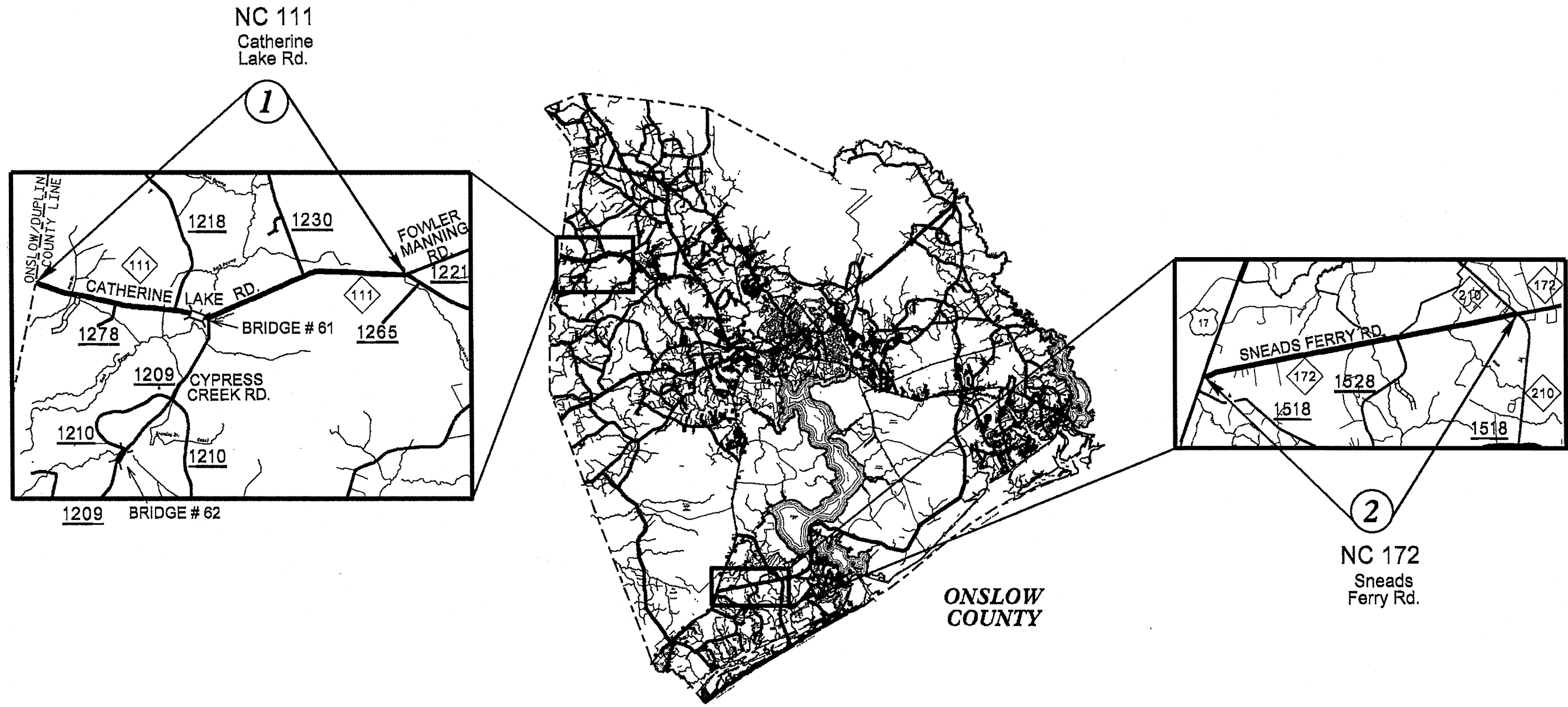


# ONSLOW COUNTY



REVISIONS

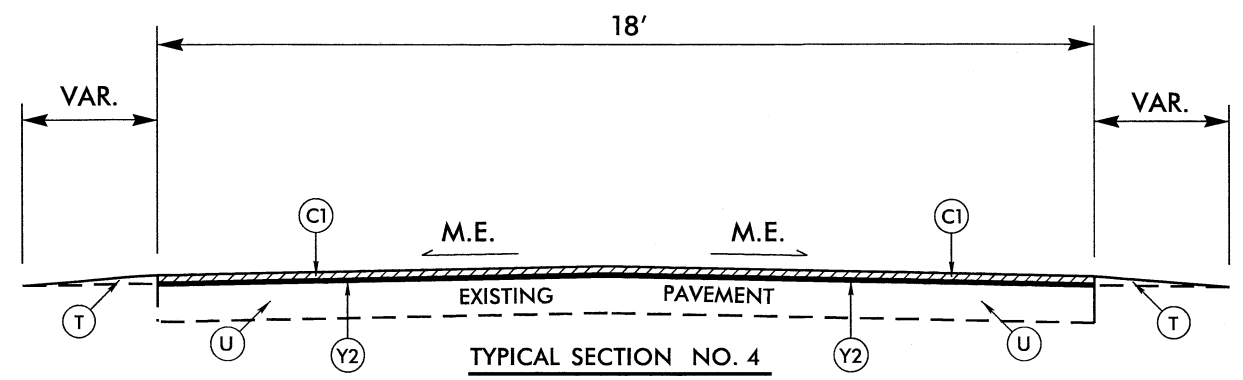
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MAPS N.T.S.





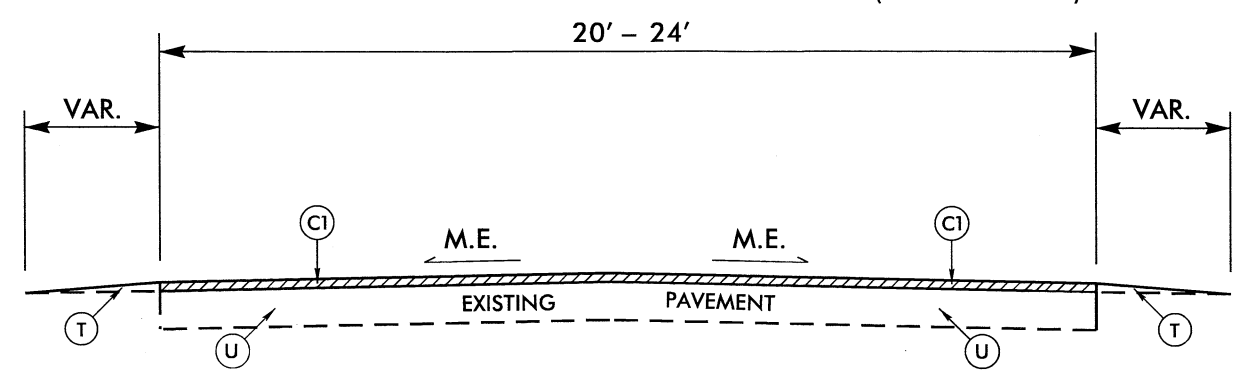




**TYPICAL SECTION NO. 4**

MAP NO. 4  
SR 1231 (BANKS BRIDGE RD.)  
MP 0.00 - MP 1.07  
NO BRIDGE WORK  
(MP .17 - MP .19)

MAP NO. 8  
SR 1279 (HARRELL'S LOOP RD.)  
MP 0.12 - MP 0.38



**TYPICAL SECTION NO. 5**

MAP NO. 5  
SR 1314 (NORTHWEST BRIDGE RD.)  
MP 0.00 - MP 2.99  
NO BRIDGE WORK  
(MP 2.00 - MP 2.02)

MAP NO. 6  
SR 1212 (PONY FARM RD.)  
MP 1.97 - MP 2.52

MAP NO. 7  
SR 1243 (MEADOWVIEW RD.)  
MP 0.00 - MP 1.51

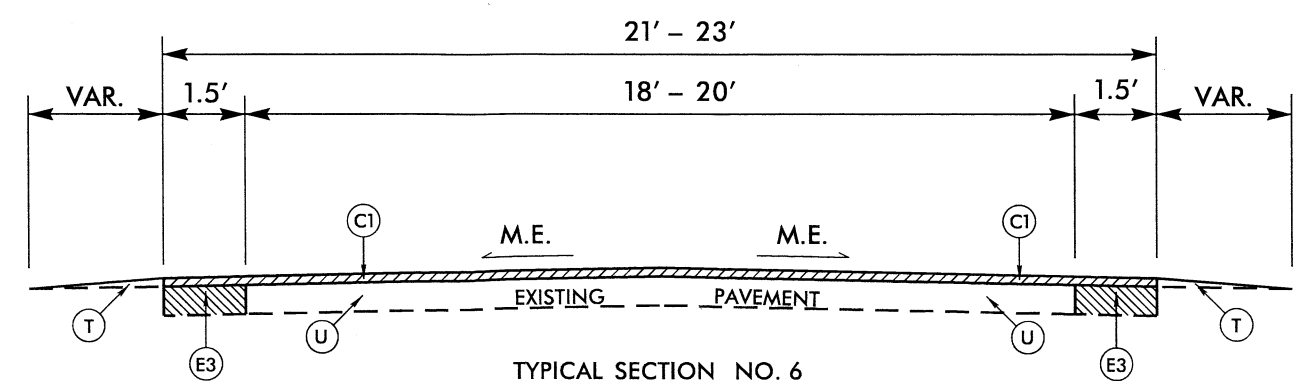
MAP NO. 9  
SR 1223 (DUFFY FIELD RD.)  
MP 0.80 - MP 1.46

MAP NO. 10  
SR 1117 (BLUE CREEK SCHOOL RD.)  
MP 0.00 - MP 1.10

MAP NO. 12  
SR 1848 (HORSE SHOE BEND)  
MP 0.30 - MP 0.77

MAP NO. 15  
SR 2371 (RUNNING RD.)  
MP 0.00 - MP 0.52

PAVEMENT SCHEDULE	
C1	1½" S9.5B
E3	4" B25.0B
T	EARTH MATERIAL (SH. RECONSTRUCTION)
U	EXISTING PAVEMENT
Y2	AST MATCOAT #5 STONE

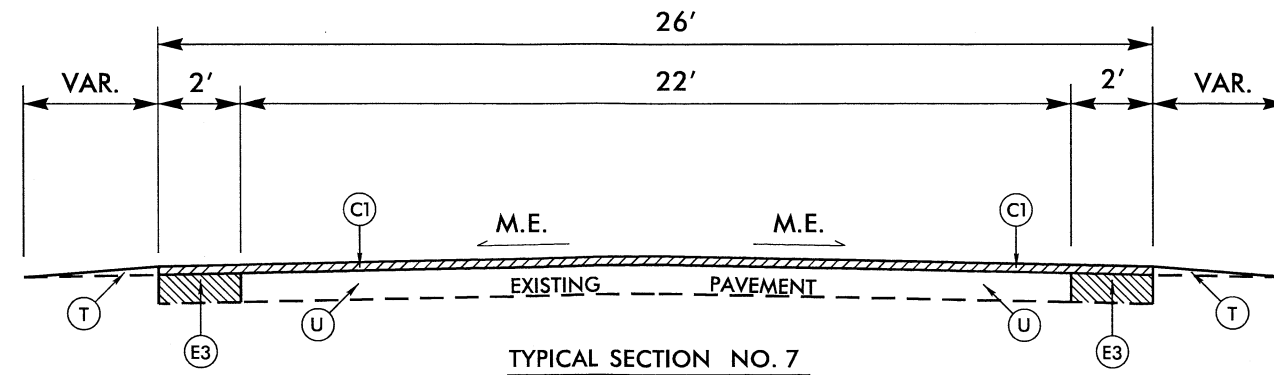


**TYPICAL SECTION NO. 6**

MAP NO. 6  
SR 1212 (PONY FARM RD.)  
MP 2.52 - MP 3.37

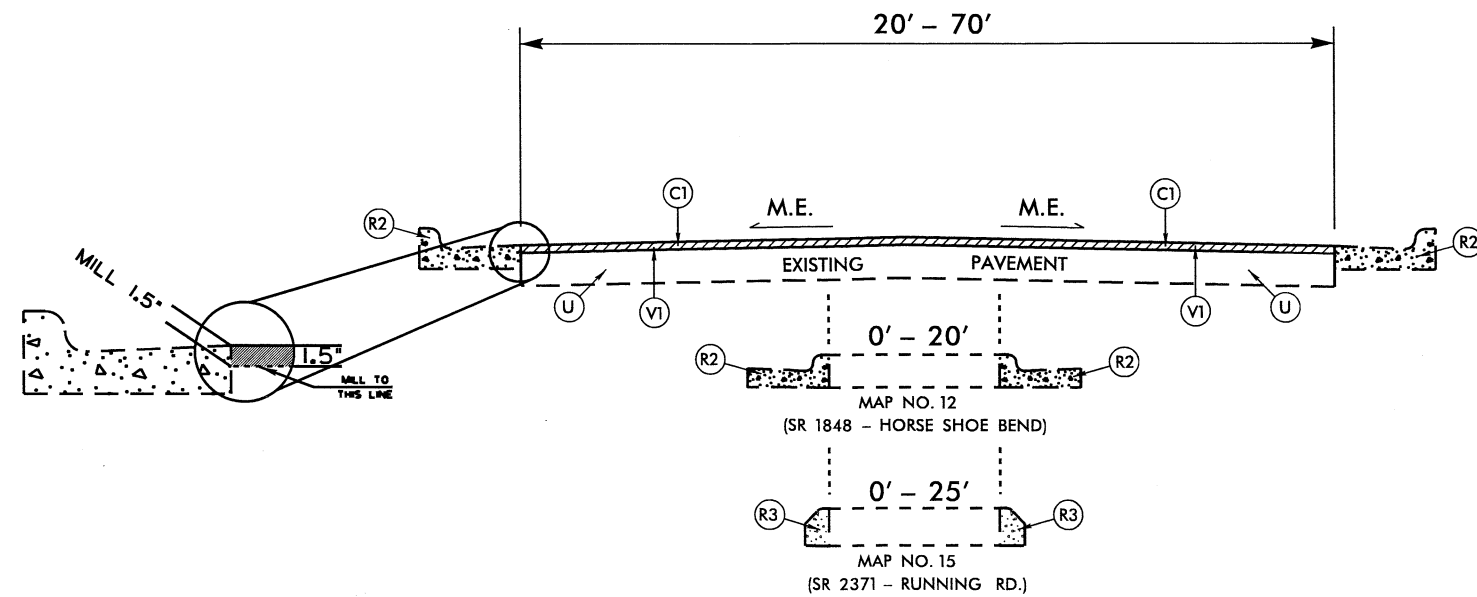
MAP NO. 8  
SR 1279 (HARRELL'S LOOP RD.)  
MP 0.00 - MP 0.12

REVISIONS  
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TYPICAL SECTION NO. 7

MAP NO. 11  
SR 1511 (HAMMOCKS BCH RD.)  
MP 0.00 - MP 2.03



TYPICAL SECTION NO. 8

MAP NO. 12 SR 1848 (HORSE SHOE BEND) MP 0.00 - MP 0.30 MP 0.77 - MP 0.79	MAP NO. 14 SR 1850 (SIDESADDLE LANE) MP 0.00 - MP 0.07
MAP NO. 13 SR 1849 (PALAMINO TRAIL) MP 0.00 - MP 0.13	MAP NO. 15 SR 2371 (RUNNING RD.) MP 0.52 - MP 0.63

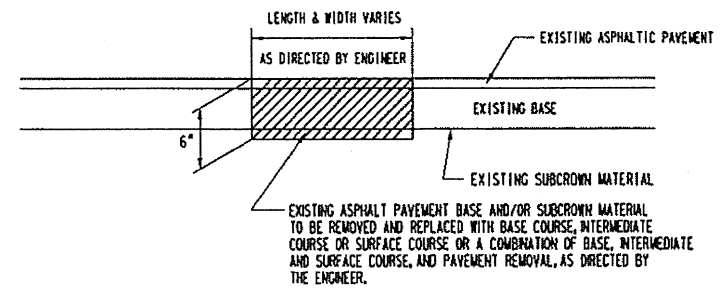
PAVEMENT SCHEDULE	
C1	1½" S9.5B
E3	4" B25.0B
R2	EXIST. 2'-6" C & G
R3	EXISTING 6" CURB
T	EARTH MATERIAL (SH. RECONSTRUCTION)
U	EXISTING PAVEMENT
V1	MILLING 1½" DEPTH

REVISIONS

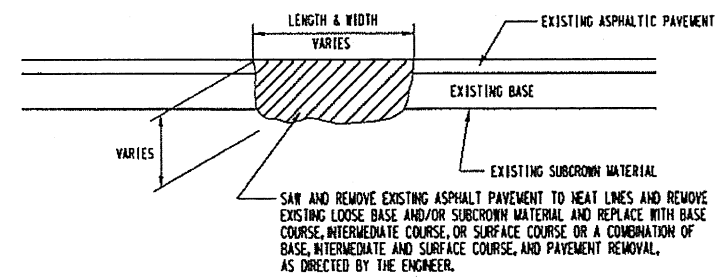
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 8/17/99



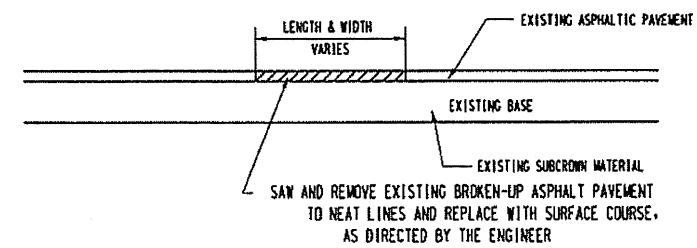
DETAILS OF REPAIRING EXISTING PAVEMENT PRIOR TO RESURFACING FOR FULL DEPTH AND MILLING



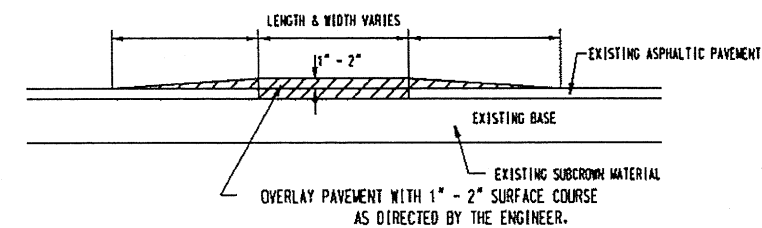
DETAIL NO. 1



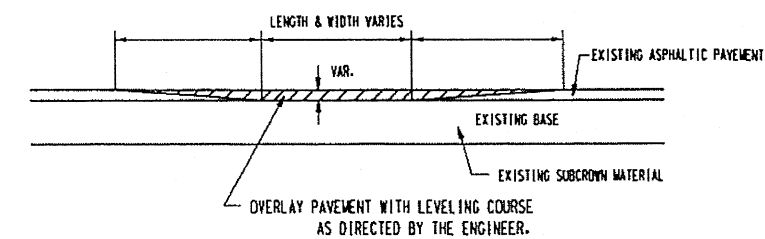
DETAIL NO. 2



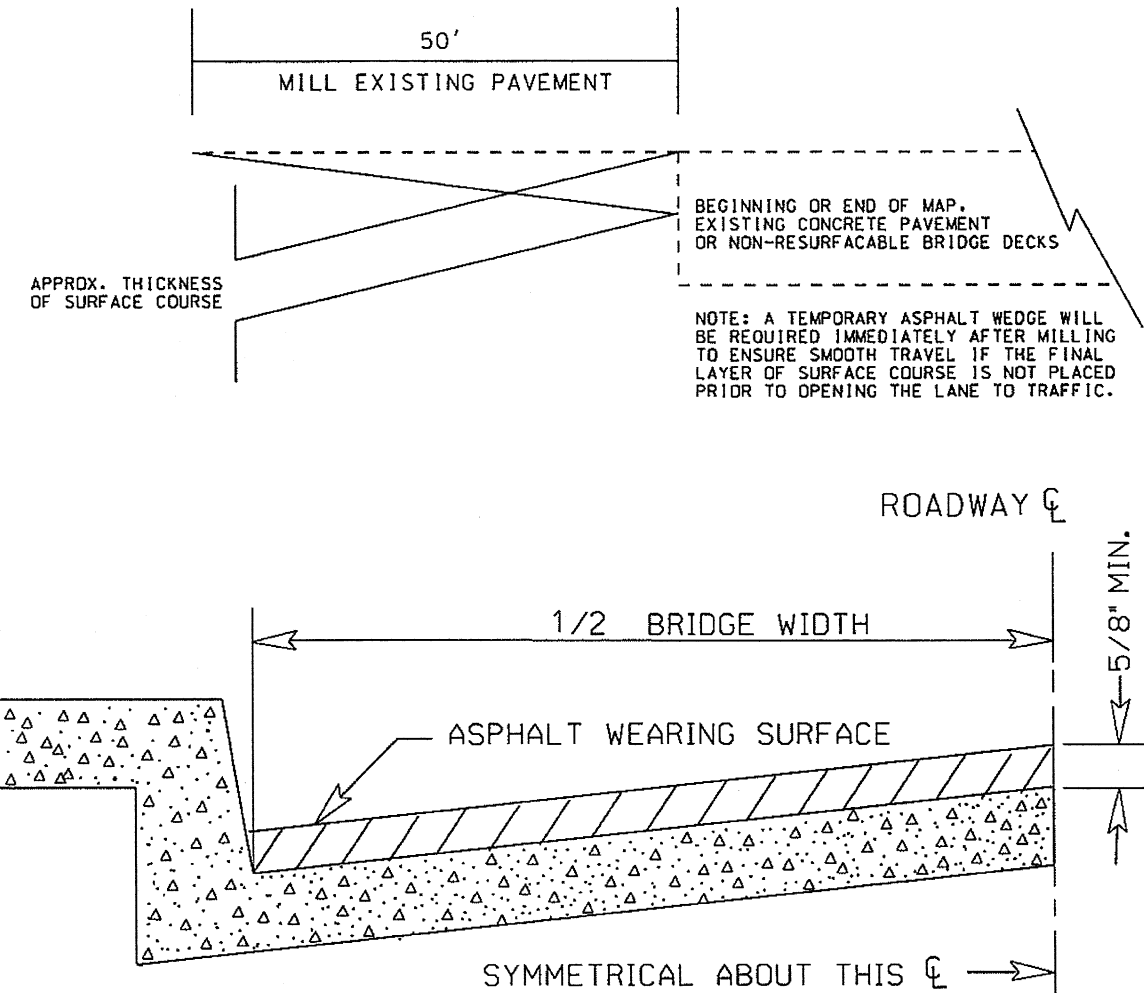
DETAIL NO. 3



DETAIL NO. 4



DETAIL NO. 5



BRIDGE HALF TYPICAL SECTION

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

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

REVISIONS

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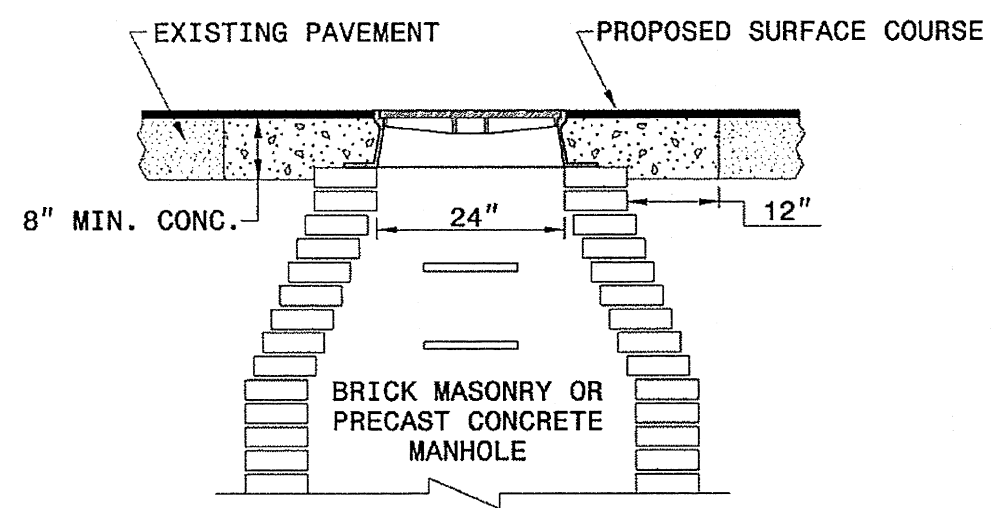
STATE OF  
NORTH CAROLINA  
DEPT. OF TRANSPORTATION  
DIVISION OF HIGHWAYS  
RALEIGH, N.C.

ENGLISH DETAIL DRAWING FOR  
**MANHOLE AND VALVE BOX ADJUSTMENTS**

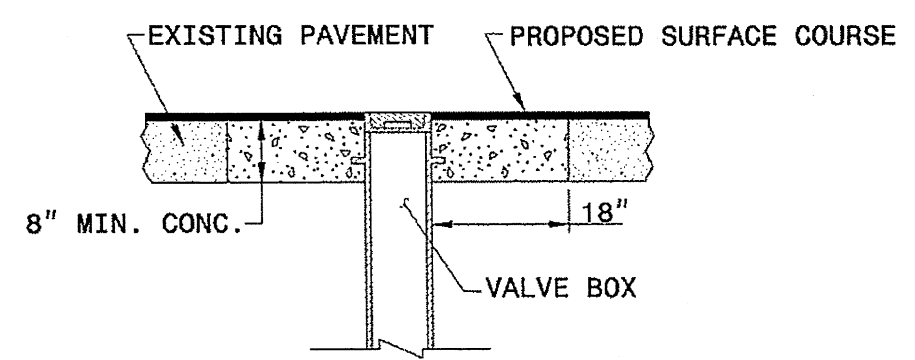
SHEET 1 OF 1  
**840D55**

GENERAL NOTES:

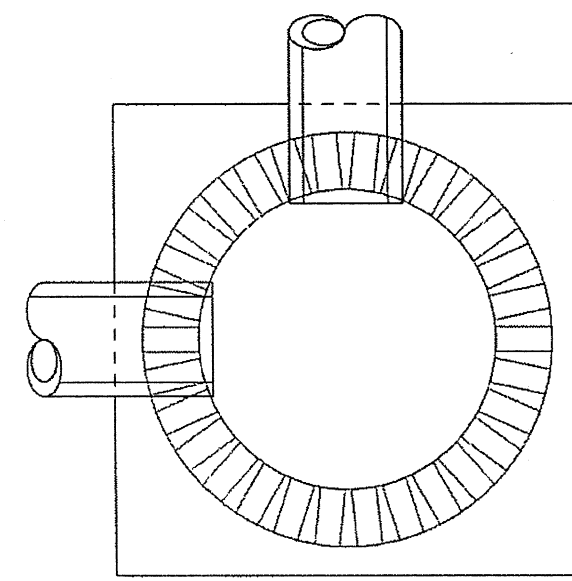
1. USE RAPID SET GROUT, MORTAR, OR CONCRETE WITH A MINIMUM COMPRESSIVE STRENGTH OF 4000 PSI.
2. REMOVE ALL FAULTY EXISTING BRICKWORK AND REPLACE WITH NEW BRICK MASONRY.
3. SHEER CUT EXCAVATION FOR THE ADJUSTMENT ON ALL SIDES.
4. FILL AREA BELOW 8" DEPTH WITH 78M OR NO. 57 CLEAN STONE.
5. MIX MORTAR TO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



**MANHOLE CONCRETE ENCASEMENT**



**VALVE BOX CONCRETE ENCASEMENT**



**ELEVATION VIEW**

PLACE BRICK ACCORDING TO ELEVATION VIEW

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

ENGLISH DETAIL DRAWING FOR  
**MANHOLE AND VALVE BOX ADJUSTMENTS**

SHEET 1 OF 1  
**840D55**

PROJECT SERVICES UNIT  
STANDARDS AND SPECIAL DESIGN  
Office 919-250-4128 FAX 919-250-4119

**SEE PLATE FOR TITLE**

ORIGINAL BY: \_\_\_\_\_ DATE: \_\_\_\_\_  
 MODIFIED BY: E.E. WARD DATE: \_\_\_\_\_  
 CHECKED BY: \_\_\_\_\_ DATE: \_\_\_\_\_  
 FILE SPEC.: /usr/details/stand/840d55.dgn

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 AT 10:25:33 AM 11/25/2005



DIVISION OF HIGHWAYS  
STATE OF NORTH CAROLINA

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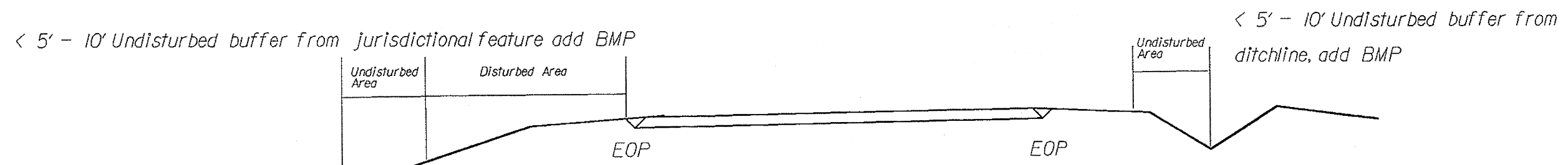
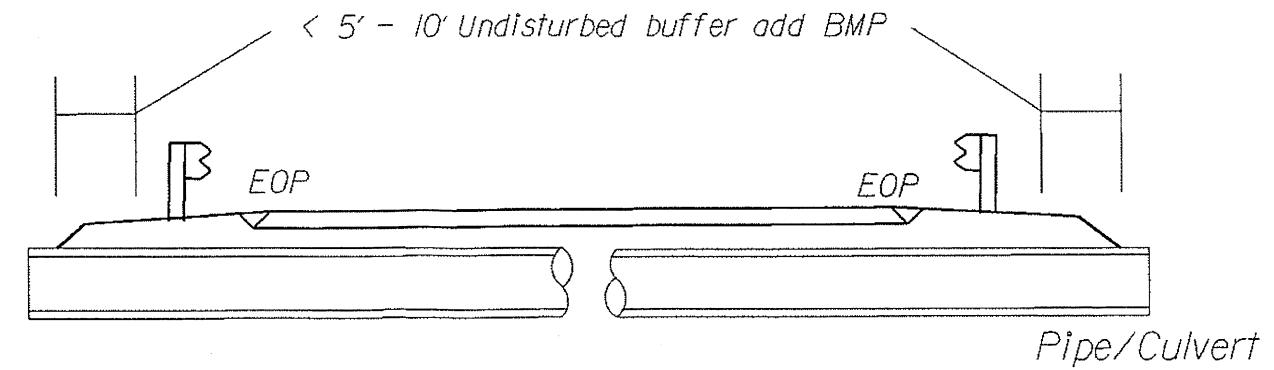
## *SOIL STABILIZATION TIMEFRAMES*

<i>SITE DESCRIPTION</i>	<i>STABILIZATION TIME</i>	<i>TIMEFRAME EXCEPTIONS</i>
PERIMETER DIKES, SWALES, DITCHES AND SLOPES	7 DAYS	NONE
HIGH QUALITY WATER (HOW) ZONES	7 DAYS	NONE
SLOPES STEEPER THAN 3:1	7 DAYS	IF SLOPES ARE 10' OR LESS IN LENGTH AND ARE NOT STEEPER THAN 2:1, 14 DAYS ARE ALLOWED.
SLOPES 3:1 OR FLATTER	14 DAYS	7 DAYS FOR SLOPES GREATER THAN 50' IN LENGTH.
ALL OTHER AREAS WITH SLOPES FLATTER THAN 4:1	14 DAYS	NONE, EXCEPT FOR PERIMETERS AND HOW ZONES.

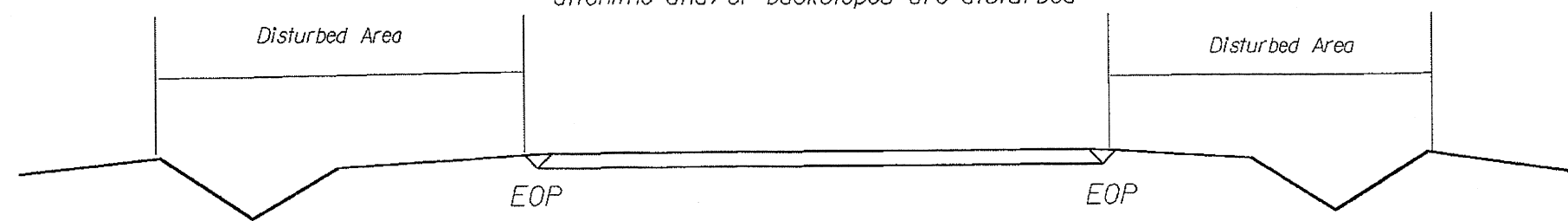
NOTES: Less than 5' - 10' undisturbed buffer from ROW, ditchline, water feature, or drainage inlet, add BMP.

BMP Options: Wattle or Silt Fence

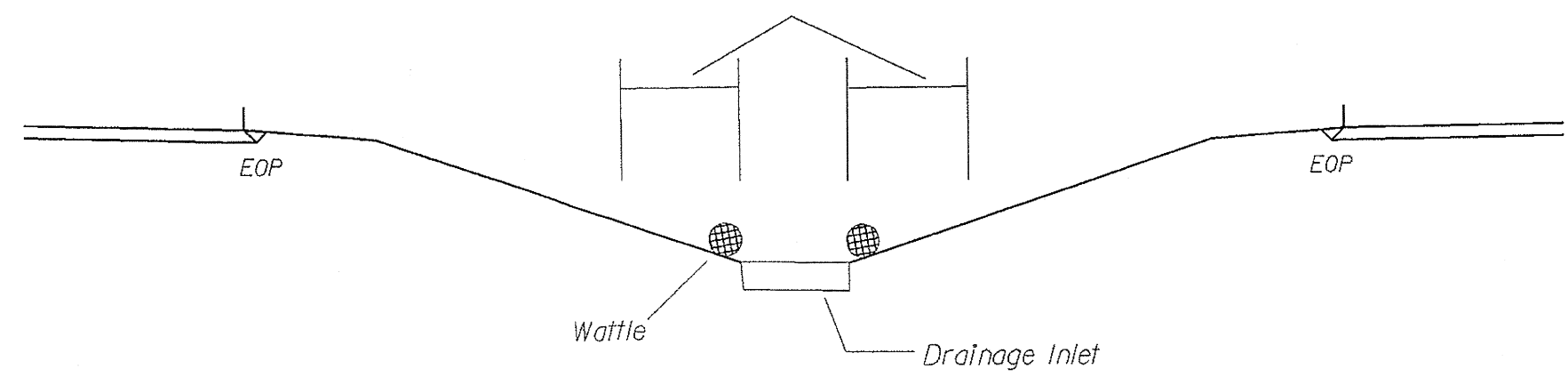
# EROSION CONTROL DETAIL



Use BMP's if shoulders and/or frontslopes and/or ditchline and/or backslopes are disturbed



< 5' - 10' Undisturbed buffer from inlet, add wattle



NOT TO SCALE



PROJECT NO.	SHEET NO.	TOTAL NO.
3CR.10671.169, ETC.	14	

## SUMMARY OF QUANTITIES

Note: Quantities of Aggregate Base Course & Fine Grading on Maps 12-15 are Included for Reshaping the Existing Road after Milling if Necessary

PROJECT NO.	COUNTY	MAP NO.	ROUTE	DESCRIPTION	TYP	LANES	LANE TYPE	FINAL SURFACE TESTING REQUIRED	WARM MIX ASPHALT REQUIRED	LENGTH MI	WIDTH FT	BORROW CY	FINE GRADING LS	AGGREGATE BASE COURSE TONS	INC. STONE BASE TONS	BOULDER RECONST. SMI	1 1/2" MILLING SY	INC. MILLING SY	BASE COURSE, B25.0B TONS	BASE COURSE, B25.0C TONS	INT. COURSE, I19.0C TONS	SURFACE COURSE, S9.5B TONS	LEVELING COURSE, S9.5B TONS	SURFACE COURSE, S9.5C TONS	ASPHALT BINDER FOR PLANT MIX TON	PATCHING EXISTING PAVEMENT (FULL DEPTH) TON	AST MAT COAT #5 STONE SY	PATCHING EXISTING PAVEMENT (MILL) TON	PATCHING EXISTING PAVEMENT I19.0B (3.0" MILL) TONS	PATCHING EXISTING PAVEMENT S9.5B (MILL) TON
3CR.10671.169	Onslow	1	NC 111	WIDEN FROM DUPLIN COUNTY LINE TO SR 1221 (FOWLER MAN NING RD.)	1	2	2WU	NO	NO	3.97	27	320			100	7.94		282	3,620			5,894			513	250		100		
3CR.10671.169	Onslow	2	NC 172	WIDEN FROM US 17 TO PAVEMENT CHANGE BEFORE NC 210	2	2	2WU	YES	NO	3.94	27 - 56	300			100	7.88	57,135			4,699			8,226	1,269	100		200			
<b>TOTAL FOR PROJ NO. 3CR.10671.169</b>										<b>7.91</b>		<b>620</b>			<b>200</b>	<b>15.82</b>	<b>57,135</b>	<b>282</b>	<b>3,620</b>	<b>4,699</b>	<b>12,022</b>	<b>5,894</b>		<b>8,226</b>	<b>1,782</b>	<b>350</b>		<b>300</b>		
3CR.20671.169	Onslow	3	SR 1229	WIDEN FROM US 258 TO SR 1219 (LUTHER BANKS RD)	3	2	2WU	NO	NO	2.52	20 - 22	50			75	5.04		220	826			3,022	190		230	250	29,568		1,190	
3CR.20671.169	Onslow	4	SR 1231	FROM SR 1229 (GREGORY FORK RD.) TO SR 1238 (KOON CE FORK RD.)	4	2	2WU	NO	NO	1.07	18	180			20	2.14		420				1,051			63		11,299		39	
3CR.20671.169	Onslow	5	SR 1314	FROM SR 1308 (GUM BRAN CH RD.) TO US 258	5	2	2WU	NO	NO	2.99	20				50			467						194	150				270	
3CR.20671.169	Onslow	6	SR 1212	WIDEN FROM SR 1213 (BLUE CREEK RD.) TO SR 1211 (FIRE TOWER RD). RESURFACE FROM SR 1213 TO SR 1279 (HARRELL'S LOOP RD.)	5 & 6	2	2WU	NO	NO	1.4	20 - 23	180			50	2.80		1,300	397						130	275			485	
3CR.20671.169	Onslow	7	SR 1243	FROM SR 1279 (HARRELL'S LOOP RD.) TO END OF SYSTEM	5	2	2WU	NO	NO	1.51	20	135			50	3.02		244							99		580			
3CR.20671.169	Onslow	8	SR 1279	WIDEN FROM SR 1212 (PONY FARM RD.) TO SR 1243 (MEADOWVIEW RD.) & RESURFACE FROM SR 1212 TO LOOP END AT SR 1212	4 & 6	2	2WU	NO	NO	0.39	18 - 21	55			30	0.78			58						25		2,534		138	
3CR.20671.169	Onslow	9	SR 1223	FROM MARTIN MERRIETTA QUARRY ENTRANCE TO SR 1227 (UNION CHAPEL CHURCH RD.)	5	2	2WU	NO	NO	0.66	22	90			20	1.32		244							47	258		145		
3CR.20671.169	Onslow	10	SR 1117	FROM NC 53 TO SR 1124 (CANADY RD.)	5	2	2WU	NO	NO	1.1	24	180			20	2.20									110				210	
3CR.20671.169	Onslow	11	SR 1511	WIDEN FROM NC 24 TO END OF SYSTEM	7	2	2WU	NO	NO	2.03	26	50			50	4.40			1,339						217			411		
3CR.20671.169	Onslow	12	SR 1848	FROM SR 1413 (ROCKY RUN RD.) TO SR 2384 (WINNERS CIRCLE NORTH)	5 & 8	2	2WU	NO	NO	0.79	20 - 32	50	0.56	75	20	0.82	5,632								66					
3CR.20671.169	Onslow	13	SR 1849	FROM CUL-DE-SAC TO END OF CURB & GUTTER	8	2	2WU	NO	NO	0.13	24 - 70		0.17	75			1,653								13				50	
3CR.20671.169	Onslow	14	SR 1850	FROM SR 1848 (HORSE SHOE BEN D) TO CUL-DE-SAC	8	2	2WU	NO	NO	0.07	24 - 70		0.12	25			1,230								7				90	
3CR.20671.169	Onslow	15	SR 2371	FROM SR 1413 (ROCKY RUN RD.) TO SR 1848 (HORSESHOE BEN D)	5 & 8	2	2WU	NO	NO	0.63	24	50	0.15	75	20	1.04	1,540								48				60	
<b>TOTAL FOR PROJ NO. 3CR.20671.169</b>										<b>15.29</b>		<b>1,020</b>	<b>1</b>	<b>250</b>	<b>405</b>	<b>23.56</b>	<b>10,055</b>	<b>2,895</b>	<b>2,620</b>			<b>18,618</b>	<b>285</b>		<b>1,249</b>	<b>933</b>	<b>43,401</b>	<b>580</b>	<b>2,408</b>	<b>680</b>
<b>GRAND TOTAL</b>										<b>23.2</b>		<b>1,640</b>	<b>1</b>	<b>250</b>	<b>605</b>	<b>39.38</b>	<b>67,190</b>	<b>3,177</b>	<b>6,240</b>	<b>4,699</b>	<b>12,022</b>	<b>24,512</b>	<b>285</b>	<b>8,226</b>	<b>3,031</b>	<b>1,283</b>	<b>43,401</b>	<b>880</b>	<b>2,408</b>	<b>680</b>

PROJECT NO.	SHEET NO.	TOTAL NO.
3CR.10671.169, ETC.	15	

Note: Quantities of Aggregate Base Course & Fine Grading on Maps 12-15 are Included for Reshaping the Existing Road after Milling If Necessary

**SUMMARY OF QUANTITIES**

PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	TYP	LANES	LANE TYPE	FINAL SURFACE TESTING REQUIRED	WARM MIX ASPHALT REQUIRED	LENGTH MI	WIDTH FT	PAVEMENT INTERLAYER SY	ADJ. OF CATCH BASIN EA	ADJ. OF DROP INLET EA	ADJ. OF MANHOLES EA	ADJ. OF METER OR VALVE BOX EA	TEMP. SILT FENCE LF	STONE FOR EC CLASS B TON	SEDIMENT CONTROL STONE TON	TEMP. MULCHING ACR	MATTING FOR EROSION CONTROL SY	1/4" HARDWARE CLOTH LF	WATTLE LF	SEED & MULCHING AC	SEED FOR REPAIR SEEDING LB	FERTILIZER FOR REPAIR SEEDING TON	INDUCTIVE LOOP SAWCUT LF	LEAD-IN CABLE (14-2) LF		
3CR.10671.169	Onslow	1	NC 111	WIDEN FROM DUPLIN COUNTY LINE TO SR 1221 (FOWLER MANNING RD.)	1	2	2WU	NO	NO	3.97	27	62,568.00					397	99	99	3.97	30	199	60	5.00	199	0.99				
3CR.10671.169	Onslow	2	NC 172	WIDEN FROM US 17 TO PAVEMENT CHANGE BEFORE NC 210	2	2	2WU	YES	NO	3.94	27 - 56						394	99	99	3.94	30	197	60	5.00	197	0.99				
<b>TOTAL FOR PROJ NO. 3CR.10671.169</b>										<b>7.91</b>		<b>62,568.00</b>					<b>791</b>	<b>198</b>	<b>198</b>	<b>7.91</b>	<b>60</b>	<b>396</b>	<b>120</b>	<b>10.00</b>	<b>396</b>	<b>1.98</b>				
3CR.20671.169	Onslow	3	SR 1229	WIDEN FROM US 258 TO SR 1219 (LUTHER BANKS RD)	3	2	2WU	NO	NO	2.52	20 - 22						252	63	63	2.52	20	126	40	1.80	126	0.63				
3CR.20671.169	Onslow	4	SR 1231	FROM SR 1229 (GREGORY FORK RD.) TO SR 1238 (KOONCE FORK RD.)	4	2	2WU	NO	NO	1.07	18						107	27	27	1.07	10	54	20	1.00	54	0.27				
3CR.20671.169	Onslow	5	SR 1314	FROM SR 1308 (GUM BRANCH RD.) TO US 258	5	2	2WU	NO	NO	2.99	20																			
3CR.20671.169	Onslow	6	SR 1212	WIDEN FROM SR 1213 (BLUE CREEK RD.) TO SR 1211 (FIRE TOWER RD). RESURFACE FROM SR 1213 TO SR 1279 (HARRELL'S LOOP RD.)	5 & 6	2	2WU	NO	NO	1.4	20 - 23						105	26	26	1.05	10	53	20	1.02	53	0.26				
3CR.20671.169	Onslow	7	SR 1243	FROM SR 1279 (HARRELL'S LOOP RD.) TO END OF SYSTEM	5	2	2WU	NO	NO	1.51	20						151	38	38	1.51	20	76	30	1.46	76	0.38				
3CR.20671.169	Onslow	8	SR 1279	WIDEN FROM SR 1212 (PONY FARM RD.) TO SR 1243 (MEADOWVIEW RD.) & RESURFACE FROM SR 1212 TO LOOP END AT SR 1212	4 & 6	2	2WU	NO	NO	0.39	18 - 21				1		39	10	10	0.39	10	20	10	0.42	20	0.10				
3CR.20671.169	Onslow	9	SR 1223	FROM MARTIN MERRIETTA QUARRY ENTRANCE TO SR 1227 (UNION CHAPEL CHURCH RD.)	5	2	2WU	NO	NO	0.66	22						66	17	17	0.66	10	33	10	0.64	33	0.17				
3CR.20671.169	Onslow	10	SR 1117	FROM NC 53 TO SR 1124 (CANADY RD.)	5	2	2WU	NO	NO	1.1	24			2	1	1	110	28	28	1.10	10	55	20	1.10	55	0.28				
3CR.20671.169	Onslow	11	SR 1511	WIDEN FROM NC 24 TO END OF SYSTEM	7	2	2WU	NO	NO	2.03	26						220	55	55	2.20	20	110	40	2.20	110	0.55	350	50		
3CR.20671.169	Onslow	12	SR 1848	FROM SR 1413 (ROCKY RUN RD.) TO SR 2384 (WINNERS CIRCLE NORTH)	5 & 8	2	2WU	NO	NO	0.79	20 - 32		6		16	19	49	12	12	0.49	10	25	10	0.40	25	0.12				
3CR.20671.169	Onslow	13	SR 1849	FROM CUL-DE-SAC TO END OF CURB & GUTTER	8	2	2WU	NO	NO	0.13	24 - 70				1															
3CR.20671.169	Onslow	14	SR 1850	FROM SR 1848 (HORSE SHOE BEND) TO CUL-DE-SAC	8	2	2WU	NO	NO	0.07	24 - 70		1		2	2														
3CR.20671.169	Onslow	15	SR 2371	FROM SR 1413 (ROCKY RUN RD.) TO SR 1848 (HORSESHOE BEND)	5 & 8	2	2WU	NO	NO	0.63	24				16	3	52	13	13	0.52	10	26	10	0.50	26	0.13				
<b>TOTAL FOR PROJ NO. 3CR.20671.169</b>										<b>15.29</b>			<b>7</b>	<b>2</b>	<b>36</b>	<b>26</b>	<b>1,151</b>	<b>289</b>	<b>289</b>	<b>11.51</b>	<b>130</b>	<b>578</b>	<b>210</b>	<b>10.54</b>	<b>578</b>	<b>2.88</b>	<b>350</b>	<b>50</b>		
<b>GRAND TOTAL</b>												<b>23.2</b>		<b>62,568.00</b>	<b>7</b>	<b>2</b>	<b>36</b>	<b>26</b>	<b>1,942</b>	<b>487</b>	<b>487</b>	<b>19.42</b>	<b>190</b>	<b>974</b>	<b>330</b>	<b>20.54</b>	<b>974</b>	<b>4.86</b>	<b>350</b>	<b>50</b>

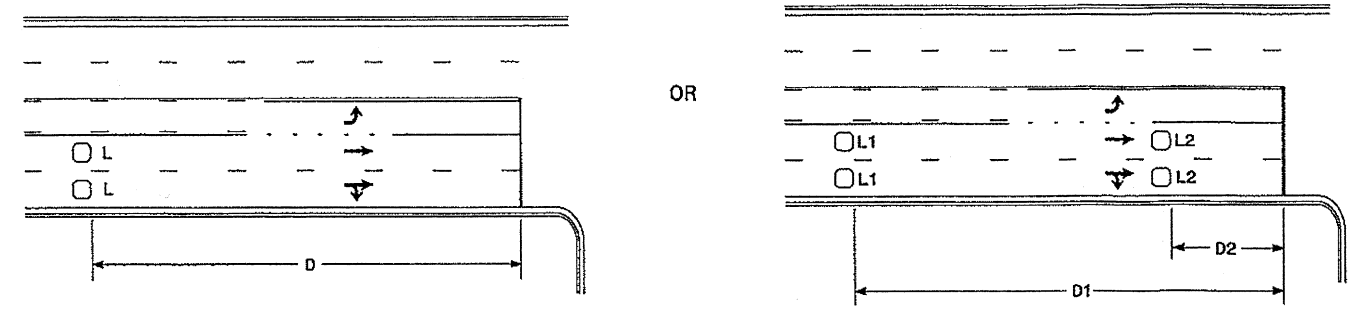
PROJECT NO.	SHEET NO.	TOTAL NO.
3CR.10671.169, ETC.	16	

### THERMOPLASTIC AND PAINT QUANTITIES

PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	TYP	LANES	LANE TYPE	LENGTH	WIDTH	4413000000-E	4457000000-N	4510000000-N	4685000000-E	4686000000-E	4695000000-E	4697000000-E	4710000000-E	4725000000-E				4810000000-E				4820000000-E				4835000000-E				4845000000-N				4900000000-N		4905000000-N	
										WORK ZONE ADVANCE/GENERAL WARNING SIGNING	TEMPORARY TRAFFIC CONTROL	LAW ENFORCEMENT	4" X 90 M WHITE THERMO	4" X 120 M WHITE THERMO	4" X 120 M YELLOW THERMO	8" X 90 M YELLOW THERMO	8" X 120 M YELLOW THERMO	24" X 120 M WHITE THERMO	THERMO LT ARROW 90 M	THERMO STR ARROW 90 M	THERMO RT ARROW 90 M	THERMO STR & RT ARROW 90 M	4" WHITE PAINT	4" YELLOW PAINT	8" YELLOW PAINT	24" WHITE PAINT	PAINT LT ARROW	PAINT STR ARROW	PAINT RT ARROW	PAINT STR & RT ARROW	YELLOW & YELLOW MARKERS	CRYSTAL & RED MARKERS	SNOW PLOWABLE MARKERS (Y/Y) EA	SNOW PLOWABLE MARKERS (C/R) EA							
3CR.10671.169	Onslow	1	NC 111	WIDEN FROM DUPLIN COUNTY LINE TO SR 1221 (FOWLER MANNING RD.)	1	2	2WU	3.97	27	448	0.17		41,808	295	18,570																				254	25					
3CR.10671.169	Onslow	2	NC 172	WIDEN FROM US 17 TO PAVEMENT CHANGE BEFORE NC 210	2	2	2WU	3.94	27-56	448	0.17		42,240	350	21,600	170	80	7	4	5	1	42,590	21,600	170	80	7	4	5	1	20			302	41							
TOTAL FOR PROJ NO. 3CR.10671.169										896	0.34		84,048	645	40,170	170	80	7	4	5	1	42,590	21,600	170	80	7	4	5	1	20			556	66							
													40,815						17				64,190				17				20		622								
3CR.20671.169	Onslow	3	SR 1229	WIDEN FROM US 258 TO SR 1219 (LUTHER BANKS RD)	3	2	2WU	2.52	20-22	304	0.11		26,612		19,959																			167							
3CR.20671.169	Onslow	4	SR 1231	FROM SR 1229 (GREGORY FORK RD.) TO SR 1238 (KOONCE FORK RD.)	4	2	2WU	1.07	18	160	0.05		11,300		8,475																			72							
3CR.20671.169	Onslow	5	SR 1314	FROM SR 1308 (GUM BRANCH RD.) TO US 258	5	2	2WU	2.99	20	160	0.13		31,574		23,681																			100							
3CR.20671.169	Onslow	6	SR 1212	WIDEN FROM SR 1213 (BLUE CREEK RD.) TO SR 1211 (FIRE TOWER RD). RESURFACE FROM SR 1213 TO SR 1279 (HARRELL'S LOOP RD.)	5 & 6	2	2WU	1.4	20-23	160	0.06		11,088		8,316					4														92	20						
3CR.20671.169	Onslow	7	SR 1243	FROM SR 1279 (HARRELL'S LOOP RD.) TO END OF SYSTEM	5	2	2WU	1.51	20	208	0.07		15,946		11,960																			101							
3CR.20671.169	Onslow	8	SR 1279	WIDEN FROM SR 1212 (PONY FARM RD.) TO SR 1243 (MEADOWVIEW RD.) & RESURFACE FROM SR 1212 TO LOOP END AT SR 1212	4 & 6	2	2WU	0.39	18-21	96	0.02		4,150		3,113																			27							
3CR.20671.169	Onslow	9	SR 1223	FROM MARTIN MERRIETTA QUARRY ENTRANCE TO SR 1227 (UNION CHAPEL CHURCH RD.)	5	2	2WU	0.66	22	112	0.03		6,970		5,223																			45							
3CR.20671.169	Onslow	10	SR 1117	FROM NC 53 TO SR 1124 (CANADY RD.)	5	2	2WU	1.1	24	160	0.05		11,616	308	10,874	158		28	10		2	2											68	32							
3CR.20671.169	Onslow	11	SR 1511	WIDEN FROM NC 24 TO END OF SYSTEM	7	2	2WU	2.03	26	272	0.09	40.00	23,232	360	17,424			25	1		4												142								
3CR.20671.169	Onslow	12	SR 1848	FROM SR 1413 (ROCKY RUN RD.) TO SR 2384 (WINNERS CIRCLE NORTH)	5 & 8	2	2WU	0.79	20-32	128	0.03																														
3CR.20671.169	Onslow	13	SR 1849	FROM CUL-DE-SAC TO END OF CURB & GUTTER	8	2	2WU	0.13	24-70	64	0.00																														
3CR.20671.169	Onslow	14	SR 1850	FROM SR 1848 (HORSE SHOE BEND) TO CUL-DE-SAC	8	2	2WU	0.07	24-70	64	0.00																														
3CR.20671.169	Onslow	15	SR 2371	FROM SR 1413 (ROCKY RUN RD.) TO SR 1848 (HORSESHOE BEND)	5 & 8	2	2WU	0.63	24	112	0.03																														
TOTAL FOR PROJ NO. 3CR.20671.169										15.29	2,000	1	40	142,488	668	109,025	158	53	11		10	2																814	52		
													109,693						23																866						
GRAND TOTAL									23.2	2,896	1	40	226,536	1,313	149,195	158	170	133	18	4	15	3	42,590	21,600	170	80	7	4	5	1	834	52	556	66							
													150,508						40			64,190			17				886		622										



### 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

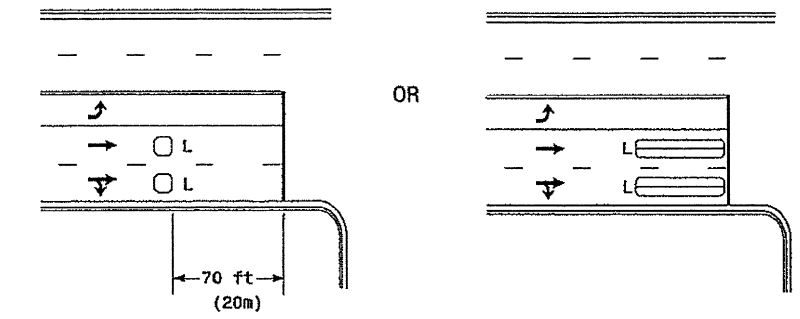
Speed Limit mph (km/hr)	D1 ft (m)	D2 ft (m)
40 (64)	250 (75)	80 (25)
45 (72)	300 (90)	90 (27)
50 (80)	355 (110)	100 (30)
55 (88)	420 (130)	110 (35)

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

Volume Density Operation

"Stretch" Operation

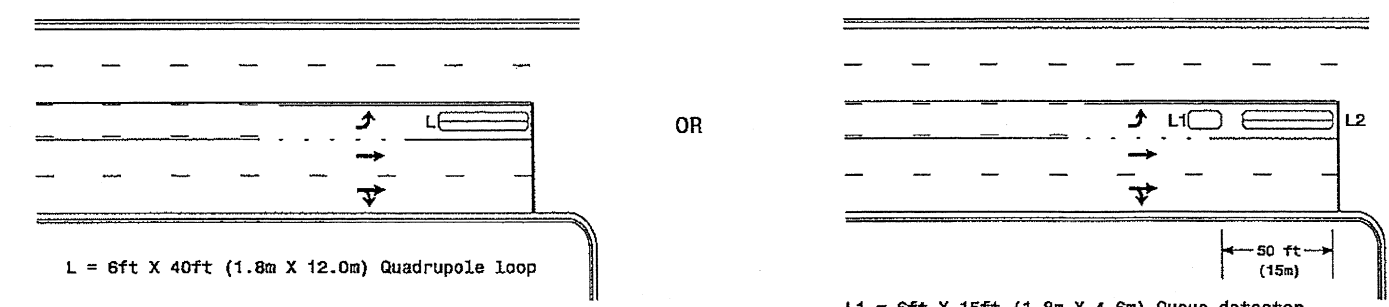
### Low Speed Detection [≤35 mph (56 km/hr)]



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

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

### Left Turn Lane Detection



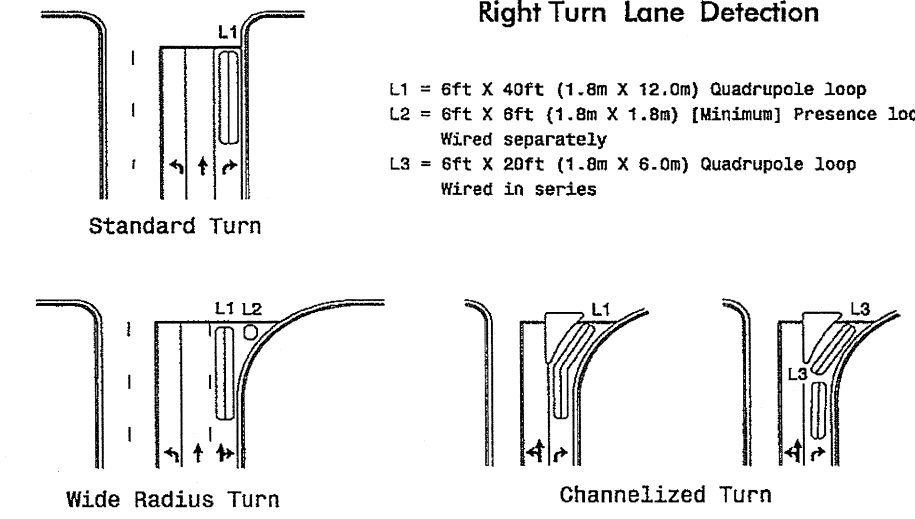
L = 6ft X 40ft (1.8m X 12.0m) Quadrupole loop

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

Presence Loop Detection

Queue Loop Detection

### Right Turn Lane Detection



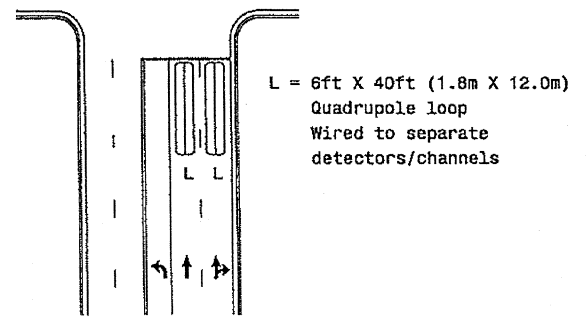
L1 = 6ft X 40ft (1.8m X 12.0m) Quadrupole loop  
L2 = 6ft X 6ft (1.8m X 1.8m) [Minimum] Presence loop  
Wired separately  
L3 = 6ft X 20ft (1.8m X 6.0m) Quadrupole loop  
Wired in series

Standard Turn

Wide Radius Turn

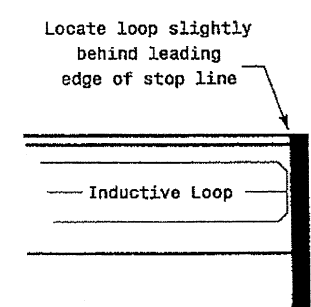
Channelized Turn

### 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

Inductive Loop

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

19-015-005 (11/03)  
19-015-005 (11/03)  
2006/06/06

Prepared in the Office of:  
  
722 N. McDowell St., Raleigh, NC 27603

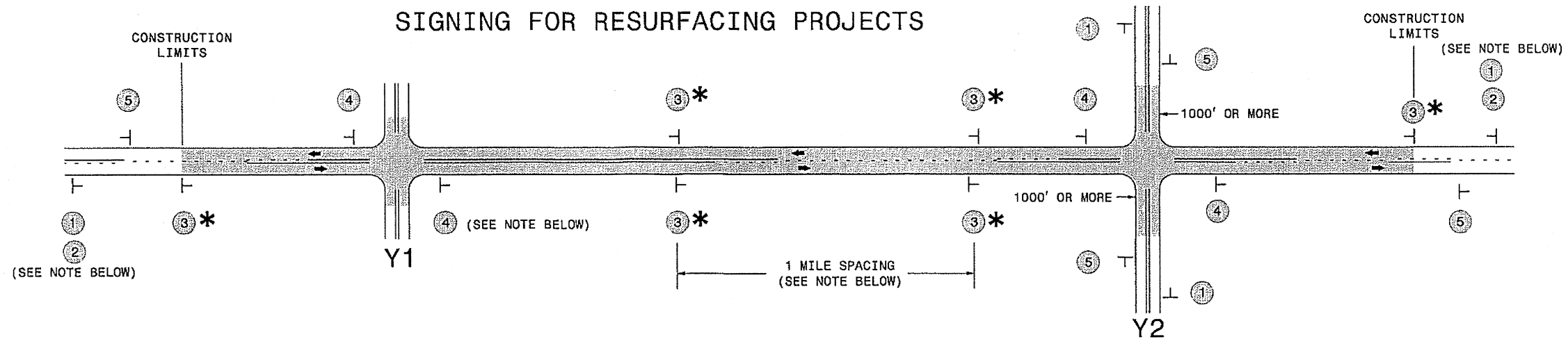
SCALE  
N/A

#### Typical Loop Locations

PLAN DATE: June 2006  
PREPARED BY: P L Alexander  
REVISIONS:   
INIT. DATE:   
REVIEWED BY:   
REVIEWED DATE:   
SIGNATURE:   
DATE:   
SIS. INVENTORY NO.:

SEAL  
  
SEAL  
23456  
P. L. ALEXANDER  
PROFESSIONAL ENGINEER  
STATE OF NORTH CAROLINA

## SIGNING FOR RESURFACING PROJECTS



LEGEND	
└	STATIONARY SIGN
→	DIRECTION OF TRAFFIC FLOW

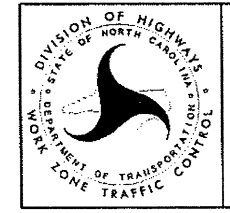
### MAINLINE (-L-) SIGNING

### -Y- LINE SIGNING

SIGNING NOTES AND PLACEMENT PER DIRECTION		
1 2		<p>NO REQUIRED STATIONARY SIGNING FOR THE FOLLOWING -Y- LINE CONDITIONS:</p> <ol style="list-style-type: none"> <li>1) LESS THAN 1000' OF RESURFACING ALONG -Y- LINE</li> <li>2) SUBDIVISION ROADS</li> <li>3) DEAD END ROADS</li> </ol> <p>WHEN PAVING/CONSTRUCTION ACTIVITIES PROCEED ACROSS AN UNSIGNED -Y- LINE, ADVANCE WARNING PORTABLE SIGNS SHALL BE USED ALONG THE -Y- LINE AS SHOWN BELOW. REMOVE UPON COMPLETION OF WORK.</p> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;"> <p>W20-1 48" X 48"</p> </div> <div style="text-align: center;"> <p>W20-7 A 48" X 48"</p> </div> </div> <p>PLACED 500' IN ADVANCE OF FLAGGER. PLACED 250' IN ADVANCE OF FLAGGER.</p>
3 *		
4		
5		

### \* SIGNING FOR ASPHALT SURFACE TREATMENTS (ONLY)

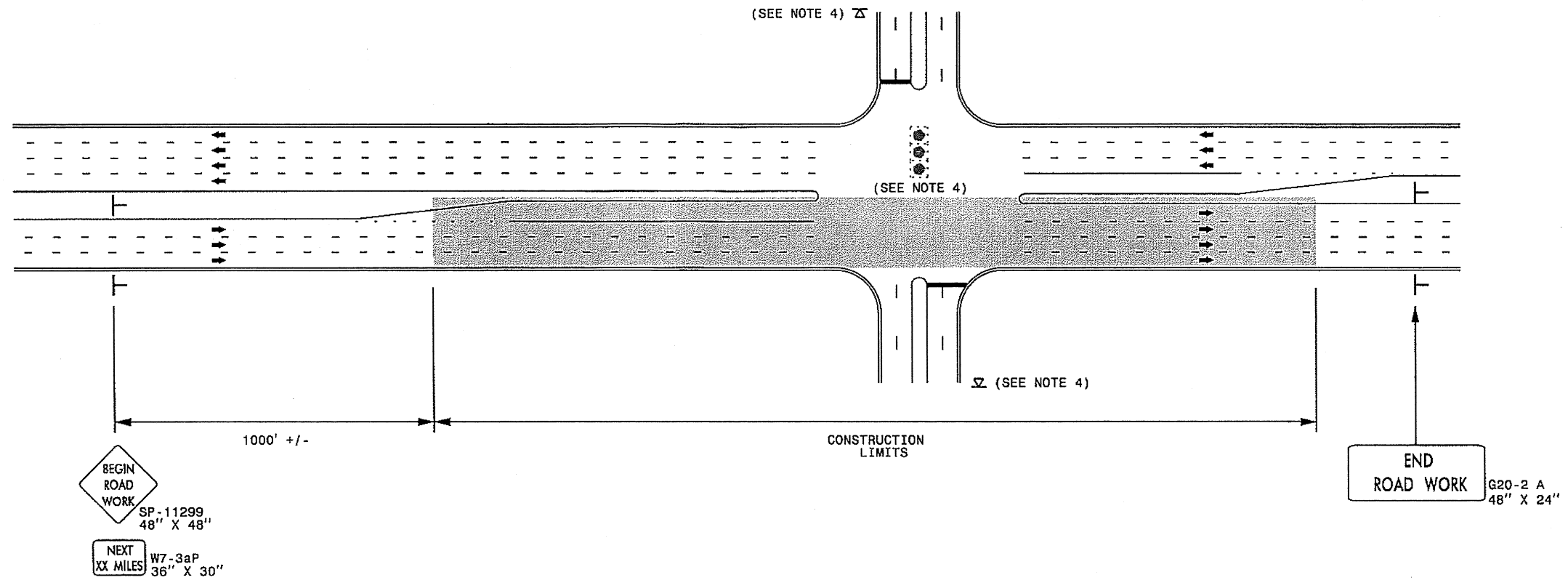
SUBSTITUTE LOW/SOFT SHOULDER SIGNS BY ALTERNATING THE FOLLOWING TWO SIGNS:  
STARTING WITH "UNMARKED PAVEMENT AHEAD" (SP 06026) FOLLOWED BY "LOOSE GRAVEL" (WB-7).



RESURFACING  
ADVANCE WARNING SIGNS  
FOR  
RURAL AND SUBURBAN  
2 LANE ROADWAYS

C:\Users\jtc\AppData\Local\Temp\1\ExternalWebPage\Documents\Resurfacing\Resurfacing\_AdWarn\_2Ln.dgn

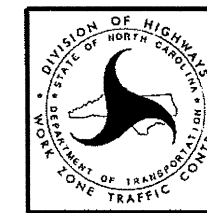
## URBAN / SUBURBAN WORKZONES



### NOTES:

- 1) 48" x 48" SIZED SIGNS (SP- 11299) MAY BE REDUCED TO 36" X 36" ON ROADWAYS WITH SPEED LIMITS OF 40 MPH OR LESS.
- 2) MOUNT SIGNS THAT ARE LARGER THAN 10 SQUARE FEET IN AREA ON TWO OR MORE WOOD OR U-CHANNEL SUPPORTS. PERFORATED SQUARE TUBING SUPPORT SYSTEMS MAY SUPPORT LARGER AREAS ON A SINGLE SUPPORT. FOLLOW MANUFACTURER'S RECOMMENDATIONS. THESE SYSTEMS SHALL BE NCHRP 350 COMPLIANT AND NCDOT APPROVED.
- 3) ADVANCE WARNING SIGNS NOT REQUIRED ON NON-SIGNALIZED SIDE STREETS.
- 4) MAY USE LAW ENFORCEMENT TO CONTROL TRAFFIC AT SIGNALIZED INTERSECTIONS AS DIRECTED BY THE ENGINEER. PROVIDE PORTABLE "ROAD WORK AHEAD" (W20-1) SIGNS 500' IN ADVANCE ALONG BOTH APPROACHES FROM THE SIDE STREETS WHEN PAVING PROCEEDS THROUGH THE INTERSECTION.
- 5) LATERAL CLEARANCE AT ALL SIGN LOCATIONS SHALL BE 2' AS MEASURED FROM THE EDGE OF PAVEMENT OR THE FACE OF THE CURB. WHEN UNABLE TO OBTAIN THE LATERAL CLEARANCE WITHIN THE MEDIAN AREA USE SHOULDER MOUNTS ONLY.
- 6) SIGN MOUNT LOCATIONS SHALL NOT BLOCK SIDEWALKS OR DRIVEWAYS.
- 7) IF STATIONARY GENERAL WARNING SIGNS ARE USED, THEY WILL BE PAID FOR PER SECTION 104 OF THE NCDOT STANDARD SPECIFICATIONS AS EXTRA WORK.
- 8) IF MILLED AREAS ARE NOT PAVED BACK BY THE END OF THE WORK DAY, PORTABLE SIGNS SHALL BE USED TO WARN DRIVERS OF THE PRESENT CONDITIONS. THESE ARE TO INCLUDE, BUT NOT LIMITED TO "ROUGH ROAD" W8-8, "UNEVEN LANES" W8-11, "GROOVED PAVEMENT" W8-15 w/MOTORCYCLE PLAQUE MOUNTED BELOW. THESE ARE TO BE DOUBLE INDICATED ON MULTI-LANE ROADWAYS WITH SPEED LIMITS 45 MPH AND GREATER WHERE LATERAL CLEARANCE CAN BE OBTAINED WITHIN THE MEDIAN AREAS. THESE PORTABLE SIGNS ARE INCIDENTAL TO THE OTHER ITEMS OF WORK INCLUDED IN THE TEMPORARY TRAFFIC CONTROL (LUMP SUM) PAY ITEM.

LEGEND	
T	STATIONARY SIGN
➔	DIRECTION OF TRAFFIC FLOW



**RESURFACING ADVANCE  
WARNING SIGNS FOR  
URBAN / SUBURBAN  
FACILITIES**