI.	MAP NO. 8 = 2.17 MI.
TOTAL = 21.43 MI.	

Prepared in the Office of:
DIVISION OF HIGHWAYS
124 Division Dr., Wilmington, NC 28401

2006 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE: _____

LETTING DATE: NOVEMBER 2009

HYDRAULICS ENGINEER

SIGNATURE: _____ P.E.

ROADWAY DESIGN TECHNICIAN

SIGNATURE: DNL

SIGNATURE: _____

DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA

SEAL 20224

CHARLES A. SCHOONOVER

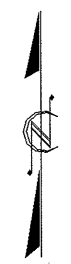
PROFESSIONAL ENGINEER

NORTH CAROLINA

DIVISION DESIGN ENGINEER

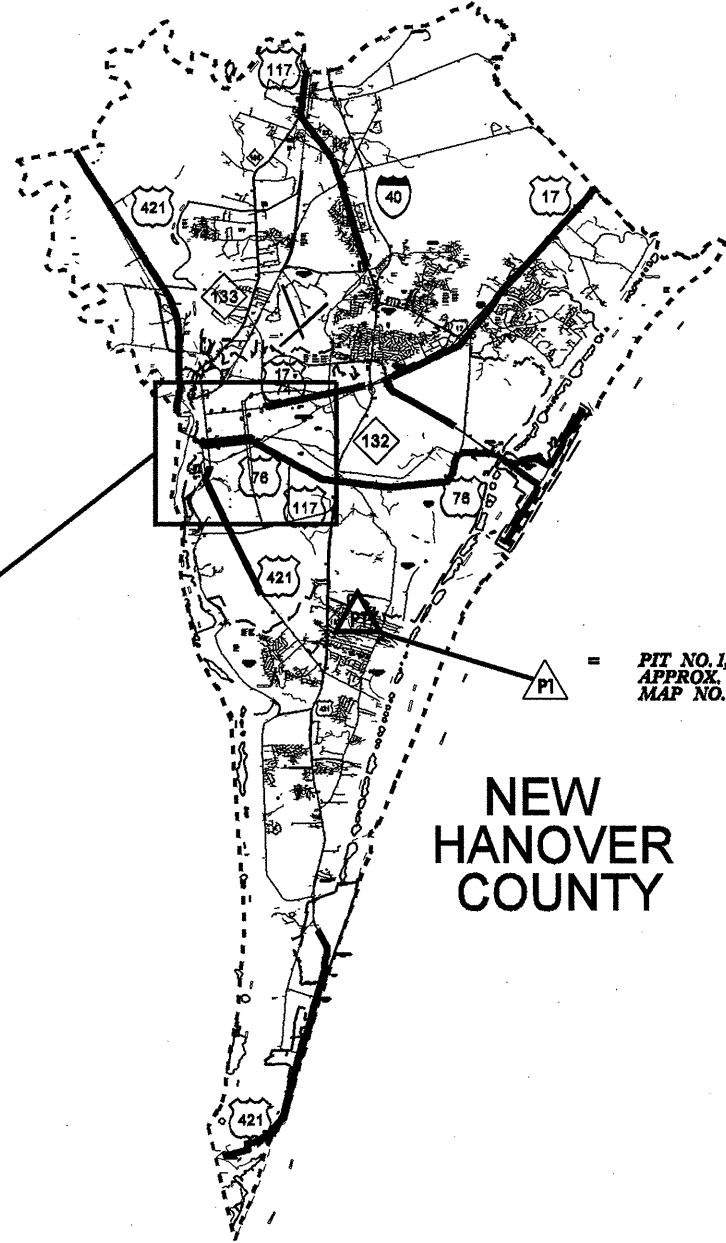
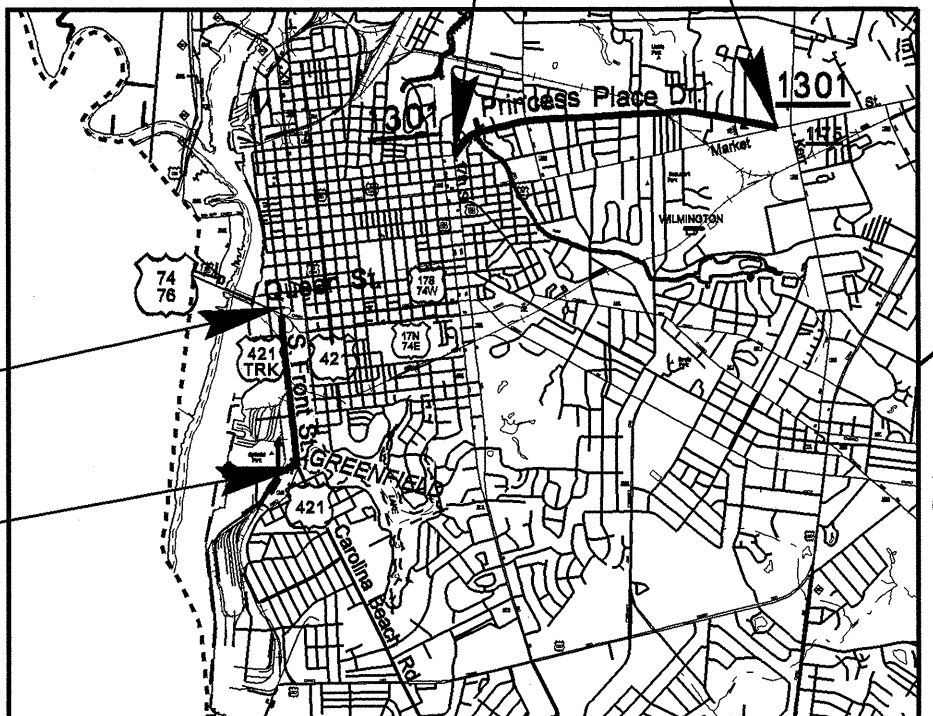
PROJECT REFERENCE NO.	SHEET NO.
3CR.10101.76, 3CR.10651.76, 3CR.20101.76, 3CR.20651.76	2

NEW HANOVER COUNTY



8

7



NEW HANOVER COUNTY

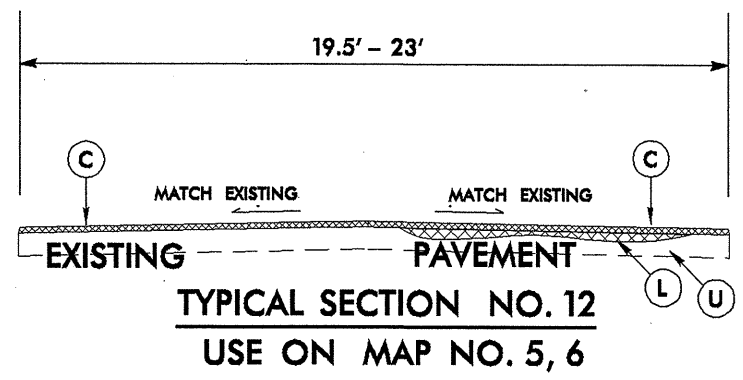
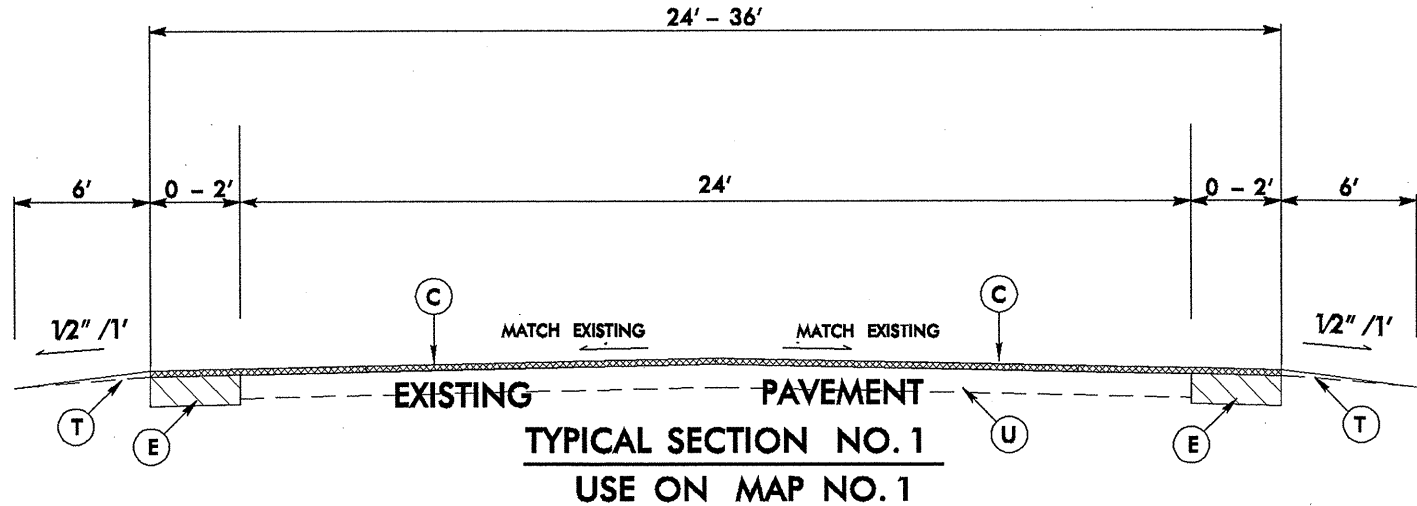
NOT TO SCALE

REVISIONS

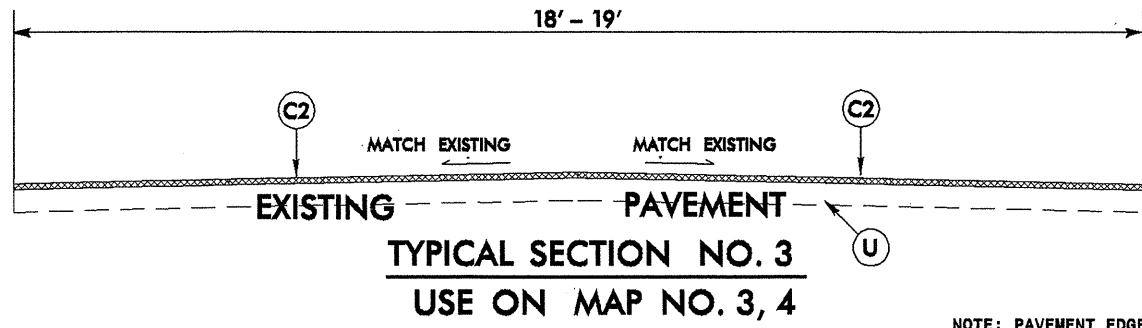
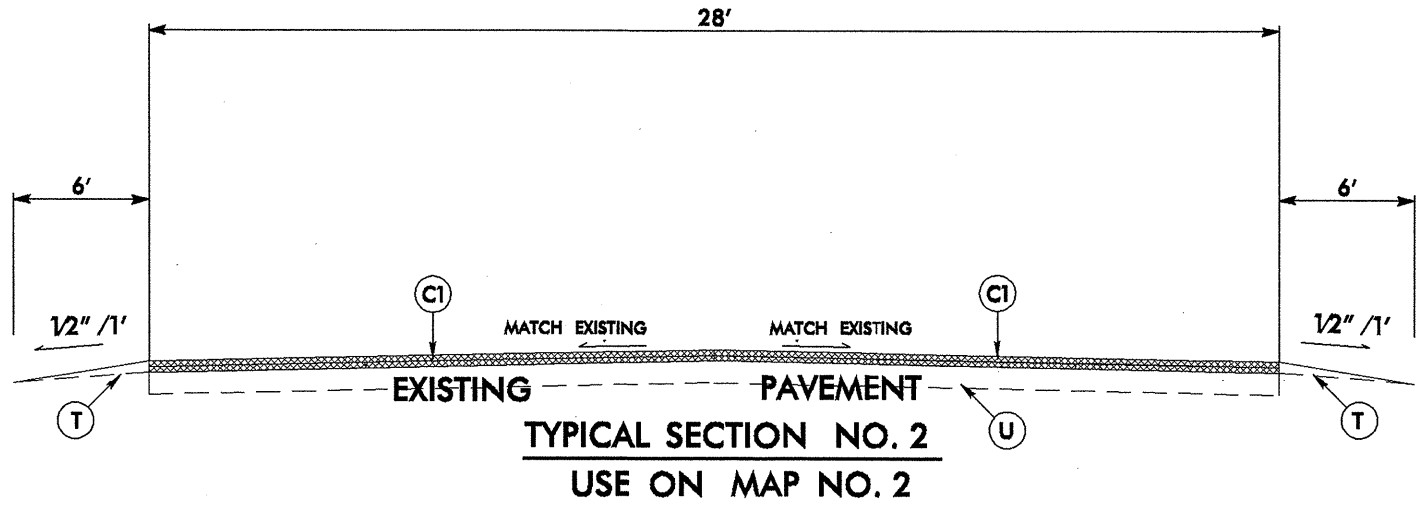
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PROJECT REFERENCE NO.	SHEET NO.
3CR.10101.76, 3CR.10651.76, 3CR.20101.76, 3CR.20651.76	3



SPRIAL WIDENING MAP NO. 1, NBL		
FROM MP	TO MP	
0.77	0.89	
1.00	1.07	
1.68	1.77	
2.04	2.06	
2.36	2.52	
2.65	2.67	
3.02	3.18	
3.52	3.54	
4.11	4.14	
4.88	5.00	
5.10	5.16	
5.21	5.26	
5.54	5.58	
5.62	5.67	
SPRIAL WIDENING MAP NO. 1, SBL		
FROM MP	TO MP	
0.00	0.37	
1.91	1.94	
2.70	2.75	
4.35	4.49	
5.58	5.66	



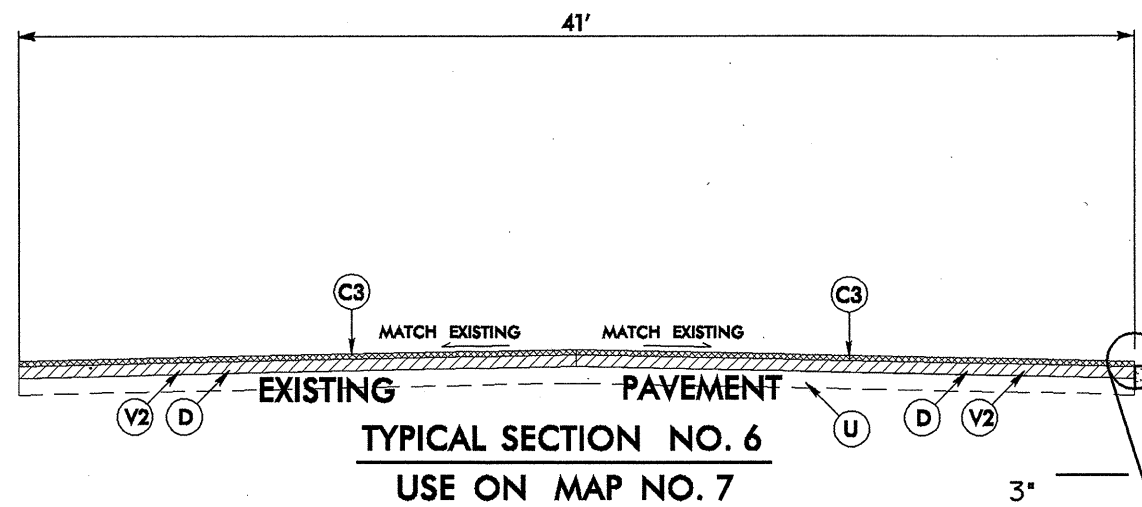
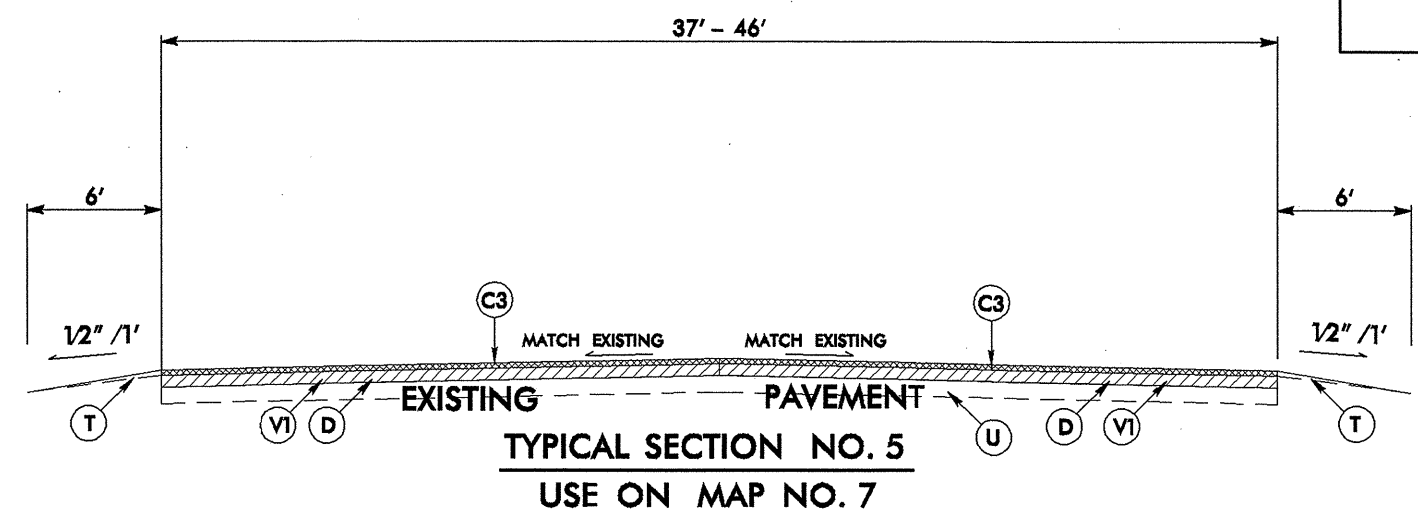
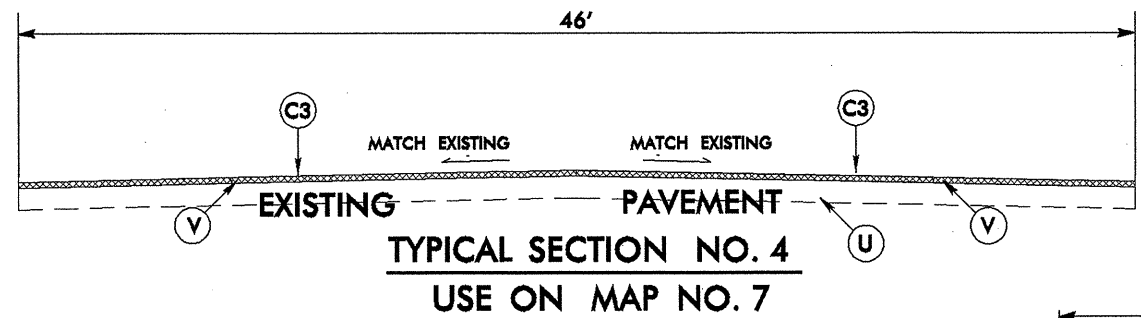
NOTE: PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE.
SEE STD. DRAWING 1205.01, SHEET 2 OF 2, TABLE 1 FOR EDGE LINE OFFSETS.
M.E. = MATCH EXISTING

PAVEMENT SCHEDULE					
		C4	PROP. APPROX. 3" DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE S9.6C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. IN EACH OF TWO LIFTS.	U	EXISTING PAVEMENT.
C	PROP. APPROX. 1 1/2" DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.	D	PROP. APPROX. 3" DEPTH ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 342 LBS. PER SQ. YD.	V	MILLING BITUMINOUS PAVEMENT. 1 1/2" DEPTH.
C1	PROP. APPROX. 3" DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. IN EACH OF TWO LIFTS.	E	PROP. APPROX. 5" DEPTH ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 570 LBS. PER SQ. YD.	V1	MILLING BITUMINOUS PAVEMENT. 3" DEPTH.
C2	PROP. APPROX. 1 1/2" DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5A, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD.	L	PROP. VARIABLE DEPTH ASPHALT CONCRETE LEVELING COURSE, TYPE S9.5B, AT VARIOUS RATES PER SQ. YD.	V2	MILLING BITUMINOUS PAVEMENT. 4 1/2" DEPTH.
C3	PROP. APPROX. 1 1/2" DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE S9.6C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.	T	EARTH MATERIAL	V3	MILLING BITUMINOUS PAVEMENT. 4" DEPTH.

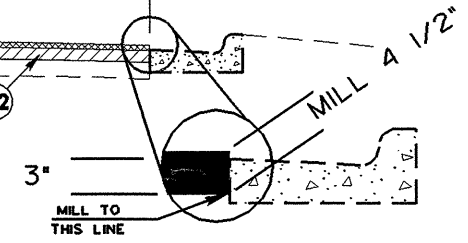
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PROJECT REFERENCE NO.	SHEET NO.
3CR.10101.76	4
3CR.10651.76,	
3CR.20101.76,	
3CR.20651.76	



MILL 3" BELOW GUTTER OF EXISTING 2'-0" C&G. REMOVE & REPLACE C&G FROM MP 0.37+/- (CB IN RADIUS OF DRIVEWAY) TO MP 0.47+/- (END OF EXIST. 2'-0" C&G). MATCH 2'-0" C&G ELEVATION TO EXIST. CB.



NOTE: PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE. SEE STD. DRAWING 1205.01, SHEET 2 OF 2, TABLE 1 FOR EDGE LINE OFFSETS. M.E. = MATCH EXISTING

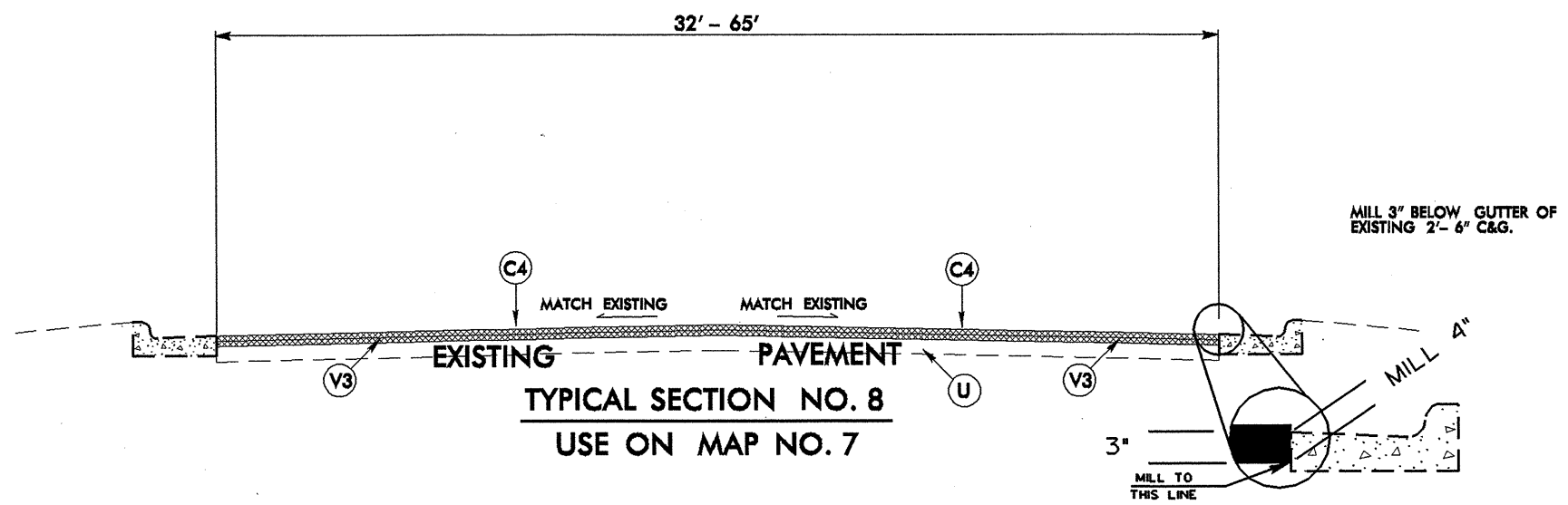
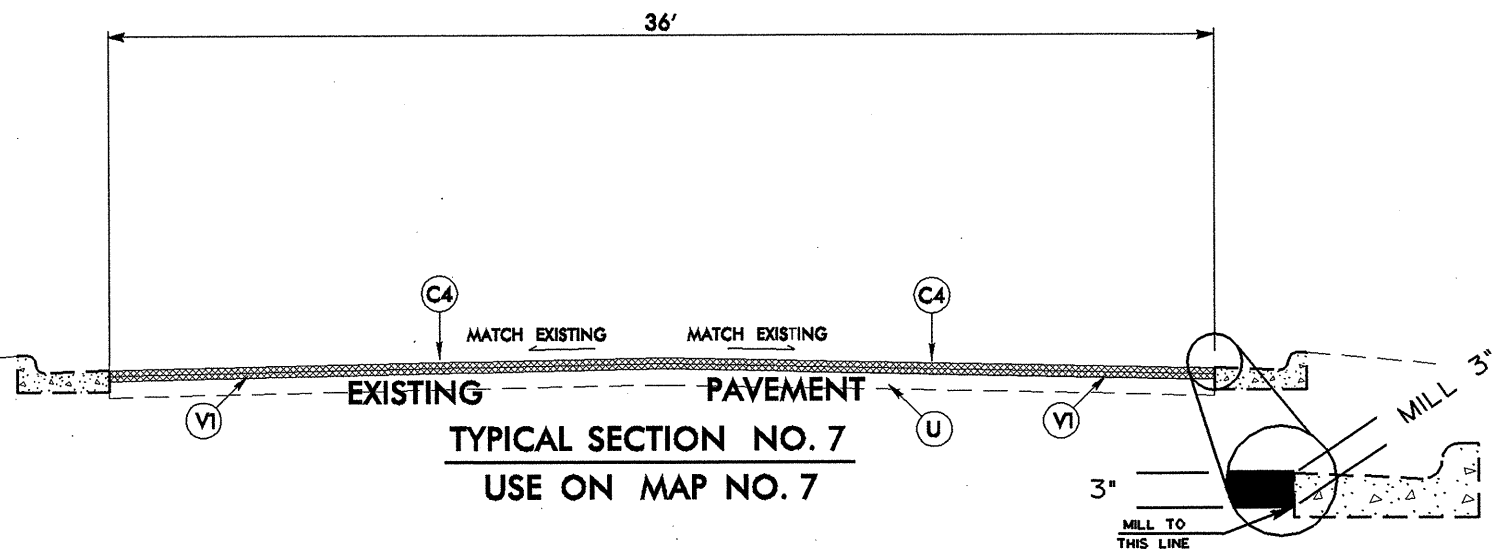
PAVEMENT SCHEDULE					
		C4	PROP. APPROX. 3" DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE 89.6C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. IN EACH OF TWO LIFTS.	U	EXISTING PAVEMENT.
C	PROP. APPROX. 1 1/2" DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE 89.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.	D	PROP. APPROX. 3" DEPTH ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 119.0C, AT AN AVERAGE RATE OF 342 LBS. PER SQ. YD.	V	MILLING BITUMINOUS PAVEMENT. 1 1/2" DEPTH.
C1	PROP. APPROX. 3" DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE 89.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. IN EACH OF TWO LIFTS.	E	PROP. APPROX. 5" DEPTH ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 570 LBS. PER SQ. YD.	V1	MILLING BITUMINOUS PAVEMENT. 3" DEPTH.
C2	PROP. APPROX. 1 1/2" DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE 8F9.6A, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD.	L	PROP. VARIABLE DEPTH ASPHALT CONCRETE LEVELING COURSE, TYPE 89.5B, AT VARIOUS RATES PER SQ. YD.	V2	MILLING BITUMINOUS PAVEMENT. 4 1/2" DEPTH.
C3	PROP. APPROX. 1 1/2" DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE 89.6C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.	T	EARTH MATERIAL	V3	MILLING BITUMINOUS PAVEMENT. 4" DEPTH.

REVISIONS

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PROJECT REFERENCE NO.	SHEET NO.
3CR.10101.76, 3CR.10651.76, 3CR.20101.76, 3CR.20651.76	5



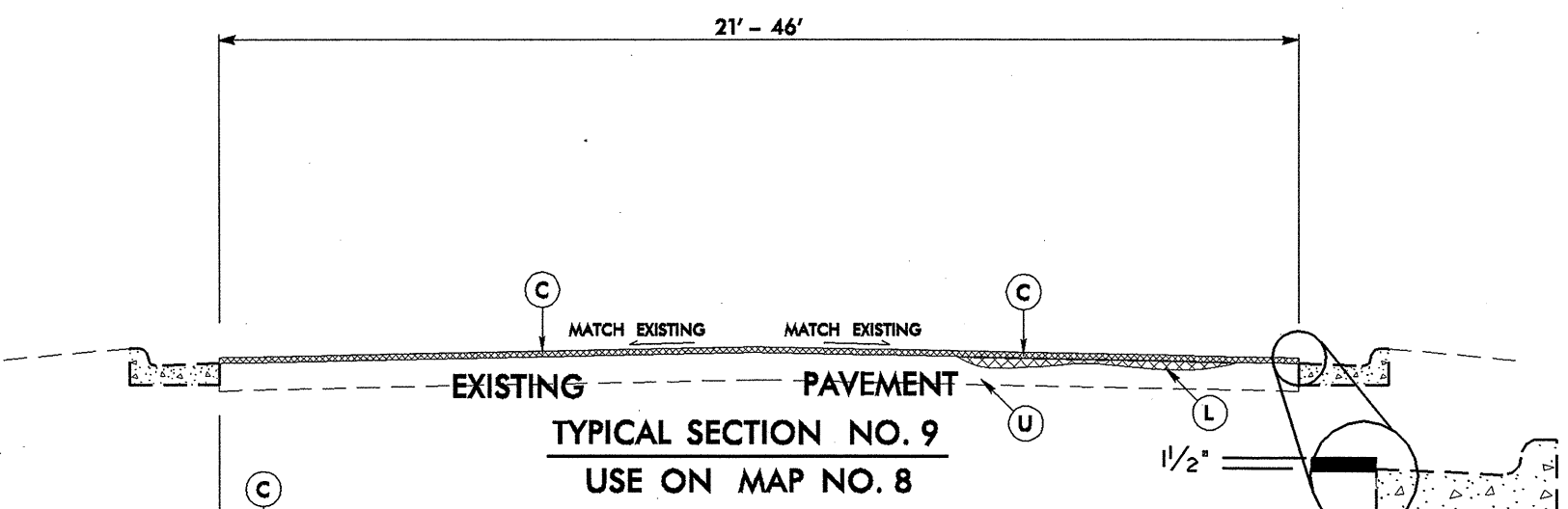
NOTE: PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE.
SEE STD. DRAWING 1205.01, SHEET 2 OF 2, TABLE 1 FOR EDGE LINE OFFSETS.
M.E. = MATCH EXISTING

PAVEMENT SCHEDULE		C4	U
C	PROP. APPROX. 1 1/2" DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE 89.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.	D	V
C1	PROP. APPROX. 3" DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE 89.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. IN EACH OF TWO LIFTS.	E	V1
C2	PROP. APPROX. 1 1/2" DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD.	L	V2
C3	PROP. APPROX. 1 1/2" DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE 89.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.	T	V3
			EXISTING PAVEMENT.
			MILLING BITUMINOUS PAVEMENT. 1 1/2" DEPTH.
			MILLING BITUMINOUS PAVEMENT. 3" DEPTH.
			MILLING BITUMINOUS PAVEMENT. 4 1/2" DEPTH.
			MILLING BITUMINOUS PAVEMENT. 4" DEPTH.

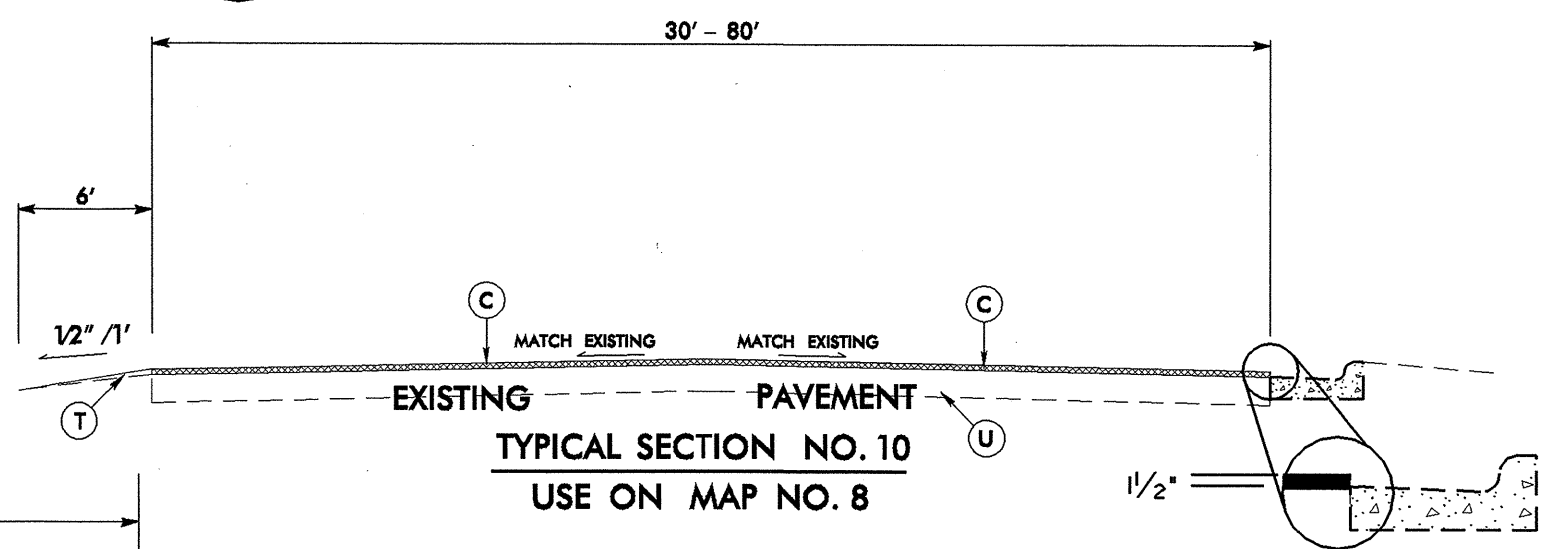
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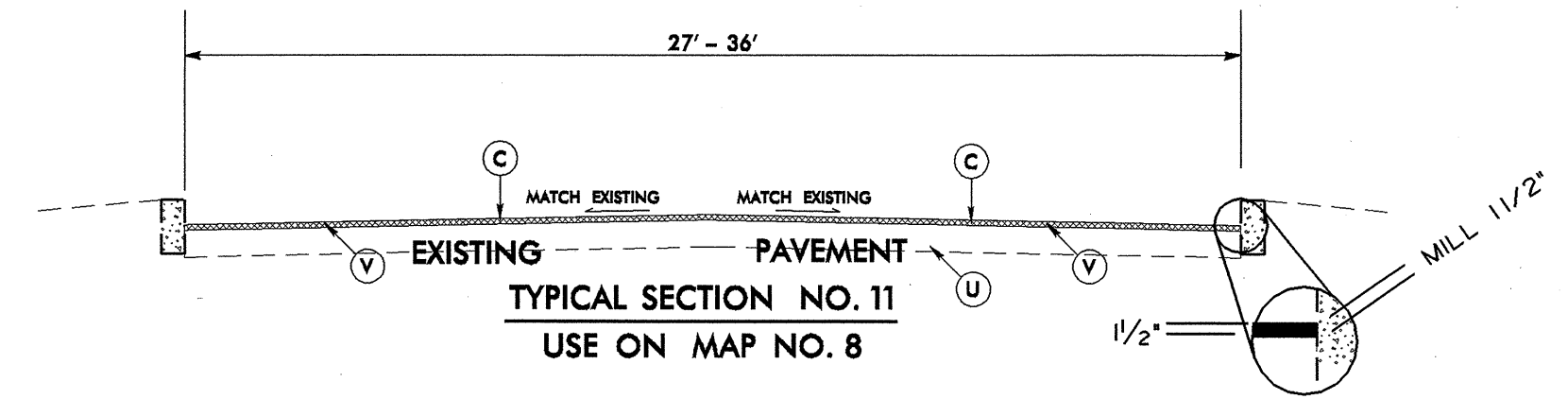
PROJECT REFERENCE NO. 3CR.10101.76, 3CR.10651.76, 3CR.20101.76, 3CR.20651.76	SHEET NO. 6
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NOTE:
WHERE GRANITE CURB
IS OPPOSITE 2'-6" C&G,
RESURFACE EXISTING
ASPHALT.



NOTE:
2'-6" C&G OR EARTH
SHOULDER CAN BE ON
EITHER SIDE OF THE ROADWAY.



NOTE: PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE.
SEE STD. DRAWING 1205.01, SHEET 2 OF 2, TABLE 1 FOR EDGE LINE OFFSETS.
M.E. = MATCH EXISTING

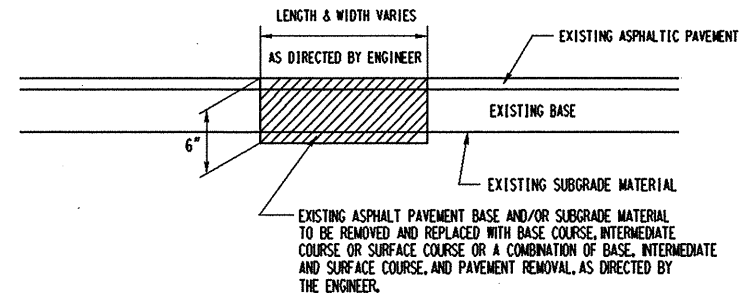
PAVEMENT SCHEDULE				
	C4	PROP. APPROX. 3" DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE 89.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. IN EACH OF TWO LIFTS.	U	EXISTING PAVEMENT.
C	D	PROP. APPROX. 1 1/2" DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE 89.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.	V	MILLING BITUMINOUS PAVEMENT. 1 1/2" DEPTH.
C1	E	PROP. APPROX. 3" DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE 89.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. IN EACH OF TWO LIFTS.	V1	MILLING BITUMINOUS PAVEMENT. 3" DEPTH.
C2	L	PROP. APPROX. 1 1/2" DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE 8F9.5A, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD.	V2	MILLING BITUMINOUS PAVEMENT. 4 1/2" DEPTH.
C3	T	PROP. APPROX. 1 1/2" DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE 89.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.	V3	MILLING BITUMINOUS PAVEMENT. 4" DEPTH.

REVISIONS

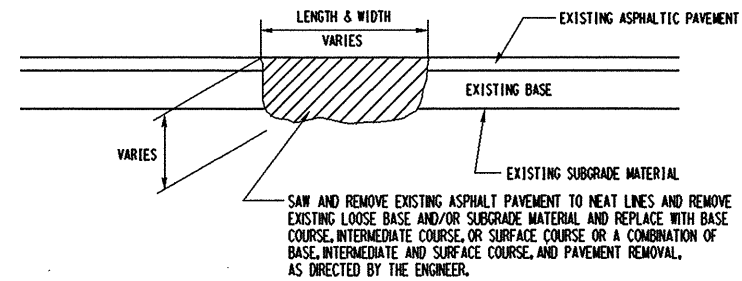
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PROJECT REFERENCE NO.	SHEET NO.
3CR.10101.76	7
3CR.10651.76	
3CR.20101.76	
3CR.20651.76	

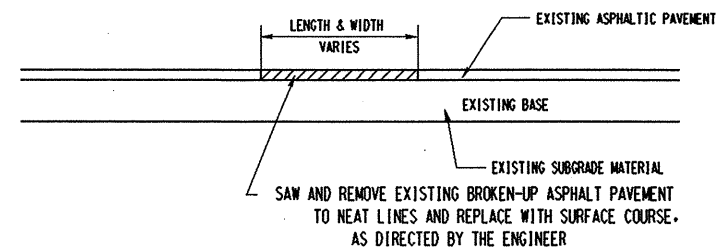
DETAILS OF REPAIRING EXISTING PAVEMENT PRIOR TO RESURFACING FOR FULL DEPTH AND MILLING



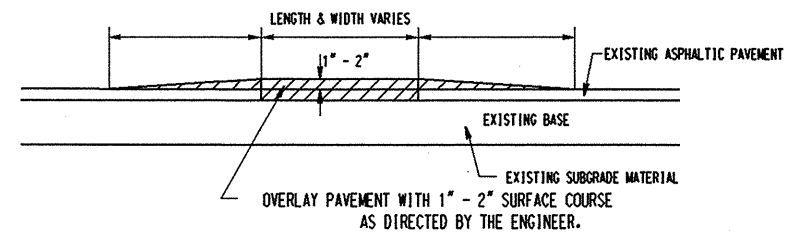
DETAIL NO. 1



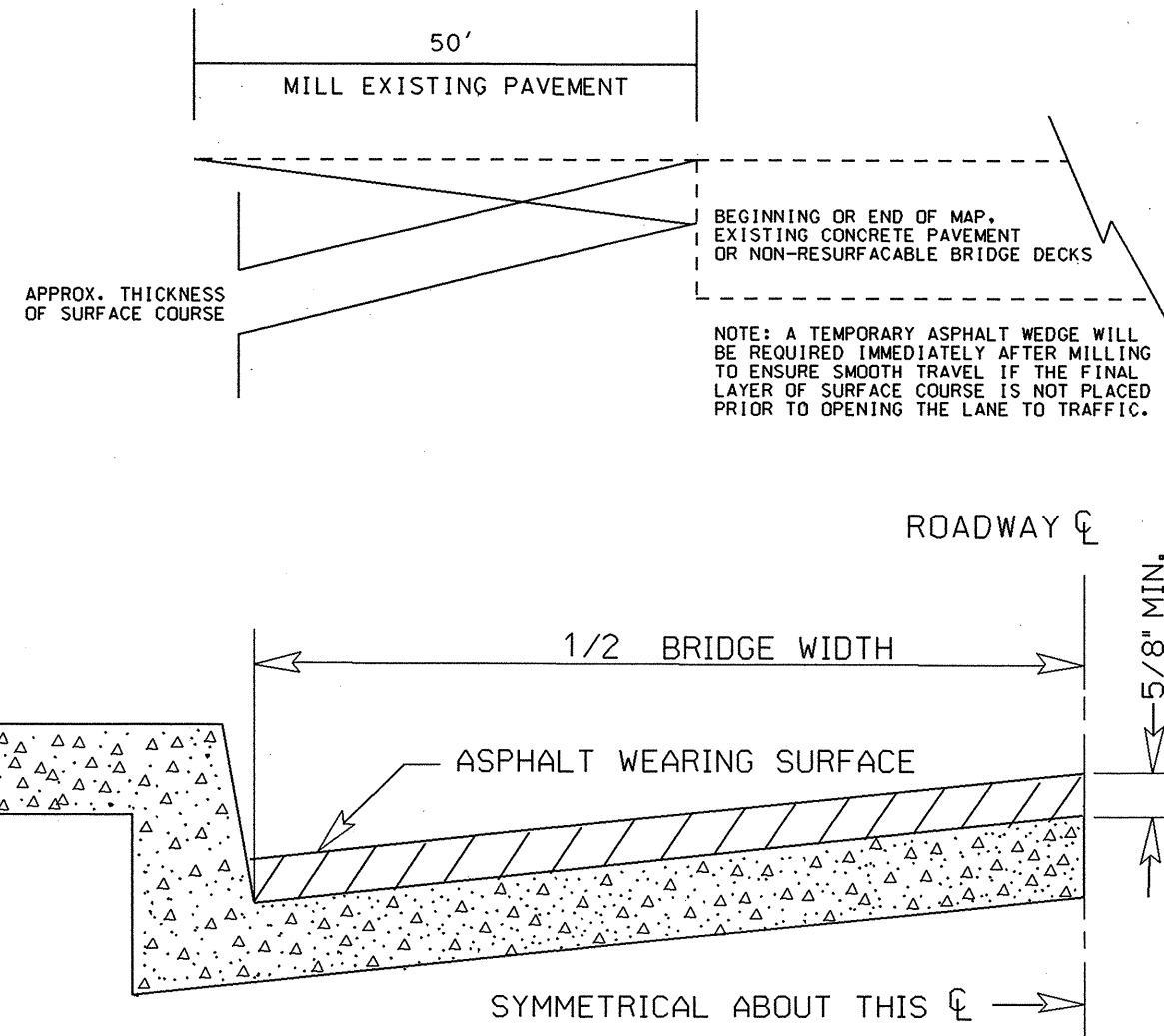
DETAIL NO. 2



DETAIL NO. 3



DETAIL NO. 4



BRIDGE HALF TYPICAL SECTION

FOR BRIDGES WITH FLOOR DRAINS, CARE SHALL BE EXERCISED IN PLACING THE WEARING SURFACE AROUND FLOOR DRAINS SO AS NOT TO HINDER EFFECTIVE DRAINAGE. ALL DRAINS SHALL BE LEFT OPEN.

THE PROPOSED WEARING SURFACE SHALL VARY IN THICKNESS AS NECESSARY TO PROVIDE A SMOOTH RIDING SURFACE. A THICKNESS OF NOT LESS THAN 5/8" SHALL BE PROVIDED. THE MAXIMUM THICKNESS SHALL PREFERABLY BE 1-1/2" UNLESS IT IS IMPRACTICAL TO PROVIDE A SMOOTH RIDING SURFACE OTHERWISE.

REVISIONS

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 \$\$\$\$REVISIONS\$\$\$\$

PROJECT NO.	SHEET NO.	TOTAL NO.
3CR.10101.76, 3CR.10651.76 3CR.20651.76, ETC.	11	

THERMOPLASTIC AND PAINT QUANTITIES

PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	4835000000-E	4845000000-N				4845000000-N				4900000000-N		4905000000-N	4905000000-N	
					24" WHITE PAINT	PAINT MSG RXR	PAINT MSG ONLY	PAINT MSG SCHOOL	PAINT RT ARROW	PAINT STR & LT ARROW	PAINT STR & RT ARROW	PAINT LT ARROW	MERGE ARROW	PAINT STR ARROW	CYAN & RED MARKERS	YELLOW & YELLOW MARKERS	SNOW PLOWABLE MARKERS (Y/Y) EA	SNOW PLOWABLE MARKERS (C/R) EA
3CR.10101.76	Brunswick	1	NC 87	N. CITY LIMITS OF BOILING SPRINGS TO US 17, FULL WIDTH (MP 0.00-3.55, 4.13-6.47)													389	
		"	"	TAPER (24'-36') (MP 3.55-3.62, 4.02-4.13)													12	
		"	"	FULL WIDTH (MP 3.62-4.02)													26	
		"	"	SPRIAL WIDENING (SEE TABLE), 5 NON-SYSTEM INTERSECTIONS														
TOTAL FOR MAP NO. 1																	427	
		2	NC 211	0.24 MI. W. OF ST. JAMES TO 0.18 MI. E. OF SR 1500, FULL WIDTH (MP 0.00-0.84, 1.14-2.11)														119
		"	"	NO WORK (MP 0.84-1.14)														
TOTAL FOR MAP NO. 2																		119
TOTAL FOR PROJ NO. 3CR.10101.76																		546
3CR.10651.76	NewHanover	7	US 421 TRUCK	0.02 MI. N. OF US 421 TO 0.01 MI. N. OF QUEEN ST., FULL WIDTH (MP 0.00-0.02)	24					1	1						1	5
		"	"	FULL WIDTH (MP 0.02-0.31)						2		2					19	19
		"	"	FULL WIDTH (MP 0.31-0.47)									4				42	
		"	"	TAPER (41'-36') (MP 0.47-0.49)									4				1	10
		"	"	FULL WIDTH (MP 0.49-0.79)	25	2							6				79	5
		"	"	TAPER (36'-65') (MP 0.79-0.85)	50	4											4	
		"	"	FULL WIDTH (MP 0.85-0.88)	25	2											8	
		"	"	FULL WIDTH (MP 0.88-1.00)	50	4	8		3			5	3	3			8	23
		"	"	TAPER (60'-32') (MP 1.00-1.02)													1	
		"	"	7 NON-SYSTEM INTERSECTIONS														
TOTAL FOR MAP NO. 7					174	12	8		6	1	2	19	3	3			163	62
TOTAL FOR PROJ NO. 3CR.10651.76					174	12	8		6	1	2	19	3	3			163	62
							20				34							
3CR.20651.76	NewHanover	8	SR 1301	US 17 BUS. TO 17TH ST., TAPER 21'-23' (MP 0.00-0.02)											5			
		"	"	TAPER 80'-42' (MP 0.02-0.05)												2		
		"	"	TAPER 42'-34' (MP 0.05-0.08), TAPER 36'-40' (MP 0.22-0.24)												3		
		"	"	TAPER 34'-43' (MP 0.08-0.10)												5		
		"	"	FULL WIDTH (MP 0.10-0.14)					1					11		3		
		"	"	FULL WIDTH (MP 0.14-0.20)												4		
		"	"	TAPER 32'-36' (MP 0.20-0.22)												1		
		"	"	FULL WIDTH (MP 0.24-0.69), TAPER 33'-46' (MP 1.24-1.27, 1.56-1.59)	686	4		12				12					135	
		"	"	TAPER 40'-30' (MP 0.69-0.70)												1		
		"	"	FULL WIDTH (MP 0.70-0.74)	48											3		
		"	"	TAPER 30'-33' (MP 0.74-0.77)	25	2										4		
		"	"	FULL WIDTH (MP 0.77-1.24, 1.30-1.56, 1.63-1.83)	7,336			12			9	32					246	
		"	"	FULL WIDTH (MP 0.1.27-1.30, 1.59-1.63)	100				4			4		2	37	5		
		"	"	TAPER 33'-36' (MP 1.83-1.84)												3		
		"	"	FULL WIDTH (MP 1.84-1.97)												34		
		"	"	TAPER 36'-27' (MP 1.97-2.00), FULL WIDTH (MP 2.10-2.17)					3					3	10	7		
		"	"	FULL WIDTH (MP 2.00-2.08)												5		
		"	"	TAPER 27'-31' (MP 2.08-2.10)											1	1		
		"	"	29 NON-SYSTEM INTERSECTIONS														
TOTAL FOR MAP NO. 8					8,195	6		24	8		9	48		5	64	462		
TOTAL FOR PROJ NO. 3CR.20651.76					8,195	6		24	8		9	48		5	64	462		
							30				70			526				
3CR.20101.76	Brunswick	3	SR 1300	SR 1308 TO NC 904, FULL WIDTH (MP 0.00-1.27)													168	
TOTAL FOR MAP NO. 3																	168	
		4	SR 1132	NC 130 TO SR 1130, FULL WIDTH													310	
TOTAL FOR MAP NO. 4																	310	
		5	SR 1417	NC 87 TO US 74/76, FULL WIDTH													574	
TOTAL FOR MAP NO. 5																	574	
		6	SR 1419	US 74/76 TO SR 1426, FULL WIDTH													226	
TOTAL FOR MAP NO. 6																	226	
TOTAL FOR PROJ NO. 3CR.20101.76																	1,278	
															1,278			
GRAND TOTAL					8,369	18	8	24	14	1	11	67	3	8	64	1,740	709	62
							50				104			1,804		771		

PROJECT REFERENCE NO.	SHEET NO.
3CR.10101.76	12
3CR.10651.76	
3CR.20101.76	
3CR.20651.76	

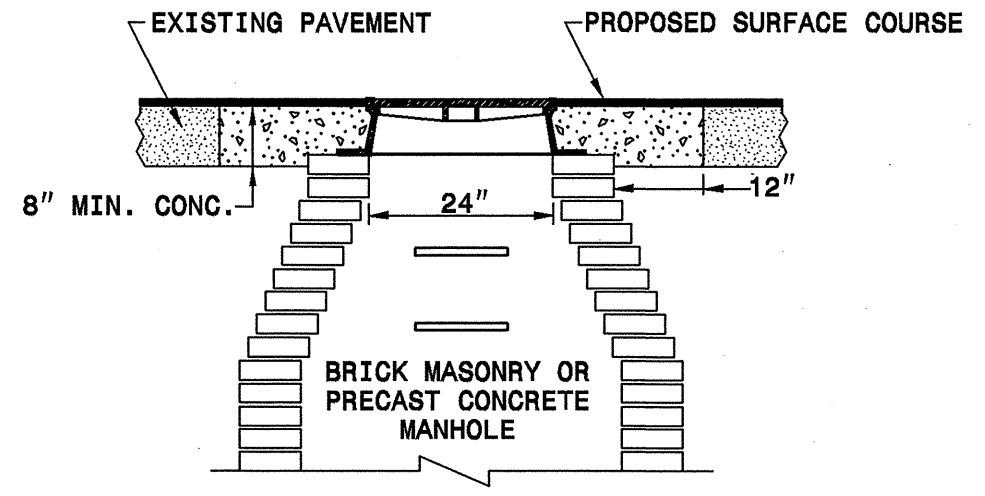
STATE OF
NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

ENGLISH DETAIL DRAWING FOR
MANHOLE AND VALVE BOX ADJUSTMENTS

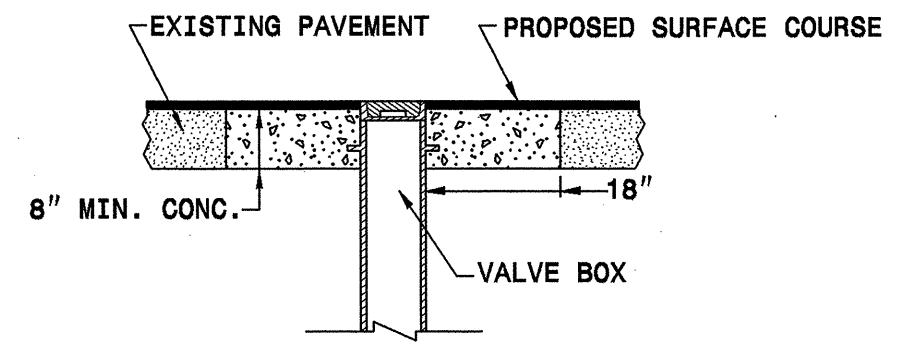
SHEET 1 OF 1
840D55

GENERAL NOTES:

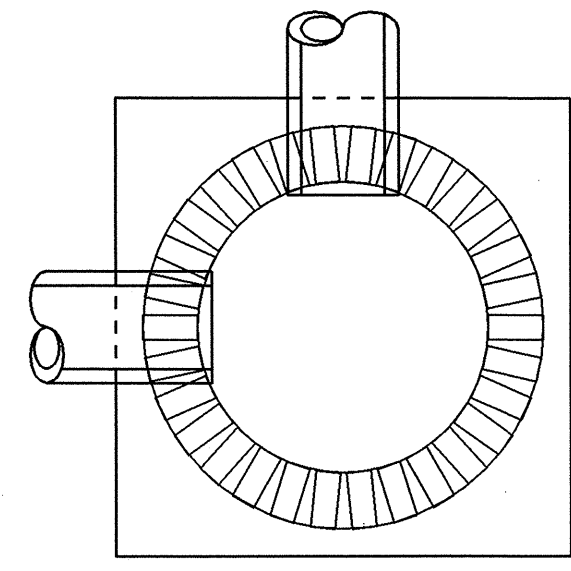
1. RAPID SET GROUT, MORTAR, OR CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 4000 PSI.
2. ALL FAULTY EXISTING BRICKWORK TO BE REMOVED AND REPLACED WITH NEW BRICK MASONRY.
3. EXCAVATION FOR THE ADJUSTMENT SHALL BE SHEER CUT ON ALL SIDES.
4. AREA BELOW 8" DEPTH CAN BE FILLED WITH 78M OR NO. 57 CLEAN STONE.
5. MORTAR SHALL BE MIXED TO NCDOT SPECIFICATIONS.
6. MORTAR JOINTS $\frac{1}{2}$ " \pm $\frac{1}{8}$ "



MANHOLE CONCRETE ENCASEMENT



VALVE BOX CONCRETE ENCASEMENT



ELEVATION VIEW

PLACE BRICK ACCORDING TO ELEVATION VIEW

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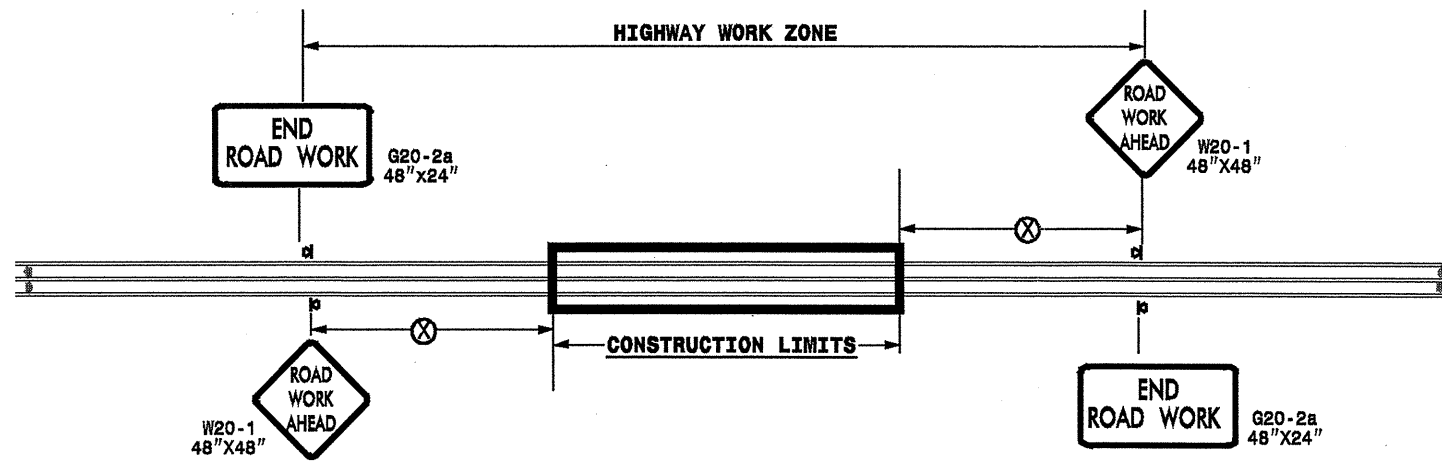
ENGLISH DETAIL DRAWING FOR
MANHOLE AND VALVE BOX ADJUSTMENTS

SHEET 1 OF 1
840D55

REVISIONS

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8/15/09/09

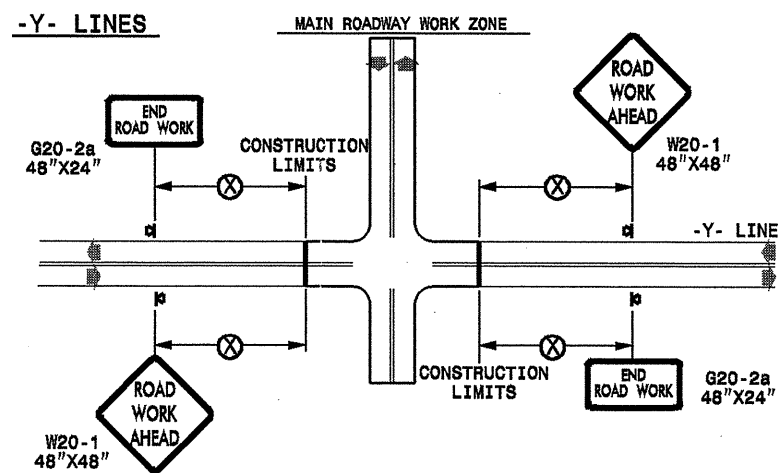
TWO-WAY UNDIVIDED ** (L-LINES)



POSTED SPEED LIMIT (M.P.H.)	RECOMMENDED MINIMUM SIGN SPACING
≤ 50	500'
≥ 55	1000'

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ROADWAYS INTERSECTING ALONG 2 WAY UNDIVIDED WORK ZONE (Y-LINES)



GENERAL NOTES

- USE FLUORESCENT ORANGE SHEETING (TYPE VII OR HIGHER) ON ALL ADVANCE WORK ZONE SIGNS.
- DO NOT INSTALL ADVANCE WARNING SIGNS MORE THAN 3 DAYS PRIOR TO BEGINNING OF WORK.
- ALL SIGN SPACING DIMENSIONS ARE APPROXIMATE, FIELD ADJUST AS NECESSARY OR AS DIRECTED.
- USE PORTABLE WORK ZONE SIGNS ONLY WITH PORTABLE WORK ZONE SIGN STANDS SPECIFICALLY DESIGNED FOR ONE ANOTHER. PORTABLE WORK ZONE SIGNS MAY BE ROLL UP OR APPROVED COMPOSITE.
- PROVIDE PORTABLE WORK ZONE SIGN STANDS, PORTABLE SIGNS AND SIGN SHEETING WHICH ARE LISTED ON THE NORTH CAROLINA DEPARTMENT OF TRANSPORTATION'S APPROVED PRODUCT LIST OR ACCEPTED AS TRAFFIC QUALIFIED BY THE TRAFFIC CONTROL UNIT.
- ** TWO-WAY UNDIVIDED ADVANCE WARNING SIGN CONFIGURATION MAY BE USED ON URBAN MULTI-LANE FACILITIES WHERE CONDITIONS LIMIT THE USE OF DUAL MOUNTED SIGNS AS DETERMINED BY THE ENGINEER.

LEGEND

◀ PORTABLE SIGN

➡ DIRECTION OF TRAFFIC FLOW

DETAIL DRAWING
FOR TWO-WAY UNDIVIDED
WORK ZONE WARNING SIGNS

SHEET 1 OF 1

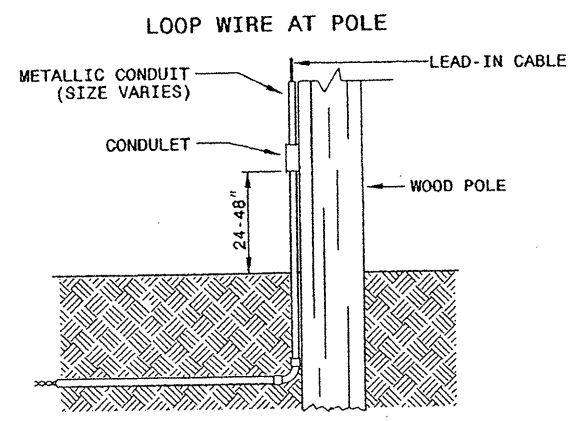
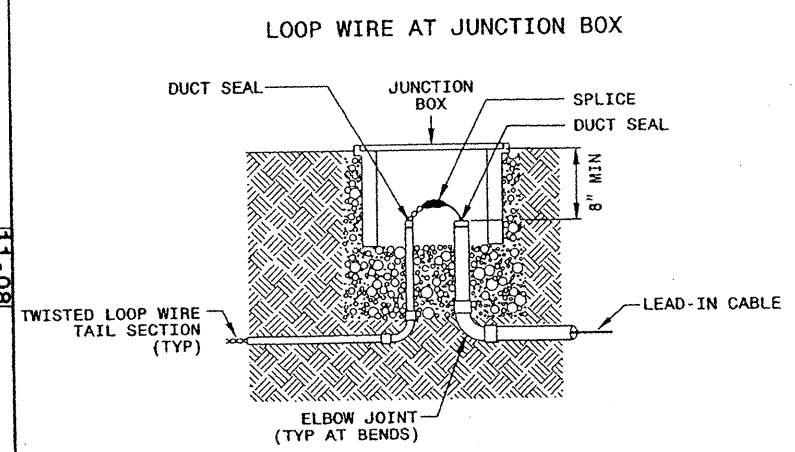
APPROVED: _____	DATE: _____	DETAIL DRAWING FOR TWO-WAY UNDIVIDED ADVANCED WORK ZONE WARNING SIGNS	
SEAL			
SCALE: NONE		REVISIONS	
DATE: _____		7-98	10/01
DESIGN BY: _____		10-98	03/04
REVIEWED BY: _____		01/01	11/04

25-SEP-2009 15:50 s:\signing\resur\facimg\030509\resur\facimg\030509\c202476a-d_3cr1010176x2_2woyundivurb fr-wys\july2006-portable.dgn

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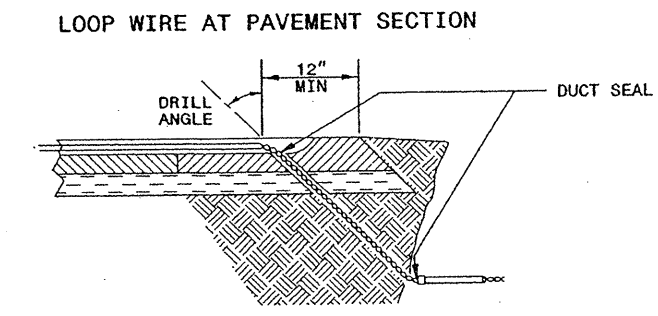
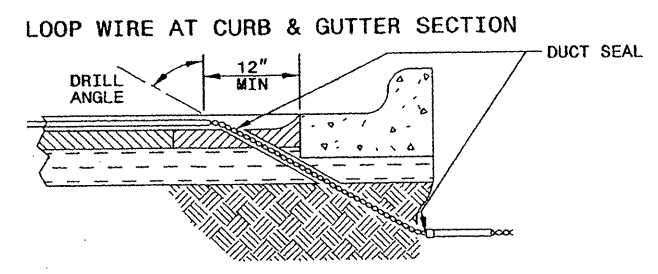
11-08
ENGLISH DETAIL DRAWING FOR
INDUCTIVE DETECTION LOOPS
LOOP WIRE DETAILS
SHEET 2 OF 3
1725D01

LOOP WIRE SPLICE POINT DETAILS



NOTE
SPlice ALL LOOP WIRE TAIL SECTIONS/LEAD-IN CABLE IN JUNCTION BOXES OR APPROVED CONDULETS.

LOOP WIRE PAVEMENT EDGE DETAILS

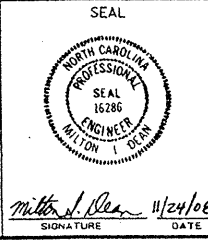
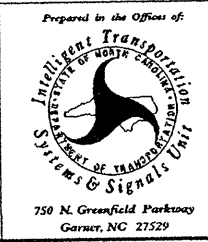


- NOTES**
1. DO NOT EXCAVATE UNDER CURB AND GUTTER SECTIONS FOR CONDUIT INSTALLATION.
 2. TWIST LOOP WIRE TAIL SECTIONS FROM WHERE LOOP WIRE TAIL LEAVES SAW CUT TO JUNCTION BOX, INCLUDING THROUGH CONDUIT.
 3. BEFORE SEALING LOOPS, INSTALL DUCT SEAL WHERE LOOP WIRE TAIL SECTION LEAVES SAW CUT IN PAVEMENT AND AT ENTRANCE OF CONDUIT TO JUNCTION BOX.

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ENGLISH DETAIL DRAWING FOR
INDUCTIVE DETECTION LOOPS
LOOP WIRE DETAILS
SHEET 2 OF 3
1725D01

See Plate for Title



Milton I. Dean 11/24/08
SIGNATURE DATE

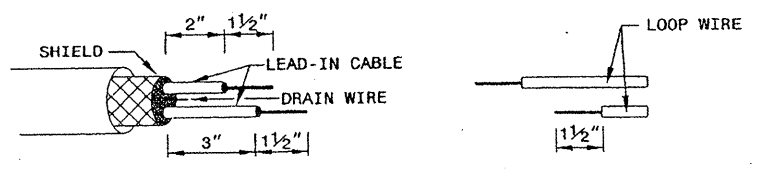
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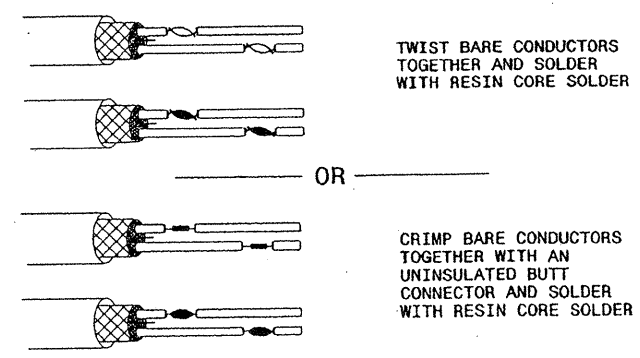
ENGLISH DETAIL DRAWING FOR
INDUCTIVE DETECTION LOOPS
 SPLICING FOR LEAD-IN CABLE AND LOOP WIRE

SHEET 3 OF 3
1725D01

STEP 1. STRIP LOOP WIRE AND LEAD-IN CABLE

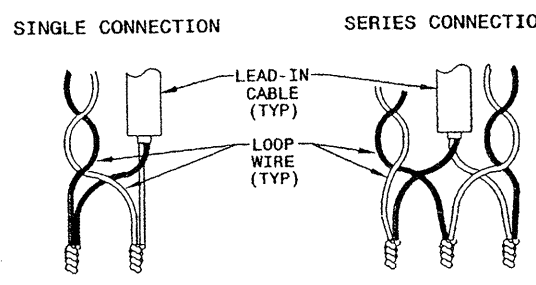


STEP 2. CONNECT AND SOLDER

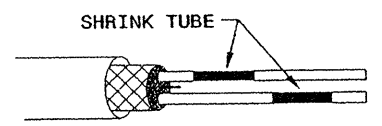


BOND SHIELD DRAIN WIRE AT SPLICE SECTIONS (DO NOT GROUND)

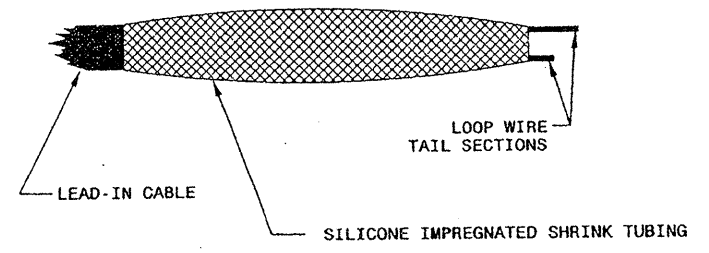
LOOP WIRE AND LEAD-IN CABLE CONNECTION DETAILS



STEP 3. INSULATE EACH SOLDER JOINT SEPARATELY



STEP 4. ENVIRONMENTALLY PROTECT SPLICE

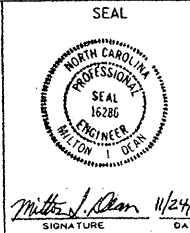
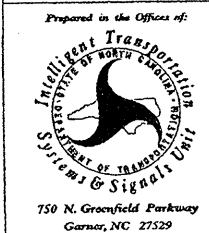


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ENGLISH DETAIL DRAWING FOR
INDUCTIVE DETECTION LOOPS
 SPLICING FOR LEAD-IN CABLE AND LOOP WIRE

SHEET 3 OF 3
1725D01

See Plate for Title



Milton J. Dean 11/24/08
 SIGNATURE DATE

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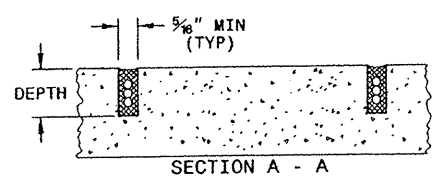
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ENGLISH DETAIL DRAWING FOR
INDUCTIVE DETECTION LOOPS

SHEET 1 OF 3
1725D01

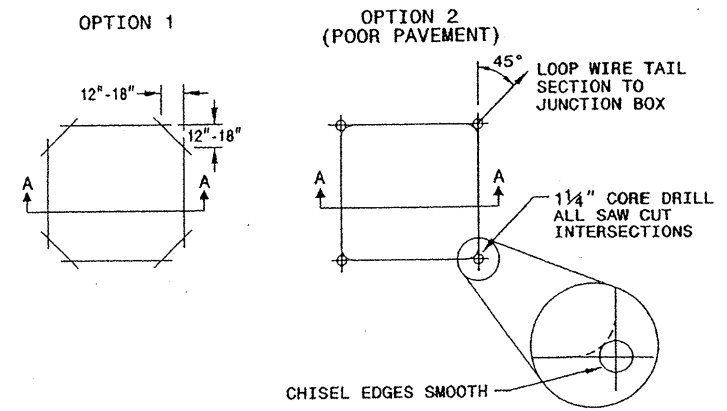
SAW SLOT DEPTH CHART

DEPTH (IN)	NO. OF WIRE TURNS					
	2	3	4	5	6	
CONCRETE	2.0	2.0	2.5	2.5	3.0	
ASPHALT	2.0	2.5	3.0	3.0	3.0	

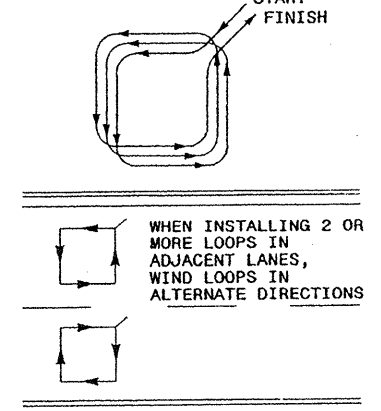


CONVENTIONAL 4-SIDED LOOP

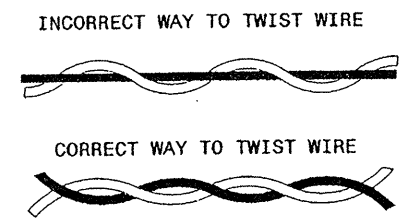
SAW CUT OPTIONS



LOOP WINDING METHOD



LOOP WIRE TWISTING METHOD

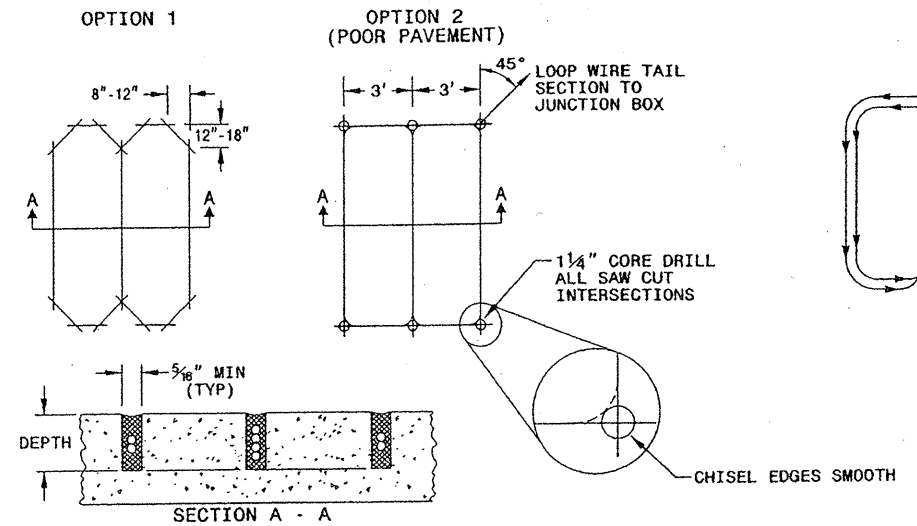


NOTES

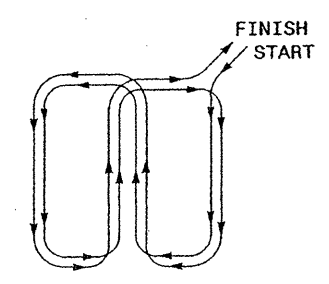
1. OVERLAP SAW CUTS AT CORNERS AND INTERSECTION POINTS TO ENSURE UNIFORM SAW SLOT DEPTH.
2. MAINTAIN 12" SPACING BETWEEN LOOP WIRE TAIL SECTIONS.
3. WIRE LOOPS CONNECTED TO THE SAME DETECTOR CHANNEL IN SERIES.
4. LOCATE LOOPS IN CENTER OF LANES UNLESS OTHERWISE SHOWN ON PLANS OR APPROVED BY ENGINEER.

QUADRUPOLE LOOP

SAW CUT OPTIONS



LOOP WINDING METHOD



DEPTH IS 2.5" FOR CONCRETE AND 3.0" FOR ASPHALT

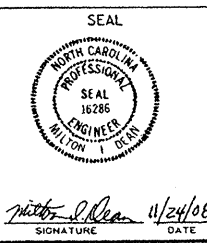
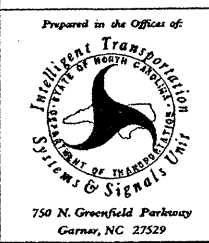
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11-08

ENGLISH DETAIL DRAWING FOR
INDUCTIVE DETECTION LOOPS

SHEET 1 OF 3
1725D01

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