

CASWELL COUNTY

STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS
N.C.	R-5175C 45177.3.ST3	1	3
F.A. PROJ. NO.			

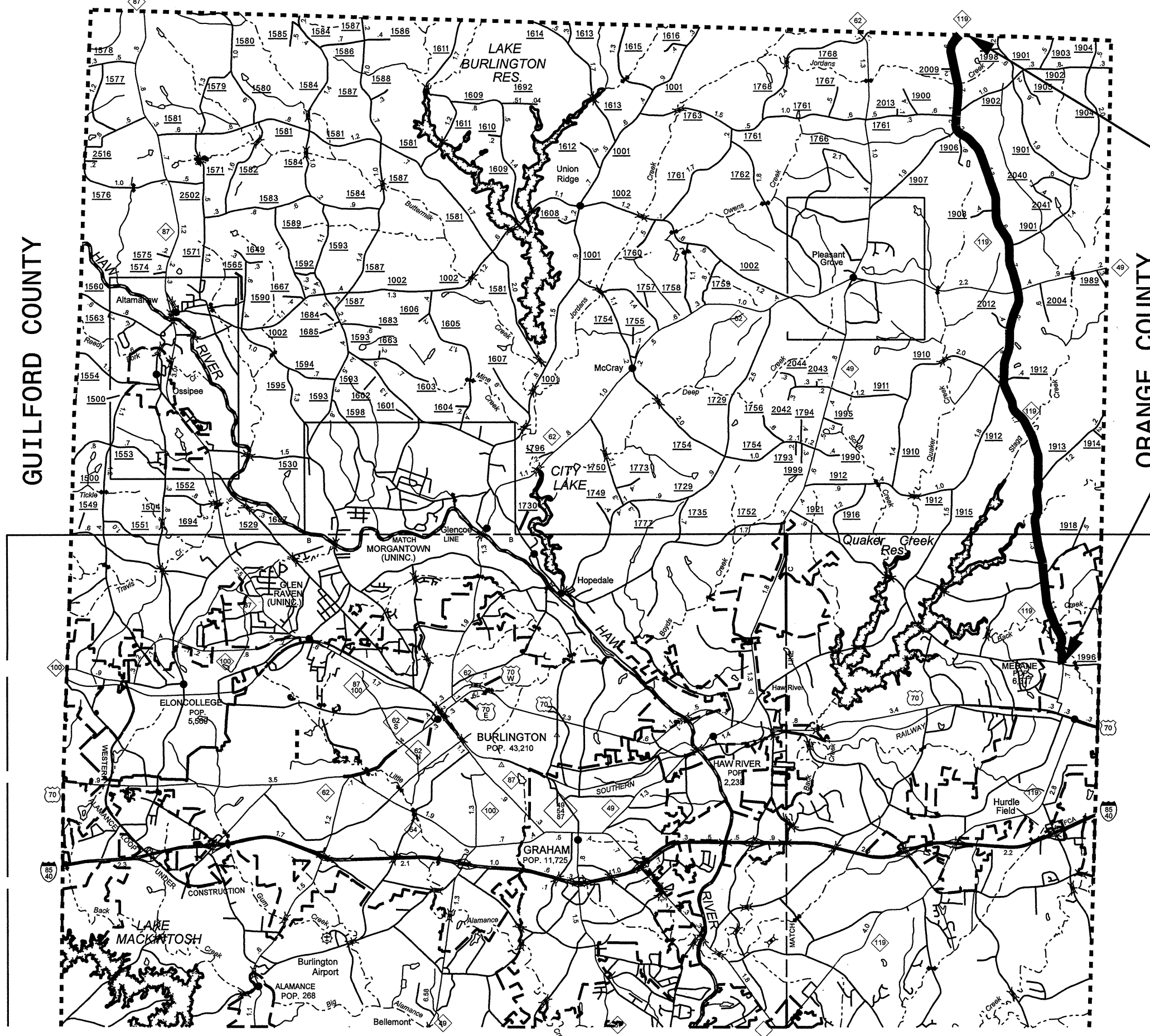
GUILFORD COUNTY

ORANGE COUNTY

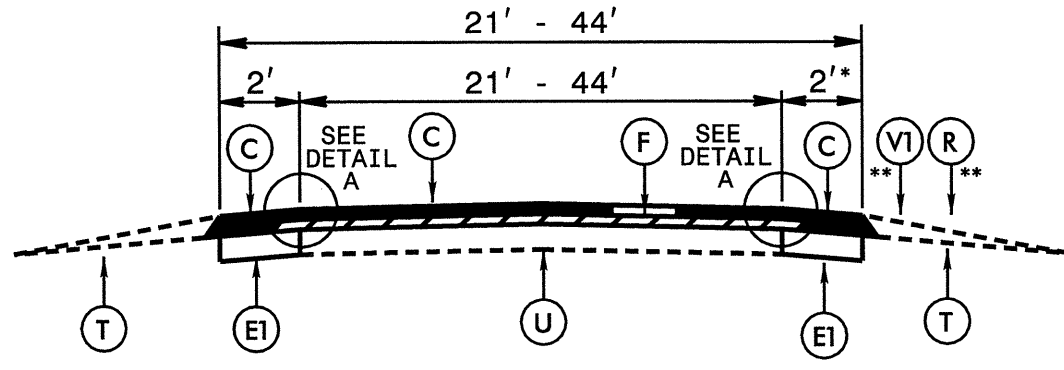
1



ALAMANCE COUNTY

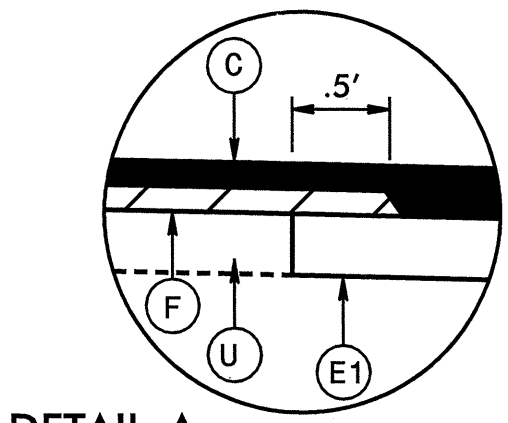


STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS
N.C.	45177.3.ST3 (R-5175C)	2	3
F.A. PROJ. NO.			



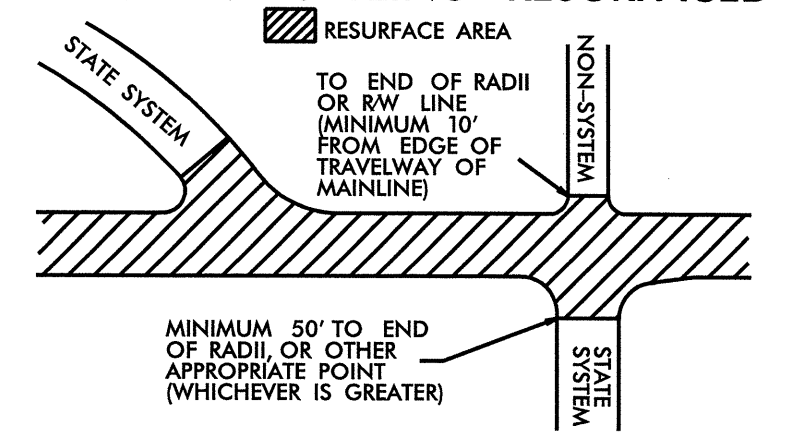
TYPICAL SECTION NO. 1

STA. 0+00 TO STA. 527+45
 NOTES: * NO WIDENING STA. 55+90 TO STA. 57+90
 ** STA. 55+90 TO STA. 56+35
 ** STA. 57+45 TO STA. 57+90



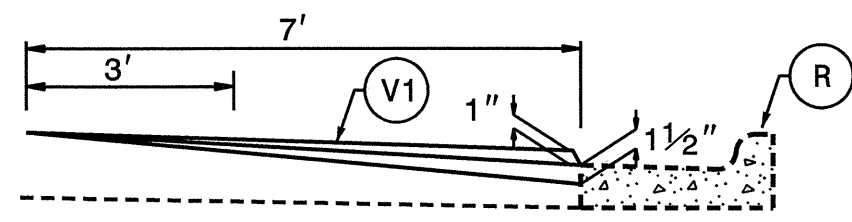
DETAIL A

**PAVING DETAIL
 MAIN LINE IS BEING RESURFACED**



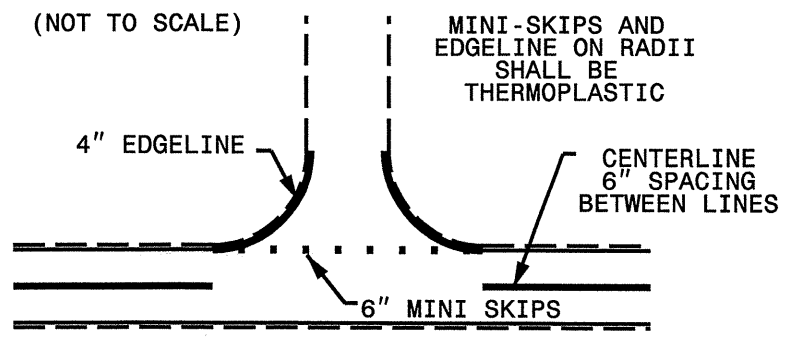
TO END OF RADII OR RW LINE (MINIMUM 10' FROM EDGE OF TRAVELWAY OF MAINLINE)
 MINIMUM 50' TO END OF RADII, OR OTHER APPROPRIATE POINT (WHICHEVER IS GREATER)
 NOTE: NON-SYSTEM (CITY STREET, PRIVATE DRIVE, SCHOOL BUS DRIVE)

MILLING DETAIL 1



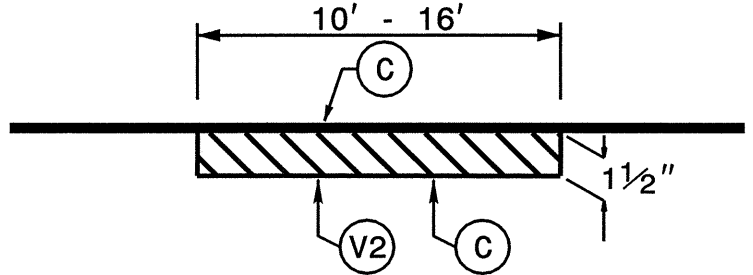
MILL EXISTING ASPHALT PAVEMENT 0-2 1/2" AT LOCATIONS AS DIRECTED BY THE ENGINEER. NOTE: IF 78M SEAL IS INVOLVED OVERLAP 3' TO BE USED AT THE FOLLOWING LOCATIONS:
 STA. 55+90 TO STA. 56+35
 STA. 57+45 TO STA. 57+90

**STRIPING DETAIL
 NON-SIGNALIZED/ NON-CURB & GUTTER INTERSECTIONS**



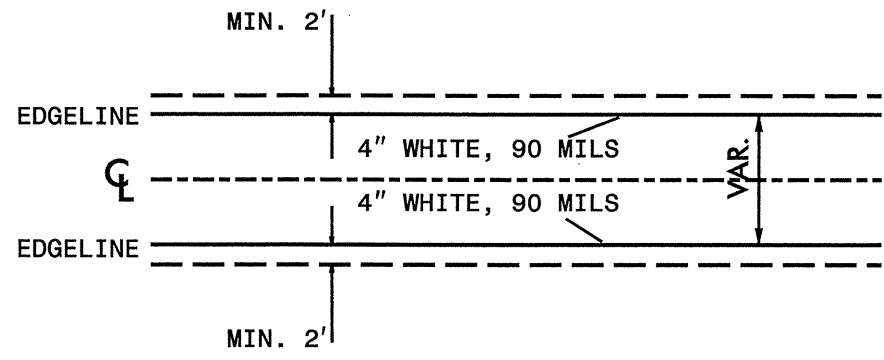
NOTE: MINI SKIPS SHALL BE PLACED ON A 10' CYCLE, CONTAINING AN 8' SPACE AND 2' SKIP. THE WIDTH OF THE SKIP SHALL BE 6".

MILLING DETAIL 2



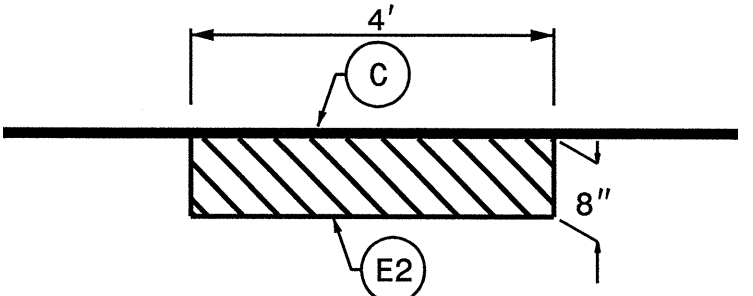
MILL EXISTING ASPHALT PAVEMENT 1 1/2" IN DEPTH, AT LOCATIONS AS DIRECTED BY THE ENGINEER. TO BE USED AT THE FOLLOWING LOCATIONS:
 STA. 306+35 TO STA. 307+35
 STA. 309+45 TO STA. 312+30

**STRIPING DETAIL 2
 GENERAL STRIPING DETAIL FOR ENTIRE PROJECT**



NOTE: USE THE EXISTING IN CONJUNCTION WITH THE EXISTING PAVEMENT MARKINGS AND THE 2006 NCDOT STANDARD DRAWINGS.

PATCHING EXISTING PAVEMENT



DIG OUT OR MILL EXISTING ASPHALT PAVEMENT 8" IN DEPTH, FOR PATCHING, AT LOCATIONS AS DIRECTED BY THE ENGINEER. TO BE USED IN AT LOCATIONS AS DETERMINED BY THE ENGINEER. SEE SPECIAL PROVISION FOR PATCHING

PAVEMENT SCHEDULE

C	PROP. APPROX. 1 1/2" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD.
E1	PROP. APPROX. 7" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 399 LBS. PER SQ. YD. IN EACH OF TWO LAYERS
E2	PROP. APPROX. 8" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD. IN EACH OF TWO LAYERS
F	AST MAT COAT, 78M
R	EXISTING CURB & GUTTER
T	SHOULDER RECONSTRUCTION
U	EXISTING PAVEMENT
V1	MILL 0 - 2 1/2" FOR 7' FROM FACE OF GUTTER
V2	MILL 1 1/2" FOR 10' TO 16' WIDE

PROJECT NO.	SHEET NO.	TOTAL NO.
R-5175C 45177.3.ST3	3	3

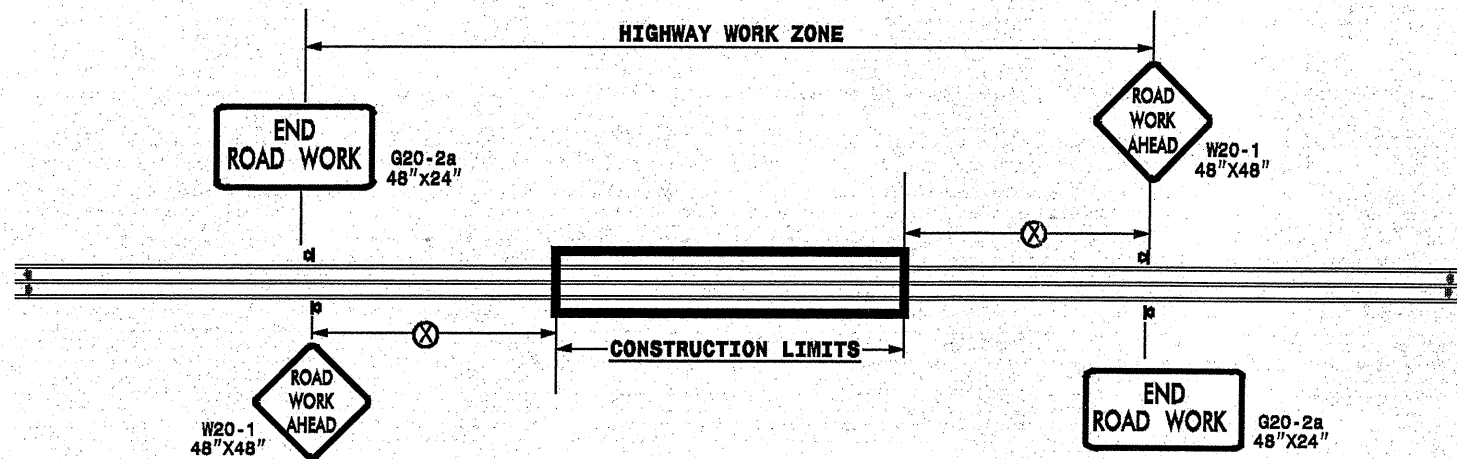
SUMMARY OF QUANTITIES

PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	TYP NO	FINAL SURFACE TESTING REQUIRED	LENGTH MI	WIDTH FT	INCIDENTAL STONE BASE TONS	SHOULDER RECONSTRUCTION SMI	MILLING ASPHALT PAVEMENT, 1 1/2" DEPTH SY	MILLING ASPHALT PAVEMENT, 0 - 2 1/2" DEPTH SY	BASE COURSE, B25.0B TONS	SURFACE COURSE, SF9.5A TONS	PG 64-22 PLANT MIX TONS	PATCHING EXISTING PAVEMENT TONS	AST MAT COAT 78M SY	SEED & MULCHING AC	RESIDENTIAL SEEDING AC	TRENCHING (UNPAVED) (1) (2") LF	PULL BOX (STANDARD) EA	2" RISER W/ WEATHERHEAD EA	INDUCTIVE LOOP SAW CUT LF	LEAD-IN CABLE (14-2) LF					
R-5175C 45177.3.ST3	Alamance	1	NC 119	FROM SR 1996 (STAGECOACH ROAD) TO THE CASWELL COUNTY LINE	1	NO	0.045	40 - 42		0.09			48	90	8	20	1,003	0.03		80	2	1	200	80					
					1	NO	0.045	26 - 40		0.09			48	72	7		792												
					1	NO	0.908	26	475	1.82			974	1,153	117		12,252					0.66							
					1	NO	0.050	26 - 48		0.1			54	90	8		997												
					1	NO	0.018	46 - 48		0.04					35		11	40	3					0.01					
					1	NO	0.021	33 - 47		0.04							13	60	4					0.02					
					1	NO	0.058	33 - 35		0.12					35		62	99	9					0.04					
					1	NO	0.069	26 - 35		0.14							74	103	10					0.05					
					1	NO	0.061	26		0.12							65	77	8					0.04					
					1	NO	0.017	25 - 26		0.03							18	41	3					0.01					
					1	NO	4.509	25		9.02							4,838	5,710	579				1.78	1.50					
					1	NO	0.031	25 - 41		0.06					115		33	60	5					0.02					
					1	NO	0.027	41 - 45																					
					1	NO	0.011	25 - 45		0.02					110		12	28	2					0.01					
					1	NO	2.570	25		5.14					300		2,757	3,226	328				1.00						
					1	NO	0.041	25 - 27		0.08							44	112	9					0.03					
					1	NO	0.238	27		0.48							255	414	38					0.17					
1	NO	0.031	26 - 27		0.06							33	100	8					0.02										
1	NO	1.238	26		2.48							1,328	1,593	161	25			0.90											
TOTAL FOR PROJ NO. R-5175C							9.988		475	19.93	525	70	10,667	13,068	1,307	45	132,312	3.74	3.49	80	2	1	200	80					
GRAND TOTAL							9.988		475	19.93	525	70	10,667	13,068	1,307	45	132,312	3.74	3.49	80	2	1	200	80					

THERMOPLASTIC AND PAINT QUANTITIES

PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	4589000000-N	4685000000-E	4686000000-E			4690000000-E	4695000000-E	4710000000-E	4725000000-E			4905000000-N	
					TRAFFIC CONTROL LS	4" X 90 M WHITE THERMO LF	4" X 120 M WHITE THERMO LF	4" X 120 M YELLOW THERMO LF	6" X 120 M WHITE THERMO LF	8" X 90 M YELLOW THERMO LF	24" X 120 M WHITE THERMO LF	THERMO STR & RT ARROW 90 M EA	THERMO LT ARROW 90 M EA	THERMO RT ARROW 90 M EA	SNOWPLOWABLE PAVEMENT MARKERS YELLOW & YELLOW EA	SNOWPLOWABLE PAVEMENT MARKERS CRYSTAL & RED EA	
R-5175C 45177.3.ST3	Alamance	1	NC 119	FROM SR 1996 (STAGECOACH ROAD) TO THE CASWELL COUNTY LINE	1	105,490	467	95,440	248	140	52	3	5	2	708	38	
					1	105,490	467	95,440	248	140	52	3	5	2	708	38	
TOTAL FOR PROJ. R-5175C							95,907					10			746		
GRAND TOTAL					1	105,490	467	95,440	248	140	52	3	5	2	708	38	
							95,907					10			746		

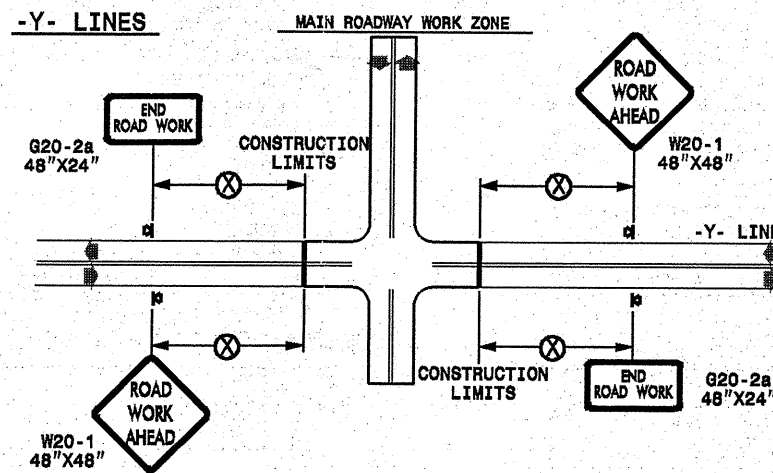
TWO-WAY UNDIVIDED ** (L-LINES)



POSTED SPEED LIMIT (M.P.H.)	RECOMMENDED MINIMUM SIGN SPACING
≤ 50	500'
≥ 65	1000'

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

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



DETAIL DRAWING
FOR TWO-WAY UNDIVIDED
WORK ZONE WARNING SIGNS

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.

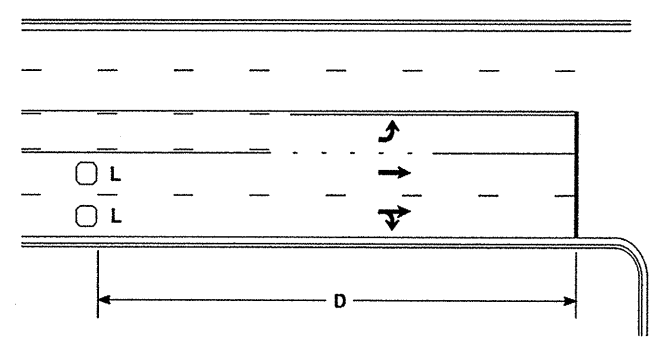
LEGEND	
	PORTABLE SIGN
	DIRECTION OF TRAFFIC FLOW

SHEET 1 OF 1

APPROVED: _____	DATE: _____	DETAIL DRAWING FOR TWO-WAY UNDIVIDED ADVANCED WORK ZONE WARNING SIGNS	
SCALE: NONE		REVISIONS	
DATE: _____		7-98	10/01
DWG. BY: _____		10-98	09/04
DESIGN BY: _____		01/01	11/04
REVIEWED BY: _____			

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 peeymore AT WZTC237502

High Speed Detection [≥40 mph (64 km/hr)]

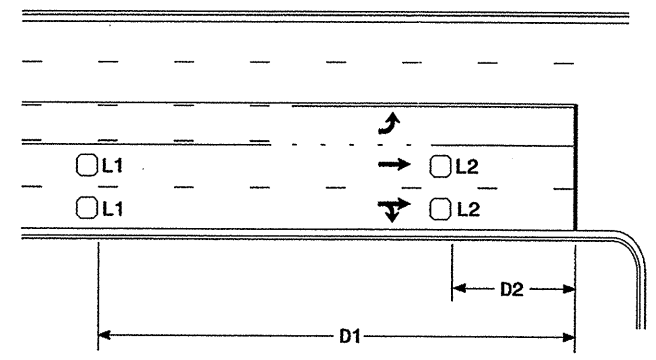


Speed Limit mph (km/hr)	D ft (m)
40 (64)	250 (75)
45 (72)	300 (90)
50 (80)	355 (110)
55 (88)	420 (130)

L = 6ft X 6ft (1.8m X 1.8m)
Wired in series for TS1
Controllers
Wired separately for TS2,
170, and 2070L Controllers

Volume Density Operation

OR

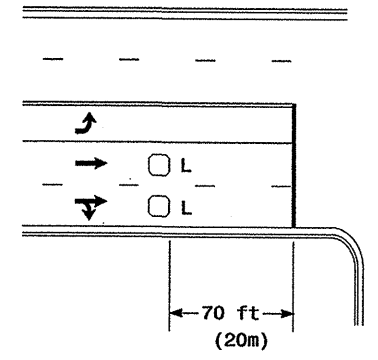


Speed Limit mph (km/hr)	D1 ft (m)	D2 ft (m)
40 (64)	250 (75)	80 (25)
45 (72)	300 (90)	90 (27)
50 (80)	355 (110)	100 (30)
55 (88)	420 (130)	110 (35)

L1 = 6ft X 6ft
(1.8m X 1.8m)
Wired in series
L2 = 6ft X 6ft
(1.8m X 1.8m)
Wired in series

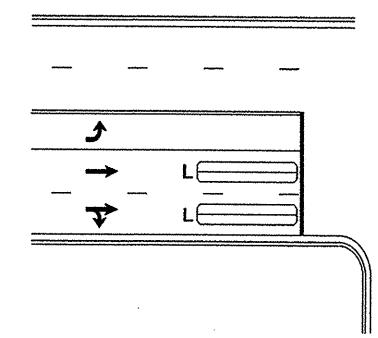
"Stretch" Operation

Low Speed Detection [≤35 mph (56 km/hr)]



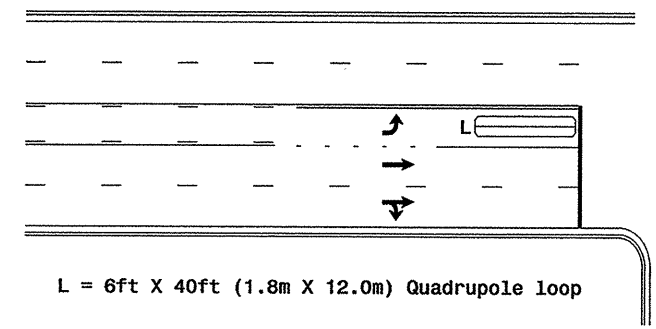
L = 6ft X 6ft (1.8m X 1.8m)
Wired in series

OR



L = 6ft X 40ft (1.8m X 12.0m)
Quadrupole loop, wired separately

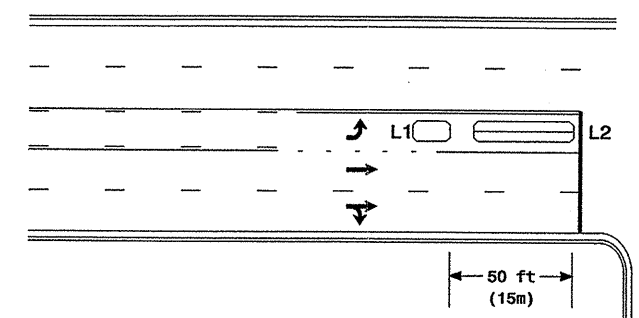
Left Turn Lane Detection



L = 6ft X 40ft (1.8m X 12.0m) Quadrupole loop

Presence Loop Detection

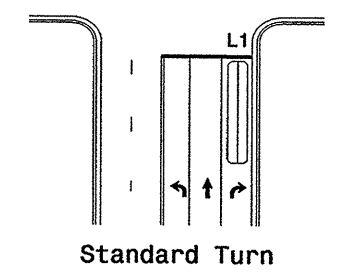
OR



L1 = 6ft X 15ft (1.8m X 4.6m) Queue detector
L2 = 6ft X 40ft (1.8m X 12.0m) Quadrupole loop

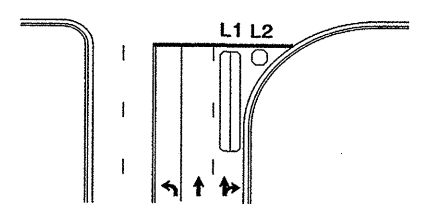
Queue Loop Detection

Right Turn Lane Detection

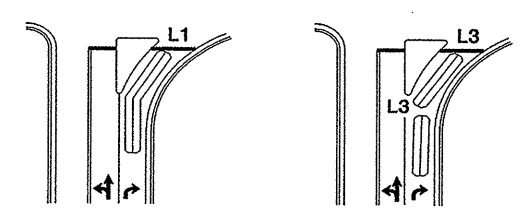


Standard Turn

L1 = 6ft X 40ft (1.8m X 12.0m) Quadrupole loop
L2 = 6ft X 6ft (1.8m X 1.8m) [Minimum] Presence loop
Wired separately
L3 = 6ft X 20ft (1.8m X 6.0m) Quadrupole loop
Wired in series

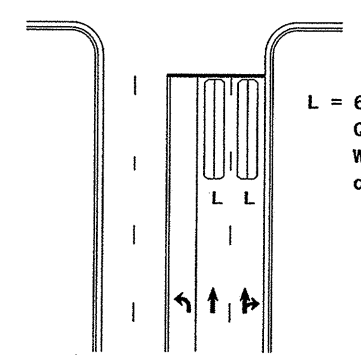


Wide Radius Turn



Channelized Turn

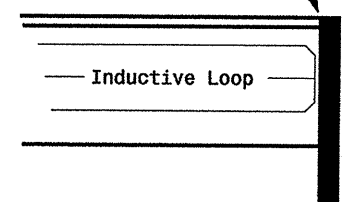
Side Street Detection



L = 6ft X 40ft (1.8m X 12.0m)
Quadrupole loop
Wired to separate
detectors/channels

Presence Loop Placement at Stop Lines

Locate loop slightly
behind leading
edge of stop line



Note:
Loop may be located in advance
of stop line when stop line is
greater than 15' (4.5m) from edge
of intersecting roadway; or, when
loop detects a permissive or
protected/permissive left turn.

Recommended Number of Turns

Single 6' X 6' (1.8m X 1.8m)
loop (wired separately):

Length of Lead-in ft (m)	Number of Turns
< 250 (75)	3
250-375 (75-115)	4
375-525 (115-160)	5
> 525 (160)	6

Quadrupole loops: Use 2-4-2 turns
6' X 15' (1.8m X 4.6m) Loops:
Lead-in < 150' (45 m), use 2 turns
Lead-in > 150' (45 m), use 3 turns

	<p>Typical Loop Locations</p>	
	<p>PLAN DATE: June 2006</p> <p>PREPARED BY: P. L. Alexander</p>	<p>REVIEWED BY:</p> <p>REVISIONS</p> <p>INIT. DATE</p>
<p>SCALE N/A</p>	<p>SIG. INVENTORY NO.</p>	<p>DATE</p>

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

11-08

ENGLISH DETAIL DRAWING FOR
INDUCTIVE DETECTION LOOPS

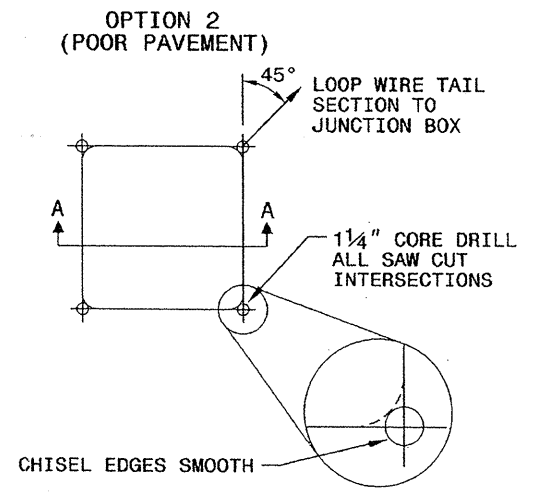
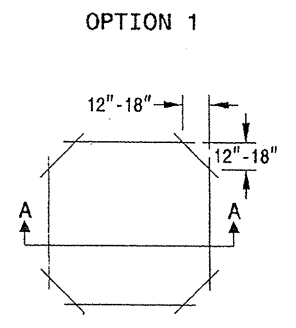
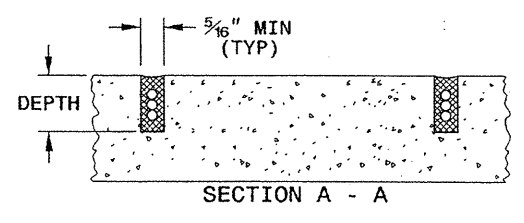
SHEET 1 OF 3
1725D01

CONVENTIONAL 4-SIDED LOOP

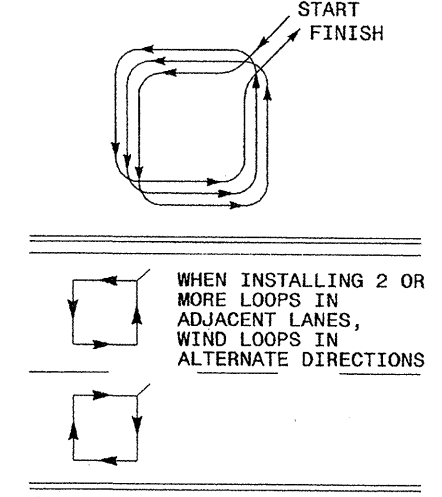
SAW CUT OPTIONS

SAW SLOT DEPTH CHART

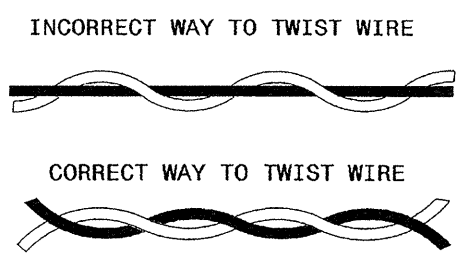
DEPTH (IN)	NO. OF WIRE TURNS					
	2	3	4	5	6	
CONCRETE	2.0	2.0	2.5	2.5	3.0	
ASPHALT	2.0	2.5	3.0	3.0	3.0	



LOOP WINDING METHOD



LOOP WIRE TWISTING METHOD

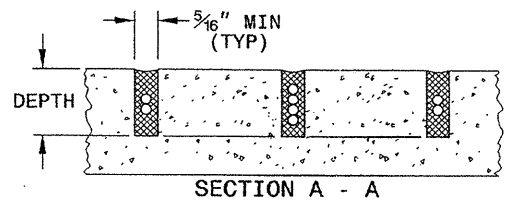
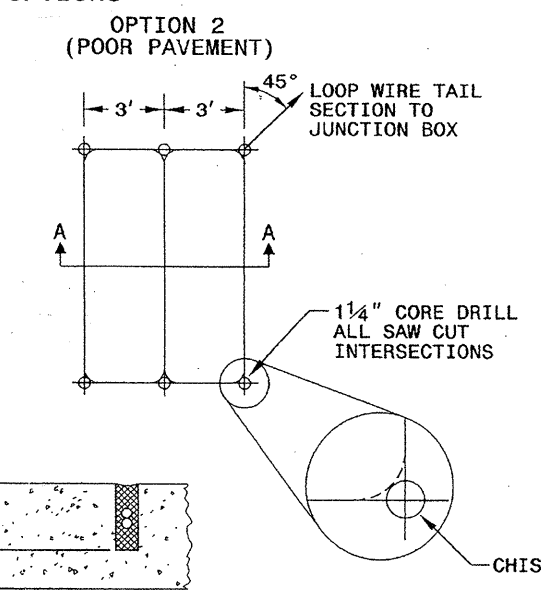
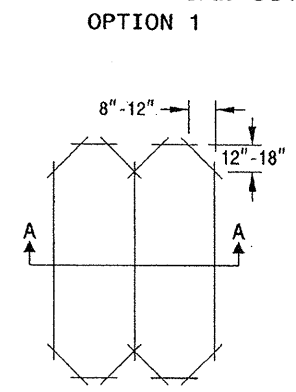


NOTES

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.

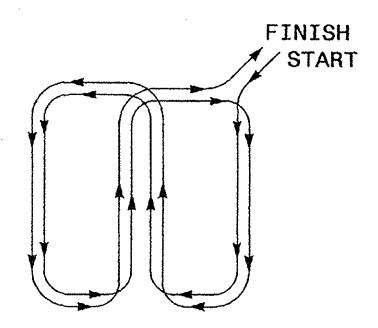
QUADRUPOLE LOOP

SAW CUT OPTIONS



DEPTH IS 2.5" FOR CONCRETE AND 3.0" FOR ASPHALT

LOOP WINDING METHOD



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

11-08

ENGLISH DETAIL DRAWING FOR
INDUCTIVE DETECTION LOOPS

SHEET 1 OF 3
1725D01

See Plate for Title

Prepared in the Offices of:

750 N. Greenfield Parkway
Garner, NC 27529

SEAL

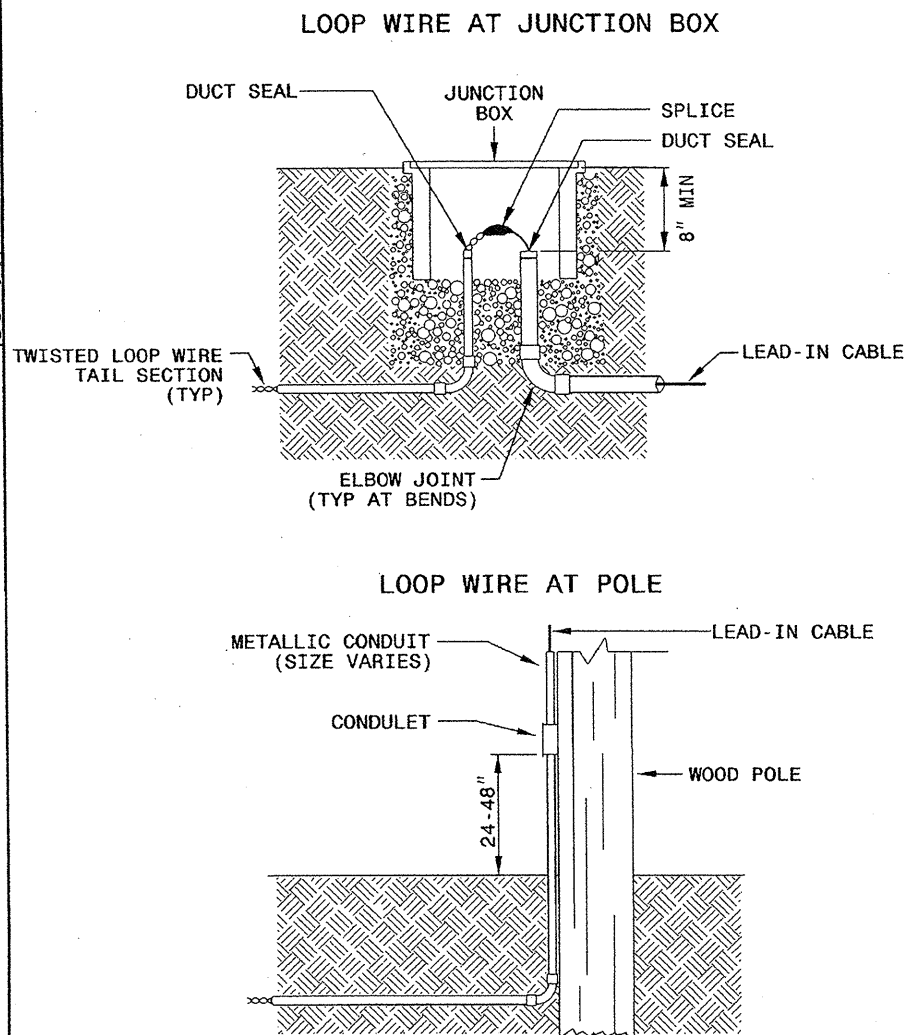
SIGNATURE: *Michael P. Dean* DATE: 11/24/08

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

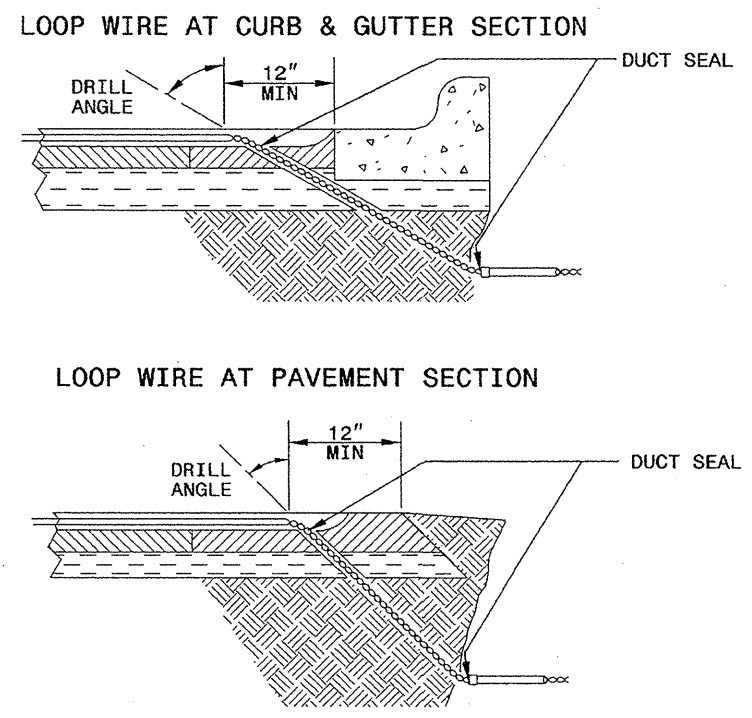
11-08
 ENGLISH DETAIL DRAWING FOR
INDUCTIVE DETECTION LOOPS
 LOOP WIRE DETAILS

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.

11-08
 STATE OF NORTH CAROLINA
 DEPT. OF TRANSPORTATION
 DIVISION OF HIGHWAYS
 RALEIGH, N.C.

ENGLISH DETAIL DRAWING FOR
INDUCTIVE DETECTION LOOPS
 LOOP WIRE DETAILS

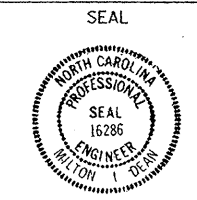
SHEET 2 OF 3
1725D01

SHEET 2 OF 3
1725D01

See Plate for Title



750 N. Greenfield Parkway
 Garner, NC 27529



Milton L. Dean 11/24/08
 SIGNATURE DATE

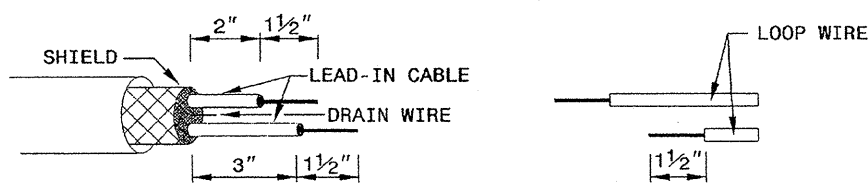
STATE OF NORTH CAROLINA
 DEPT. OF TRANSPORTATION
 DIVISION OF HIGHWAYS
 RALEIGH, N.C.

11-08

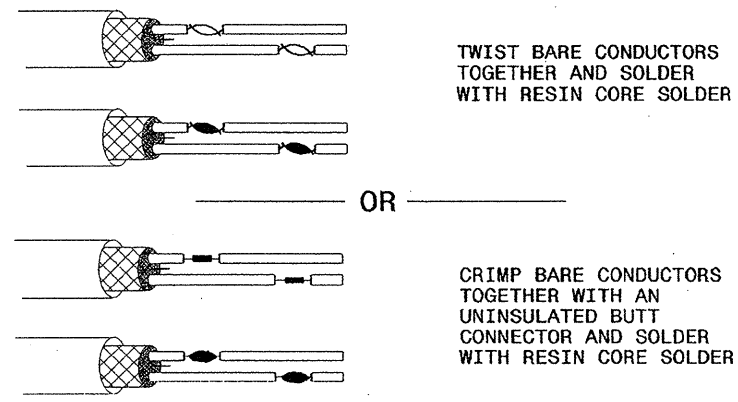
ENGLISH DETAIL DRAWING FOR
INDUCTIVE DETECTION LOOPS
 SPLICING FOR LEAD-IN CABLE AND LOOP WIRE

SHEET 3 OF 3
1725D01

STEP 1. STRIP LOOP WIRE AND LEAD-IN CABLE

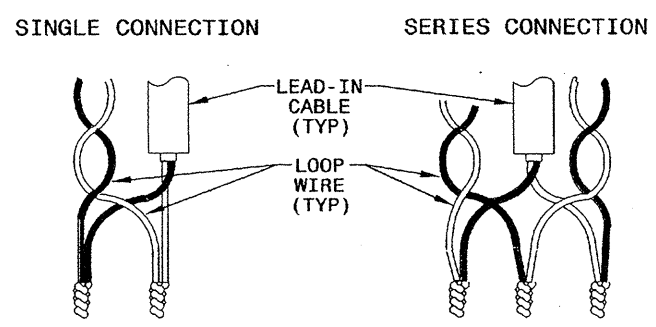


STEP 2. CONNECT AND SOLDER

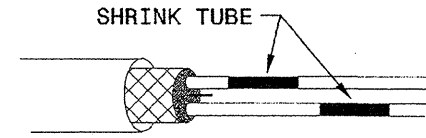


BOND SHIELD DRAIN WIRE AT SPLICE SECTIONS (DO NOT GROUND)

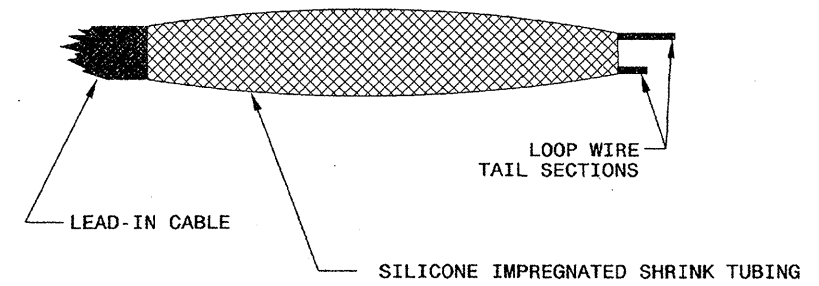
LOOP WIRE AND LEAD-IN CABLE CONNECTION DETAILS



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

Prepared in the Offices of:

750 N. Greenfield Parkway
 Garner, NC 27529

SEAL

Milton I. Dean 11/24/08
 SIGNATURE DATE

24:00v-2008 08:16
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