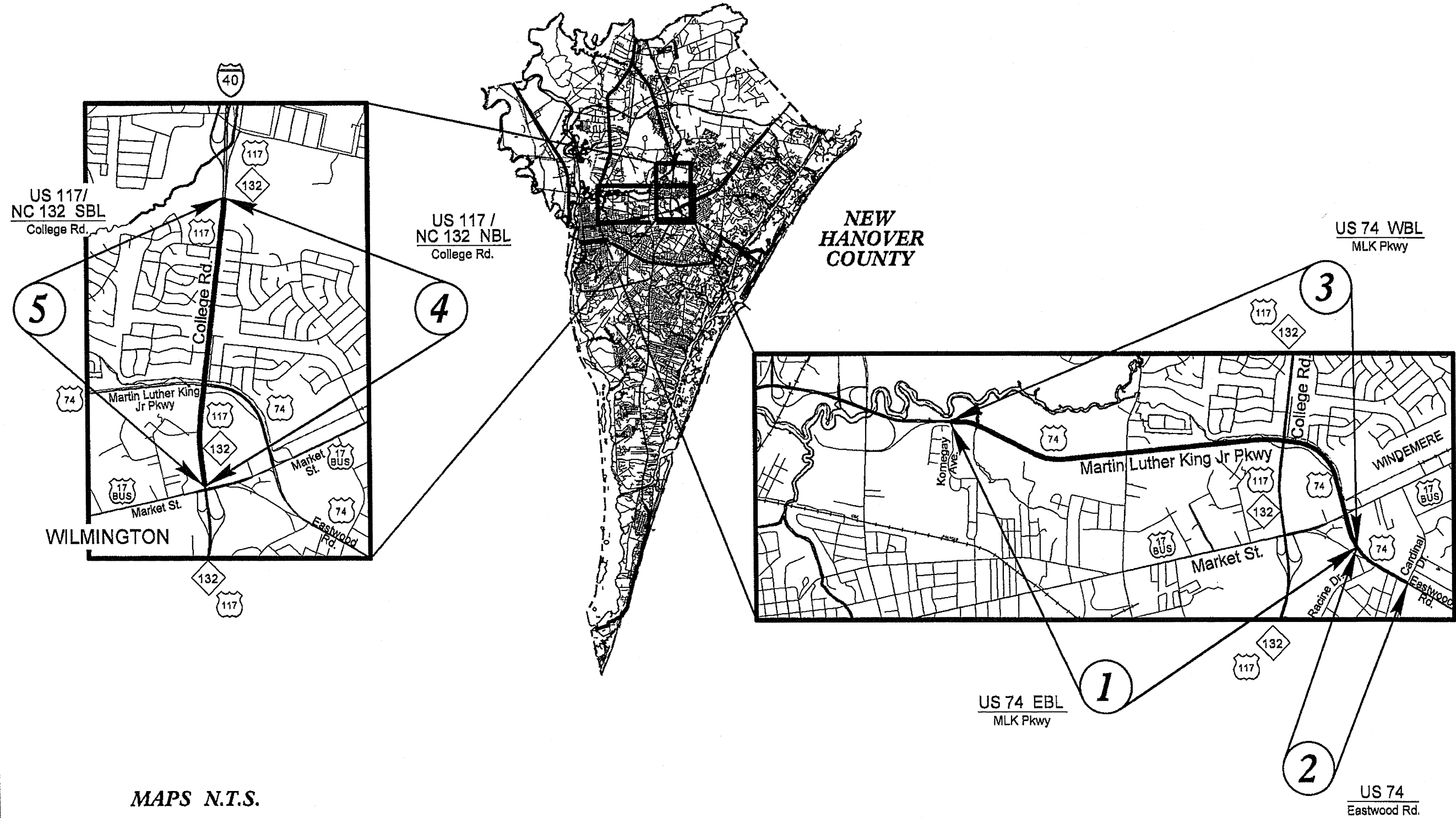


NEW HANOVER COUNTY



MAPS N.T.S.

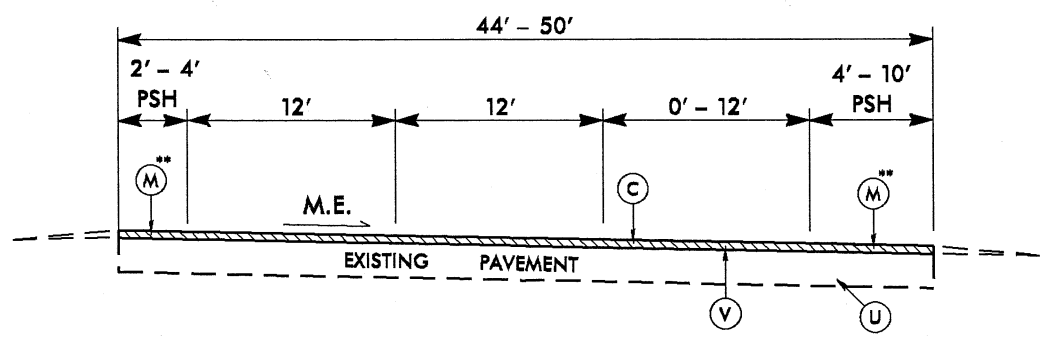
REVISIONS

8/17/99
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3/23/2015 10:53:23 AM
Resurfacing New Hanover County\3CR.10651.170_US 74(MLK)_US117-NC132(COLLEGE)\3CR.10651.170_Rev.tsh.dgn

2012 ROADWAY ENGLISH STANDARD DRAWINGS

The following Roadway Standards as appear in "Roadway Standard Drawings" Highway Design Branch - N. C. Department of Transportation - Raleigh, N. C., Dated January, 2012 are applicable to this project and by reference hereby are considered a part of these plans:

- | | |
|--------------------------|------------------------|
| STD.NO. | TITLE |
| DIVISION 8 - INCIDENTALS | |
| 862.01 | Guardrail Placement |
| 862.02 | Guardrail Installation |

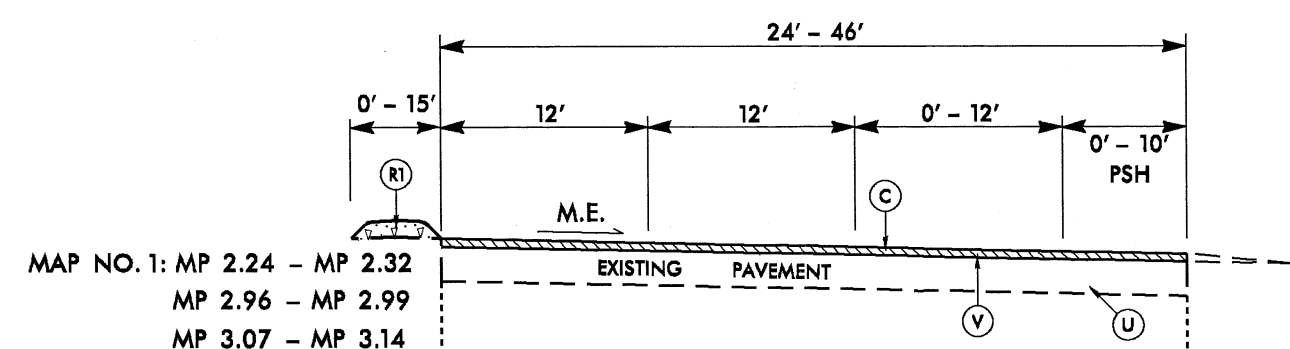


TYPICAL SECTION NO. 1

- | | |
|--|--|
| MAP NO. 1
US 74 EBL (MLK PKWY)
MP 0.00 - MP 2.24 | MAP NO. 3
US 74 WBL (MLK PKWY)
MP 1.45 - MP 3.69 |
| MAP NO. 4
US 117 /NC 132 NBL
(COLLEGE RD.)
MP 6.90 - MP 7.12
MP 7.22 - MP 7.42
MP 7.56 - MP 7.64
MP 7.68 - MP 7.79
MP 7.83 - MP 8.41
MP 8.44 - MP 8.57 | MAP NO. 5
US 117 /NC 132 SBL
(COLLEGE RD.)
MP 6.92 - MP 7.07
MP 7.09 - MP 7.68
MP 7.72 - MP 7.81
MP 7.86 - MP 7.94
MP 8.09 - MP 8.30
MP 8.40 - MP 8.61 |

- ** MILLED RUMBLE STRIPS:**
- MAP NO. 4 - US 117 /NC 132 NBL
MP 8.42 - MP 8.57
- MAP NO. 5 - US 117 /NC 132 SBL
MP 6.92 - MP 7.08

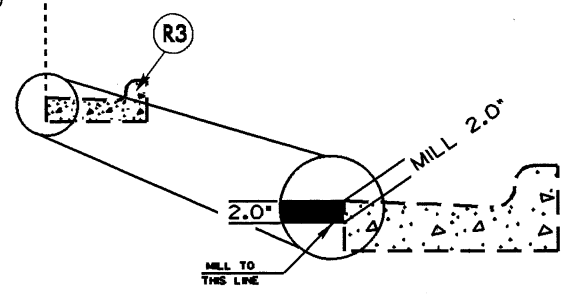
PAVEMENT SCHEDULE	
C	PROP. APPROX. 2" DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 224 LBS. PER SQ.YD.
M	MILLED RUMBLE STRIPS
R1	EXISTING CONCRETE MONOLITHIC ISLAND
R2	EXISTING CONCRETE 1'-6" CURB & GUTTER
R3	EXISTING CONCRETE 2'-6" CURB & GUTTER
U	EXISTING PAVEMENT.
V	MILLING BITUMINOUS PAVEMENT. 2" DEPTH.



TYPICAL SECTION NO. 2

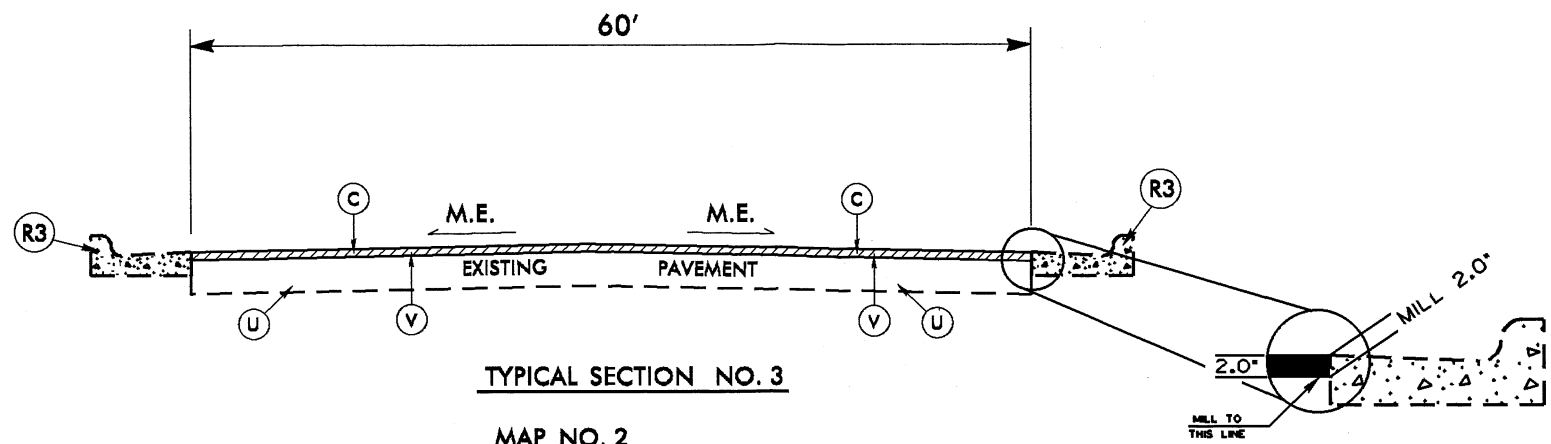
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| MAP NO. 1: MP 2.24 - MP 2.32
MP 2.96 - MP 2.99
MP 3.07 - MP 3.14 |
| MAP NO. 3: MP 0.55 - MP 0.62
MP 0.70 - MP 0.72
MP 1.36 - MP 1.45 |
| MAP NO. 1: MP 2.34 - MP 2.96
MP 3.14 - MP 3.24 |
| MAP NO. 3: MP 0.45 - MP 0.55
MP 0.72 - MP 1.34 |

- MAP NO. 1
US 74 EBL (MLK PKWY)
MP 2.24 - MP 3.24
(NO WORK - MP 2.99 - 3.07
US 17 BUS /MARKET ST. INTERSECTION)
- MAP NO. 3
US 74 WBL (MLK PKWY)
MP 0.45 - MP 1.45
(NO WORK - MP 0.62 - 0.70
US 17 BUS /MARKET ST. INTERSECTION)



- MAP NO. 1
US 74 EBL (MLK PKWY)
MP 3.07 - MP 3.24
- MAP NO. 3
US 74 WBL (MLK PKWY)
MP 0.45 - MP 0.62

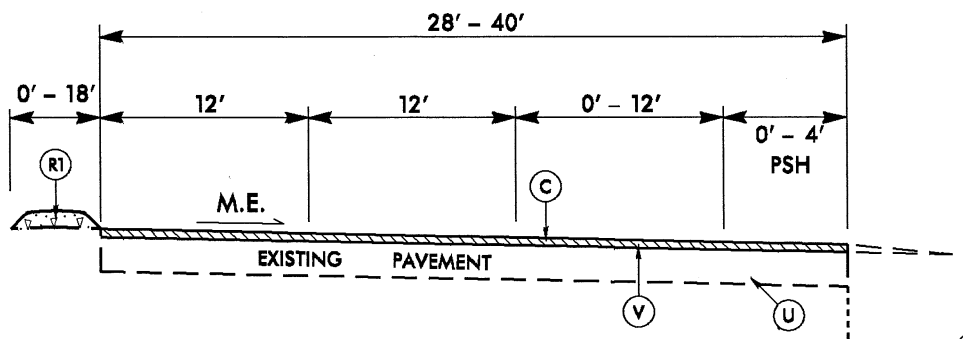
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 REVISIONS
 8/17/99



TYPICAL SECTION NO. 3

MAP NO. 2
 US 74 (EASTWOOD RD.)
 EBL - MP 3.24 - MP 3.69
 WBL - MP 0.00 - MP 0.45

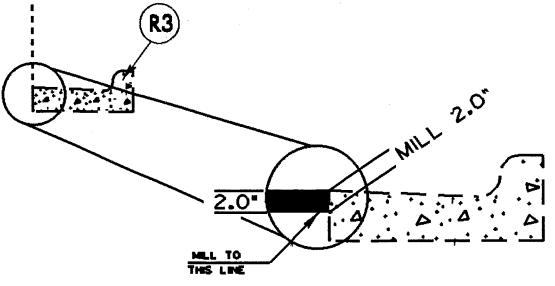
PAVEMENT SCHEDULE	
C	PROP. APPROX. 2" DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE SB.5C, AT AN AVERAGE RATE OF 224 LBS. PER SQ.YD.
M	MILLED RUMBLE STRIPS
R1	EXISTING CONCRETE MONOLITHIC ISLAND
R2	EXISTING CONCRETE 1'-6" CURB & GUTTER
R3	EXISTING CONCRETE 2'-6" CURB & GUTTER
U	EXISTING PAVEMENT.
V	MILLING BITUMINOUS PAVEMENT. 2" DEPTH.



TYPICAL SECTION NO. 4

MAP NO. 4
 US 117 /NC 132 NBL (COLLEGE RD.)
 MP 7.12 - MP 8.44
 (NO WORK - MP 7.47 - 7.50
 US 74 - MARTIN LUTHER KING PKWY. INTERSECTION)

MAP NO. 5
 US 117 /NC 132 SBL (COLLEGE RD.)
 MP 7.07 - MP 8.40
 (NO WORK - MP 8.01 - 8.04
 US 74 - MARTIN LUTHER KING PKWY. INTERSECTION)



MAP NO. 4
 US 117 /NC 132 NBL (COLLEGE RD.)
 MP 7.12 - MP 7.19
 MP 7.89 - MP 7.97
 MP 8.05 - MP 8.13
 MP 8.37 - MP 8.44

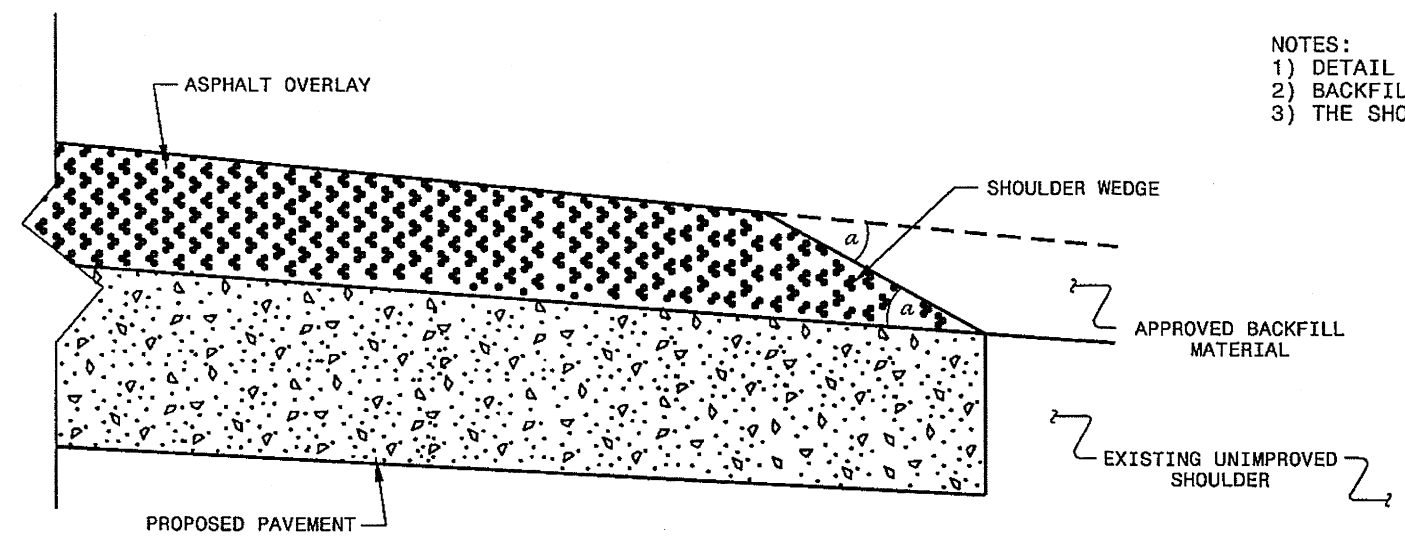
MAP NO. 5
 US 117 /NC 132 SBL (COLLEGE RD.)
 MP 7.08 - MP 7.19
 MP 7.33 - MP 7.39
 MP 7.76 - MP 7.82
 MP 8.25 - MP 8.31

8/17/99

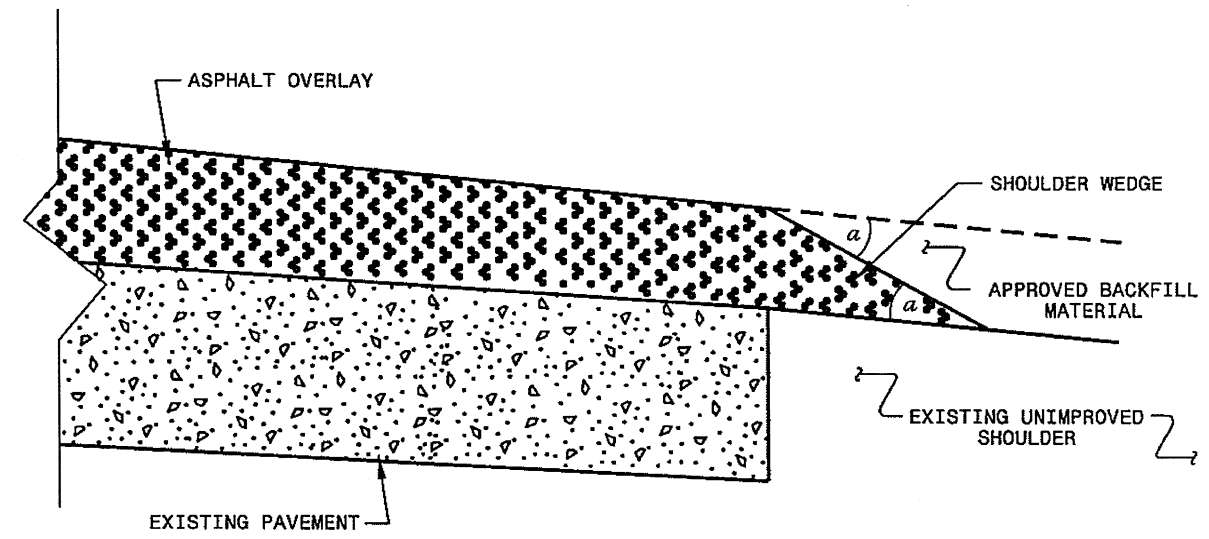
REVISIONS

23 DEC 2014 07:49
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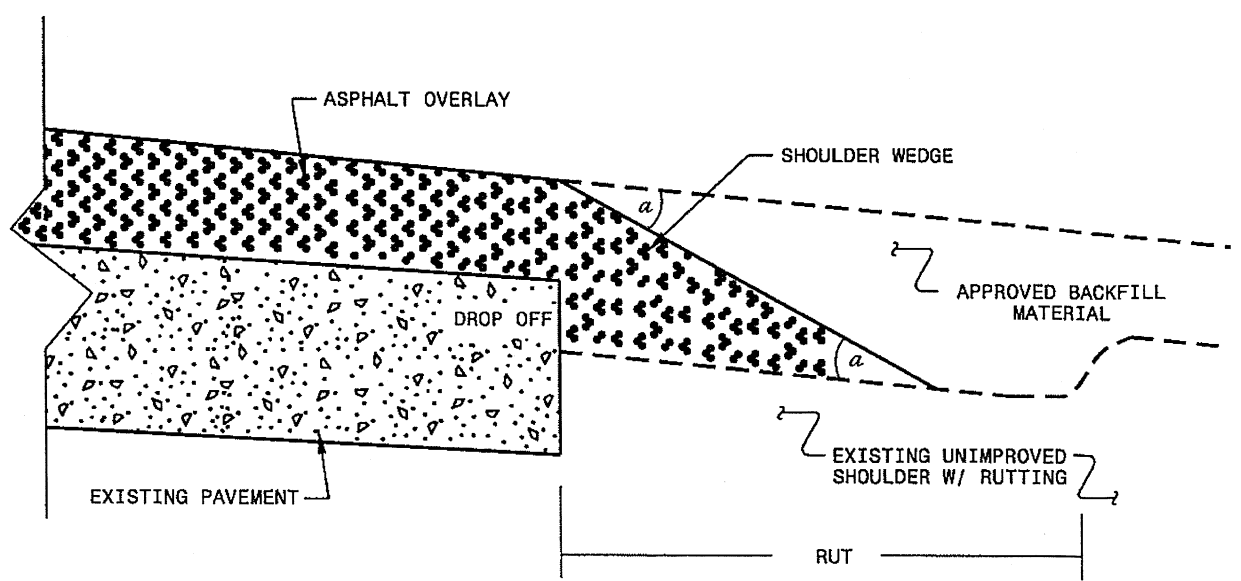
- NOTES:
 1) DETAIL DOES NOT APPLY TO OGAFB AND ULTRA-THIN BONDED WEARING COURSE.
 2) BACKFILL SHOULDER WITH APPROVED MATERIAL.
 3) THE SHOULDER WEDGE DEVICE MAY BE DISENGAGED AT PAVED DRIVEWAYS AND SIDE STREETS.



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



SHOULDER WEDGE DETAIL
 (Resurfacing Projects w/ NO Widening)



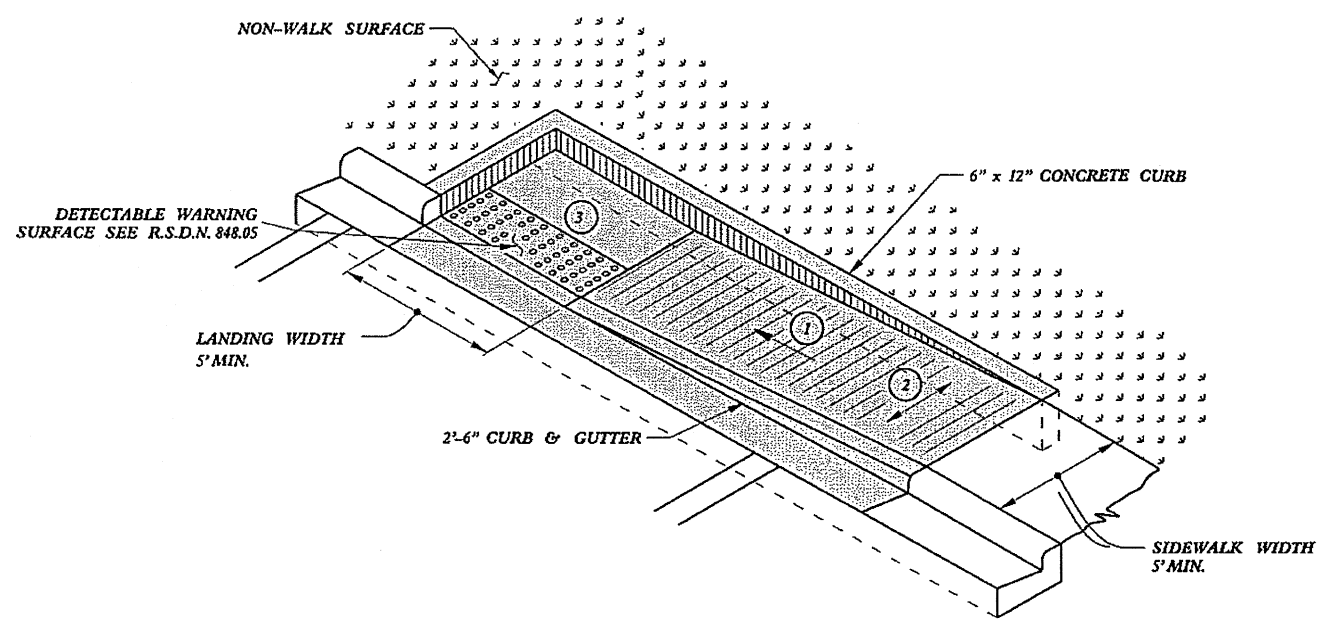
SHOULDER WEDGE DETAIL
 (Resurfacing Adjacent to
 Rutted Shoulder)

- SHOULDER WEDGE ANGLE = 30°

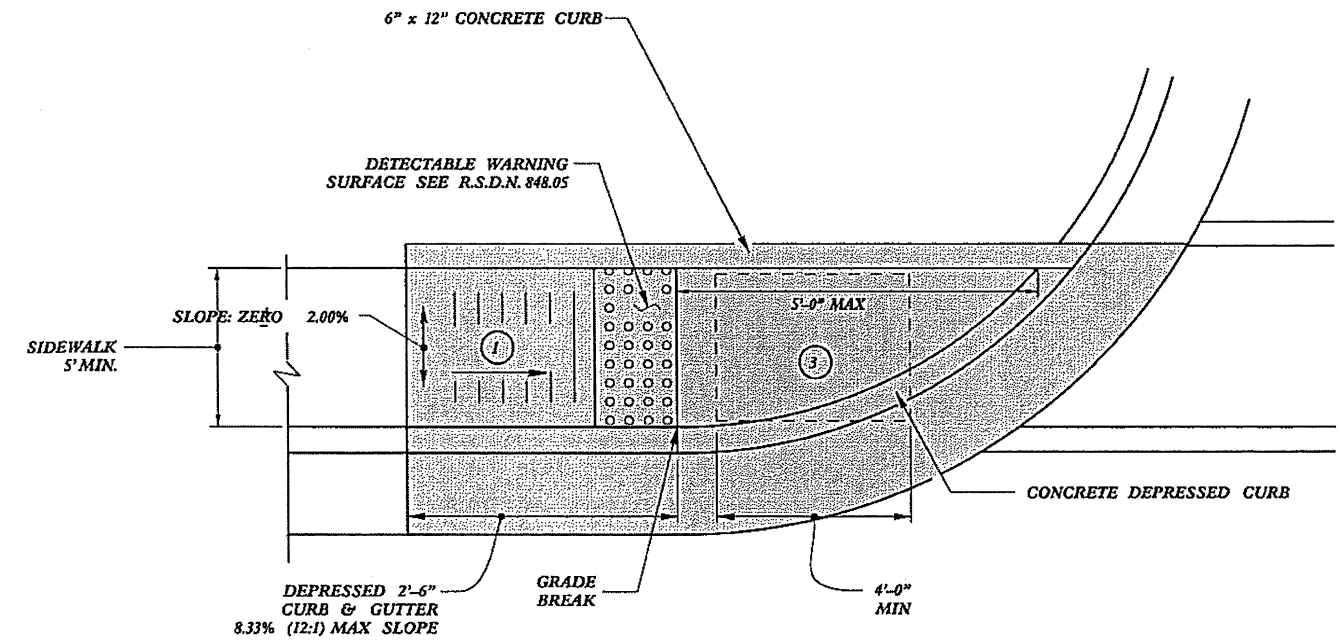
CONTRACT STANDARDS AND DEVELOPMENT UNIT Office 919-707-6950 FAX 919-250-4119			
SHOULDER WEDGE DETAILS			
ORIGINAL BY: T.SPELL	DATE: 7-19-11		
MODIFIED BY:	DATE: 10/16/12		
CHECKED BY:	DATE:		
FILE SPEC: s:\usr\detail\stand\shou\shouwedetail.dgn			

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 *****DATE*****
 *****USER*****

PAY LIMITS FOR CURB RAMP



TYPE 1A



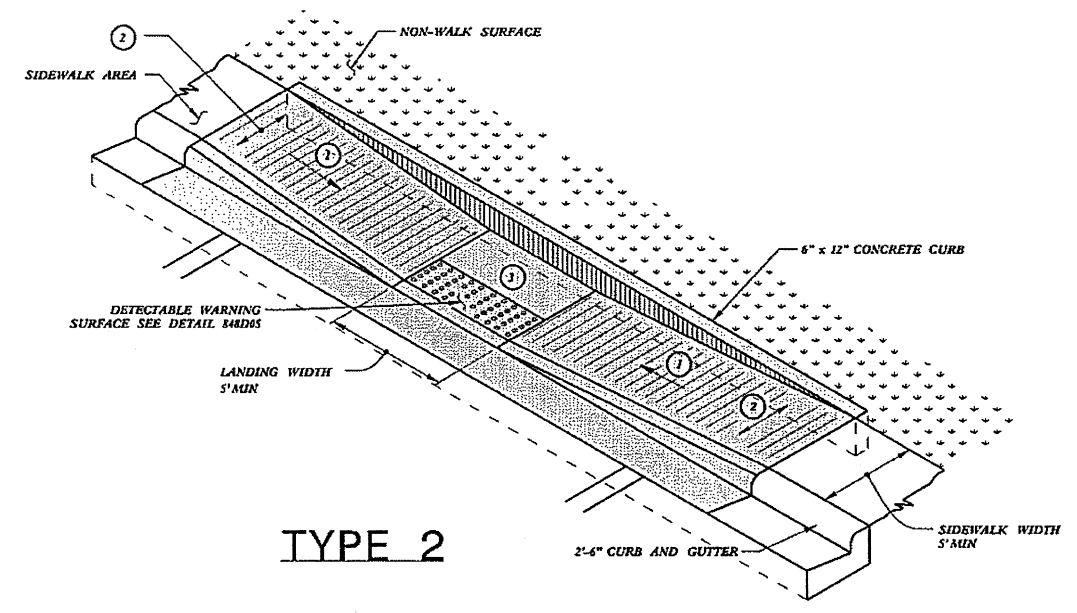
TYPE 1

- 1 8.33% (12:1) MAX RAMP SLOPE
- 2 CROSS SLOPE: 2.00%
- 3 CURB RAMPS REQUIRE A (4'-0") MINIMUM LANDING WITH A MAXIMUM CROSS SLOPE AND LONGITUDINAL SLOPE OF 2.00% WHERE PEDESTRIANS PERFORM TURNING MANEUVERS. SLOPE TO DRAIN TO CURB.

REFER TO ROADWAY STANDARD DRAWING NUMBER 848.05 SHEET 3 OF 3 FOR ALL RAMP NOTES

CONTRACT STANDARDS AND DEVELOPMENT UNIT	
Office 919-707-6950 FAX 919-250-4119	
CURB RAMPS	
Directional Ramps	
ORIGINAL BY: J.S. HOWERTON	DATE: 7/7/11
MODIFIED BY:	DATE:
CHECKED BY:	DATE:
FILE SPEC: stds/2012CurbRamp/CurbRampDetails.dwg	

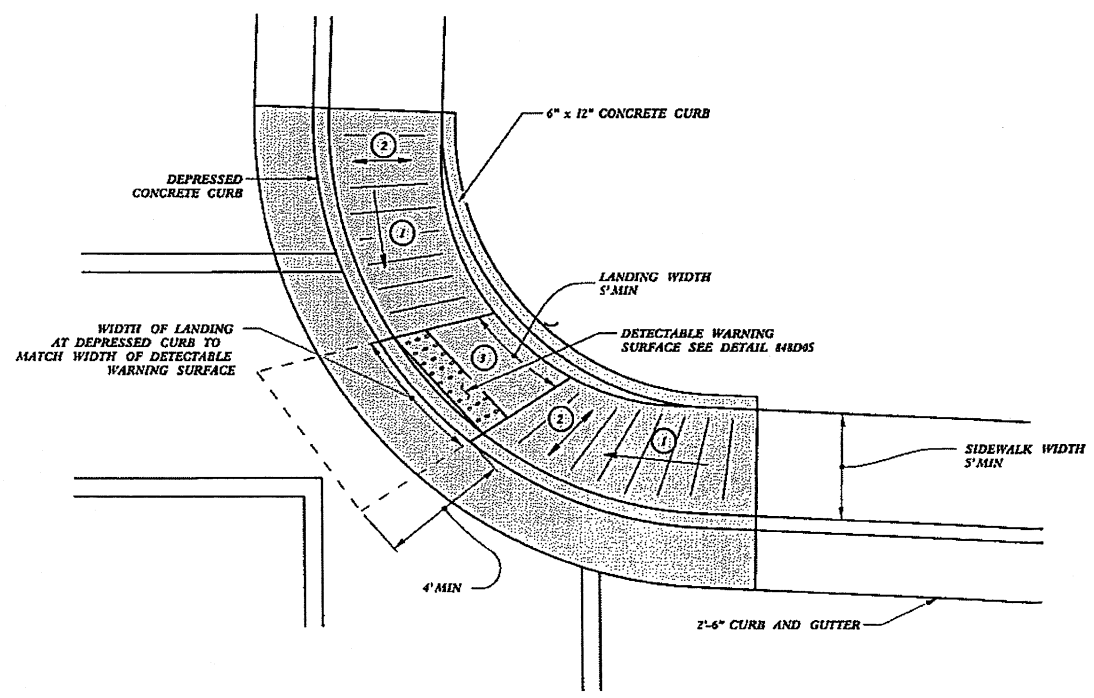
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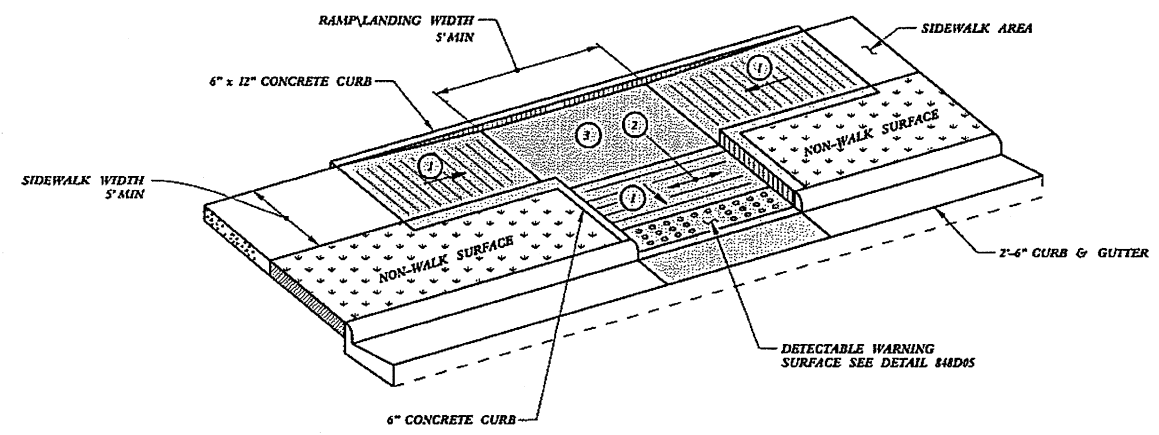
TYPE 2

PAY LIMITS FOR CURB RAMP

- 1 8.33% (12:1) MAX RAMP SLOPE
- 2 CROSS SLOPE: 2.00%
- 3 CURB RAMPS REQUIRE A (4'-0") MINIMUM LANDING WITH A MAXIMUM CROSS SLOPE AND LONGITUDINAL SLOPE OF 2.00% WHERE PEDESTRIANS PERFORM TURNING MANEUVERS. SLOPE TO DRAIN TO CURB.



TYPE 2A



TYPE 3

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

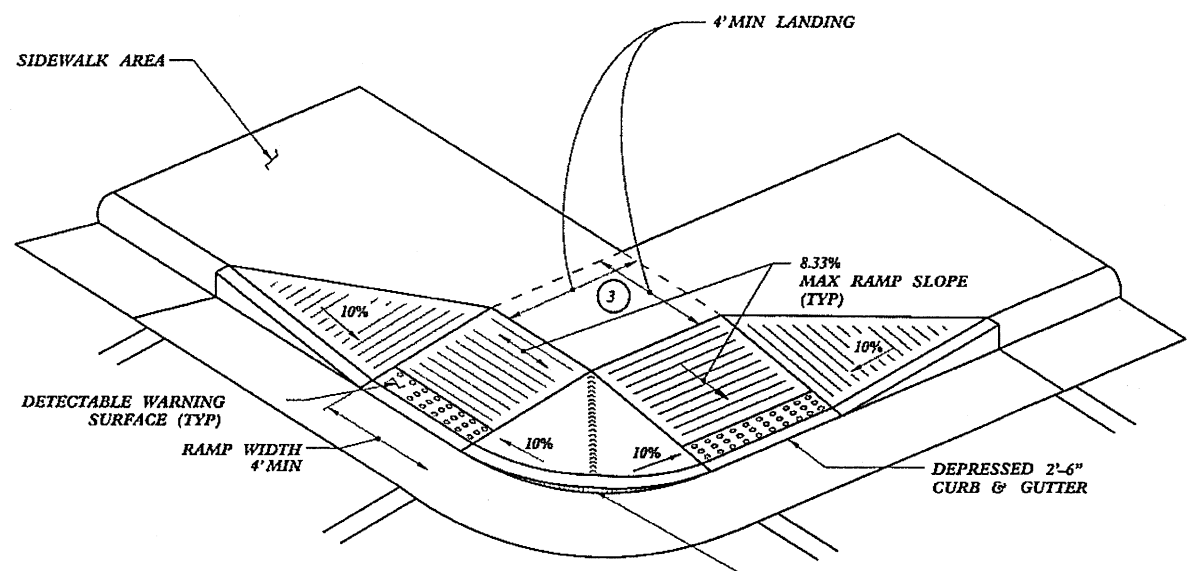
CURB RAMPS
Parallel Ramps

ORIGINAL BY: J.S. HOWERTON DATE: 7/7/11
MODIFIED BY: _____ DATE: _____
CHECKED BY: _____ DATE: _____
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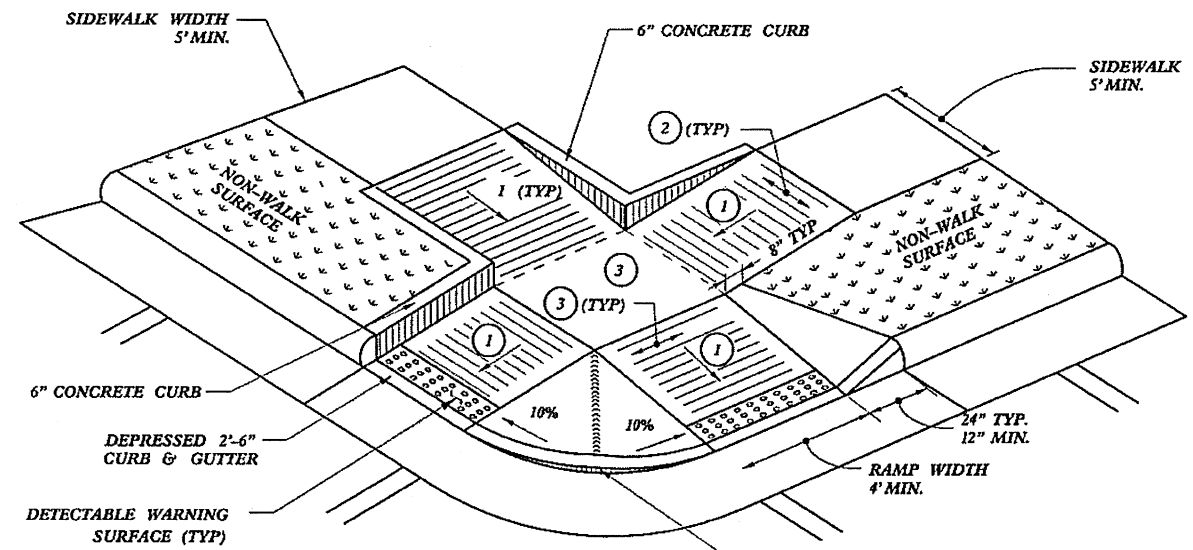
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Howerton AT CS025758

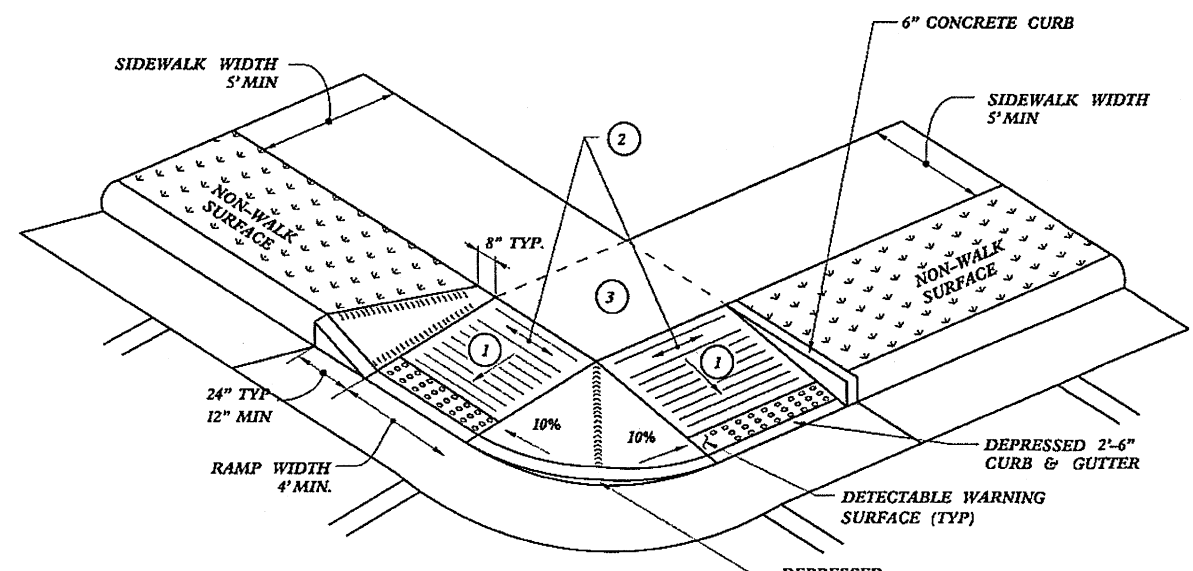
PAY LIMITS FOR CURB RAMP



TYPE 4



TYPE 5



TYPE 4A

- 1 8.33% (12:1) MAX RAMP SLOPE
- 2 CROSS SLOPE: 2.00%
- 3 CURB RAMPS REQUIRE A (4'-0") MINIMUM LANDING WITH A MAXIMUM CROSS SLOPE AND LONGITUDINAL SLOPE OF 2.00% WHERE PEDESTRIANS PERFORM TURNING MANEUVERS. SLOPE TO DRAIN TO CURB.

REFER TO ROADWAY STANDARD DRAWING NUMBER 848.05 SHEET 3 OF 3 FOR ALL RAMP NOTES

CONTRACT STANDARDS AND DEVELOPMENT UNIT	
Office 919-707-6950 FAX 919-250-4119	
CURB RAMPS	
Shared Landing	
ORIGINAL BY: J.S. HOWERTON	DATE: 7/7/11
MODIFIED BY:	DATE:
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J.Howerton AT CS023758

PROJECT NO.	SHEET NO.	TOTAL NO.
3CR.10651.170	11	12

SUMMARY OF QUANTITIES

PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	TYP	LANES	LANE TYPE	FINAL SURFACE TESTING REQUIRED	WARM MIX ASPHALT REQUIRED	LENGTH MI	WIDTH FT	DEBRIS REMOVAL EXISTING SHOULDER BERM GUTTER LF	INC. STONE BASE TONS	2" MILLING SY	SURFACE COURSE, S9.5C TONS	ASPHALT BINDER FOR PLANT MIX TON	PATCHING EXISTING PAVEMENT (FULL DEPTH) TON	MILLED RUMBLE STRIPS LF	PATCHING EXISTING PAVEMENT (MILL) TON	RETROFIT EXISTING CURB RAMP EA	REMOVE & REPLACE SHOULDER BERM GUTTER LF	2'-6" CURB & GUTTER, REMOVE & REPLACE LF	REMOVE & REPLACE CURB RAMP EA	REMOVE CONCRETE CURB RAMP EA
3CR.10651.170	New Hanover	1	US 74 EBL (MARTIN LUTHER KING JR. PKWY)	FROM KORNEGAY AVE. TO 0.19 MI. WEST OF RACINE DR.	1 & 2	3	MD	NO	NO	3.16	24 - 50			102,828	12,459	735	25		100					
TOTAL FOR MAP NO. 1										3.16				102,828	12,459	735	25		100					
3CR.10651.170	New Hanover	2	US 74 (EASTWOOD RD)	FROM 0.19 MI WEST OF RACINE DR. TO CARDINAL DR. (EXIST. PVMT JOINT)	3	5	M2	NO	NO	0.45	60			18,685	2,262	133	25		100	5			1	
TOTAL FOR MAP NO. 2										0.45				18,685	2,262	133	25		100	5			1	
3CR.10651.170	New Hanover	3	US 74 WBL (MLK JR. PKWY)	FROM 0.19 MI. WEST OF RACINE DR. TO KORNEGAY AVE.	1 & 2	3	MD	NO	NO	3.16	24 - 50			104,694	12,692	749	25		100					
TOTAL FOR MAP NO. 3										3.16				104,694	12,692	749	25		100					
3CR.10651.170	New Hanover	4	US 117/ NC 132 NBL (COLLEGE RD.)	FROM THE BRIDGE AT MARKET ST. OVERPASS TO BEGINNING OF I-40 (MP 6.90 - MP 8.57)	1 & 4	3	MD	NO	NO	1.64	28 - 44			47,112	5,690	336	25	802	100		18			7
TOTAL FOR MAP NO. 4										1.64				47,112	5,690	336	25	802	100		18			7
3CR.10651.170	New Hanover	5	US 117/NC 132 SBL (COLLEGE RD.)	FROM I-40 TO BRIDGE AT MARKET ST. OVERPASS (MP 6.92 - MP 8.61)	1 & 4	3	MD	NO	NO	1.66	28 - 44	125	10	45,553	5,502	325	25	830	100		25	12		4
TOTAL FOR MAP NO. 5										1.66		125	10	45,553	5,502	325	25	830	100		25	12		4
TOTAL FOR PROJ NO. 3CR.10651.170										10.07		125	10	318,872	38,605	2,278	125	1,632	500	5	43	12	1	11
GRAND TOTAL										10.07		125	10	318,872	38,605	2,278	125	1,632	500	5	43	12	1	11

PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	TYP	LANES	LANE TYPE	FINAL SURFACE TESTING REQUIRED	WARM MIX ASPHALT REQUIRED	LENGTH MI	WIDTH FT	ADJ. OF DROP INLET EA	ADJ. OF MANHOLES EA	ADJ. OF METER OR VALVE BOX EA	ADD GR POSTS EA	GR ANCHOR UNITS, TYPE CAT-1 EA	GR ANCHOR UNITS, TYPE 350 EA	REMOVE & RESET EXISTING GR LF	REMOVE & REPLACE EXISTING GR LF	PORTABLE LIGHTING LS	INDUCTIVE LOOP SAWCUT LF	LEAD-IN CABLE (14-2) LF
3CR.10651.170	New Hanover	1	US 74 EBL (MARTIN LUTHER KING JR. PKWY)	FROM KORNEGAY AVE. TO 0.19 MI. WEST OF RACINE DR.	1 & 2	3	MD	NO	NO	3.16	24 - 50				25.00			1,065.00		0.31	2,625	375
TOTAL FOR MAP NO. 1										3.16					25.00			1,065.00		0.31	2,625	375
3CR.10651.170	New Hanover	2	US 74 (EASTWOOD RD)	FROM 0.19 MI WEST OF RACINE DR. TO CARDINAL DR. (EXIST. PVMT JOINT)	3	5	M2	NO	NO	0.45	60	1	5	1						0.05	3,850	550
TOTAL FOR MAP NO. 2										0.45		1	5	1						0.05	3,850	550
3CR.10651.170	New Hanover	3	US 74 WBL (MLK JR. PKWY)	FROM 0.19 MI. WEST OF RACINE DR. TO KORNEGAY AVE.	1 & 2	3	MD	NO	NO	3.16	24 - 50				10.00			3,085.00	75.00	0.31	2,450	350
TOTAL FOR MAP NO. 3										3.16					10.00			3,085.00	75.00	0.31	2,450	350
3CR.10651.170	New Hanover	4	US 117/ NC 132 NBL (COLLEGE RD.)	FROM THE BRIDGE AT MARKET ST. OVERPASS TO BEGINNING OF I-40 (MP 6.90 - MP 8.57)	1 & 4	3	MD	NO	NO	1.64	28 - 44		1		10.00	1.00	1.00	465.00	312.50	0.16	3,570	510
TOTAL FOR MAP NO. 4										1.64			1		10.00	1.00	1.00	465.00	312.50	0.16	3,570	510
3CR.10651.170	New Hanover	5	US 117/NC 132 SBL (COLLEGE RD.)	FROM I-40 TO BRIDGE AT MARKET ST. OVERPASS (MP 6.92 - MP 8.61)	1 & 4	3	MD	NO	NO	1.66	28 - 44		6		50.00	1.00	1.00	475.00		0.17	3,325	475
TOTAL FOR MAP NO. 5										1.66			6		50.00	1.00	1.00	475.00		0.17	3,325	475
TOTAL FOR PROJ NO. 3CR.10651.170										10.07		1	12	1	95.00	2.00	2.00	5,090.00	387.50	1.00	15,820	2,260
GRAND TOTAL										10.07		1	12	1	95.00	2.00	2.00	5,090.00	387.50	1.00	15,820	2,260

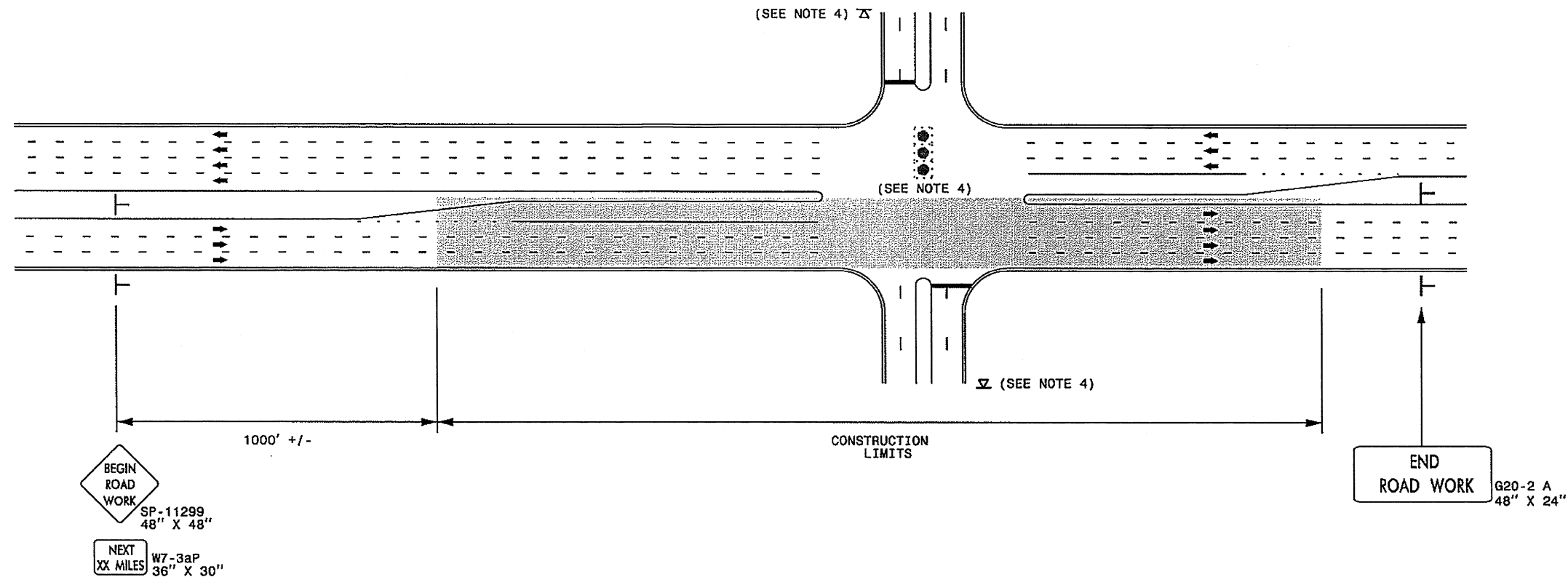
PROJECT NO.	SHEET NO.	TOTAL NO.
3CR.10651.170	12	12

THERMOPLASTIC AND PAINT QUANTITIES

PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	TYP NO	LANES	LANE TYPE	LENGTH	WIDTH	441300000-E	445700000-N	451000000-N	468500000-E		468600000-E		469500000-E		469700000-E	470000000-E	471000000-E
										WORK ZONE ADVANCE/GENERAL WARNING SIGNING SF	TEMPORARY TRAFFIC CONTROL LS	LAW ENFORCEMENT HR	4" X 90 M WHITE THERMO LF	4" X 90 M YELLOW THERMO LF	4" X 120 M WHITE THERMO LF	4" X 120 M YELLOW THERMO LF	8" X 90 M WHITE THERMO LF	8" X 90 M YELLOW THERMO LF	8" X 120 M WHITE THERMO LF	12" X 90 M YELLOW THERMO LF	24" X 120 M WHITE THERMO LF
3CR.10651.170	New Hanover	1	US 74 EBL (MARTIN LUTHER KING JR. PKWY)	FROM KORNEGAY AVE. TO 0.19 MI. WEST OF RACINE DR.	1 & 2	3	MD	3.16	24 - 50	32	0.31	168	15,650	11,650	10,537	200	400	50			360
TOTAL FOR MAP NO. 1									32	0.31	168	15,650	11,650	10,537	200	400	50			360	
3CR.10651.170	New Hanover	2	US 74 (EASTWOOD RD)	FROM 0.19 MI WEST OF RACINE DR. TO CARDINAL DR. (EXIST. PVMT JOINT)	3	5	M2	0.45	60	32	0.05	92			2,401	5,095					315
TOTAL FOR MAP NO. 2									32	0.05	92			2,401	5,095					315	
3CR.10651.170	New Hanover	3	US 74 WBL (MLK JR. PKWY)	FROM 0.19 MI. WEST OF RACINE DR. TO KORNEGAY AVE.	1 & 2	3	MD	3.16	24 - 50	32	0.31	168	16,750	11,650	10,390						310
TOTAL FOR MAP NO. 3									32	0.31	168	16,750	11,650	10,390						310	
3CR.10651.170	New Hanover	4	US 117/ NC 132 NBL (COLLEGE RD.)	FROM THE BRIDGE AT MARKET ST. OVERPASS TO BEGINNING OF I-40 (MP 6.90 - MP 8.57)	1 & 4	3	MD	1.64	28 - 44	32	0.16	145	8,500	8,650	6,650	100	200			50	500
TOTAL FOR MAP NO. 4									32	0.16	145	8,500	8,650	6,650	100	200			50	500	
3CR.10651.170	New Hanover	5	US 117/NC 132 SBL (COLLEGE RD.)	FROM I-40 TO BRIDGE AT MARKET ST. OVERPASS (MP 6.92 - MP 8.61)	1 & 4	3	MD	1.66	28 - 44	32	0.17	145	8,500	9,100	5,390		200		635	130	425
TOTAL FOR MAP NO. 5									32	0.17	145	8,500	9,100	5,390		200		635	130	425	
TOTAL FOR PROJ NO. 3CR.10651.170									160	1	718	49,400	41,050	35,368	5,395	800	50	635	180	1,910	
GRAND TOTAL									10.07			90,450	40,763	850							

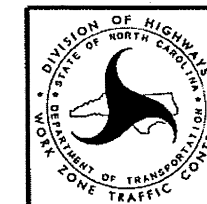
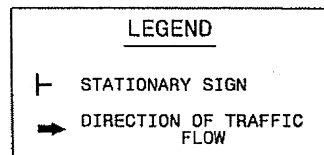
PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	TYP NO	LANES	LANE TYPE	LENGTH	WIDTH	472100000-E		472500000-E				490000000-N	490500000-N			
										THERMO MSG SCHOOL 120 M EA	THERMO MSG ONLY 120 M EA	THERMO STR ARROW 90 M EA	THERMO LT ARROW 90 M EA	THERMO RT ARROW 90 M EA	MERGE ARROW 90 M EA	THERMO STR & LT ARROW 90 M EA	THERMO STR & RT ARROW 90 M EA	YELLOW & YELLOW MARKERS EA	SNOW PLOWABLE MARKERS (Y/Y) EA	SNOW PLOWABLE MARKERS (C/R) EA
3CR.10651.170	New Hanover	1	US 74 EBL (MARTIN LUTHER KING JR. PKWY)	FROM KORNEGAY AVE. TO 0.19 MI. WEST OF RACINE DR.	1 & 2	3	MD	3.16	24 - 50			20	12	9	3			52	5	609
TOTAL FOR MAP NO. 1											20	12	9	3			52	5	609	
3CR.10651.170	New Hanover	2	US 74 (EASTWOOD RD)	FROM 0.19 MI WEST OF RACINE DR. TO CARDINAL DR. (EXIST. PVMT JOINT)	3	5	M2	0.45	60			16	20	11		2		14	47	140
TOTAL FOR MAP NO. 2											16	20	11		2		14	47	140	
3CR.10651.170	New Hanover	3	US 74 WBL (MLK JR. PKWY)	FROM 0.19 MI. WEST OF RACINE DR. TO KORNEGAY AVE.	1 & 2	3	MD	3.16	24 - 50			15	10	9	3			52		596
TOTAL FOR MAP NO. 3											15	10	9	3			52		596	
3CR.10651.170	New Hanover	4	US 117/ NC 132 NBL (COLLEGE RD.)	FROM THE BRIDGE AT MARKET ST. OVERPASS TO BEGINNING OF I-40 (MP 6.90 - MP 8.57)	1 & 4	3	MD	1.64	28 - 44	12		34	28	16	3		3	102	4	444
TOTAL FOR MAP NO. 4									12		34	28	16	3		3	102	4	444	
3CR.10651.170	New Hanover	5	US 117/NC 132 SBL (COLLEGE RD.)	FROM I-40 TO BRIDGE AT MARKET ST. OVERPASS (MP 6.92 - MP 8.61)	1 & 4	3	MD	1.66	28 - 44	18	16	26	22	15			3	94		267
TOTAL FOR MAP NO. 5									18	16	26	22	15			3	94		267	
TOTAL FOR PROJ NO. 3CR.10651.170									30	16	111	92	60	9	2	6	314	56	2,056	
GRAND TOTAL									10.07		46	280	60	9	2	6	314	56	2,056	

URBAN / SUBURBAN WORKZONES



NOTES:

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

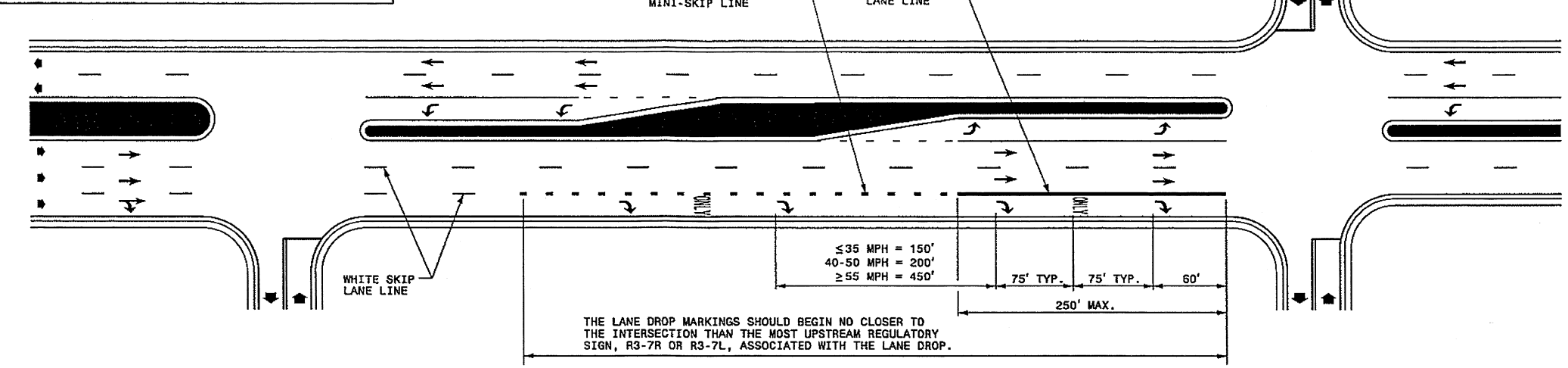


**RESURFACING ADVANCE
WARNING SIGNS FOR
URBAN / SUBURBAN
FACILITIES**

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

1-12

LANE DROP AT AN INTERSECTION

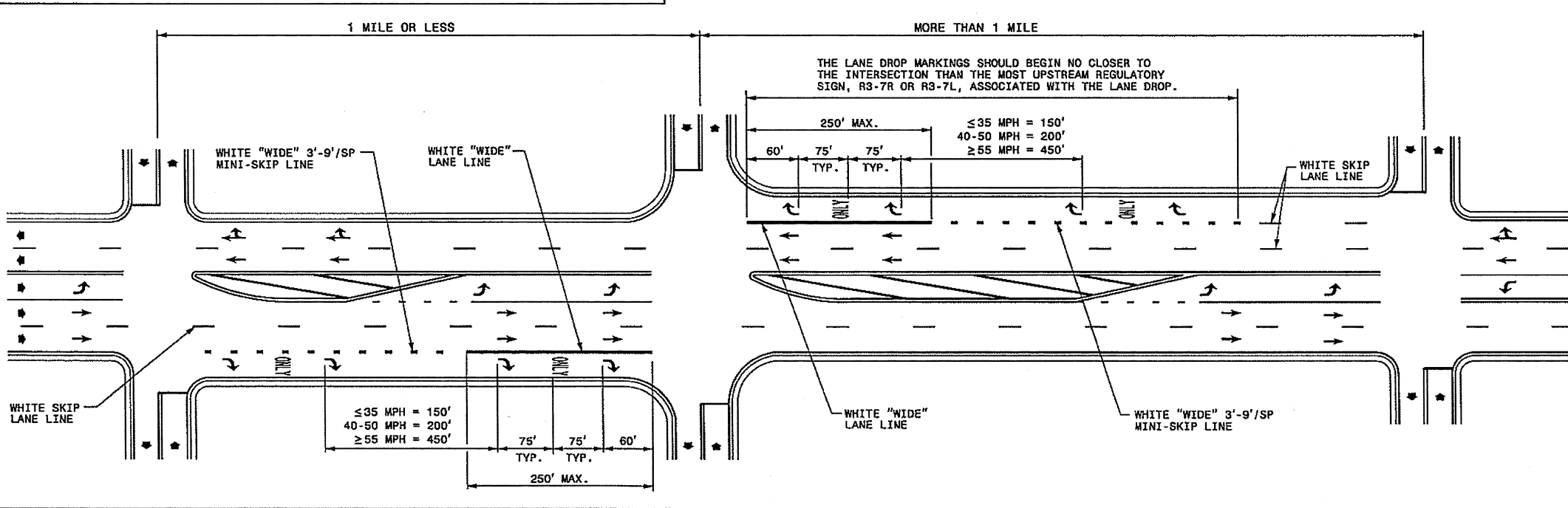


STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

1-12

ENGLISH DETAIL DRAWING FOR
PAVEMENT MARKINGS
LANE DROPS

LANE DROP AT AN INTERSECTION WITH AN AUXILIARY LANE



ENGLISH DETAIL DRAWING FOR
PAVEMENT MARKINGS
LANE DROPS

GENERAL NOTES:

- 1- USE THE GUIDANCE SHOWN ON THE ABOVE DETAILS IN CONJUNCTION WITH INTERSECTION GUIDANCE SHOWN ON ROADWAY STANDARD DRAWING 1205.04.
- 2- LANE LINES INDICATED AS "WIDE" SHALL BE AT LEAST TWICE THE WIDTH OF THE NORMAL LINE.

LEGEND	
W = WIDTH OF TRAVEL LANE	ONLY PAVEMENT MARKING SYMBOLS & CHARACTERS
➔	DIRECTION OF TRAFFIC FLOW

REVISED 9/14/11
SHEET 1 OF 3
1205D06

REVISED 9/14/11
SHEET 1 OF 3
1205D06

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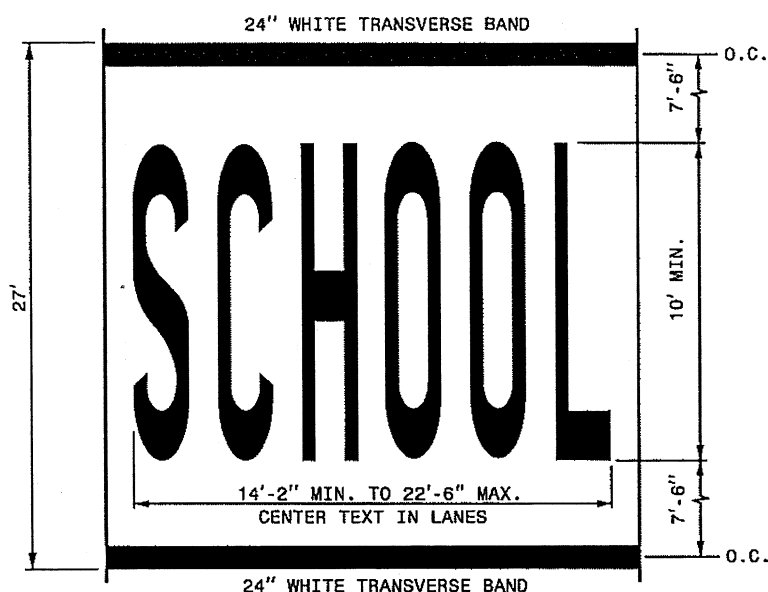
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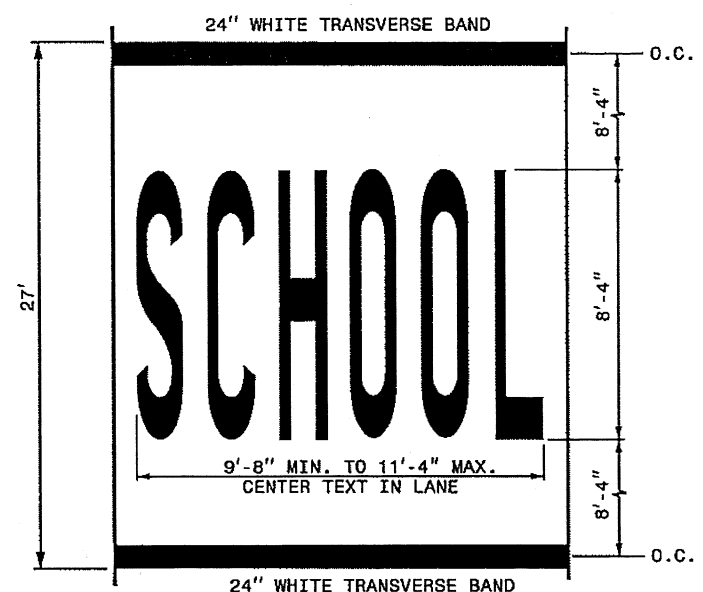
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DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

MULTI-LANE WIDTH "SCHOOL"

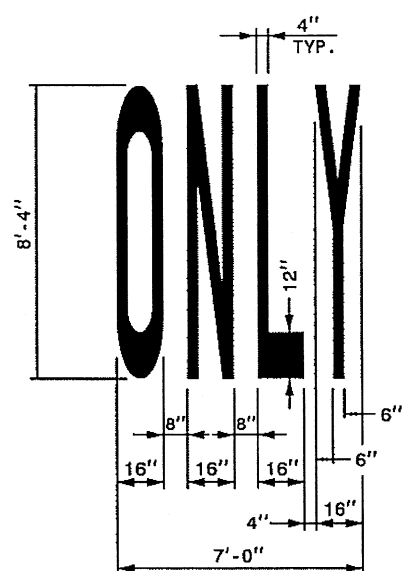


LETTER HEIGHT = 10' MIN.
LETTER WIDTH = 20"
SPACING = 10" MIN./30" MAX. (USE EQUAL SPACING BETWEEN LETTERS)
NOTE: THE TWO-LANE PAVEMENT MARKING DIMENSIONS OF "SCHOOL" SHOWN IN PART 7 OF THE MUTCD MAY ALSO BE USED.

SINGLE LANE WIDTH "SCHOOL"

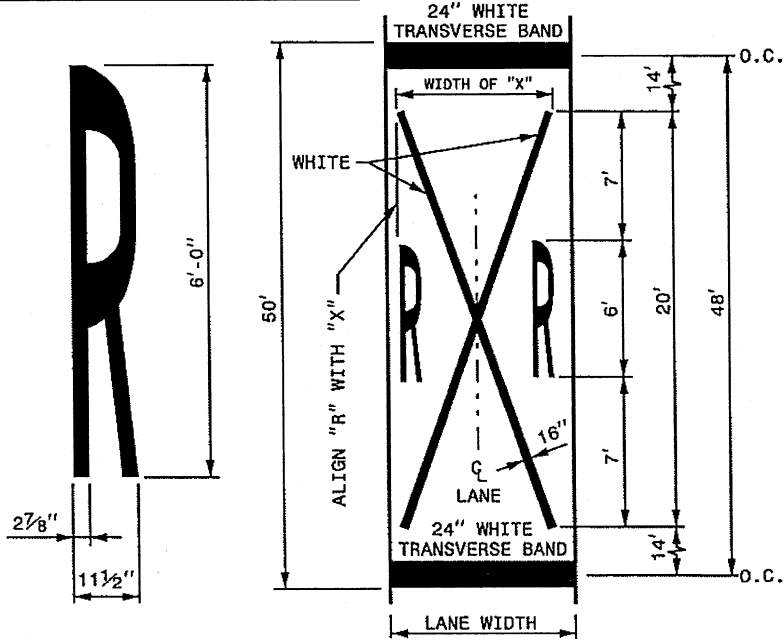


LETTER HEIGHT = 8'-4"
LETTER WIDTH = 16"
SPACING = 4" MIN./8" MAX. (USE EQUAL SPACING BETWEEN LETTERS)



ENGLISH DETAIL DRAWING FOR
PAVEMENT MARKINGS
SYMBOLS AND WORD MESSAGES

RAILROAD RXR SYMBOL



LANE WIDTH (FEET)	WIDTH OF "X" (FEET)
8' ≤ W ≤ 9'	7'
9' < W ≤ 12'	8'
W > 12'	10'

- GENERAL NOTES:
- 1- THE SCHOOL PAVEMENT MARKING CONSISTS OF SIX (6) CHARACTERS. THE TWO (2) 24" TRANSVERSE BANDS WILL BE PAID FOR UNDER A SEPARATE PAY ITEM. REFER TO ROADWAY STANDARD DRAWING 1205.10 FOR ADDITIONAL PAVEMENT MARKING GUIDANCE.
 - 2- PAVEMENT MARKING ADVANCE OF A HIGHWAY-RAIL CROSSING SHALL CONSIST OF TWO (2) CHARACTERS AND TWO (2) 16" LINES (FORMING AN X) WHICH ARE PAID FOR UNDER TWO SEPARATE PAY ITEMS. THE TWO (2) 24" TRANSVERSE BANDS WILL BE PAID FOR UNDER A SEPARATE PAY ITEM. REFER TO ROADWAY STANDARD DRAWING 1205.11 FOR ADDITIONAL PAVEMENT MARKING GUIDANCE.

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

ENGLISH DETAIL DRAWING FOR
PAVEMENT MARKINGS
SYMBOLS AND WORD MESSAGES

REVISED 9/14/11
SHEET 3 OF 8
1205D08

REVISED 9/14/11
SHEET 3 OF 8
1205D08

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SEE TITLE BLOCK

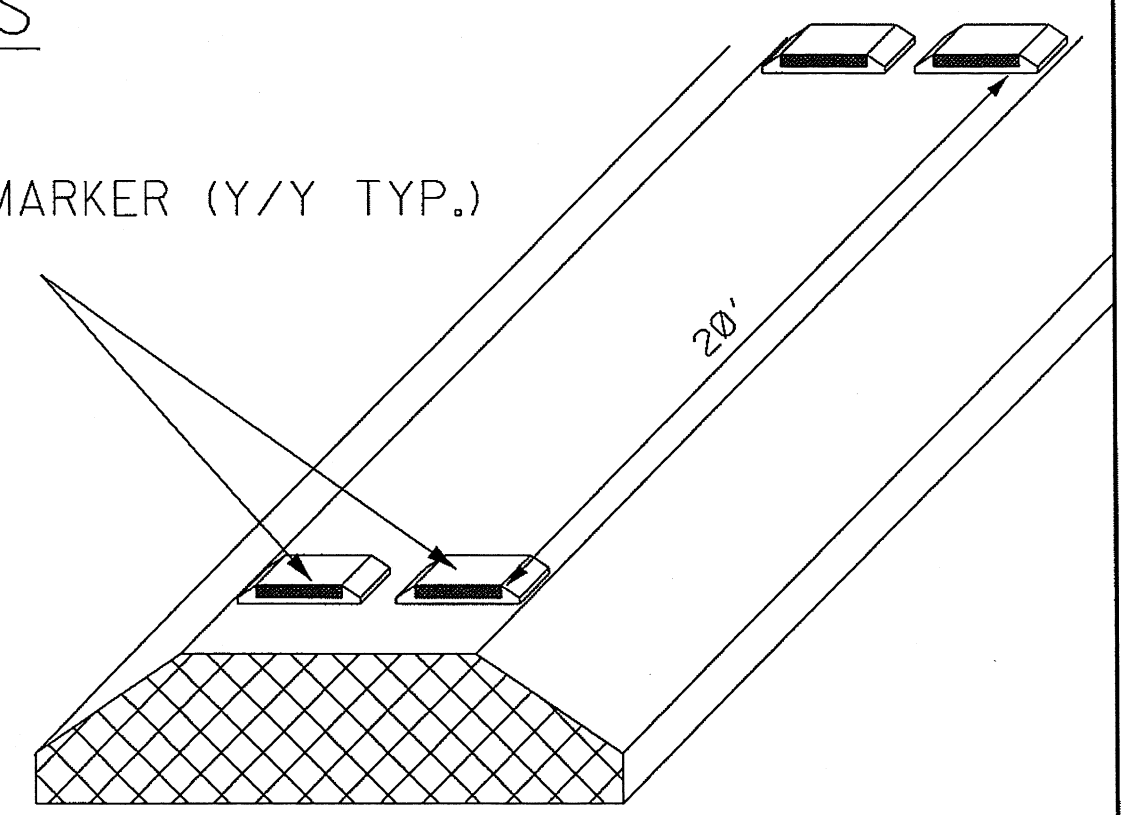
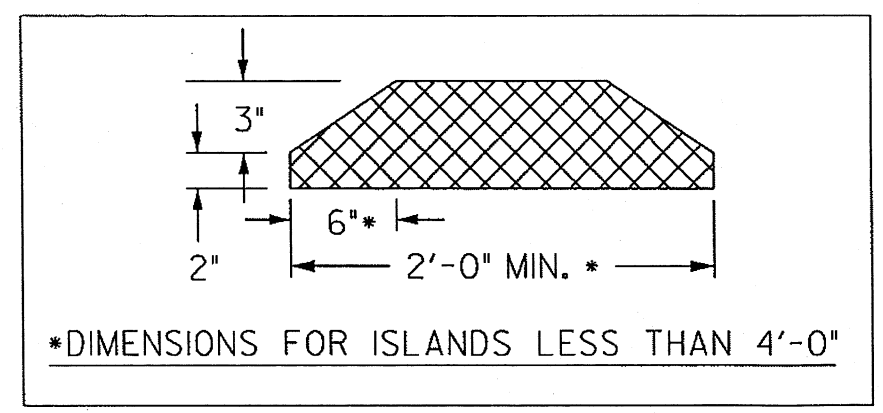
ORIGINAL BY: J. HOWERTON DATE: 10/5/11
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PAVEMENT MARKING DETAILS

PAVEMENT MARKER DETAIL FOR CONCRETE ISLANDS

RAISED PAVEMENT MARKER (Y/Y TYP.)
(STD. DWG 1251.01)



MONOLITHIC CONCRETE ISLAND

(SEE STANDARD DRAWINGS 852.01, 852.02, & 852.06 FOR DETAILS.)

REVISIONS
 17-DEC-2014 08:23
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STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

ENGLISH STANDARD DRAWING FOR
DEEP-CUT INDUCTIVE DETECTION LOOPS
(FOR INSTALLATION PRIOR TO MILLING)

NOTES

- OVERLAP SAW CUTS AT CORNERS AND INTERSECTION POINTS TO ENSURE UNIFORM SAW SLOT DEPTH.
- MAINTAIN 12" SPACING BETWEEN LOOP WIRE TAIL SECTIONS.
- WIRE LOOPS CONNECTED TO THE SAME DETECTOR IN SERIES.
- LOCATE LOOPS IN CENTER OF LANES UNLESS OTHERWISE SHOWN ON PLANS.
- USE A SERIES OF ONE INCH PIECES OF BACKER ROD SPACED ONE FOOT APART ALONG THE ENTIRE LENGTH OF THE FEEDER SLOT AND LOOP SAW SLOT.
- CONSULT LOOP SEALANT MANUFACTURER TO DETERMINE CURING TIME REQUIRED PRIOR TO MILLING.

SAW SLOT DEPTH CHART

ASSUMING 2" MILLING DEPTH

DEPTH (IN)	NO. OF WIRE LAYERS				
	2	3	4	5	6
SAW SLOT DEPTH	4.0	4.5	5.0	5.0	5.0
MINIMUM TOTAL ASPHALT DEPTH REQUIRED	5.0	5.5	6.0	6.0	6.0

LOOP WIRE TWISTING METHOD

INCORRECT WAY TO TWIST WIRE

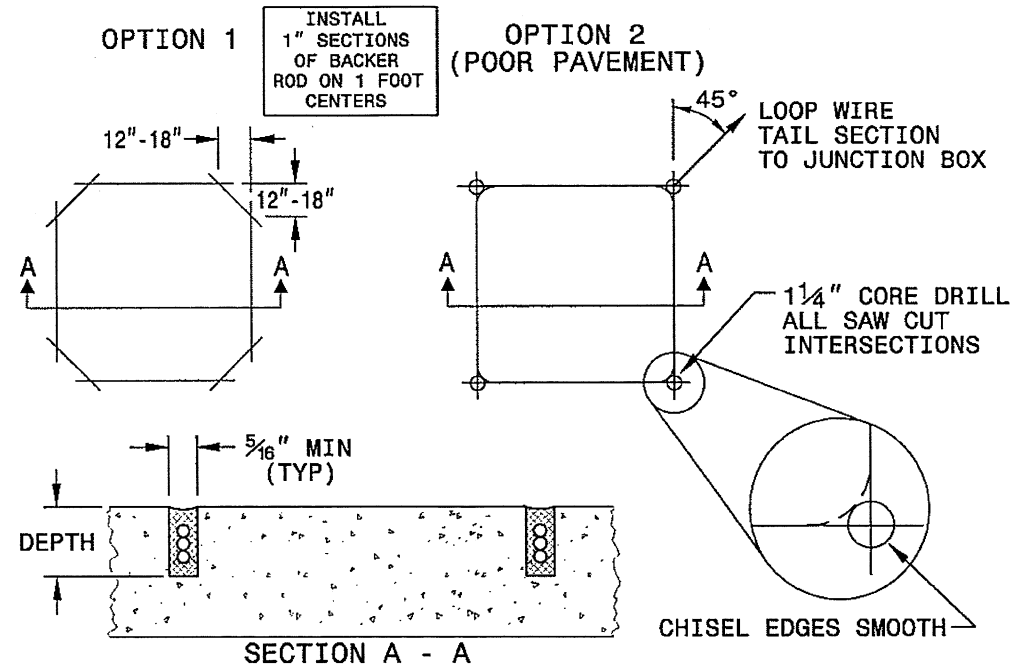


CORRECT WAY TO TWIST WIRE

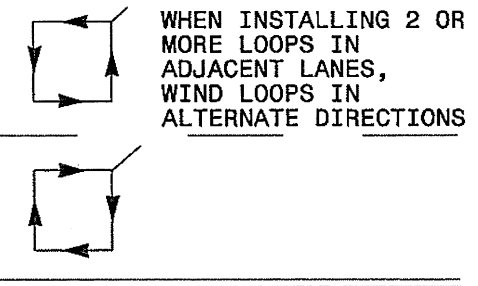
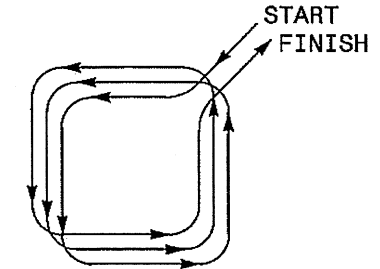


CONVENTIONAL 4-SIDED LOOP

SAW CUT OPTIONS

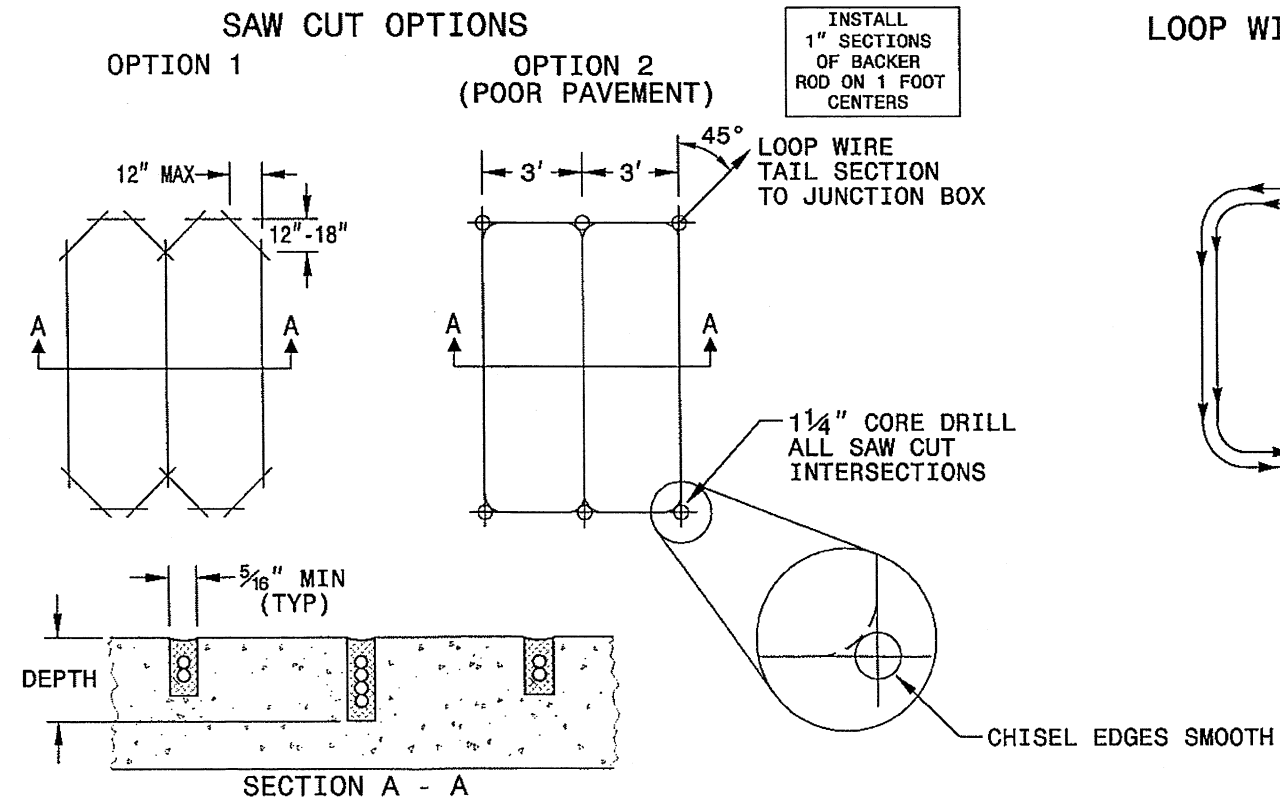


LOOP WINDING METHOD

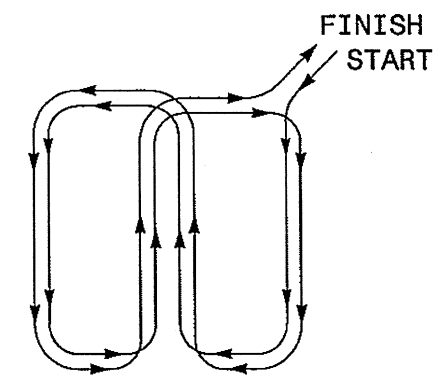


QUADRUPOLE LOOP

SAW CUT OPTIONS



LOOP WINDING METHOD

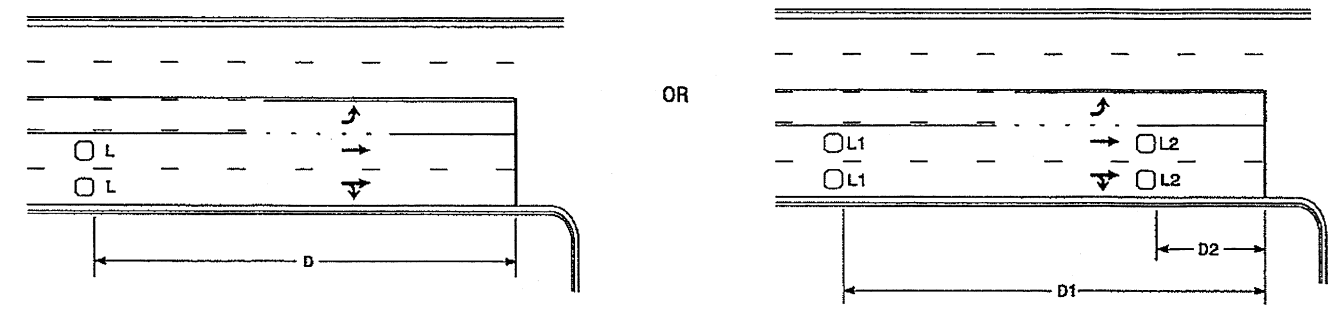


REVISIONS
REMOVED TWISTING NOTES FROM TAIL SECT TO JUNCTION BOX. 2/26/08 MWH

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

ENGLISH STANDARD DRAWING FOR
DEEP-CUT INDUCTIVE DETECTION LOOPS
(FOR INSTALLATION PRIOR TO MILLING)

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



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

L = 6ft X 6ft (1.8m X 1.8m)
Wired in series for TS1
Controllers
Wired separately for TS2,
170, and 2070L Controllers

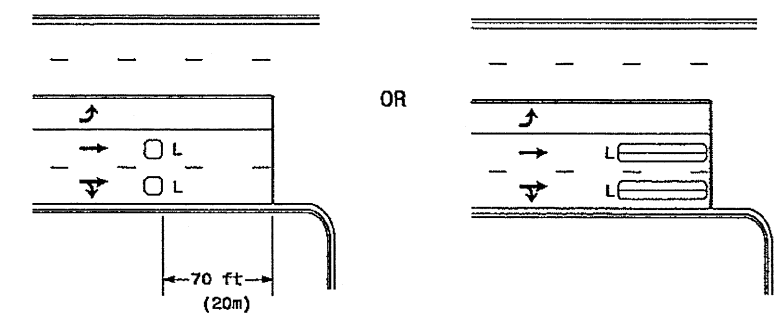
Volume Density Operation

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

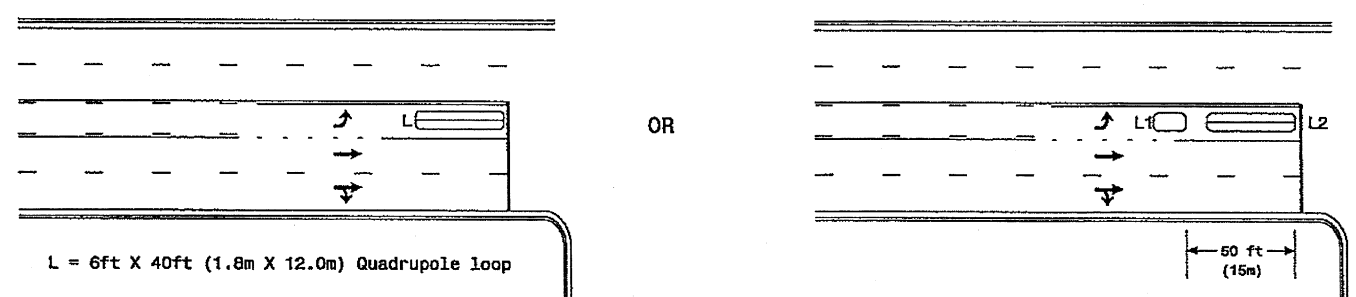
Low Speed Detection [≤35 mph (56 km/hr)]



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

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

Left Turn Lane Detection



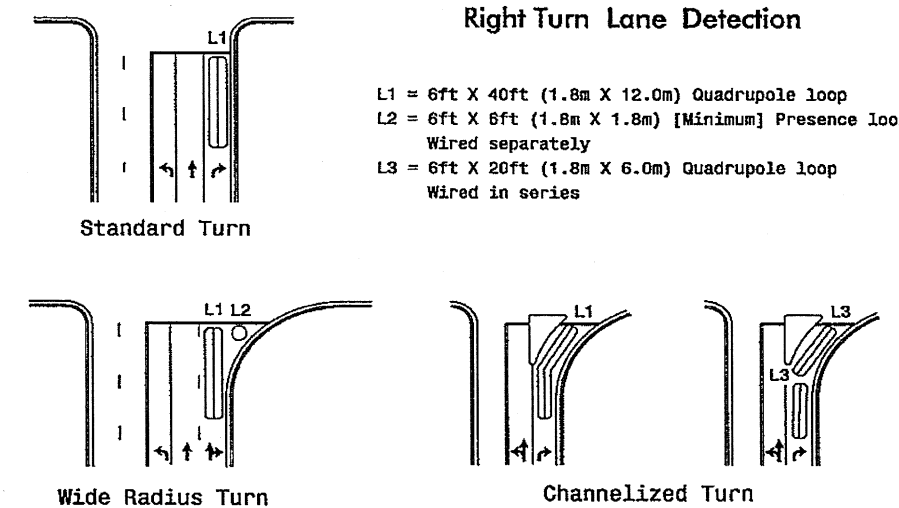
L = 6ft X 40ft (1.8m X 12.0m) Quadrupole Loop

Presence Loop Detection

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

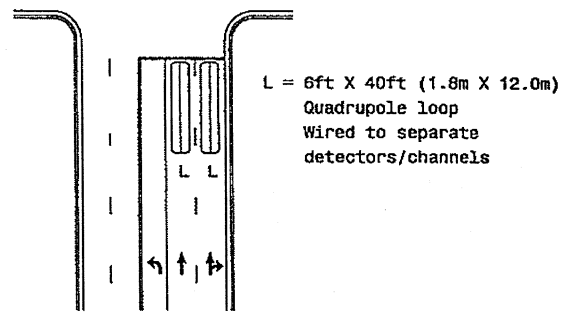
Queue Loop Detection

Right Turn Lane Detection



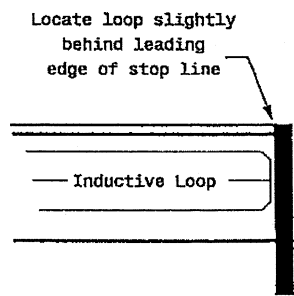
L1 = 6ft X 40ft (1.8m X 12.0m) Quadrupole loop
L2 = 6ft X 6ft (1.8m X 1.8m) [Minimum] Presence loop
Wired separately
L3 = 6ft X 20ft (1.8m X 6.0m) Quadrupole loop
Wired in series

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



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

15-000-0000-1-1111
15-000-0000-1-1111
15-000-0000-1-1111

Typical Loop Locations

PLAN DATE: June 2006 REVIEWED BY:

PREPARED BY: P. L. Alexander REVIEWED BY:

SCALE: N/A

SEAL

STATE OF NORTH CAROLINA

PROFESSIONAL ENGINEER

2006

25418

P. L. Alexander

SIGNATURE DATE

SIC. INVENTORY NO.