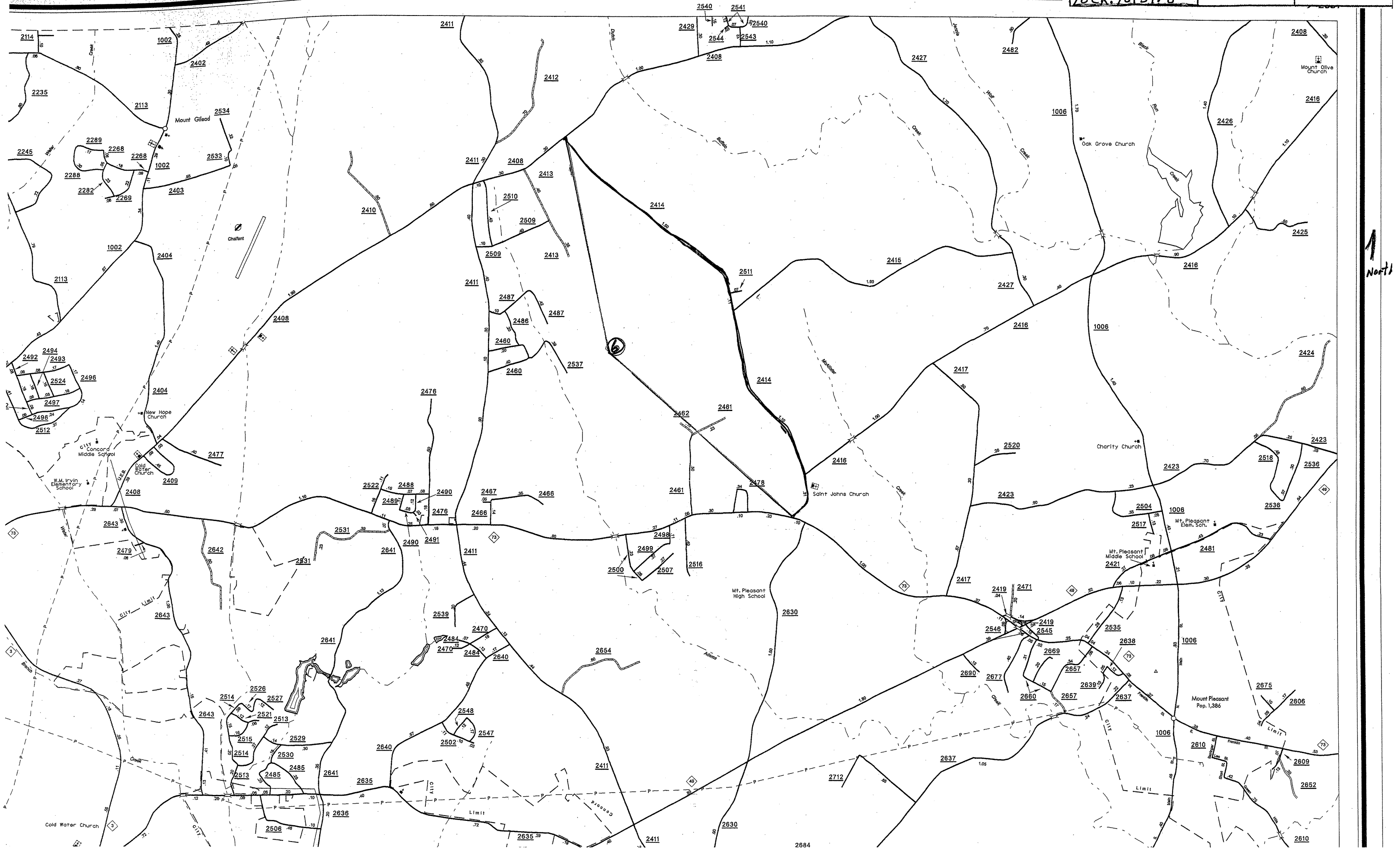


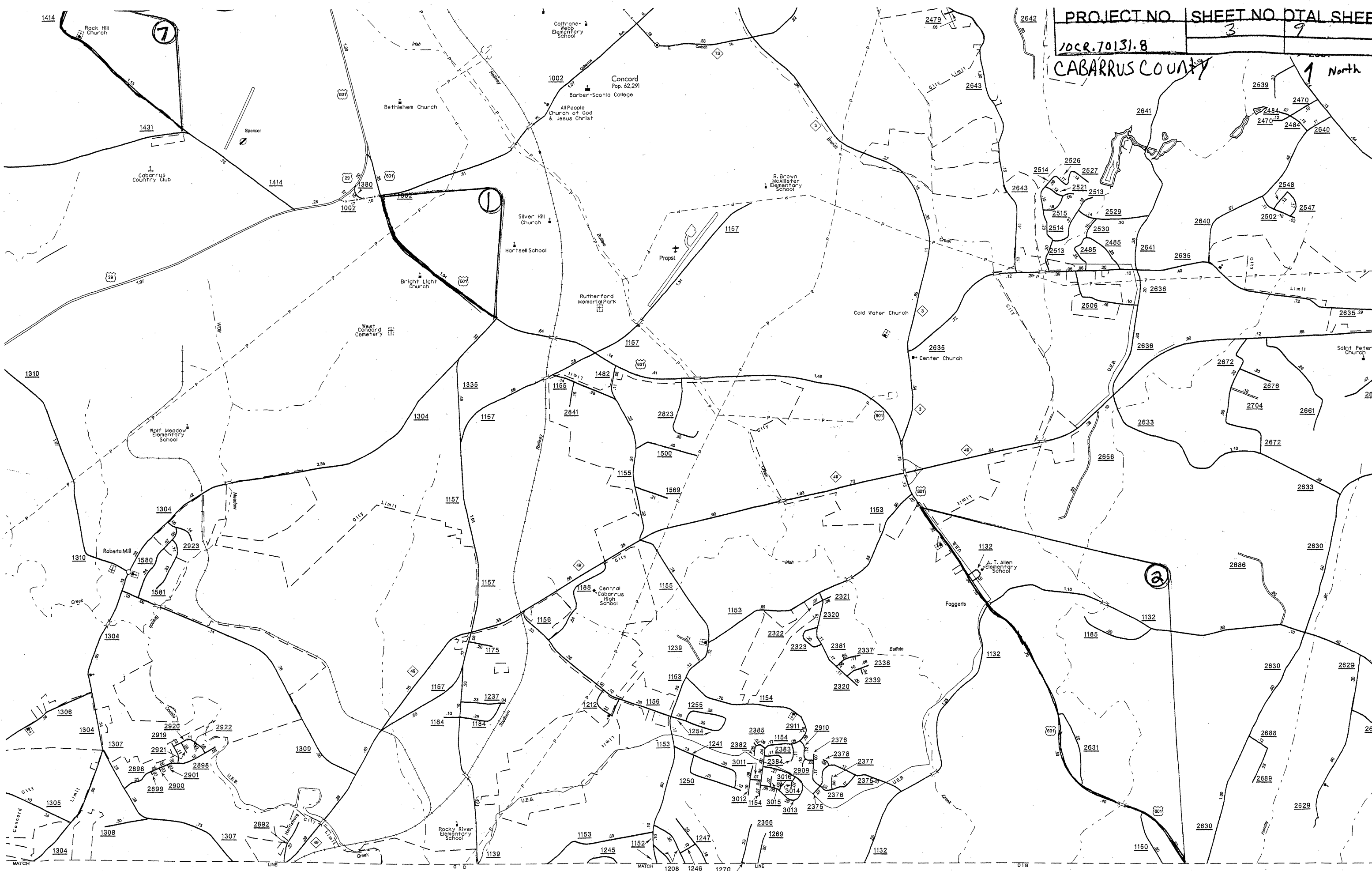
County Boundary alignments are based on information provided by State and Federal agencies, and are shown in their approximate locations.

MAP PRIMARY	STATE ROAD	MILEAGE
#1	US 601	1.00
#2	US 601	2.96
SECONDARY		
#3	BARR ROAD (SR 1621)	1.10
#4	BARR ROAD (SR 1621)	0.50
#5	PIONEER MILL ROAD (SR 1134)	1.40
#6	ST. JOHNS CH. ROAD (SR 2414)	2.93
#7	ROGK HILL CH. ROAD (SR 1414)	1.16
#8	CHARLIE WALKER ROAD (SR 1628)	1.43
#9	MILLER ROAD (SR 1627)	1.37
#10	BRANTLY ROAD (SR 2000)	1.28
#11	IRISH POTATO ROAD (SR 2400)	1.40
#12	ROCKY RIVER ROAD (SR 1139)	2.80
#13	ST. STEVENS CH. ROAD (SR 2444)	2.93
#14	ROCKY RIVER ROAD (SR 1139)	0.35

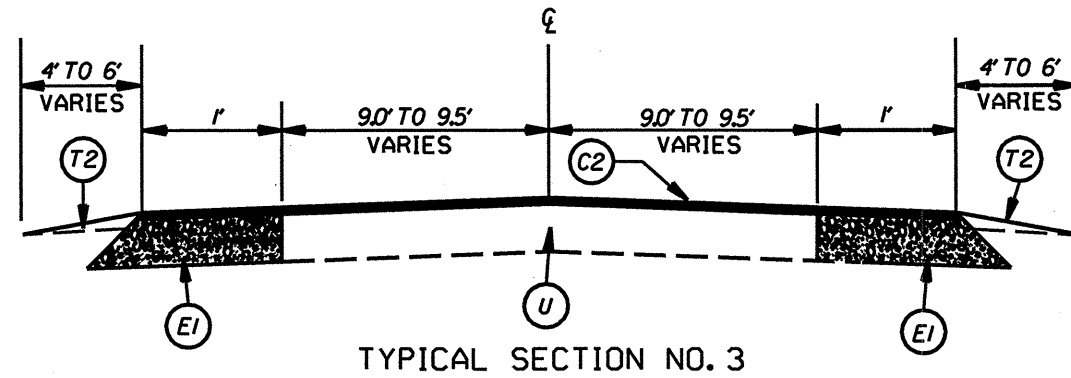
**2007-2008 CABARRUS COUNTY
CONTRACT RESURFACING**

1151
343

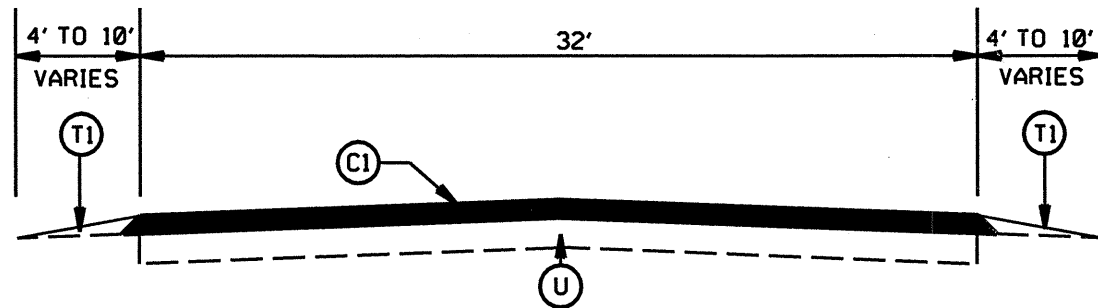




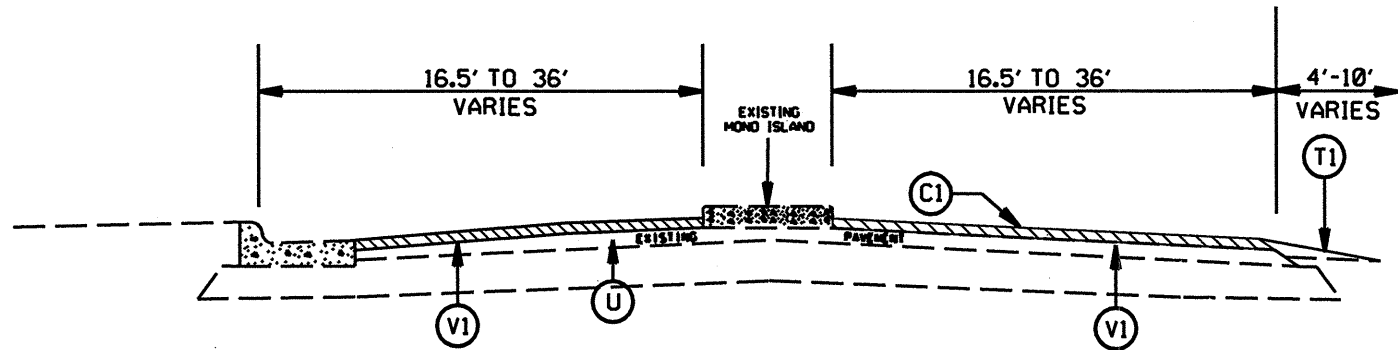
STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS
N.C.	10CR031.8	5	9
F.A. PROJECT NO.			



TYPICAL SECTION NO. 3

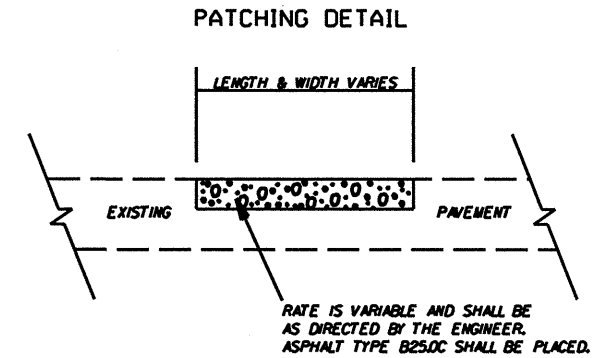


TYPICAL SECTION NO. 2



TYPICAL SECTION NO. 1

NOTE: 1.5" MILLING FROM THE INTERSECTION OF CABARRUS AVE TO APPROX. 500' SOUTH OF INTERSECTION



PAVEMENT SCHEDULE

(C1)	PROP. APPROX. 1.5" ASPHALT CONC. SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
(C2)	PROP. APPROX. 1.5" ASPHALT CONC. SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
(E1)	PROP. APPROX. 8" ASPHALT CONC. BASE COURSE, TYPE 25.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD. IN EACH OF TWO LAYERS
(T1)	SHOULDER RECONSTRUCTION
(T2)	SHOULDER CONSTRUCTION
(VI)	MILLING 1.5" DEPTH
(XI)	PROFILE MILLING 0" TO 1.5"
(U)	EXISTING PAVEMENT

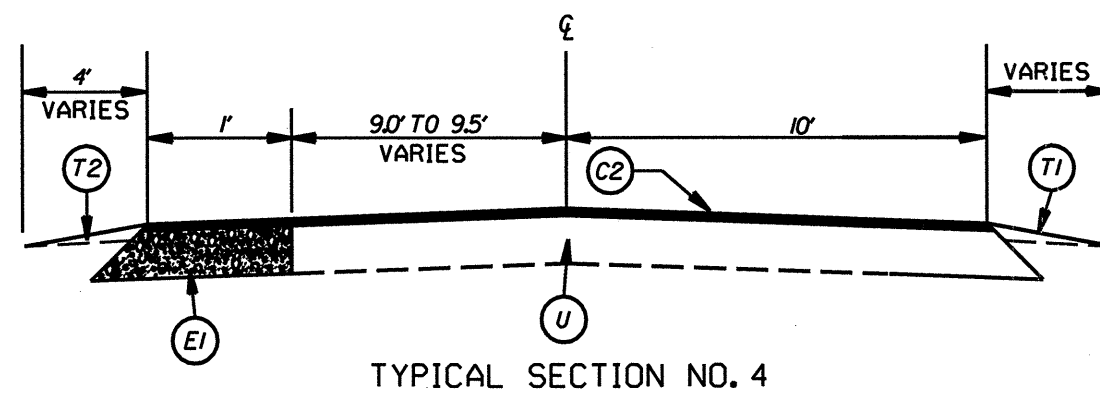
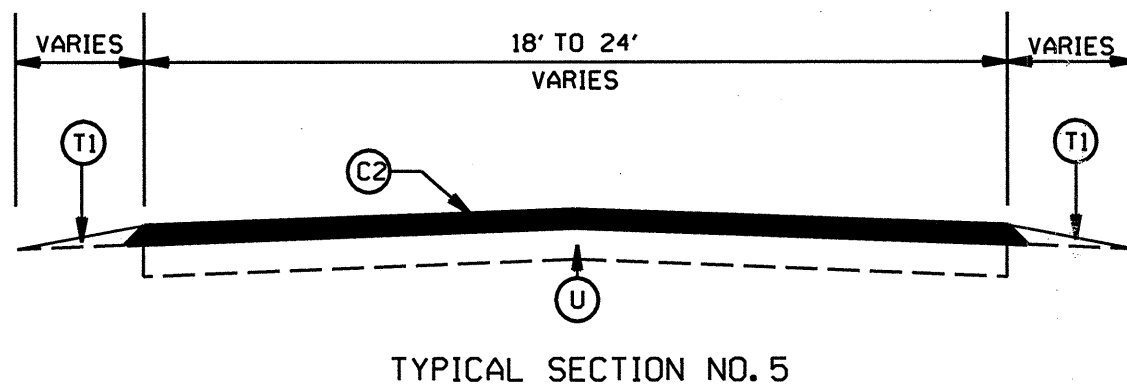
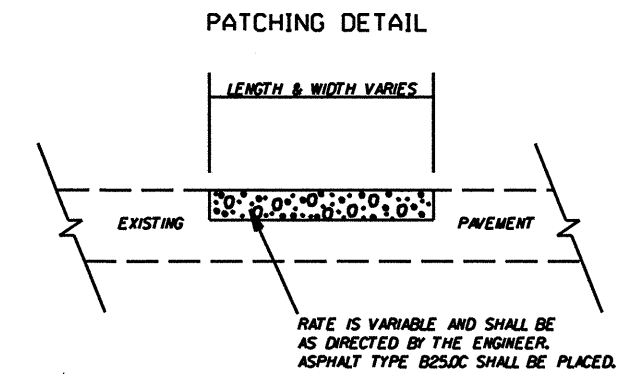
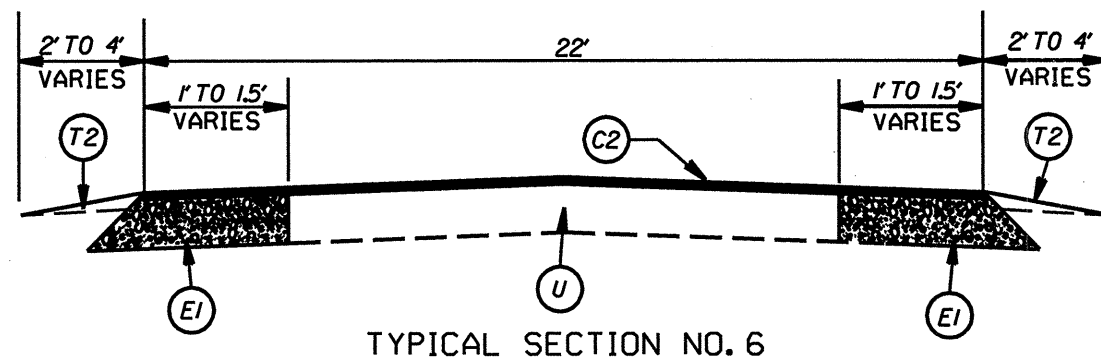
CABARRUS COUNTY RESURFACING

SCALE 1"=50'
 DATE 12-11-07
 DNG. BY JDA
 DESIGN BY JDA
 APPROVED LPW



REVISIONS	

STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS
N.C.	0CRJ03LS	6	9
F.A. PROJECT NO.			



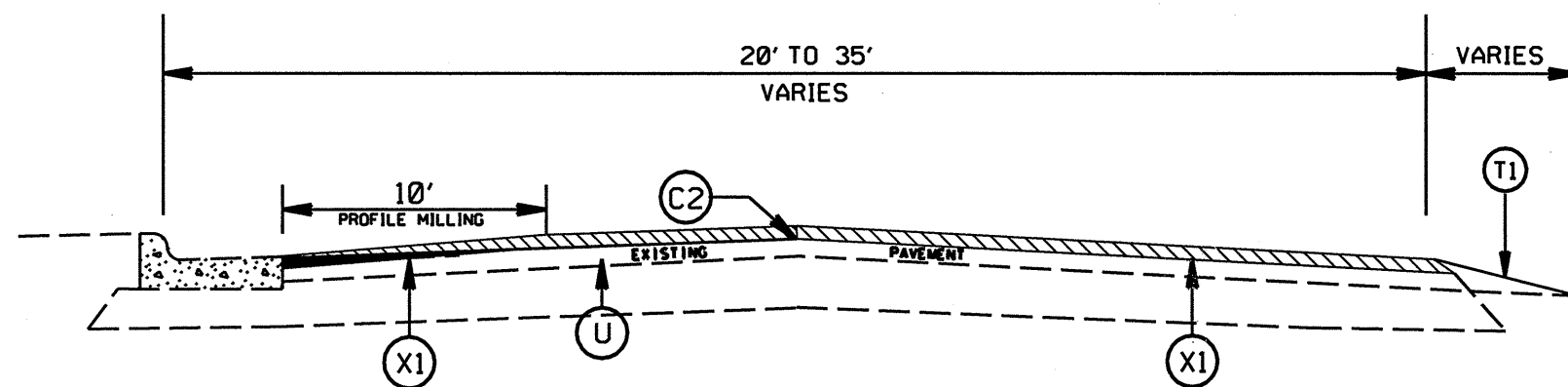
PAVEMENT SCHEDULE

(C1)	PROP. APPROX. 1.5" ASPHALT CONC. SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
(C2)	PROP. APPROX. 1.5" ASPHALT CONC. SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
(E1)	PROP. APPROX. 8" ASPHALT CONC. BASE COURSE, TYPE 25.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD. IN EACH OF TWO LAYERS
(T1)	SHOULDER RECONSTRUCTION
(T2)	SHOULDER CONSTRUCTION
(V1)	MILLING 1.5" DEPTH
(X1)	PROFILE MILLING 0" TO 1.5"
(U)	EXISTING PAVEMENT

CABARRUS COUNTY RESURFACING

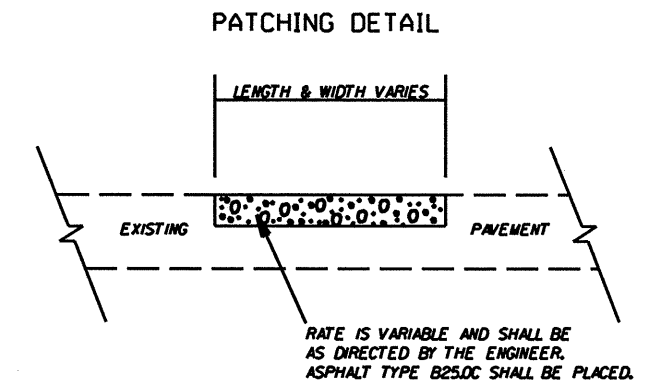
SCALE	1"=50'		REVISIONS
DATE	12-11-07		
ENG. BY	JDA		
DESIGN BY	JDA		
APPROVED	LPW		

STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS
N.C.	10CR10318	7	9
F.A. PROJECT NO.			



TYPICAL SECTION NO. 7

NOTE: PROFILE MILLING AT LOCATION AS DIRECTED BY THE ENGINEER.



PAVEMENT SCHEDULE

(C1)	PROP. APPROX. 1.5" ASPHALT CONC. SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
(C2)	PROP. APPROX. 1.5" ASPHALT CONC. SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
(E1)	PROP. APPROX. 8" ASPHALT CONC. BASE COURSE, TYPE 25.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD. IN EACH OF TWO LAYERS
(T1)	SHOULDER RECONSTRUCTION
(T2)	SHOULDER CONSTRUCTION
(V1)	MILLING 1.5" DEPTH
(X1)	PROFILE MILLING 0" TO 1.5"
(U)	EXISTING PAVEMENT

**CABARRUS COUNTY
RESURFACING**

SCALE 1"=50'
DATE 12-11-07
DWG. BY JDA
DESIGN BY JDA
APPROVED LPW



REVISIONS	

PROJECT NO. *	SHEET NO.	TOTAL NO.
10CR.10131.8, 10CR.10131.9, 10CR.20131.28, ETC.		

SUMMARY OF QUANTITIES

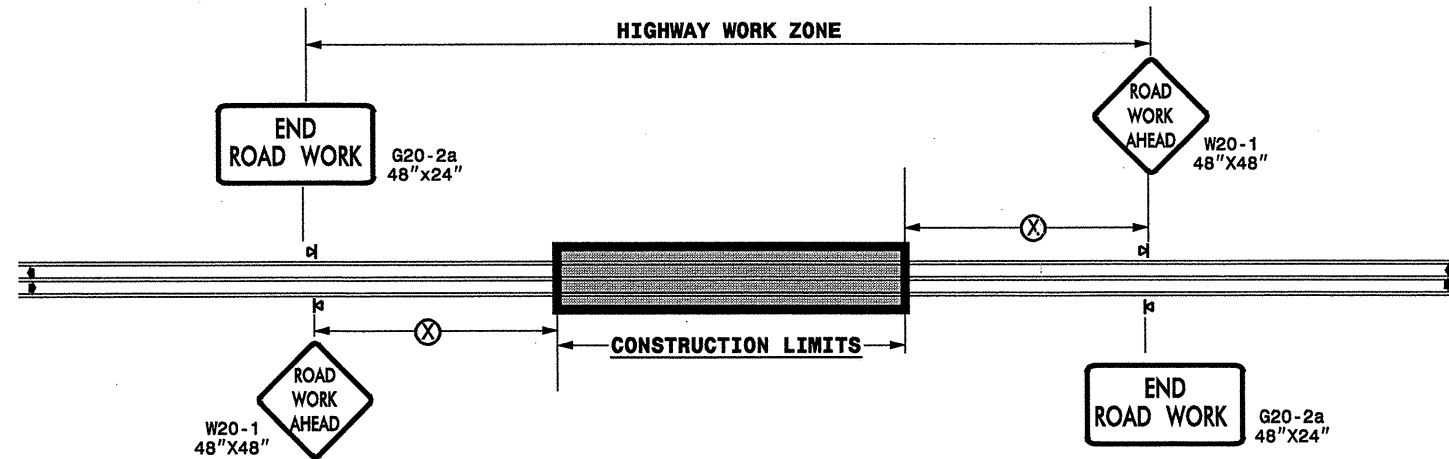
PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	TYP	LENGTH MI	WIDTH FT	INCIDENTAL STONE BASE TONS	SHOULDER CONSTRUCTION SMI	SHOULDER RECONSTRUCTION SMI	DITCHING LF	1 1/2" MILLING SY	0" TO 1.5" MILLING SY	INCIDENTAL MILLING SY	BASE COURSE, B25.0B TONS	SURFACE COURSE, S9.5B TONS	LEVELING COURSE, S9.5B TONS	SURFACE COURSE, S9.5C TONS	LEVELING COURSE, S9.5C TONS	PG 64-22 PLANT MIX TONS	PG 70-22 PLANT MIX TONS	PATCHING EXISTING PAVEMENT TONS	6" DRIVEWAYS SY	PLAIN RIP RAP, CLASS B TONS	TEMPORARY SILT FENCE LF	STONE FOR EROSION CONTROL, CLASS B TN	SEDIMENT CONTROL STONE TN	SEED & MULCHING AC	INDUCT. LOOP SAWCUT EA
10CR.10131.8	Cabarrus	1	US 601	FROM SR 1002 (CABARRUS AVE.) TO SR 1335 (OLD CHAR. RD.)	1	1	33	50		2		4000		110				1,714	150		112	150						1.2	7
TOTAL FOR PROJ NO. 10CR.10131.8						1	1	50		2		4000		110				1,714	150		112	150					1.2	7	
10CR10131.9	Cabarrus	2	US 601	FROM SR 2630 (COLD SPRINGS RD.) TO PAVT. JT. S. NC 49	2	2.96	32	148		5.92				500				5,393	430		349	715						3.6	
TOTAL FOR PROJ NO. 10CR10131.9						2	2.96	148		5.92		0		500				5,393	430		349	715						3.6	
10CR.20131.28	Cabarrus	3	SR 1621 (BARR RD.)	FROM SR 1622 (TRINITY CH. RD.) TO HARDWOOD RD.	3	1.1	20	55	2.2		440			120	929	1,198	368			136		404	65	55	50		28	2.7	
TOTAL FOR PROJ NO. 10CR.20131.28						3	1.1	55	2.2	0	440	0		120	929	1,198	368			136		404	65	55	50		28	2.7	
10CR.20131.29	Cabarrus	4	SR 1621 (BARR RD.)	FROM (HARDWOOD RD.) TO SR 1620 (MACEDONIA CH. RD.)	4	0.5	20	25	0.5	0.5	400			110	223	521	184			53		184		25	50		13	1.2	
TOTAL FOR PROJ NO. 10CR.20131.29						4	0.5	25	0.5	0.5	400	0		110	223	521	184			53		184		25	50		13	1.2	
10CR.20131.30	Cabarrus	5	SR 1134 (PIONEER MILL RD.)	FROM SR 1136 (LOWER ROCKY RIVER RD. TO SR 1135 (MORRISON RD.)	3	1.4	20	70	2.8		560			130	1,101	1,484	368			160		490	104	70	50		35	3.4	
TOTAL FOR PROJ NO. 10CR.20131.30						3	1.4	70	2.8	0	560	0		130	1,101	1,484	368			160		490	104	70	50		35	3.4	
10CR.20131.31	Cabarrus	6	SR 2414 (ST. JOHNS CH. RD.)	FROM NC 73 TO SR 2408 (GOLD HILL RD.)	5	2.93	20			5.86				130		3,104	462				214		769					3.5	
TOTAL FOR PROJ NO. 10CR.20131.31						5	2.93	0	0	5.86	0	0		130		3,104	462				214		769					3.5	
10CR.20131.32	Cabarrus	7	SR 1414 (ROCK HILL CH. RD.)	FROM SR 1431 (WEDDINGTON RD.) TO SR 1394 (POPLAR TENT RD.)	5	1.16	22	50		2.32				110		1,328	305				98		426					1.4	1
TOTAL FOR PROJ NO. 10CR.20131.32						5	1.16	50	0	2.32	0	0		110		1,328	305				98		426					1.4	1
10CR.20131.33	Cabarrus	8	SR 1628 (CHARLIE WALKER RD.)	FROM NC3 TO ROWAN CO. LINE	5	1.43	20	72		2.86				110		1,725	226				117		376					1.7	
TOTAL FOR PROJ NO. 10CR.20131.33						5	1.43	72	0	2.86	0	0		110		1,725	226				117		376					1.7	
10CR.20131.34	Cabarrus	9	SR 1627 (MILLER RD.)	FROM NC 3 TO ROWAN CO. LINE	5	1.37	21	69		2.74				140		1,576	216				108		504					1.7	
TOTAL FOR PROJ NO. 10CR.20131.34						5	1.37	69	0	2.74	0	0		140		1,576	216				108		504					1.7	
10CR.20131.35	Cabarrus	10	SR 2000 (BRANTLY RD.)	FROM PEARL AVE. TO PAVT. JT. S. OF EAST MINISTER DR.	5	1.28	18	64		2.56				130		1,253	336				95		473					1.5	
TOTAL FOR PROJ NO. 10CR.20131.35						5	1.28	64	0	2.56	0	0		130		1,253	336				95		473					1.5	
10CR.20131.36	Cabarrus	11	SR 2400 (IRISH POTATO RD.)	FROM SR2402 (SAPP RD.) TO SR 2400 (BARRIER RD.)	5	1.4	24	70		2.8				120		1,774	515				137		221					1.7	
TOTAL FOR PROJ NO. 10CR.20131.36						5	1.4	70	0	2.8	0	0		120		1,774	515				137		221					1.7	
10CR.20131.37	Cabarrus	12	SR 1139 (ROCKY RIVER RD.)	FROM NC 49 TO BRIDGE OVER ROCKY RIVER	7	2.8	22	140		5.6				1400	500	3,363	700				244		1,000					3.4	
TOTAL FOR PROJ NO. 10CR.20131.37						7	2.8	140	0	5.6	0	0		1400	500	3,363	700				244		1,000					3.4	
10CR.20131.38	Cabarrus	13	SR 2444 (ST. STEPHENS CH. RD.)	FROM SR 2453 (LENTZ HARNESS SHOP RD.) TO NC49	5	2.93	22	147		5.86				140		3,433	772				252		770					3.5	
TOTAL FOR PROJ NO. 10CR.20131.38						5	2.93	147	0	5.86	0	0		140		3,433	772				252		770					3.5	
10CR.20131.39	Cabarrus	14	SR 1139 (ROCKY RIVER RD.)	FROM PAVT. JOINT SOUTH OF LYON DR. TO SR 1136 (LOWER ROCKY RIVER RD.)	6	0.35	22	18	0.7		400			220	393	432	100				49		100			20	10	0.8	
TOTAL FOR PROJ NO. 10CR.20131.39						6	0.35	18	0.7	0	400	0	0	220	393	432	100				49		100			20	10	0.8	
GRAND TOTAL						22.61		978	6.2	39.02	1800	4000	1400	2,570	2,646	21,191	4,552	7,107	580	1,663	461	6,582	169	150	150	20	86	31.3	8

PROJECT NO.	SHEET NO.	TOTAL NO.
10CR.10131.8, 10CR10131.9 10CR.20131.28, ETC.	9	9

THERMOPLASTIC AND PAINT QUANTITIES

PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	468500000-E	468600000-E		469500000-E	471000000-E	472100000-E	472500000-E			481000000-E		490000000-N	
					4" X 90 M WHITE THERMO LF	4" X 120 M WHITE THERMO LF	4" X 120 M YELLOW THERMO LF	8" X 90 M YELLOW THERMO LF	24" X 120 M WHITE THERMO LF	THERMO MSG SCHOOL 120 M EA	THERMO STR ARROW 90 M EA	THERMO LT ARROW 90 M EA	THERMO RT ARROW 90 M EA	4" WHITE PAINT LF	4" YELLOW PAINT LF	YELLOW & YELLOW MARKERS EA	CRYSTAL & RED MARKERS EA
10CR.10131.8	Cabarrus	1	US 601	FROM SR 1002 (CABARRUS AVE.) TO SR 1335 (OLD CHAR. RD.)	10,760	600	6,600	1,000						1,000	500	66	60
TOTAL FOR PROJ NO. 10CR.10131.8					10,760	600	6,600	1,000						1,000	500	66	60
							7,200							1,500		122	
10CR10131.9	Cabarrus	2	US 601	FROM SR 2630 (COLD SPRINGS RD.) TO PAVT. JT. S. NC 49	31,850		19,536	300	220	12	5	5	5			195	60
TOTAL FOR PROJ NO. 10CR10131.9					31,850		19,536	300	220	12	5	5	5			195	60
							19,536					15				255	
10CR.20131.28	Cabarrus	3	SR 1621 (BARR RD.)	FROM SR 1622 (TRINITY CH. RD.) TO HARDWOOD RD.	11,836		7,260									73	
TOTAL FOR PROJ NO. 10CR.20131.28					11,836		7,260									73	
							7,260										
10CR.20131.29	Cabarrus	4	SR 1621 (BARR RD.)	FROM (HARDWOOD RD.) TO SR 1620 (MACEDONIA CH. RD.)	5,380		3,300									66	
TOTAL FOR PROJ NO. 10CR.20131.29					5,380		3,300									66	
							3,300										
10CR.20131.30	Cabarrus	5	SR 1134 (PIONEER MILL RD.)	FROM SR 1136 (LOWER ROCKY RIVER RD. TO SR 1135 (MORRISON RD.)	15,064		9,240									92	
TOTAL FOR PROJ NO. 10CR.20131.30					15,064		9,240									92	
							9,240										
10CR.20131.31	Cabarrus	6	SR 2414 (ST. JOHNS CH. RD.)	FROM NC 73 TO SR 2408 (GOLD HILL RD.)	31,527		19,338									193	
TOTAL FOR PROJ NO. 10CR.20131.31					31,527		19,338									193	
							19,338										
10CR.20131.32	Cabarrus	7	SR 1414 (ROCK HILL CH. RD.)	FROM SR 1431 (WEDDINGTON RD.) TO SR 1394 (POPLAR TENT RD.)	12,482		7,656									77	
TOTAL FOR PROJ NO. 10CR.20131.32					12,482		7,656									77	
							7,656										
10CR.20131.33	Cabarrus	8	SR 1628 (CHARLIE WALKER RD.)	FRON NC3 TO ROWAN CO. LINE	15,387		9,438									94	
TOTAL FOR PROJ NO. 10CR.20131.33					15,387		9,438									94	
							9,438										
10CR.20131.34	Cabarrus	9	SR 1627 (MILLER RD.)	FROM NC 3 TO ROWAN CO. LINE	14,741		9,042									90	
TOTAL FOR PROJ NO. 10CR.20131.34					14,741		9,042									90	
							9,042										
10CR.20131.35	Cabarrus	10	SR 2000 (BRANTLY RD.)	FROM PEARL AVE. TO PAVT. JT. S. OF EAST MINISTER DR.	13,773		8,448									84	
TOTAL FOR PROJ NO. 10CR.20131.35					13,773		8,448									84	
							8,448										
10CR.20131.36	Cabarrus	11	SR 2400 (IRISH POTATO RD.)	FROM SR2402 (SAPP RD.) TO SR 2400(BARRIER RD.)	15,064											92	
TOTAL FOR PROJ NO. 10CR.20131.36					15,064											92	
10CR.20131.37	Cabarrus	12	SR 1139 (ROCKY RIVER RD.)	FROM NC 49 TO BRIDGE OVER ROCKY RIVER	30,128		18,480					3	3			185	50
TOTAL FOR PROJ NO. 10CR.20131.37					30,128		18,480					3	3			185	50
							18,480					6				235	
10CR.20131.38	Cabarrus	13	SR 2444 (ST. STEPHENS CH. RD.)	FROM SR 2453 (LENTZ HARNESS SHOP RD.) TO NC49	31,527		19,338									193	
TOTAL FOR PROJ NO. 10CR.20131.38					31,527		19,338									193	
							19,338										
10CR.20131.39	Cabarrus	14	SR 1139 (ROCKY RIVER RD.)	FROM PAVT. JOINT SOUTH OF LYON DR. TO SR 1136 (LOWER ROCKY RIVER RD.)	3,766		2,310		20			1	1			23	
TOTAL FOR PROJ NO. 10CR.20131.39					3,766		2,310		20			1	1			23	
							2,310					2					
GRAND TOTAL					243,285	600	139,986	1,300	240	12	6	9	8	1,000	500	1,523	170
							140,586					23		1,500		1693	

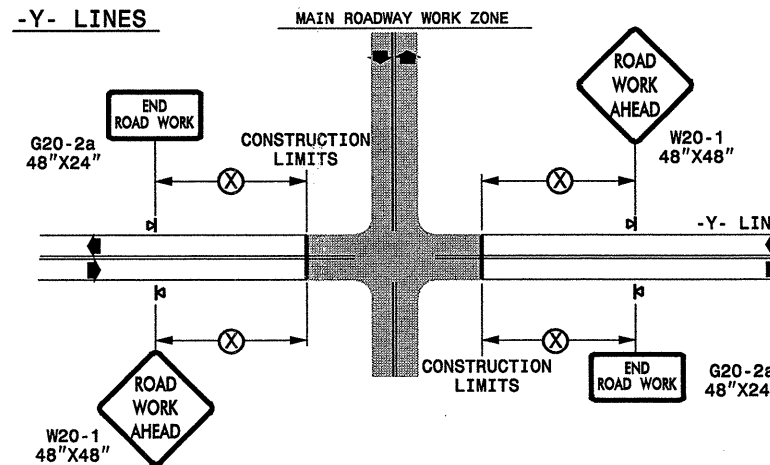
TWO-WAY UNDIVIDED ** (L-LINES)



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

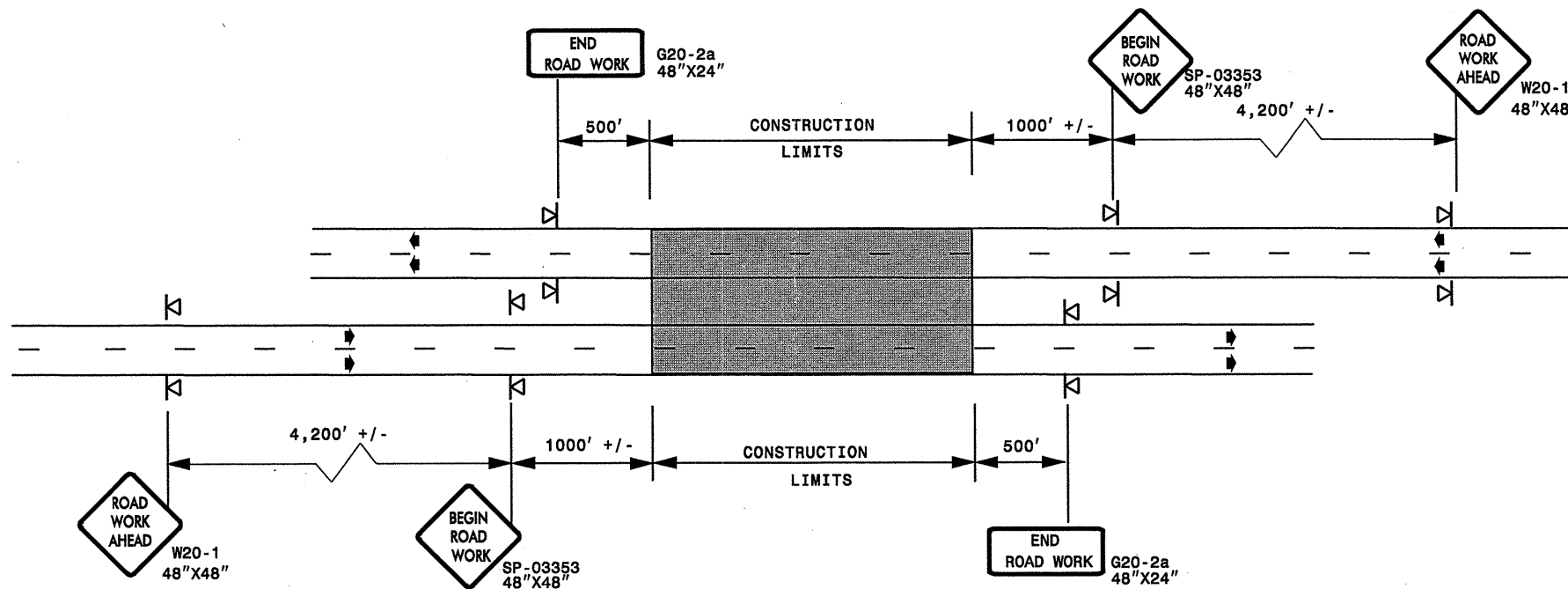
SHEET 1 OF 1

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

01-FEB-2008 22:17
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 psey@more

ADVANCE WORK ZONE WARNING SIGNING FOR FREEWAYS (4 LANES OR GREATER)

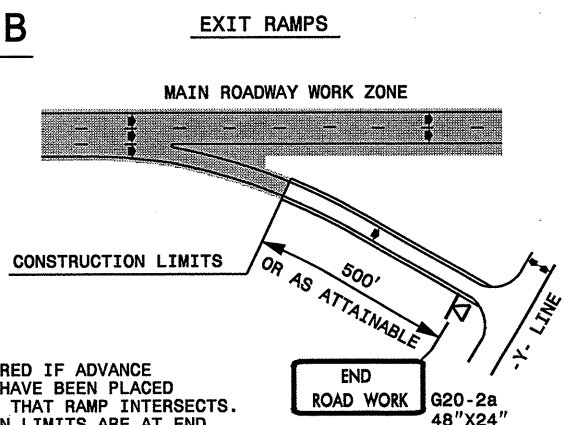
DETAIL A



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

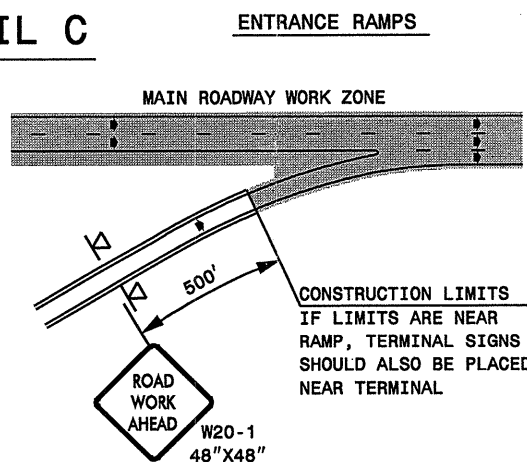
ROADWAYS INTERSECTING ALONG FREEWAY WORK ZONE (Y-LINES)

DETAIL B



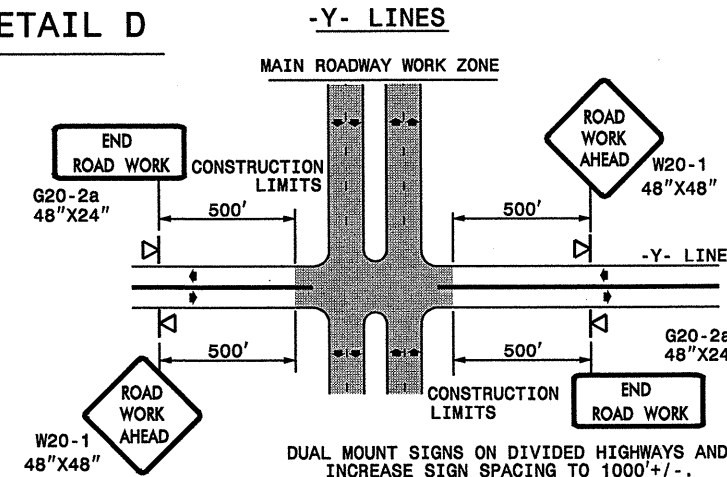
NOTE:
SIGN NOT REQUIRED IF ADVANCE WARNING SIGNS HAVE BEEN PLACED ALONG -Y- LINE THAT RAMP INTERSECTS. IF CONSTRUCTION LIMITS ARE AT END OF RAMP, PLACE SIGN AT END OF RAMP.

DETAIL C



CONSTRUCTION LIMITS IF LIMITS ARE NEAR RAMP, TERMINAL SIGNS SHOULD ALSO BE PLACED NEAR TERMINAL.

DETAIL D



DUAL MOUNT SIGNS ON DIVIDED HIGHWAYS AND INCREASE SIGN SPACING TO 1000' +/-.

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 MULTI-LANE FACILITIES WHERE CONDITIONS LIMIT THE USE OF DUAL MOUNTED SIGNS AS DETERMINED BY THE ENGINEER.

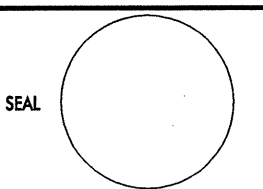

LEGEND

◀ PORTABLE SIGN

➔ DIRECTION OF TRAFFIC FLOW

DETAIL DRAWING
FOR FREEWAYS
WORK ZONE WARNING SIGNS
(SHORT-DURATION LANE CLOSURES)

SHEET 1 OF 1

APPROVED: _____	DATE: _____	DETAIL DRAWING FOR FREEWAYS WORK ZONE WARNING SIGNS	
			
SCALE: NONE	REVISIONS		
DATE: _____	7-98 10/01	CAD FILE	
DWG. BY: _____	10-98 03/04		
DESIGN BY: _____	01/01 11/04		
REVIEWED BY: _____			

O:\FEB-2008_2248
 \DOT\DFSR0010\GROUPS-WZTCCC\design\group4\resur\facimg\resur\facimg2007\dwg\202009_10CR101318etc_Cabarrus_US601etc\202009_10CR101318etc_freelanesgreatJuly2006.dgn
 psey@more AT WZTCCC237502

SP 03353

<p>SIGN NUMBER: SP-03353 TYPE: A QUANTITY: 1 SIGN WIDTH: 4'-0" HEIGHT: 4'-0" TOTAL AREA: 16.0 Sq.Ft. BORDER TYPE: FLUSH RECESS: 0.59" WIDTH: 0.75" RADIUS: 1.38" NO. Z BARS: N/A LENGTH: N/A</p>	<p>BACKG COLOR: Fluorescent Orange COPY COLOR: Black</p> <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th>SYMBOL</th> <th>X</th> <th>Y</th> <th>WID</th> <th>HT</th> </tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> </table>	SYMBOL	X	Y	WID	HT																																														<p>DESIGN BY: CL DOWNEY PROJECT ID: ALL PROJECTS CHECKED BY: CHECKED DIV: DIV STD #: W20-1 DATE: Aug 20, 2003</p>																																			
SYMBOL	X	Y	WID	HT																																																																																			
<p>USE NOTES: 2, 4 1. Legend and border shall be direct applied Type VII reflective sheeting. 2. Legend and border shall be direct applied non-reflective sheeting. 3. Shields shall be Type VII reflective sheeting on 0.032" (0.8mm) aluminum and demountable. 4. Background shall be Type VII reflective sheeting. 5. Background shall be Type I reflective sheeting. 6. Center arrow(s) vertically on sign. 7. Bottom panel shall be yellow Type III sheeting. Legend shall be direct applied black non-reflective sheeting. Yellow panel is:</p>																																																																																							
<p>LETTER POSITIONS</p> <table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th colspan="10">Letter spacings are to start of next letter</th> <th>Series/Size</th> <th>Text Length</th> </tr> </thead> <tbody> <tr> <td>B</td><td>E</td><td>G</td><td>I</td><td>N</td><td></td><td></td><td></td><td></td><td></td> <td></td><td>C7</td> </tr> <tr> <td>22.4</td><td>5.3</td><td>4.6</td><td>5.4</td><td>2.5</td><td>3.8</td><td>22.4</td><td></td><td></td><td></td> <td></td><td>21.6</td> </tr> <tr> <td>R</td><td>O</td><td>A</td><td>D</td><td></td><td></td><td></td><td></td><td></td><td></td> <td></td><td>C7</td> </tr> <tr> <td>23.4</td><td>5</td><td>5.2</td><td>5.6</td><td>3.8</td><td>23.4</td><td></td><td></td><td></td><td></td> <td></td><td>19.6</td> </tr> <tr> <td>W</td><td>D</td><td>R</td><td>K</td><td></td><td></td><td></td><td></td><td></td><td></td> <td></td><td>C7</td> </tr> <tr> <td>22.6</td><td>6.4</td><td>5.6</td><td>5.2</td><td>4</td><td>22.6</td><td></td><td></td><td></td><td></td> <td></td><td>21.2</td> </tr> </tbody> </table> <p>Spacing Factor is 1 unless specified otherwise FILENAME: SPEC234AK</p>				Letter spacings are to start of next letter										Series/Size	Text Length	B	E	G	I	N							C7	22.4	5.3	4.6	5.4	2.5	3.8	22.4					21.6	R	O	A	D								C7	23.4	5	5.2	5.6	3.8	23.4						19.6	W	D	R	K								C7	22.6	6.4	5.6	5.2	4	22.6						21.2
Letter spacings are to start of next letter										Series/Size	Text Length																																																																												
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22.6	6.4	5.6	5.2	4	22.6						21.2																																																																												

GENERAL NOTES FOR SIGN SP-03353 "BEGIN ROAD WORK"

- SIGN SP-03353 "BEGIN ROAD WORK" ONLY APPLIES TO FULL CONTROL AND PARTIAL CONTROL OF ACCESS ROADWAYS
- WHEN USED, INSTALL SIGN SP-03353 "BEGIN ROAD WORK" ACCORDING TO DETAIL FOR FREEWAY WORK ZONE SIGNS

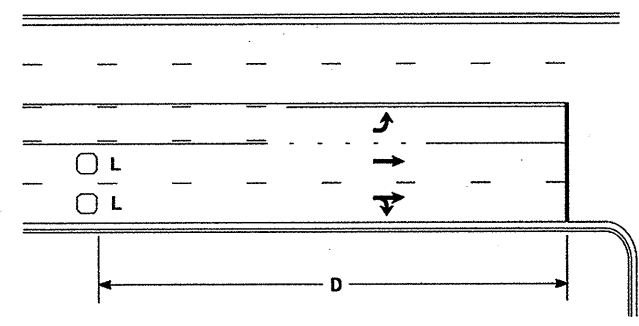
STATE OF NORTH CAROLINA
 DEPT. OF TRANSPORTATION
 DIVISION OF HIGHWAYS
 RALEIGH, N.C.

DETAIL DRAWING FOR
 WORK ZONE SIGNS
 BEGIN ROAD WORK

APPROVED: _____	DATE: _____	DETAIL DRAWING FOR ADVANCED WORK ZONE WARNING SIGN DESIGNS	
SEAL	SCALE: NONE		
	DATE: 0803		
	DWG. BY: _____		
	DESIGN BY: _____		
REVIEWED BY: _____	REVISIONS		
	04/04		
	11/04		

01-FEB-2008 22:20
 \\DDT\DFS001\WORKGROUPS-WZTCCC\design\group4\resur\facimg\resur\facimg2007\div0\202009_10CR101318etc.\Cabarrus.US601etc.\C202009_10CR101318etc.\SignDesigns\July2006.dgn
 psey@more AT WZTCCC

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

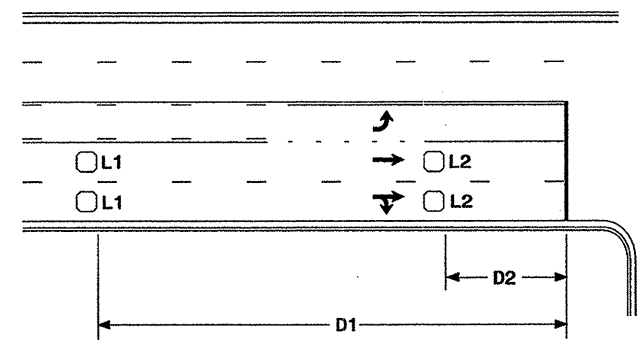


Speed Limit mph (km/hr)	D ft (m)
40 (64)	250 (75)
45 (72)	300 (90)
50 (80)	355 (110)
55 (88)	420 (130)

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



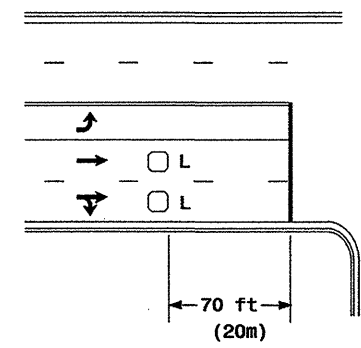
Speed Limit mph (km/hr)	D1 ft (m)	D2 ft (m)
40 (64)	250 (75)	80 (25)
45 (72)	300 (90)	90 (27)
50 (80)	355 (110)	100 (30)
55 (88)	420 (130)	110 (35)

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

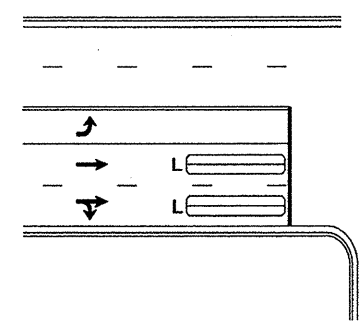
Low Speed Detection [≤35 mph (56 km/hr)]

10CR.10131.8, 10CR.10131.9, 10CR.20131.28, 10CR.20131.29, 10CR.20131.30, 10CR.20131.31,
10CR.20131.32, 10CR.20131.33, 10CR.20131.34, 10CR.20131.35, 10CR.20131.36, 10CR.20131.37,
10CR.20131.38 & 10CR.20131.39



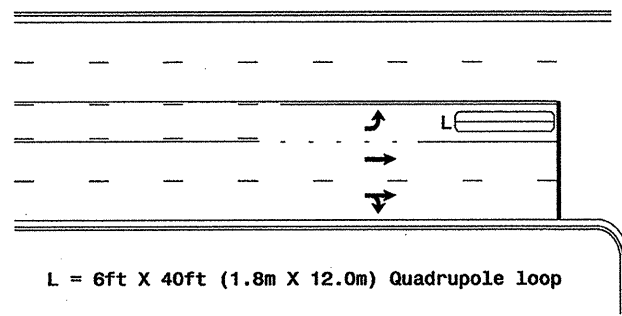
L = 6ft X 6ft (1.8m X 1.8m)
Wired in series

OR



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

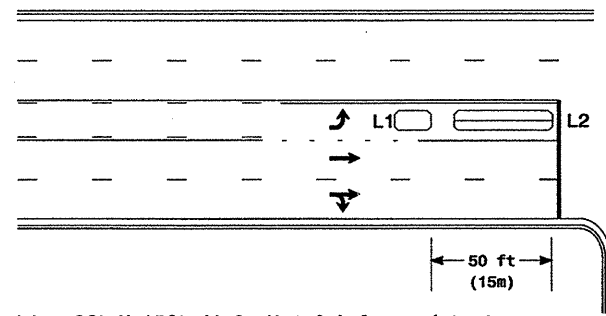
Left Turn Lane Detection



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

Presence Loop Detection

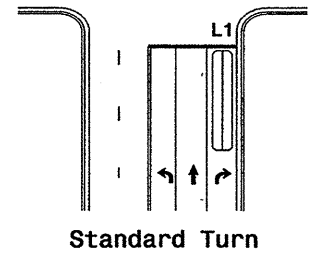
OR



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

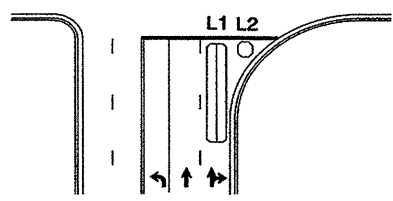
Queue Loop Detection

Right Turn Lane Detection

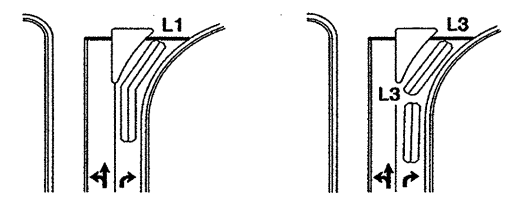


Standard Turn

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

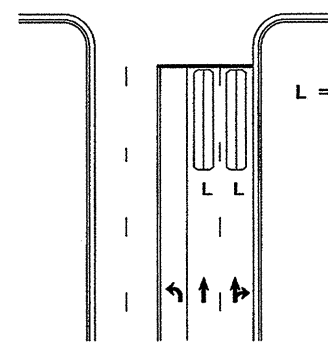


Wide Radius Turn



Channelized Turn

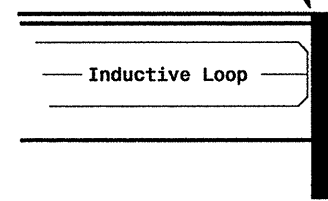
Side Street Detection



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



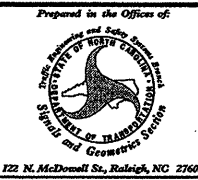
Note:
Loop may be located in advance
of stop line when stop line is
greater than 15' (4.5m) from edge
of intersecting roadway; or, when
loop detects a permissive or
protected/permissive left turn.

Recommended Number of Turns

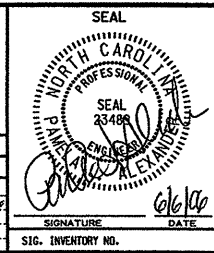
Single 6' X 6' (1.8m X 1.8m)
loop (wired separately):

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



Typical Loop Locations		SCALE	SIG. INVENTORY NO.
PLAN DATE: June 2006	REVIEWED BY:	N/A	
PREPARED BY: P L Alexander	REVIEWED BY:		
REVISIONS	INIT.	DATE	
1. Revise pavement markings		12/1/06	



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

5-07

ENGLISH DETAIL DRAWING FOR
INDUCTIVE DETECTION LOOPS

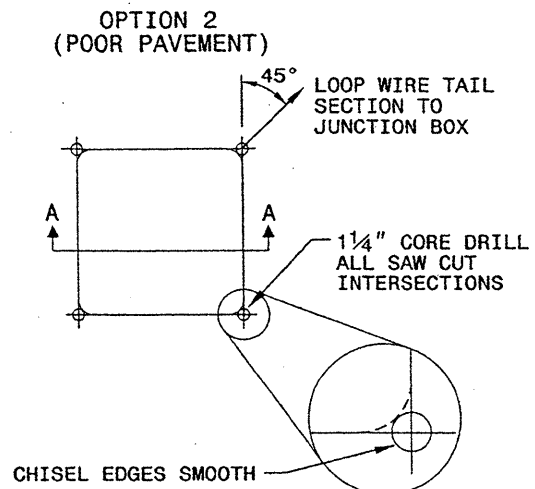
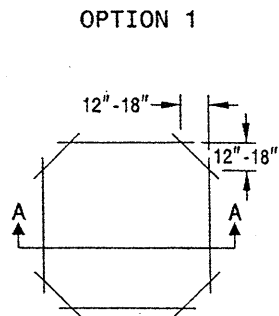
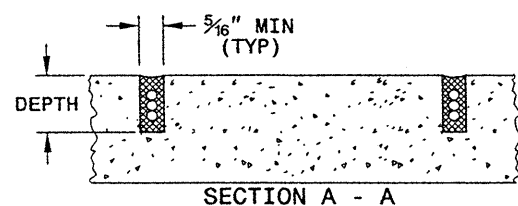
SHEET 1 OF 3
1725D01

CONVENTIONAL 4-SIDED LOOP

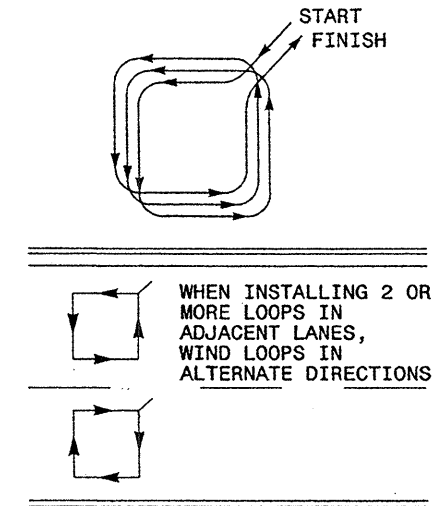
SAW CUT OPTIONS

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	

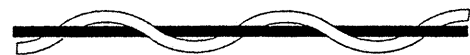


LOOP WINDING METHOD



LOOP WIRE TWISTING METHOD

INCORRECT WAY TO TWIST WIRE



CORRECT WAY TO TWIST WIRE

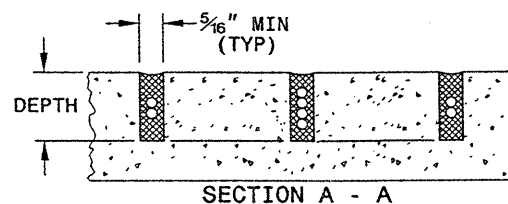
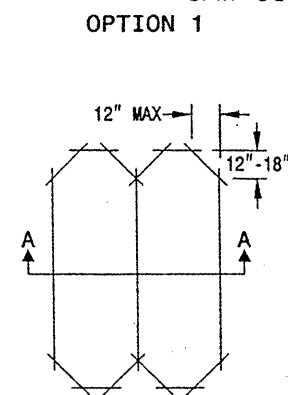


NOTES

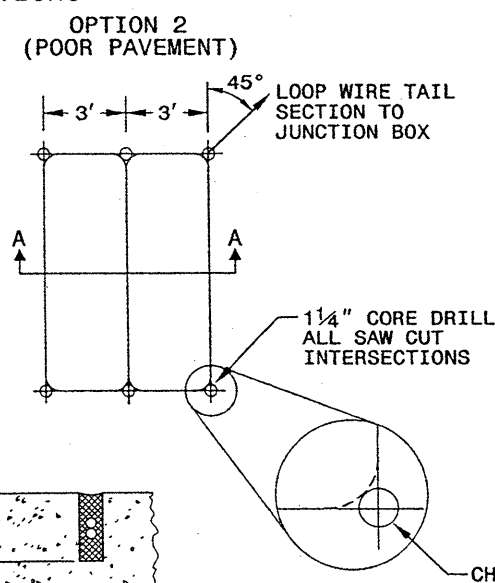
1. OVERLAP SAW CUTS AT CORNERS AND INTERSECTION POINTS TO ENSURE UNIFORM SAW SLOT DEPTH.
2. MAINTAIN 12" SPACING BETWEEN LOOP WIRE TAIL SECTIONS.
3. WIRE LOOPS CONNECTED TO THE SAME DETECTOR CHANNEL IN SERIES.
4. LOCATE LOOPS IN CENTER OF LANES UNLESS OTHERWISE SHOWN ON PLANS OR APPROVED BY ENGINEER.

QUADRUPOLE LOOP

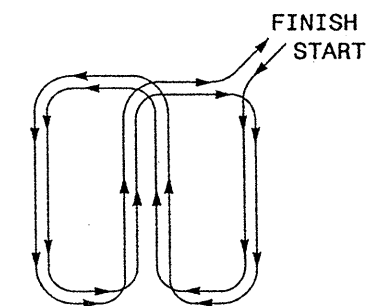
SAW CUT OPTIONS



DEPTH IS 2.5" FOR CONCRETE AND 3.0" FOR ASPHALT



LOOP WINDING METHOD



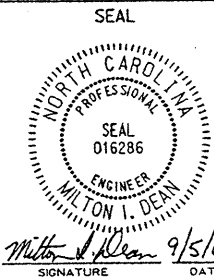
STATE OF NORTH CAROLINA
 DEPT. OF TRANSPORTATION
 DIVISION OF HIGHWAYS
 RALEIGH, N.C.

5-07

ENGLISH DETAIL DRAWING FOR
INDUCTIVE DETECTION LOOPS

SHEET 1 OF 3
1725D01

See Plate for Title



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

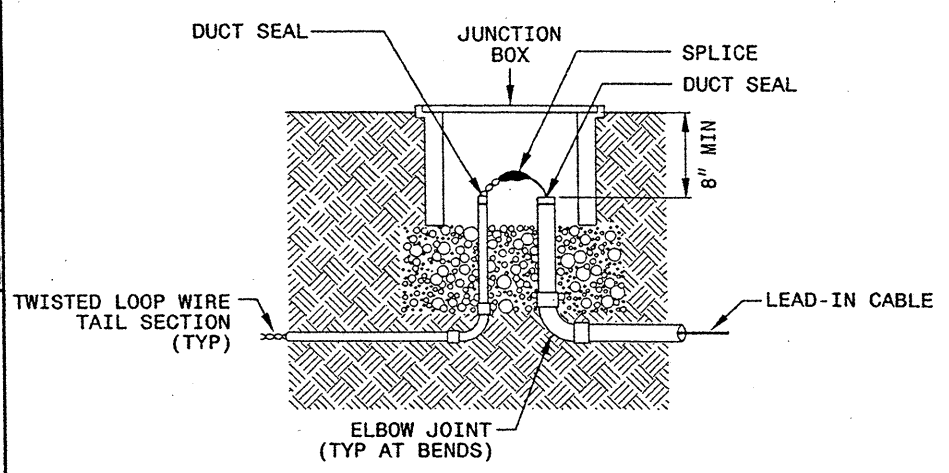
5-07

ENGLISH DETAIL DRAWING FOR
INDUCTIVE DETECTION LOOPS
 LOOP WIRE DETAILS

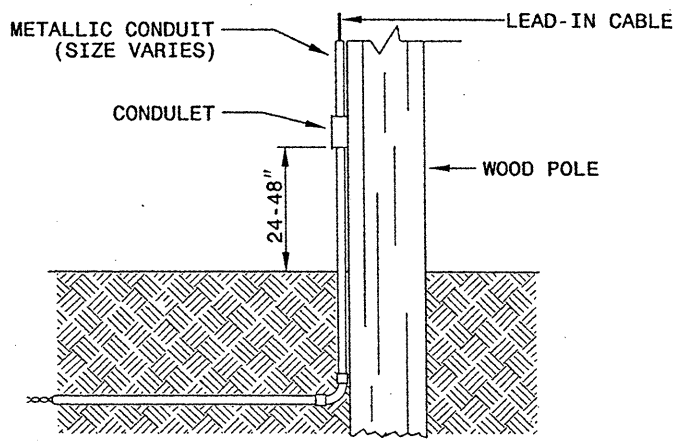
SHEET 2 OF 3
1725D01

LOOP WIRE SPLICE POINT DETAILS

LOOP WIRE AT JUNCTION BOX



LOOP WIRE AT POLE

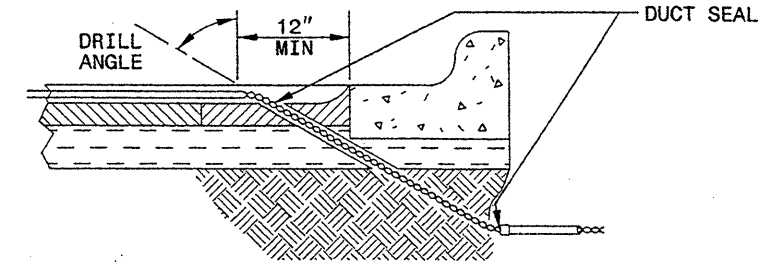


NOTE

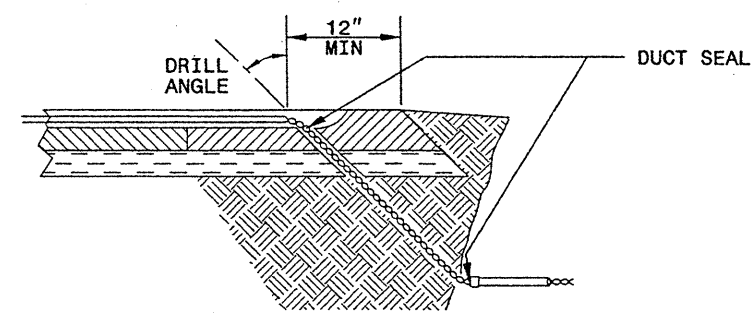
SPLICE ALL LOOP WIRE TAIL SECTIONS/LEAD-IN CABLE IN JUNCTION BOXES OR APPROVED CONDULETS.

LOOP WIRE PAVEMENT EDGE DETAILS

LOOP WIRE AT CURB & GUTTER SECTION



LOOP WIRE AT PAVEMENT SECTION



NOTES

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

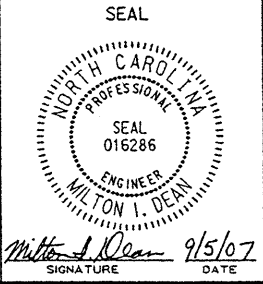
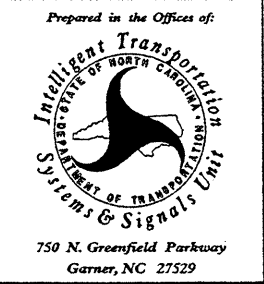
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 RALEIGH, N.C.

5-07

ENGLISH DETAIL DRAWING FOR
INDUCTIVE DETECTION LOOPS
 LOOP WIRE DETAILS

SHEET 2 OF 3
1725D01

See Plate for Title



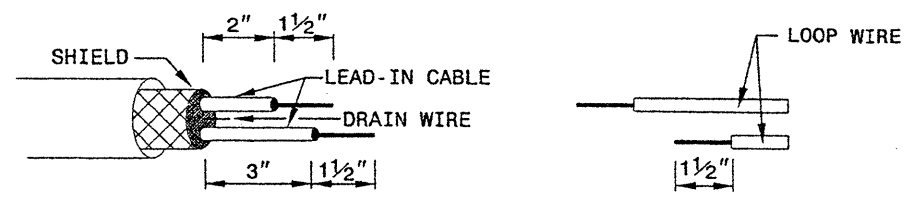
STATE OF
NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

5-07

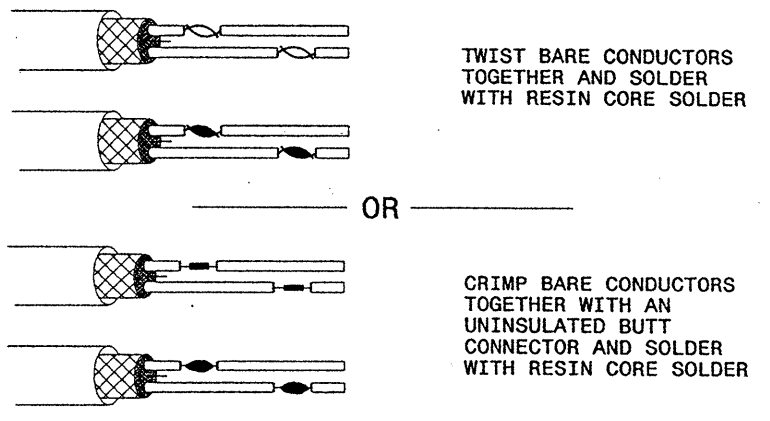
ENGLISH DETAIL DRAWING FOR
INDUCTION DETECTION LOOPS
SPlicing FOR LEAD-IN CABLE AND LOOP WIRE

SHEET 3 OF 3
1725D01

STEP 1. STRIP LOOP WIRE AND LEAD-IN CABLE

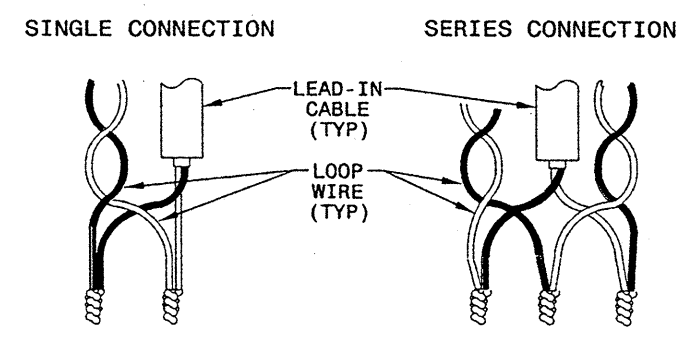


STEP 2. CONNECT AND SOLDER

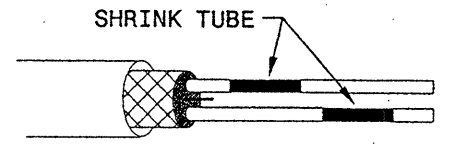


BOND SHIELD DRAIN WIRE AT SPLICE SECTIONS (DO NOT GROUND)

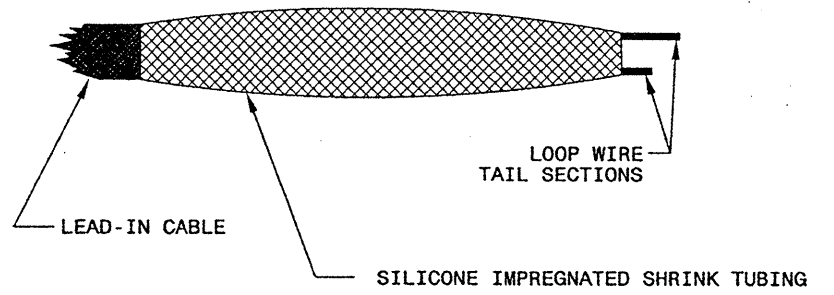
LOOP WIRE AND LEAD-IN CABLE CONNECTION DETAILS



STEP 3. INSULATE EACH SOLDER JOINT SEPARATELY



STEP 4. ENVIRONMENTALLY PROTECT SPLICE



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RALEIGH, N.C.

5-07

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

ENGINEER
MILTON I. DEAN

Milton I. Dean 9/5/07
SIGNATURE DATE