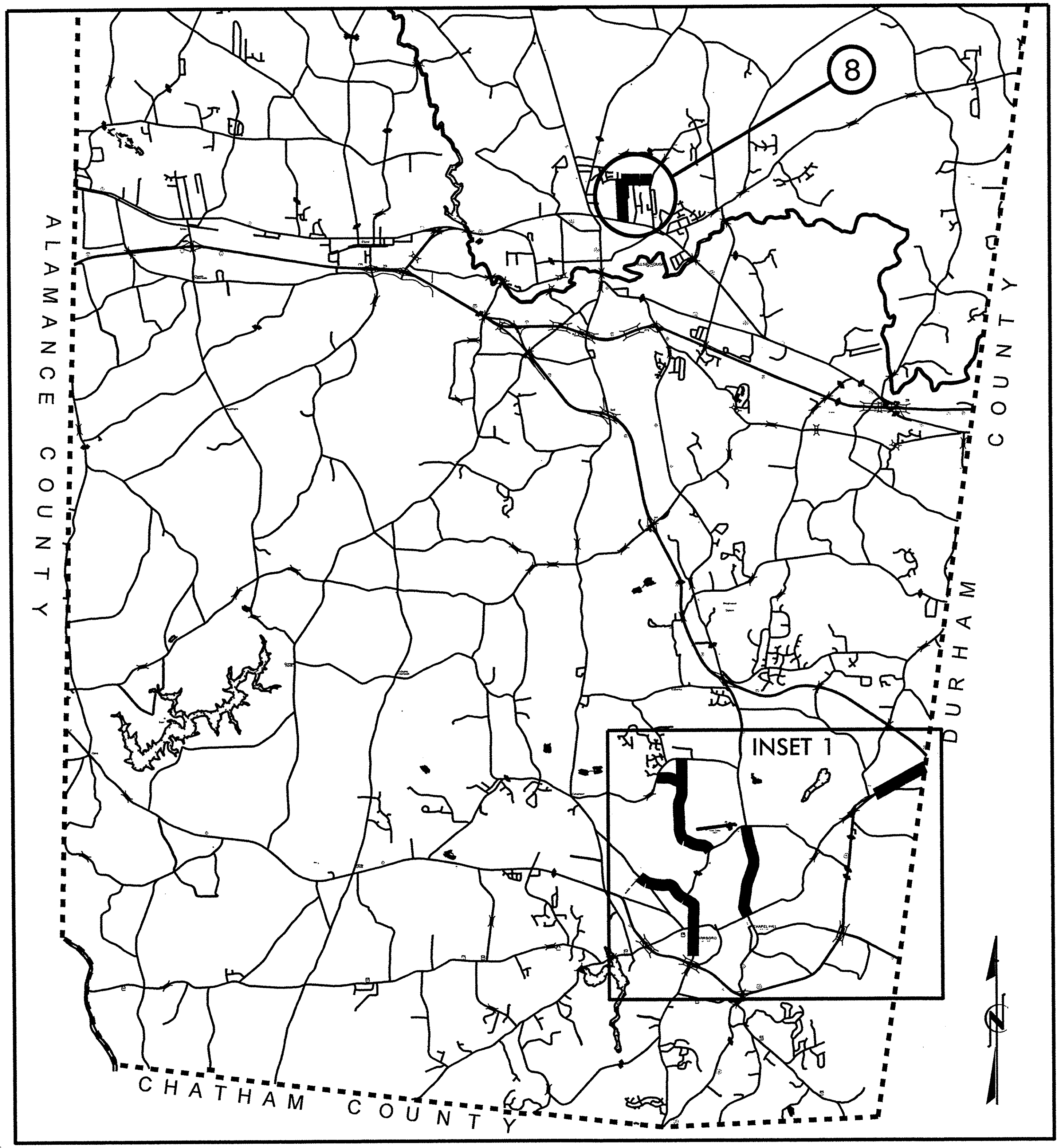
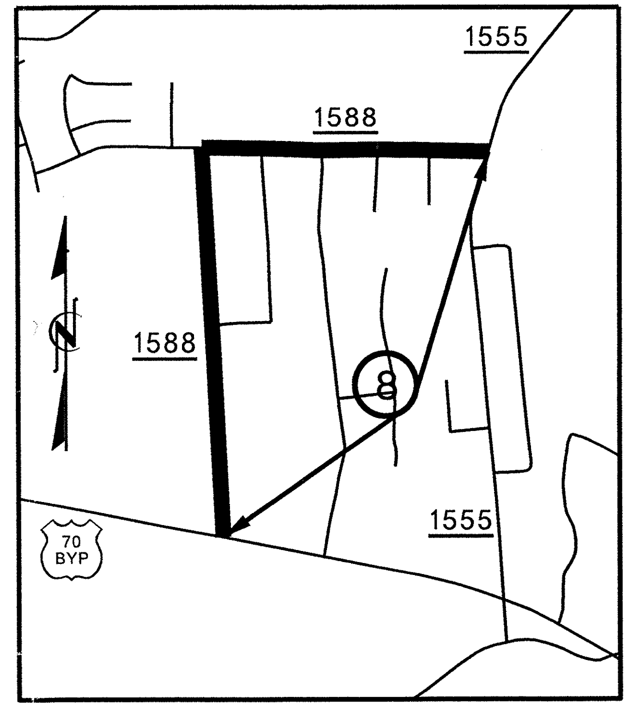
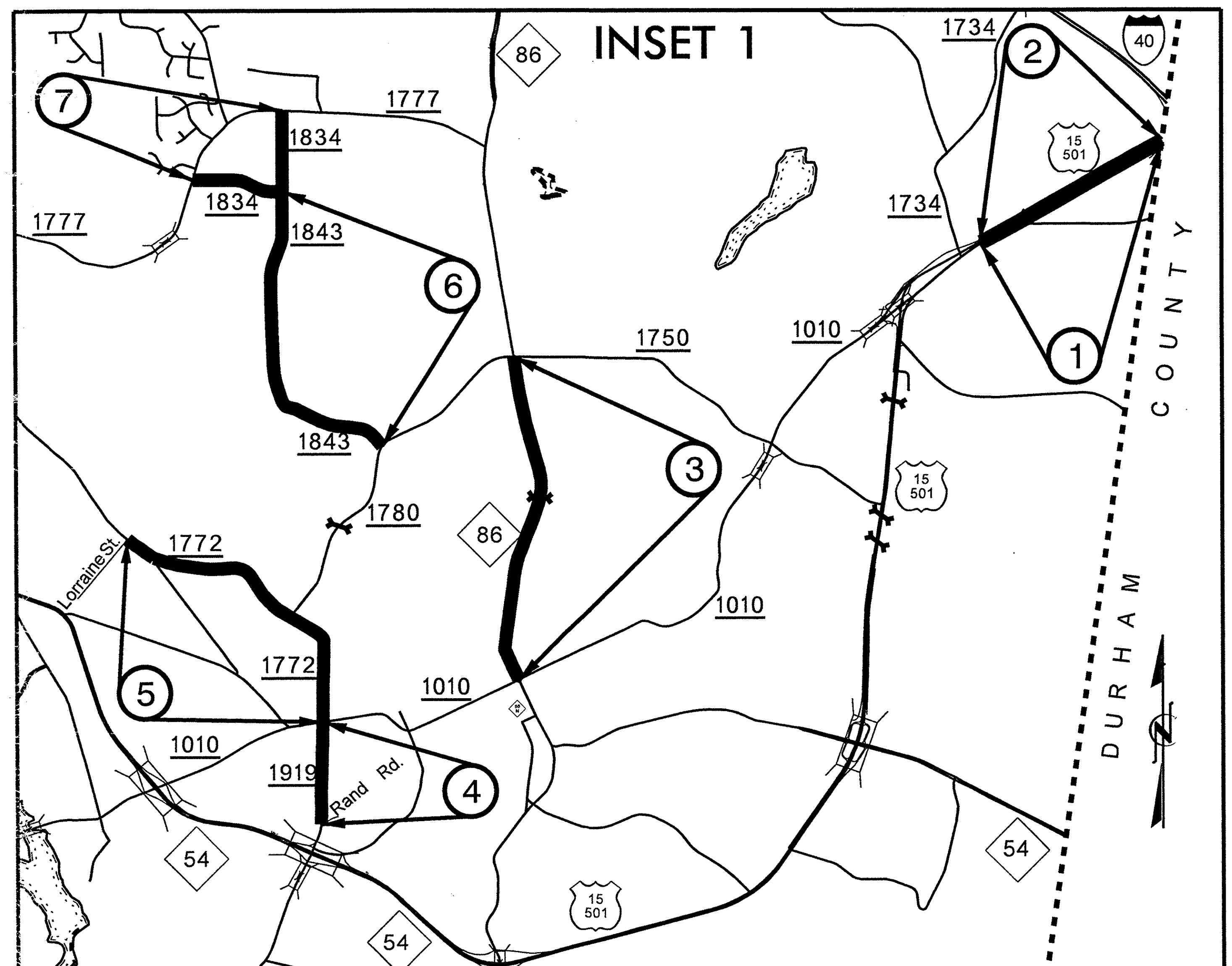
STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS
N.C.	7CR.10681.25, 7CR.20681.25	1	

2012 ORANGE COUNTY

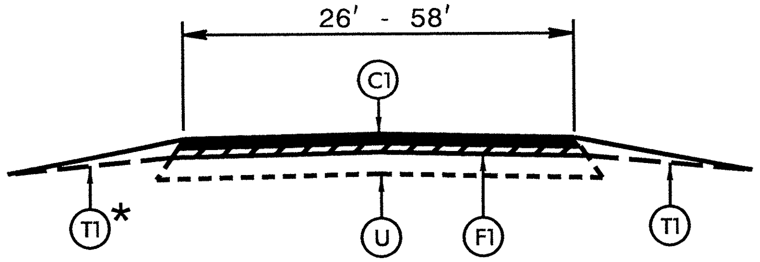






$$$$SYSTIME$$$$
$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$$$$$$$$
$$$$USERNAME$$$$

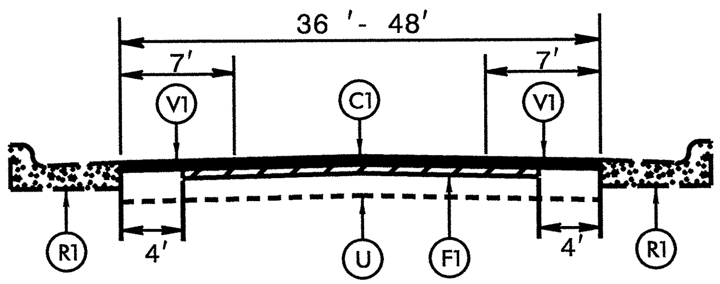
STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS
N.C.	7CR.10681.25, 7CR.20681.25	2	



*NOTE: 0-1½" PROFILE MILL AROUND CONCRETE ISLAND
MAP 1: STA. 4+25 TO STA. 6+10
MAP 2: STA. 38+95 TO STA. 40+75

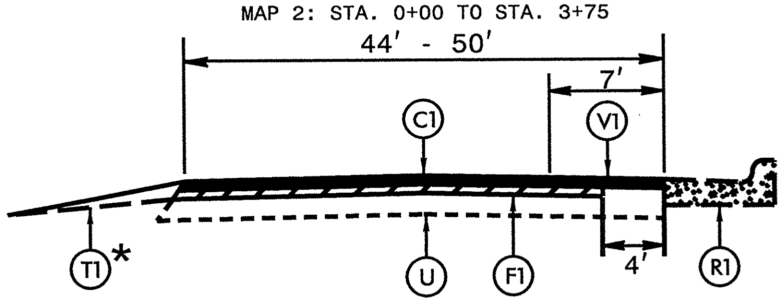
TYPICAL SECTION NO. 1

TO BE USED ON MAPS 1 AND 2
MAP 1: STA. 0+00 TO STA. 40+10
MAP 2: STA. 4+60 TO STA. 20+00
STA. 20+40 TO STA. 37+25
STA. 38+95 TO STA. 45+30



TYPICAL SECTION NO. 2

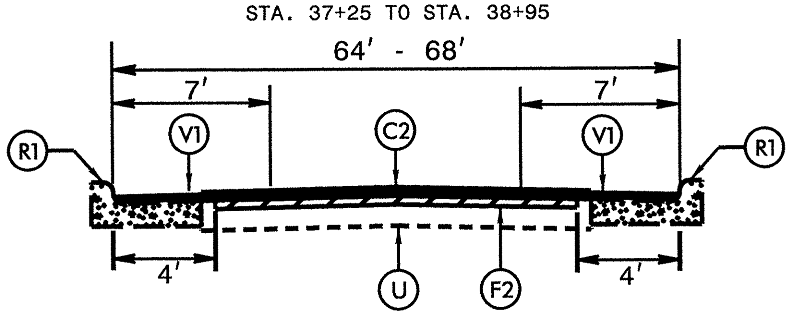
TO BE USED ON MAPS 1 AND 2
MAP 1: STA. 40+10 TO STA. 43+70
MAP 2: STA. 0+00 TO STA. 3+75



*NOTE: CONCRETE ISLAND FROM STA. 38+55
TO STA. 38+95

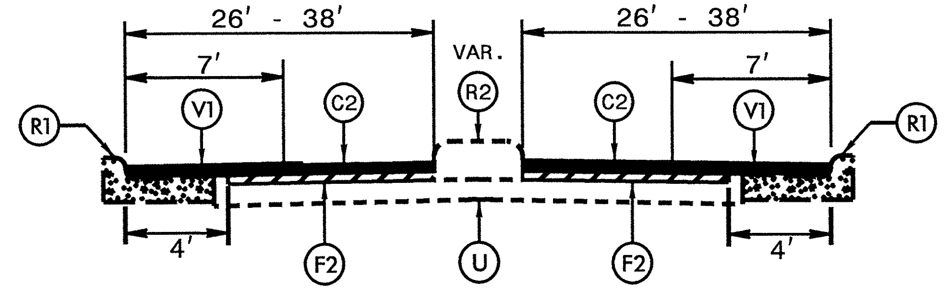
TYPICAL SECTION NO. 3

TO BE USED ON MAP 2
STA. 3+75 TO STA. 4+60
STA. 20+00 TO STA. 20+40
STA. 37+25 TO STA. 38+95



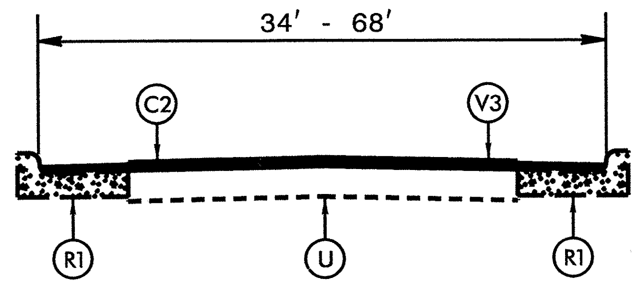
TYPICAL SECTION NO. 4

TO BE USED ON MAP 3
STA. 0+00 TO STA 42+30
STA. 43+00 TO STA. 69+55
STA. 70+55 TO STA. 75+25



TYPICAL SECTION NO. 5

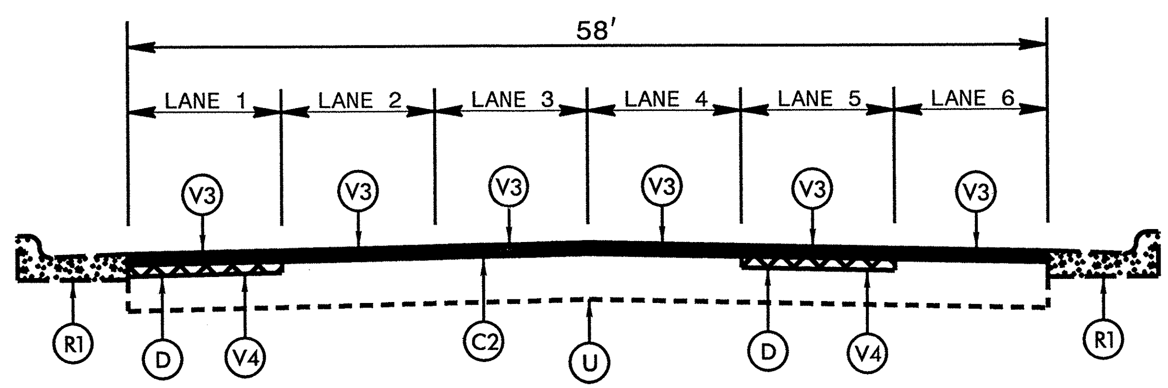
TO BE USED ON MAP 3
STA. 42+30 TO STA. 43+00
STA. 69+55 TO STA. 70+55



*NOTE: MILL 1½" AND FILL 1½" WITH
SURFACE COURSE, TYPE SF9.5A

TYPICAL SECTION NO. 6

TO BE USED ON MAPS 3 AND 5
MAP 3: STA. 75+25 TO STA. 79+40
MAP 5: STA. 68+05 TO STA. 68+90
STA. 74+90 TO STA. 77+05



TYPICAL SECTION NO. 7

TO BE USED ON MAP 3
STA. 79+40 TO STA. 82+50

**TYPICAL SECTION CONSTRUCTION SEQUENCE
1. ALL LANES: MILL 1½"
2. LANES 1 AND 5: MILL 3" AND FILL 3" OF INTERMEDIATE COURSE, TYPE I19.0B
3. OVERLAY WITH 1½" OF SURFACE COURSE, TYPE SF9.5A

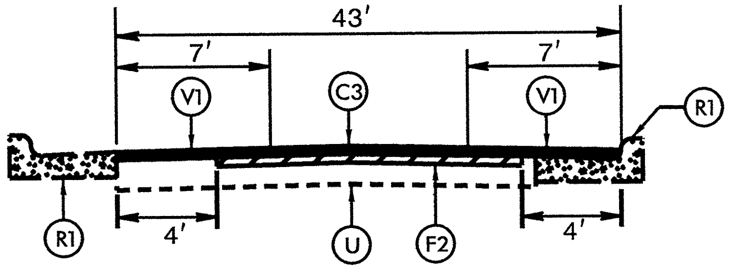
NOTE: EACH MAP MUST BE PATCHED AS DIRECTED BY THE ENGINEER BEFORE PROCEEDING WITH RESURFACING

PAVEMENT SCHEDULE

C1	PROP. APPROX. 1½" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.		
C2	PROP. APPROX. 1½" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD.		
C3	PROP. APPROX. 1¼" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 137.5 LBS. PER SQ. YD.		
D	PROP. APPROX 3" ASPHALT CONCRETE INTERMEDIATE COURSE TYPE I19.0B, AT AN AVERAGE RATE OF 342LBS. PER SQ. YD.		
E	PROP. APPROX. 7" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 399 LBS. PER SQ. YD. IN EACH OF TWO LAYERS		
F1	AST MAT COAT, #67 STONE		
F2	AST MAT COAT, #78M STONE		
R1	EXISTING CURB AND GUTTER		
R2	EXISTING CONCRETE ISLAND		
T1	INCIDENTAL STONE BASE IN LOW SHOULDER AREAS, AS DIRECTED BY THE ENGINEER		
T2	SHOULDER RECONSTRUCTION, AS DIRECTED BY THE ENGINEER.		
U	EXISTING PAVEMENT.		
V1	0" - 1½" MILLING	V2	0" - 1¼" MILLING
V3	1½" MILLING	V4	3" MILLING
V5	7" MILLING		

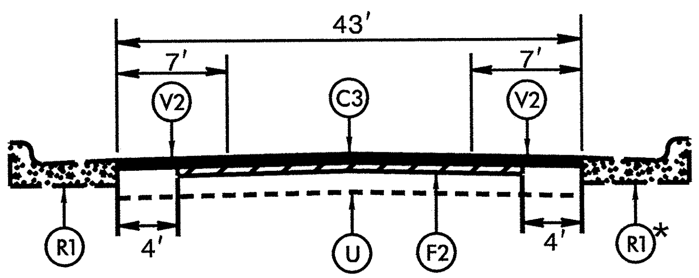
$$$$$$SYSTIME$$$$ $$$$$$DGN$$$$$$$$$$$$$$$$$$$$ $$$$$$USERNAME$$$$$$

STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS
N.C.	7CR.10681.25, 7CR.20681.25	3	



TYPICAL SECTION NO. 8

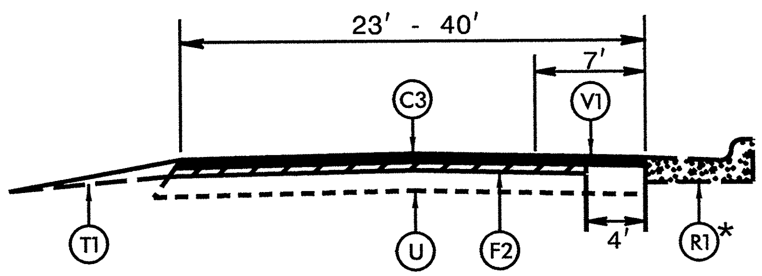
TO BE USED ON MAP 4
STA. 0+00 TO STA. 0+15



*NOTE: CONCRETE SIDEWALK STA. 0+65 TO STA. 1+60

TYPICAL SECTION NO. 9

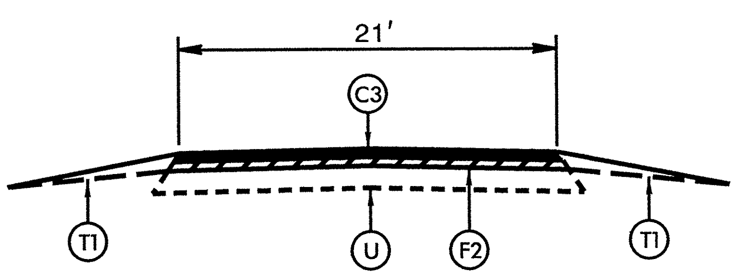
TO BE USED ON MAP 4
STA. 0+15 TO STA. 1+60



*NOTE: CONCRETE SIDEWALK STA. 1+60 TO STA. 3+00

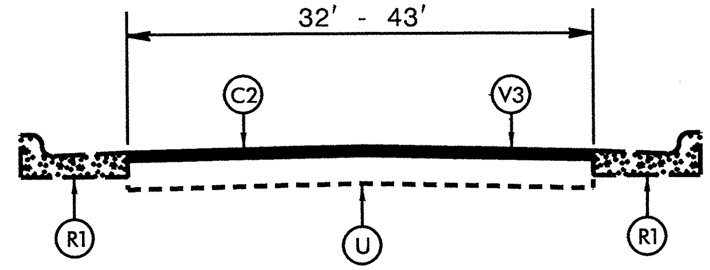
TYPICAL SECTION NO. 10

TO BE USED ON MAP 4
STA. 1+60 TO STA. 5+05



TYPICAL SECTION NO. 11

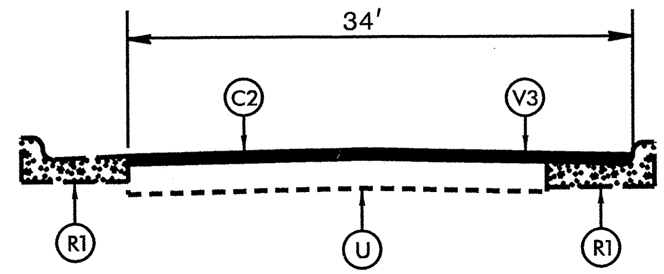
TO BE USED ON MAP 4
MAP 4: 5+05 TO STA. 25+00



*NOTE: MILL 1½" AND FILL 1½" WITH SURFACE COURSE, TYPE SF9.5A

TYPICAL SECTION NO. 12

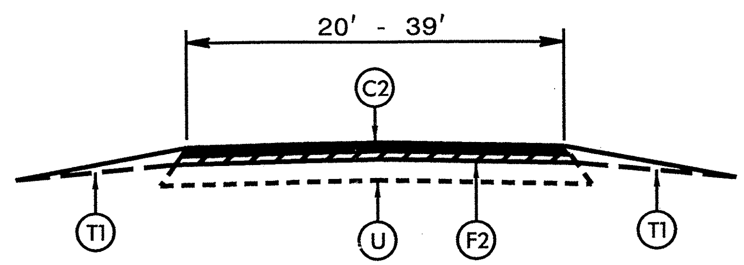
TO BE USED ON MAP 5
STA. 0+00 TO STA. 68+05
STA. 68+90 TO STA. 71+65



*NOTE: MILL 1½" AND FILL 1½" WITH SURFACE COURSE, TYPE SF9.5A

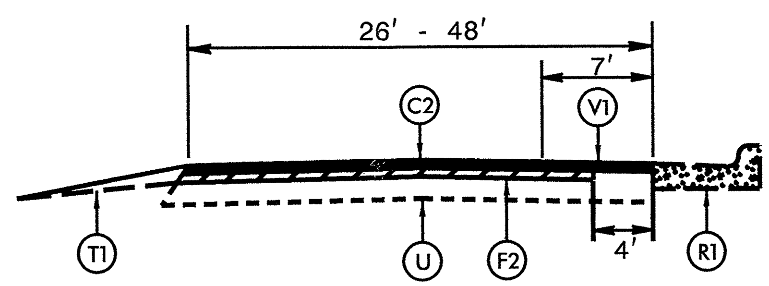
TYPICAL SECTION NO. 13

TO BE USED ON MAP 5
STA. 71+65 TO STA. 74+90



TYPICAL SECTION NO. 14

TO BE USED ON MAPS 6 AND 7
MAP 6: STA. 0+00 TO STA. 6+10
STA. 21+30 TO STA. 25+30
MAP 7: STA. 0+00 TO STA. 4+80



TYPICAL SECTION NO. 15

TO BE USED ON MAP 6
MAP 6: STA. 6+10 TO STA. 21+30

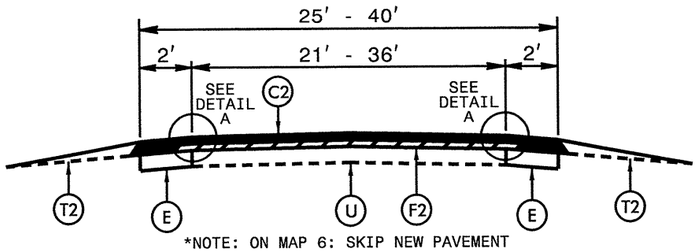
NOTE: EACH MAP MUST BE PATCHED AS DIRECTED BY THE ENGINEER BEFORE PROCEEDING WITH RESURFACING

PAVEMENT SCHEDULE

C1	PROP. APPROX. 1½" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.		
C2	PROP. APPROX. 1½" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD.		
C3	PROP. APPROX. 1¼" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 137.5 LBS. PER SQ. YD.		
D	PROP. APPROX 3" ASPHALT CONCRETE INTERMEDIATE COURSE TYPE I19.0B, AT AN AVERAGE RATE OF 342LBS. PER SQ. YD.		
E	PROP. APPROX. 7" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 399 LBS. PER SQ. YD. IN EACH OF TWO LAYERS		
F1	AST MAT COAT, #67 STONE		
F2	AST MAT COAT, #78M STONE		
R1	EXISTING CURB AND GUTTER		
R2	EXISTING CONCRETE ISLAND		
T1	INCIDENTAL STONE BASE IN LOW SHOULDER AREAS, AS DIRECTED BY THE ENGINEER		
T2	SHOULDER RECONSTRUCTION, AS DIRECTED BY THE ENGINEER.		
U	EXISTING PAVEMENT.		
V1	0" - 1½" MILLING	V2	0" - 1¼" MILLING
V3	1½" MILLING	V4	3" MILLING
V5	7" MILLING		

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

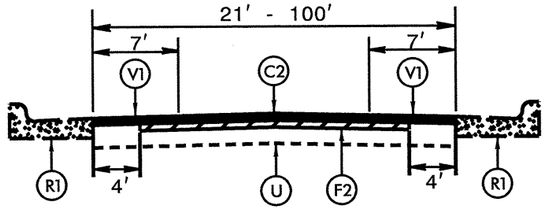
STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS
N.C.	7CR.10681.25, 7CR.20681.25	4	



*NOTE: ON MAP 6: SKIP NEW PAVEMENT
STA. 51+75 TO STA. 57+65

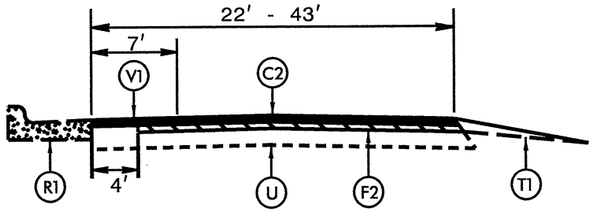
TYPICAL SECTION NO. 16

TO BE USED ON MAP 6
STA. 25+30 TO STA. 51+75
STA. 57+65 TO STA. 61+15



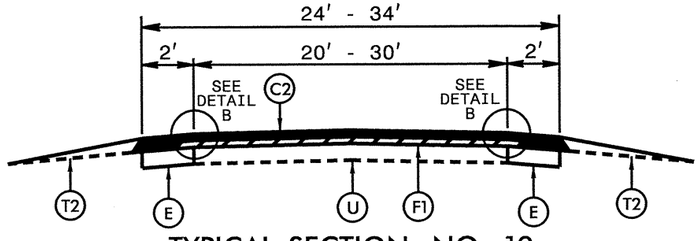
TYPICAL SECTION NO. 17

TO BE USED ON MAPS 6 AND 7
MAP 6: STA. 61+15 TO STA. 79+70
MAP 7: STA. 18+45 TO STA. 27+30
STA. 33+05 TO STA. 41+90



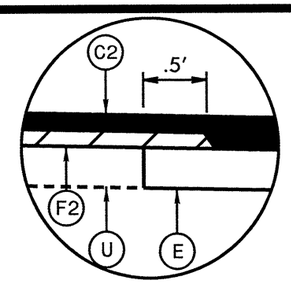
TYPICAL SECTION NO. 18

TO BE USED ON MAP 7
MAP 7: STA. 4+80 TO STA. 18+45
STA. 27+30 TO STA. 33+05

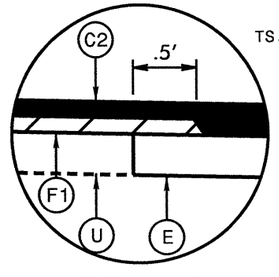


TYPICAL SECTION NO. 19

TO BE USED ON MAP 8

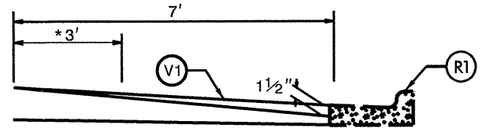


DETAIL A



DETAIL B

MILLING DETAIL 1



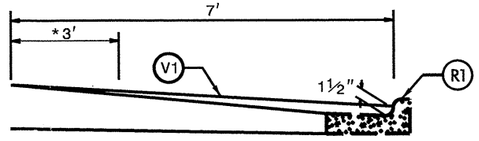
PROFILE MILLING 0 - 1½"

*IF #67 STONE OR 78M SEAL IS INVOLVED OVERLAP 3'.
PROFILE MILL EXISTING ASPHALT PAVEMENT 1½" AT LOCATIONS AS DIRECTED BY THE ENGINEER.

TO BE USED IN CONJUCTION WITH:

TS. NO. 1 ON MAP 1 STA. 4+25 TO STA. 6+10 LT
TS. NO. 1 ON MAP 1 STA. 38+95 TO STA. 40+75 LT
TS. NO. 2 ON MAP 1 STA. 40+10 TO STA. 43+70 LT & RT
TS. NO. 2 ON MAP 2 STA. 0+00 TO STA. 3+75 LT & RT
TS. NO. 3 ON MAP 2 STA. 3+75 TO STA. 4+60 RT
TS. NO. 3 ON MAP 2 STA. 20+00 TO STA. 20+40 RT
TS. NO. 3 ON MAP 2 STA. 37+25 TO STA. 38+95 RT
TS. NO. 15 ON MAP 6 STA. 6+10 TO STA. 21+30 RT
TS. NO. 17 ON MAP 6 STA. 61+15 TO STA. 79+70 LT & RT
TS. NO. 17 ON MAP 7 STA. 18+45 TO STA. 27+30 LT & RT
TS. NO. 17 ON MAP 7 STA. 33+05 TO STA. 41+90 LT & RT
TS. NO. 18 ON MAP 7 STA. 4+80 TO STA. 18+45 LT
TS. NO. 18 ON MAP 7 STA. 27+30 TO STA. 33+05 LT

MILLING DETAIL 2



PROFILE MILLING 0 - 1½"

*IF #67 STONE OR 78M SEAL IS INVOLVED OVERLAP 3'.
PROFILE MILL EXISTING ASPHALT PAVEMENT 1½" AT LOCATIONS AS DIRECTED BY THE ENGINEER.

TO BE USED IN CONJUCTION WITH:

TS. NO. 4 & 5 ON MAP 3 STA. 0+00 TO STA. 75+25 LT & RT

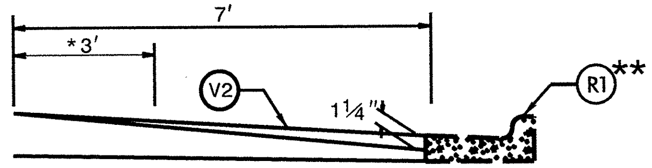
NOTE: EACH MAP MUST BE PATCHED AS DIRECTED BY THE ENGINEER BEFORE PROCEEDING WITH RESURFACING

PAVEMENT SCHEDULE

C1	PROP. APPROX. 1½" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.		
C2	PROP. APPROX. 1½" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD.		
C3	PROP. APPROX. 1¼" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 137.5 LBS. PER SQ. YD.		
D	PROP. APPROX 3" ASPHALT CONCRETE INTERMEDIATE COURSE TYPE I19.0B, AT AN AVERAGE RATE OF 342LBS. PER SQ. YD.		
E	PROP. APPROX. 7" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 399 LBS. PER SQ. YD. IN EACH OF TWO LAYERS		
F1	AST MAT COAT, #67 STONE		
F2	AST MAT COAT, #78M STONE		
R1	EXISTING CURB AND GUTTER		
R2	EXISTING CONCRETE ISLAND		
T1	INCIDENTAL STONE BASE IN LOW SHOULDER AREAS, AS DIRECTED BY THE ENGINEER		
T2	SHOULDER RECONSTRUCTION, AS DIRECTED BY THE ENGINEER.		
U	EXISTING PAVEMENT.		
V1	0" - 1½" MILLING	V2	0" - 1¼" MILLING
V3	1½" MILLING	V4	3" MILLING
V5	7" MILLING		

STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS
N.C.	7CR.10681.25, 7CR.20681.25	5	

MILLING DETAIL 3



PROFILE MILLING 0 - 1¼"

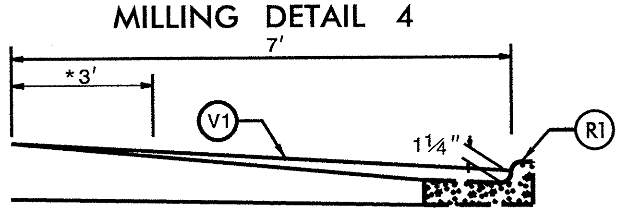
*IF #67 STONE OR 78M SEAL IS INVOLVED OVERLAP 3'.
PROFILE MILL EXISTING ASPHALT PAVEMENT 1¼" AT LOCATIONS AS DIRECTED BY THE ENGINEER.

**NOTE: ON MAP 4: CONCRETE SIDEWALK
STA. 0+15 TO STA. 5+70

TO BE USED IN CONJUCTION WITH:

TS. NO. 8 ON MAP 4 STA. 0+00 TO STA. 0+15 LT
TS. NO. 9 ON MAP 4 STA. 0+15 TO STA. 1+60 LT & RT
TS. NO. 10 ON MAP 4 STA. 1+60 TO STA. 5+05 RT

MILLING DETAIL 4



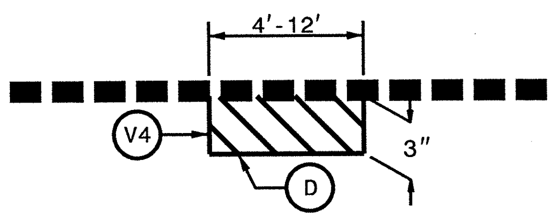
PROFILE MILLING 0 - 1¼"

*IF #67 STONE OR 78M SEAL IS INVOLVED OVERLAP 3'.
PROFILE MILL EXISTING ASPHALT PAVEMENT 1¼" AT LOCATIONS AS DIRECTED BY THE ENGINEER.

TO BE USED IN CONJUCTION WITH:

TS. NO. 8 ON MAP 4 STA. 0+00 TO STA. 0+15 RT

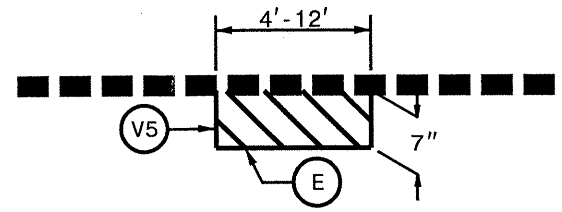
MILLING DETAIL 5



MILL EXISTING ASPHALT PAVEMENT 3" IN DEPTH AND FILL WITH INTERMEDIATE COURSE, TYPE I19.0B AT LOCATIONS AS DIRECTED BY THE ENGINEER.
TO BE USED IN CONJUCTION WITH MAPS 1, 2, 3, 4, AND 5

MAP 1: 3" MILLING = 813 SYD
INTERMEDIATE COURSE, TYPE I19.0B = 140 TON
MAP 2: 3" MILLING = 1037 SYD
INTERMEDIATE COURSE, TYPE I19.0B = 177 TON
MAP 3: 3" MILLING = 1759 SYD
INTERMEDIATE COURSE, TYPE I19.0B = 302 TON
MAP 4: 3" MILLING = 67 SYD
INTERMEDIATE COURSE, TYPE I19.0B = 12 TON
MAP 5: 3" MILLING = 978 SYD
INTERMEDIATE COURSE, TYPE I19.0B = 167 TON

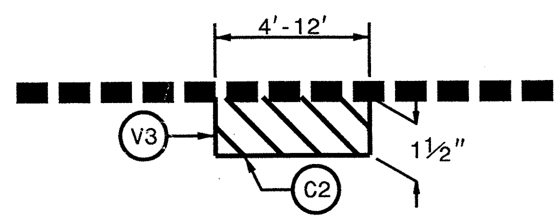
MILLING DETAIL 6



MILL EXISTING ASPHALT PAVEMENT 7" IN DEPTH AND FILL WITH BASE COURSE, TYPE B25.0B AT LOCATIONS AS DIRECTED BY THE ENGINEER.
TO BE USED IN CONJUCTION WITH MAPS 2, 5, 6, 7, AND 8

MAP 2: 7" MILLING = 33 SYD
BASE COURSE, TYPE B25.0B = 15 TON
MAP 5: 7" MILLING = 67 SYD
BASE COURSE, TYPE B25.0B = 27 TON
MAP 6: 7" MILLING = 1629 SYD
BASE COURSE, TYPE B25.0B = 650 TON
MAP 7: 7" MILLING = 376 SYD
BASE COURSE, TYPE B25.0B = 150 TON
MAP 8: 7" MILLING = 1754 SYD
BASE COURSE, TYPE B25.0B = 700 TON

MILLING DETAIL 7



MILL EXISTING ASPHALT PAVEMENT 1½" IN DEPTH AND FILL WITH SURFACE COURSE, TYPE S9.5B OR TYPE SF9.5A AT LOCATIONS AS DIRECTED BY THE ENGINEER.

TO BE USED IN CONJUCTION WITH MAPS 3 AND 4

MAP 3: 7" MILLING = 267 SYD
SURFACE COURSE, TYPE S9.5B = 23 TON
MAP 4: 7" MILLING = 67 SYD
SURFACE COURSE, TYPE SF9.5A = 6 TON

NOTE: EACH MAP MUST BE PATCHED AS DIRECTED BY THE ENGINEER BEFORE PROCEEDING WITH RESURFACING

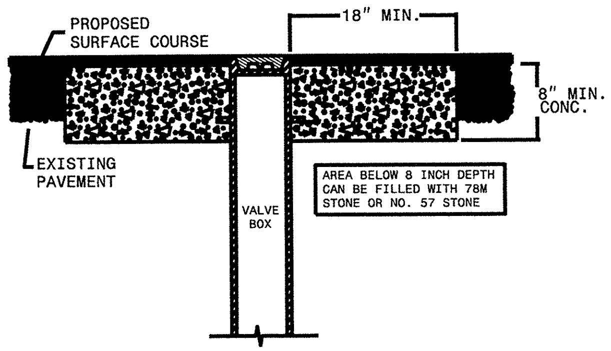
PAVEMENT SCHEDULE

C1	PROP. APPROX. 1½" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.		
C2	PROP. APPROX. 1½" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD.		
C3	PROP. APPROX. 1¼" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 137.5 LBS. PER SQ. YD.		
D	PROP. APPROX 3" ASPHALT CONCRETE INTERMEDIATE COURSE TYPE I19.0B, AT AN AVERAGE RATE OF 342LBS. PER SQ. YD.		
E	PROP. APPROX. 7" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 399 LBS. PER SQ. YD. IN EACH OF TWO LAYERS		
F1	AST MAT COAT, #67 STONE		
F2	AST MAT COAT, #78M STONE		
R1	EXISTING CURB AND GUTTER		
R2	EXISTING CONCRETE ISLAND		
T1	INCIDENTAL STONE BASE IN LOW SHOULDER AREAS, AS DIRECTED BY THE ENGINEER		
T2	SHOULDER RECONSTRUCTION, AS DIRECTED BY THE ENGINEER.		
U	EXISTING PAVEMENT.		
V1	0" - 1½" MILLING	V2	0" - 1¼" MILLING
V3	1½" MILLING	V4	3" MILLING
V5	7" MILLING		

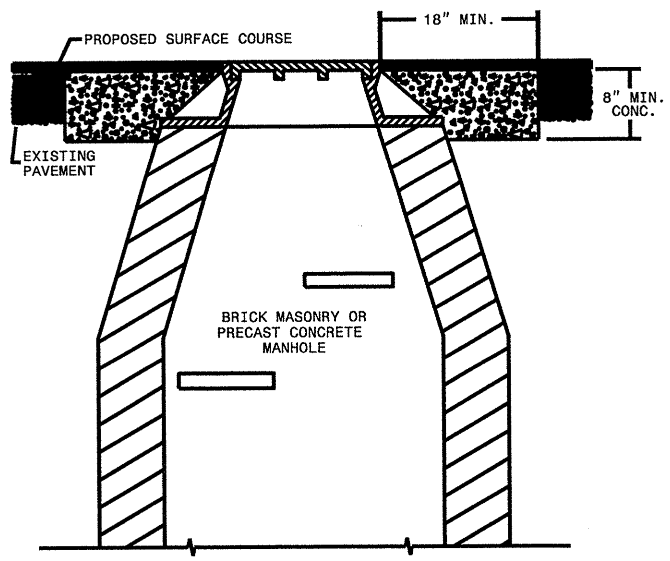
STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS
N.C.	7CR.10681.25, 7CR.20681.25	6	

STANDARD CONCRETE ENCASEMENT FOR MANHOLE & VALVE CASTINGS IN PAVEMENT

DETAIL DRAWING NO. 858.01

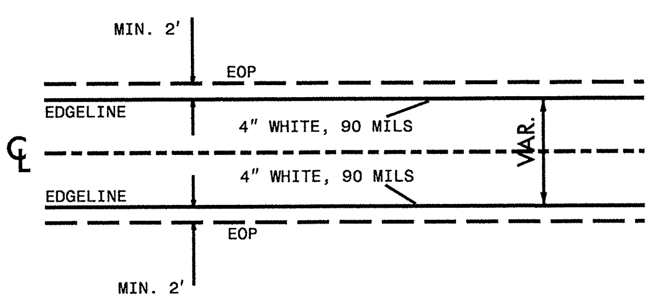


USE RAPID SET GROUT, MORTAR, OR CONCRETE
CLASS B CONCRETE MAY BE USED WHEN ADJUSTMENTS ARE NOT IN THE TRAVEL LANE.



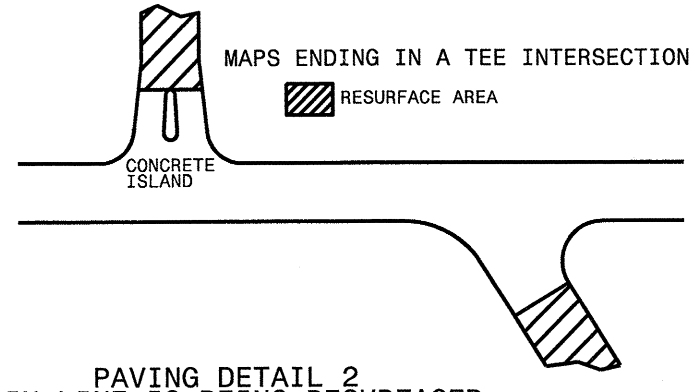
NOTES:
1. MORTAR SHALL BE MIXED TO NCDOT SPECIFICATIONS.
2. ALL FAULTY EXISTING BRICKWORK TO BE REMOVED AND REPLACED WITH NEW BRICK MASONRY.
3. EXCAVATION FOR THE ADJUSTMENT SHALL BE SHEER CUT ON ALL SIDES.
4. RAPID SET GROUT, MORTAR, OR CONCRETE SHALL BE USED

STRIPING DETAIL 1
GENERAL STRIPING DETAIL FOR ENTIRE PROJECT



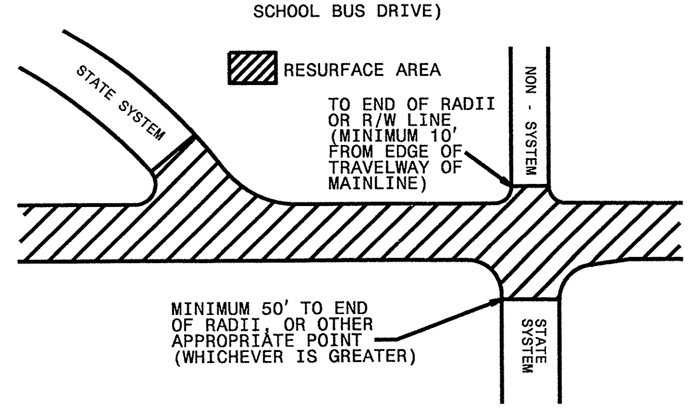
NOTE:
1. TO BE USED IN CONJUNCTION WITH TYPICAL SECTION NO. 1 & 2
2. USE IN CONJUNCTION WITH THE EXISTING PAVEMENT MARKINGS TO ESTABLISH THE STRIPING.
3. USE IN CONJUNCTION WITH THE NCDOT STANDARD DRAWINGS.

PAVING DETAIL 1
MAIN LINE IS NOT BEING RESURFACED

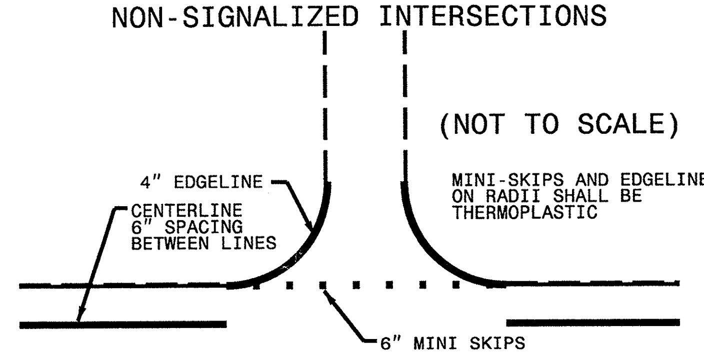


PAVING DETAIL 2
MAIN LINE IS BEING RESURFACED

NOTE: NON-SYSTEM (CITY STREET, PRIVATE DRIVE, SCHOOL BUS DRIVE)

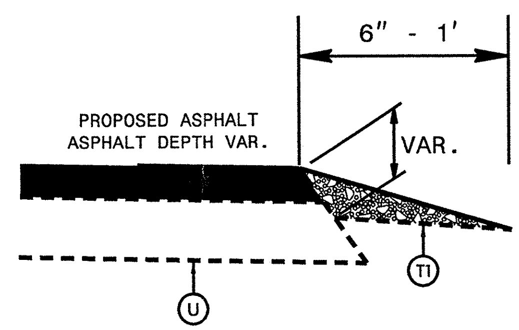


TO BE USED AT ALL NON-SIGNALIZED INTERSECTIONS



NOTE: MINI SKIPS SHALL BE PLACED ON A 10' CYCLE, CONTAINING AN 8' AND 2' SKIP, THE WIDTH OF THE SKIP SHALL BE 6".

INCIDENTAL STONE SHOULDER DETAIL



NOTE: ASB OR ABC STONE SHOULD BE PLACE AT THE DISCRETION OF THE ENGINEER

NOTE: EACH MAP MUST BE PATCHED AS DIRECTED BY THE ENGINEER BEFORE PROCEEDING WITH RESURFACING

PAVEMENT SCHEDULE

C1	PROP. APPROX. 1½" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.		
C2	PROP. APPROX. 1½" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD.		
C3	PROP. APPROX. 1¼" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 137.5 LBS. PER SQ. YD.		
D	PROP. APPROX 3" ASPHALT CONCRETE INTERMEDIATE COURSE TYPE I19.0B, AT AN AVERAGE RATE OF 342LBS. PER SQ. YD.		
E	PROP. APPROX. 7" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 399 LBS. PER SQ. YD. IN EACH OF TWO LAYERS		
F1	AST MAT COAT, #67 STONE		
F2	AST MAT COAT, #78M STONE		
R1	EXISTING CURB AND GUTTER		
R2	EXISTING CONCRETE ISLAND		
T1	INCIDENTAL STONE BASE IN LOW SHOULDER AREAS, AS DIRECTED BY THE ENGINEER		
T2	SHOULDER RECONSTRUCTION, AS DIRECTED BY THE ENGINEER.		
U	EXISTING PAVEMENT.		
V1	0" - 1½" MILLING	V2	0" - 1¼" MILLING
V3	1½" MILLING	V4	3" MILLING
V5	7" MILLING		

SUMMARY OF QUANTITIES

PROJECT NO.	SHEET NO.	TOTAL NO.
7CR.10681.25, 7CR.20681.25	7	

PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	TYP NO	FINAL SURFACE TESTING REQUIRED	LENGTH MI	WIDTH FT	BORROW EXCAVATION CY	INCIDENTAL STONE BASE TONS	SHOULDER RECONSTRUCTION SMI	MILLING ASPHALT PAVEMENT, 3" DEPTH SY	MILLING ASPHALT PAVEMENT, 7"DEPTH SY	MILLING ASPHALT PAVEMENT, 1½" DEPTH SY	MILLING ASPHALT PAVEMENT, 0" TO 1 1/2" DEPTH SY	MILLING ASPHALT PAVEMENT, 0 - 1 1/4" DEPTH SY	INCIDENTAL MILLING SY	ASPHALT CONC BASE COURSE, TYPE B25.0B TONS	ASPHALT CONC INTERMEDIATE COURSE, TYPE I19.0B TONS	ASPHALT CONC SURFACE COURSE, TYPE S9.5B TONS	ASPHALT CONC SURFACE COURSE, TYPE SF9.5A TONS	ASPHALT BINDER FOR PLANT MIX TONS	ASPHALT SURFACE TREATMENT, MAT COAT, #78M STONE SY	ASPHALT SURFACE TREATMENT, MAT COAT, #67 STONE SY	ADJ. OF GRATES AND/OR FRAMES ON DROP INLETS EA	CONCRETE CURB RAMPS EA	ADJ. OF MAN-HOLES EA	ADJ. OF METER BOXES OR VALVE BOXES EA	PORTABLE LIGHTING LS	RESIDENTIAL SEEDING AC	TRENCHING (UNPAVED) (1)(2") LF	JUNCTION BOX (STANDARD SIZE) EA	1" RISER WITH WEATHER-HEAD EA	2" RISER W/ WEATHER-HEAD EA	INDUCT-IVE LOOP SAW CUT LF	LEAD-IN CABLE (14-2) LF
7CR.10681.25	Orange	1	US 15-501 NORTHBOUND	FROM NEW PAVEMENT JOINT EAST OF SR 1734 (ERWIN ROAD) TO DURHAM COUNTY LINE	1	NO	0.035	28-38		38										57		3		678												
					1	NO	0.031	38-58												74		4		873												
					1	NO	0.078	58							144					243		15		2,654							868	7		4	2,645	2,909
					1	NO	0.221	26												285		17		3,371												
					1	NO	0.045	26-38				320							55	71		7		845												
					1	NO	0.017	38-44				120							21	34		3		409					*							
					1	NO	0.045	44				320							55	118		10		1,162							456	5	2	2	1,311	2,785
					1	NO	0.226	26				53							9	291		18		3,447												
					1	NO	0.035	26-44												61		4		719												
					1	NO	0.019	44-55												47		3		557												
					1	NO	0.007	55												39		2		226							653	5		5	1,548	2,028
					2	NO	0.068	36							559					121		7		1,120												
		TOTAL FOR MAP NO. 1					0.827			38		813			703				140	1,441		93		16,061							1,977	17	2	11	5,504	7,722
		2	US 15-501 SOUTHBOUND	FROM DURHAM COUNTY LINE TO NEW PAVEMENTJOINT EAST OF SR 1734 (ERWIN RD)	1&2	NO	0.087	48		38			33			649			15		236		15		2,044												
					1	NO	0.205	26-28												274		16		3,247												
					1	NO	0.035	26-44												61		4		719												
					1&4	NO	0.06	44				183			31				32	160		11		1,549					*							
					1	NO	0.24	26				120							21	309		20		3,661												
					1	NO	0.029	26-50				207							35	54		5		647												
					1&3	NO	0.082	50				527			132				90	203		16		2,223												
					1	NO	0.12	26							140					154		9		1,830												
		TOTAL FOR MAP NO. 2					0.858			38		1,037	33		952			15	178	1,451		96		15,920												
		3	NC 86 (MARTIN LUTHER KING BOULEVARD)	FROM SR 1750 (ESTES DRIVE) TO SR 1010 (FRANKLIN STREET)	4&5	NO	1.325	64				1,067		267	10,883				182		4,357	299	43,524				29	43			824	8			2,306	1,829
					5	NO	0.011	52							90						48	3	293				1	1								
					4	NO	0.052	64							427						161	11	1,708				1		*							
					4	NO	0.037	68							304						172	12	1,302				1	13								
					6	NO	0.079	68						3,152			240				20	1					3	5				5		1,693	1,093
					7	NO	0.059	58				692		2,008					120		166	17										2	1	680	726
		TOTAL FOR MAP NO. 3					1.563					1,759		5,427	11,704		240		302		4,924	343	46,827				35	62			824	15	1		4,679	3,648
TOTAL FOR PROJ NO. 7CR.10681.25							3.248			76		3,609	33	5,427	13,359		240	15	620	2,892	4,924	532	46,827	31,981			35	62	1		2,801	32	3	11	10,183	11,370
		4	SR 1919 (SOUTH GREENSBORO STREET)	FROM SR 1010 (MAIN STREET) TO NON-SYSTEM (RAND STREET)	8&9	NO	0.03	43		10		67		67		246			12		58	4	622		1	1	1				13	2		2	947	331
					10	NO	0.027	40								111					64	4	560		1		3	2								
					10	NO	0.023	35								94					73	5	413		1	1	1	3								
					10	NO	0.016	23								66					15	1	216				2	3								
					11	NO	0.378	21													362	24	4,657				4									
		TOTAL FOR MAP NO. 4					0.474			10		67		67		517			12		572	38	6,468		3	2	11	8			13	2		2	947	331
		5	SR 1772 (NORTH GREENSBORO STREET / HILLSBOROUGH ROAD)	FROM NON-SYSTEM (LORRAINE STREET) TO SR 1010 (MAIN STREET)	12	NO	0.878	32				978	67	16,483			3,800	27	167		1,785	129				8	11	2								
					12	NO	0.054	43						1,362			250				153	10				3	4	4			100	6	1	4	876	949
					12	NO	0.021	32-43						468							39	3							*							
					6&12	NO	0.404	32						7,584			1,500				808	54				12	14	11								
					13	NO	0.062	34						1,237			500				182	12				2	8	11				2		1,822	689
					6	NO	0.041	34						818							68	5					1	1								
		TOTAL FOR MAP NO. 5					1.46					978	67	27,952			6,050	27	167		3,035	213				25	38	29			100	8	1	4	2,698	1,638
		6	SR 1843 (SEAWELL SCHOOL ROAD)	FROM SR 1834 (HIGH SCHOOL ROAD) TO SR 1780 (ESTES DRIVE)	14	NO	0.045	39		50			1,629						650		85	34	1,030												
					14	NO	0.07	27-39													112	8	1,355												
					15	NO	0.044	27-49							181						81	5	869				1								
					15	NO	0.013	38-49							53						28	2	307												
					15	NO	0.058	38							238						107	7	1,152												
					15	NO	0.027	26-38							111						42	3	451												
					15	NO	0.027	26							111						34	2	354												
					15	NO	0.006	26-37							25						9	1	92												
					15	NO	0.01	37							41						18	1	202				3								
					15	NO	0.009	26-37							37						14	1	153												
					15	NO	0.034	26-29							140						46	3	470												
					15	NO	0.027	29-48							111						51	3	537												
					15	NO	0.015	48							62						35	2	391				1	1								
					15	NO	0.017	34-48							70						34	2	370												
					14	NO	0.076	34													126	8	1,516				1								
7CR.20681.25	Orange				16	NO	0.031	21-34			0.06							33			48	5	509						0.02						
					16	NO	0.47	21			0.94							504			575	61	5,790						0.34						
				(SKIP NEW PAVEMENT)	16	NO	0.112	21																											
					16	NO	0.066	21-36			0.13							71			106	10	1,123						0.05						
					17	NO	0.351	36							2,883						714	48	5,771				5	1	11			20	1		1	678	280
		TOTAL FOR MAP NO. 6					1.508			50	1	1,629			4,063			1,258			2,265	206	22,442				5	2	17		0.41	20	1		1	678	280
		7	SR 1834 (SEAWELL SCHOOL ROAD/HIGH SCHOOL ROAD)	FROM SR 1777 (HOMESTEAD ROAD) TO SR 1777 (HOMESTEAD ROAD)	14	NO	0.043	34-38		31			376						150		75	12	908												
					14	NO	0.038	20-34													50	3	602												
					14	NO	0.01	20-32													13	1	153				1								
					18	NO	0.102	30-33							419						159	11	1,650												
					18	NO	0.064	33							263						103	7	1,096												
					18	NO	0.052	23-33							214						71	5	733												
					17	NO	0.04	23-43							164						64	4	677												
					17	NO	0.01	43							82						21	1	214												
					17	NO	0.019	39-43							156						38	3	367				3		6						
					17	NO	0.009	34-36							74						15	1	150												
					17	NO	0.045	34							370						74	5	693												
					17	NO	0.015	33-34							123						25	2	221				1	1							
					17	NO	0.019	33							156						70	5	283				2	1							
					17	NO	0.049	22-33							402						67	4	563												
					18	NO	0.104	22							427						111	7	1,100												
					18	NO	0.005	22-28							21						46	3	58				4		1						
					18	NO	0.1	28							821						136	9	1,178												
					17	NO	0.012	28-33							99						58	4	163				4		4						
					17	NO	0.049	33							402						79	5	722												
					17	NO	0.006	33-100							49						19	1	195												
		TOTAL FOR MAP NO. 7					0.791			31			376		4,242			150			1,294	93	11,726				15	1	14			20	1		1	678	280
		8	SR 1588 (ORANGE HIGH SCHOOL RD)	FROM US 70 BYPASS TO SR 1555 (MILLER ROAD)	19	NO	0.074	20-30	19		2.41		1,754					779			105	41		1,127					0.88						
					19	NO	1.129	20										1,211			1,505	154		13,907				3								
		TOTAL FOR MAP NO. 8					1.203		19		2.41		1,754					1,990			1,610	195		15,034				3	0.88						
TOTAL FOR PROJ NO. 7CR.20681.25							5.436		19	91	3.54	1,045	3,826	28,019	8,305	517	6,050	3,425	179		8,776	745	40,636	15,034	3	47	52	71	1	1.29	153	12	1	8	5,001	2,529
GRAND TOTAL							8.684		19	167	3.54	4,654	3,859	33,446	21,664	517	6,290	3,440	799	2,892	13,700	1,277	87,463	47,015	3	47	87	133	1	1.29	2,954	44	4	19	15,184	13,899

PROJECT NO.	SHEET NO.	TOTAL NO.
7CR.10681.25, 7CR.20681.25	8	

THERMOPLASTIC AND PAINT QUANTITIES

PROJECT	COUNTY	MAP	ROUTE	DESCRIPTION	LENGTH	WIDTH	4589000000-N	4685000000-E		4686000000-E		46880000	46900000	46950000	46970000	47020000	47050000	47100000	4721000000-E		4725000000-E					4810000000-E		48150000	48200000	48350000	49000000000	4905000000-N	
							GENERIC TRAFFIC CONTROL ITEM	4" X 90 M WHITE THERMO	4" X 90 M YELLOW THERMO	4" X 120 M WHITE THERMO	4" X 120 M YELLOW THERMO	6" X 90 M WHITE THERMO	6" X 120 M WHITE THERMO	8" X 90 M YELLOW THERMO	8" X 120 M WHITE THERMO	12" X 120 M WHITE THERMO	16" X 120 M WHITE THERMO	24" X 120 M WHITE THERMO	THERMO MSG RXR 120 M	THERMO MSG SCHOOL 120 M	THERMO STR ARROW 90 M	THERMO LT ARROW 90 M	THERMO RT ARROW 90 M	THERMO STR & RT ARROW 90 M	THERMO BICYCLE SYMBOL	4" WHITE PAINT	4" YELLOW PAINT	6" WHITE PAINT	8" WHITE PAINT	24" WHITE PAINT	YELLOW & YELLOW MARKERS	SNOW-PLOWABLE PAVEMENT MARKERS CRYSTAL/ RED	SNOWPLOWABLE PAVEMENT MARKERS YELLOW/ YELLOW
NO		NO					LS	LF	LF	LF	LF	LF	LF	LF	LF	LF	LF	LF	EA	EA	EA	EA	EA	EA	EA	LF	LF	LF	LF	LF	EA	EA	EA
7CR.10681.25	Orange	1	US 15-501 NORTHBOUND	FROM NEW PAVEMENT JOINT EAST OF SR 1734 (ERWIN ROAD) TO DURHAM COUNTY LINE	0.827	33	*	7,270	4,370	1,175								162			18	10	5	1								100	
TOTAL FOR MAP NO. 1					**0.827**			**7,270**	**4,370**	**1,175**								**162**			**18**	**10**	**5**	**1**								**100**	
7CR.10681.25	Orange	2	US 15-501 SOUTHBOUND	FROM DURHAM COUNTY LINE TO NEW PAVEMENTJOINT EAST OF SR 1734 (ERWIN RD)	0.858	48	*	4,305	4,120	1,301					320			182														100	
TOTAL FOR MAP NO. 2					**0.858**			**4,305**	**4,120**	**1,301**					**320**			**182**														**100**	
7CR.10681.25	Orange	3	NC 86 (MARTIN LUTHER KING BOULEVARD)	FROM SR 1750 (ESTES DRIVE) TO SR 1010 (FRANKLIN STREET)	1.563	64	*	602		3,221	14,353		719	55	1,315	212		425			65	14	3	12	60	425	1,520		400	123		250	250
TOTAL FOR MAP NO. 3					**1.563**			**602**		**3,221**	**14,353**		**719**	**55**	**1,315**	**212**		**425**			**65**	**14**	**3**	**12**	**60**	**425**	**1,520**		**400**	**123**		**250**	**250**
TOTAL FOR PROJ NO. 7CR.10681.25					**3.248**		**1**	**12,177**	**8,490**	**5,697**	**14,353**		**719**	**55**	**1,635**	**212**		**769**			**83**	**24**	**8**	**13**	**60**	**425**	**1,520**		**400**	**123**		**450**	**250**
								20,667		**20,050**											**188**					**1,945**					**700**		
7CR.20681.25	Orange	4	SR 1919 (SOUTH GREENSBORO STREET)	FROM SR 1010 (MAIN STREET) TO NON-SYSTEM (RAND STREET)	0.474	43	*	4,740	132	75	5,000		22					116				1		1									
TOTAL FOR MAP NO. 4					**0.474**			**4,740**	**132**	**75**	**5,000**		**22**					**116**				**1**		**1**									
7CR.20681.25	Orange	5	SR 1772 (NORTH GREENSBORO STREET / HILLSBOROUGH ROAD)	FROM NON-SYSTEM (LORRAINE STREET) TO SR 1010 (MAIN STREET)	1.46	32	*			505	15,360	12,210			1,056		100	981	4		13	15	1	5	20	505	15,360	12,210	864	742			
TOTAL FOR MAP NO. 5					**1.46**					**505**	**15,360**	**12,210**			**1,056**		**100**	**981**	**4**		**13**	**15**	**1**	**5**	**20**	**505**	**15,360**	**12,210**	**864**	**742**			
7CR.20681.25	Orange	6	SR 1843 (SEAWELL SCHOOL ROAD)	FROM SR 1834 (HIGH SCHOOL ROAD) TO SR 1780 (ESTES DRIVE)	0.045	39		12,235		933	17,241		10	1,163			100	202	4	6		21	4		1						175		
		"	"		0.07	33																										
		"	"		0.044	38																										
		"	"		0.013	44																										
		"	"		0.058	38																										
		"	"		0.027	32																										
		"	"		0.027	26																										
		"	"		0.006	32																										
		"	"		0.01	37	*																									
		"	"		0.009	32																										
		"	"		0.034	28																										
		"	"		0.027	39																										
		"	"		0.015	48																										
		"	"		0.017	41																										
		"	"		0.076	34																										
		"	"		0.031	28																										
		"	"		0.47	21																										
		"	"	(SKIP NEW PAVEMENT)	0.112	21																										14
		"	"		0.066	29																										
		"	"		0.351	36																										
TOTAL FOR MAP NO. 6					**1.508**			**12,235**		**933**	**17,241**		**10**	**1,163**			**100**	**202**	**4**	**6**		**21**	**4**		**1**						**175**		**14**
7CR.20681.25	Orange	7	SR 1834 (SEAWELL SCHOOL ROAD/HIGH SCHOOL ROAD)	FROM SR 1777 (HOMESTEAD ROAD) TO SR 1777 (HOMESTEAD ROAD)	0.791	36	*	4,785		1,030	14,890			500	949			415		18		11	5								100		
TOTAL FOR MAP NO. 7					**0.791**			**4,785**		**1,030**	**14,890**			**500**	**949**			**415**		**18**		**11**	**5**								**100**		
7CR.20681.25	Orange	8	SR 1588 (ORANGE HIGH SCHOOL RD)	FROM US 70 BYPASS TO SR 1555 (MILLER ROAD)	0.074	25	*	12,700		10	25,400		136			40		118		12									100		
		"	"		1.129	20																										
TOTAL FOR MAP NO. 8					**1.203**			**12,700**		**10**	**25,400**		**136**			**40**		**118**		**12**									**100**		
TOTAL FOR PROJ NO. 7CR.20681.25					**5.436**		**1**	**34,460**	**132**	**2,553**	**77,891**	**12,210**	**168**	**1,663**	**2,005**	**40**	**200**	**1,832**	**8**	**36**	**13**	**48**	**10**	**6**	**21**	**505**	**15,360**	**12,210**	**864**	**742**	**375**		**14**
								34,592		**80,444**									**44**		**98**					**15,865**					**14**		
GRAND TOTAL					**8.684**		**1**	**46,637**	**8,622**	**8,250**	**92,244**	**12,210**	**887**	**1,718**	**3,640**	**252**	**200**	**2,601**	**8**	**36**	**96**	**72**	**18**	**19**	**81**	**930**	**16,880**	**12,210**	**1,264**	**865**	**375**	**450**	**264**
								55,259		**100,494**									**44**		**286**					**17,810**					**714**		

STATE OF
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RALEIGH, N.C.

ENGLISH DETAIL DRAWING FOR

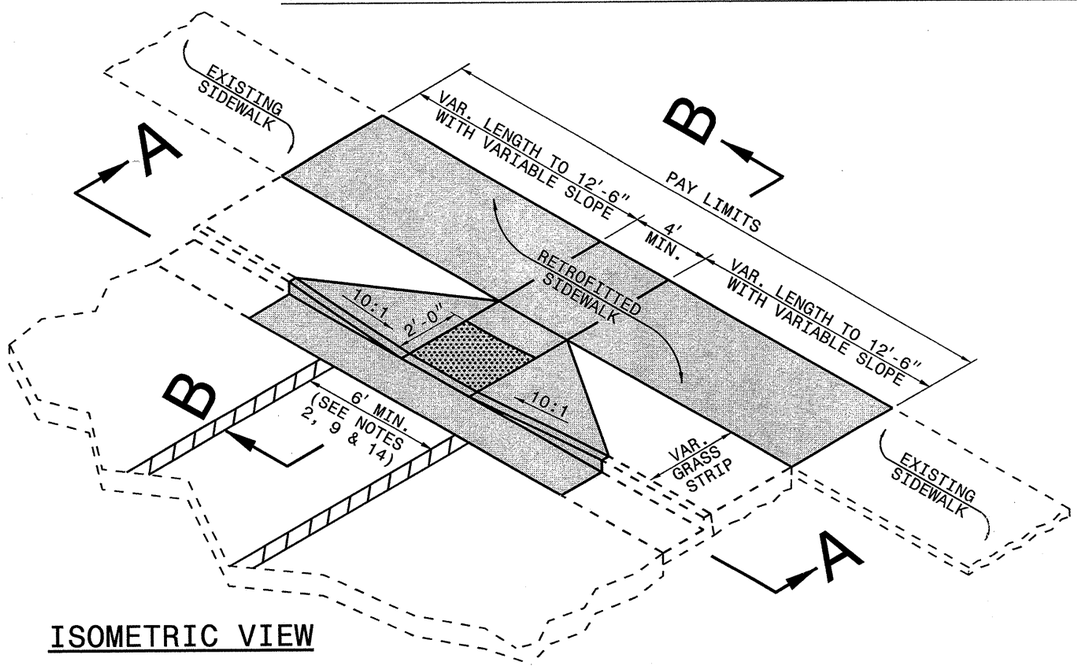
CURB RAMP

EXISTING CURB AND GUTTER

SHEET 1 OF 5

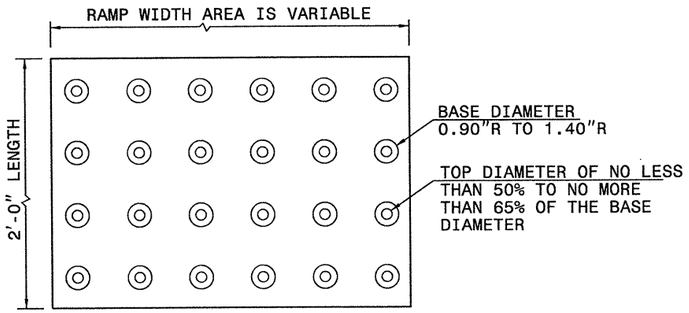
848D06

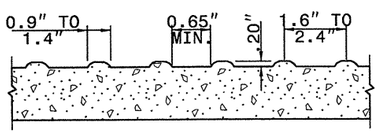
CURB RAMP AND EXISTING SIDEWALK WITH GRASS STRIP



ISOMETRIC VIEW

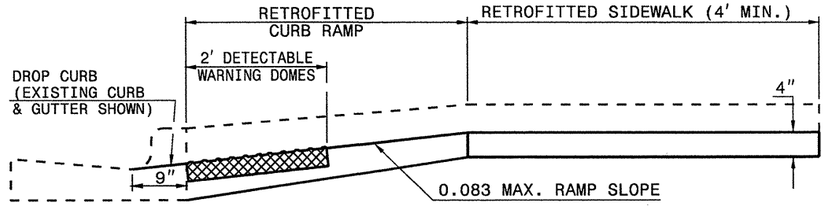
PAY LIMITS OF RETROFIT CURB RAMP



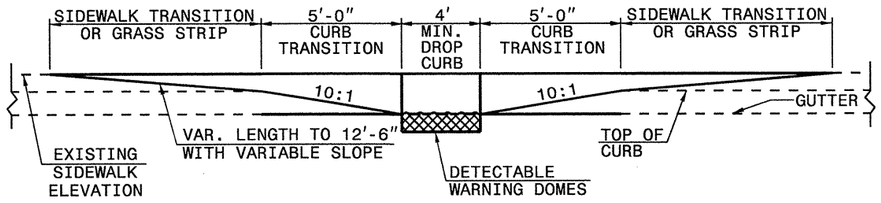


DETECTABLE WARNING DOMES

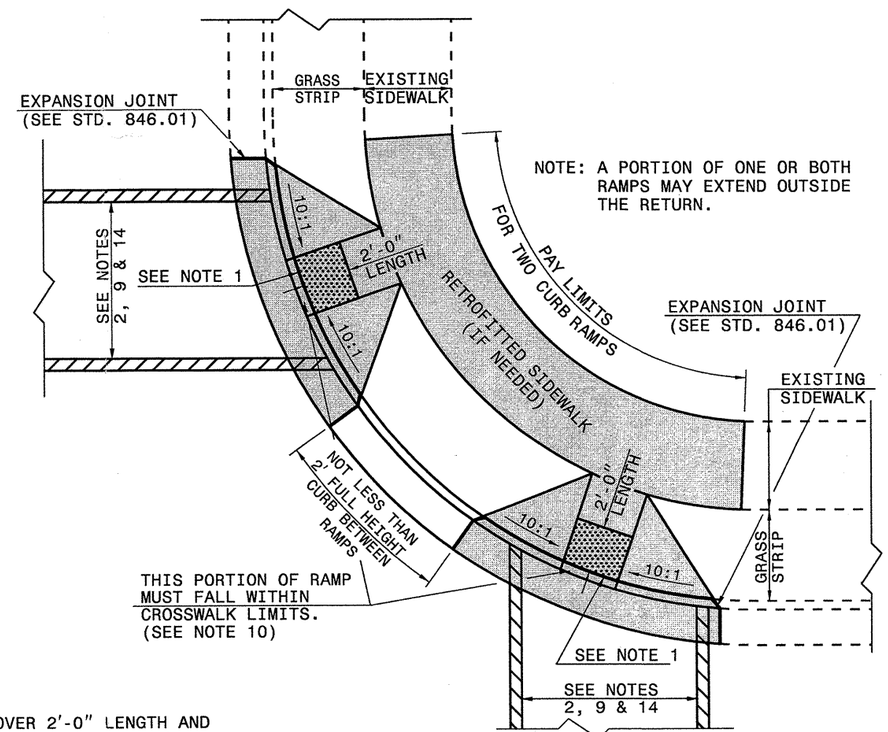
NOTES:
1. PLACE DETECTABLE WARNING DOMES TO COVER 2'-0" LENGTH AND FULL WIDTH OF THE RAMP FLOOR AS SHOWN ON THE DETAILS.
2. OBTAIN VISIBLE CONTRAST WITH ADJOINING SURFACE, EITHER LIGHT-ON-DARK, OR DARK-ON-LIGHT SEQUENCE COVERING THE ENTIRE RAMP.



SECTION B-B



SECTION A-A



PLAN VIEW

DUAL RAMPS
ANY RADII
(40" MIN. FLOOR WIDTH)

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

ENGLISH DETAIL DRAWING FOR

CURB RAMP

EXISTING CURB AND GUTTER

SHEET 1 OF 5

848D06

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

ENGLISH DETAIL DRAWING FOR

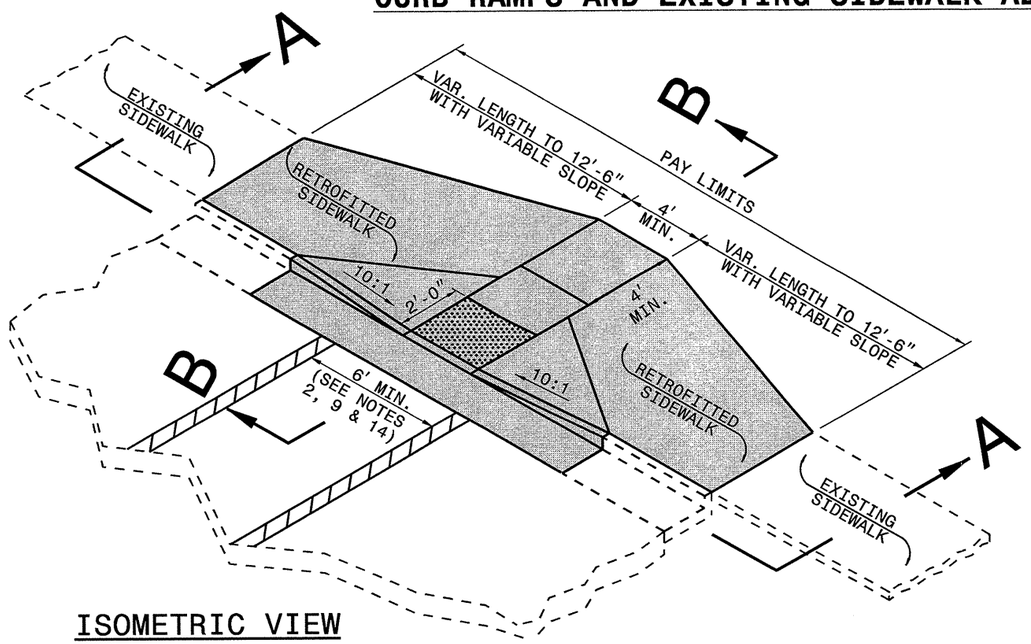
CURB RAMP

EXISTING CURB AND GUTTER

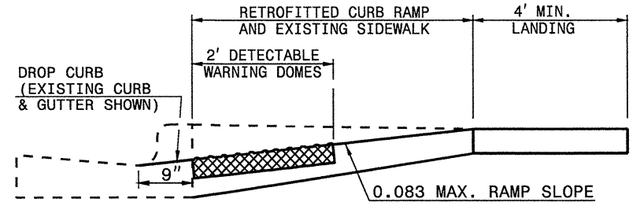
SHEET 2 OF 5

848D06

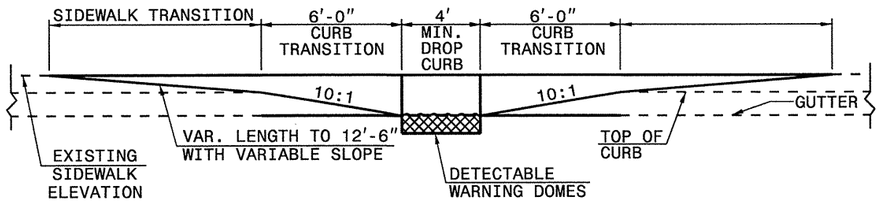
CURB RAMPS AND EXISTING SIDEWALK ADJACENT TO CURB



ISOMETRIC VIEW

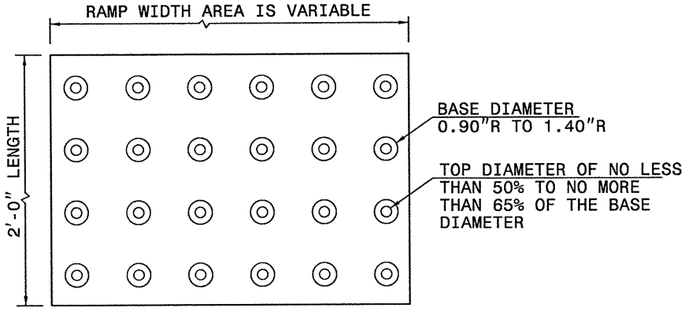


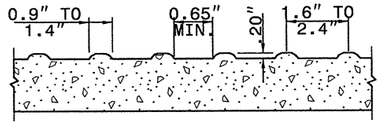
SECTION B-B



SECTION A-A

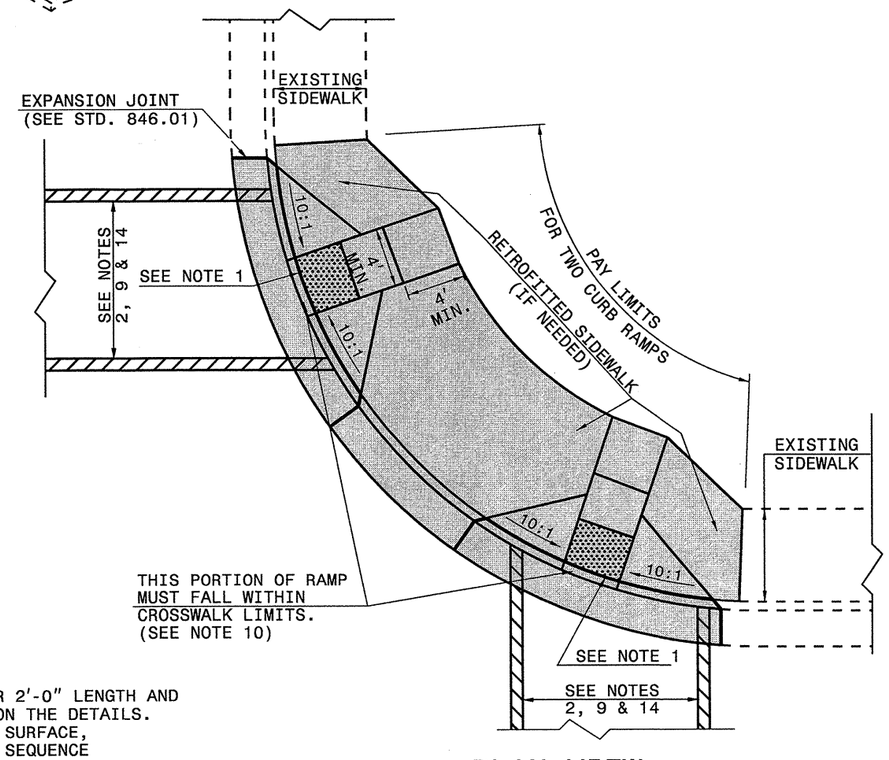
PAY LIMITS OF CURB RAMP





DETECTABLE WARNING DOMES

NOTES:
1. PLACE DETECTABLE WARNING DOMES TO COVER 2'-0" LENGTH AND FULL WIDTH OF THE RAMP FLOOR AS SHOWN ON THE DETAILS.
2. OBTAIN VISIBLE CONTRAST WITH ADJOINING SURFACE, EITHER LIGHT-ON-DARK, OR DARK-ON-LIGHT SEQUENCE COVERING THE ENTIRE RAMP.



PLAN VIEW

DUAL RAMPS
ANY RADII
(40" MIN. FLOOR WIDTH)

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

ENGLISH DETAIL DRAWING FOR

CURB RAMP

EXISTING CURB AND GUTTER

SHEET 2 OF 5

848D06

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

ENGLISH DETAIL DRAWING FOR

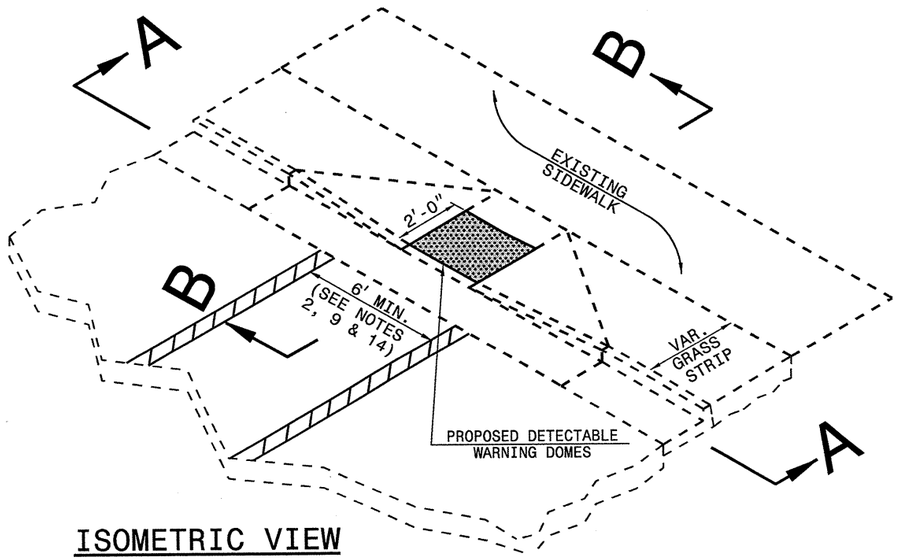
CURB RAMP

EXISTING CURB AND GUTTER

SHEET 3 OF 5

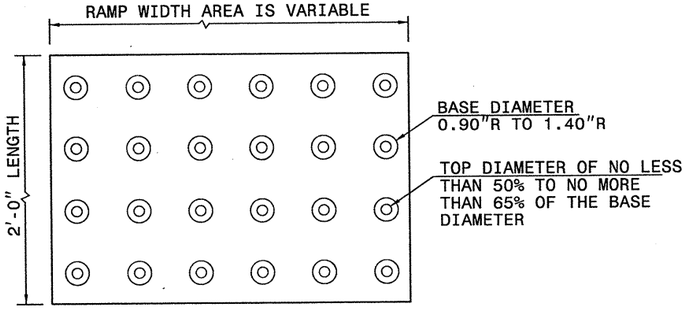
848D06

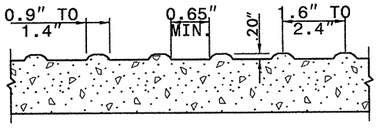
RETROFITTING DETECTABLE WARNING DOMES ONTO EXISTING CURB RAMP



ISOMETRIC VIEW

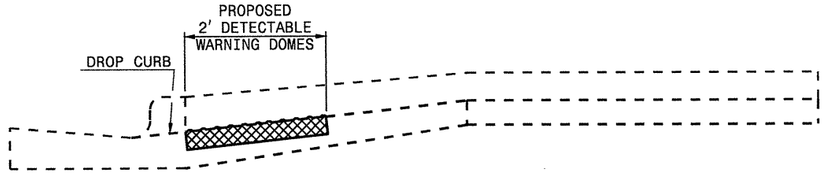
PAY LIMITS OF RETROFIT CURB RAMP



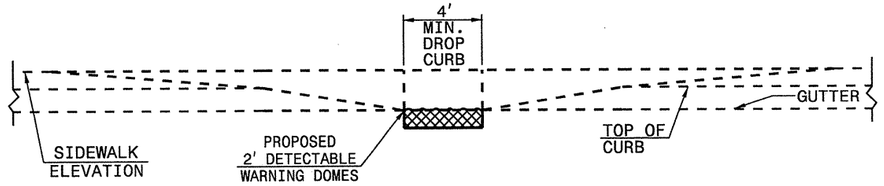


NOTES:
1. PLACE DETECTABLE WARNING DOMES TO COVER 2'-0" LENGTH AND FULL WIDTH OF THE RAMP FLOOR AS SHOWN ON THE DETAILS.
2. OBTAIN VISIBLE CONTRAST WITH ADJOINING SURFACE, EITHER LIGHT-ON-DARK, OR DARK-ON-LIGHT SEQUENCE COVERING THE ENTIRE RAMP.

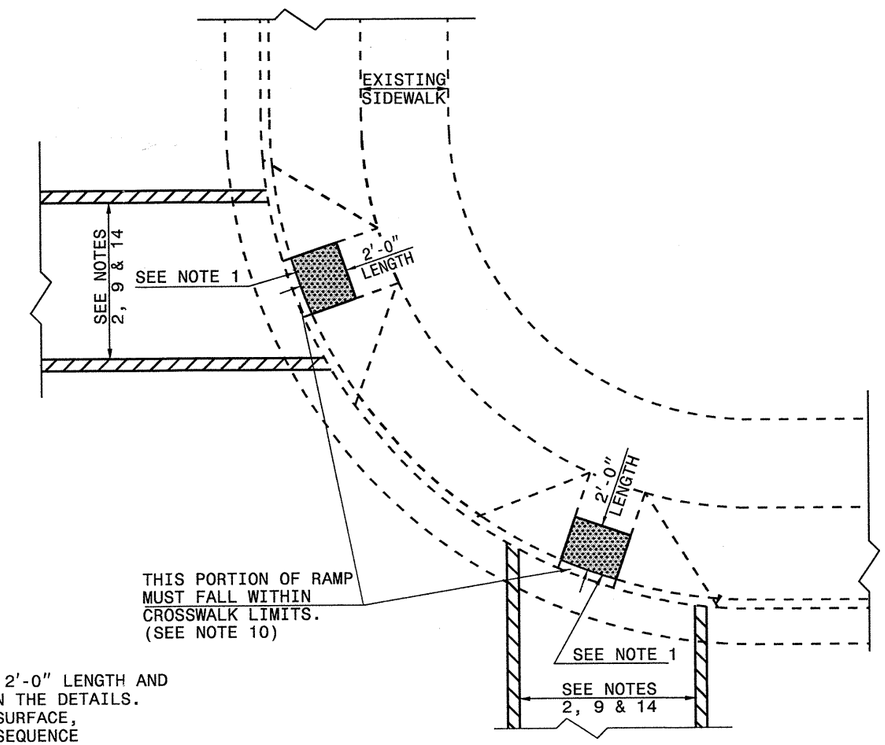
DETECTABLE WARNING DOMES



SECTION B-B



SECTION A-A



PLAN VIEW

DUAL RAMPS
ANY RADII
(40" MIN. FLOOR WIDTH)

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

ENGLISH DETAIL DRAWING FOR

CURB RAMP

EXISTING CURB AND GUTTER

SHEET 3 OF 5

848D06

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

ENGLISH DETAIL DRAWING FOR

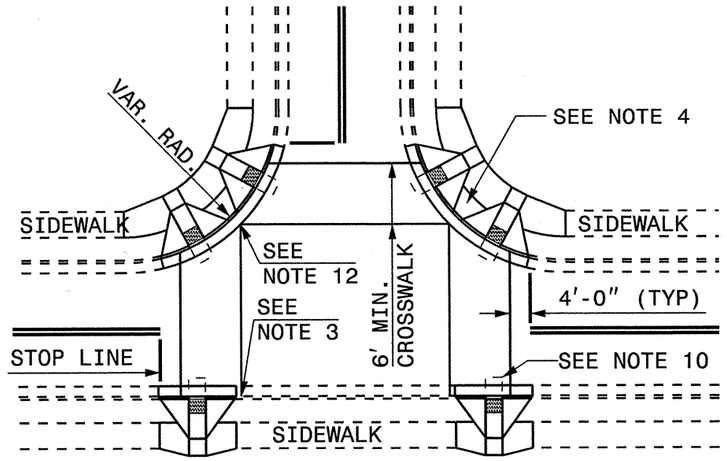
CURB RAMP

EXISTING CURB AND GUTTER

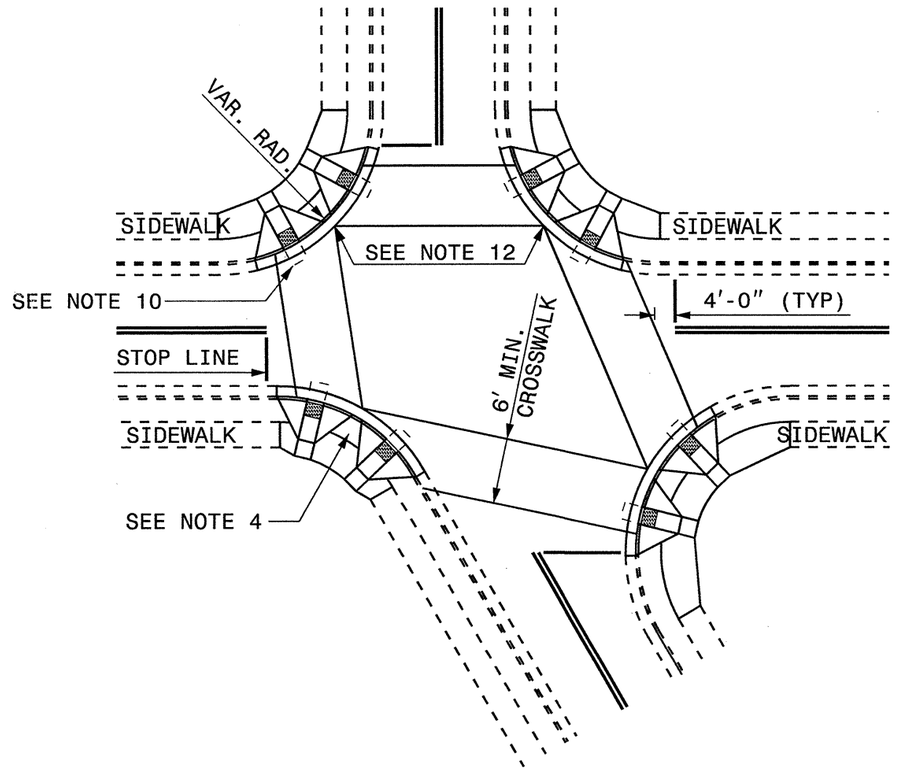
SHEET 4 OF 5

848D06

CURB RAMPS AND EXISTING SIDEWALK



DETAIL SHOWING TYPICAL LOCATION OF CURB RAMPS, PEDESTRIAN CROSSWALKS AND STOP LINES FOR TEE INTERSECTIONS



DETAIL SHOWING TYPICAL LOCATION OF CURB RAMPS, PEDESTRIAN CROSSWALKS AND STOP LINES

RESURFACING PROJECTS

PROPOSED CURB RAMP W/ LANDING FOR RESURFACING PROJECTS

EXISTING SIDEWALK

ALLOWABLE LOCATIONS

DUAL RAMP RADII.....ANY

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

ENGLISH DETAIL DRAWING FOR

CURB RAMP

EXISTING CURB AND GUTTER

SHEET 4 OF 5

848D06

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

ENGLISH DETAIL DRAWING FOR

CURB RAMP

EXISTING CURB AND GUTTER

SHEET 5 OF 5

848D06

CURB RAMP AND EXISTING SIDEWALK

NOTES:

1. CONSTRUCT THE RAMP SURFACE TO BE STABLE, FIRM, AND SLIP RESISTANT. CONSTRUCT THE CURB RAMP TYPE AS SHOWN IN THE PAVEMENT MARKING PLANS OR AS DIRECTED BY THE ENGINEER.
2. LOCATE CURB RAMPS AND PLACE PEDESTRIAN CROSSWALK MARKINGS AS SHOWN IN THE PAVEMENT MARKING PLANS. WHEN FIELD ADJUSTMENTS REQUIRE MOVING CURB RAMPS OR MARKINGS AS SHOWN, CONTACT THE SIGNING AND DELINEATION UNIT OR LOCATE AS DIRECTED BY THE ENGINEER.
3. COORDINATE THE CURB RAMP AND THE PEDESTRIAN CROSSWALK MARKINGS SO A 4′x4′ CLEAR SPACE AT THE BASE OF THE CURB RAMP WILL FALL WITHIN THE PEDESTRIAN CROSSWALK LINES.
4. SET BACK DISTANCE FROM INSIDE CROSSWALK MARKING TO NEAREST EDGE OF TRAVEL LANE IS 4′ MINIMUM.
5. REFER TO THE PAVEMENT MARKING PLANS FOR STOP BAR LOCATIONS AT SIGNALIZED INTERSECTIONS. IF A PAVEMENT MARKING PLAN IS NOT PROVIDED, CONTACT THE SIGNAL DESIGN SECTION FOR THE STOP BAR LOCATIONS OR LOCATE AS DIRECTED BY THE ENGINEER.
6. TERMINATE PARKING A MINIMUM OF 20′ BACK OF A PEDESTRIAN CROSSWALK.
7. CONSTRUCT CURB RAMPS A MINIMUM OF 4′ WIDE.
8. CONSTRUCT THE RUNNING SLOPE OF THE RAMP 8.33% MAXIMUM.
9. ALLOWABLE CROSS SLOPE ON SIDEWALKS AND CURB RAMPS WILL BE 2% MAXIMUM.
10. CONSTRUCT THE SIDE FLARE SLOPE A MAXIMUM OF 10% MEASURED ALONG THE CURB LINE.
11. CONSTRUCT THE COUNTER SLOPE OF THE GUTTER OR STREET AT THE BASE OF THE CURB RAMP A MAXIMUM OF 5% AND MAINTAIN A SMOOTH TRANSITION.
12. CONSTRUCT LANDINGS FOR SIDEWALK A MINIMUM OF 4′x4′ WITH A MAXIMUM SLOPE OF 2% IN ANY DIRECTION. CONSTRUCT LANDINGS FOR MEDIAN ISLANDS A MINIMUM OF 5′x5′ WITH A MAXIMUM SLOPE OF 2% IN ANY DIRECTION.
13. TO USE A MEDIAN ISLAND AS A PEDESTRIAN REFUGE AREA, MEDIAN ISLANDS WILL BE A MINIMUM OF 6′ WIDE. CONSTRUCT MEDIAN ISLANDS TO PROVIDE PASSAGE OVER OR THROUGHT THE ISLAND.
14. SMALL CHANNELIZATION ISLANDS THAT CAN NOT PROVIDE A 5′X5′ LANDING AT THE TOP OF A RAMPS, WILL BE CUT THROUGH LEVEL WITH THE SURFACE STREET.
15. CURB RAMPS WITH RETURNED CURBS MAY BE USED ONLY WHERE PEDESTRIANS WOULD NOT NORMALLY WALK ACROSS THE RAMP. THE ADJACENT SURFACE IS PLANTING OR OTHER NON-WALKING SURFACE OR THE SIDE APPROACH IS SUBSTANTIALLY OBSTRUCTED.
16. PLACE A ½″ EXPANSION JOINT WHERE THE CONCRETE CURB RAMP JOINS THE CURB AS SHOWN IN ROADWAY STANDARD DRAWING 848.01
17. PLACE ALL PEDESTRIAN PUSH BUTTON ACTUATORS AND CROSSING SIGNALS AS SHOWN IN THE PLANS OR AS SHOWN IN THE MUTCD.
18. CURB RAMPS THROUGH MEDIAN ISLANDS, SINGLE RAMPS AT DUAL CROSSWALKS OR LIMITED R/W SITUATIONS, WILL BE HANDLED BY SPECIAL DETAILS. CONTACT THE CONTRACT STANDARDS AND DEVELOPMENT UNIT FOR THE DETAILS OR FOR A SPECIAL DESIGN.

STATE OF
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ENGLISH DETAIL DRAWING FOR

CURB RAMP

EXISTING CURB AND GUTTER

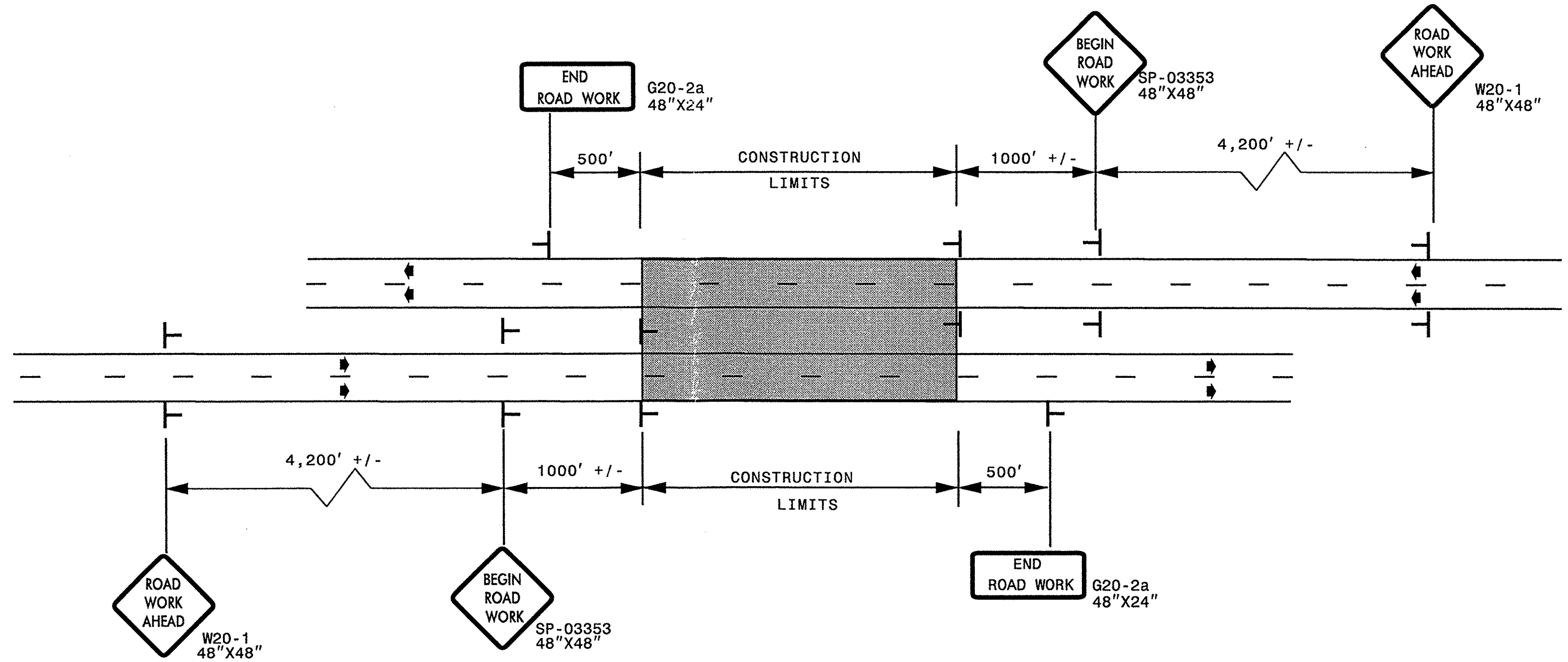
SHEET 5 OF 5

848D06

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

PROJ. REFERENCE NO.	SHEET NO.
7CR.10681.25 7CR.20681.25	TCP-1

DETAIL A



LEGEND

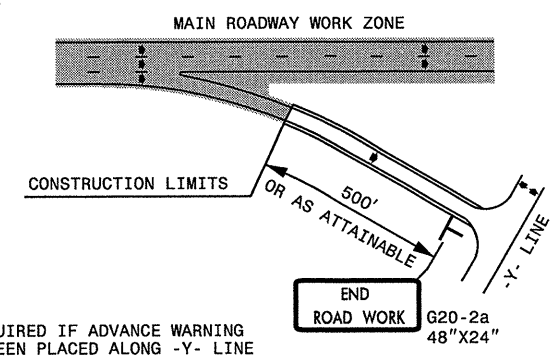
├ STATIONARY SIGN

➧ 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

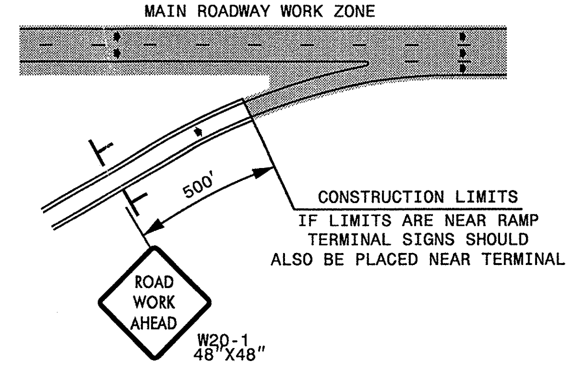
EXIT RAMPS



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

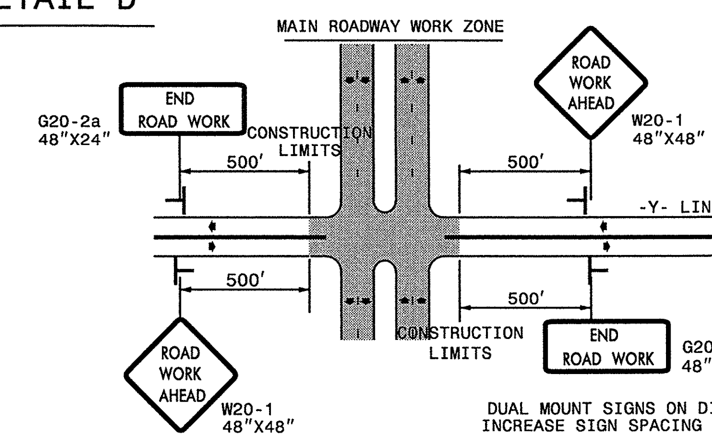
ENTRANCE RAMPS



IF LIMITS ARE NEAR RAMP TERMINAL SIGNS SHOULD ALSO BE PLACED NEAR TERMINAL

DETAIL D

-Y- LINES



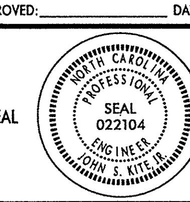
DUAL MOUNT SIGNS ON DIVIDED HIGHWAYS AND INCREASE SIGN SPACING TO 1000'+/-.

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: ________

SEAL



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

SCALE:	NONE
DATE:	8/03
DWG. BY:	JI
DESIGN BY:	JI
REVIEWED BY:	

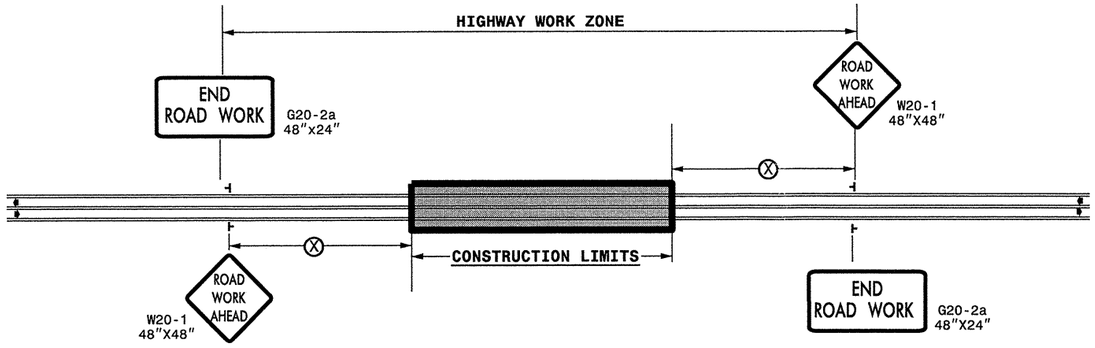
REVISIONS	
03/04	

CADD FILE

17-OCT-2011 08:48
\\DOT\DFSROOT01\GROUPS-WZTCC\TMU\WZTC\Resurfacing\2011Resurfacing\2011Central\2011_Div07\C20285A-B_7CR.10681.25x2_Orange_SJ\1x17-C20285A-B_7CR.10681.25x2_Orange_freeways_4lanes_or_greater_stationary.dgn
sbjennings AT TE244731

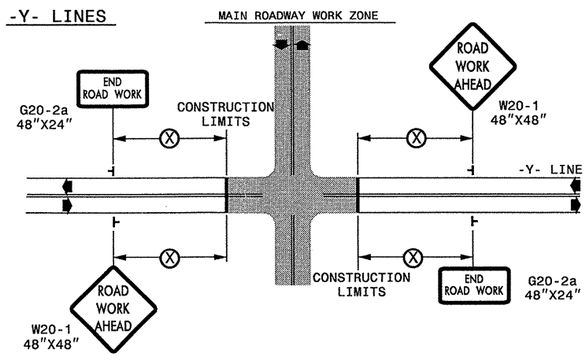
PROJ. REFERENCE NO.	SHEET NO.
7CR.10681.25	TCP-2
7CR.20681.25	

TWO-WAY UNDIVIDED ** (L-LINES)



POSTED SPEED LIMIT (M.P.H.)	RECOMMENDED MINIMUM SIGN SPACING (X)
≤ 50	500'
≥ 55	1000'

ROADWAYS INTERSECTING ALONG 2 WAY UNDIVIDED WORK ZONE (Y-LINES)



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

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

DETAIL DRAWING FOR TWO-WAY UNDIVIDED WORK ZONE WARNING SIGNS

SHEET 1 OF 1

APPROVED:_____ DATE:_____

SEAL

DETAIL DRAWING FOR TWO-WAY UNDIVIDED AND URBAN FREEWAYS ADVANCED WORK ZONE WARNING SIGNS

SCALE:	NONE
DATE:	
DWG. BY:	
DESIGN BY:	
REVIEWED BY:	

REVISIONS	
7-98	10/01
10-98	03/04
01/01	11/04
CADD FILE	

17-OCT-2011 08:41
X:\DOT\GROUPS\TCC\TMU\WZTC\Resurfacing\2011Resurfacing\2011Central\2011_Div07\C202285A-B_7CR.10681.25x2_Orange_2way_Undiv_&_Urban_Frwys_stationary.dgn
sdjenkins AT TE24473J

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 ACCOMODATE 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.

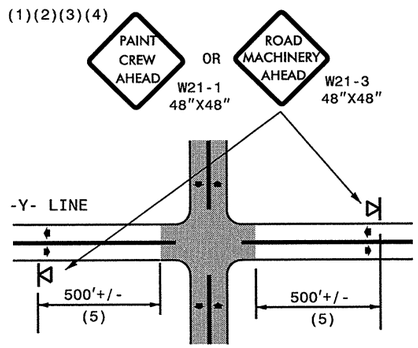
(12) ALL TRAFFIC CONTROL DEVICES WILL BE CONSIDERED INCIDENTAL TO THE PAY ITEMS FOR PAVEMENT MARKING AND MARKERS.

(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.

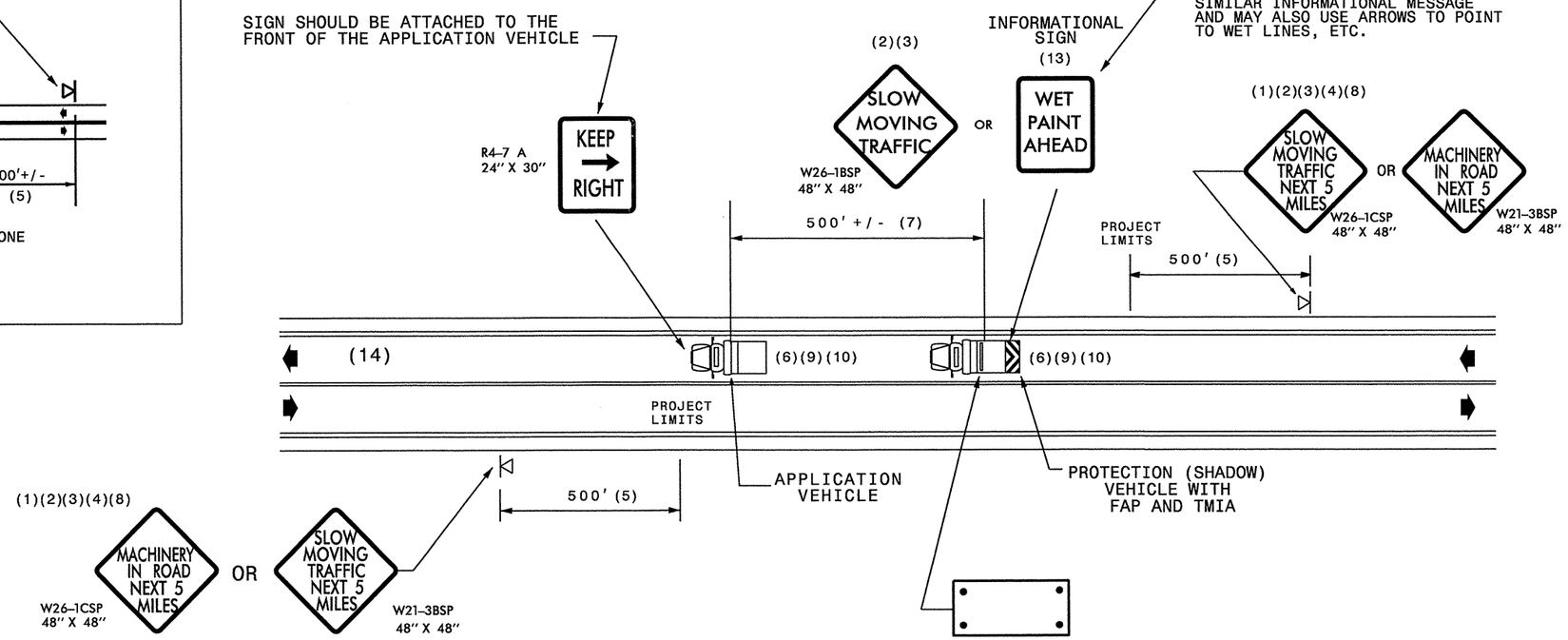
(14) IF A LEAD VEHICLE IS ADDED TO OPERATION, IT SHOULD HAVE THE SAME ADVANCE WARNING SIGNS AS THE APPLICATION VEHICLE SHOWN BELOW.

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"



-Y- LINES



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 ACCOMODATE 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.

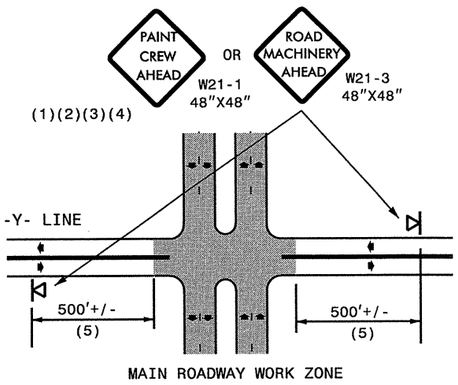
(10) USE OF A LIGHT BAR ON ALL VEHICLES IS PREFERRED, BUT A ROTATING BEACON MAY BE USED INSTEAD.

(11) IF WORK IS PERFORMED AT NIGHT, THE WORK AREA MUST BE ILLUMINATED WITH MACHINE AND/OR TOWER LIGHTS AS APPROVED BY THE ENGINEER.

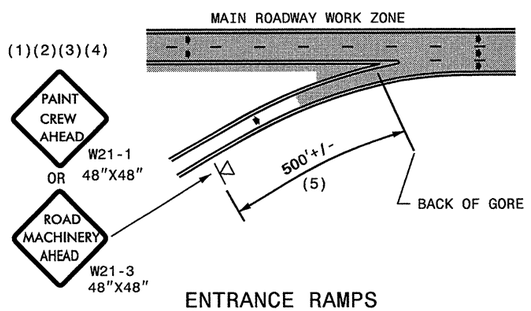
(12) ALL TRAFFIC CONTROL DEVICES WILL BE CONSIDERED INCIDENTAL TO THE PAY ITEMS FOR PAVEMENT MARKING AND MARKERS.

LEGEND

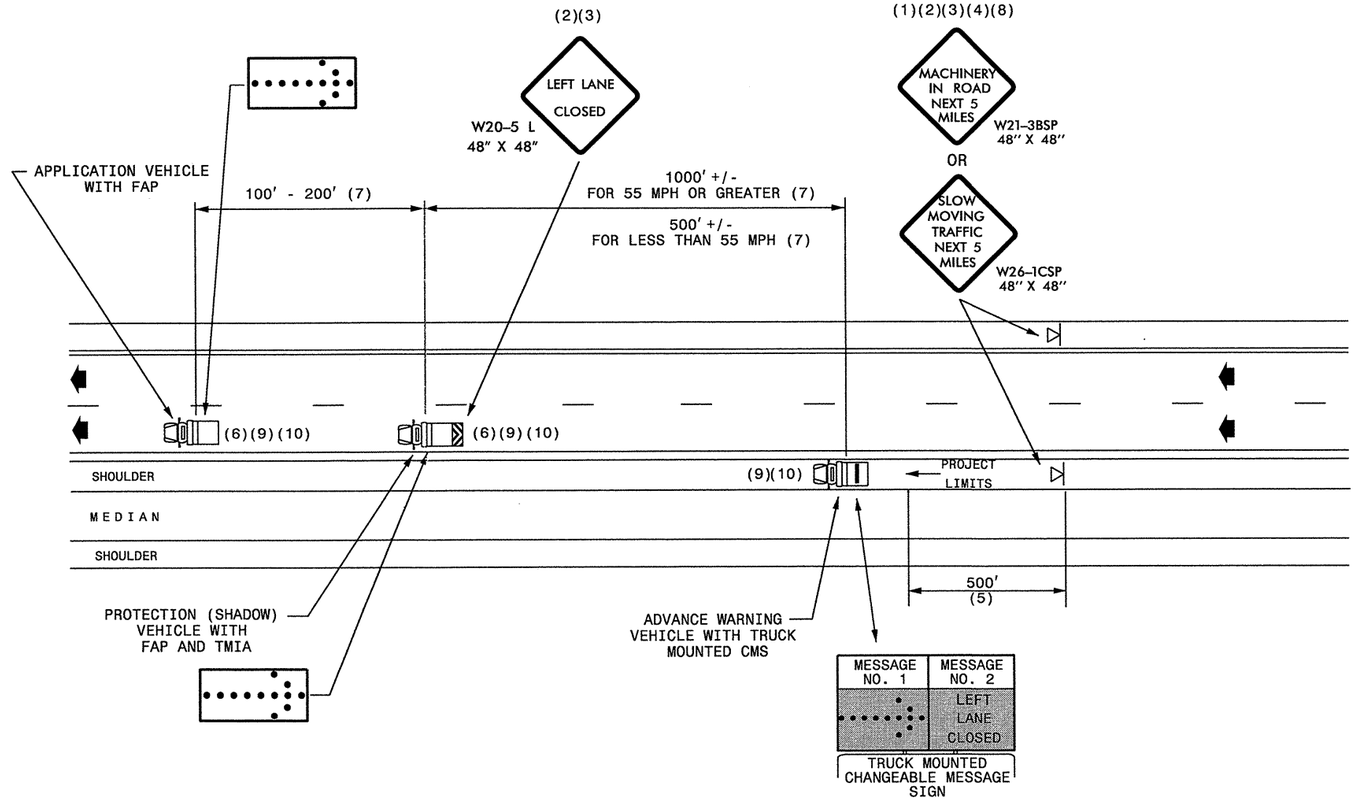
- PORTABLE SIGN. SIGNS MUST BE NCHRP-350 AND NCDOT APPROVED.
- DIRECTION OF TRAFFIC FLOW
- APPLICATION VEHICLE WITH LIGHT BAR
- PROTECTION VEHICLE WITH TRUCK MOUNTED IMPACT ATTENUATOR (TMIA) AND LIGHT BAR (SEE ROADWAY STANDARD NO. 1165.01). TMIA MUST BE NCHRP-350 TEST LEVEL 3 (60+MPH) APPROVED.
- ADVANCE WARNING VEHICLE WITH TRUCK MOUNTED CHANGEBLE 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



-Y- LINES



ENTRANCE RAMPS



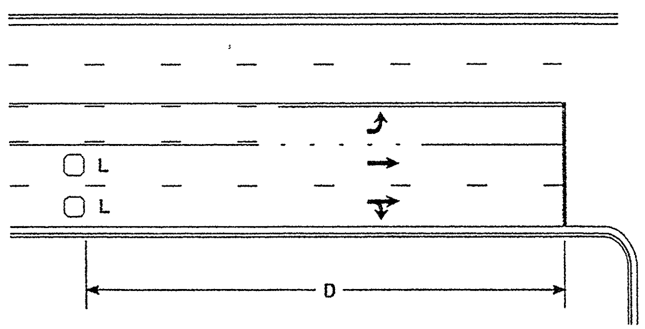
MOVING OPERATION CARAVAN

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

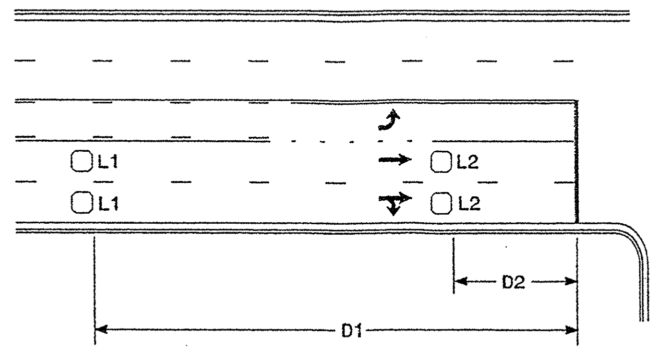
DRAWING NUMBER 7
IMPLEMENTATION DATE: 07/01/97
REVISED: 11/03/04

PROJECT REFERENCE NO.	SHEET NO.
7CR.10081.25, etc.	SIG 1

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



OR



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

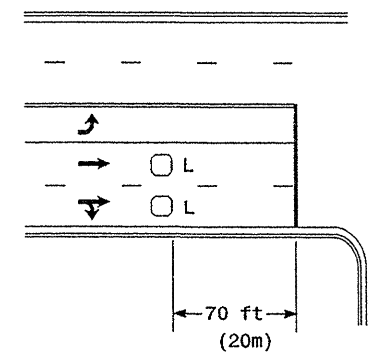
Speed Limit mph (km/hr)	D1 ft	(m)	D2 ft	(m)
40 (64)	250	(75)	80	(25)
45 (72)	300	(90)	90	(27)
50 (80)	355	(110)	100	(30)
55 (88)	420	(130)	110	(35)

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

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

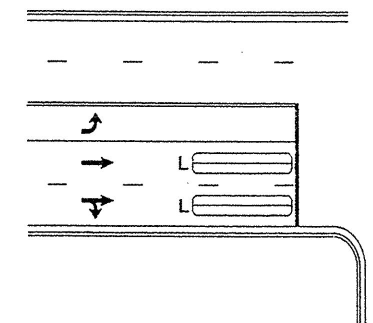
"Stretch" Operation

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



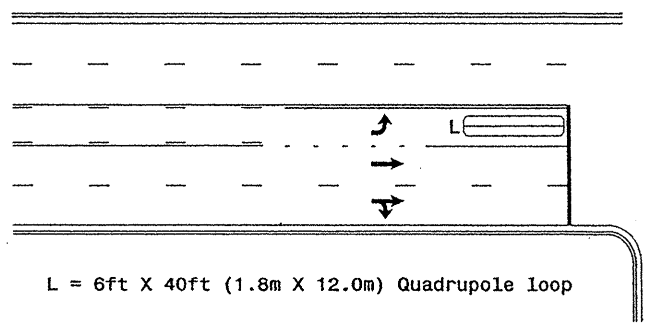
L = 6ft X 6ft (1.8m X 1.8m)
Wired in series

OR



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

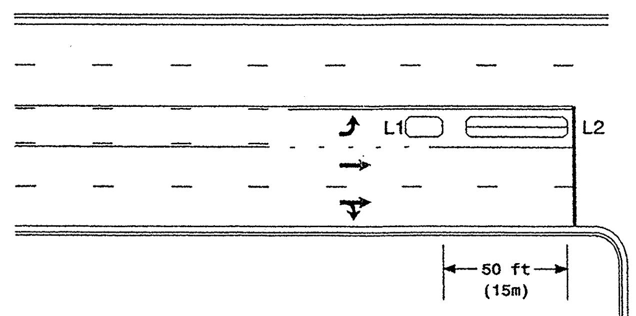
Left Turn Lane Detection



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

Presence Loop Detection

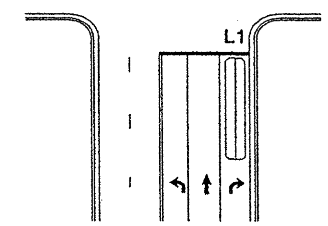
OR



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

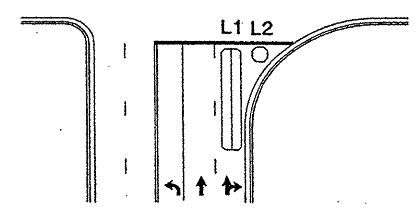
Queue Loop Detection

Right Turn Lane Detection

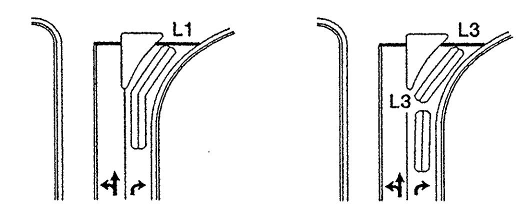


Standard Turn

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

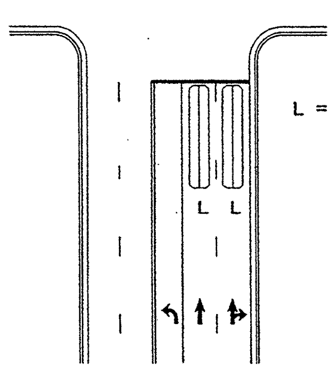


Wide Radius Turn



Channelized Turn

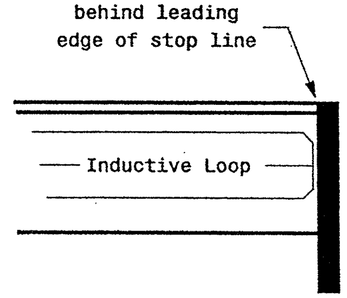
Side Street Detection



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, Signals and Geometrics Section, 122 N. McDowell St., Raleigh, NC 27603

Typical Loop Locations

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

REVISIONS: Revise pavement markings | INIT. | DATE

SCALE: N/A

SEAL: North Carolina Professional Engineer, Pamela L. Alexander, 23486 — 6/6/06

SIGNATURE | DATE

SIG. INVENTORY NO.

19-DEC-2006 14:29
s:\its signals\lb turn in\mislooptypical2006.dgn
palexander

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

11-08

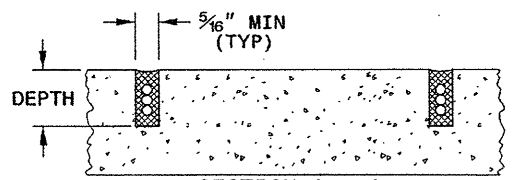
ENGLISH DETAIL DRAWING FOR
INDUCTIVE DETECTION LOOPS

SHEET 1 OF 3
1725D01

CONVENTIONAL 4-SIDED LOOP

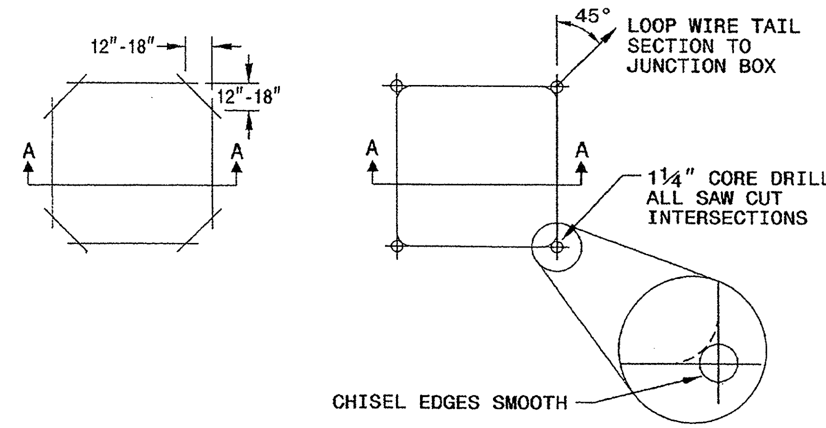
SAW SLOT DEPTH CHART

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

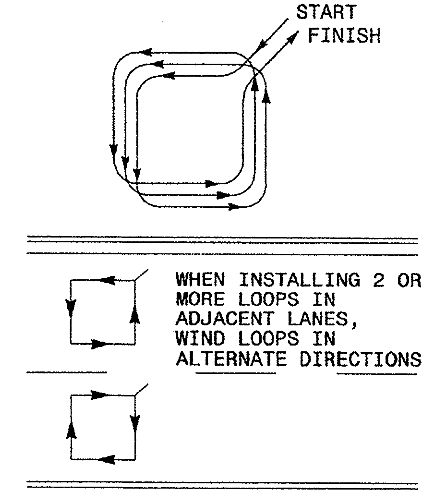


SECTION A - A

SAW CUT OPTIONS



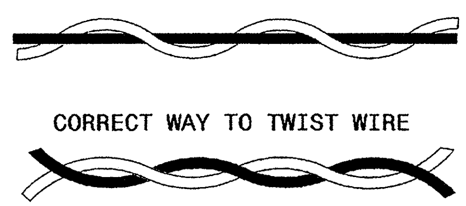
LOOP WINDING METHOD



LOOP WIRE TWISTING METHOD

INCORRECT WAY TO TWIST WIRE

CORRECT WAY TO TWIST WIRE

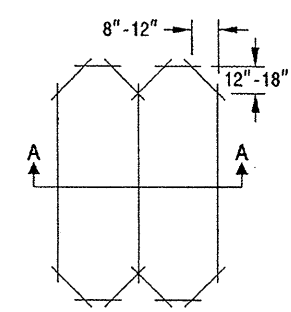
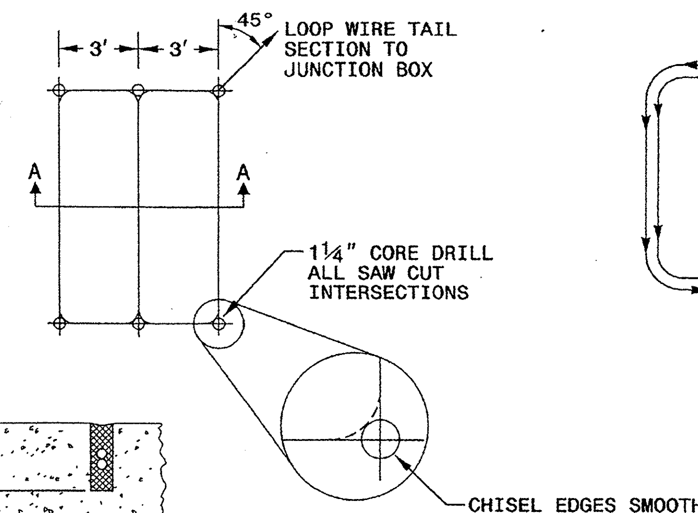


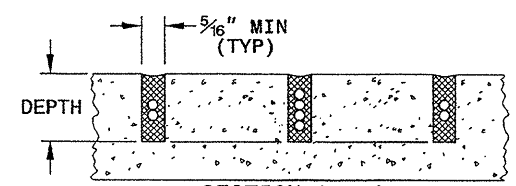
NOTES

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

QUADRUPOLE LOOP

SAW CUT OPTIONS

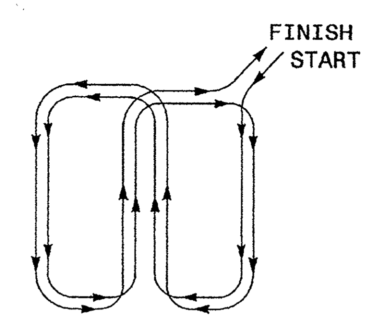





SECTION A - A

DEPTH IS 2.5" FOR CONCRETE AND 3.0" FOR ASPHALT

LOOP WINDING METHOD



STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.
11-08
ENGLISH DETAIL DRAWING FOR
INDUCTIVE DETECTION LOOPS
SHEET 1 OF 3
1725D01

See Plate for Title

Prepared in the Offices of:
Intelligent Transportation Systems & Signals Unit
750 N. Greenfield Parkway
Garner, NC 27529

SEAL
NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 16286 MILTON I. DEAN

SIGNATURE 11/24/08 DATE

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

11-08

ENGLISH DETAIL DRAWING FOR

INDUCTIVE DETECTION LOOPS

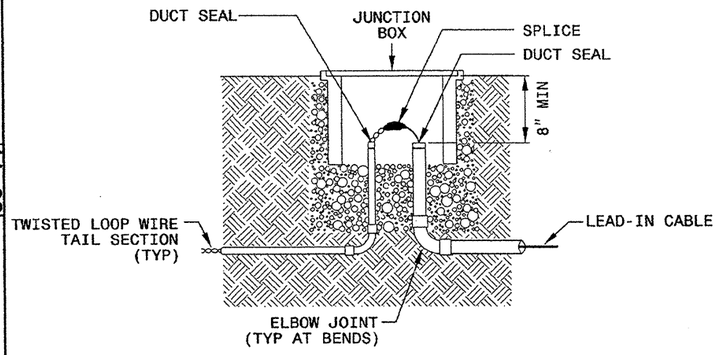
LOOP WIRE DETAILS

SHEET 2 OF 3

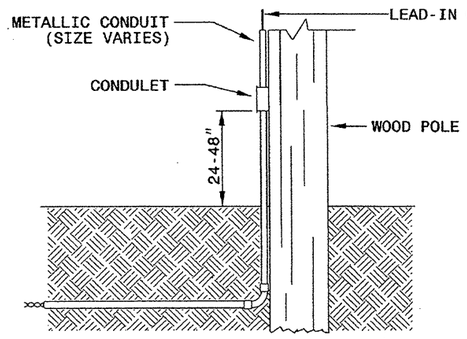
1725D01

LOOP WIRE SPLICE POINT DETAILS

LOOP WIRE AT JUNCTION BOX



LOOP WIRE AT POLE

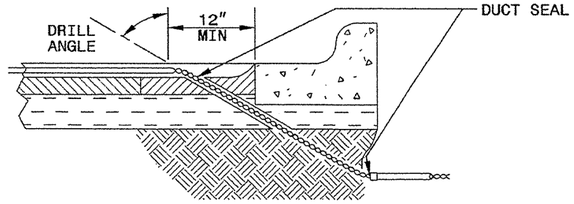


NOTE

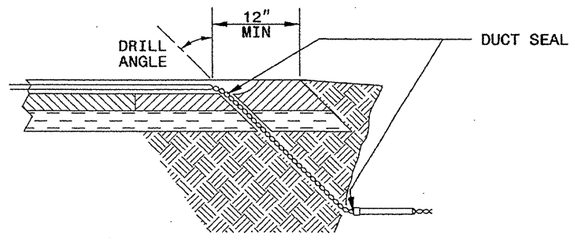
SPLICE ALL LOOP WIRE TAIL SECTIONS/LEAD-IN CABLE IN JUNCTION BOXES OR APPROVED CONDULETS.

LOOP WIRE PAVEMENT EDGE DETAILS

LOOP WIRE AT CURB & GUTTER SECTION



LOOP WIRE AT PAVEMENT SECTION



NOTES

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.

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

11-08

ENGLISH DETAIL DRAWING FOR

INDUCTIVE DETECTION LOOPS

LOOP WIRE DETAILS

SHEET 2 OF 3

1725D01

See Plate for Title

Prepared in the Offices of:

Intelligent Transportation Systems & Signals Unit
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

750 N. Greenfield Parkway
Garner, NC 27529

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 16286 ENGINEER MILTON I. DEAN

Milton I. Dean 11/24/08
SIGNATURE DATE

24-NOV-2008 09:29
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zmiller

PROJECT REFERENCE NO.	SHEET NO.
7CR.10681.25etc	Sig. 4

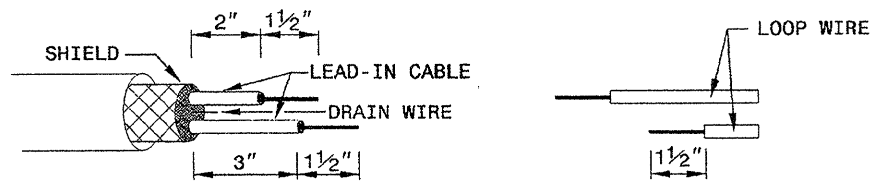
STATE OF
NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

11-08

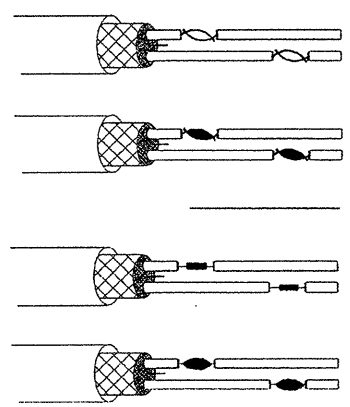
ENGLISH DETAIL DRAWING FOR
INDUCTIVE DETECTION LOOPS
SPLICING FOR LEAD-IN CABLE AND LOOP WIRE

SHEET 3 OF 3
1725D01

STEP 1. STRIP LOOP WIRE AND LEAD-IN CABLE



STEP 2. CONNECT AND SOLDER



TWIST BARE CONDUCTORS TOGETHER AND SOLDER WITH RESIN CORE SOLDER

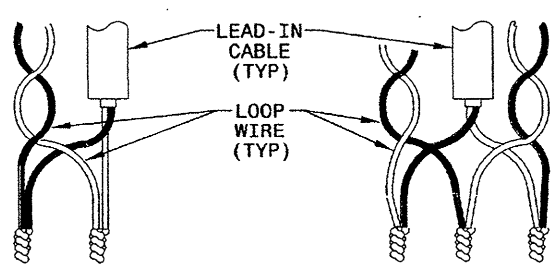
OR

CRIMP BARE CONDUCTORS TOGETHER WITH AN UNINSULATED BUTT CONNECTOR AND SOLDER WITH RESIN CORE SOLDER

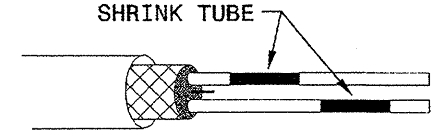
BOND SHIELD DRAIN WIRE AT SPLICE SECTIONS (DO NOT GROUND)

LOOP WIRE AND LEAD-IN CABLE CONNECTION DETAILS

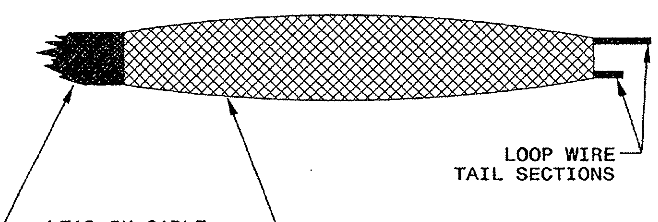
SINGLE CONNECTION — SERIES CONNECTION



STEP 3. INSULATE EACH SOLDER JOINT SEPARATELY



STEP 4. ENVIRONMENTALLY PROTECT SPLICE



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SHEET 3 OF 3
1725D01

See Plate for Title

Prepared in the Offices of:
Intelligent Transportation Systems & Signals Unit
750 N. Greenfield Parkway
Garner, NC 27529

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SIGNATURE: Milton J. Dean — DATE: 11/24/08

24-NOV-2008 09:35
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