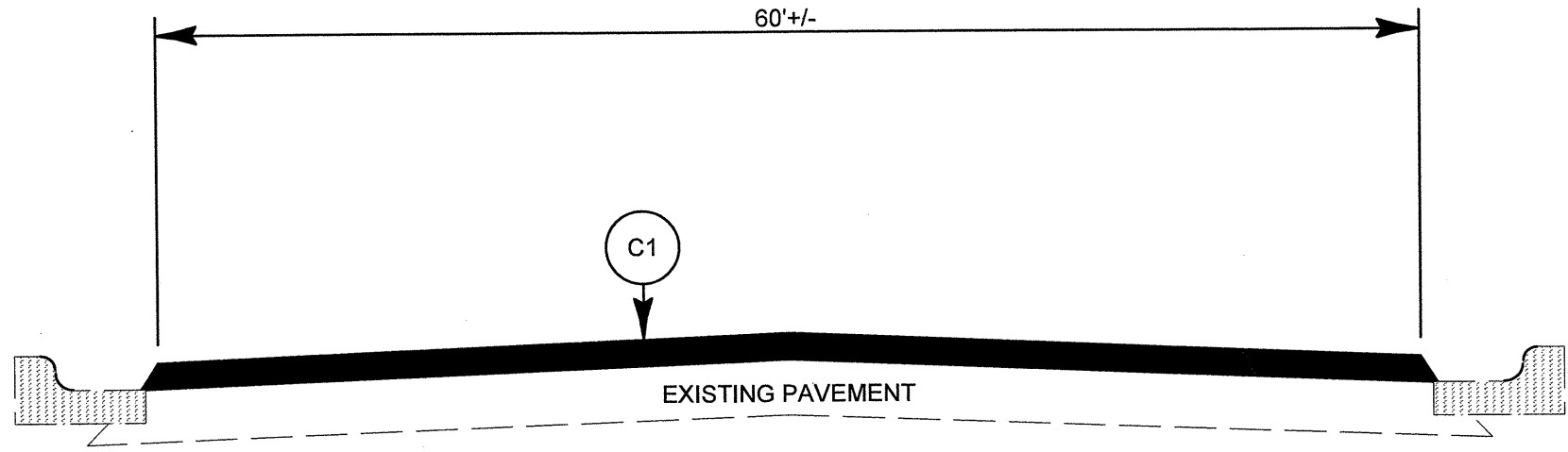
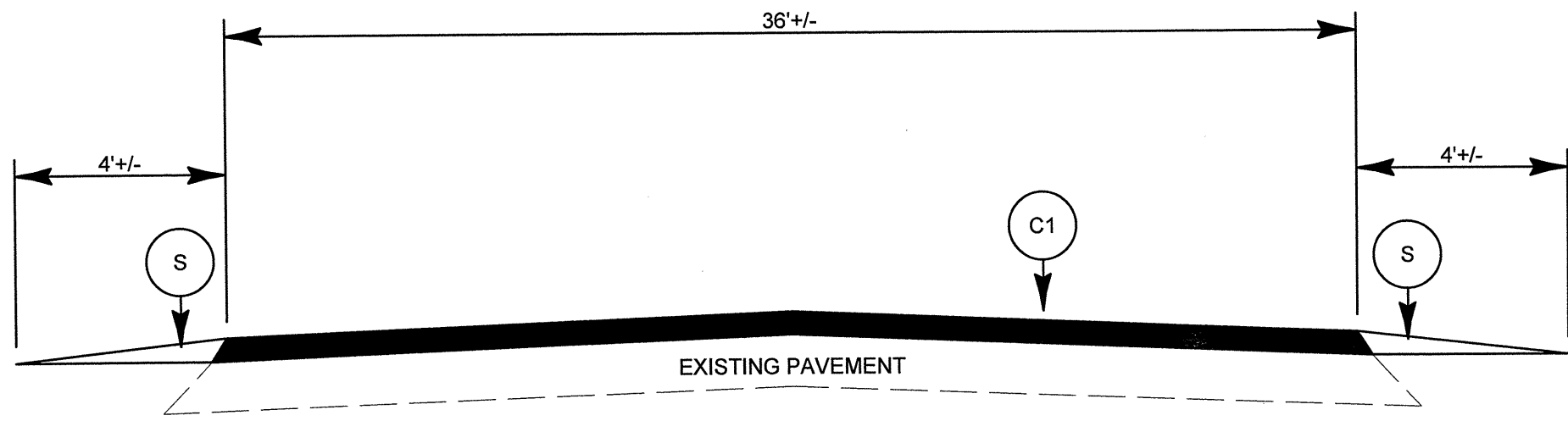
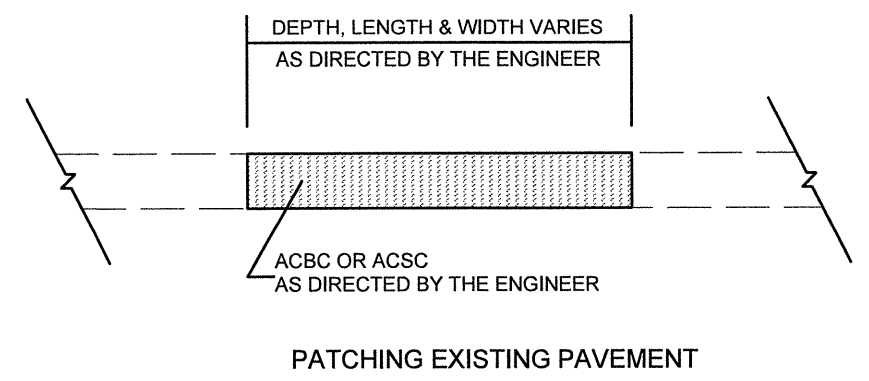


**2013 FRANKLIN COUNTY
RESURFACING**

PROJECT NO. 5CR.10351.12, 5CR.20351.12	SHEET NO. 2	TOTAL SHEETS
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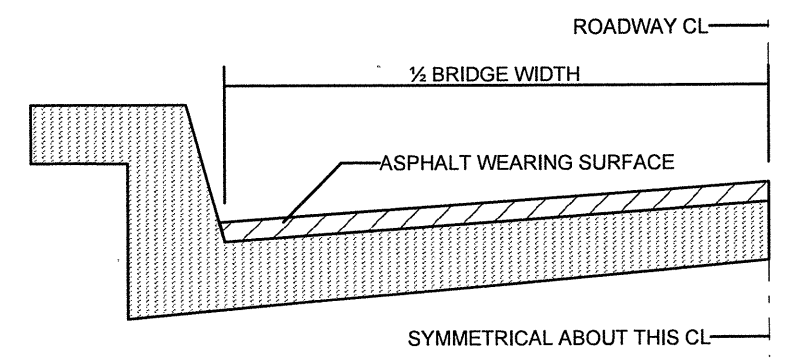
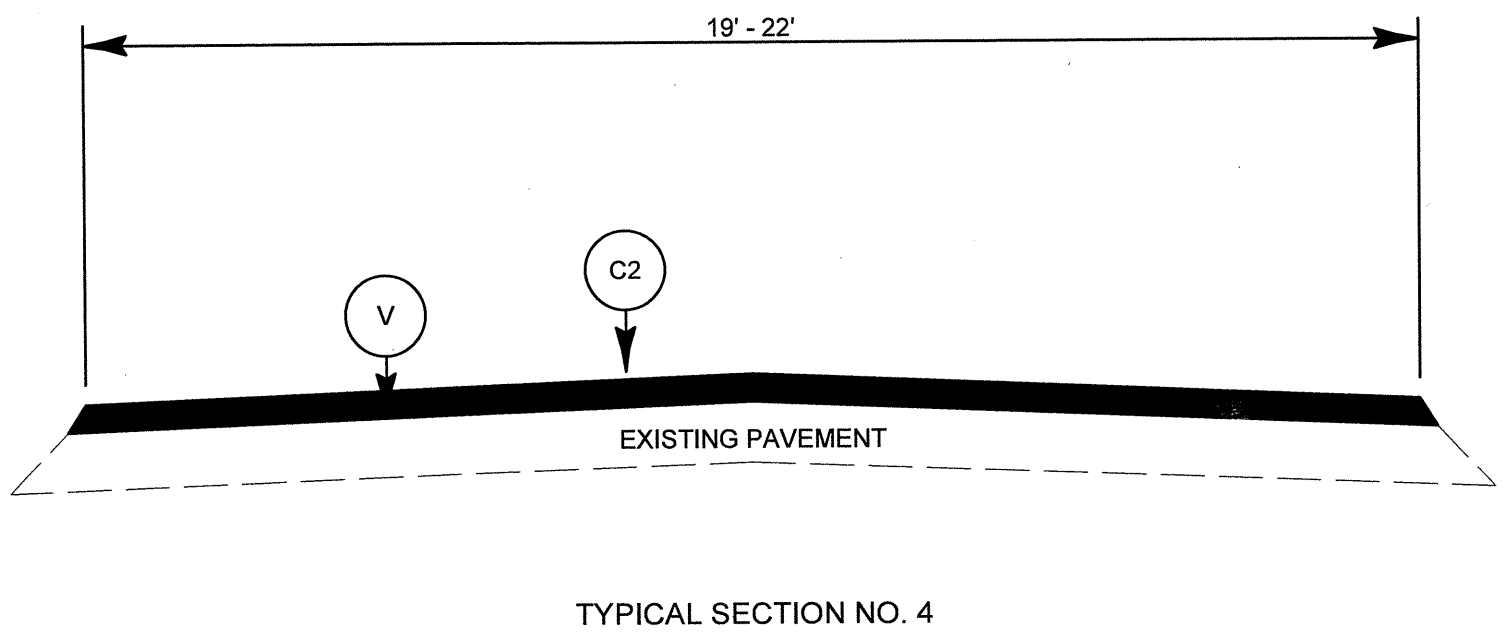
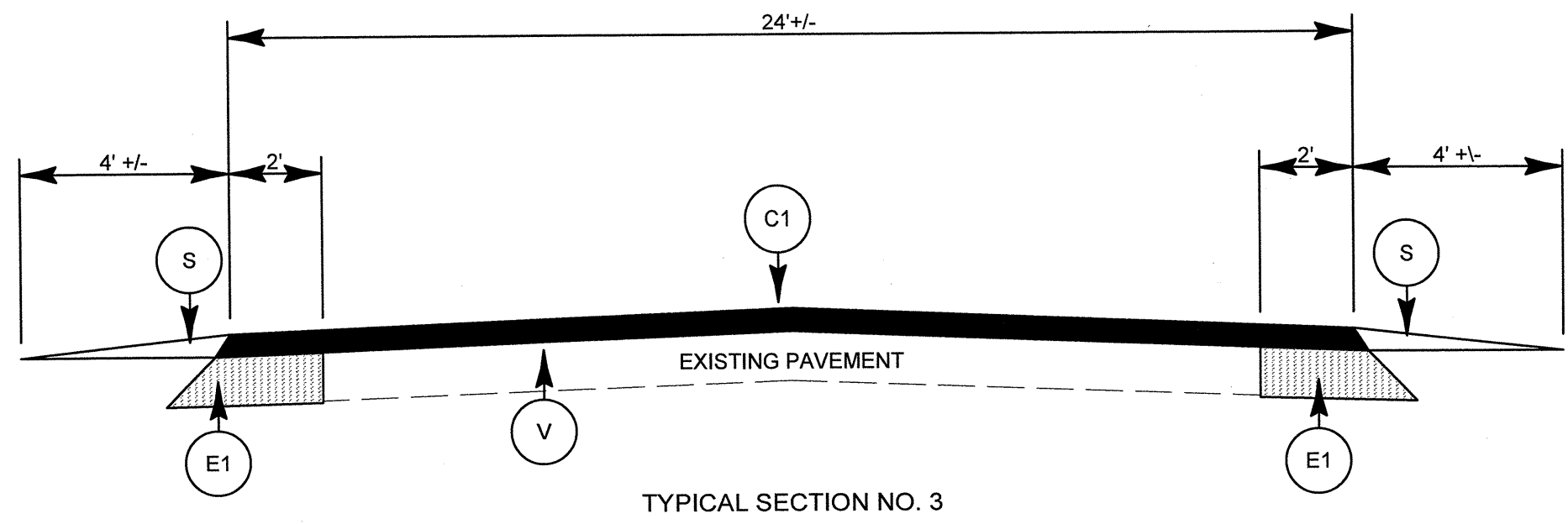
TYPICAL SECTION NO. 1



TYPICAL SECTION NO. 2

PAVEMENT SCHEDULE	
C1	PROP. APPROX. 1.5" OF ASPHALT CONCRETE SURFACE COURSE TYPE S9.5B AT AN AVERAGE RATE OF 168 LBS PER SQ YARD
C2	PROPOSED APPROXIMATE 1.5" OF ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD.
C3	PROPOSED APPROXIMATE 1.25" OF ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A AT AN AVERAGE RATE OF 137.5 LBS. PER SQ. YD.
E1	PROP. APPROXIMATE 7" OF ASPHALT CONCRETE BASE COURSE, TYPE B25.0B AT AN AVERAGE RATE OF 399 LBS PER SQ YD IN EACH OF TWO LAYERS TO PROVIDE 2' WIDENING AS DIRECTED BY THE ENGINEER
S	SHOULDER RECONSTRUCTION AS DIRECTED BY THE ENGINEER
V	PROP. 1.5" MILLING

PROJECT NO.	SHEET NO.	TOTAL SHEETS
5CR.10351.12, 5CR.20351.12	3	

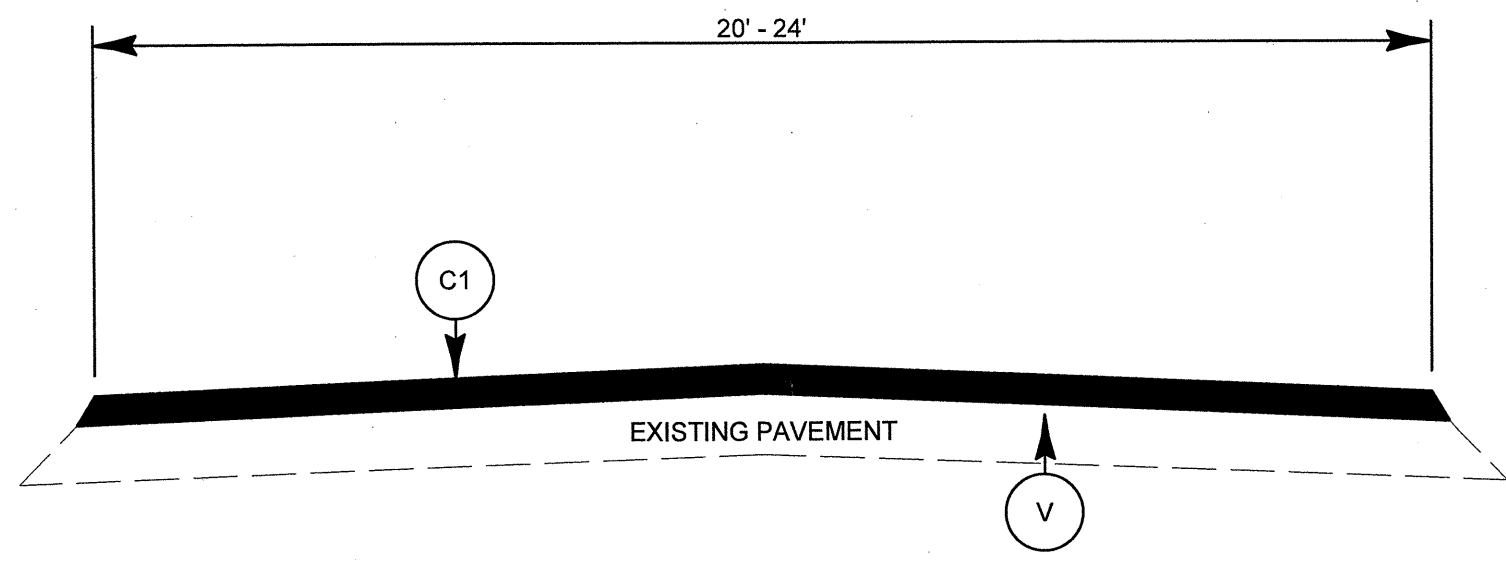


BRIDGE HALF TYPICAL SECTION
 FOR BRIDGES WITH FLOOR DRAINS, CARE SHALL BE EXERCISED IN PLACING THE WEARING SURFACE AROUND FLOOR DRAINS SO AS NOT TO HINDER EFFECTIVE DRAINAGE. ALL DRAINS SHALL BE LEFT OPEN

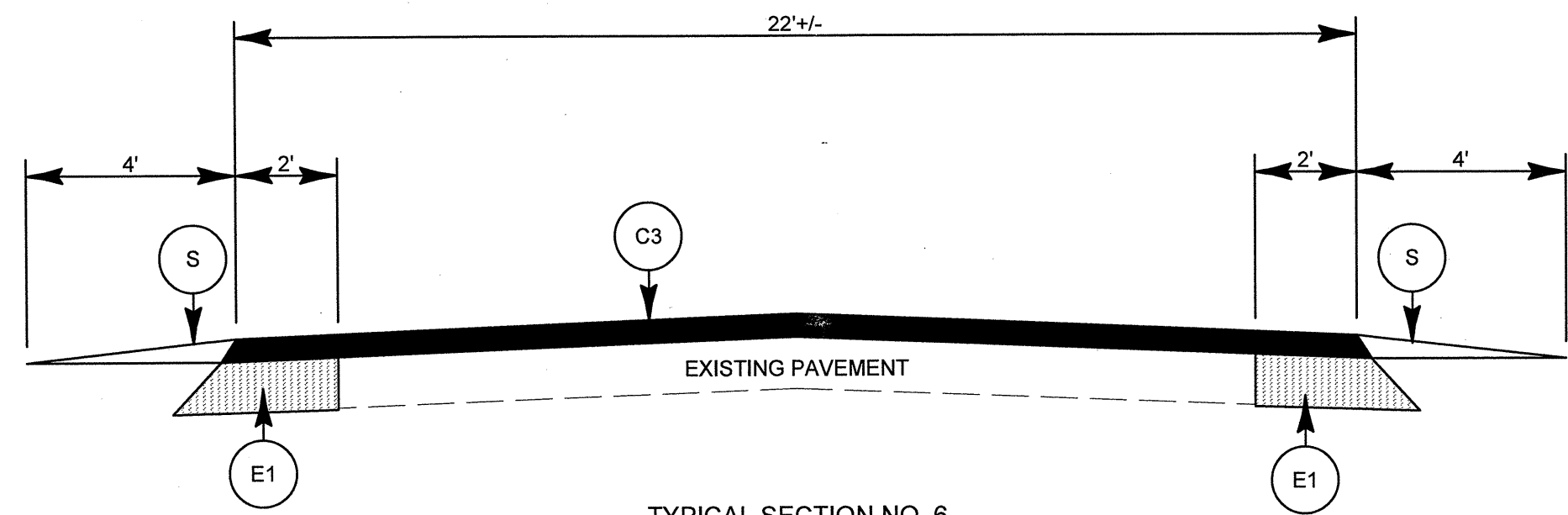
THE PROPOSED WEARING SURFACE SHALL VARY IN THICKNESS AS NECESSARY TO PROVIDE A SMOOTH RIDING SURFACE. THE MINIMUM THICKNESS SHOULD DEPEND ON PAVEMENT TYPE AS FOLLOWS: S4.75A 1/2", SF9.5A 1.0", S9.5X 1.5", S12.5X 2.0", ULTRATHIN HOT MIX ASPHALT-TYPE A 3/4", ULTRATHIN HOT MIX ASPHALT-TYPE B 5/8", ULTRATHIN HOT MIX ASPHALT-TYPE C 1/2". THE MAXIMUM THICKNESS SHOULD DEPEND ON PAVEMENT TYPE AS FOLLOWS: S4.75A 1.0", SF9.5A 1.5", S9.5X 2.0", S12.5X 2.0", ULTRATHIN HOT MIX ASPHALT-TYPE A 3/4", ULTRATHIN HOT MIX ASPHALT-TYPE B 5/8", ULTRATHIN HOT MIX ASPHALT-TYPE C 1/2".

NOTES
 ALL UNPAVED ROADS TO BE RESURFACED 50' FROM EDGE OF PAVEMENT OF MAIN PROJECT.
 ALL PAVED S.R. ROADS TO BE RESURFACED TO THE ENDS OF THE RADI, OR AS DIRECTED BY THE ENGINEER.
 EDGES, PAVEMENT WIDENING, INTERSECTIONS AND BRIDGE FLARES ARE INCLUDED IN THE TABLE OF QUANTITIES.
 SHOULDERS AND DITCHES ARE TO BE CONSTRUCTED BY OTHERS UNLESS OTHERWISE INDICATED.
 BRIDGES ARE TO BE RESURFACED AT LOCATIONS AND TO DEPTH AS DIRECTED BY THE ENGINEER.

PROJECT NO.	SHEET NO.	TOTAL SHEETS
5CR.10351.12, 5CR.20351.12	4	

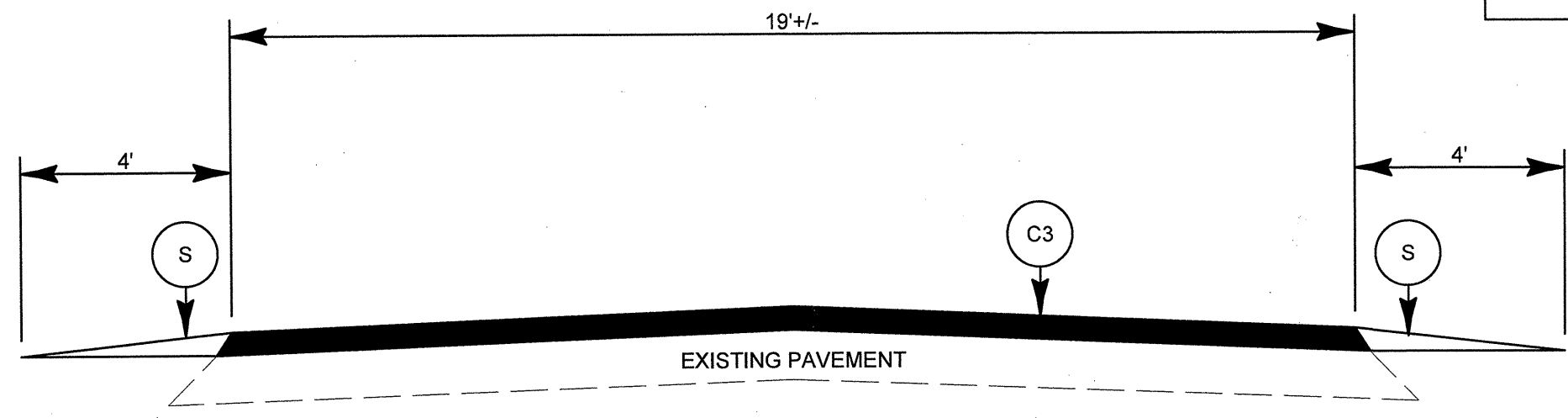


TYPICAL SECTION NO. 5

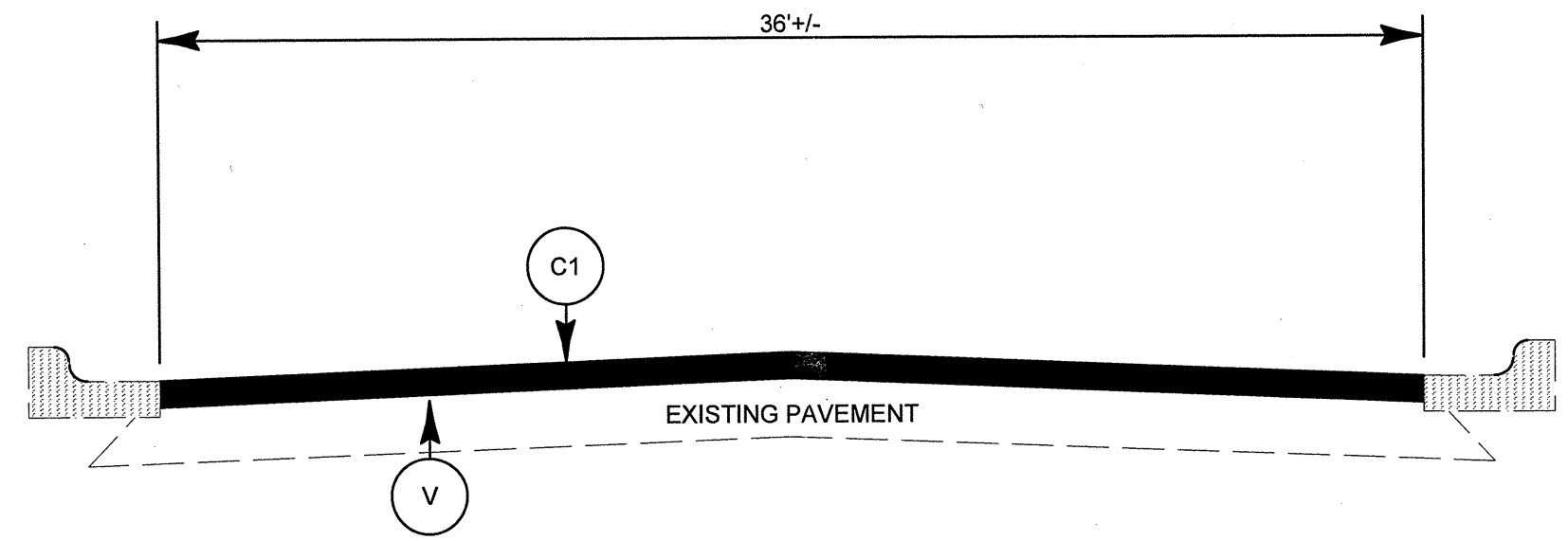


TYPICAL SECTION NO. 6

PROJECT NO.	SHEET NO.	TOTAL SHEETS
5CR.10351.12, 5CR.20351.12	5	

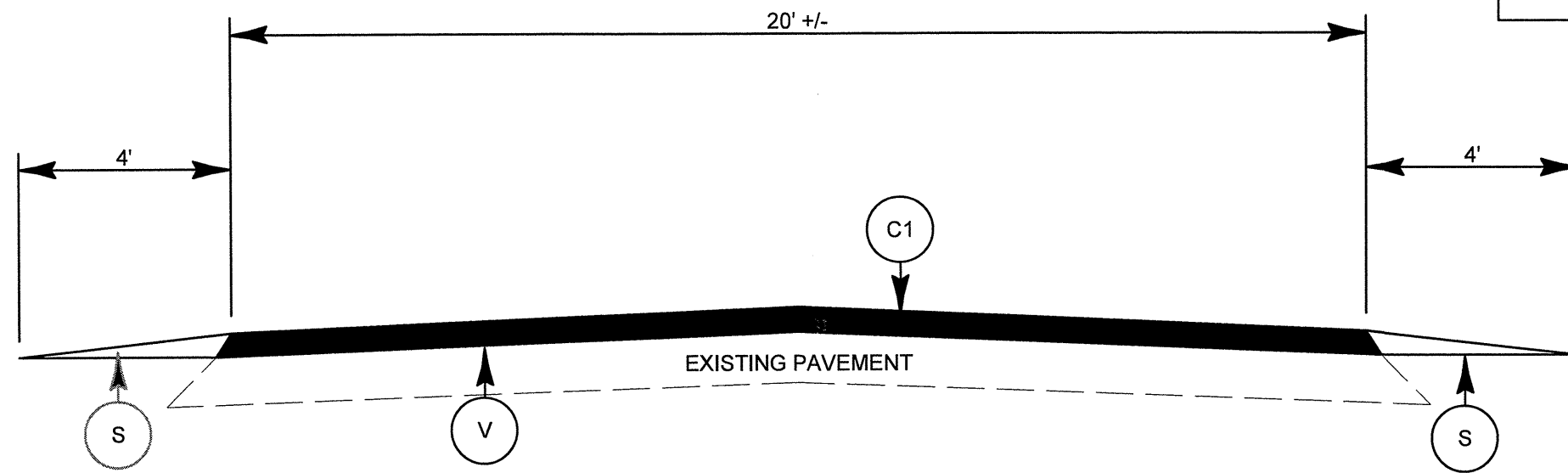


TYPICAL SECTION NO. 7

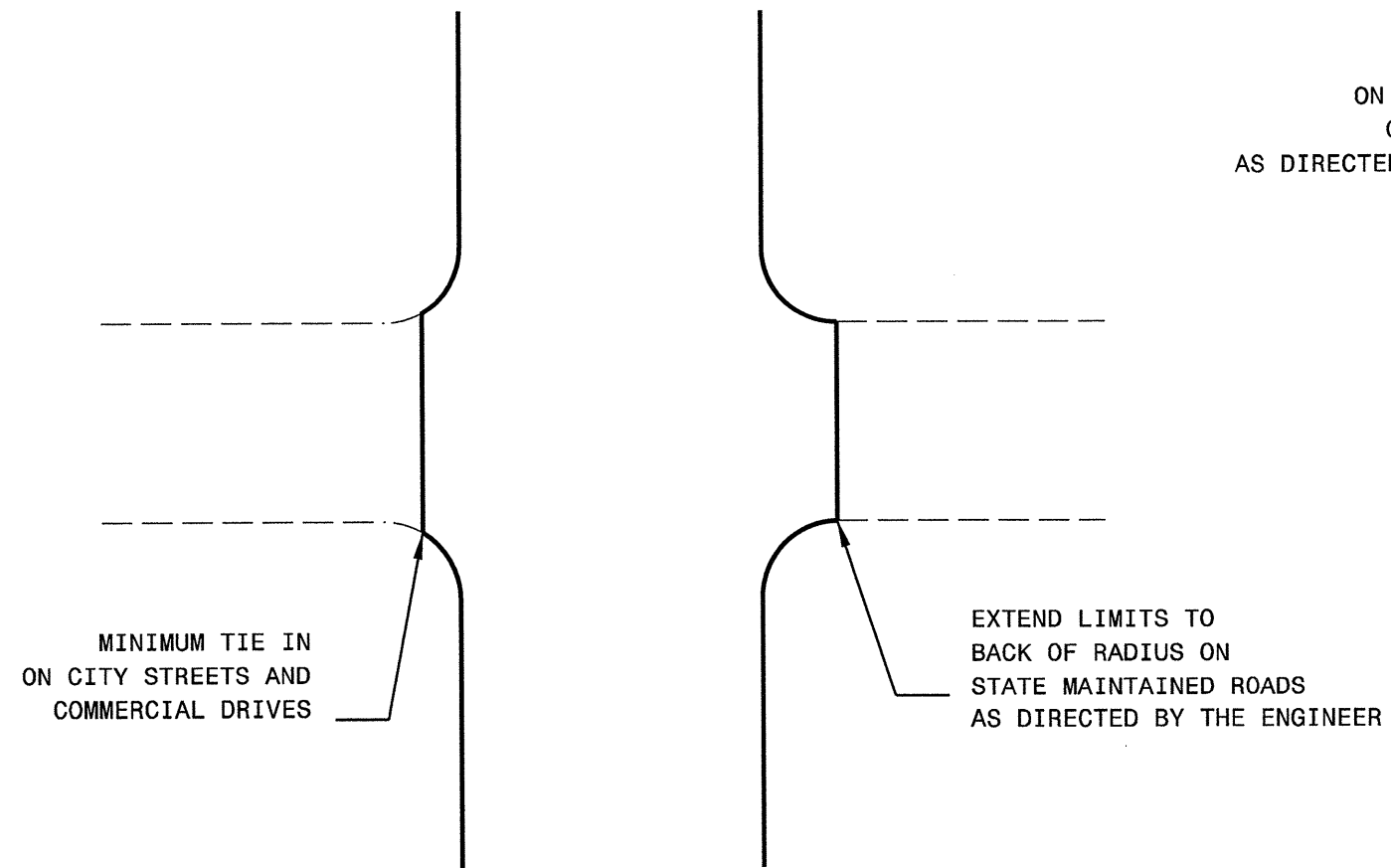


TYPICAL SECTION NO. 8

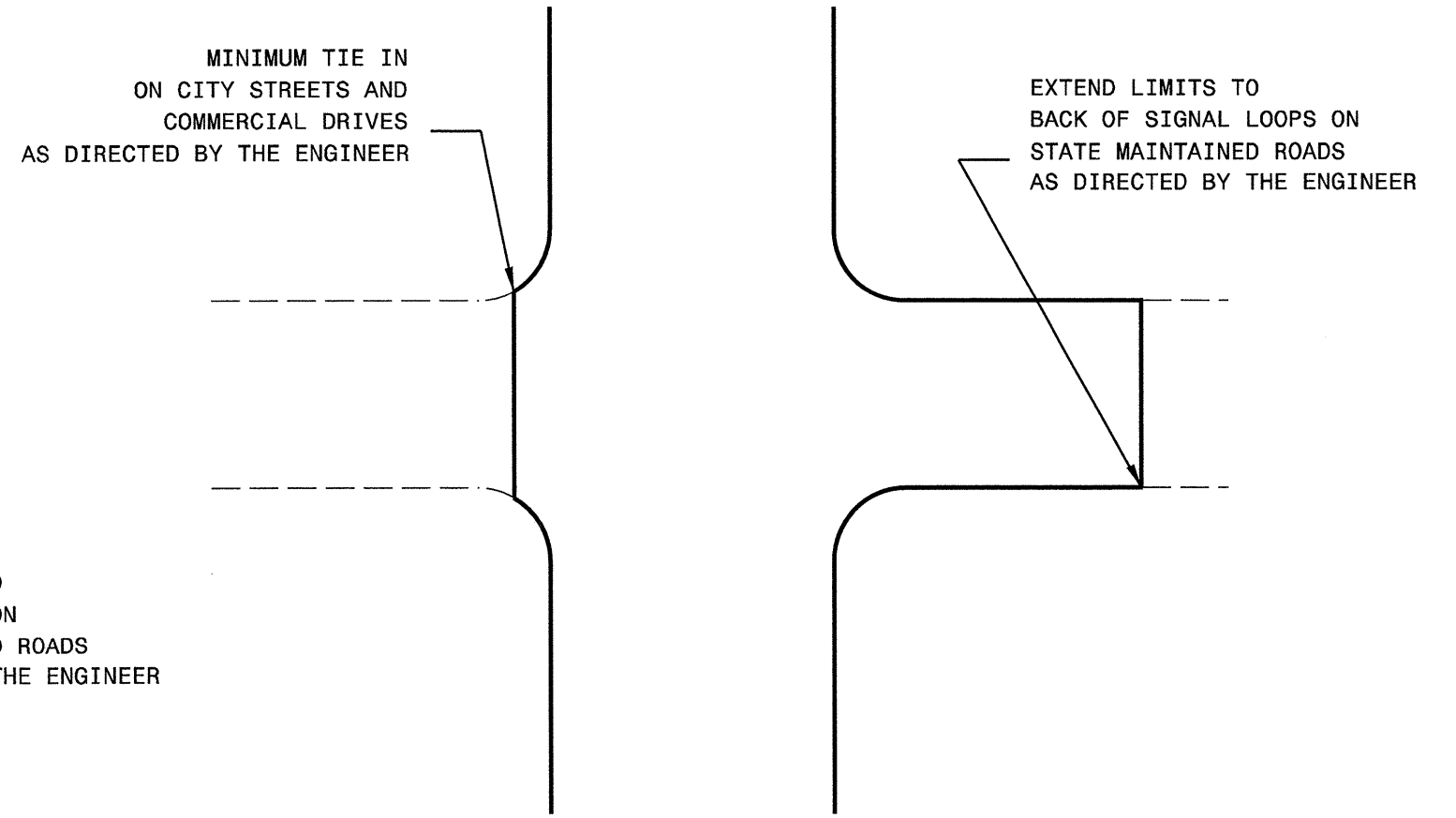
PROJECT NO.	SHEET NO.	TOTAL SHEETS
5CR.10351.12, 5CR.20351.12	6	



TYPICAL SECTION NO. 9



DETAIL OF PROJECT LIMITS AT
UNSIGNALIZED Y LINES



DETAIL OF PROJECT LIMITS AT
SIGNALIZED Y LINES

**DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA**

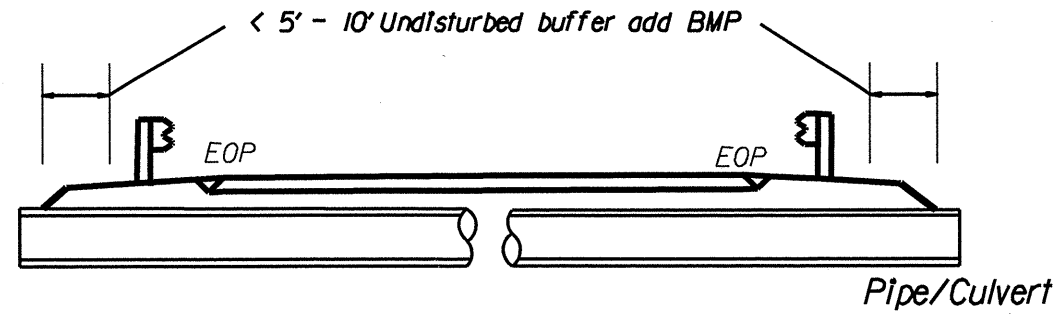
SOIL STABILIZATION TIMEFRAMES

<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.

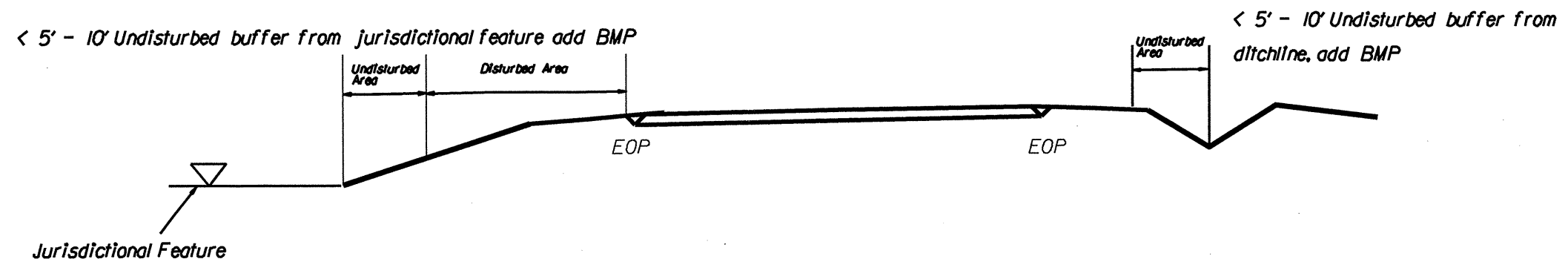
NOTES: Less than 5' - 10' undisturbed buffer from ROW, ditchline, water feature, or drainage inlet, add BMP.

BMP Options: Wattle, Silt Fence, or Hardened Aggregate.

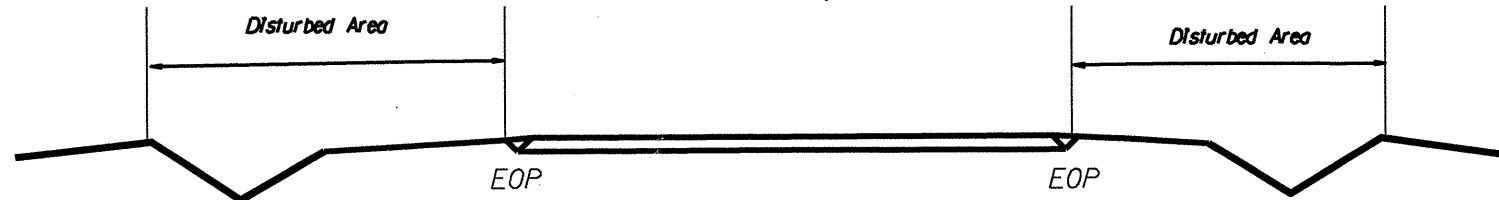
EROSION CONTROL DETAIL



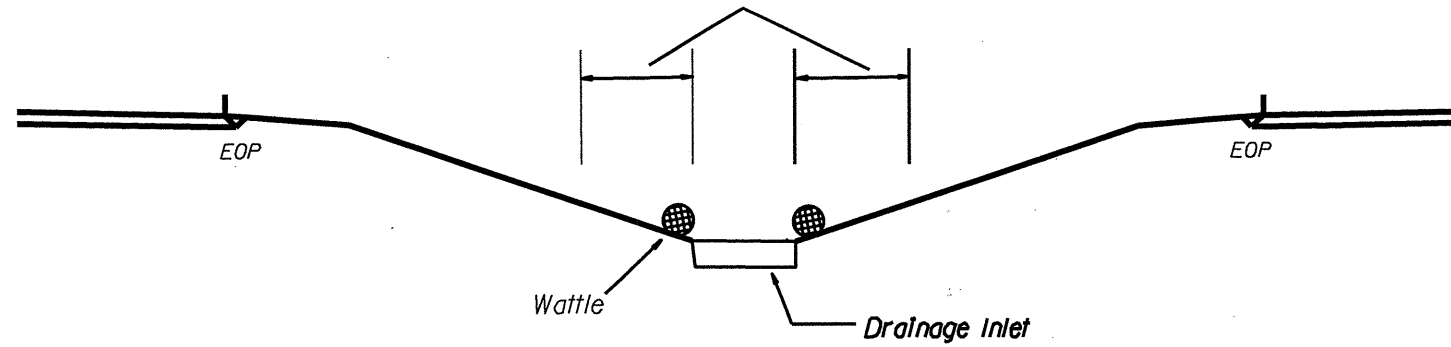
50R.10351.12, etc
Sht. 9



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

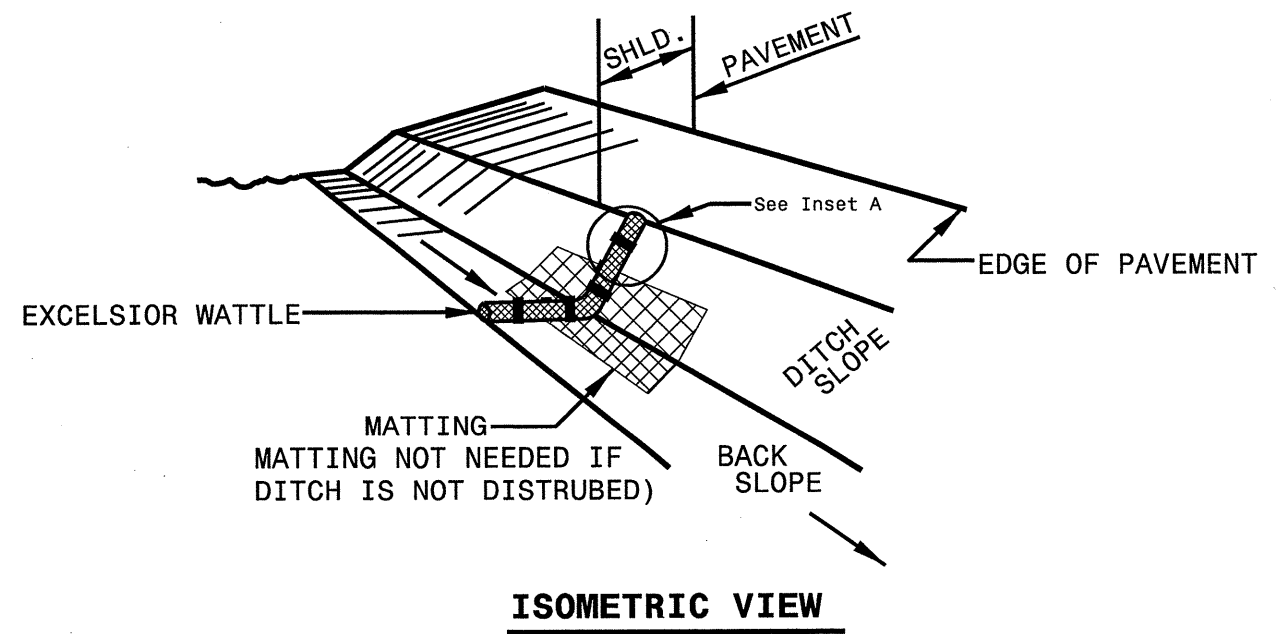


< 5' - 10' Undisturbed buffer from Inlet, add wattle



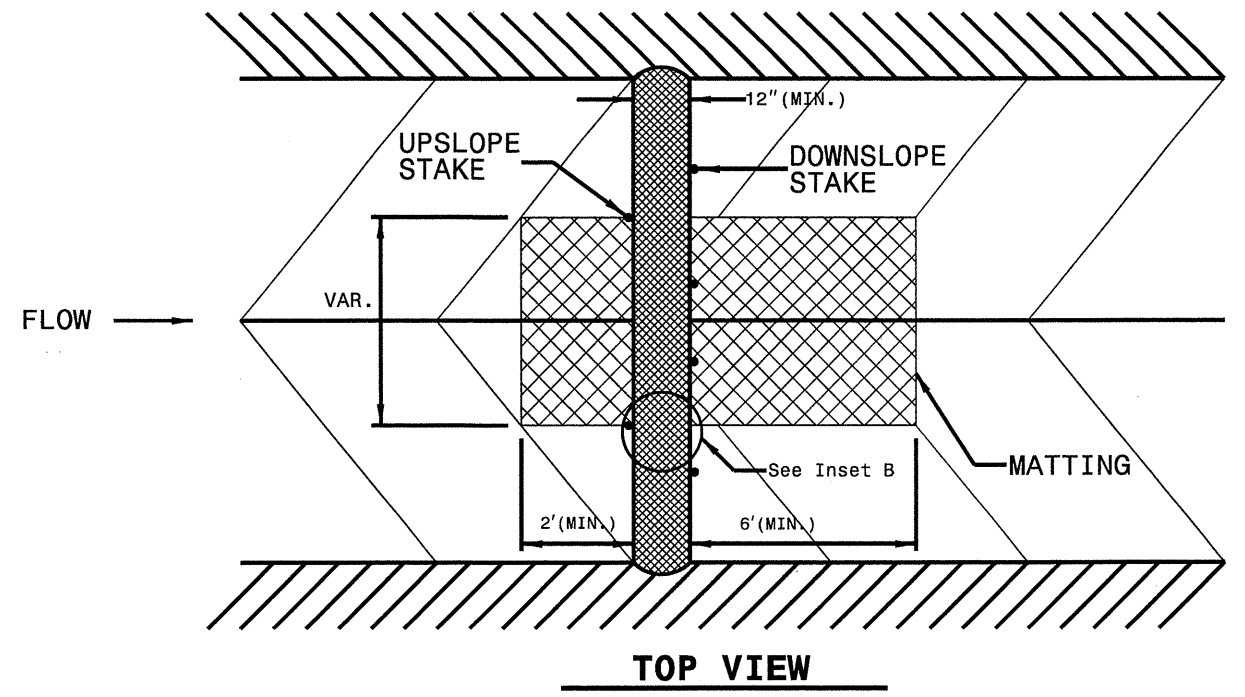
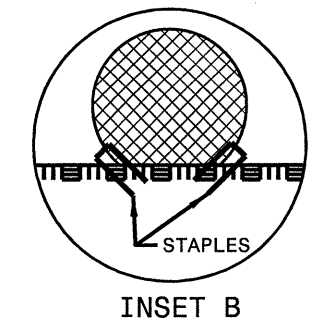
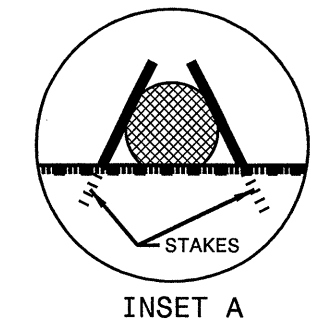
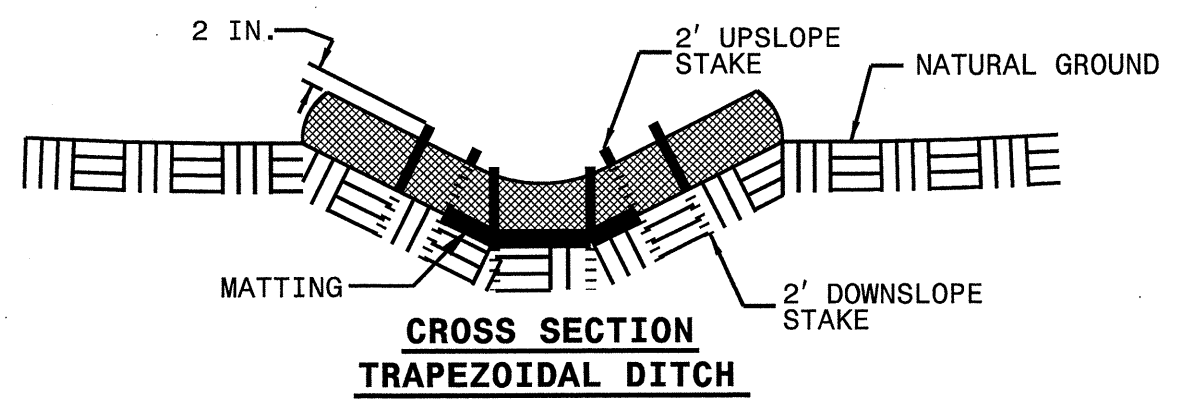
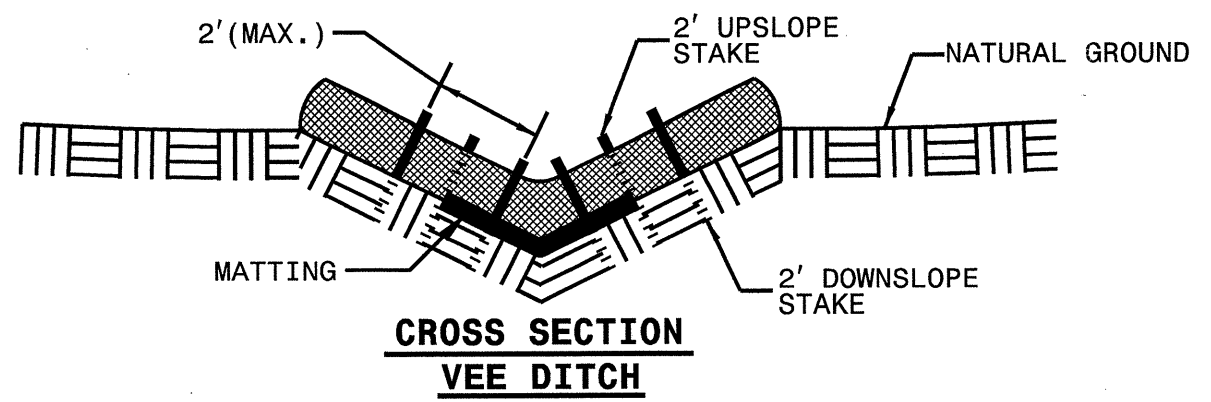
NOT TO SCALE

WATTLE DETAIL



NOTES:

- USE MINIMUM 12 IN. DIAMETER EXCELSIOR WATTLE.
- USE 2 FT. WOODEN STAKES WITH A 2 IN. BY 2 IN. NOMINAL CROSS SECTION.
- ONLY INSTALL WATTLE(S) TO A HEIGHT IN DITCH SO FLOW WILL NOT WASH AROUND WATTLE AND SCOUR DITCH SLOPES AND AS DIRECTED.
- INSTALL A MINIMUM OF 2 UPSLOPE STAKES AND 4 DOWNSLOPE STAKES AT AN ANGLE TO WEDGE WATTLE TO BOTTOM OF DITCH.
- PROVIDE STAPLES MADE OF 0.125 IN. DIAMETER STEEL WIRE FORMED INTO A U SHAPE NOT LESS THAN 12" IN LENGTH.
- INSTALL STAPLES APPROXIMATELY EVERY 1 LINEAR FOOT ON BOTH SIDES OF WATTLE AND AT EACH END TO SECURE IT TO THE SOIL.
- IF DITCH WILL BE DISTURBED, INSTALL MATTING IN ACCORDANCE WITH SECTION 1631 OF THE STANDARD SPECIFICATIONS.



PROJECT NO.	SHEET NO.	TOTAL NO.
SCR.10351.12, SCR.20351.12	11	

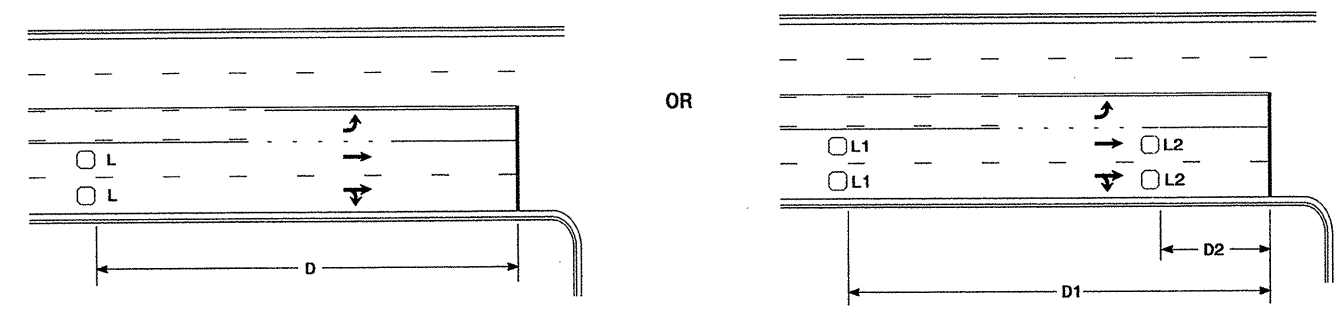
SUMMARY OF QUANTITIES

PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	TYP NO	FINAL SURFACE TESTING REQUIRE D	LENGTH MI	WIDTH FT	BORROW CY	INCIDENTAL STONE BASE TONS	SHOULDER RECON-STRUCTION SMI	1 1/2" MILLING SY	INCIDENTAL MILLING SY	BASE COURSE, B25.0B TONS	SURFACE COURSE, S9.5B TONS	SURFACE COURSE, SF9.5A TON	ASPHALT BINDER FOR PLANT MIX TON	PATCHING EXISTING PAVEMENT TONS	ADJUST DROP INLET EA	ADJUST MANHOLES EA	ADJUST METER OR VALVE BOX EA	TEMPORARY SILT FENCE LF	WATTLE LF	SEED & MULCHING AC	INDUCTIVE LOOP LF	LEAD-IN CABLE (14-2) LF
SCR.10351.12	Franklin	1	US 401/NC39	FROM SR 1700(FOX PARK ROAD) TO NC 56 (EAST NASH STREET)	1	NO	1.8	60					7,500		6,482		389	200	1	62	49				4,000	
		"	"	FROM NC 56 (EAST NASH ST.) TO SR 1262 (JUSTICE ST.)	2	NO	0.6	36	60	1	0.70		2,500		1,122		67	100		1	1					
TOTAL FOR PROJ NO. SCR.10351.12																										
SCR.20351.12	Franklin	2	SR 1003 (PERRY CHAPEL ROAD)	FROM NC 56 TO SR 1211 (WEST RIVER ROAD)	3	NO	2.4	24	350	24	4.80	31,116		1,900	2,853		255	100				200	100	3.48		
		3	SR 1716 (STRICKLAND RD)	FROM NC 98 TO SR 1720 (OLD HALIFAX RD)	4	NO	1.83	22		18		23,619			1,960		131	50								
		4	SR 1108 (HART ROAD)	FROM SR 1109 (TIMBERLAKE ROAD) TO SR 1103 (FLAT ROCK CHURCH RD)	9	NO	2.3	20	350		4.60	26,987			2,281		137	100						3.33		
		5	SR 1103 (CLIFTON POND RD)	FROM SR 1706 (M C WILDER RD) TO NC 98	6	NO	2.73	22		27	5.50		1,000	3,300		2,434	308	250				200	100	2.70		
		6	SR 1264 (T KEMP RD)	FROM NC 56 TO SR 1211 (WEST RIVER RD)	5	NO	1.1	24		4		15,488			1,308		78	20								
		7	SR 1101 (DARIUS PEARCE RD)	FROM SR 1103(BETHLEHEM CHURCH ROAD) TO US 401	7	NO	3.1	19	885	31	6.20		2,200			2,389	160	50				400	100	3.00		
		8	SR 1100 (TARBORO RD)	FROM US 401 TO NC 96 IN YOUNGSVILLE	5, 8	NO	6.2	24		149		89,238			7,534		452	100						720	100	
		9	SR 1103 (PILOT RILEY ROAD)	FROM NC 39 TO SR 1001 (PEARCES ROAD)	7	NO	2.8	19	800	67	5.60		2,000			2,157	145	20						2.80		
		"	"	FROM SR 1001 (PEARCES RD) TO SR 1724 (GAY RD)	4	NO	1.5	19		15		16,720				1,388	93	20								
		10	SR 1726 (HENRY BAKER RD/ADNA PEARCE RD)	FROM SR 1721 (PERRY RD) TO WAKE CO. LINE	7	NO	1.9	19	500	46	3.80		1,000			1,464	98	300				300		2.00		
		11	SR 1002 (TRINITY CHURCH RD/DUKE VALENTINE-WINN RD)	FROM US 401 TO NC 561	7	NO	5.2	19	2,800	52	10.50		3,200			4,007	268	200						10.20		
TOTAL FOR PROJ NO. SCR.20351.12																										
GRAND TOTAL																										

THERMOPLASTIC AND PAINT QUANTITIES

PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	LENGTH	WIDTH	4685000000-E	4686000000-E	4695000000-E	4697000000-E	4710000000-E	4725000000-E					4810000000-E		4820000000-E	4835000000-E	4845000000-N			4900000000-N		4905000000-N			
							4" X 90 M WHITE THERMO LF	4" X 120 M YELLOW THERMO LF	4" X 120 M WHITE THERMO LF	8" X 90 M YELLOW THERMO LF	8" X 120 M WHITE THERMO LF	24" X 120 M WHITE THERMO LF	THERMO LT ARROW 90 M EA	THERMO STR ARROW 90 M EA	THERMO STR & RT ARROW 90 M EA	THERMO RT ARROW 90 M EA	THERMO STR & LT ARROW 90 M EA	4" YELLOW PAINT LF	4" WHITE PAINT LF	8" YELLOW PAINT LF	24" WHITE PAINT LF	PAINT LT ARROW EA	PAINT STR & RT ARROW EA	PAINT RT ARROW EA	YELLOW & YELLOW MARKERS EA	CRYSTAL & RED MARKERS EA	SNOW PLOWABLE MARKERS EA		
SCR.10351.12	Franklin	1	US 401/NC39	FROM SR 1700(FOX PARK ROAD) TO NC 56 (EAST NASH STREET)	1.8	60		21,120	4,224		600					77	28	19	33	2									500
		"	"	FROM NC 56 (EAST NASH ST.) TO SR 1262 (JUSTICE ST.)	0.6	36	7,532	6,620	750	200						77	28	19	33	2									500
TOTAL FOR PROJ NO. SCR.10351.12																													
SCR.20351.12	Franklin	2	SR 1003 (PERRY CHAPEL ROAD)	FROM NC 56 TO SR 1211 (WEST RIVER ROAD)	2.4	24	25,824	15,840			120																	158	
		3	SR 1716 (STRICKLAND RD)	FROM NC 98 TO SR 1720 (OLD HALIFAX RD)	1.83	22	19,691	12,078																					
		4	SR 1108 (HART ROAD)	FROM SR 1109 (TIMBERLAKE ROAD) TO SR 1103 (FLAT ROCK CHURCH RD)	2.3	20	24,748	15,180																					152
		5	SR 1103 (CLIFTON POND RD)	FROM SR 1706 (M C WILDER RD) TO NC 98	2.73	22	29,375	18,018																					180
		6	SR 1264 (T KEMP RD)	FROM NC 56 TO SR 1211 (WEST RIVER RD)	1.1	24	11,836	7,260			120																		73
		7	SR 1101 (DARIUS PEARCE RD)	FROM SR 1103(BETHLEHEM CHURCH ROAD) TO US 401	3.1	19	33,356	20,460																					205
		8	SR 1100 (TARBORO RD)	FROM US 401 TO NC 96 IN YOUNGSVILLE	6.2	24	66,712	40,920	300	100	100																		409
		9	SR 1103 (PILOT RILEY ROAD)	FROM NC 39 TO SR 1001 (PEARCES ROAD)	2.8	19	30,128	18,480																					
		"	"	FROM SR 1001 (PEARCES RD) TO SR 1724 (GAY RD)	1.5	19	16,140	9,900																					
		10	SR 1726 (HENRY BAKER RD/ADNA PEARCE RD)	FROM SR 1721 (PERRY RD) TO WAKE CO. LINE	1.9	19	20,444	12,540																					
		11	SR 1002 (TRINITY CHURCH RD/DUKE VALENTINE-WINN RD)	FROM US 401 TO NC 561	5.2	19	55,952	34,320			340																		
TOTAL FOR PROJ NO. SCR.20351.12																													
GRAND TOTAL																													

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

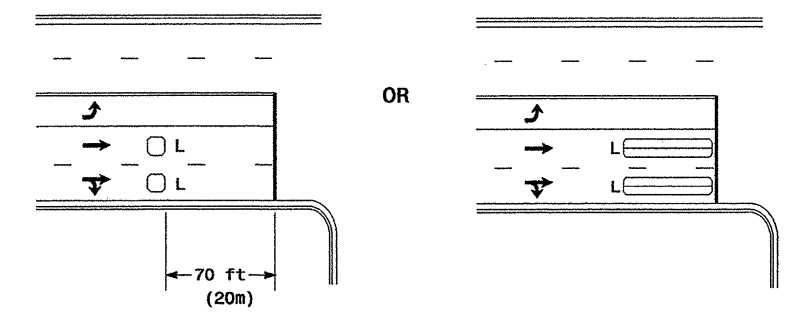
Speed Limit mph (km/hr)	D1 ft (m)	D2 ft (m)
40 (64)	250 (75)	80 (25)
45 (72)	300 (90)	90 (27)
50 (80)	355 (110)	100 (30)
55 (88)	420 (130)	110 (35)

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

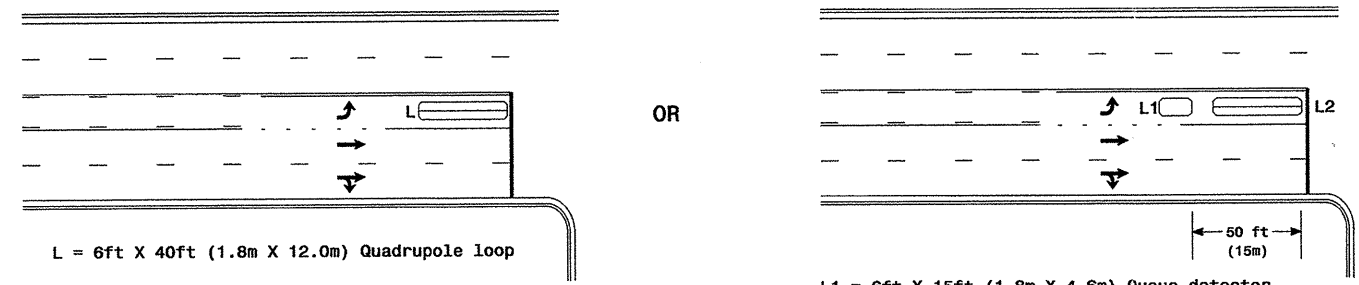
Low Speed Detection [≤35 mph (56 km/hr)]



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



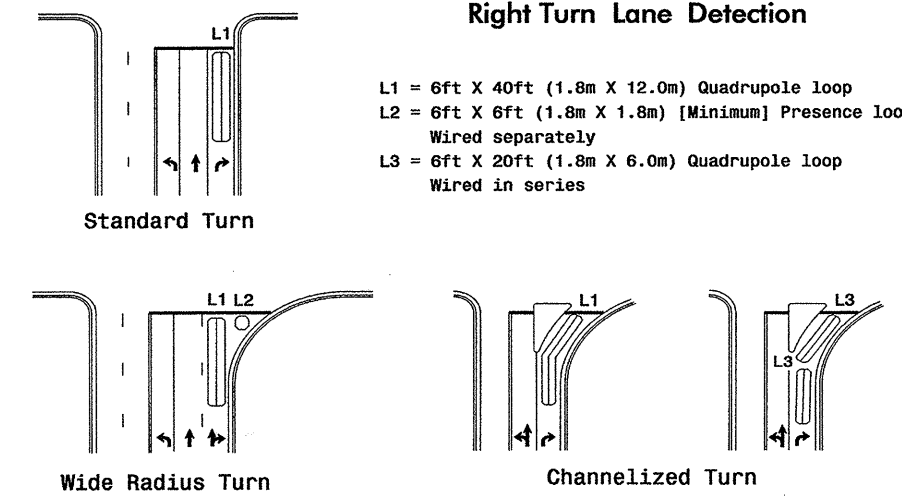
L = 6ft X 40ft (1.8m X 12.0m) Quadrupole loop

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



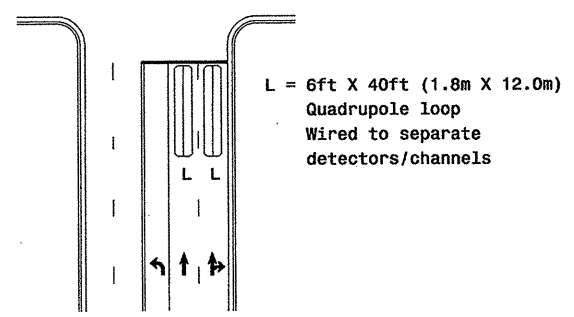
L1 = 6ft X 40ft (1.8m X 12.0m) Quadrupole loop
L2 = 6ft X 6ft (1.8m X 1.8m) [Minimum] Presence loop
Wired separately
L3 = 6ft X 20ft (1.8m X 6.0m) Quadrupole loop
Wired in series

Standard Turn

Wide Radius Turn

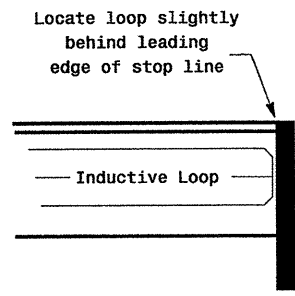
Channelized Turn

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

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 Office of:
North Carolina State Highway Design and Construction
222 N. McDowell St., Raleigh, NC 27603

Typical Loop Locations

PLAN DATE: June 2006 REVIEWED BY:
PREPARED BY: P L Alexander REVIEWED BY:
REVISIONS
INIT. DATE
SCALE: N/A

SEAL
NORTH CAROLINA
PROFESSIONAL ENGINEER
SEAL 23498
DATE
SIGNATURE
SIC. INVENTORY NO.

19-DEC-2006 14:53 turn_inmi_loop_top/loop/2006.dgn