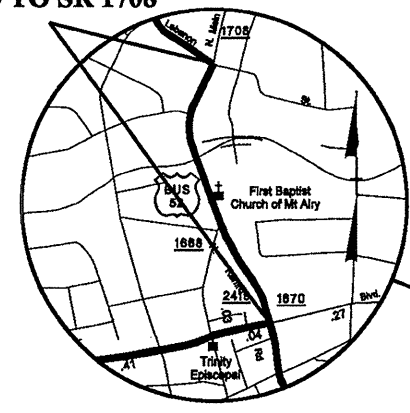


STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

**SURRY COUNTY**

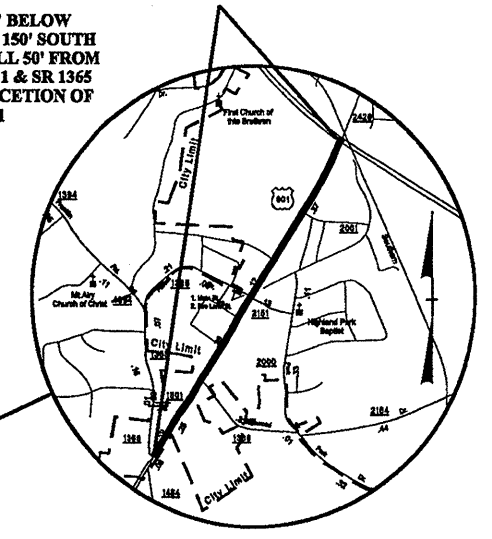
PRIMARY ASPHALT RESURFACING

MAP #3 US 52 BUS  
FROM SR 1670 TO SR 1708



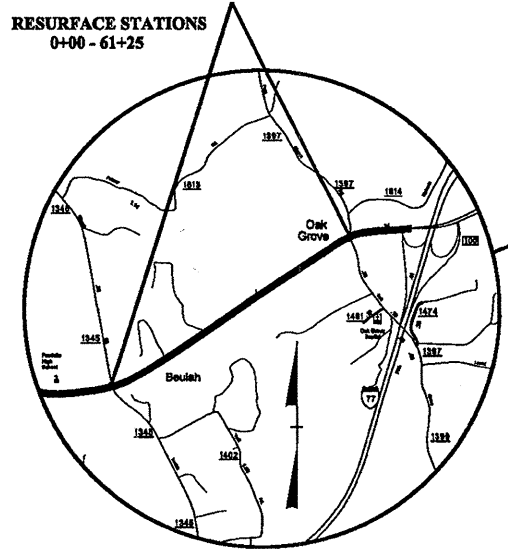
MAP #1 US 601  
FROM 150' SOUTH OF SR 1365 TO US 52

MILL FULL WIDTH 1.5" BELOW  
CURB & GUTTER FROM 150' SOUTH  
OF SR 1365 TO US 52 - MILL 50' FROM  
INTERSECTION OF US 601 & SR 1365  
MILL 50' FROM INTERSECTION OF  
US 601 & SR 2151

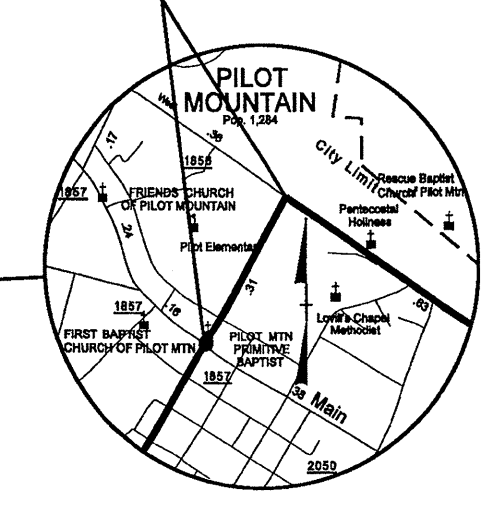


MAP #4 NC 89  
FROM SR 1397 TO SR 1345

RESURFACE STATIONS  
0+00 - 61+25

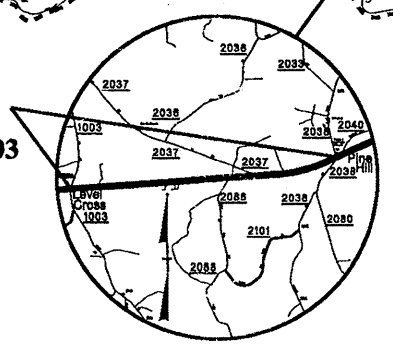


MAP #2 NC 268  
FROM MAIN STREET TO SR 1856



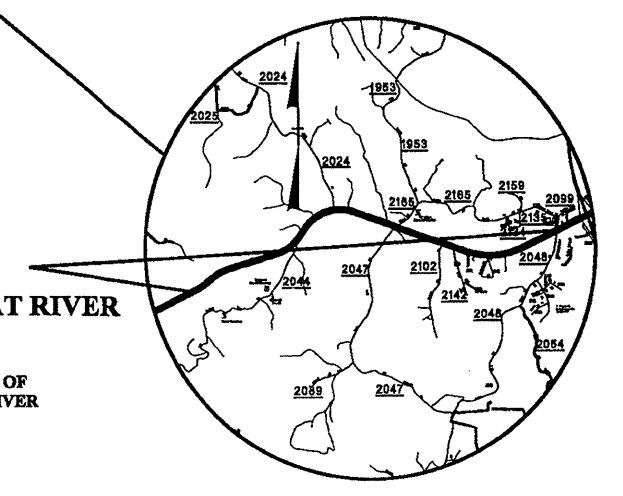
MAP #6 NC 268  
FROM SR 2038 TO SR 1003

RESURFACE STATIONS  
0+00 - 119+33



MAP #5 NC 268  
FROM SR 2048 TO ARARAT RIVER

RESURFACE STATIONS  
0+00 - 167+90  
MILL APPROACHES EACH SIDE OF  
BRIDGE NO. 145 OVER ARARAT RIVER



8/17/99  
12-OCT-2011 10:35 AM  
C:\my Documents\2011\10\12\10861J9.dwg  
Manager\Contractor\Resurfacing 2012\Surry\Yadkin\Surry\Yadkin Resurfacing Maps 2012.dgn

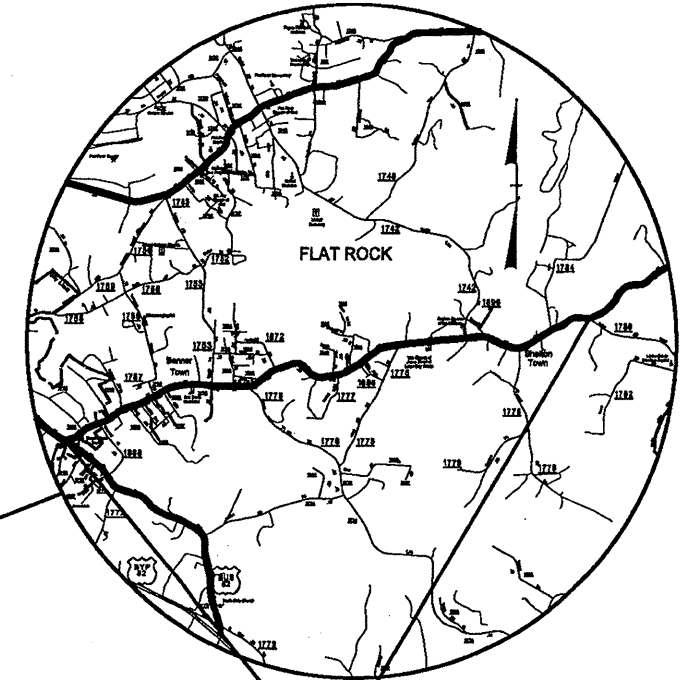
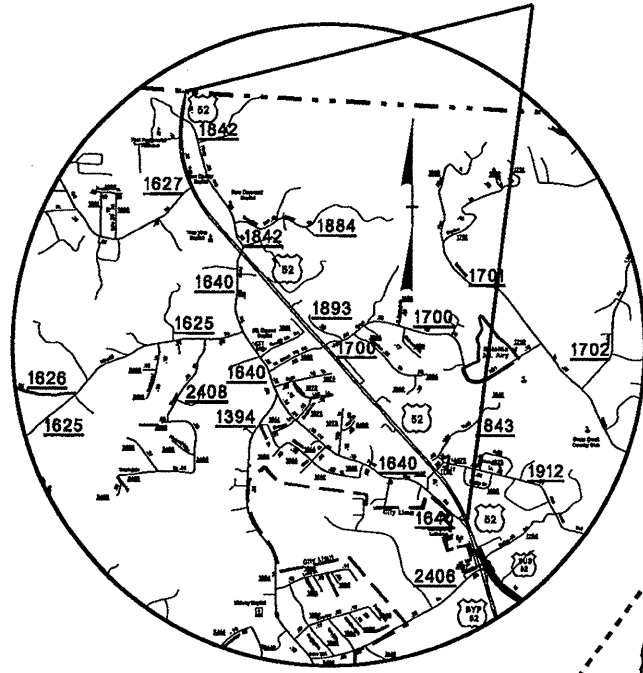
STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

PROJECT REFERENCE NO. ICR108619	SHEET NO. 2
------------------------------------	----------------

MAP #9 US 52 SBL  
FROM VIRGINIA STATE LINE TO SR 1640

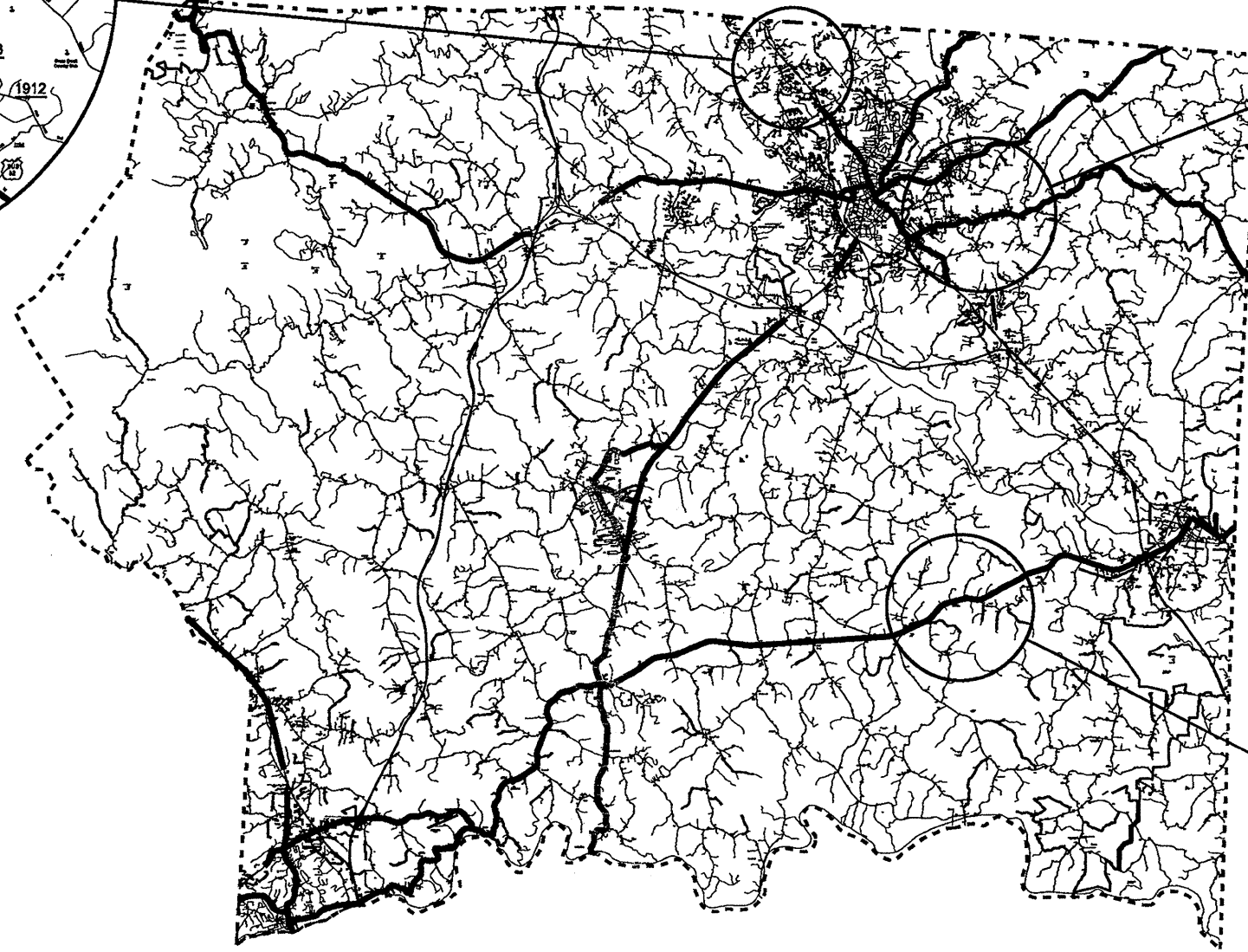
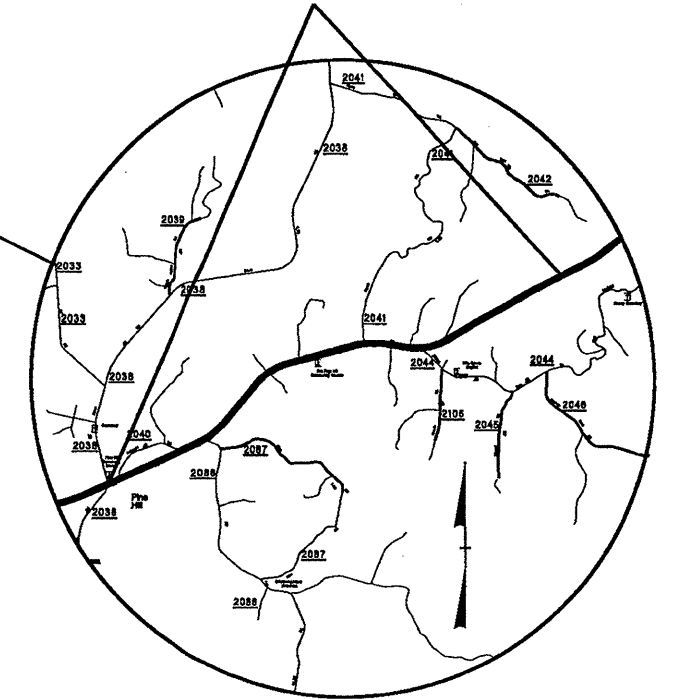
**SURRY COUNTY**

PRIMARY ASPHALT RESURFACING  
THIN LIFT HMA



MAP #7 NC 89  
FROM US 52 BUS TO SR 1780

MAP #8 NC 268  
FROM ARARAT RIVER TO SR 2038



8/17/99  
12-OCT-2011 10:43  
C:\N:\Documents\12-18831 Manager\Projects\Resurfacing\2012\Surry-Yadkin\Surry-Yadkin\Resurfacing Maps 2012.dgn

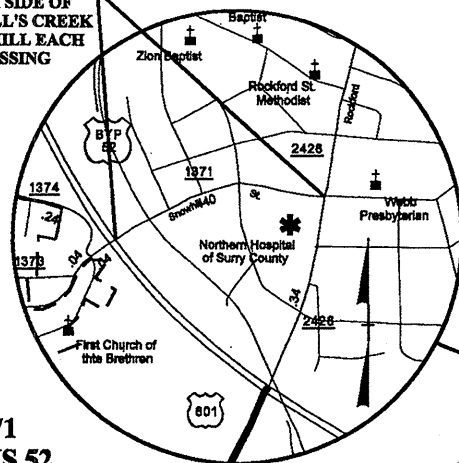
STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

**SURRY COUNTY**

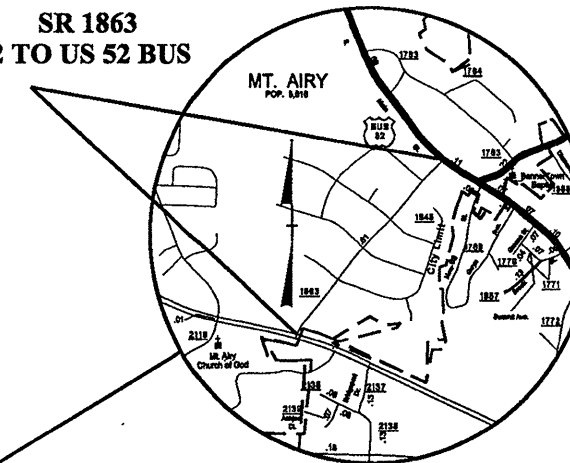
SECONDARY ASPHALT RESURFACING

**MAP #11 SR 1371  
FROM US 52 TO SR 2426**

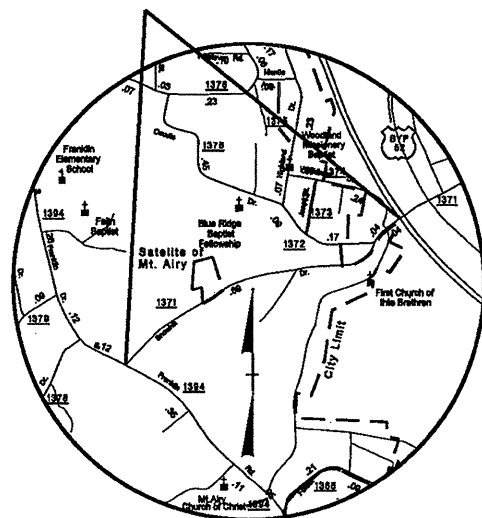
MILL APPROACHES EACH SIDE OF  
BRIDGE NO. 61 OVER LOVILL'S CREEK  
DO NOT BRIDGE DECK & MILL EACH  
SIDE OF RAILROAD CROSSING



**MAP #10 SR 1863  
FROM US 52 TO US 52 BUS**

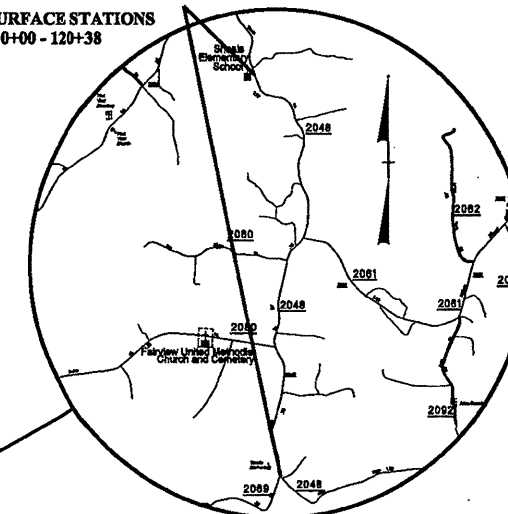


**MAP #12 SR 1371  
FROM SR 1394 TO US 52**

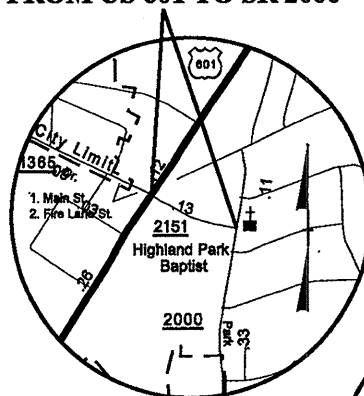


**MAP #15 SR 2048  
FROM PVMT CHANGE AT SHOALS  
ELEM SCHOOL TO SR 2069**

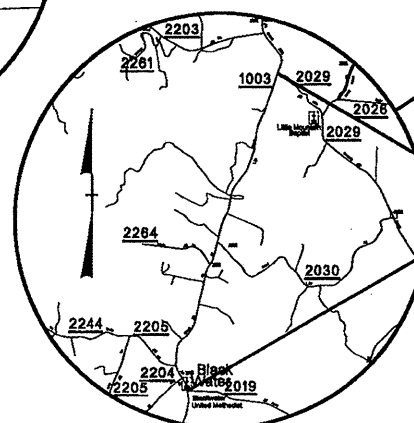
RESURFACE STATIONS  
0+00 - 120+38



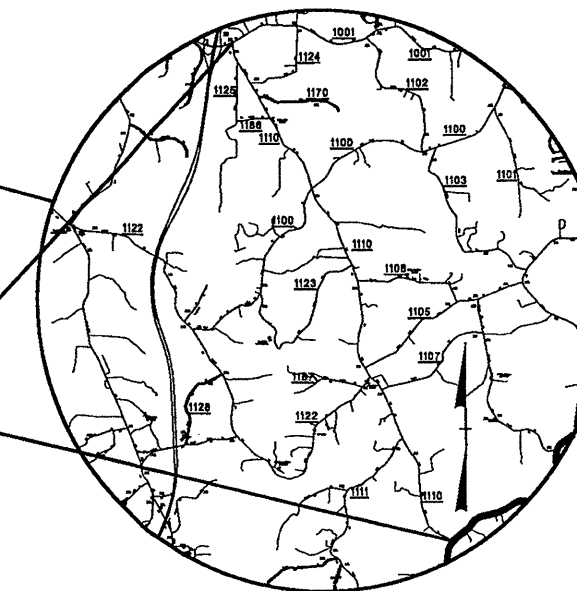
**MAP #13 SR 2151  
FROM US 601 TO SR 2000**



**MAP #14 SR 1003  
FROM SR 2029 TO SR 2019**  
RESURFACE STATIONS  
0+00 - 110+88



**MAP #16 SR 1110  
FROM SR 1001 TO NC 268**  
RESURFACE STATIONS  
0+00 - 306+76

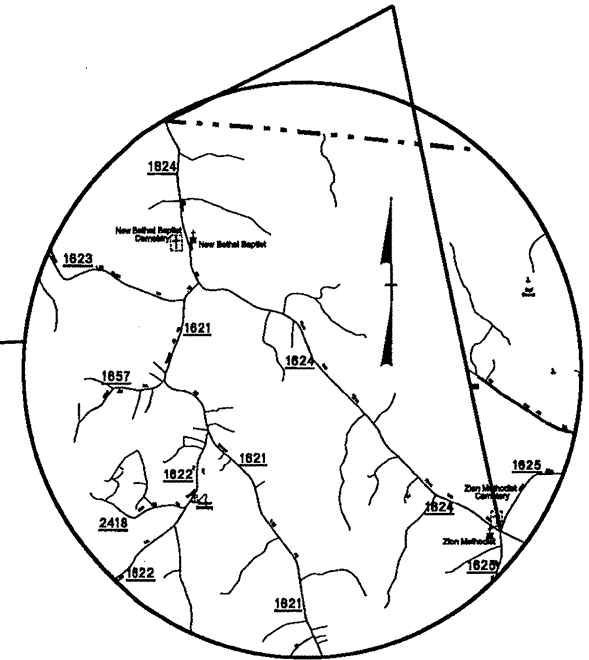


STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

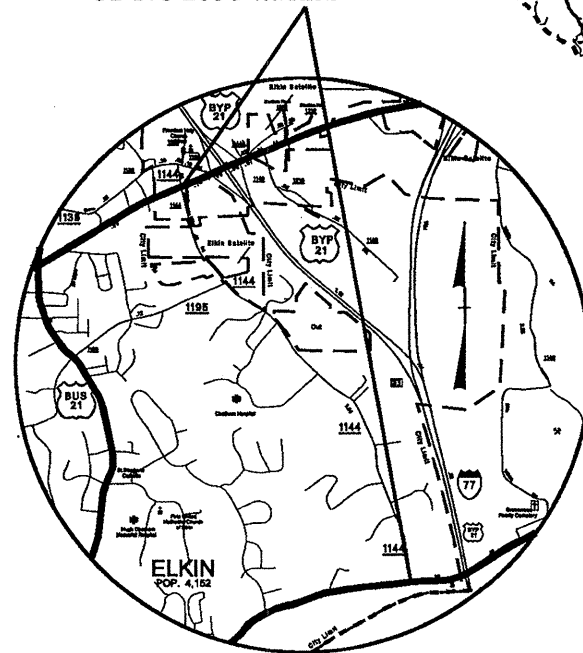
**SURRY COUNTY**

SECONDARY ASPHALT RESURFACING  
THIN LIFT HMA

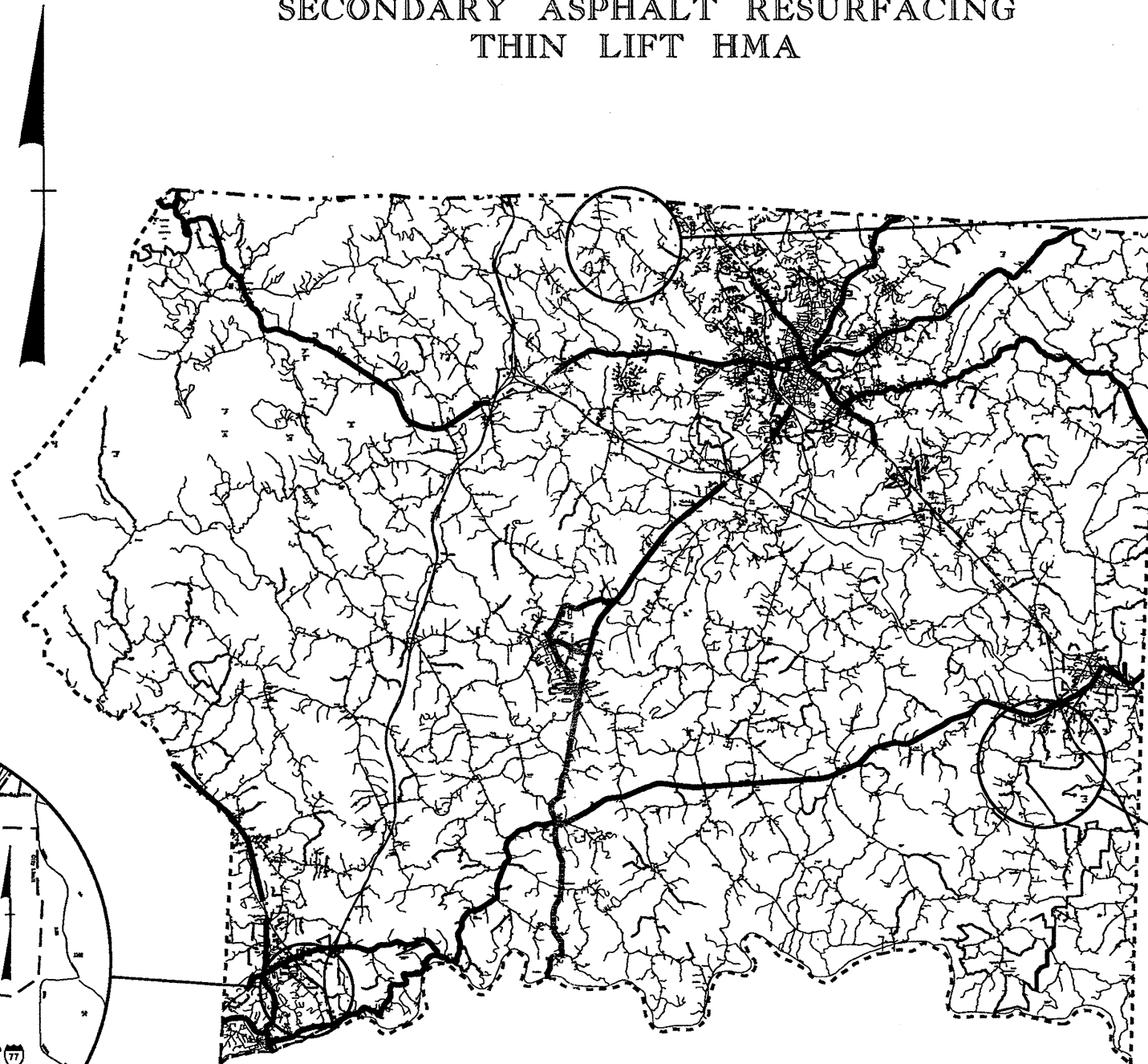
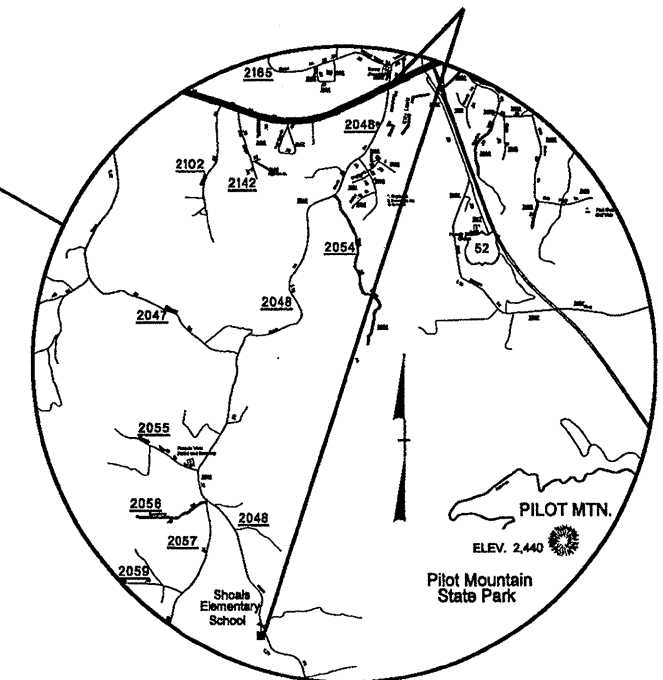
MAP #17 SR 1624  
FROM SR 1625 TO VIRGINIA STATE LINE



MAP #19 SR 1144  
FROM NC 268 BUS TO 570' SOUTH  
OF NC 268 BYPASS



MAP #18 SR 2048  
FROM NC 268 TO PVMT. CHANGE  
AT SHOALS ELEM. SCHOOL

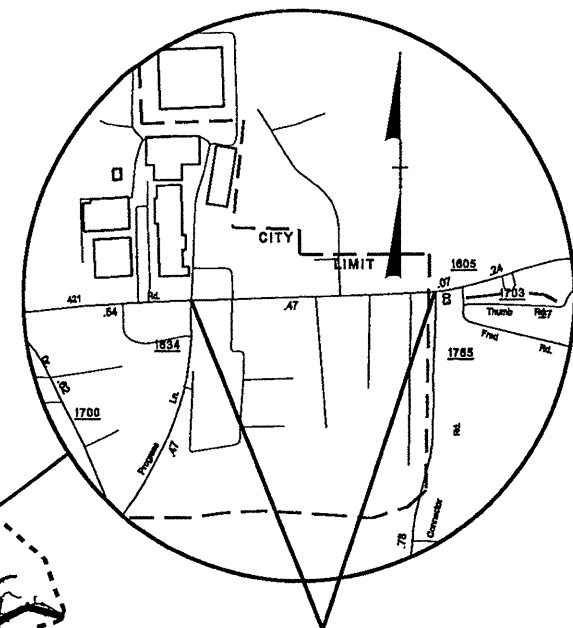
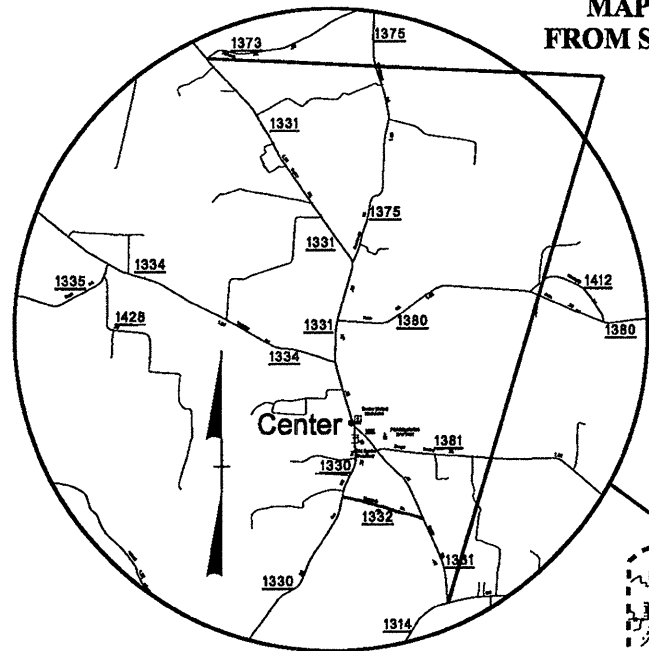


STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

MAP #22 SR 1331  
FROM SR 1314 TO SR 1373

# YADKIN COUNTY

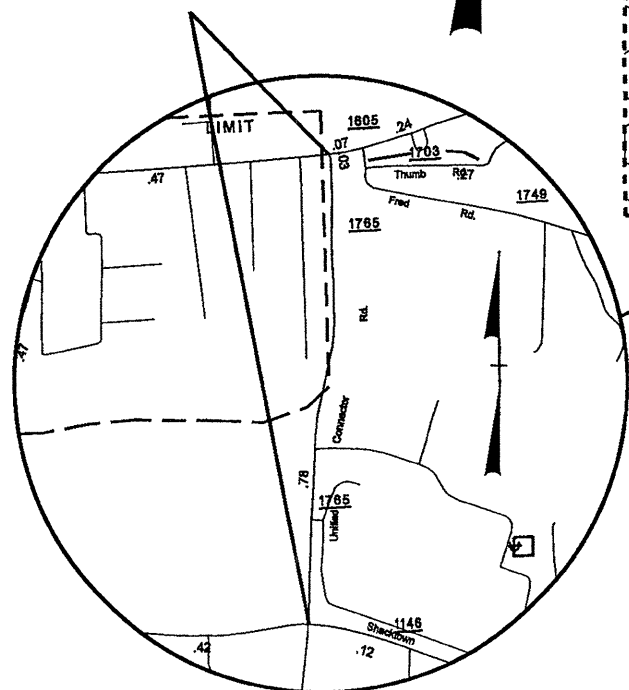
## SECONDARY ASPHALT RESURFACING



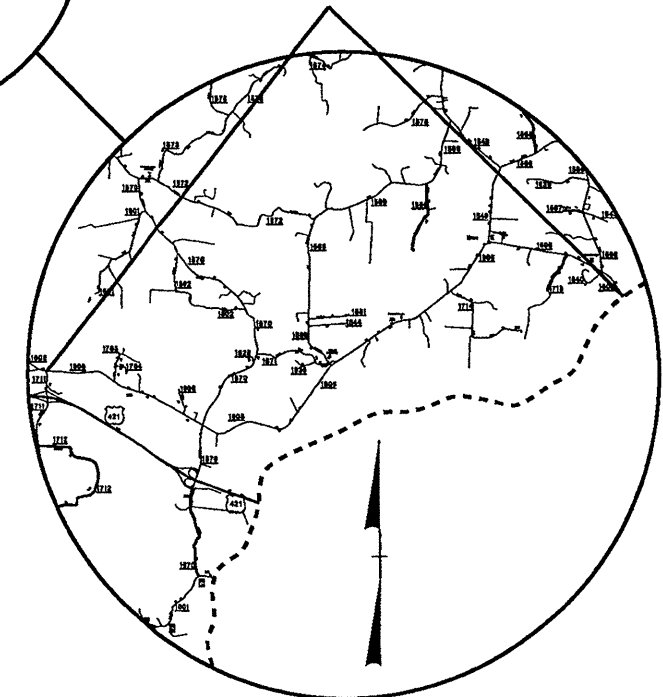
MAP #20 SR 1605  
FROM SR 1634 TO SR 1765  
MILL FULL WIDTH 1.5" BELOW CURB & GUTTER  
AT INTERSECTION OF SR 1605 & SR 1634

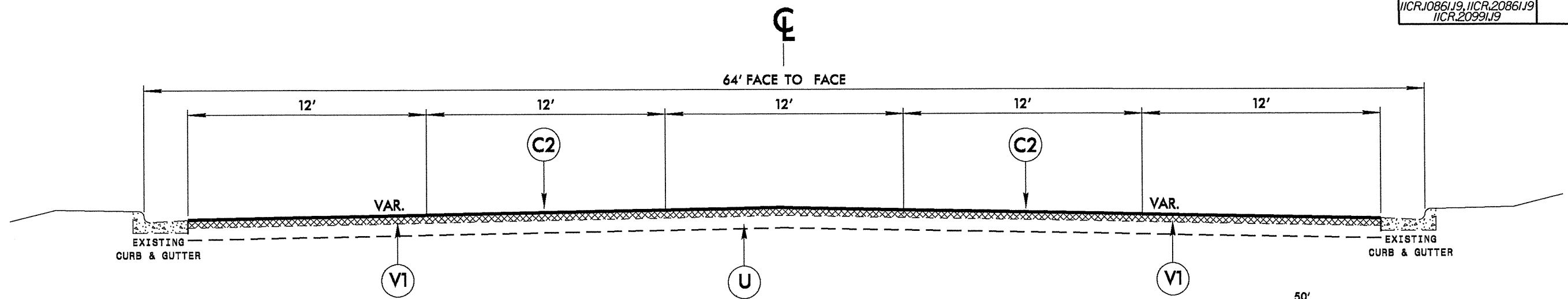


MAP #23 SR 1765  
FROM SR 1605 TO SR 1146



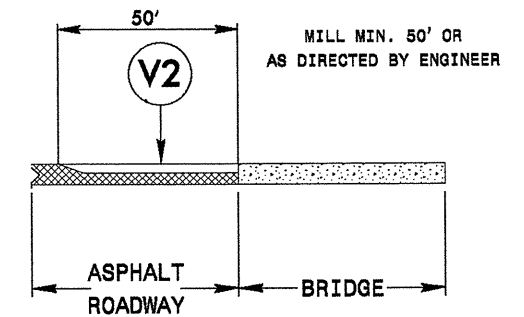
MAP #21 SR 1605  
FROM SR 1711 TO  
FORSYTH COUNTY LINE  
MILL APPROACHES EACH SIDE OF  
BRIDGE NO. 185 & WEST APPROACH  
OF BRIDGE NO. 186 OVER YADKIN RIVER





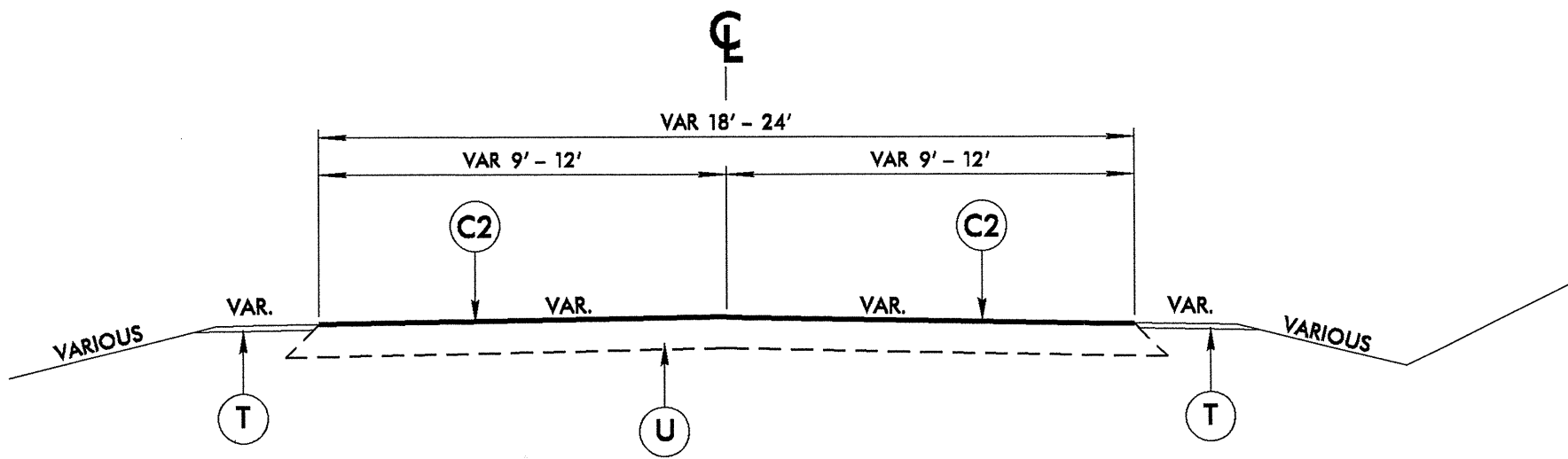
**TYPICAL SECTION NO. 1**

MAP 1 - US 601 FROM 150' SOUTH OF SR 1365 TO US 52



**BRIDGE TIE IN DETAIL**

TIE ASPHALT OVERLAY TO BRIDGE APPROACH SLABS OR AS DIRECTED BY THE ENGINEER



**TYPICAL SECTION NO. 2**

- MAP 2 - NC 268 FROM MAIN STREET TO SR 1856
- MAP 4 - NC 89 FROM SR 1397 TO SR 1345
- MAP 5 - NC 268 FROM SR 2048 TO ARARAT RIVER
- MAP 6 - NC 268 FROM SR 2038 TO SR 1003
- MAP 10 - SR 1863 FROM US 52 TO US 52 BUS
- MAP 11 - SR 1371 FROM US 52 TO SR 2426
- MAP 12 - SR 1371 FROM SR 1394 TO US 52
- MAP 13 - SR 2151 FROM US 601 TO SR 2000
- MAP 14 - SR 1003 FROM SR 2029 TO SR 2019
- MAP 15 - SR 2048 FROM PAVEMENT CHANGE @ SHOALS ELEM SCHOOL TO SR 2069
- MAP 16 - SR 1110 FROM SR 1001 TO NC 268
- MAP 21 - SR 1605 FROM SR 1711 TO FORSYTH COUNTY LINE
- MAP 22 - SR 1331 FROM SR 1314 TO SR 1373
- MAP 23 - SR 1765 FROM SR 1605 TO SR 1146

PAVEMENT SCHEDULE	
C1	PROP. APPROX. 1" THIN LIFT HOT MIX ASPHALT, AT AN AVERAGE RATE OF 100 LBS. PER SQ. YD.
C2	PROP. APPROX. 1½" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
T	SHOULDER RECONSTRUCTION
U	EXISTING PAVEMENT
V1	MILLING OF EXISTING ASPHALT PAVEMENT AT DEPTH OF 0" - 2"
V2	MILLING OF EXISTING ASPHALT PAVEMENT AT DEPTH OF 0 - 1½"

**SURRY AND YADKIN COUNTIES**  
PRIMARY AND SECONDARY RESURFACING

DIVISION II

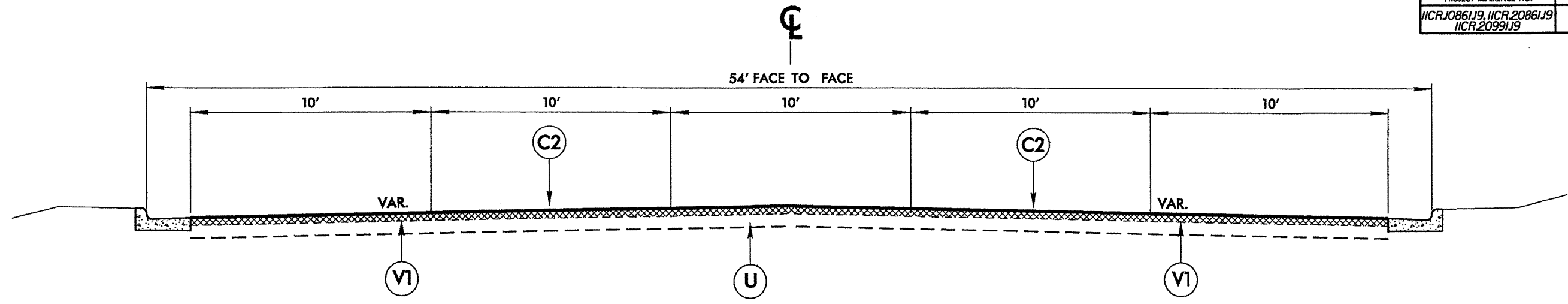
REVISIONS	INIT.	DATE

N.C. DEPARTMENT of TRANSPORTATION  
DIVISION of HIGHWAYS  
DIVISION ELEVEN

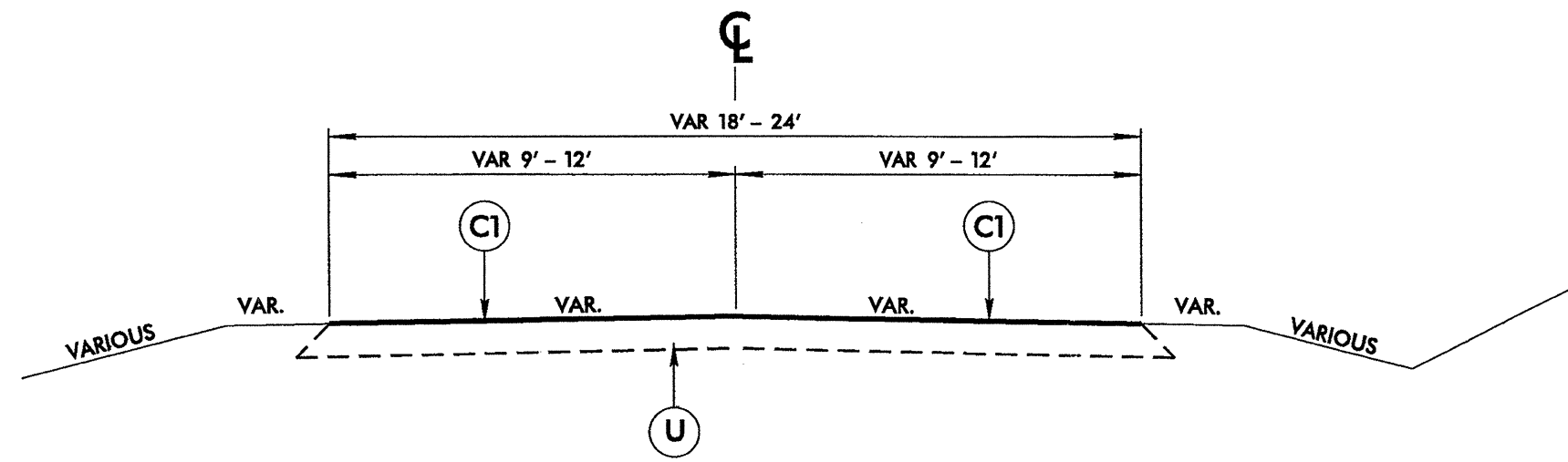
SCALE: N/A DATE: 10/2011

PREPARED BY: R. A. SHAW  
REVIEWED BY: J. L. LAWS

8/17/99



**TYPICAL SECTION NO. 3**  
MAP 3 - US 52 BUS FROM SR 1670 TO SR 1708

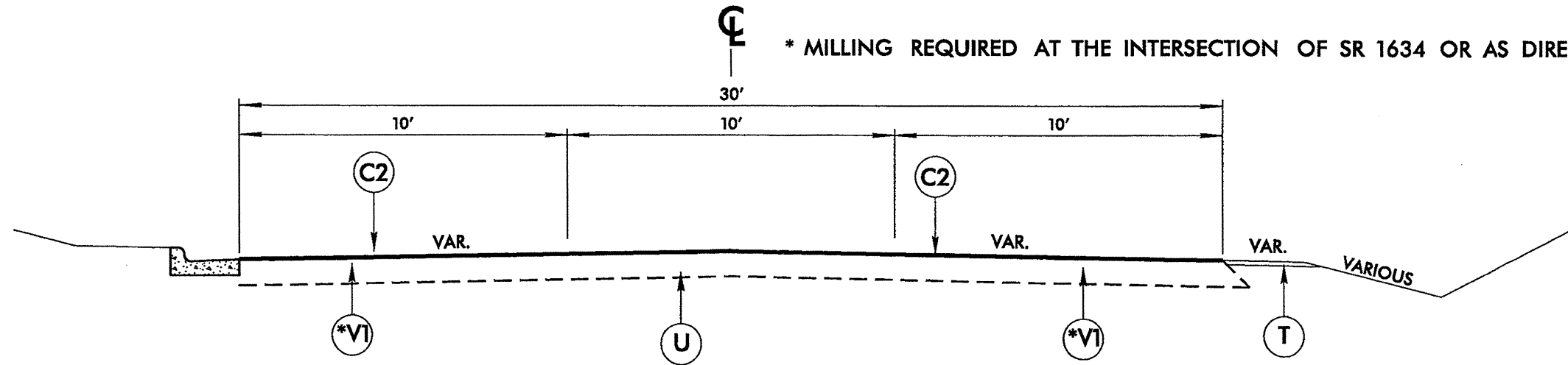


**TYPICAL SECTION NO. 4**  
 MAP 7 - NC 89 FROM US 52 BUS. TO SR 1780  
 MAP 8 - NC 268 FROM ARARAT RIVER TO SR 2038  
 MAP 9 - US 52 SBL FROM VIRGINIA STATE LINE TO SR 1640  
 MAP 17 - SR 1624 FROM SR 1625 TO VIRGINIA STATE LINE  
 MAP 18 - SR 2048 FROM NC 268 TO PAVEMENT CHANGE @ SHOALS ELEM SCHOOL  
 MAP 19 - SR 1144 FROM NC 268 BUS TO 570' SOUTH OF NC 268 BYP

PAVEMENT SCHEDULE	
C1	PROP. APPROX. 1" THIN LIFT HOT MIX ASPHALT, AT AN AVERAGE RATE OF 100 LBS. PER SQ. YD.
C2	PROP. APPROX. 1 1/2" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
T	SHOULDER RECONSTRUCTION
U	EXISTING PAVEMENT
V1	MILLING OF EXISTING ASPHALT PAVEMENT AT DEPTH OF 0" - 2"
V2	MILLING OF EXISTING ASPHALT PAVEMENT AT DEPTH OF 0 - 1 1/2"

<b>SURRY AND YADKIN COUNTIES</b> <b>PRIMARY AND SECONDARY RESURFACING</b>		
DIVISION II		
REVISIONS	INT.	DATE
<b>N.C. DEPARTMENT of TRANSPORTATION</b> <b>DIVISION of HIGHWAYS</b> <b>DIVISION ELEVEN</b>		SCALE: N/A    DATE: 10/2011 PREPARED BY: R. A. SHAW REVIEWED BY: J. L. LAWS REVIEWED BY:

8/17/99



**TYPICAL SECTION NO. 5**  
MAP 20 - SR 1605 FROM SR 1634 TO SR 1765

PAVEMENT SCHEDULE	
C1	PROP. APPROX. 1" THIN LIFT HOT MIX ASPHALT, AT AN AVERAGE RATE OF 100 LBS. PER SQ. YD.
C2	PROP. APPROX. 1½" ASPHALT CONCRETE SURFACE COURSE, TYPE SB.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
T	SHOULDER RECONSTRUCTION
U	EXISTING PAVEMENT
V1	MILLING OF EXISTING ASPHALT PAVEMENT AT DEPTH OF 0" - 2"
V2	MILLING OF EXISTING ASPHALT PAVEMENT AT DEPTH OF 0 - 1½"

<b>SURRY AND YADKIN COUNTIES</b> <b>PRIMARY AND SECONDARY RESURFACING</b>		
DIVISION II		
REVISIONS	INT.	DATE
<b>N.C. DEPARTMENT of TRANSPORTATION</b> <b>DIVISION of HIGHWAYS</b> <b>DIVISION ELEVEN</b>		SCALE: N/A    DATE: 10/2011 PREPARED BY: R. A. SHAW REVIEWED BY: J. L. LAWS REVIEWED BY:



STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

**SURRY COUNTY**

ASPHALT RESURFACING  
AGGREGATE SHOULDER BORROW DETAILS

MAP #6 NC 268  
FROM SR 2038 TO SR 1003

AGGREGATE SHOULDER BORROW TO BE PLACED AS FOLLOWS:  
 \* APPROX. STATION 61+90 400' (SEE DETAIL)  
 \* APPROX. STATION 77+20 400' (SEE DETAIL)  
 \* APPROX. STATION 87+90 400' (SEE DETAIL)

MAP #14 SR 1003  
FROM SR 2029 TO SR 2019

AGGREGATE SHOULDER BORROW TO BE PLACED AS FOLLOWS:  
 \* APPROX. STATION 59+80 400' (SEE DETAIL)  
 \* APPROX. STATION 89+50 400' (SEE DETAIL)

MAP #15 SR 2048  
FROM PVMT CHANGE AT SHOALS  
ELEM SCHOOL TO SR 2069

AGGREGATE SHOULDER BORROW TO BE PLACED AS FOLLOWS:  
 \* APPROX. STATION 2+20 400' (SEE DETAIL)  
 \* APPROX. STATION 12+80 400' (SEE DETAIL)  
 \* APPROX. STATION 28+90 400' (SEE DETAIL)

MAP #16 SR 1110  
FROM SR 1001 TO NC 268

AGGREGATE SHOULDER BORROW TO BE PLACED AS FOLLOWS:  
 \* APPROX. STATION 278+70 400' (SEE DETAIL)

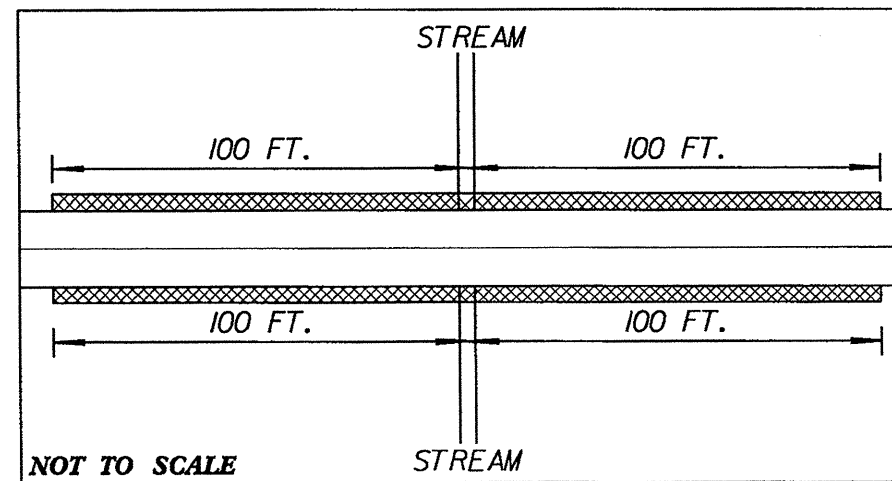
MAP #4 NC 89  
FROM SR 1397 TO SR 1345


AGGREGATE SHOULDER BORROW TO BE PLACED AS FOLLOWS:  
 \* APPROX. STATION 25+00 400' (SEE DETAIL)  
 \* APPROX. STATION 40+00 400' (SEE DETAIL)

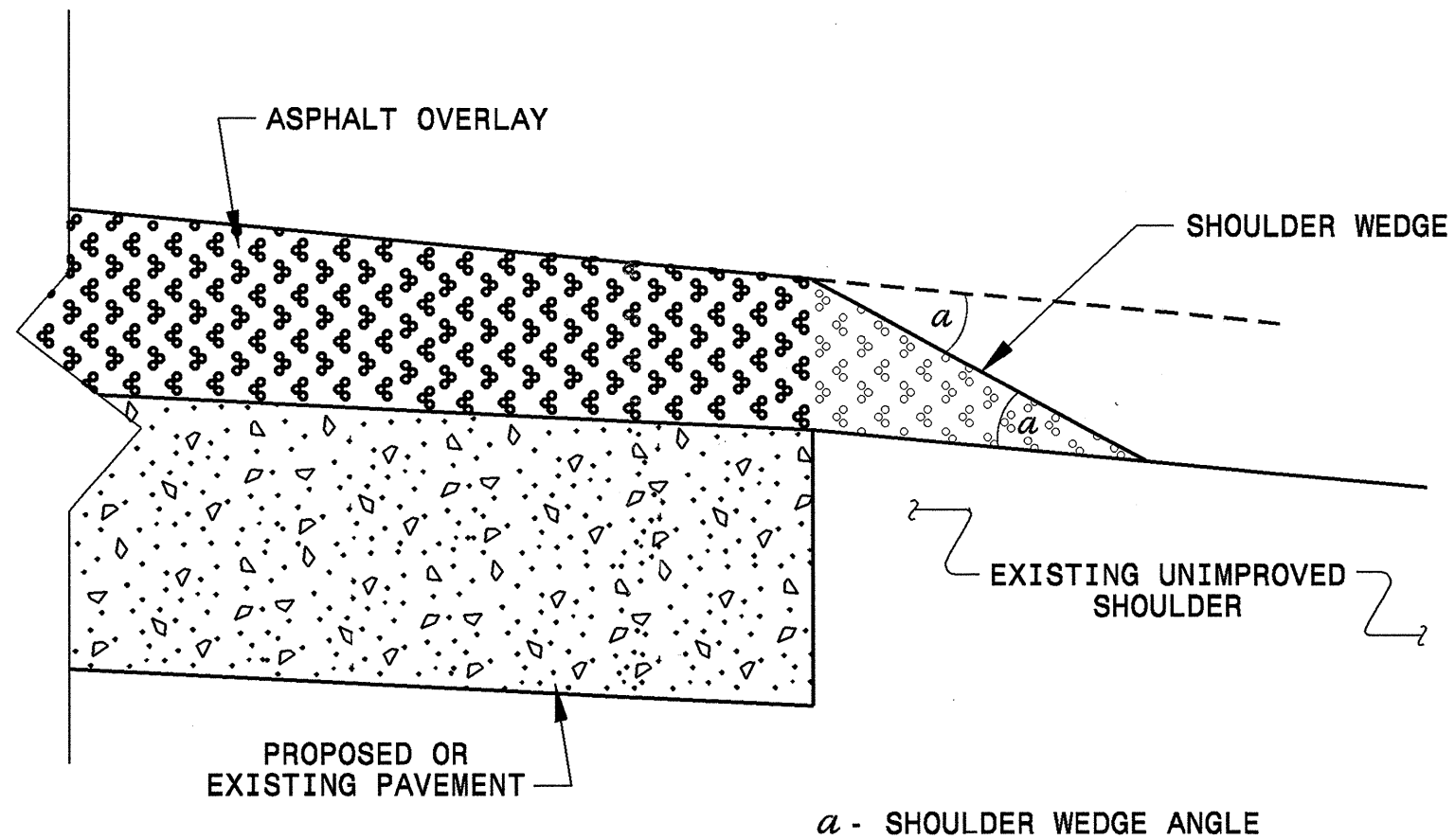
MAP #5 NC 268  
FROM SR 2048 TO ARARAT RIVER

AGGREGATE SHOULDER BORROW TO BE PLACED AS FOLLOWS:  
 \* APPROX. STATION 3+00 400' (SEE DETAIL)  
 \* APPROX. STATION 9+60 400' (SEE DETAIL)  
 \* APPROX. STATION 11+80 400' (SEE DETAIL)  
 \* APPROX. STATION 24+00 400' (SEE DETAIL)  
 \* APPROX. STATION 30+00 400' (SEE DETAIL)  
 \* APPROX. STATION 37+60 400' (SEE DETAIL)  
 \* APPROX. STATION 45+00 400' (SEE DETAIL)  
 \* APPROX. STATION 50+50 400' (SEE DETAIL)  
 \* APPROX. STATION 55+40 400' (SEE DETAIL)  
 \* APPROX. STATION 61+00 400' (SEE DETAIL)  
 \* APPROX. STATION 141+20 400' (SEE DETAIL)

**\*DETAIL FOR AGGREGATE SHOULDER BORROW  
AT STREAM CROSSING**



 HATCHED AREA SHOWS PLACEMENT  
OF AGGREGATE SHOULDER BORROW



# SHOULDER WEDGE DETAIL

\*\*\*\*\*  
 USER: \*\*\*\*\*  
 DATE: \*\*\*\*\*  
 TIME: \*\*\*\*\*  
 C:\P\\*\*\*\*\*

<b>CONTRACT STANDARDS AND DEVELOPMENT UNIT</b> Office 919-707-6950 FAX 919-250-4119			
<b>SHOULDER WEDGE DETAIL</b>			
ORIGINAL BY:	T. SPELL	DATE:	7-19-11
MODIFIED BY:		DATE:	
CHECKED BY:		DATE:	
FILE SPEC:	s:\user\details\stand\shoulderwedge\detail.dgn		

PROJECT NO.	SHEET NO.	TOTAL NO.
11CR.10861.19, 11CR.20861.19 11CR.20991.19	11	

## SUMMARY OF QUANTITIES

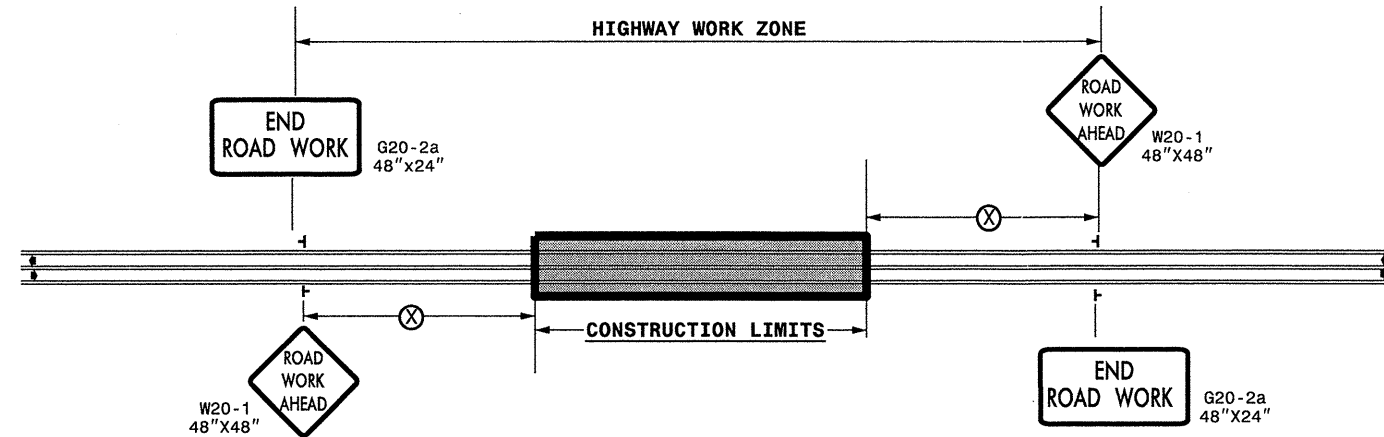
PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	TYP NO	FINAL SURFACE TESTING REQUIRED	AGGREGATE SHOULDER BORROW ALLOWED	LENGTH MI	WIDTH FT	BORROW EXCAVATION CY	INCIDENTAL STONE BASE TONS	SHOULDER RECONSTRUCTION SMI	0" TO 2" MILLING SY	0" TO 1.5" MILLING SY	SURFACE COURSE, S9.5B TONS	ASPHALT BINDER FOR PLANT MIX TONS	THIN LIFT HMA SY	ADJ. OF MANHOLES EA	ADJ. OF METER OR VALVE BOX EA	PORTABLE LIGHTING LS	SEED & MULCHING AC	UNPAVED TRENCHING (1,2") LF	INDUCTIVE LOOP LF	LEAD-IN CABLE (14-2) LF	
11CR.10861.19	Surry	1	US 601	FROM 150' SOUTH OF SR 1365 TO US 52	1	NO	NO	0.47	60				17,500		1,475	88		2		*		60	2,064	60	
		2	NC 268	FROM MAIN STREET TO SR 1856	2	NO	NO	0.32	24	64	16	0.64			400	24		1			0.25				
		3	US 52 BUS	FROM SR 1670 TO SR 1708	3	NO	NO	0.51	50				15,000		1,300	78		6	13						
		4	NC 89	FROM SR 1397 TO SR 1345	2	NO	YES	1.16	20	332	32	3.32			1,250	75						1.20			
		5	NC 268	FROM SR 2048 TO ARARAT RIVER	2	NO	YES	3.18	20	636	48	6.36		450	3,250	195						2.30			
		6	NC 268	FROM SR 2038 TO SR 1003	2	NO	YES	2.23	20	446	48	4.46			2,325	140						1.60			
		7	NC 89	FROM US 52 BUS TO SR 1780	4	NO	NO	3.21	18							116	33,898								
		8	NC 268	FROM ARARAT RIVER TO SR 2038	4	NO	NO	3.01	20							121	35,317								
		9	US 52 SBL	FROM VIRGINIA STATE LINE TO SR 1640	4	NO	NO	2.5	24							147	43,000								
<b>TOTAL FOR PROJ NO. 11CR.10861.19</b>								<b>16.59</b>		<b>1,478</b>	<b>144</b>	<b>14.78</b>	<b>32,500</b>	<b>450</b>	<b>10,000</b>	<b>984</b>	<b>112,215</b>	<b>9</b>	<b>13</b>	<b>1</b>	<b>5.35</b>	<b>60</b>	<b>2,064</b>	<b>60</b>	
11CR.20861.19	Surry	10	SR 1863	FROM US 52 TO US 52 BUS	2	NO	NO	0.62	20	124	16	1.24			650	39				*	0.45				
		11	SR 1371	FROM US 52 TO SR 2426	2	NO	NO	0.37	20	74		0.74		450	400	24					0.25				
		12	SR 1371	FROM SR 1394 TO US 52	2	NO	NO	0.76	18	152	32	1.52			725	44					0.55				
		13	SR 2151	FROM US 601 TO SR 2000	2	NO	NO	0.13	24	26		0.26			175	10					0.10				
		14	SR 1003	FROM SR 2029 TO SR 2019	2	NO	YES	2.1	20	420	48	4.20			2,300	138						1.50			
		15	SR 2048	FROM PAVEMENT CHANGE AT SHOALS ELEMENTARY SCHOOL TO SR 2069	2	NO	YES	2.28	22	456	32	4.56			2,800	168						1.65			
		16	SR 1110	FROM SR 1001 TO NC 268	2	NO	YES	5.87	22	1,174	32	11.74			6,900	414					4.20				
		17	SR 1624	FROM SR 1625 TO VIRGINIA STATE LINE	4	NO	NO	3	20							120	35,200								
		18	SR 2048	FROM NC 268 TO PAVEMENT CHANGE AT SHOALS ELEMENTARY SCHOOL	4	NO	NO	3.7	22							163	47,755								
		19	SR 1144	FROM NC 268 BUS TO 570' SOUTH OF NC 268 BYPASS	4	NO	NO	2	24							96	28,160								
<b>TOTAL FOR PROJ NO. 11CR.20861.19</b>								<b>20.83</b>		<b>2,426</b>	<b>160</b>	<b>24.26</b>	<b>450</b>	<b>13,950</b>	<b>1,216</b>	<b>111,115</b>			<b>1</b>	<b>8.70</b>					
11CR.20991.19	Yadkin	20	SR 1605	FROM SR 1634 TO SR 1765	5	NO	NO	0.6	30	100	16	1.00	2,800		1,025	61			1		0.35	30	850	30	
		21	SR 1605	FROM SR 1711 TO FORSYTH COUNTY LINE	2	NO	NO	6.58	22	1,316	70	13.16		733	7,700	462					4.80				
		22	SR 1331	FROM SR 1314 TO SR 1373	2	NO	NO	3.1	20	620	48	6.20			3,300	198					2.25				
		23	SR 1765	FROM SR 1605 TO SR 1146	2	NO	NO	0.78	20	156	16	1.56			920	55					0.55				
<b>TOTAL FOR PROJ NO. 11CR.20991.19</b>								<b>11.06</b>		<b>2,192</b>	<b>150</b>	<b>21.92</b>	<b>2,800</b>	<b>733</b>	<b>12,945</b>	<b>776</b>			<b>1</b>	<b>7.95</b>	<b>30</b>	<b>850</b>	<b>30</b>		
<b>GRAND TOTAL</b>								<b>48.48</b>		<b>6,096</b>	<b>454</b>	<b>60.96</b>	<b>35,300</b>	<b>1,633</b>	<b>36,895</b>	<b>2,976</b>	<b>223,330</b>	<b>9</b>	<b>14</b>	<b>2</b>	<b>22.00</b>	<b>90</b>	<b>2,914</b>	<b>90</b>	

PROJECT NO.	SHEET NO.	TOTAL NO.
11CR.10861.19, 11CR.20861.19 11CR.20991.19,	12	

## THERMOPLASTIC AND PAINT QUANTITIES

PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	LENGTH	WIDTH	481000000-E		481500000-E		482000000-E	483000000-E	483500000-E	484000000-N		484500000-N			490500000-N			
							4" WHITE PAINT LF	4" YELLOW PAINT LF	6" WHITE PAINT LF	6" YELLOW PAINT LF	8" WHITE PAINT LF	16" WHITE PAINT LF	24" WHITE PAINT LF	PAINT MSG RXR EA	PAINT MSG SCHOOL EA	PAINT LT ARROW EA	PAINT STR ARROW EA	PAINT RT ARROW EA	PAINT STR & RT ARROW EA	SNOW PLOWABLE MARKERS EA		
11CR.10861.19	Surry	1	US 601	FROM 150' SOUTH OF SR 1365 TO US 52	0.47	60	5,000	12,400					150	368	6		26	7	8	3	125	
		2	NC 268	FROM MAIN STREET TO SR 1856	0.32	24	6,760	6,760														22
		3	US 52 BUS	FROM SR 1670 TO SR 1708	0.51	50	2,700	10,775			160		210					21	2	6	4	135
		4	NC 89	FROM SR 1397 TO SR 1345	1.16	20	24,500	24,500														77
		5	NC 268	FROM SR 2048 TO ARARAT RIVER	3.18	20	67,165	67,165														210
		6	NC 268	FROM SR 2038 TO SR 1003	2.23	20	47,100	47,100														150
		7	NC 89	FROM US 52 BUS TO SR 1780	3.21	18	67,795	67,795														212
		8	NC 268	FROM ARARAT RIVER TO SR 2038	3.01	20	63,572	63,572														199
		9	US 52 SBL	FROM VIRGINIA STATE LINE TO SR 1640	2.5	24			34,600	28,000								43	14			
<b>TOTAL FOR PROJ NO. 11CR.10861.19</b>					<b>16.59</b>		<b>284,592</b>	<b>300,067</b>	<b>34,600</b>	<b>28,000</b>	<b>160</b>	<b>150</b>	<b>578</b>	<b>6</b>		<b>90</b>	<b>23</b>	<b>14</b>	<b>7</b>	<b>1,295</b>		
							<b>584,659</b>		<b>62,600</b>				<b>6</b>		<b>134</b>							
11CR.20861.19	Surry	10	SR 1863	FROM US 52 TO US 52 BUS	0.62	20	13,095	13,095					24								41	
		11	SR 1371	FROM US 52 TO SR 2426	0.37	20	7,815	7,815			240	100	50	4			2			2		
		12	SR 1371	FROM SR 1394 TO US 52	0.76	18	16,052	16,052									2			2		
		13	SR 2151	FROM US 601 TO SR 2000	0.13	24	2,746	2,746					30				1			1		
		14	SR 1003	FROM SR 2029 TO SR 2019	2.1	20	44,352	44,352														139
		15	SR 2048	FROM PAVEMENT CHANGE AT SHOALS ELEMENTARY SCHOOL TO SR 2069	2.28	22	48,154	48,154					50		6							151
		16	SR 1110	FROM SR 1001 TO NC 268	5.87	22	123,975	123,975														388
		17	SR 1624	FROM SR 1625 TO VIRGINIA STATE LINE	3	20	63,360	63,360														
		18	SR 2048	FROM NC 268 TO PAVEMENT CHANGE AT SHOALS ELEMENTARY SCHOOL	3.7	22	78,144	78,144					50		6							245
19	SR 1144	FROM NC 268 BUS TO 570' SOUTH OF NC 268 BYPASS	2	24	42,240	42,240													5	132		
<b>TOTAL FOR PROJ NO. 11CR.20861.19</b>					<b>20.83</b>		<b>439,933</b>	<b>439,933</b>			<b>240</b>	<b>100</b>	<b>204</b>	<b>4</b>	<b>12</b>	<b>5</b>			<b>5</b>	<b>1,096</b>		
							<b>879,866</b>						<b>16</b>		<b>10</b>							
11CR.20991.19	Yadkin	20	SR 1605	FROM SR 1634 TO SR 1765	0.6	30	10,560	10,560					160		12	4			1	40		
		21	SR 1605	FROM SR 1711 TO FORSYTH COUNTY LINE	6.58	22	138,970	138,970					100		12						435	
		22	SR 1331	FROM SR 1314 TO SR 1373	3.1	20	65,472	65,472														
		23	SR 1765	FROM SR 1605 TO SR 1146	0.78	20	16,474	16,474					36			6			1	52		
<b>TOTAL FOR PROJ NO. 11CR.20991.19</b>					<b>11.06</b>		<b>231,476</b>	<b>231,476</b>					<b>296</b>	<b>24</b>	<b>10</b>			<b>2</b>	<b>527</b>			
							<b>462,952</b>						<b>24</b>		<b>12</b>							
<b>GRAND TOTAL</b>					<b>48.48</b>		<b>956,001</b>	<b>971,476</b>	<b>34,600</b>	<b>28,000</b>	<b>400</b>	<b>250</b>	<b>1,078</b>	<b>10</b>	<b>36</b>	<b>105</b>	<b>23</b>	<b>14</b>	<b>14</b>	<b>2,918</b>		
							<b>1,927,477</b>		<b>62,600</b>				<b>46</b>		<b>156</b>							

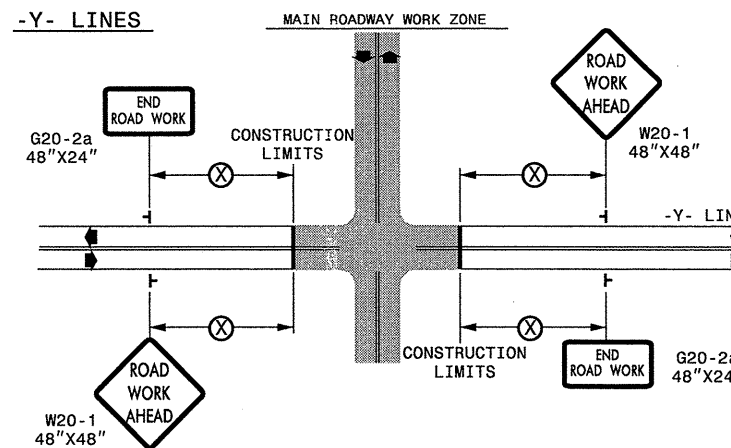
**TWO-WAY UNDIVIDED \*\* (L-LINES)**



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.
- SIGNS SHOWN ARE REQUIRED FOR WORK ZONES THAT WILL REMAIN IN EFFECT OVERNIGHT. FOR SHORT-TERM DAILY MAINTENANCE TYPE OPERATIONS, THIS SIGNING APPLICATION IS OPTIONAL; MAY USE ONLY APPLICABLE ROADWAY STANDARD DRAWINGS INSTEAD. HOWEVER, IF THIS SIGNING APPLICATION IS USED, SIGNS MAY BE PORTABLE MOUNTED.
- ALL SIGN SPACING DIMENSIONS ARE APPROXIMATE, FIELD ADJUST AS NECESSARY OR AS DIRECTED.
- USE 3LB STEEL U-CHANNEL POST OR 4" X 4" WOOD POST FOR ALL WORK ZONE SIGNS. 3LB STEEL U-CHANNEL POSTS MUST MEET THE REQUIREMENTS OF STANDARD SPECIFICATION SECTION 1094-1(B), MAY BE GALVANIZED STEEL, OR MAY BE PAINTED GREEN BY THE POST MANUFACTURER. SQUARE STEEL TUBING POSTS HAVING EQUIVALENT STRENGTH OF THE 3 LB STEEL U-CHANNEL POST ARE ALSO ACCEPTABLE FOR USE. ERECT SIGNS PER ROADWAY STANDARD DRAWING 1110.01. PAYMENT FOR WOOD POSTS, 3LB STEEL U-CHANNEL AND SQUARE STEEL TUBING POSTS WITH SIGNS WILL BE MADE ACCORDING TO STANDARD SPECIFICATION "WORK ZONE SIGNS" SECTION 1110.
- WHEN NECESSARY, USE SPLICING IN ACCORDANCE WITH ROADWAY STANDARD DRAWING NO. 1110.01. REMOVE ENTIRE POST WHEN REMOVING SIGNS WITH SPLICED POSTS.
- DO NOT BACK BRACE SIGN SUPPORTS.
- \*\* 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**

- ┆ STATIONARY SIGN
- ◀ DIRECTION OF TRAFFIC FLOW

SHEET 1 OF 1

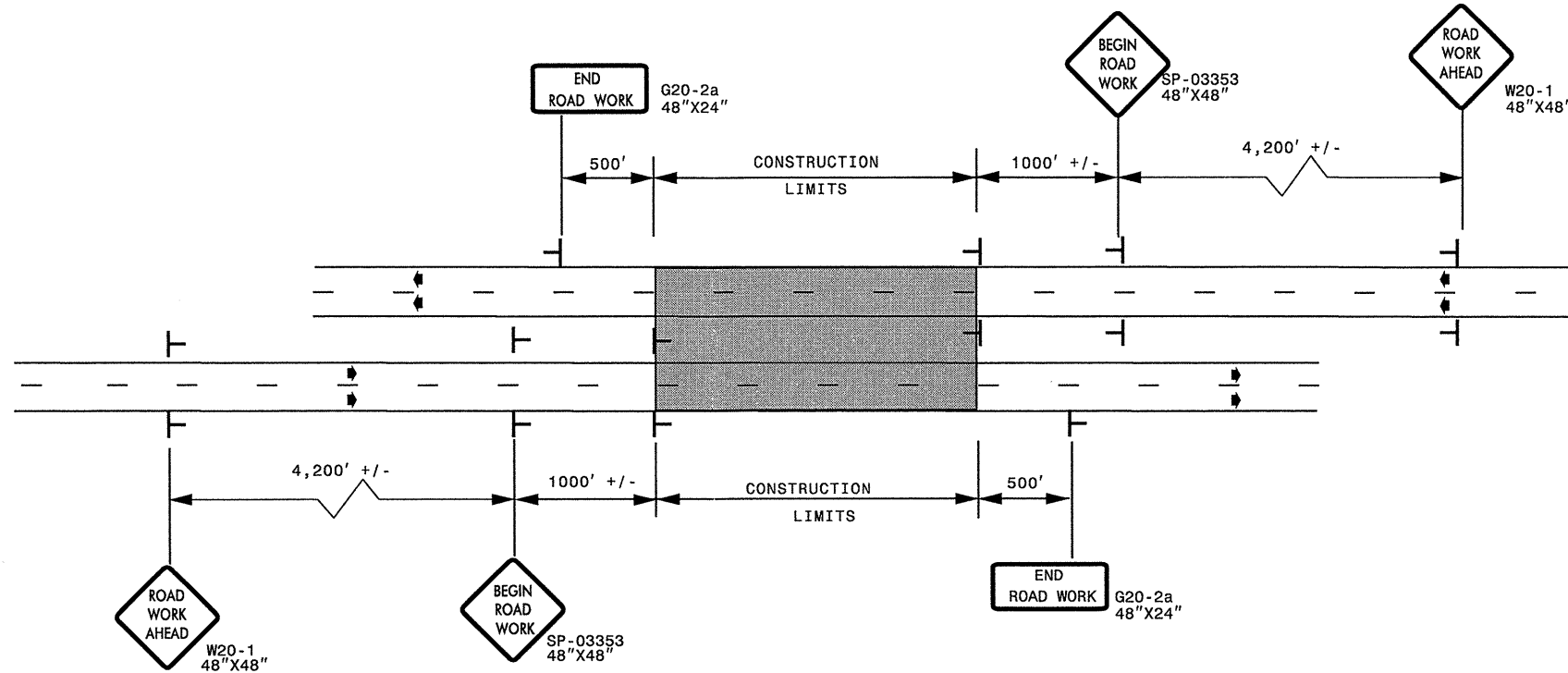
APPROVED: _____ DATE: _____	DETAIL DRAWING FOR TWO-WAY UNDIVIDED AND URBAN FREEWAYS ADVANCED WORK ZONE WARNING SIGNS	
SEAL 	SCALE: NONE	REVISIONS
	DATE: _____	7-98 10/01
	DWG. BY: _____	10-98 03/04
	DESIGN BY: _____	01/01 11/04
REVIEWED BY: _____		

I:\OCT-2011\408  
 \DOT\DESIGN\GROUPS-WZTCC\Resur-facing\2011\Western\2011\Div\1\202893A-D\11CR.10861.19x3\_Surry-Yadkin-US60\etc.sg\C202893A-D\11CR.10861.19x3\_Surry-Yadkin-US60\etc.sg\C202893A-D\Urban-Fr.wys\_stationar  
 sngreen

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

PROJ. REFERENCE NO.	SHEET NO.
11CR.10861.19, 11CR.20861.19 11CR.20991.19	TCP-2

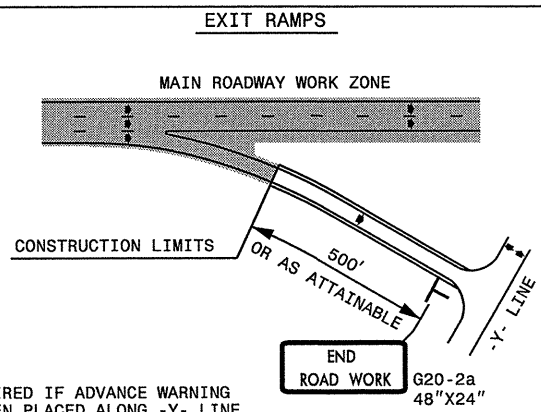
## DETAIL A



LEGEND	
	STATIONARY SIGN
◆	DIRECTION OF TRAFFIC FLOW

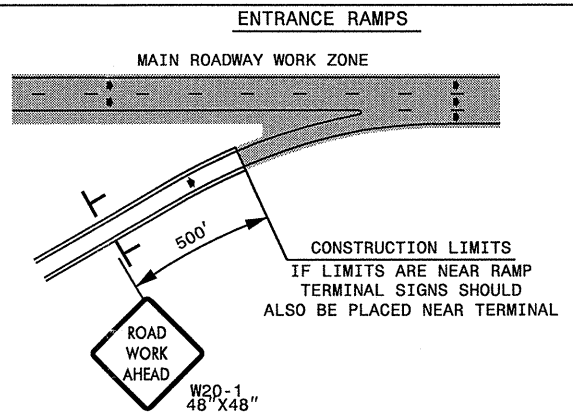
\* USE THE "\$250 SPEEDING PENALTY" SIGN, SPEED LIMIT SIGN, AND ORANGE PANEL; ONLY WHEN A "\$250 SPEEDING PENALTY" ORDINANCE HAS BEEN ISSUED BY THE REGIONAL TRAFFIC ENGINEER.

## DETAIL B



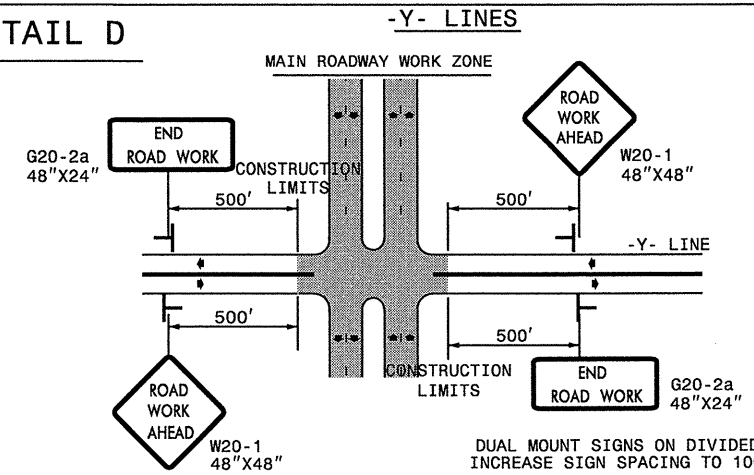
NOTE: SIGN NOT REQUIRED IF ADVANCE WARNING SIGNS HAVE BEEN PLACED ALONG -Y- LINE THAT RAMP INTERSECTS. IF CONSTRUCTION LIMITS ARE AT END OF RAMP, PLACE SIGN AT END OF RAMP.

## 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 ADVANCED WORK ZONE SIGNS.
- DO NOT INSTALL ADVANCE WARNING SIGNS MORE THAN 3 DAYS PRIOR TO BEGINNING OF WORK.
- SIGNS SHOWN ARE REQUIRED FOR WORK ZONES THAT WILL REMAIN IN EFFECT OVERNIGHT. FOR SHORT-TERM DAILY MAINTENANCE TYPE OPERATIONS, THIS SIGNING APPLICATION IS OPTIONAL; MAY USE ONLY APPLICABLE ROADWAY STANDARD DRAWINGS INSTEAD. HOWEVER, IF THIS SIGNING APPLICATION IS USED, SIGNS MAY BE PORTABLE MOUNTED.
- ALL SIGN SPACING DIMENSIONS ARE APPROXIMATE, FIELD ADJUST AS NECESSARY OR AS DIRECTED.
- USE 3LB STEEL U-CHANNEL POST OR 4" X 4" WOOD POST FOR ALL WORK ZONE SIGNS. 3LB STEEL U-CHANNEL POSTS MUST MEET THE REQUIREMENTS OF STANDARD SPECIFICATION SECTION 1094-1(B), MAY BE GALVANIZED STEEL, OR MAY BE PAINTED GREEN BY THE POST MANUFACTURER. SQUARE STEEL TUBING POSTS HAVING EQUIVALENT STRENGTH OF THE 3 LB STEEL U-CHANNEL POST ARE ALSO ACCEPTABLE FOR USE. ERECT SIGNS PER ROADWAY STANDARD DRAWING 1110.01. PAYMENT FOR WOOD POSTS, 3LB STEEL U-CHANNEL AND SQUARE STEEL TUBING POSTS WITH SIGNS WILL BE MADE ACCORDING TO STANDARD SPECIFICATION "WORK ZONE SIGNS" SECTION 1110.
- WHEN NECESSARY, USE SPLICING IN ACCORDANCE WITH ROADWAY STANDARD DRAWING NO. 1110.01. REMOVE ENTIRE POST WHEN REMOVING SIGNS WITH SPLICED POSTS.
- DO NOT BACK BRACE SIGN SUPPORTS.






APPROVED: _____ DATE: _____	ADVANCED WORK ZONE WARNING SIGNS FOR FREEWAYS (4 LANES OR GREATER)	
	SCALE: NONE	REVISIONS
	DATE: 8/03	03/04
	DWG. BY: JI	
	DESIGN BY: JI	
REVIEWED BY: _____		

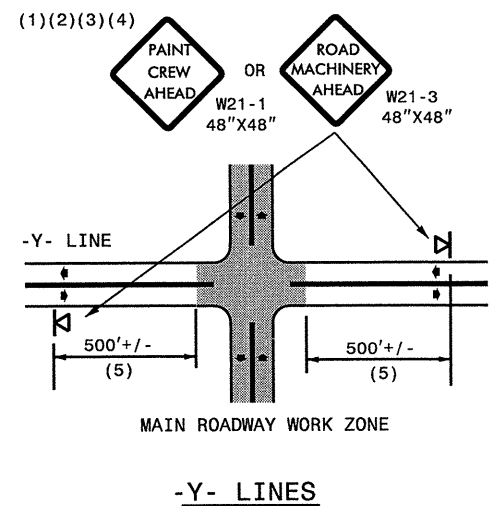
I:\OCT-2011\10107... \DOT\DFSR\DOT\GROUPS-WZTC\T.M.U.WZTC\Resurfacing\2011\Resurfacing\2011\Western\2011\Div\11\202893A-D\_11CR.10861.19x3\_Surry-Yadkin-US601etc.sg\202893A-D\_11CR.10861.19x3\_Surry-Yadkin-freeways-4lanes-or-greater\_station

## GENERAL NOTES

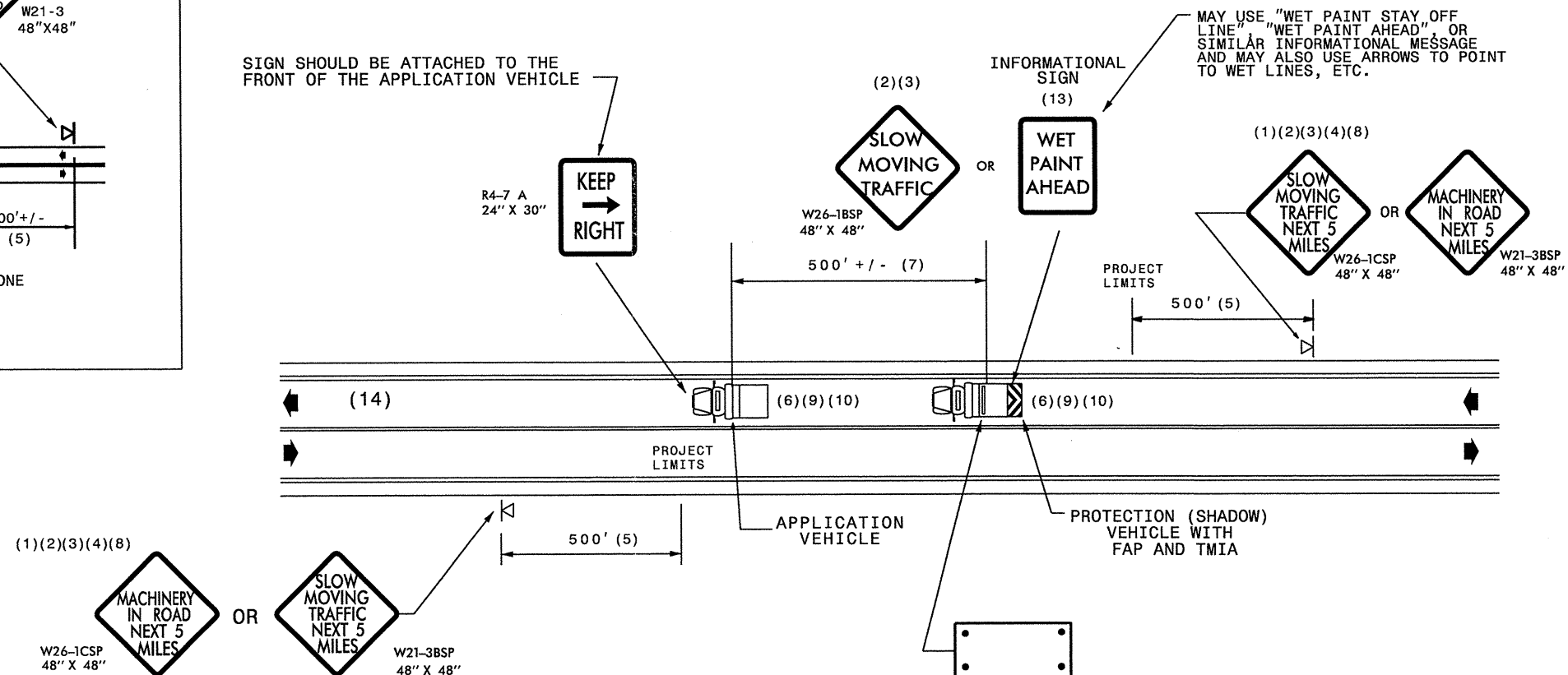
- (1) THE FOLLOWING OPTIONS MAY BE USED FOR ADVANCE WARNING SIGNS:
  - A. TRUCK MOUNTED SIGNS
  - B. TRUCK MOUNTED CHANGEABLE MESSAGE SIGN (CMS)
  - C. GROUND MOUNTED ADVANCE WARNING SIGNS (MUST CIRCLE TO PICK UP SIGNS)
  - D. GROUND MOUNTED CHANGEABLE MESSAGE SIGN (CMS) (MUST USE CIRCLE TO PICK UP SIGNS)
- (2) ALL ADVANCE WARNING SIGNS MUST BE 48" X 48" WITH FLUORESCENT ORANGE TYPE VII, VIII OR IX SHEETING. IF SPACE LIMITATIONS ON SHOULDER PROHIBIT A 48" X 48" SIGN, A SMALLER SIGN CAN BE USED WITH APPROVAL FROM ENGINEER.
- (3) SIGNS ON VEHICLES SHOULD BE MOUNTED A MINIMUM OF ONE (1) FOOT FROM THE GROUND AND SHOULD NOT BLOCK THE MOTORIST'S SIGHT OF THE FLASHING ARROW PANEL AND/OR LIGHTBAR.
- (4) GROUND MOUNTED ADVANCED WARNING SIGNS SHOULD BE MOUNTED A MINIMUM OF ONE (1) FOOT FROM THE GROUND TO BOTTOM OF SIGN.
- (5) SIGN SPACING SHOULD BE ADJUSTED FOR HORIZONTAL AND VERTICAL CURVES, ETC. TO IMPROVE SIGHT DISTANCES.
- (6) ADDITIONAL VEHICLES SHOULD BE USED IN WORK CARAVAN TO FACILITATE DRYING OF PAVEMENT MARKING MATERIAL (TMIA'S ARE OPTIONAL ON THESE ADDITIONAL VEHICLES). HOWEVER, THE FIRST VEHICLE MOTORISTS SEE IN THE TRAVEL LANE SHALL HAVE A TMIA.
- (7) ADJUST DISTANCE AS NEEDED TO PREVENT MOTORISTS FROM ENTERING SPACE BETWEEN THE APPLICATION AND PROTECTION VEHICLE. DISTANCE CAN BE LENGTHENED TO ACCOMMODATE SIGHT DISTANCE NEEDS.
- (8) ROUND UP MILEAGE TO NEXT WHOLE MILE. WORK ZONE SHOULD NOT EXCEED FIVE (5) MILES IN LENGTH.
- (9) RADIO COMMUNICATION BETWEEN VEHICLES IS REQUIRED.
- (10) USE OF A LIGHT BAR ON ALL VEHICLES IS PREFERRED, BUT A ROTATING BEACON MAY BE USED INSTEAD.
- (11) IF WORK IS PERFORMED AT NIGHT, THE WORK AREA MUST BE ILLUMINATED WITH MACHINE AND/OR TOWER LIGHTS AS APPROVED BY THE ENGINEER.
- (12) ALL TRAFFIC CONTROL DEVICES WILL BE CONSIDERED INCIDENTAL TO THE PAY ITEMS FOR PAVEMENT MARKING AND MARKERS.
- (13) INFORMATIONAL SIGNS SHOULD BE ACTIVITY SPECIFIC, i.e. "PAINT CREW IN ROAD". SIGNS MAY BE RECTANGULAR OR DIAMOND SHAPE. SIGN SIZE SHOULD BE BASED ON THE MOTORIST ABILITY TO RECOGNIZE SIGN WHEN TRAVELING FIVE (5) MILES ABOVE POSTED SPEED LIMIT.
- (14) IF A LEAD VEHICLE IS ADDED TO OPERATION, IT SHOULD HAVE THE SAME ADVANCE WARNING SIGNS AS THE APPLICATION VEHICLE SHOWN BELOW.

## LEGEND

-  PORTABLE SIGN. SIGNS MUST BE NCHRP-350 AND NCDOT APPROVED.
-  DIRECTION OF TRAFFIC FLOW
-  APPLICATION VEHICLE WITH LIGHT BAR
-  PROTECTION VEHICLE WITH TRUCK MOUNTED IMPACT ATTENUATOR (TMIA) AND LIGHT BAR (SEE ROADWAY STANDARD NO. 1165.01). TMIA MUST BE NCHRP-350 TEST LEVEL 3 (60+MPH) APPROVED.
-  FLASHING ARROW PANEL, TYPE "B" (60"X30" MIN.), "CAUTION MODE"



SIGN SHOULD BE ATTACHED TO THE FRONT OF THE APPLICATION VEHICLE



## MOVING OPERATION CARAVAN








(OPERATIONS TRAVELING 3 MPH OR FASTER)  
PLACING PAVEMENT MARKING OR MARKERS  
ON TWO-LANE TWO-WAY ROADWAYS

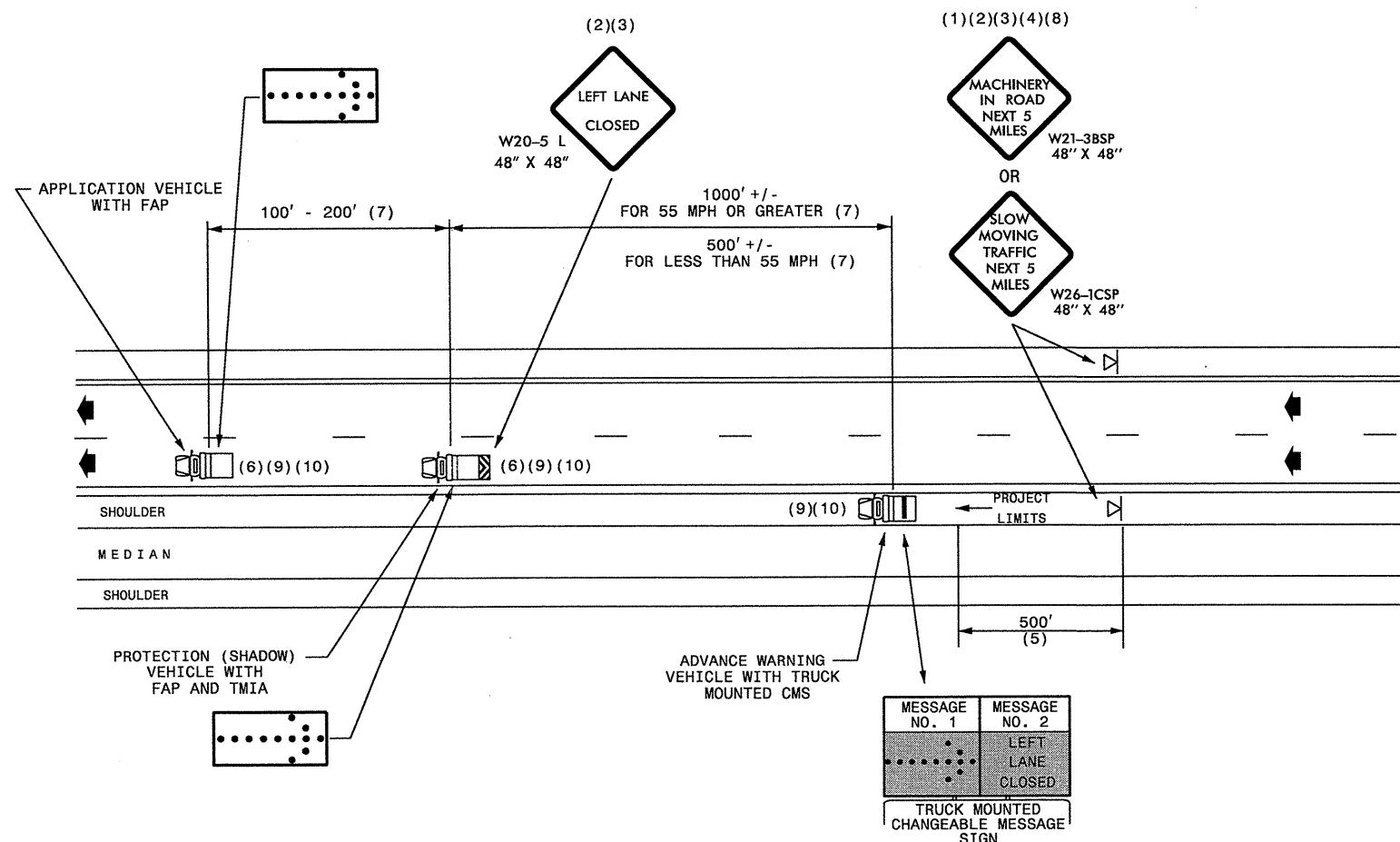
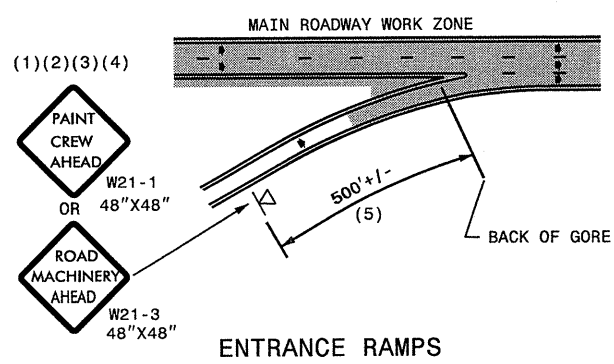
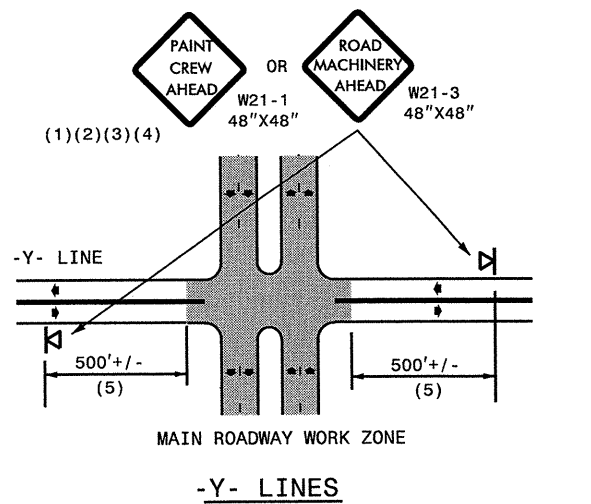
**DRAWING NUMBER 6**  
IMPLEMENTATION DATE: 07/01/97  
REVISED: 11/03/04

### GENERAL NOTES

- (1) THE FOLLOWING OPTIONS MAY BE USED FOR ADVANCE WARNING SIGNS:
  - A. TRUCK MOUNTED SIGNS
  - B. TRUCK MOUNTED CHANGEABLE MESSAGE SIGN (CMS)
  - C. GROUND MOUNTED ADVANCE WARNING SIGNS (MUST CIRCLE TO PICK UP SIGNS)
  - D. GROUND MOUNTED CHANGEABLE MESSAGE SIGN (CMS) (MUST USE CIRCLE TO PICK UP SIGNS)
- (2) ALL ADVANCE WARNING SIGNS MUST BE 48" X 48" WITH FLUORESCENT ORANGE TYPE VII, VIII OR IX SHEETING. IF SPACE LIMITATIONS ON SHOULDER PROHIBIT A 48" X 48" SIGN, A SMALLER SIGN CAN BE USED WITH APPROVAL FROM ENGINEER.
- (3) SIGNS ON VEHICLES SHOULD BE MOUNTED A MINIMUM OF ONE (1) FOOT FROM THE GROUND AND SHOULD NOT BLOCK THE MOTORIST'S SIGHT OF THE FLASHING ARROW PANEL AND/OR LIGHTBAR.
- (4) GROUND MOUNTED ADVANCED WARNING SIGNS SHOULD BE MOUNTED A MINIMUM OF FIVE (5) FEET FROM THE GROUND TO BOTTOM OF SIGN.
- (5) SIGN SPACING SHOULD BE ADJUSTED FOR HORIZONTAL AND VERTICAL CURVES, ETC. TO IMPROVE SIGHT DISTANCES.
- (6) ADDITIONAL VEHICLES SHOULD BE USED IN WORK CARAVAN TO FACILITATE DRYING OF PAVEMENT MARKING MATERIAL (TMIA'S ARE OPTIONAL ON THESE ADDITIONAL VEHICLES). HOWEVER, THE FIRST VEHICLE MOTORISTS SEE IN THE TRAVEL LANE SHALL HAVE A TMIA.
- (7) ADJUST DISTANCE AS NEEDED TO PREVENT MOTORISTS FROM ENTERING SPACE BETWEEN THE APPLICATION AND PROTECTION VEHICLE. DISTANCE CAN BE LENGTHENED TO ACCOMMODATE SIGHT DISTANCE NEEDS.
- (8) ROUND UP MILEAGE TO NEXT WHOLE MILE. WORK ZONE SHOULD NOT EXCEED FIVE (5) MILES IN LENGTH.
- (9) RADIO COMMUNICATION BETWEEN VEHICLES IS REQUIRED.
- (10) USE OF A LIGHT BAR ON ALL VEHICLES IS PREFERRED, BUT A ROTATING BEACON MAY BE USED INSTEAD.
- (11) IF WORK IS PERFORMED AT NIGHT, THE WORK AREA MUST BE ILLUMINATED WITH MACHINE AND/OR TOWER LIGHTS AS APPROVED BY THE ENGINEER.
- (12) ALL TRAFFIC CONTROL DEVICES WILL BE CONSIDERED INCIDENTAL TO THE PAY ITEMS FOR PAVEMENT MARKING AND MARKERS.

### LEGEND

-  PORTABLE SIGN. SIGNS MUST BE NCHRP-350 AND NCDOT APPROVED.
-  DIRECTION OF TRAFFIC FLOW
-  APPLICATION VEHICLE WITH LIGHT BAR
-  PROTECTION VEHICLE WITH TRUCK MOUNTED IMPACT ATTENUATOR (TMIA) AND LIGHT BAR (SEE ROADWAY STANDARD NO. 1165.01). TMIA MUST BE NCHRP-350 TEST LEVEL 3 (60+MPH) APPROVED.
-  ADVANCE WARNING VEHICLE WITH TRUCK MOUNTED CHANGEABLE MESSAGE SIGN (CMS) AND LIGHT BAR. MESSAGE SIGN LETTER HEIGHT SHOULD BE A MINIMUM OF 10 INCHES.
-  FLASHING ARROW PANEL, TYPE "B" (60"X30" MIN.), APPROPRIATE DIRECTION INDICATED
-  CHANGEABLE MESSAGE SIGN



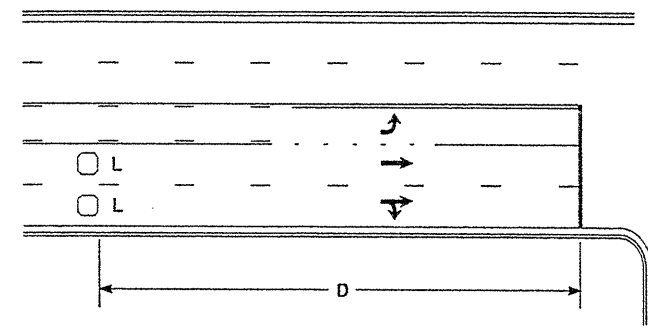
## MOVING OPERATION CARAVAN

(OPERATIONS TRAVELING 3 MPH OR FASTER)  
 PLACING PAVEMENT MARKING OR MARKERS  
 ON NON-INTERSTATE MULTILANE DIVIDED ROADWAYS

**DRAWING NUMBER 7**  
 IMPLEMENTATION DATE: 07/01/97  
 REVISED: 11/03/04



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

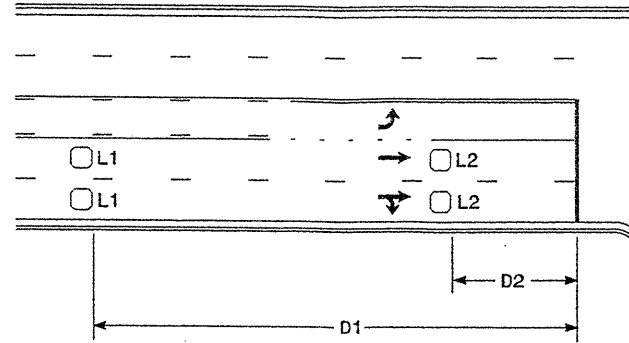


Speed Limit mph (km/hr)	D ft (m)
40 (64)	250 (75)
45 (72)	300 (90)
50 (80)	355 (110)
55 (88)	420 (130)

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

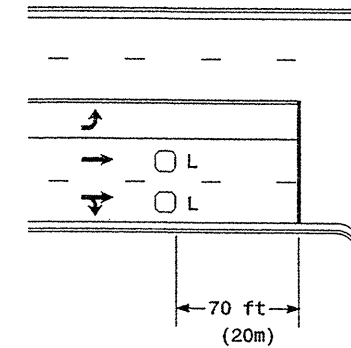


Speed Limit mph (km/hr)	D1 ft (m)	D2 ft (m)
40 (64)	250 (75)	80 (25)
45 (72)	300 (90)	90 (27)
50 (80)	355 (110)	100 (30)
55 (88)	420 (130)	110 (35)

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

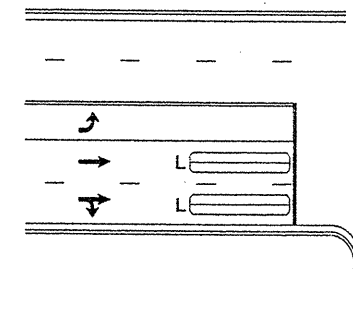
"Stretch" Operation

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



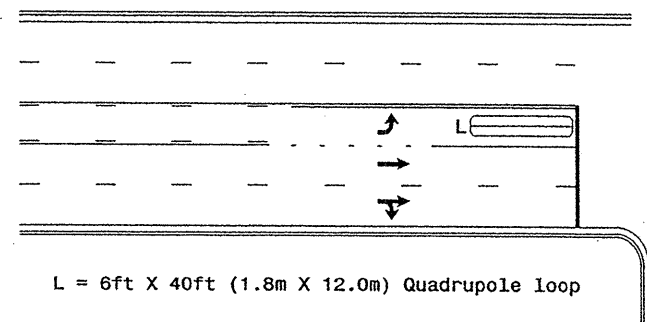
L = 6ft X 6ft (1.8m X 1.8m)  
 Wired in series

OR



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

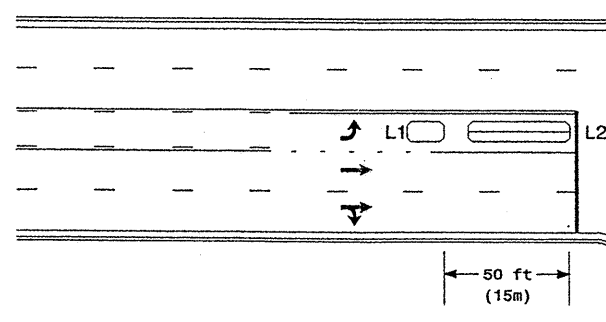
### Left Turn Lane Detection



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

Presence Loop Detection

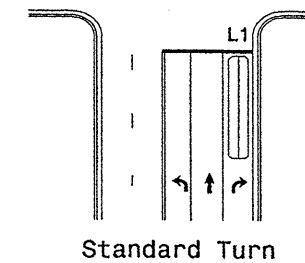
OR



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

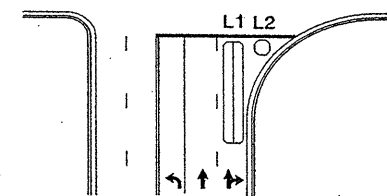
Queue Loop Detection

### Right Turn Lane Detection

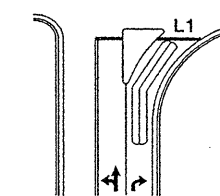


Standard Turn

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

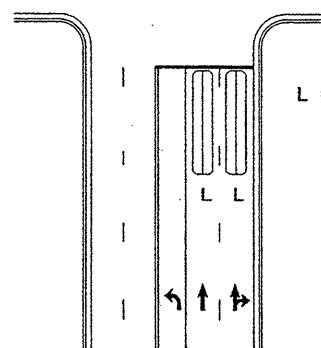


Wide Radius Turn



Channelized Turn

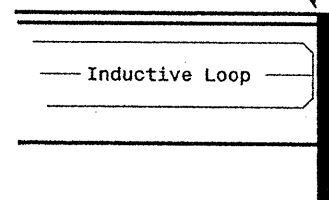
### Side Street Detection



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

19-DEC-2006 14:29  
 s:\15 signal\1b turn\_in\misc\loop\typical\2006.dgn  
 potalexander

Prepared in the Office of:  
  
 NORTH CAROLINA DEPARTMENT OF TRANSPORTATION  
 PROFESSIONAL ENGINEER  
 SEAL 23488  
 SIGNATURE: [Signature] DATE: 6/6/06

Typical Loop Locations

PLAN DATE: June 2006 REVIEWED BY:  
 PREPARED BY: P L Alexander REVIEWED BY:  
 REVISIONS: [None] INTL. DATE: [None]  
 SCALE: N/A  
 SIG. INVENTORY NO.:

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

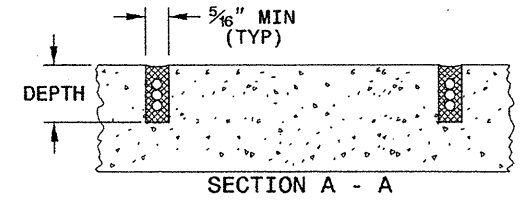
11-08

ENGLISH DETAIL DRAWING FOR  
**INDUCTIVE DETECTION LOOPS**

SHEET 1 OF 3  
**1725D01**

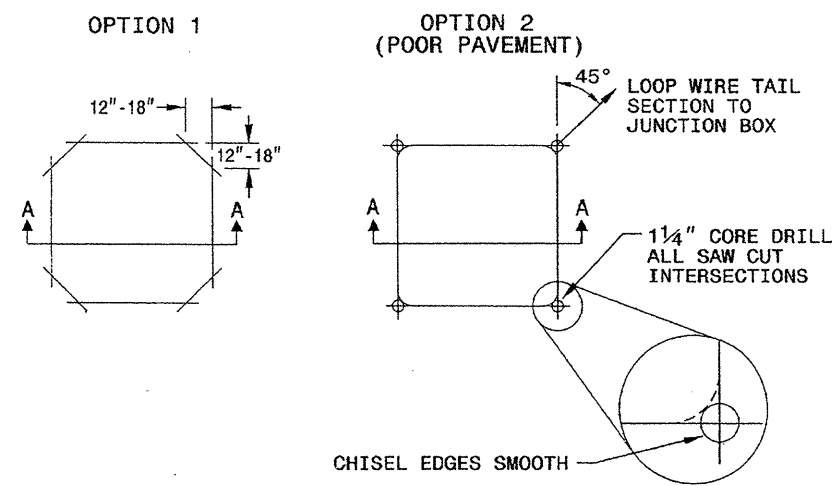
**SAW SLOT DEPTH CHART**

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

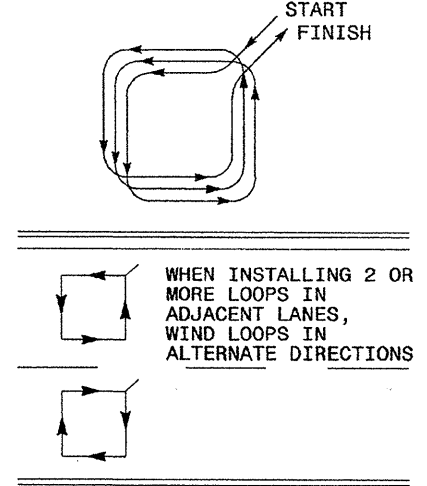


**CONVENTIONAL 4-SIDED LOOP**

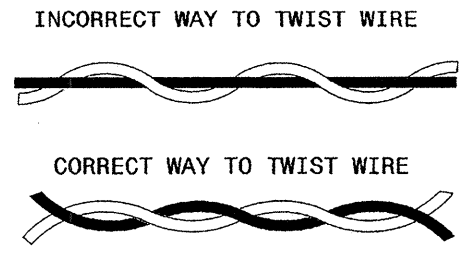
**SAW CUT OPTIONS**



**LOOP WINDING METHOD**



**LOOP WIRE TWISTING METHOD**

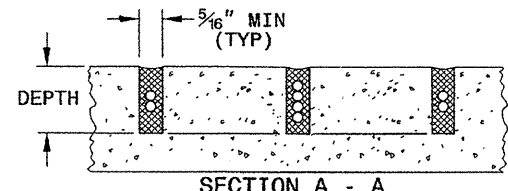
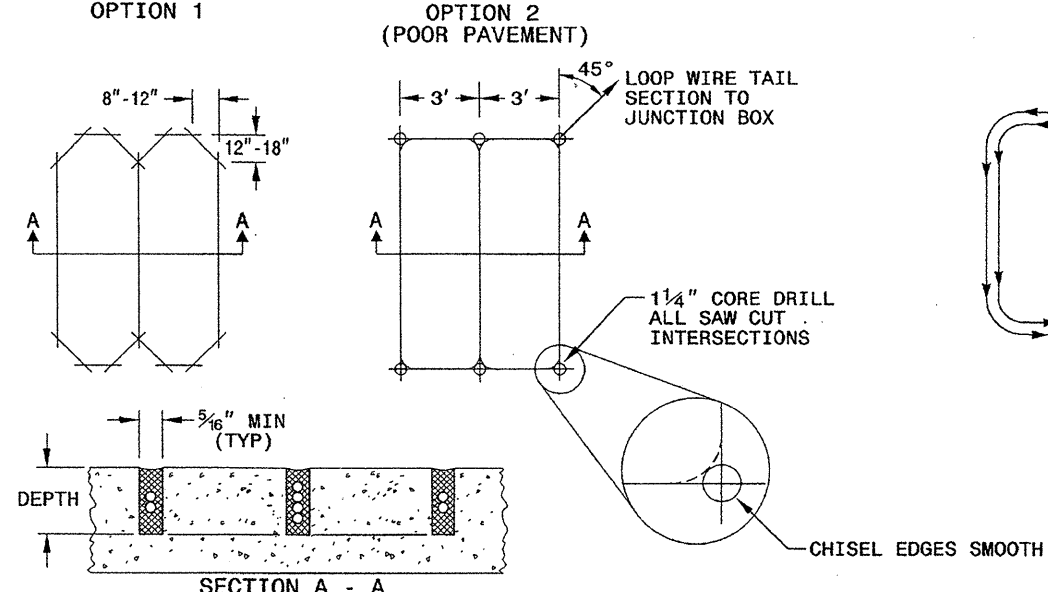


**NOTES**

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

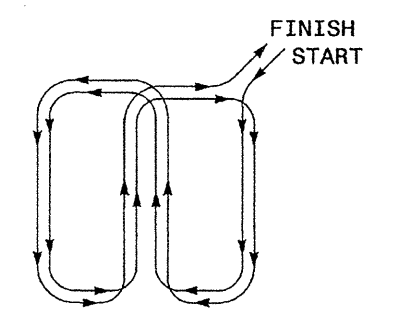
**QUADRUPOLE LOOP**

**SAW CUT OPTIONS**



DEPTH IS 2.5" FOR CONCRETE AND 3.0" FOR ASPHALT

**LOOP WINDING METHOD**



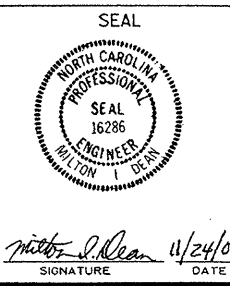
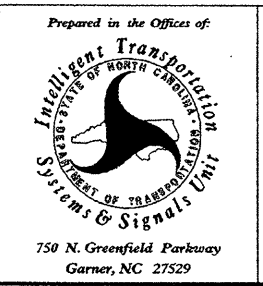
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DIVISION OF HIGHWAYS  
RALEIGH, N.C.

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ENGLISH DETAIL DRAWING FOR  
**INDUCTIVE DETECTION LOOPS**

SHEET 1 OF 3  
**1725D01**

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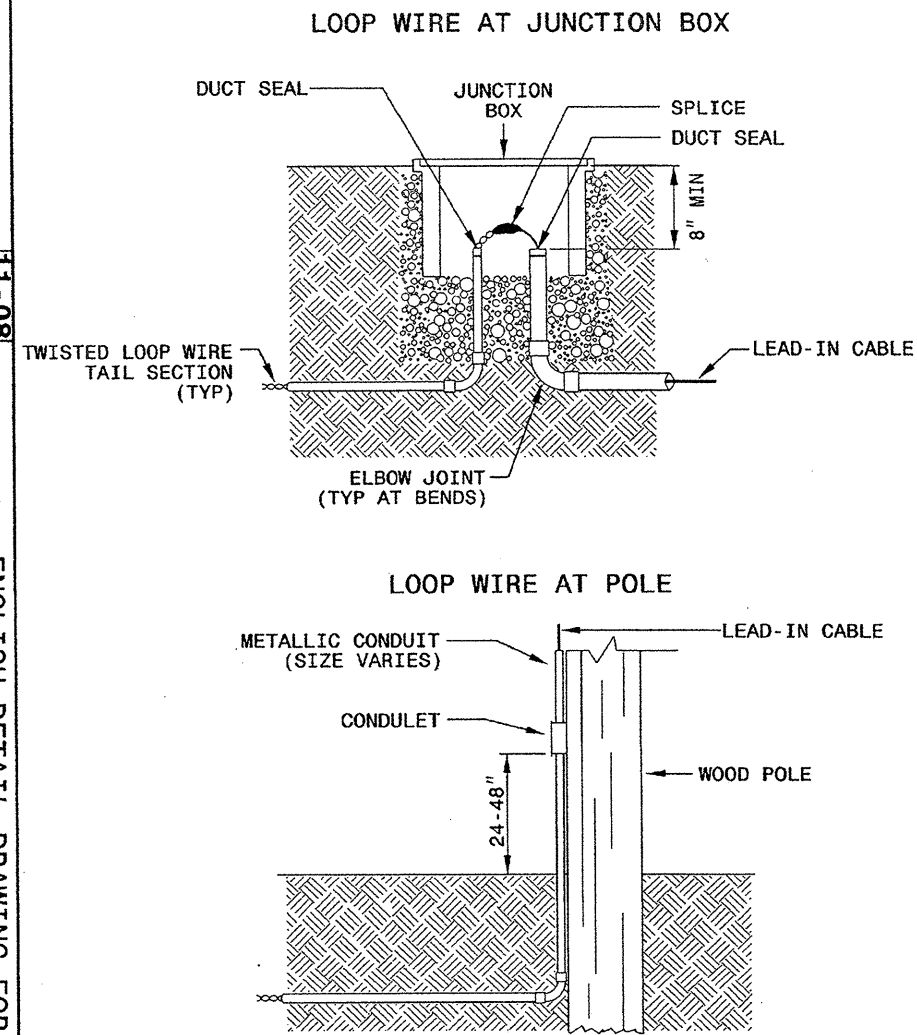
750 N. Greenfield Parkway  
Garner, NC 27529

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 ENGLISH DETAIL DRAWING FOR  
**INDUCTIVE DETECTION LOOPS**  
 LOOP WIRE DETAILS

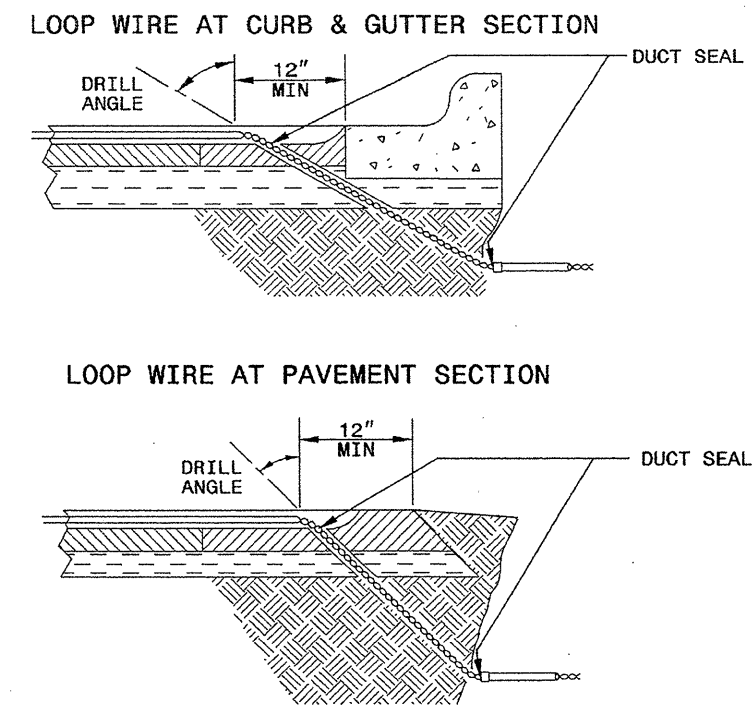
SHEET 2 OF 3  
**1725D01**

**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**



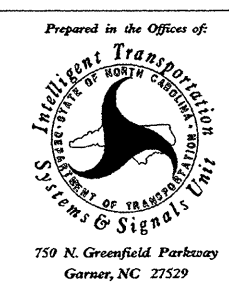
- NOTES**
1. DO NOT EXCAVATE UNDER CURB AND GUTTER SECTIONS FOR CONDUIT INSTALLATION.
  2. TWIST LOOP WIRE TAIL SECTIONS FROM WHERE LOOP WIRE TAIL LEAVES SAW CUT TO JUNCTION BOX, INCLUDING THROUGH CONDUIT.
  3. BEFORE SEALING LOOPS, INSTALL DUCT SEAL WHERE LOOP WIRE TAIL SECTION LEAVES SAW CUT IN PAVEMENT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



SEAL  
 NORTH CAROLINA  
 PROFESSIONAL  
 SEAL  
 16286  
 ENGINEER  
 MILTON T. DEAN  
 Signature: Milton T. Dean  
 DATE: 11/24/08

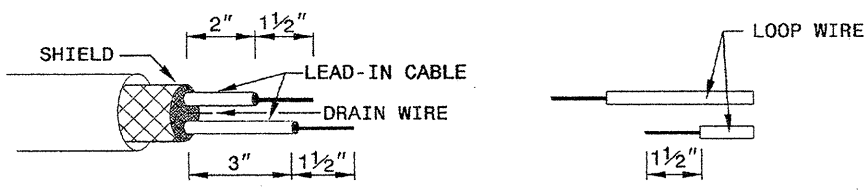
STATE OF NORTH CAROLINA  
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 DIVISION OF HIGHWAYS  
 RALEIGH, N.C.

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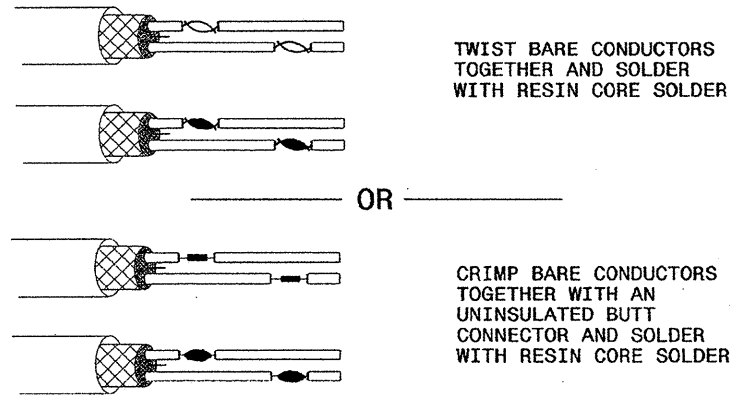
ENGLISH DETAIL DRAWING FOR  
**INDUCTIVE DETECTION LOOPS**  
 SPLICING FOR LEAD-IN CABLE AND LOOP WIRE

SHEET 3 OF 3  
 1725D01

STEP 1. STRIP LOOP WIRE AND LEAD-IN CABLE

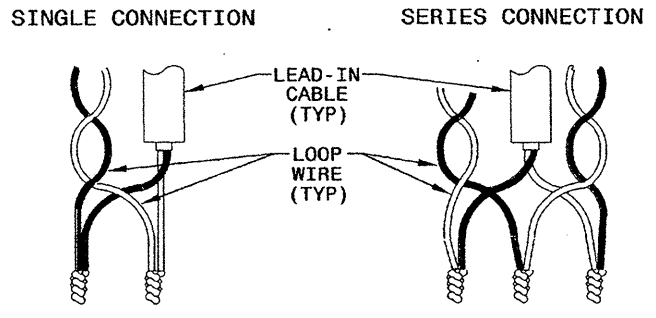


STEP 2. CONNECT AND SOLDER

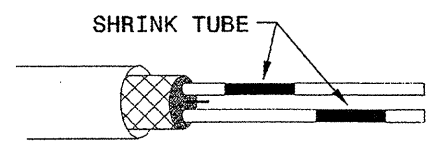


BOND SHIELD DRAIN WIRE AT SPLICE SECTIONS (DO NOT GROUND)

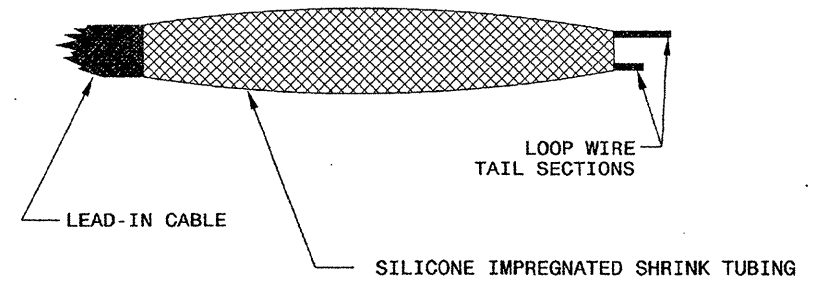
LOOP WIRE AND LEAD-IN CABLE CONNECTION DETAILS



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

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Prepared in the Offices of:

750 N. Greenfield Parkway  
 Garner, NC 27529

SEAL

Milton I. Dean 11/24/08  
 SIGNATURE      DATE

24-nov-2008 08:35  
 c:\work\files\10-std\std plate sheets\1725D01.dwg 2/10/11