09/08/99

TIP NO.: R-5505

CONTRACT NO.: C203422

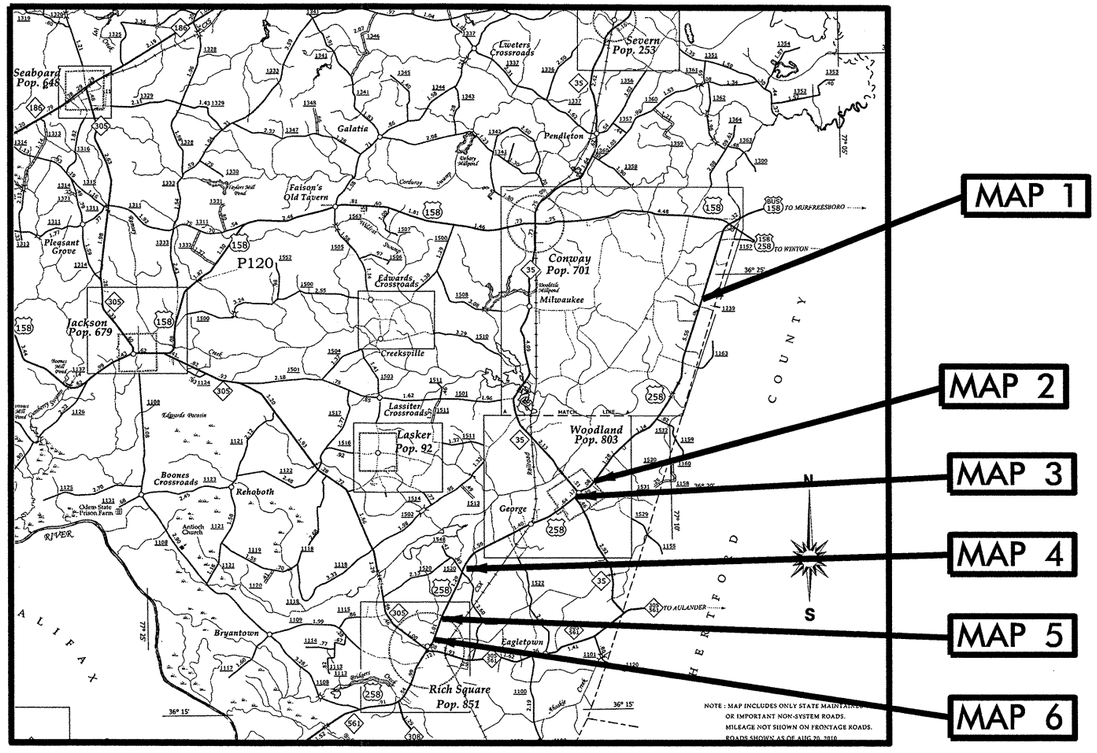
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

NORTHAMPTON COUNTY

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	R-5505	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
45460.3.FR1	STP-0258(19)	MAP 1 – MAP 6	

LOCATION: ***MAP 1 – US 258 FROM US 158 TO BEGIN C&G LT IN WOODLAND***
MAP 2 – US 258 FROM BEGIN C&G LT TO BEGIN C&G BOTH SIDES (WOODLAND)
MAP 3 – US 258 FROM BEGIN C&G BOTH SIDES TO END C&G (WOODLAND)
MAP 4 – US 258 FROM END C&G (WOODLAND) TO BEGIN C&G LT SIDE (RICH SQUARE)
MAP 5 – US 258 FROM BEGIN C&G LT TO BEGIN C&G BOTH SIDES (RICH SQUARE)
MAP 6 – US 258 FROM BEGIN C&G BOTH SIDES TO NC 305 (RICH SQUARE)

TYPE OF WORK: MILLING AND RESURFACING



NTS

PROJECT LENGTH

LENGTH OF ROADWAY PROJECT MAP 1 = 8.18 MI.
LENGTH OF ROADWAY PROJECT MAP 2 = 0.12 MI.
LENGTH OF ROADWAY PROJECT MAP 3 = 0.57 MI.
LENGTH OF ROADWAY PROJECT MAP 4 = 5.31 MI.
LENGTH OF ROADWAY PROJECT MAP 5 = 0.06 MI.
LENGTH OF ROADWAY PROJECT MAP 6 = 0.26 MI.

Prepared in the Office of:
DIVISION OF HIGHWAYS
113 Airport Dr., Edenton NC, 27932

2012 STANDARD SPECIFICATIONS

LETTING DATE:
MARCH 18, 2014

W.B. HOBBS, P.E.
DIVISION PROJECT MANAGER

C.E. SLACHTA
DIVISION PROPOSALS ENGINEER

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

PROJECT REFERENCE NO.	SHEET NO.
R-5505	2

PAVEMENT SCHEDULE

C1	PROP. APPROX. 2" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 224 LBS. PER SQ. YD.
U	EXISTING PAVEMENT.
V1	MILLING BITUMINOUS PAVEMENT. 2" IN DEPTH.

NOTES:

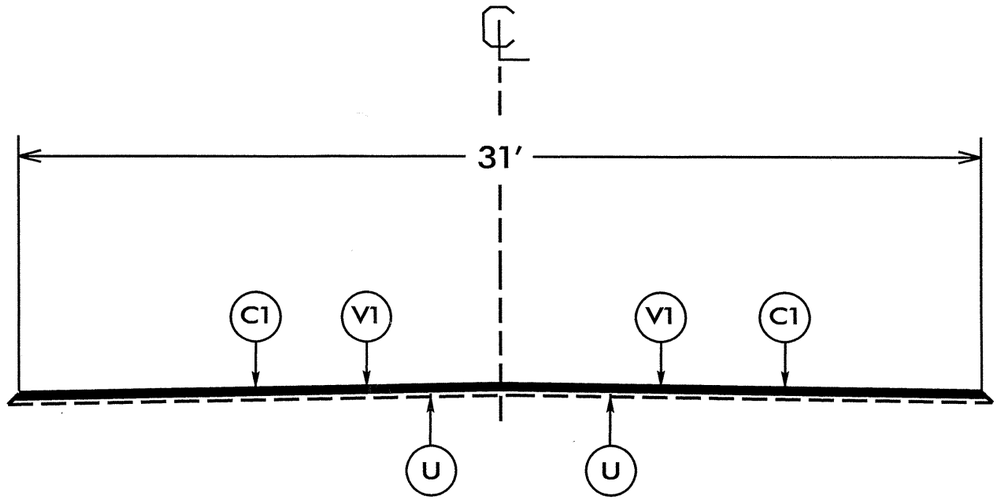
*ALL PAVED S.R. ROADS TO BE RESURFACED TO THE ENDS OF THE RADII., OR AS DIRECTED BY THE ENGINEER

*EDGES, PAVEMENT WIDENING, INTERSECTIONS, AND BRIDGE FLARES ARE INCLUDED IN THE SUMMARY OF QUANTITIES

*PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE

*FOR BRIDGE NO. 78 ON MAP 1 MILL THE EXISTING SURFACE 2" AND PUT BACK 2" OF S9.5B MIX.

*MATERIAL TRANSFER VEHICLE TO BE USED ON MAPS 1 AND 4 WHEN PLACING ASPHALT CONCRETE PLANT MIX PAVEMENTS.



TYPICAL SECTION NO.1

USE WITH MAP 1 & 4

NTS

PROJECT REFERENCE NO.	SHEET NO.
R-5505	3

PAVEMENT SCHEDULE

C1	PROP. APPROX. 2" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 224 LBS. PER SQ. YD.
U	EXISTING PAVEMENT.
V1	MILLING BITUMINOUS PAVEMENT. 2" IN DEPTH.

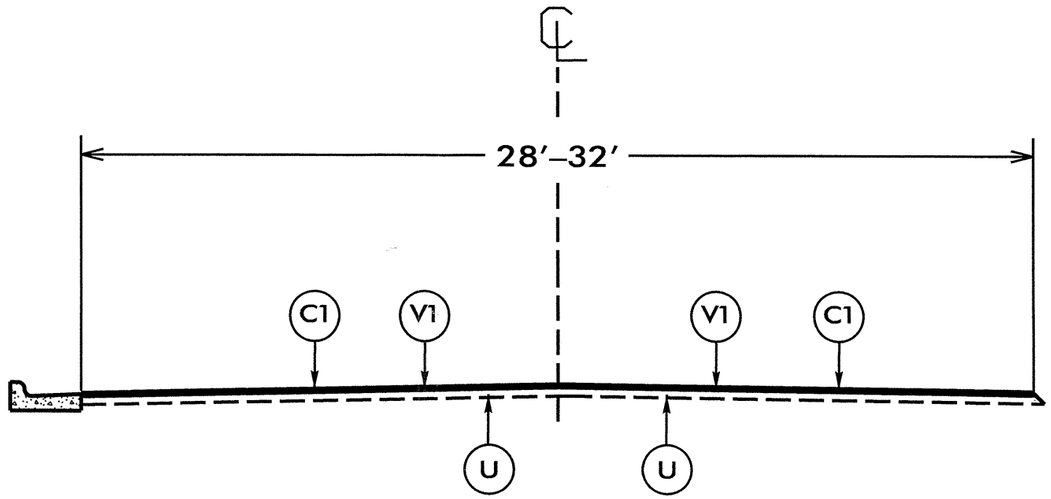
NOTES:

*ALL PAVED S.R. ROADS TO BE RESURFACED TO THE ENDS OF THE RADII., OR AS DIRECTED BY THE ENGINEER

*EDGES, PAVEMENT WIDENING, INTERSECTIONS, AND BRIDGE FLARES ARE INCLUDED IN THE SUMMARY OF QUANTITIES

*PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE

*CONTRACTOR SHALL MILL 2" BELOW EXISTING EDGE OF CONC. CURB & GUTTER



TYPICAL SECTION NO.2

USE WITH MAP 2 & 5

NTS

PROJECT REFERENCE NO.	SHEET NO.
R-5505	4

PAVEMENT SCHEDULE

C1	PROP. APPROX. 2" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 224 LBS. PER SQ. YD.
U	EXISTING PAVEMENT.
V1	MILLING BITUMINOUS PAVEMENT. 2" IN DEPTH.

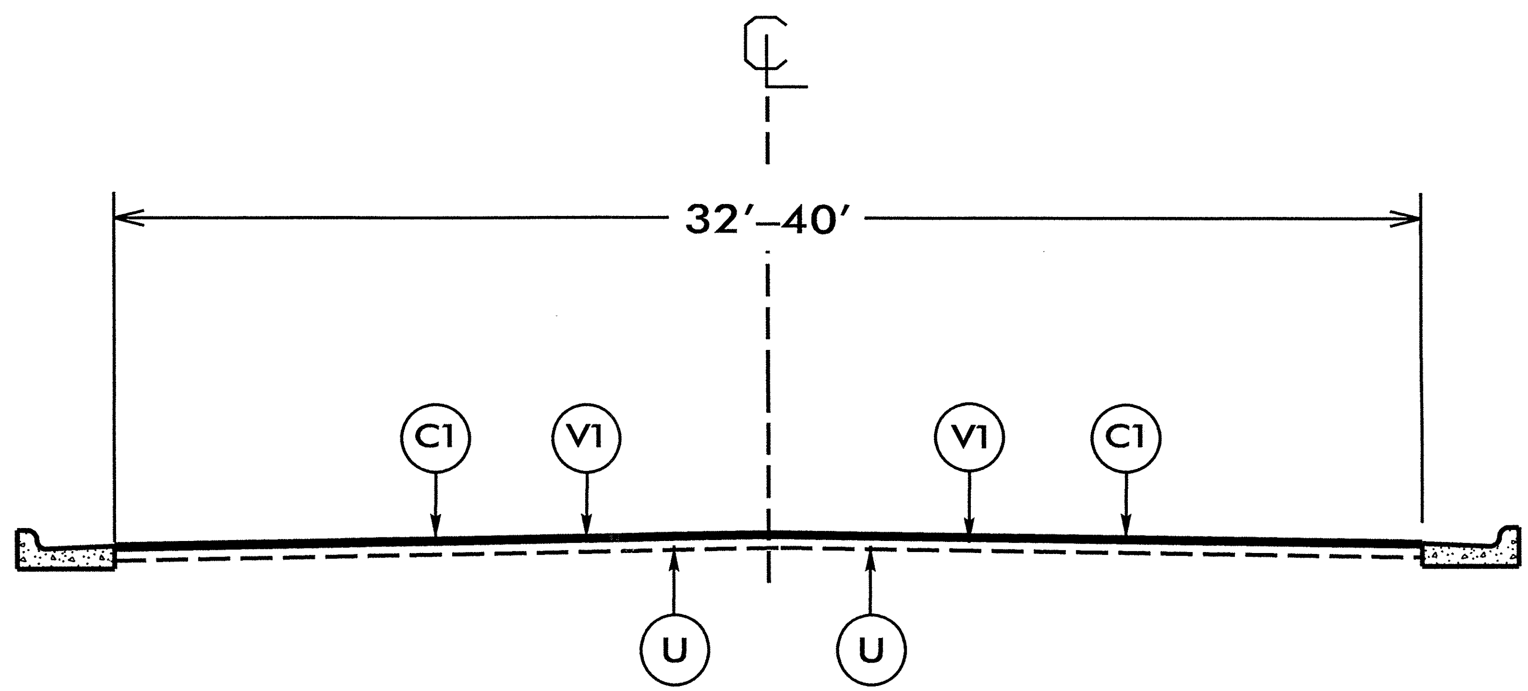
NOTES:

*ALL PAVED S.R. ROADS TO BE RESURFACED TO THE ENDS OF THE RADII., OR AS DIRECTED BY THE ENGINEER

*EDGES, PAVEMENT WIDENING, INTERSECTIONS, AND BRIDGE FLARES ARE INCLUDED IN THE SUMMARY OF QUANTITIES

*PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE

*CONTRACTOR SHALL MILL 2" BELOW EXISTING EDGE OF CONC. CURB & GUTTER



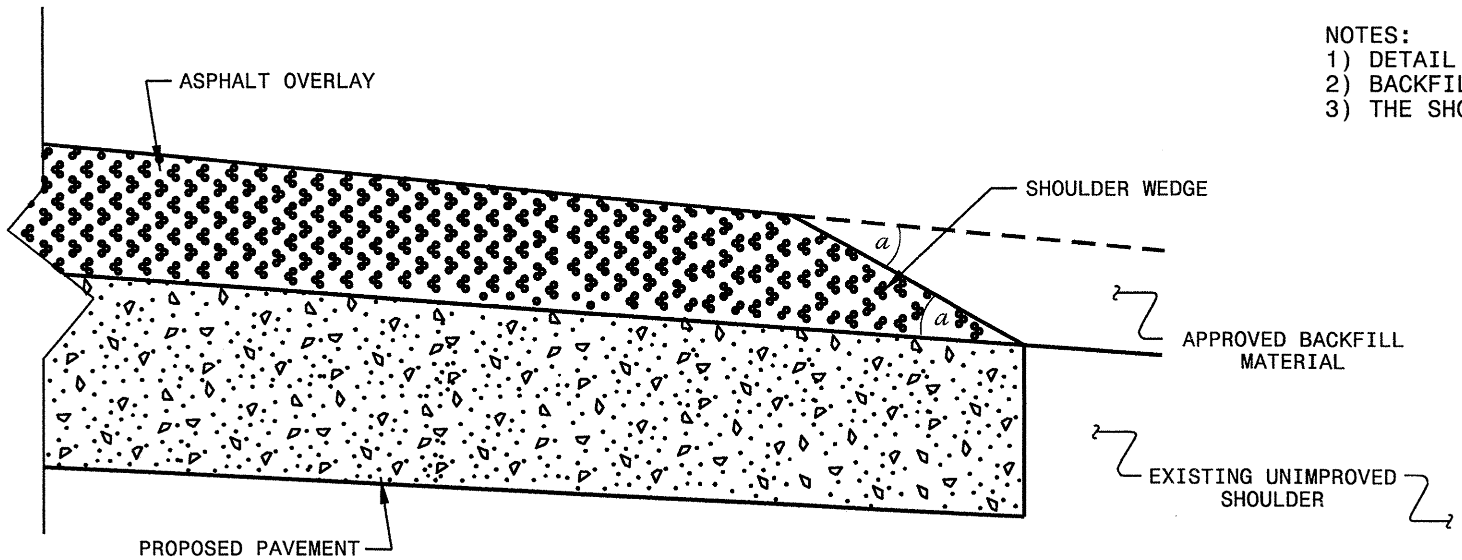
TYPICAL SECTION NO.3

USE WITH MAP 3 & 6

NTS

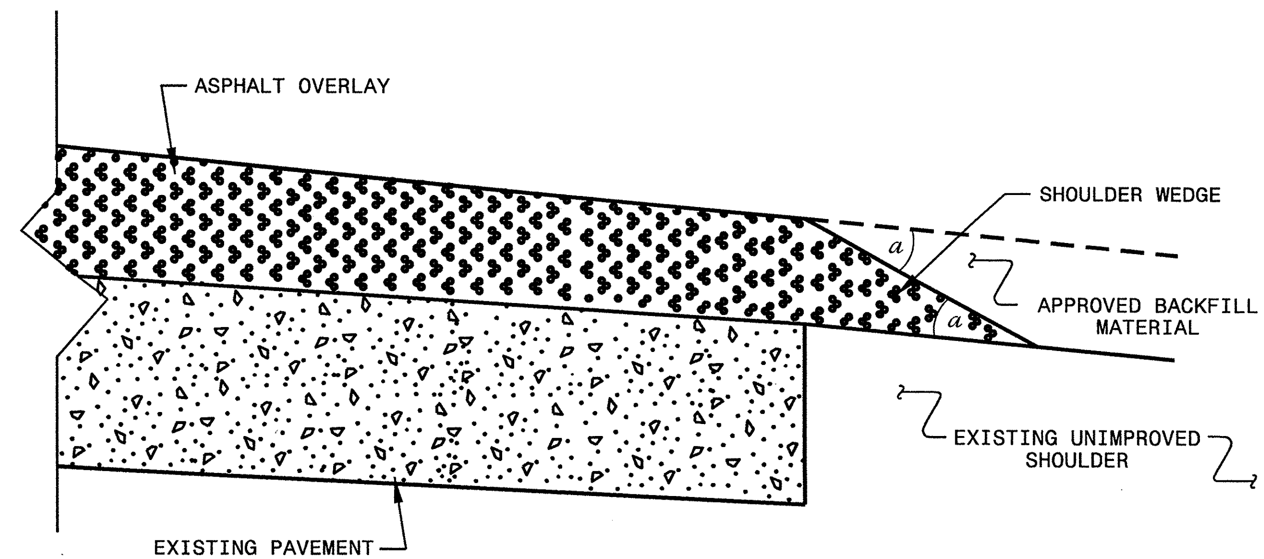
$$$$$SYSTIME$$$$$
$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$$$
$$$$USERNAME$$$$

NOTES:
1) DETAIL DOES NOT APPLY TO OGAFC AND ULTRA-THIN BONDED WEARING COURSE.
2) BACKFILL SHOULDER WITH APPROVED MATERIAL.
3) THE SHOULDER WEDGE DEVICE MAY BE DISENGAGED AT PAVED DRIVEWAYS AND SIDE STREETS.



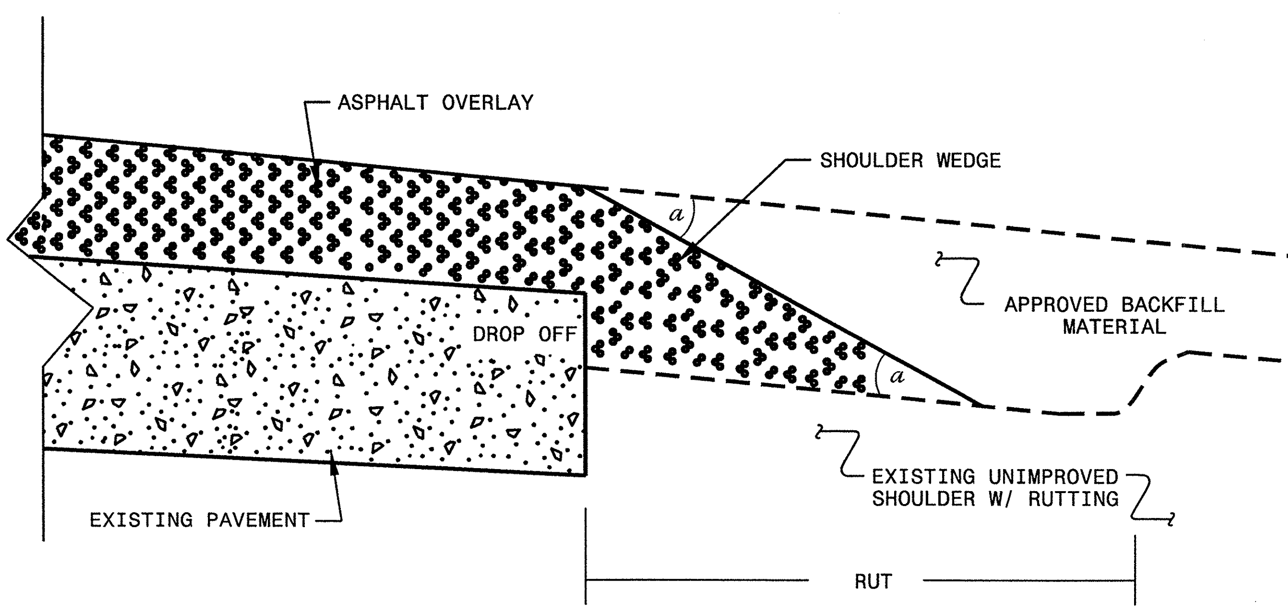
SHOULDER WEDGE DETAIL

(Resurfacing Projects w/ Widening or with Existing Paved Shoulder having no dropoffs)



SHOULDER WEDGE DETAIL

(Resurfacing Projects w/ NO Widening)



SHOULDER WEDGE DETAIL

(Resurfacing Adjacent to Rutted Shoulder)

- SHOULDER WEDGE ANGLE = 30°

CONTRACT STANDARDS AND DEVELOPMENT UNIT
Office 919-707-6950 FAX 919-250-4119

SHOULDER WEDGE DETAILS

ORIGINAL BY: T.SPELL DATE: 7-19-11
MODIFIED BY: DATE: 10/16/12
CHECKED BY: DATE:
FILE SPEC.: s:usr/details/stand/shoulderwedgedetail.dgn

PROJECT NO.	SHEET NO.	TOTAL NO.
R-5505	6	

SUMMARY OF QUANTITIES

PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	TYP NO	LANES	LANE TYPE	FINAL SURFACE TESTING REQUIRED	WARM MIX ASPHALT REQUIRED	LENGTH MI	WIDTH FT	MOBILIZATION LS	INCIDENTAL STONE BASE TONS	2" MILLING SY	SURFACE COURSE, S9.5B TONS	ASPHALT BINDER FOR PLANT MIX TONS	6" CONCRETE DRIVEWAY SY	5" MONOLITHIC CONCRETE ISLANDS (KEYED IN) SY	RETROFIT EXISTING CURB RAMPS EA	ADJ. OF MANHOLES EA	ADJ. OF METER OR VALVE BOX EA	GUARDRAIL ANCHOR UNITS, TYPE 350 EA	INDUCTIVE LOOP SAWCUT LF	LEAD-IN CABLE (14-2) LF
R-5505	Northampton	1	US 258	FROM US 158 TO BEGIN LT C&G IN WOODLAND	1	2	2WU	NO	NO	8.18	31	0.56	600	154,000	19,549	1,173	30	180		9	12	4		
R-5505	Northampton	2	US 258	FROM BEGIN LT C&G IN WOODLAND TO BEGIN C&G BOTH SIDES IN WOODLAND	2	2	2WU	NO	NO	0.12	32	0.01		2,200	263	16								
R-5505	Northampton	3	US 258	BEGIN C&G BOTH SIDES TO END C&G (WOODLAND)	3	2	2WU	NO	NO	0.57	40	0.04		14,200	1,815	109								
R-5505	Northampton	4	US 258	END C&G IN WOODLAND TO BEGIN LT C&G IN RICH SQUARE	1	2	2WU	NO	NO	5.31	31	0.37	300	99,300	12,303	738	30	190		15	6			
R-5505	Northampton	5	US 258	FROM BEGIN LT C&G TO BEGIN C&G BOTH SIDES (RICH SQUARE)	2	2	2WU	NO	NO	0.06	28	0.00		1,000	124	7								
R-5505	Northampton	6	US 258	FROM BEGIN C&G BOTH SIDES IN RICH SQUARE TO NC 305	3	2	2WU	NO	NO	0.26	32	0.02		5,000	637	38			2	3	1		400	500
GRAND TOTAL										**14.50**		**1**	**900**	**275,700**	**34,691**	**2,081**	**60**	**370**	**2**	**27**	**19**	**4**	**400**	**500**

THERMOPLASTIC AND PAINT QUANTITIES

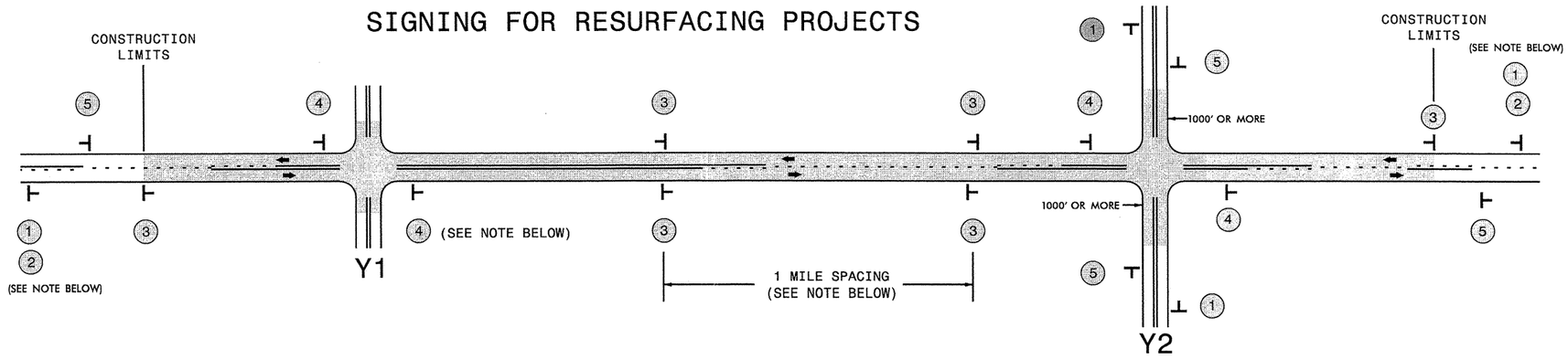
PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	TYP NO	LANES	LANE TYPE	LENGTH	WIDTH	TEMPORARY TRAFFIC CONTROL LS	WORK ZONE ADVANCE GENERAL WARNING SIGNING SF	LAW ENFORCEMENT HR	4" X 90 M WHITE THERMO LF	4" X 120 M YELLOW THERMO LF	4" X 120 M WHITE THERMO LF	16" X 120 M WHITE THERMO LF	24" X 120 M WHITE THERMO LF	THERMO MSG ONLY 120 M EA	THERMO RXR 120 M EA
R-5505	Northampton	1	US 258	FROM US 158 TO BEGIN LT C&G IN WOODLAND	1	2	2WU	8.18	31	0.56	270.67	13.33	86,400	55,500	850		80	4	
R-5505	Northampton	2	US 258	FROM BEGIN LT C&G IN WOODLAND TO BEGIN C&G BOTH SIDES IN WOODLAND	2	2	2WU	0.113	32	0.01	270.67	13.33	600	1,200					
R-5505	Northampton	3	US 258	BEGIN C&G BOTH SIDES TO END C&G (WOODLAND)	3	2	2WU	0.572	40	0.04	270.67	13.33	6,040	6,040			280		
R-5505	Northampton	4	US 258	END C&G IN WOODLAND TO BEGIN LT C&G IN RICH SQUARE	1	2	2WU	5.31	31	0.37	270.67	13.33	56,500	36,500	200	100	75		4
R-5505	Northampton	5	US 258	FROM BEGIN LT C&G TO BEGIN C&G BOTH SIDES (RICH SQUARE)	2	2	2WU	0.061	28	0.004	270.67	13.33	700	450					
R-5505	Northampton	6	US 258	FROM BEGIN C&G BOTH SIDES IN RICH SQUARE TO NC 305	3	2	2WU	0.26	32	0.02	270.67	13.35		2,800			15		
GRAND TOTAL								**14.50**		**1**	**1,624**	**80**	**150,240**	**102,490**	**1,050**	**100**	**450**	**4**	**4**
														103,540				**8**	

PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	TYP NO	LANES	LANE TYPE	LENGTH	WIDTH	THERMO LT ARROW 90 M EA	THERMO RT ARROW 90 M EA	THERMO STR & RT ARROW 90 M EA	4" WHITE PAINT LF	4" YELLOW PAINT LF	16" WHITE PAINT LF	24" WHITE PAINT LF	PAINT MSG ONLY EA	PAINT MSG RXR EA	PAINT LT ARROW EA	PAINT RT ARROW EA	PAINT STR & RT ARROW EA
R-5505	Northampton	1	US 258	FROM US 158 TO BEGIN LT C&G IN WOODLAND	1	2	2WU	8.18	31	2	4	3	87,250	55,500		80	4		2	4	3
R-5505	Northampton	2	US 258	FROM BEGIN LT C&G IN WOODLAND TO BEGIN C&G BOTH SIDES IN WOODLAND	2	2	2WU	0.113	32				600	1,200							
R-5505	Northampton	3	US 258	BEGIN C&G BOTH SIDES TO END C&G (WOODLAND)	3	2	2WU	0.572	40				6,040	6,040		280					
R-5505	Northampton	4	US 258	END C&G IN WOODLAND TO BEGIN LT C&G IN RICH SQUARE	1	2	2WU	5.31	31				56,700	36,500	100	75		4			
R-5505	Northampton	5	US 258	FROM BEGIN LT C&G TO BEGIN C&G BOTH SIDES (RICH SQUARE)	2	2	2WU	0.061	28				700	450							
R-5505	Northampton	6	US 258	FROM BEGIN C&G BOTH SIDES IN RICH SQUARE TO NC 305	3	2	2WU	0.26	32					2,800		15					
GRAND TOTAL								**14.50**		**2**	**4**	**3**	**151,290**	**102,490**	**100**	**450**	**4**	**4**	**2**	**4**	**3**
										9			**253,780**				**8**		**9**		

PROJ. REFERENCE NO.	SHEET NO.
45460.3.1	1

R-5505

SIGNING FOR RESURFACING PROJECTS



LEGEND
- ⊢ STATIONARY SIGN
- ⬅ DIRECTION OF TRAFFIC FLOW

MAINLINE (-L-) SIGNING

SIGNING NOTES AND PLACEMENT PER DIRECTION

1 — ROAD WORK AHEAD W20-1 48" X 48"
2 — NEXT XX MILES W7-3aP 24" X 18"

PLACE 1000' PRIOR TO BEGINNING OF CONSTRUCTION LIMITS.
ONLY USED ON -Y- LINES IF RESURFACING LIMITS EXTEND 1000' ALONG -Y- LINE.

#2 SIGN ONLY USED WHEN RESURFACING LIMITS ARE 2 OR MORE MILES IN LENGTH. ROUND UP TO NEXT WHOLE NUMBER.(NO FRACTIONAL OR DECIMAL NUMBERS)

3 — LOW SOFT SHOULDER SP 13107 48" X 48"

PLACE INITIALLY AT THE CONSTRUCTION LIMITS AND SPACED 1 MILE APART THEREAFTER. IF NO -Y- LINES EXIST, PLACE 2ND SET ½ MILE FROM THE CONSTRUCTION LIMITS AND THEN SPACE 1 MILE THEREAFTER.

4 — ROAD UNDER CONST SP 13106 48" X 48"

THESE ARE FOR -Y- LINES THAT ARE "THROUGH" ROADWAYS. DEAD END AND SUBDIVISION ROADS ARE NOT "THROUGH" ROADWAYS. INSTALL 500' +/- FROM EACH -Y- LINE APPROACH AS SHOWN ABOVE. FOR MULTIPLE -Y- LINES THAT ARE SEPARATED BY 0.25 MILES OR LESS, TREAT AS A SINGLE UNIT AND INSTALL WITHIN 500' OF EACH APPROACH. A MAXIMUM OF 2 SIGN SETS PER MILE. DO NOT INSTALL WHEN -Y- LINES ARE WITHIN 0.5 MILES FROM "END ROAD WORK" SIGN.

5 — END ROAD WORK G20-2 A 48" X 24"

PLACE 500' FOLLOWING THE END OF CONSTRUCTION LIMITS.

-Y- LINE SIGNING

NO REQUIRED STATIONARY SIGNING FOR THE FOLLOWING -Y- LINE CONDITIONS:

1) LESS THAN 1000' OF RESURFACING ALONG -Y- LINE
2) SUBDIVISION ROADS
3) DEAD END ROADS

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.

ROAD WORK AHEAD W20-1 48" X 48" — PLACED 500' IN ADVANCE OF FLAGGER.

W20-7 A 48" X 48" — PLACED 250' IN ADVANCE OF FLAGGER.

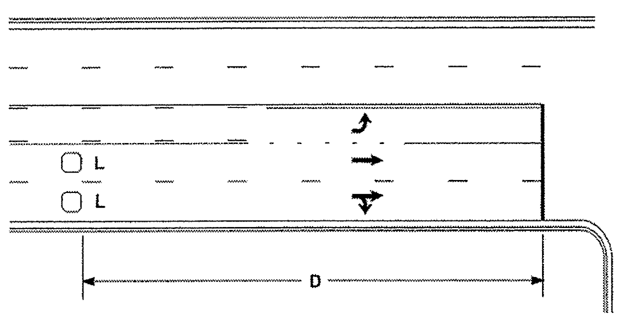
DIVISION OF HIGHWAYS · STATE OF NORTH CAROLINA · DEPARTMENT OF TRANSPORTATION · WORK ZONE TRAFFIC CONTROL

RESURFACING ADVANCE WARNING SIGNS FOR RURAL AND SUBURBAN 2 LANE ROADWAYS

PROJECT REFERENCE NO.	SHEET NO.
45460.3.FR1	SIG 1

R-5505

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



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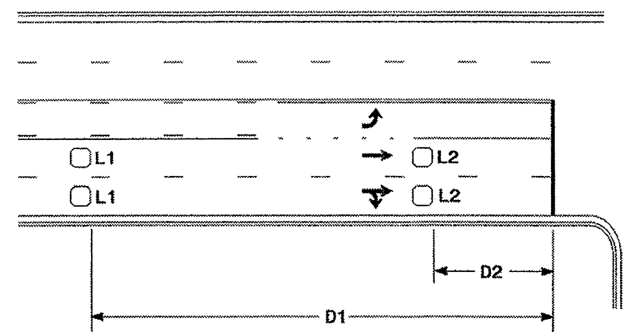


Speed Limit mph (km/hr)	D ft (m)
40 (64)	250 (75)
45 (72)	300 (90)
50 (80)	355 (110)
55 (88)	420 (130)

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

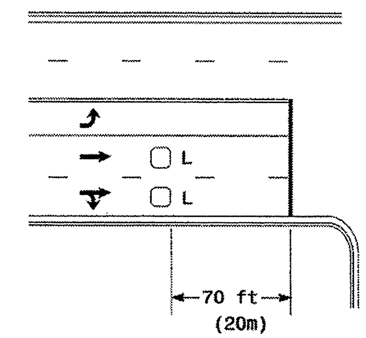
Speed Limit mph (km/hr)	D1 ft (m)	D2 ft (m)
40 (64)	250 (75)	80 (25)
45 (72)	300 (90)	90 (27)
50 (80)	355 (110)	100 (30)
55 (88)	420 (130)	110 (35)

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

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

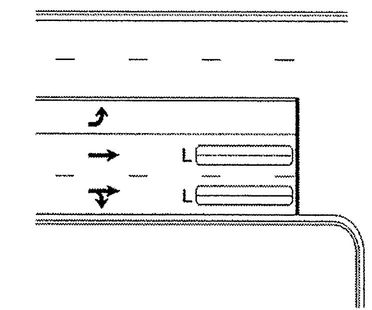
"Stretch" Operation

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



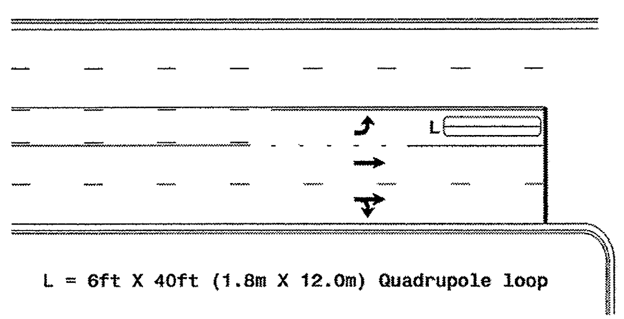
L = 6ft X 6ft (1.8m X 1.8m)
Wired in series

OR



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

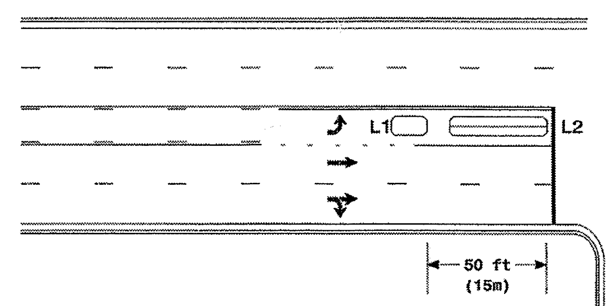
Left Turn Lane Detection



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

Presence Loop Detection

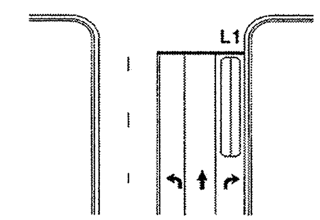
OR



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

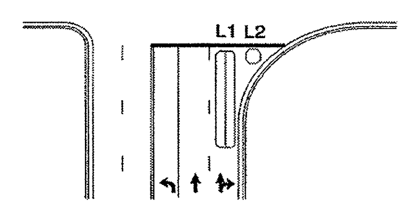
Queue Loop Detection

Right Turn Lane Detection

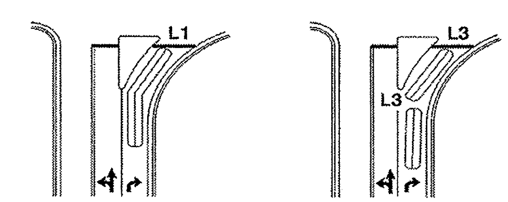


Standard Turn

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

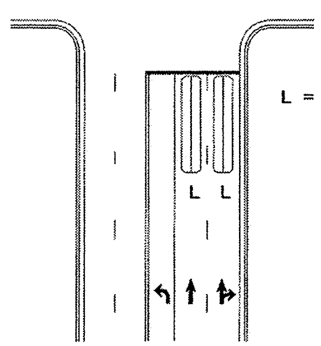


Wide Radius Turn



Channelized Turn

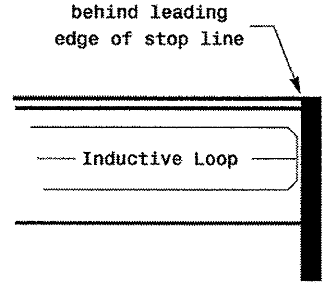
Side Street Detection



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

Prepared in the Offices of:
Traffic Engineering and Safety Systems Branch
State of North Carolina Department of Transportation
Signals and Geometrics Section
122 N. McDowell St., Raleigh, NC 27603

SCALE
N/A

Typical Loop Locations

PLAN DATE: June 2006 | REVIEWED BY:
PREPARED BY: P L Alexander | REVIEWED BY:

REVISIONS	INIT.	DATE
▽ Revise pavement markings		

SEAL
North Carolina Professional Seal 23488 Engineer Pamela Alexander
SIGNATURE DATE 6/6/06
SIG. INVENTORY NO.