

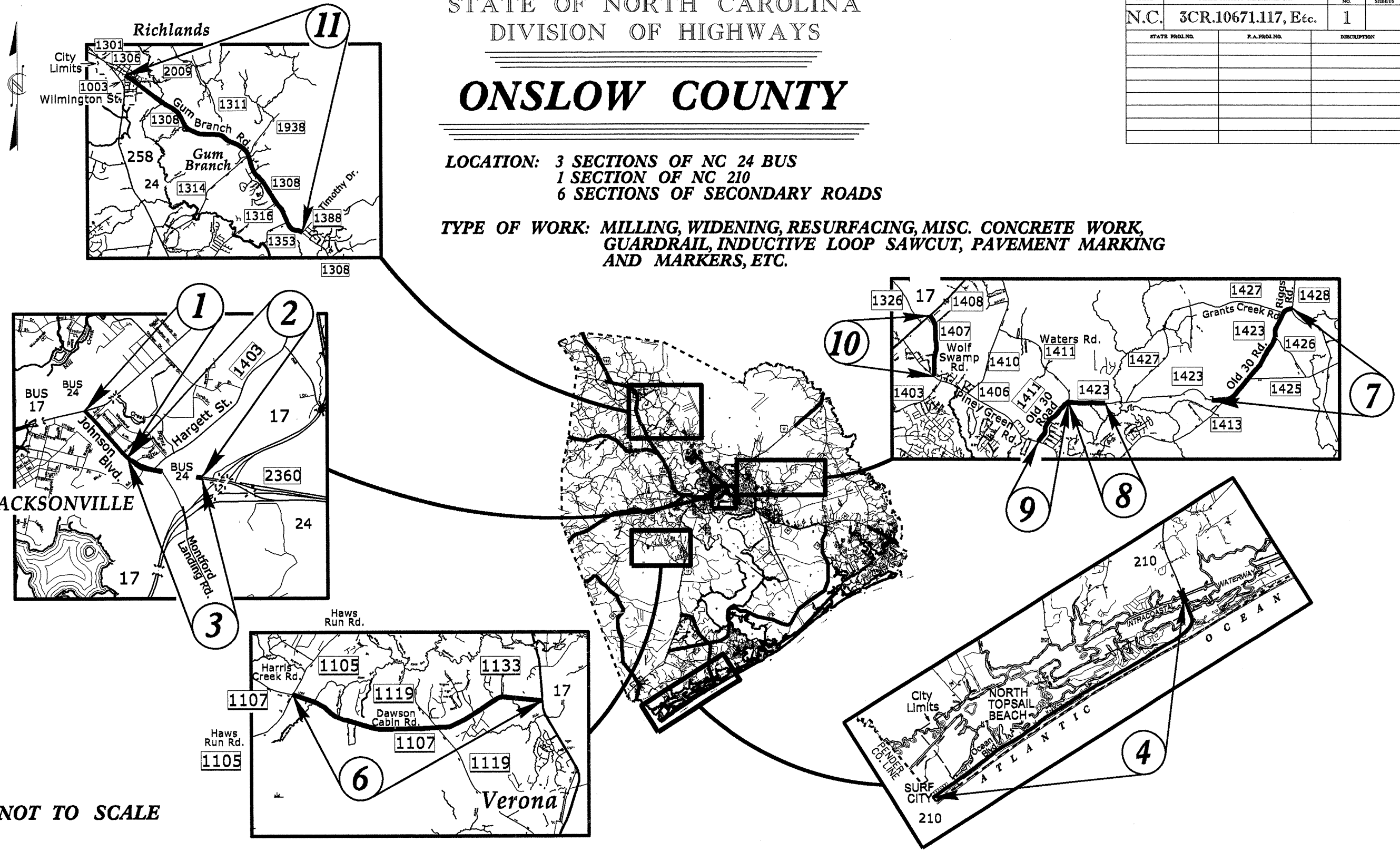
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	3CR.10671.117, Etc.	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

ONSLOW COUNTY

LOCATION: 3 SECTIONS OF NC 24 BUS
1 SECTION OF NC 210
6 SECTIONS OF SECONDARY ROADS

TYPE OF WORK: MILLING, WIDENING, RESURFACING, MISC. CONCRETE WORK,
GUARDRAIL, INDUCTIVE LOOP SAWCUT, PAVEMENT MARKING
AND MARKERS, ETC.



NOT TO SCALE

CONTRACT: WBS NO: 3CR.10671.117 & 3CR.20671.117

07-DEC-2011 07:27 S:\C:\contracts\Resurfacing Projects\Division 3\penderonslow\3CR.10671.117_Rdy_tsh.dgn \$\$\$USERNAME\$\$\$

PROJECT LENGTH

PRIMARY	SECONDARY
MAP NO. 1 = 0.50 MI.	MAP NO. 6 = 4.44 MI.
MAP NO. 2 = 0.52 MI.	MAP NO. 7 = 2.50 MI.
MAP NO. 3 = 0.54 MI.	MAP NO. 8 = 0.65 MI.
MAP NO. 4 = 6.78 MI.	MAP NO. 9 = 0.98 MI.
	MAP NO. 10 = 1.17 MI.
	MAP NO. 11 = 5.95 MI.
SUB-TOTAL = 8.34 MI.	SUB-TOTAL = 15.69 MI.
TOTAL = 24.03 MI.	

Prepared in the Office of:
DIVISION OF HIGHWAYS
5501 Barbados Blvd., Castle Hayne, NC 28429

2012 STANDARD SPECIFICATIONS

LETTING DATE:
JANUARY 17, 2012

HYDRAULICS ENGINEER

SIGNATURE: _____ P.E.

ROADWAY DESIGN
TECHNICIAN

SIGNATURE: DNL _____

SIGNATURE: MPK _____

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	3CR.20711.117, Etc.	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

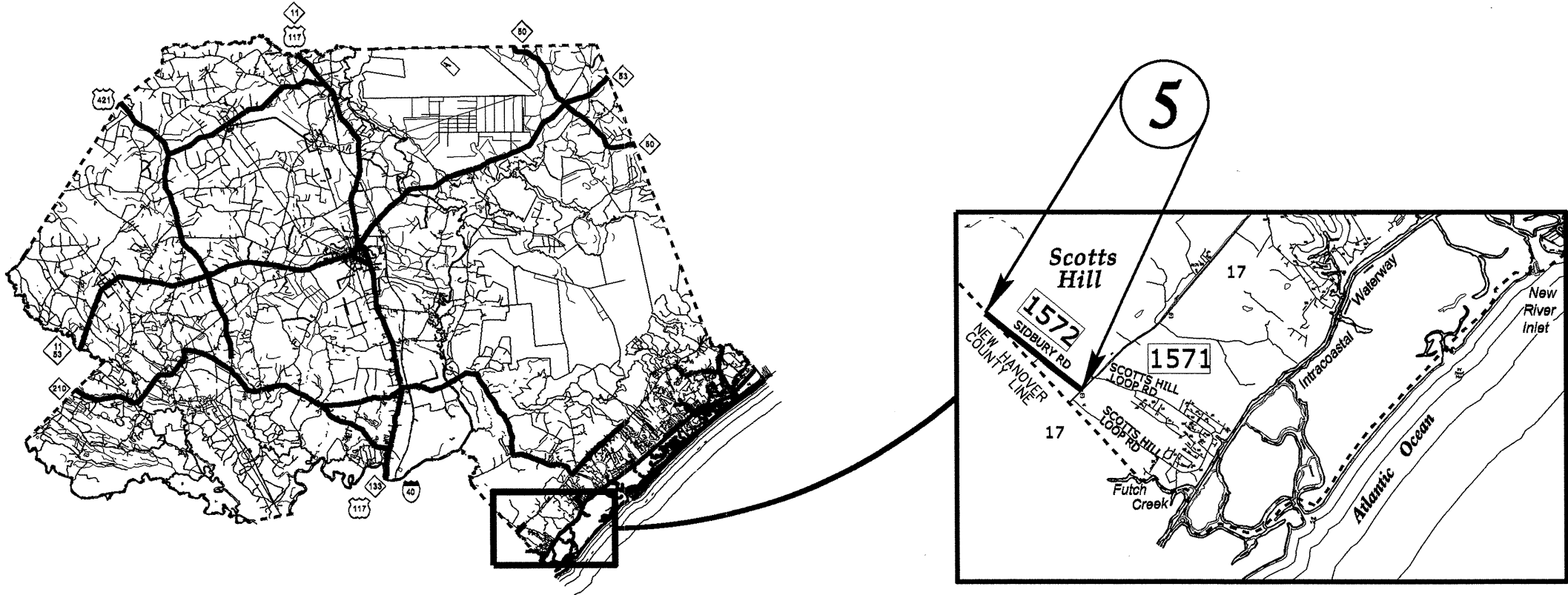
PENDER COUNTY

LOCATION: 1 SECTION OF SECONDARY ROAD

TYPE OF WORK: MILLING, WIDENING, RESURFACING, INCIDENTAL CONCRETE, PAVEMENT MARKING AND MARKERS, ETC.

WBS NO: 3CR.20711.117

CONTRACT:



NOT TO SCALE

PROJECT LENGTH

MAP NO. 5 = 1.60 MI.

TOTAL = 1.60 MI.

Prepared in the Office of:
DIVISION OF HIGHWAYS
5501 Barbados Blvd., Castle Hayne, NC 28429

2012 STANDARD SPECIFICATIONS

LETTING DATE:
JANUARY 17, 2012

HYDRAULICS ENGINEER

SIGNATURE: _____ P.E.

ROADWAY DESIGN
TECHNICIAN

SIGNATURE: _____ DNL

SIGNATURE: _____ MPK

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

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8/17/99

REVISIONS

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GENERAL NOTES:

2012 SPECIFICATIONS
EFFECTIVE: 01-17-12
REVISED: 11-01-11

GRADE LINE:
GRADING AND SURFACING:

THE GRADE LINES SHOWN DENOTE THE FINISHED ELEVATION OF THE PROPOSED SURFACING AT GRADE POINTS SHOWN ON THE TYPICAL SECTIONS. GRADE LINES MAY BE ADJUSTED AT THEIR BEGINNING AND ENDING AND AT STRUCTURES AS DIRECTED BY THE ENGINEER IN ORDER TO SECURE A PROPER TIE-IN.

SIDE ROADS:

THE CONTRACTOR WILL BE REQUIRED TO DO ALL NECESSARY WORK TO PROVIDE SUITABLE CONNECTIONS WITH ALL ROADS, STREETS, AND DRIVES ENTERING THIS PROJECT. THIS WORK WILL BE PAID FOR AT THE CONTRACT UNIT PRICE FOR THE PARTICULAR ITEMS INVOLVED.

DRIVEWAYS:

DRIVEWAYS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STD. 848.02 USING 3' RADII OR RADII AS SHOWN ON THE PLANS. LOCATIONS OF DRIVES WILL BE AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER.

STREET TURNOUT:

STREET RETURNS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STD. NO. 848.04 USING THE RADII NOTED ON PLANS.

GUARDRAIL:

THE GUARDRAIL LOCATIONS SHOWN ON THE PLANS MAY BE ADJUSTED DURING CONSTRUCTION AS DIRECTED BY THE ENGINEER. THE CONTRACTOR SHOULD CONSULT WITH THE ENGINEER PRIOR TO ORDERING GUARDRAIL MATERIAL.

SUBSURFACE PLANS:

NO SUBSURFACE PLANS ARE AVAILABLE ON THIS PROJECT. THE CONTRACTOR SHOULD MAKE HIS OWN INVESTIGATION AS TO THE SUBSURFACE CONDITIONS.

ANY RELOCATION OF EXISTING UTILITIES WILL BE ACCOMPLISHED BY OTHERS.

CURB RAMPS

CONSTRUCT ALL CURB RAMPS IN ACCORDANCE WITH STD.NO. 848.05, 848.06, OR DETAILS IN PLANS.

2012 ROADWAY ENGLISH STANDARD DRAWINGS

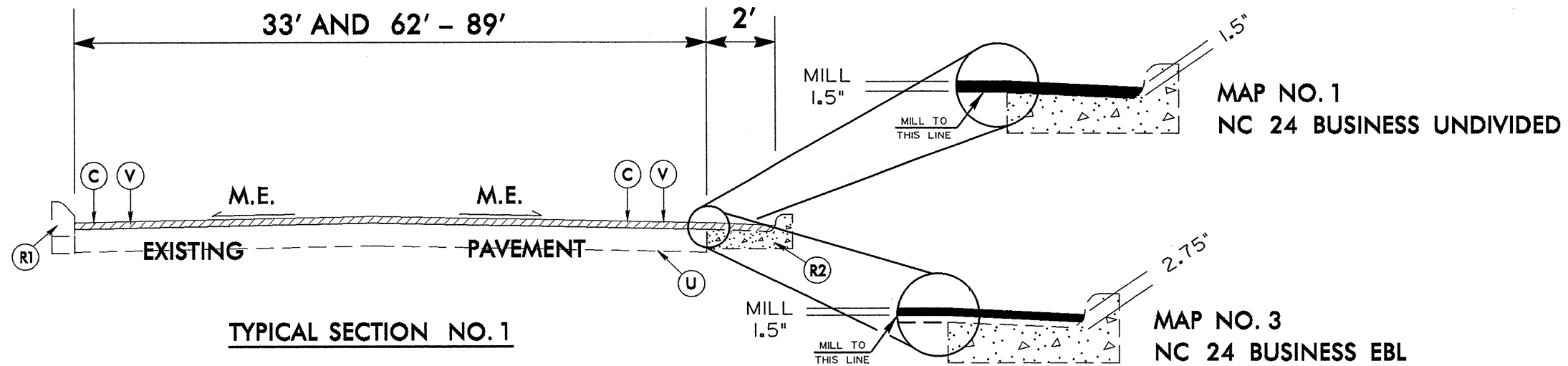
EFF. 01-17-12
REV. 11-01-11

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	
846.01	Concrete Curb, Gutter and Curb & Gutter
848.01	Concrete Sidewalk
848.02	Driveway Turnout - Radius Type
848.04	Street Turnout
848.05	Curb Ramp - Proposed Curb and Gutter
848.06	Curb Ramp - Existing Curb and Gutter
862.01	Guardrail Placement
862.02	Guardrail Installation
862.03	Structure Anchor Units
862.04	Anchoring End of Guardrail - B-77 and B-83 Anchor Units

PROJECT REFERENCE NO.	SHEET NO.
3CR.10671.117, ETC.	1-A
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

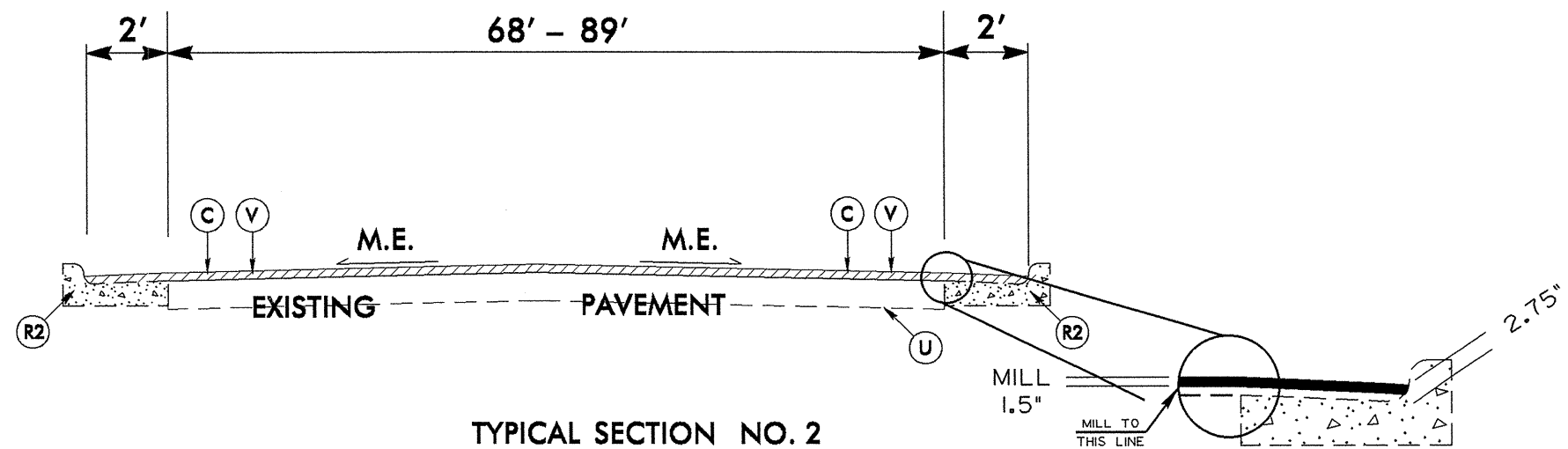
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RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



TYPICAL SECTION NO. 1

MAP NO. 1
NC 24 BUSINESS (UNDIVIDED)
MP 0.00 TO MP 0.03

MAP NO. 3
NC 24 BUSINESS EBL
MP 0.00 TO MP 0.11



TYPICAL SECTION NO. 2

MAP NO. 1
NC 24 BUSINESS (UNDIVIDED)
MP 0.03 TO MP 0.50

PAVEMENT SCHEDULE			
C	PROP. APPROX. 1½" DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE 89.5B, AT AN AVERAGE RATE OF 188 LBS. PER SQ. YD.	R3	EXISTING VAR. WIDTH CONCRETE ISLAND
D	PROP. APPROX. 2½" DEPTH ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 288 LBS. PER SQ. YD.	T	EARTH MATERIAL (SHOULDER RECONSTRUCTION)
E	PROP. APPROX. 4" DEPTH ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 458 LBS. PER SQ. YD.	U	EXISTING PAVEMENT.
R	EXISTING 4" ASPHALT CURB	V	MILLING BITUMINOUS PAVEMENT, 1 1/2" DEPTH.
R1	EXISTING 8" X 18" CONCRETE CURB		
R2	EXISTING 2'-6" CURB & GUTTER		

NOTE: PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE.
SEE STD. DRAWING 1205.01, SHEET 2 OF 2, TABLE 1 FOR EDGE LINE OFFSETS.
M.E. = MATCH EXISTING

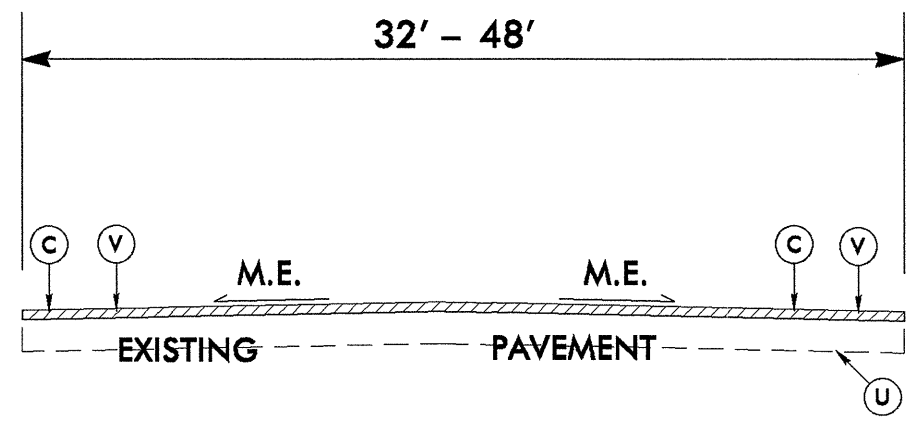
REVISIONS

8/17/99

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 REVISIONS
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PROJECT REFERENCE NO. 3CR.10671.117, ETC.	SHEET NO. 2-A
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

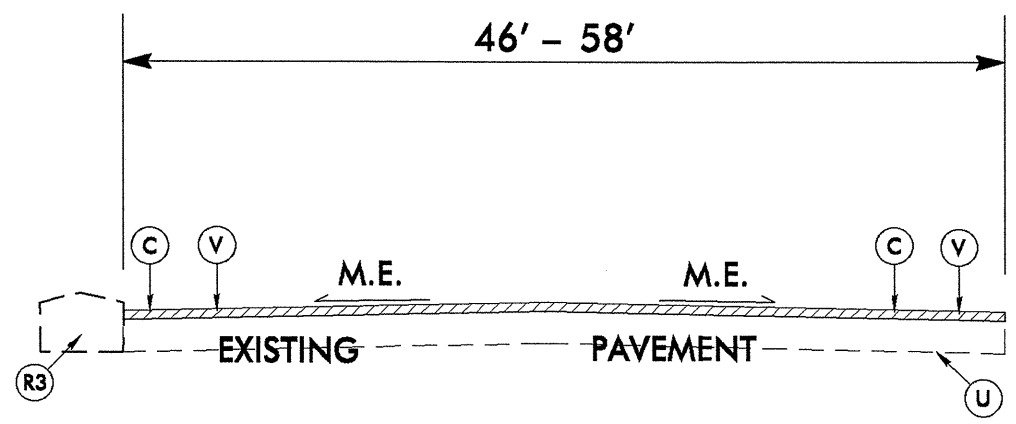


TYPICAL SECTION NO. 3

MAP NO. 2
 NC 24 BUSINESS WBL
 MP 0.00 TO MP 0.23

MAP NO. 3
 NC 24 BUSINESS EBL
 MP 0.48 TO MP 0.54

MAP NO. 4
 NC 210
 MP 0.00 TO MP 0.17



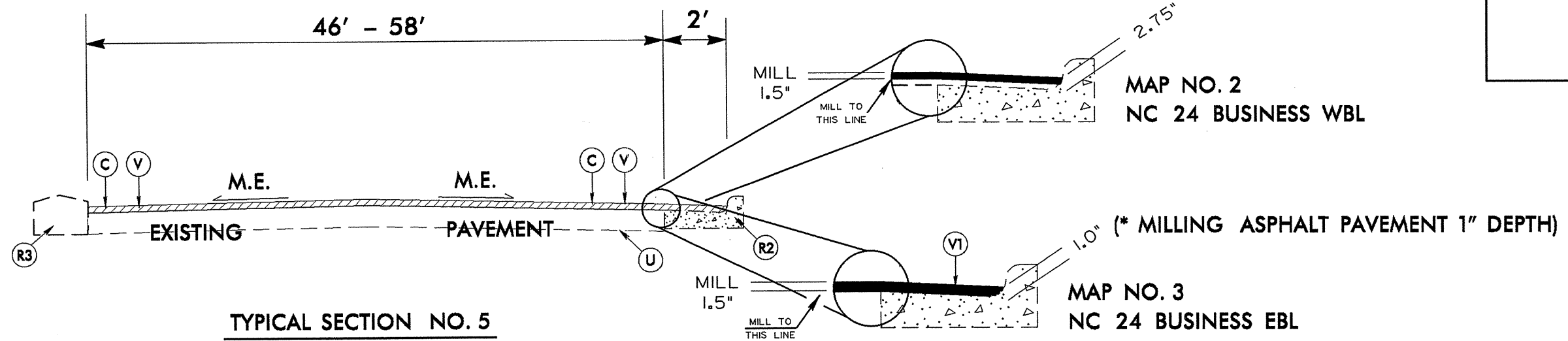
TYPICAL SECTION NO. 4

MAP NO. 2
 NC 24 BUSINESS WBL
 MP 0.23 TO MP 0.35

PAVEMENT SCHEDULE			
C	PROP. APPROX. 1½" DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE 09.0B, AT AN AVERAGE RATE OF 188 LBS. PER SQ. YD.	R3	EXISTING VAR. WIDTH CONCRETE ISLAND
D	PROP. APPROX. 2½" DEPTH ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 119.0B, AT AN AVERAGE RATE OF 285 LBS. PER SQ. YD.	T	EARTH MATERIAL (SHOULDER RECONSTRUCTION)
E	PROP. APPROX. 4" DEPTH ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 458 LBS. PER SQ. YD.	U	EXISTING PAVEMENT.
R	EXISTING 4" ASPHALT CURB	V	VILLING BITUMINOUS PAVEMENT. 1 1/2" DEPTH.
R1	EXISTING 8" X 18" CONCRETE CURB		
R2	EXISTING 2'-6" CURB & GUTTER		

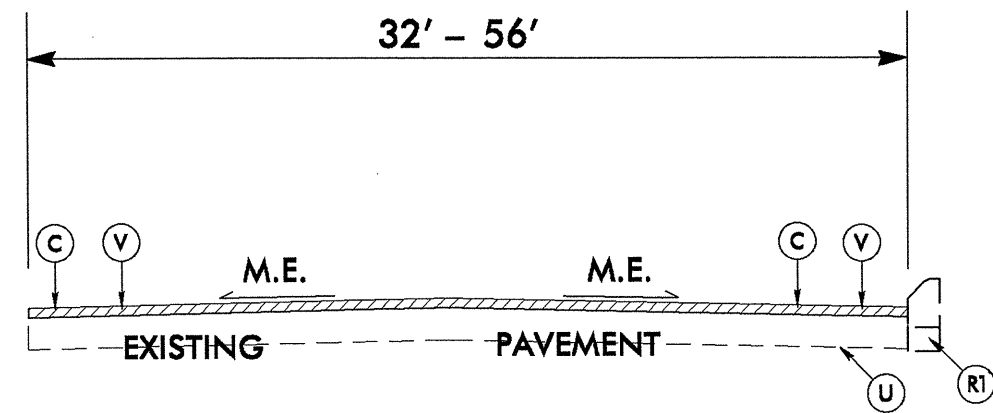
NOTE: PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE.
 SEE STD. DRAWING 1205.01, SHEET 2 OF 2, TABLE 1 FOR EDGE LINE OFFSETS.
 M.E. = MATCH EXISTING

PROJECT REFERENCE NO. 3CR.10671.117, ETC.	SHEET NO. 2-B
R/W SHEET NO.	HYDRAULICS ENGINEER
ROADWAY DESIGN ENGINEER	



MAP NO. 2
NC 24 BUSINESS WBL
MP 0.35 TO MP 0.52

MAP NO. 3
NC 24 BUSINESS EBL
MP 0.11 TO MP 0.48



TYPICAL SECTION NO. 6

MAP NO. 4
NC 210
MP 0.17 TO MP 0.53

PAVEMENT SCHEDULE			
C	PROP. APPROX. 1 1/2" DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE 89.5B, AT AN AVERAGE RATE OF 188 LBS. PER SQ. YD.	R3	EXISTING VAR. WIDTH CONCRETE ISLAND
D	PROP. APPROX. 2 1/2" DEPTH ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 285 LBS. PER SQ. YD.	T	EARTH MATERIAL (SHOULDER RECONSTRUCTION)
E	PROP. APPROX. 4" DEPTH ASPHALT CONCRETE BASE COURSE, TYPE 925.0B, AT AN AVERAGE RATE OF 486 LBS. PER SQ. YD.	U	EXISTING PAVEMENT.
R	EXISTING 4" ASPHALT CURB	V	MILLING BITUMINOUS PAVEMENT. 1 1/2" DEPTH.
R1	EXISTING 6" X 18" CONCRETE CURB	V1	MILLING BITUMINOUS PAVEMENT. 1" DEPTH.
R2	EXISTING 2'-6" CURB & GUTTER		

NOTE: PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE.
SEE STD. DRAWING 1205.01, SHEET 2 OF 2, TABLE 1 FOR EDGE LINE OFFSETS.
M.E. = MATCH EXISTING

REVISIONS

8/17/99

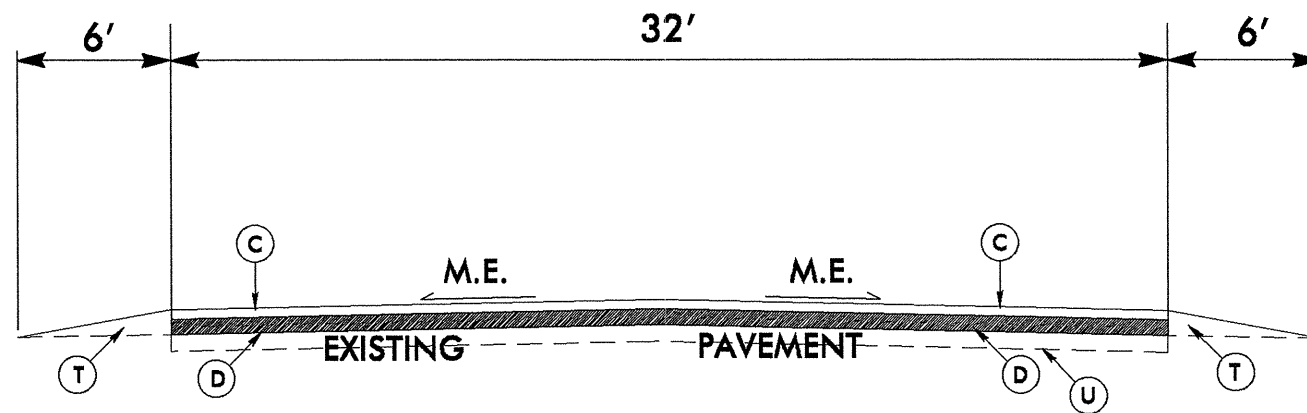
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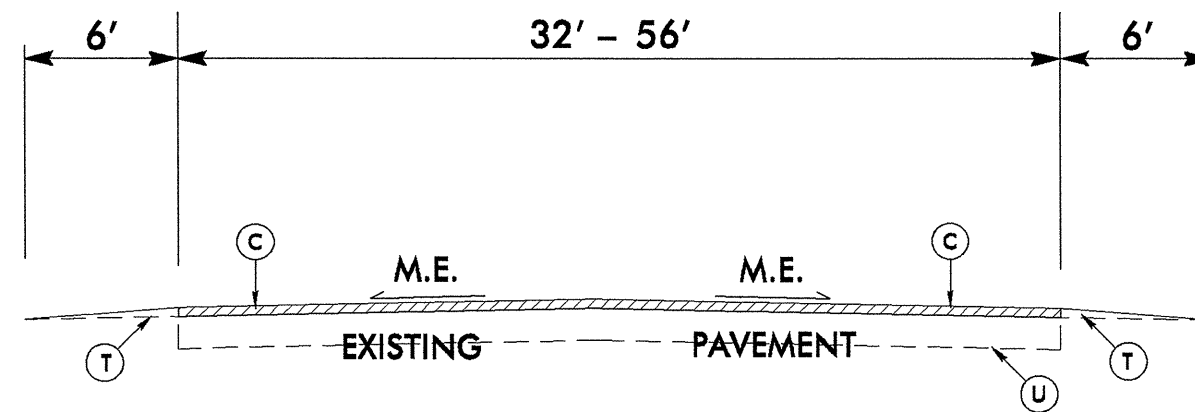
REVISIONS

PROJECT REFERENCE NO. 3CR.10671.117, ETC.	SHEET NO. 2-C
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



TYPICAL SECTION NO. 7

MAP NO. 4
 NC 210
 MP 0.53 TO MP 5.23



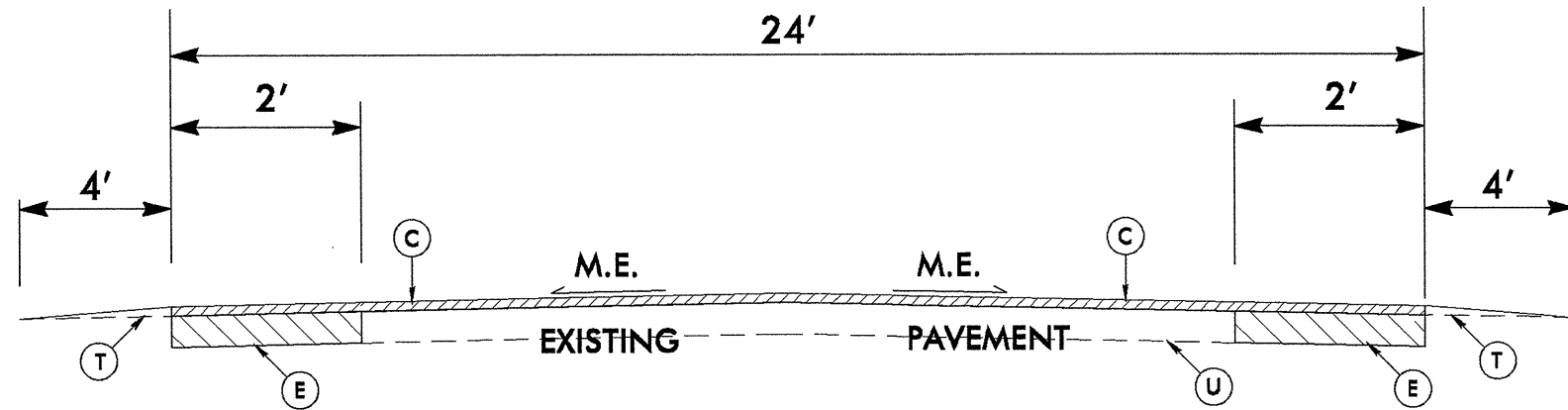
TYPICAL SECTION NO. 8

MAP NO. 4
 NC 210
 MP 5.23 TO MP 6.78

PAVEMENT SCHEDULE			
C	PROP. APPROX. 1 1/4" DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 188 LBS. PER SQ. YD.	R3	EXISTING VAR. WIDTH CONCRETE ISLAND
D	PROP. APPROX. 2 1/4" DEPTH ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 285 LBS. PER SQ. YD.	T	EARTH MATERIAL (SHOULDER RECONSTRUCTION)
E	PROP. APPROX. 4" DEPTH ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.	U	EXISTING PAVEMENT.
R	EXISTING 4" ASPHALT CURB	V	MILLING BITUMINOUS PAVEMENT. 1 1/2" DEPTH.
R1	EXISTING 8" X 18" CONCRETE CURB		
R2	EXISTING 2'-8" CURB & GUTTER		

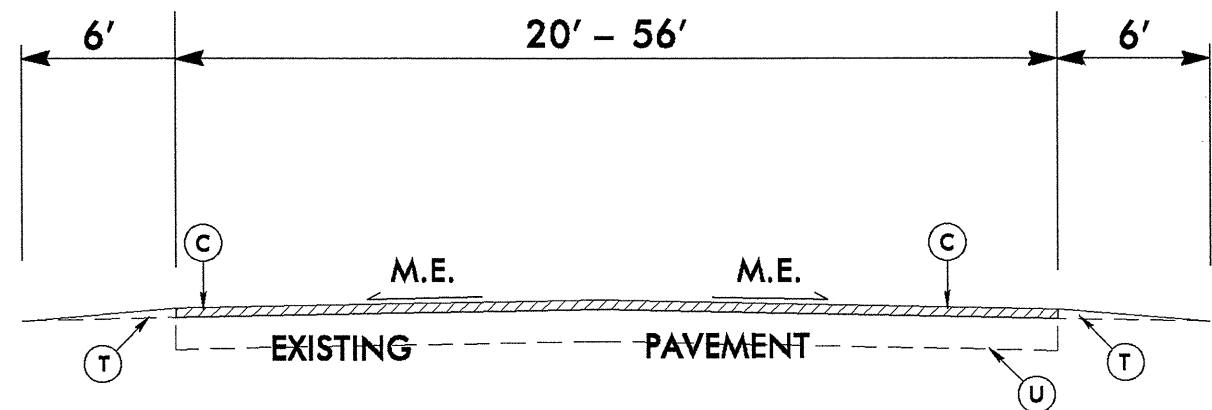
NOTE: PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE.
 SEE STD. DRAWING 1205.01, SHEET 2 OF 2, TABLE 1 FOR EDGE LINE OFFSETS.
 M.E. = MATCH EXISTING

PROJECT REFERENCE NO. 3CR.10671.117, ETC.	SHEET NO. 2-D
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



TYPICAL SECTION NO. 9

MAP NO. 5
SR 1572 (SIDBURY RD.)
MP 0.00 TO MP 1.60



TYPICAL SECTION NO. 10

MAP NO. 6
SR 1107 (DAWSON CABIN RD.)
MP 0.00 TO MP 4.44

MAP NO. 7
SR 1423 (OLD 30 RD.)
MP 0.00 TO MP 2.50

MAP NO. 8
SR 1423 (OLD 30 RD.)
MP 0.00 TO MP 0.65

MAP NO. 9
SR 1411 (OLD 30 RD./WATERS RD.)
MP 0.00 TO MP 0.98

MAP NO. 11
SR 1308 (GUM BRANCH RD.)
MP 0.00 TO MP 4.70
MP 4.70 TO MP 4.95 NO WORK
MP 4.95 TO MP 5.79

PAVEMENT SCHEDULE			
C	PROP. APPROX. 1 1/4" DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE 89.0B, AT AN AVERAGE RATE OF 188 LBS. PER SQ. YD.	R3	EXISTING VAR. WIDTH CONCRETE ISLAND
D	PROP. APPROX. 2 1/4" DEPTH ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 119.0B, AT AN AVERAGE RATE OF 285 LBS. PER SQ. YD.	T	EARTH MATERIAL (SHOULDER RECONSTRUCTION)
E	PROP. APPROX. 4" DEPTH ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.	U	EXISTING PAVEMENT.
R	EXISTING 4" ASPHALT CURB	V	WILLING BITUMINOUS PAVEMENT. 1 1/2" DEPTH.
R1	EXISTING 8" X 18" CONCRETE CURB		
R2	EXISTING 2'-6" CURB & GUTTER		

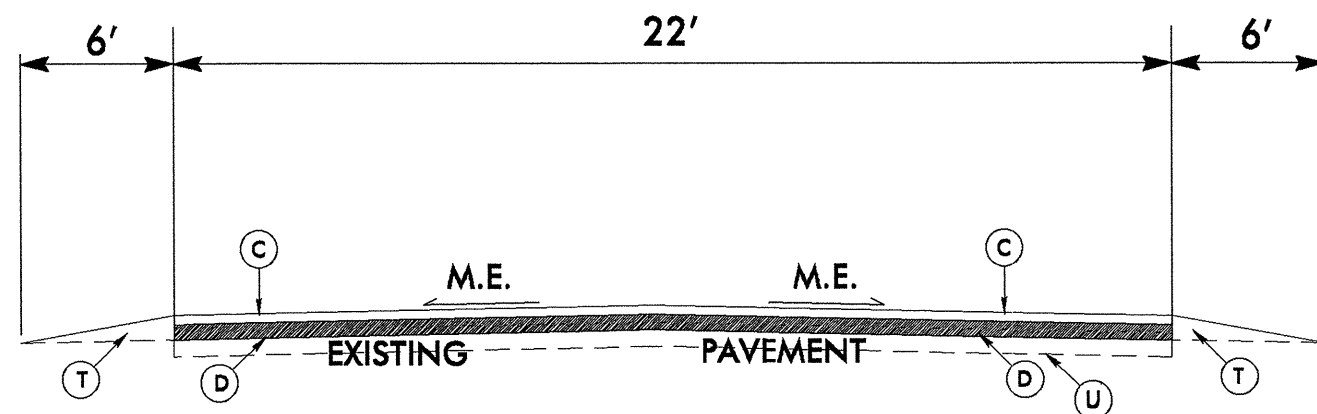
NOTE: PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE.
SEE STD. DRAWING 1205.01, SHEET 2 OF 2, TABLE 1 FOR EDGE LINE OFFSETS.
M.E. = MATCH EXISTING

REVISIONS

8/17/99

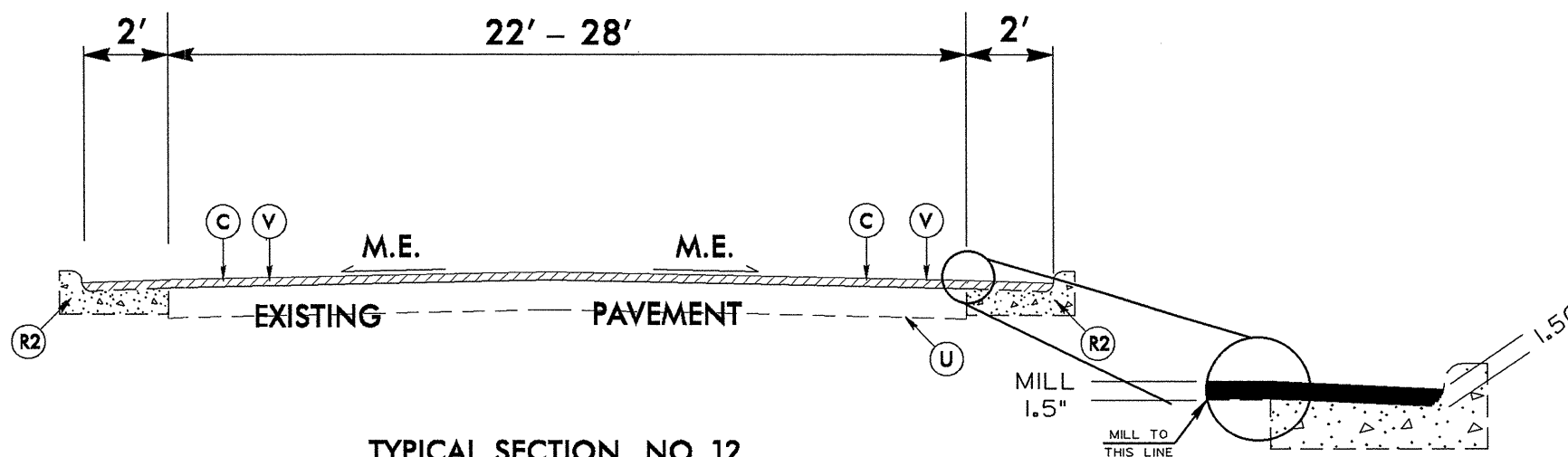
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PROJECT REFERENCE NO. 3CR.10671.117, ETC.	SHEET NO. 2-E
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



TYPICAL SECTION NO. 11

MAP NO. 10
SR 1407 (WOLF SWAMP RD.)
MP 0.00 TO MP 1.17



TYPICAL SECTION NO. 12

MAP NO. 11
SR 1308 (GUM BRANCH RD.)
MP 5.79 TO MP 5.95

PAVEMENT SCHEDULE			
C	PROP. APPROX. 1 1/2" DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE 89.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.	R3	EXISTING VAR. WIDTH CONCRETE ISLAND
D	PROP. APPROX. 2 1/2" DEPTH ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 119.0B, AT AN AVERAGE RATE OF 285 LBS. PER SQ. YD.	T	EARTH MATERIAL (SHOULDER RECONSTRUCTION)
E	PROP. APPROX. 4" DEPTH ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 486 LBS. PER SQ. YD.	U	EXISTING PAVEMENT.
R	EXISTING 4" ASPHALT CURB	V	MILLING BITUMINOUS PAVEMENT, 1 1/2" DEPTH.
R1	EXISTING 8" X 18" CONCRETE CURB		
R2	EXISTING 2'-8" CURB & GUTTER		

NOTE: PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE.
SEE STD. DRAWING 1205.01, SHEET 2 OF 2, TABLE 1 FOR EDGE LINE OFFSETS.
M.E. = MATCH EXISTING

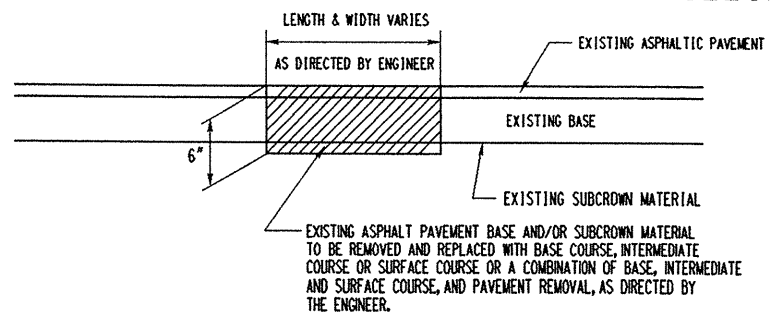
REVISIONS

8/17/99

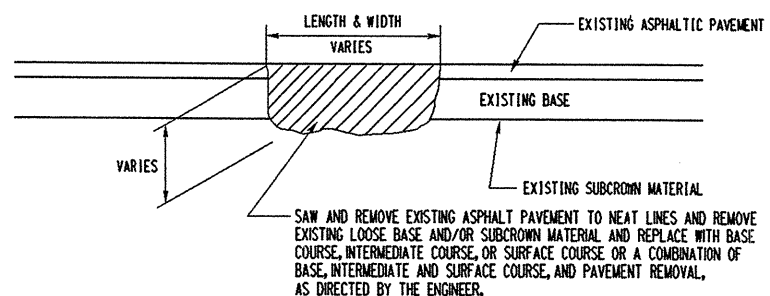
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8/17/09
 REVISIONS
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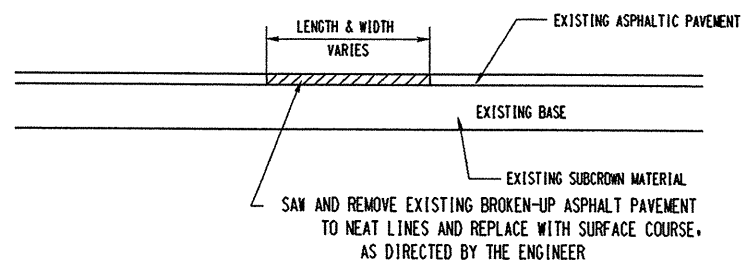
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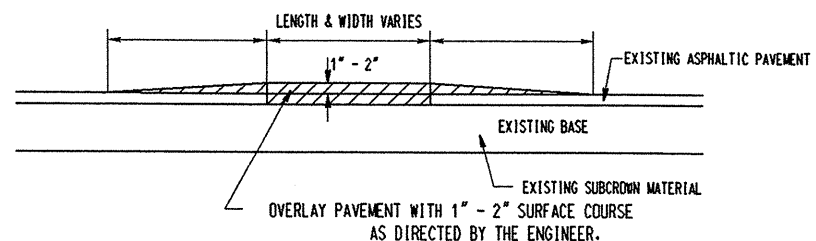
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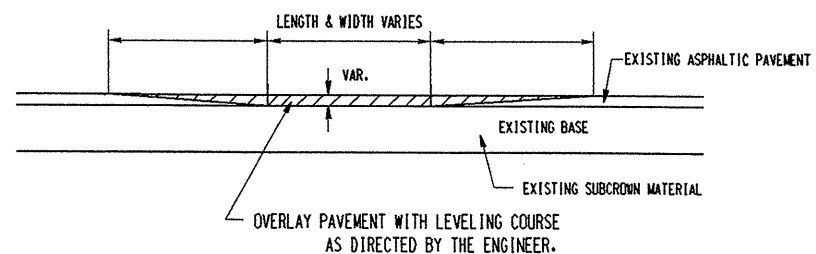
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DETAIL NO. 3

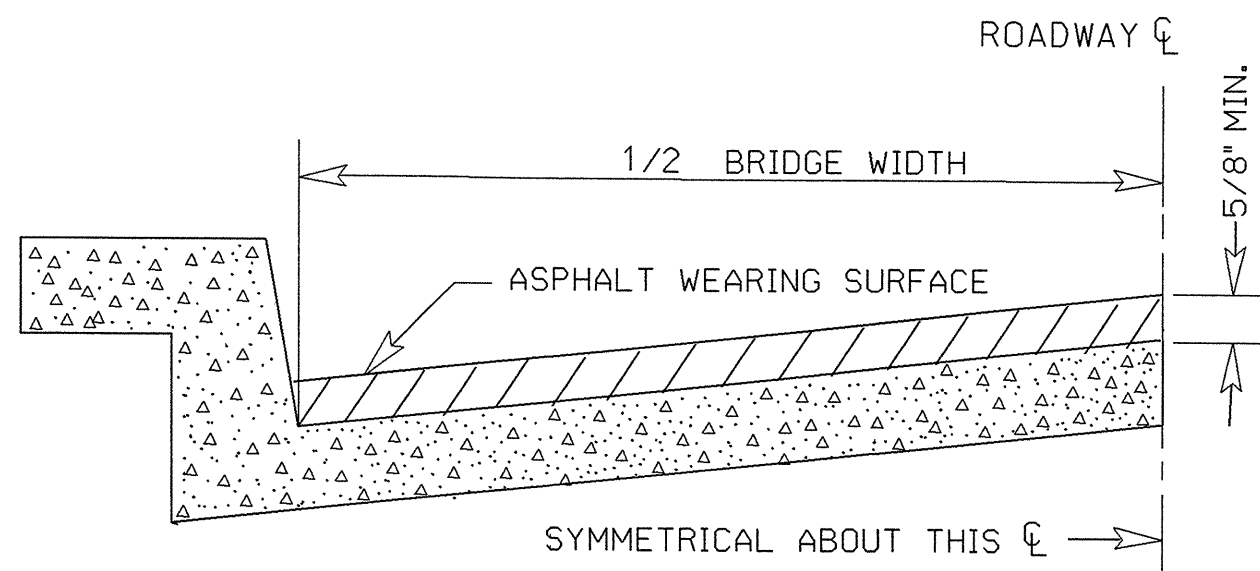
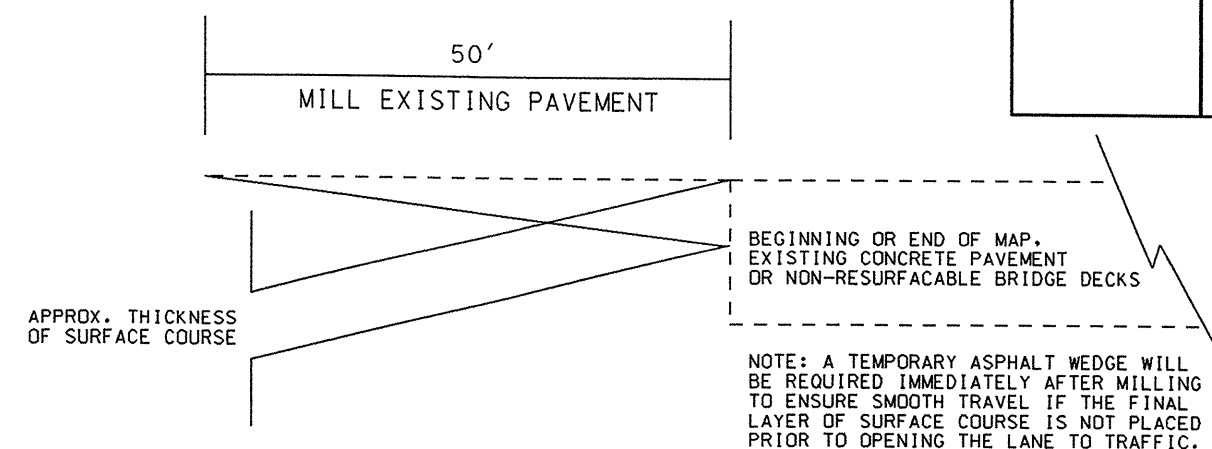


DETAIL NO. 4



DETAIL NO. 5

PROJECT REFERENCE NO. 3CR.10671.117, ETC.	SHEET NO. 2-F
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



BRIDGE HALF TYPICAL SECTION

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

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

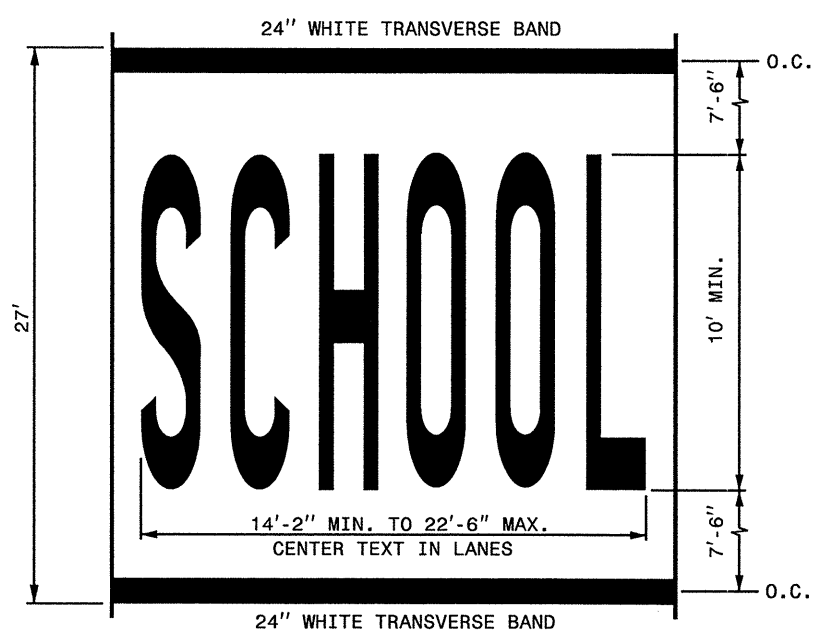
STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

1-12

ENGLISH DETAIL DRAWING FOR
PAVEMENT MARKINGS
SYMBOLS AND WORD MESSAGES

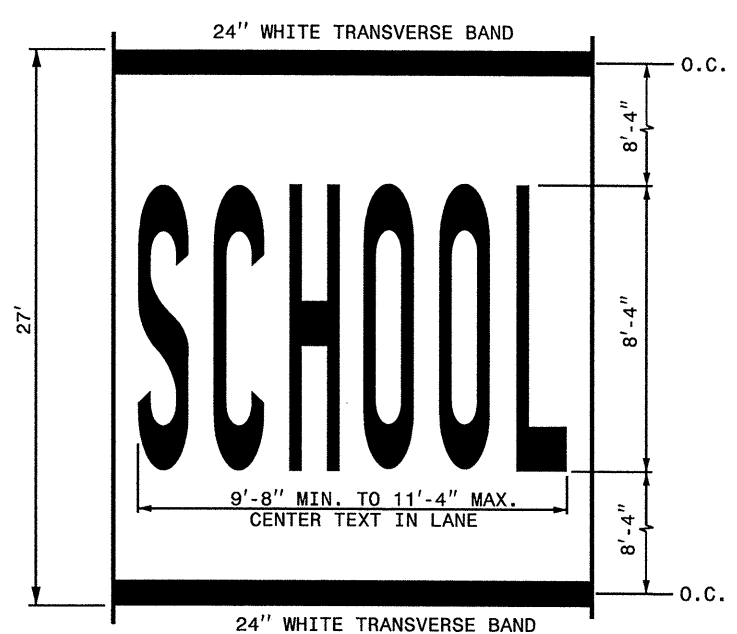
REVISED 9/14/11
SHEET 3 OF 8
1205D08

MULTI-LANE WIDTH "SCHOOL"

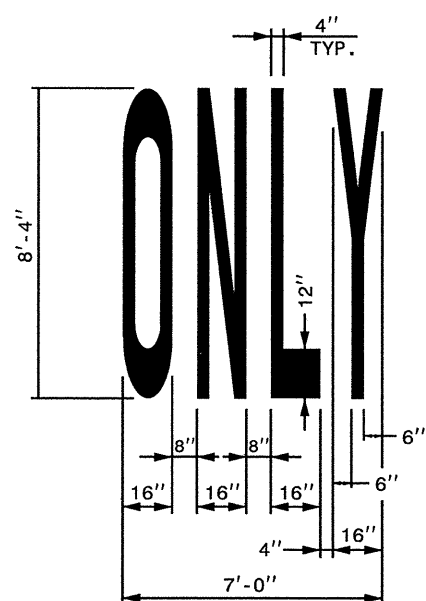


LETTER HEIGHT = 10' MIN.
LETTER WIDTH = 20"
SPACING = 10" MIN./30" MAX. (USE EQUAL SPACING BETWEEN LETTERS)
NOTE: THE TWO-LANE PAVEMENT MARKING DIMENSIONS OF "SCHOOL" SHOWN IN PART 7 OF THE MUTCD MAY ALSO BE USED.

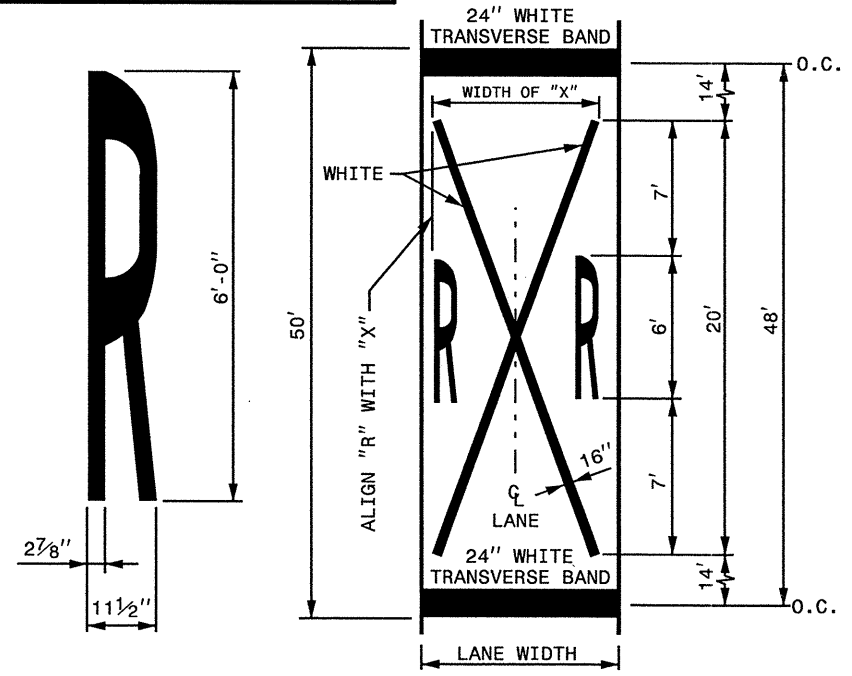
SINGLE LANE WIDTH "SCHOOL"



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



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
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1-12

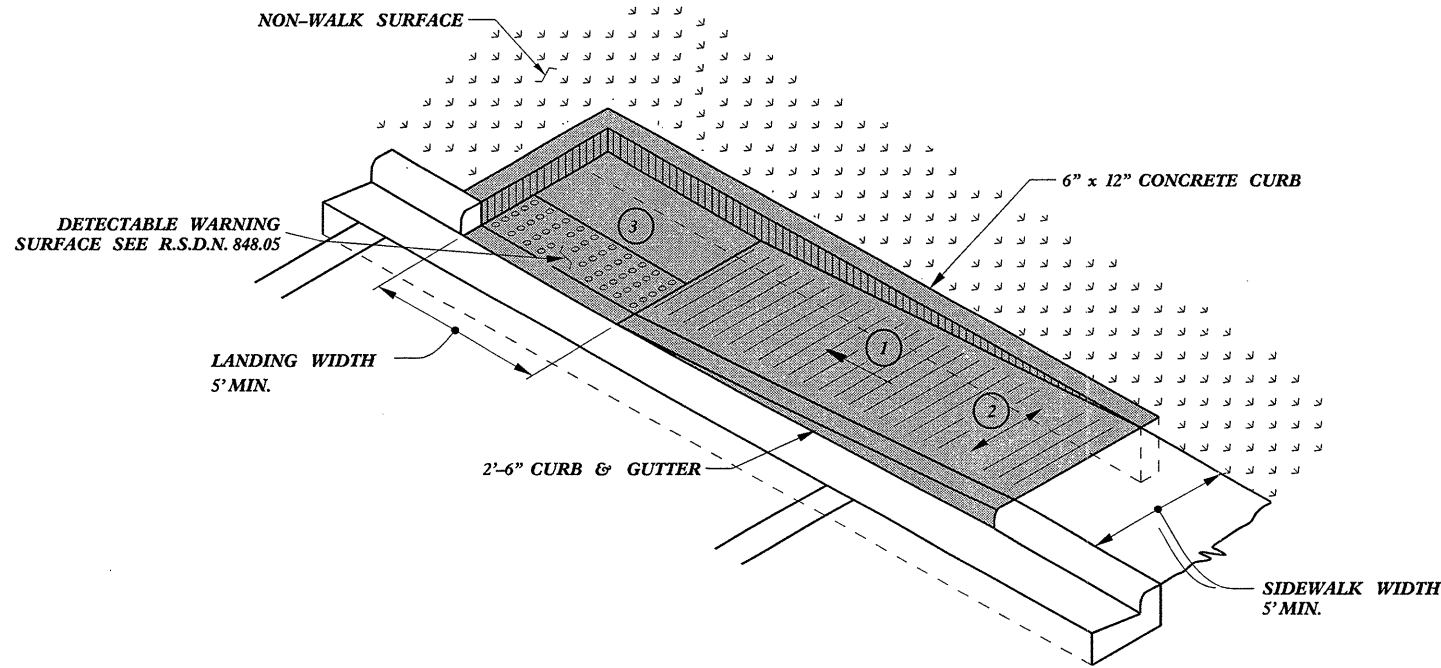
ENGLISH DETAIL DRAWING FOR
PAVEMENT MARKINGS
SYMBOLS AND WORD MESSAGES

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

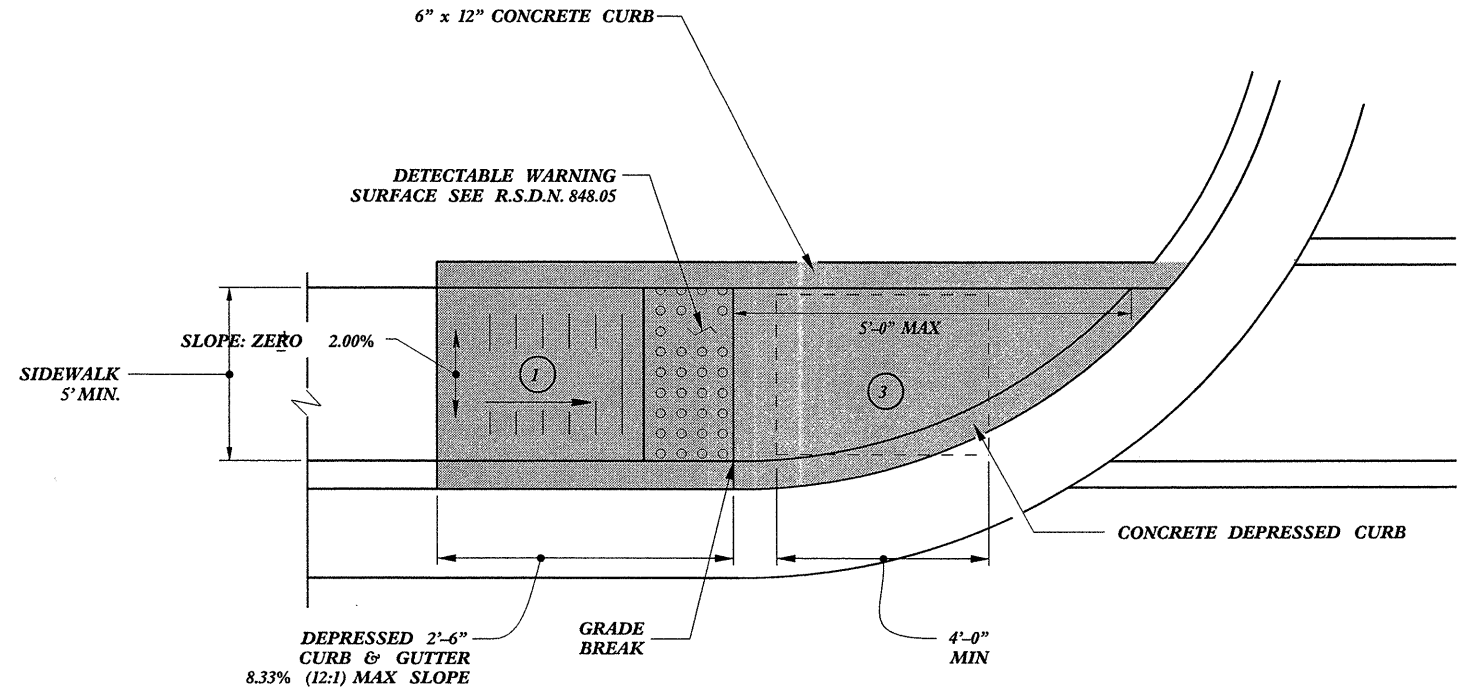
CONTRACT STANDARDS AND DEVELOPMENT UNIT
Office 919-707-6950 FAX 919-250-4119

SEE TITLE BLOCK

ORIGINAL BY: J. HOWERTON DATE: 10/5/11
MODIFIED BY: DATE:
CHECKED BY: DATE:
FILE SPEC: s:\joe1\12 Stds to Special Details\560d01



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.

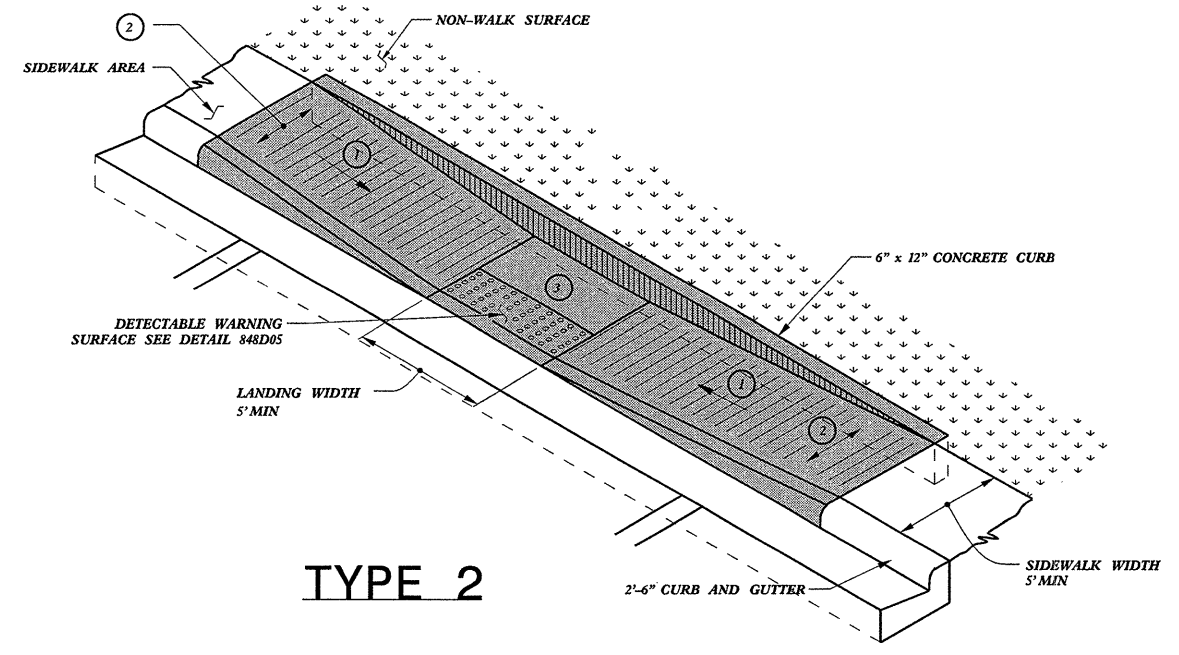
PAY LIMITS FOR CURB RAMP

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.dgn	


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

14-SEP-2011 08:03 5:\Contracts\2011\Standard Drawings\2012 Standard Drawings\2012 Curb Ramp Special Details\Curb Ramp Details.dgn jhowerton AT CS023750

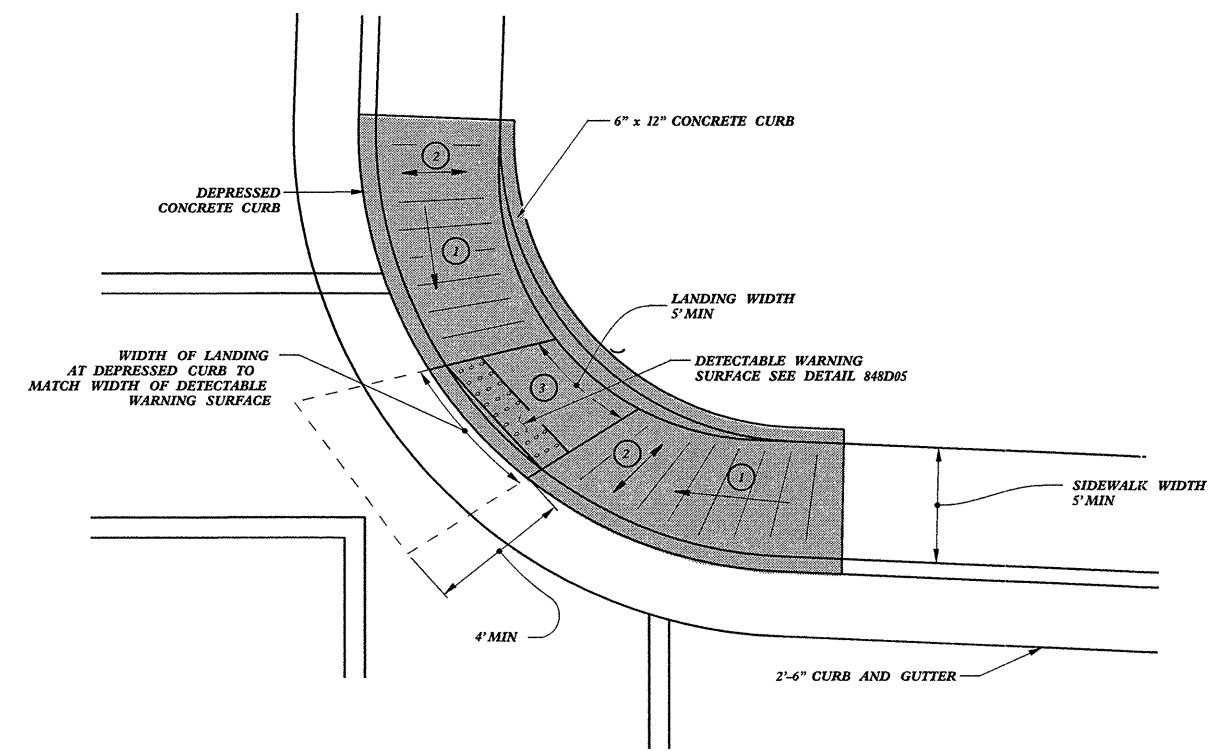
5/14/99



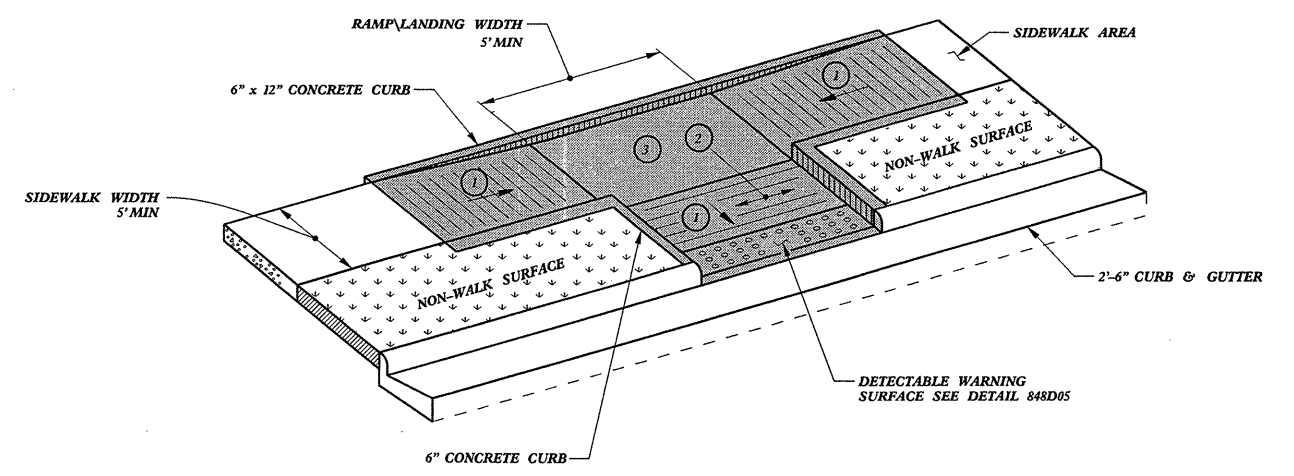
TYPE 2

 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

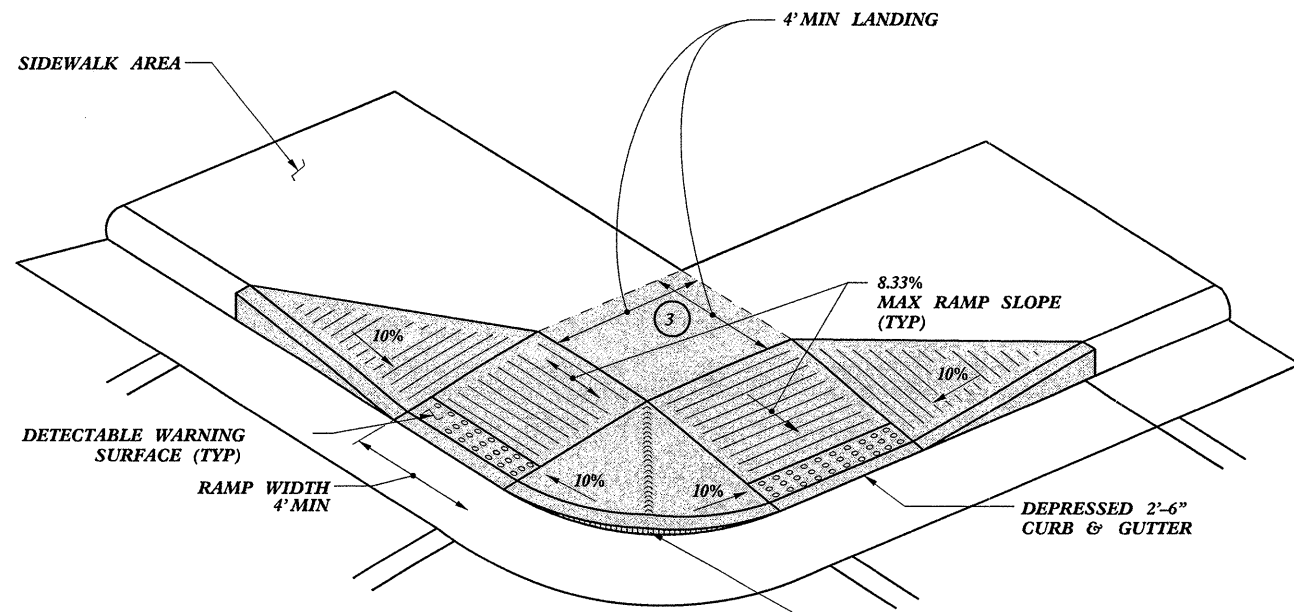


TYPE 3

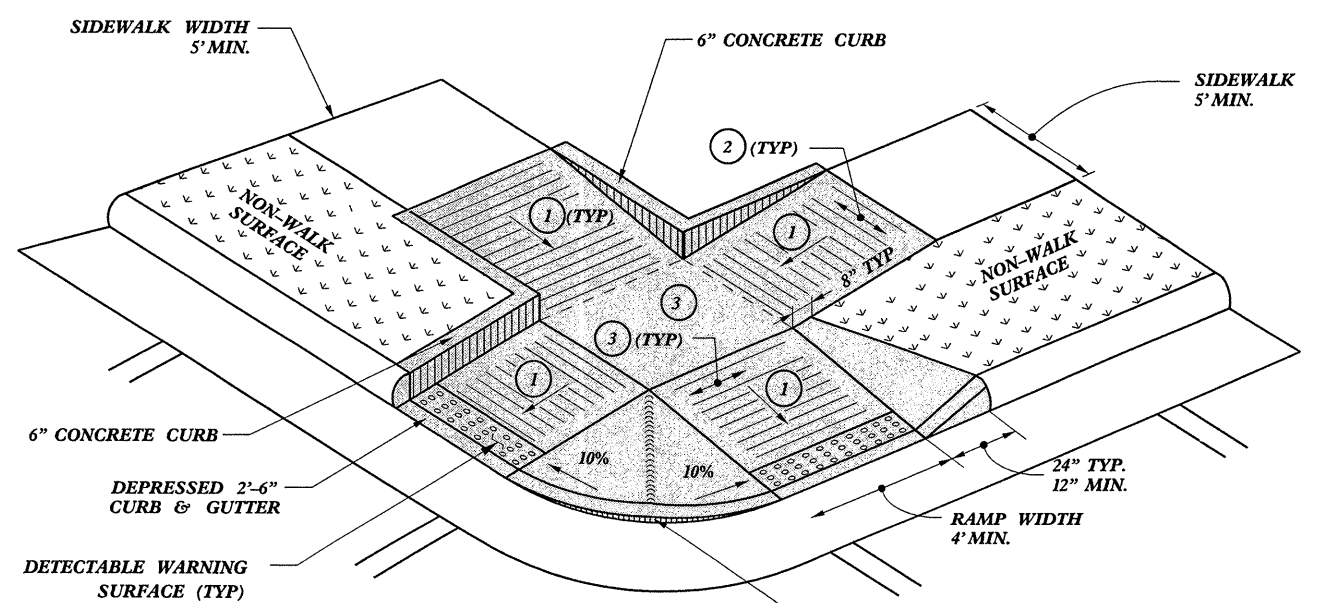
CONTRACT STANDARDS AND DEVELOPMENT UNIT	
Office 919-707-6950 FAX 919-250-4119	
CURB RAMPS	
Parallel Ramps	
ORIGINAL BY: J.S. HOWERTON	DATE: 7/7/11
MODIFIED BY:	DATE:
CHECKED BY:	DATE:
FILE SPEC: stds/2012CurbRamp/CurbRampDetails.dwg	

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

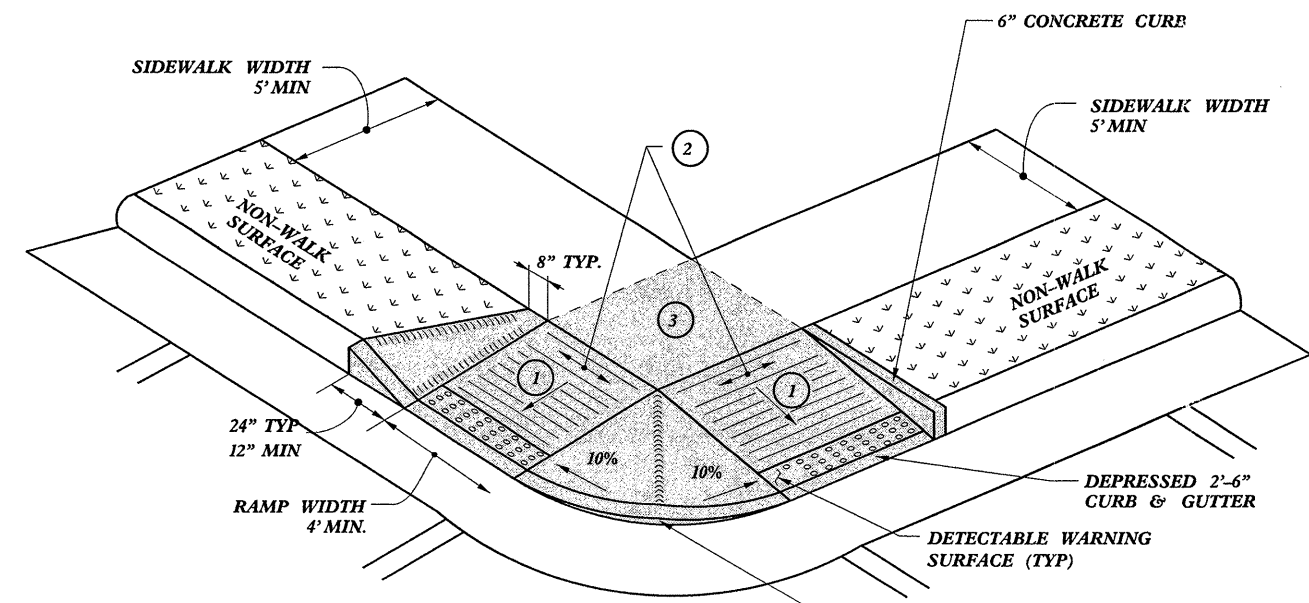
14-SEP-2011 08:04 S:\Contracts\2011\Standard Drawings\2012 Curb Ramp Special Details\Curb Ramp Details.dgn J.Howerton AT CSD237501



TYPE 4



TYPE 5



TYPE 4A

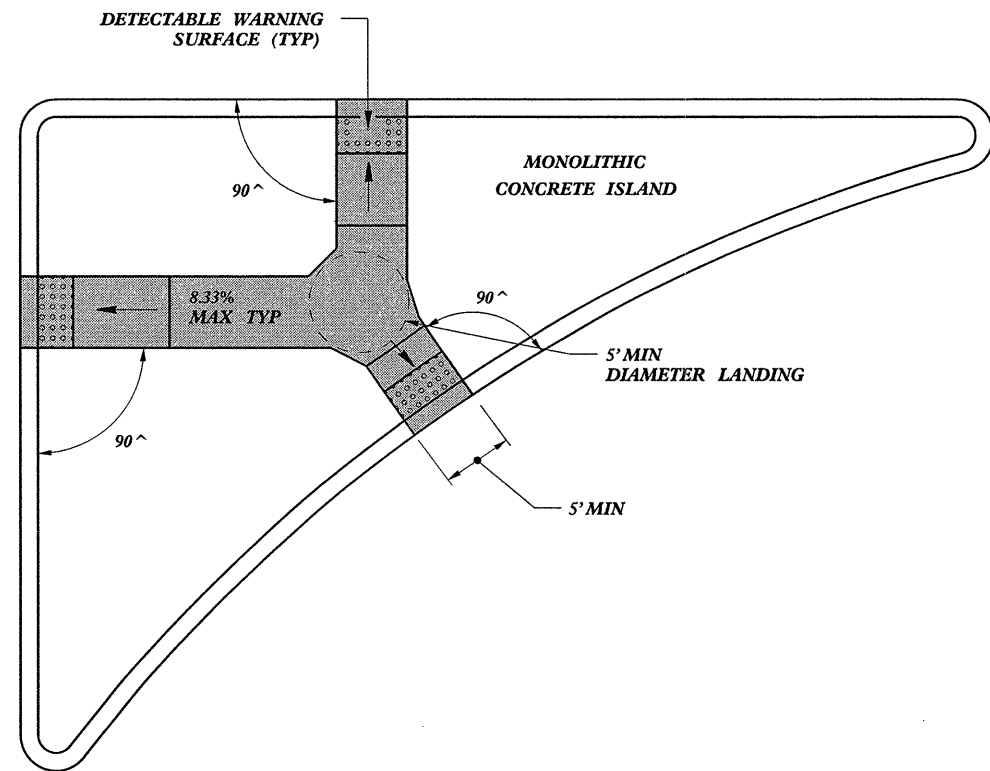
- ① 8.33% (12:1) MAX RAMP SLOPE
- ② CROSS SLOPE: 2.00%
- ③ CURB RAMPS REQUIRE A (4'-0") MINIMUM LANDING WITH A MAXIMUM CROSS SLOPE AND LONGITUDINAL SLOPE OF 2.00% WHERE PEDESTRIANS PERFORM TURNING MANEUVERS. SLOPE TO DRAIN TO CURB.

PAY LIMITS FOR CURB RAMP

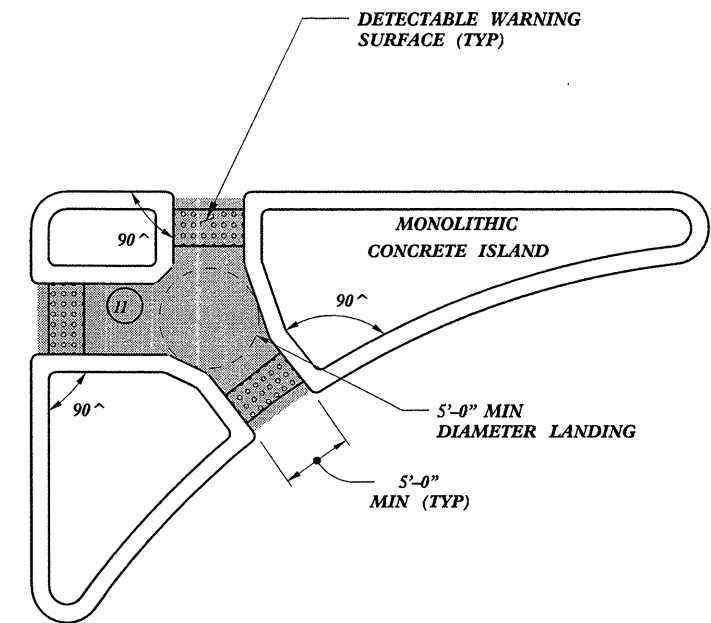
CONTRACT STANDARDS AND DEVELOPMENT UNIT	
Office 919-707-6950 FAX 919-250-4119	
CURB RAMPS	
Shared Landing	
ORIGINAL BY: J.S. HOWERTON	DATE: 7/7/11
MODIFIED BY:	DATE:
CHECKED BY:	DATE:
FILE SPEC: stds/2012CurbRamp/CurbRampDetails.dwg	

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

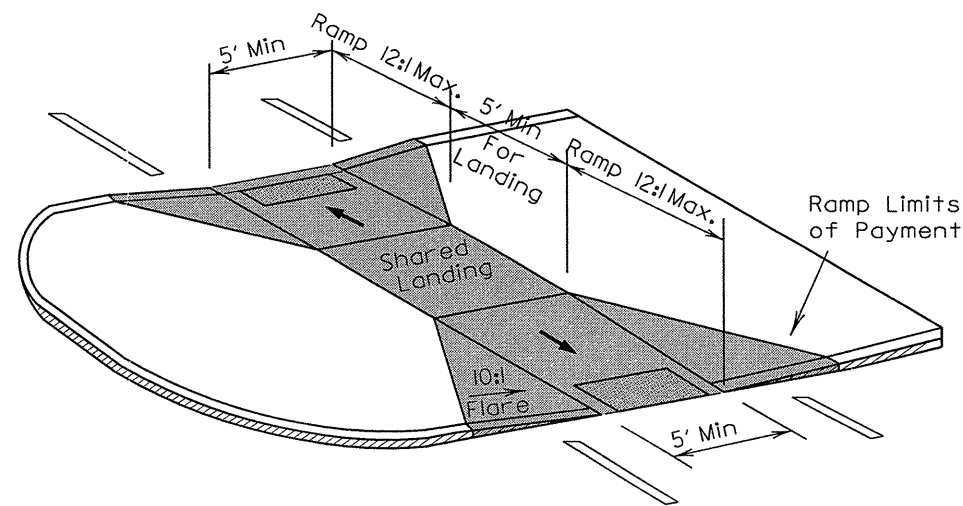
16-SEP-2011 15:06 S:\Contracts\2012\Special Details\Howerton\Standard Drawings\2012 Curb Ramp Special Details\Curb Ramp Details.dwg



LARGE ISLAND CURB RAMPS



SMALL ISLAND WITH CUT THROUGH



MEDIAN ISLAND CURB RAMPS

-SEE ROADWAY DETAIL DRAWING 848D05 FOR DETECTABLE WARNING SURFACE AND FOR RAMP NOTES.

-SEE ROADWAY STANDARD DRAWING 852.01 FOR CONCRETE ISLAND DIMENSIONS.

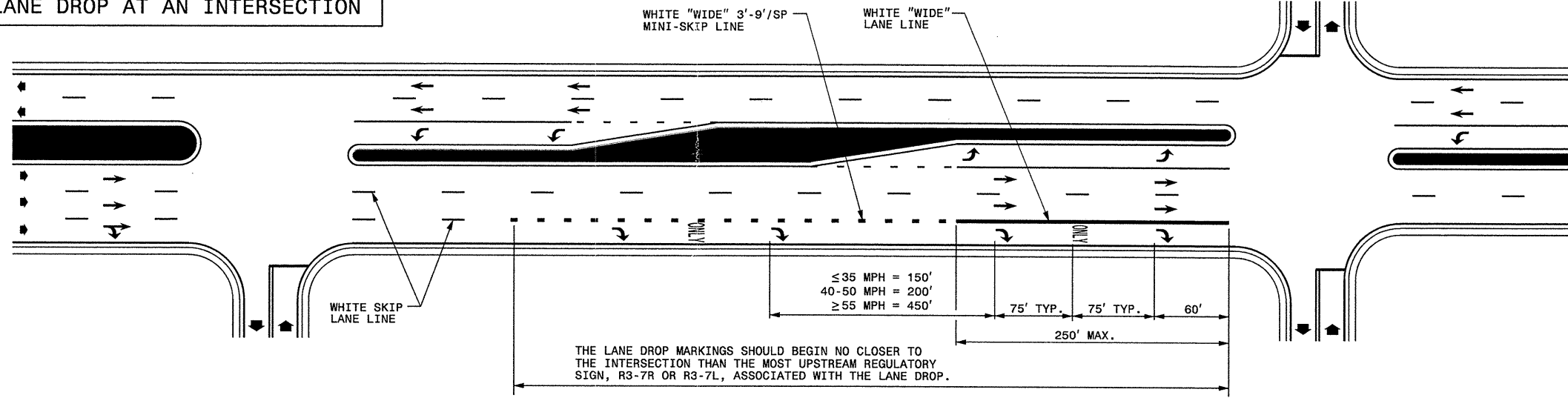
CONTRACT STANDARDS AND DEVELOPMENT UNIT	
Office 919-707-6950 FAX 919-250-4119	
CURB RAMPS	
Median or Turn Lane Islands	
ORIGINAL BY: J.S. HOWERTON	DATE: 7/7/11
MODIFIED BY:	DATE:
CHECKED BY:	DATE:
FILE SPEC: stds/2012CurbRamp/CurbRampDetails.dgn	

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 J.Howerton
 5/14/99

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

1-12

LANE DROP AT AN INTERSECTION

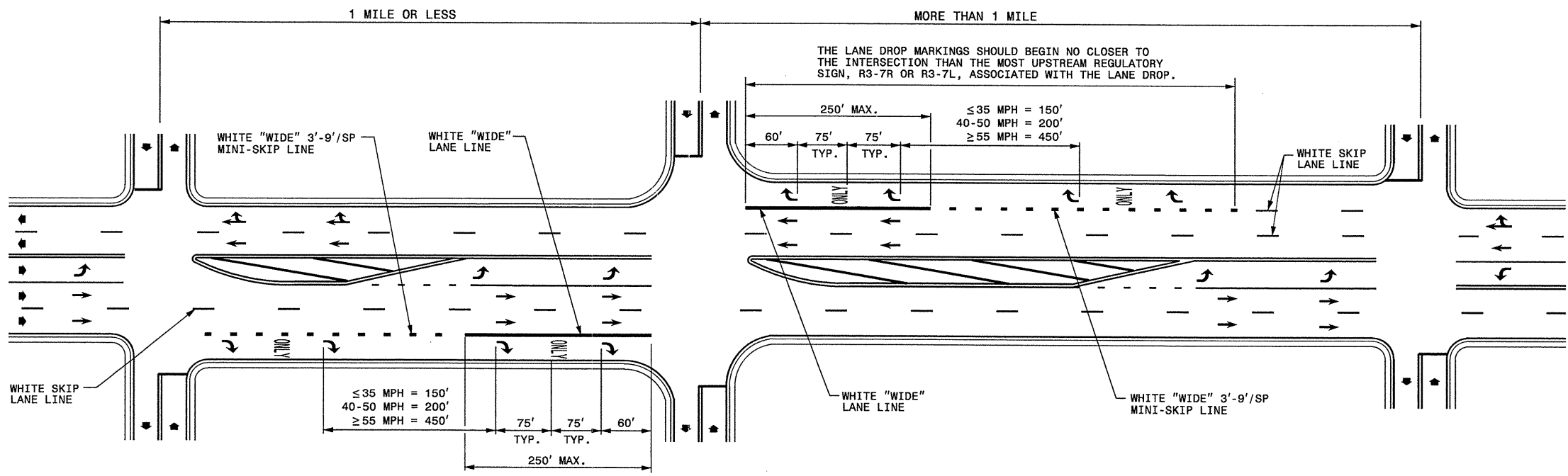


STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

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

CONTRACT STANDARDS AND DEVELOPMENT UNIT
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SEE TITLE BLOCK

ORIGINAL BY: J. HOWERTON DATE: 10/5/11
MODIFIED BY: DATE:
CHECKED BY: DATE:
FILE SPEC.: s:\joe1/12 Stds to Special Details/569d01

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PROJECT NO.	SHEET NO.	TOTAL NO.
3CR.10671.117, 3CR.20711.117	3	
3CR.20671.117,		

SUMMARY OF QUANTITIES

PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	TYP	FINAL SURFACE TESTING REQUIRED	LENGTH MI	WIDTH FT	BORROW EXC. CY	REMOVE & REPLACE SIDEWALK SY	INC. STONE BASE TONS	SHOULDER RECONST. SMI	1 1/2" MILLING SY	1" MILLING SY	INC. MILLING SY	BASE COURSE, B25.0B TONS	INT. COURSE, I19.0B TONS	SURFACE COURSE, S9.5B TONS	ASPHALT BINDER FOR PLANT MIX TON	PATCHING EXISTING PAVEMENT (MILL), S9.5B TON	PATCHING EXISTING PAVEMENT (FULL DEPTH) TON	CONCRETE CURB RAMPS EA	INC. CONC SY	2'-6" CURB & GUTTER, REMOVE AND REPLACE LF	ADJ. OF MANHOLES EA	ADJ. OF METER OR VALVE BOX EA	STEEL BM GR LF	GR ANCHOR UNITS, TYPE 350 EA	GR ANCHOR UNITS, TYPE B-83 EA							
3CR.10671.117	Onslow	1	NC 24 BUSINESS (UNDIVIDED)	US 17 BUSINESS TO BEG. DIVIDED HWY. 8 NON-SYSTEM INTERSECTIONS (MP 0.00 - 0.50)		NO	0	1		140																										
		"	"	MILL & FILL IN TAPERS 62'-89' (MP 0.00-0.03)	1	NO	0.03	77.5					1,364					133	8																	
		"	"	MILL & FILL IN TAPERS 89'-68' (MP 0.03-0.04)	2	NO	0.01	82.5					484					47	3																	
		"	"	MILL & FILL FULL WIDTH 72' (MP 0.04-0.50)	2	NO	0.46	72					19,430					1,884	113																	
TOTAL FOR MAP NO. 1							0.5			140			21,278		3,200			2,339	141	200	50	8		150	5	10										
3CR.10671.117	Onslow	2	NC 24 BUSINESS - WBL	0.13 MI. WEST OF US 17 OVERPASS TO END DIVIDED HWY. (MP 0.00 - 0.52) AND 3 NON-SYSTEM INTERSECTIONS		NO	0	1		25	25				2,300			200	12	125	50	3		30	3	6										
		"	"	MILL & FILL FULL WIDTH 44' (MP 0.00-0.04)	3	NO	0.04	44					1,033					100	6																	
		"	"	MILL & FILL FULL WIDTH 38' (MP 0.04-0.19)	3	NO	0.15	38					3,344					324	19																	
		"	"	MILL & FILL FULL WIDTH 34' (MP 0.19-0.20)	3	NO	0.01	34					200					19	1																	
		"	"	MILL & FILL IN TAPERS 34'-46' (MP 0.20-0.23)	3	NO	0.03	40					704					68	4																	
		"	"	MILL & FILL FULL WIDTH 46' (MP 0.23-0.28)	4	NO	0.05	46					1,349					131	8																	
		"	"	MILL & FILL IN TAPERS 46'-58' (MP 0.28-0.31)	4	NO	0.03	52					915					89	5																	
		"	"	MILL & FILL FULL WIDTH 58' (MP 0.31-0.35)	4	NO	0.04	58					1,361					132	8																	
		"	"	MILL & FILL FULL WIDTH 54' (MP 0.35-0.45)	5	NO	0.1	54					3,168					307	18																	
		"	"	MILL & FILL FULL WIDTH 40' (MP 0.45-0.52)	5	NO	0.07	42					1,725					167	10																	
TOTAL FOR MAP NO. 2							0.52			25	25		13,799		2,300			1,537	91	125	50	3		30	3	6										
3CR.10671.117	Onslow	3	NC 24 BUSINESS - EBL	BEG. DIVIDED HWY. TO 0.13 MI. WEST OF US 17 OVERPASS (MP 0.00 - 0.54) AND 2 NON-SYSTEM INTERSECTIONS		NO	0	1							2,300			200	12	150	25					2	2									
		"	"	MILL & FILL FULL WIDTH 35' (MP 0.00-0.11)	1	NO	0.11	35					2,259					219	13																	
		"	"	MILL & FILL FULL WIDTH 46' (MP 0.11-0.20)	5	NO	0.09	46					2,429	106				246	15																	
		"	"	MILL & FILL IN TAPERS 46'-58' (MP 0.20-0.22)	5	NO	0.02	52					610	23				61	4																	
		"	"	MILL & FILL FULL WIDTH 58' (MP 0.22-0.27)	5	NO	0.05	58					1,701	59				171	10																	
		"	"	MILL & FILL FULL WIDTH 48' (MP 0.27-0.48)	5	NO	0.21	48					5,914	246				598	36																	
		"	"	MILL & FILL FULL WIDTH 48' (MP 0.48-0.50)	3	NO	0.02	48					563					55	3																	
		"	"	MILL & FILL FULL WIDTH 40' (MP 0.50-0.54)	3	NO	0.04	40					939					91	5																	
TOTAL FOR MAP NO. 3							0.54						14,415	434	2,300			1,641	98	150	25					2	2									
3CR.10671.117	Onslow	4	NC 210	I.C.W. BRIDGE (BRIDGE NO. 28) TO PENDER COUNTY LINE (MP 0.00 - 6.78) AND 82 NON-SYSTEM INTERSECTIONS		NO	0	1			1,000				500			300	18	200	50					28	1,720.00	2.00	2.00							
		"	"	MILL & FILL FULL WIDTH 42' (MP 0.00-0.15)	3	NO	0.15	42					3,696					358	21																	
		"	"	MILL & FILL FULL WIDTH 32' (MP 0.15-0.17)	3	NO	0.02	32					376					36	2																	
		"	"	MILL & FILL FULL WIDTH 32' (MP 0.17-0.19, 0.43-0.53)	6	NO	0.12	32					2,253					218	13																	
		"	"	MILL & FILL IN TAPERS 32'-44' (MP 0.19-0.25)	6	NO	0.06	38					1,338					130	8																	
		"	"	MILL & FILL FULL WIDTH 44' (MP 0.25-0.34)	6	NO	0.09	44					2,323					225	14																	
		"	"	MILL & FILL FULL WIDTH 56' (MP 0.34-0.36)	6	NO	0.02	56					657					64	4																	
		"	"	MILL & FILL IN TAPERS 56'-32' (MP 0.36-0.43)	6	NO	0.07	44					1,807					175	11																	
		"	"	MILL & FILL FULL WIDTH 32' (MP 0.53-5.23)	7	NO	4.7	32	5,259			9.40					13,921	8,557	1,182																	
		"	"	MILL & FILL IN TAPERS 32'-56' (MP 5.23-5.34, 5.38-5.49)	8	NO	0.22	44	92			0.44						550	33																	
		"	"	MILL & FILL FULL WIDTH 56' (MP 5.34-5.38)	8	NO	0.04	56	17			0.08						127	8																	
		"	"	MILL & FILL FULL WIDTH 32' (MP 5.49-6.78)	8	NO	1.29	32	542			2.58						2,349	141																	
TOTAL FOR MAP NO. 4							6.78		5,910		1,000	12.50	12,450		500		13,921	13,089	1,455	200	50				28	1,720.00	2.00	2.00								
TOTAL FOR PROJ NO. 3CR.10671.117							8.34		5,910	165	1,025	12.50	61,942	434	8,300		13,921	18,606	1,785	675	175	11		180	10	46	1,720.00	2.00	2.00							

PROJECT NO.	SHEET NO.	TOTAL NO.
3CR.10671.117, 3CR.20711.117	4	
3CR.20671.117,		

SUMMARY OF QUANTITIES

PROJECT NO.	COUNTY	MAP NO.	ROUTE	DESCRIPTION	TYP	FINAL SURFACE TESTING REQUIRED	LENGTH MI	WIDTH FT	REMOVE EXISTING GR LF	PORTABLE LIGHTING LS	TEMP. SILT FENCE LF	STONE FOR EC CLASS B TON	SEDIMENT CONTROL STONE TON	TEMP. MULCHING ACR	MATTING (EROSION CONTROL) SY	1/4" HARDWARE CLOTH LF	WATTLE LF	SEED & MULCHING AC	SEED FOR REPAIR SEEDING LB	FERTILIZER FOR REPAIR SEEDING TON	JUNCTION BOX (STANDARD SIZE) EA	INDUCTIVE LOOP LF	LEAD-IN CABLE (14-2) LF
3CR.10671.117	Onslow	1	NC 24 BUSINESS (UNDIVIDED)	US 17 BUSINESS TO BEG. DIVIDED HWY. 8 NON-SYSTEM INTERSECTIONS (MP 0.00 - 0.50)		NO	0	1													5.00	2,650	500
		"	"	MILL & FILL IN TAPERS 62'-89' (MP 0.00-0.03)	1	NO	0.03	77.5															
		"	"	MILL & FILL IN TAPERS 89'-68' (MP 0.03-0.04)	2	NO	0.01	82.5															
		"	"	MILL & FILL FULL WIDTH 72' (MP 0.04-0.50)	2	NO	0.46	72															
TOTAL FOR MAP NO. 1							0.5														5.00	2,650	500
3CR.10671.117	Onslow	2	NC 24 BUSINESS - WBL	0.13 MI. WEST OF US 17 OVERPASS TO END DIVIDED HWY. (MP 0.00 - 0.52) AND 3 NON-SYSTEM INTERSECTIONS		NO	0	1														800	200
		"	"	MILL & FILL FULL WIDTH 44' (MP 0.00-0.04)	3	NO	0.04	44															
		"	"	MILL & FILL FULL WIDTH 38' (MP 0.04-0.19)	3	NO	0.15	38															
		"	"	MILL & FILL FULL WIDTH 34' (MP 0.19-0.20)	3	NO	0.01	34															
		"	"	MILL & FILL IN TAPERS 34'-46' (MP 0.20-0.23)	3	NO	0.03	40															
		"	"	MILL & FILL FULL WIDTH 46' (MP 0.23-0.28)	4	NO	0.05	46															
		"	"	MILL & FILL IN TAPERS 46'-58' (MP 0.28-0.31)	4	NO	0.03	52															
		"	"	MILL & FILL FULL WIDTH 58' (MP 0.31-0.35)	4	NO	0.04	58															
		"	"	MILL & FILL FULL WIDTH 54' (MP 0.35-0.45)	5	NO	0.1	54															
		"	"	MILL & FILL FULL WIDTH 40' (MP 0.45-0.52)	5	NO	0.07	42															
TOTAL FOR MAP NO. 2							0.52															800	200
3CR.10671.117	Onslow	3	NC 24 BUSINESS - EBL	BEG. DIVIDED HWY. TO 0.13 MI. WEST OF US 17 OVERPASS (MP 0.00 - 0.54) AND 2 NON-SYSTEM INTERSECTIONS		NO	0	1														1,050	300
		"	"	MILL & FILL FULL WIDTH 35' (MP 0.00-0.11)	1	NO	0.11	35															
		"	"	MILL & FILL FULL WIDTH 46' (MP 0.11-0.20)	5	NO	0.09	46															
		"	"	MILL & FILL IN TAPERS 46'-58' (MP 0.20-0.22)	5	NO	0.02	52															
		"	"	MILL & FILL FULL WIDTH 58' (MP 0.22-0.27)	5	NO	0.05	58															
		"	"	MILL & FILL FULL WIDTH 48' (MP 0.27-0.48)	5	NO	0.21	48															
		"	"	MILL & FILL FULL WIDTH 48' (MP 0.48-0.50)	3	NO	0.02	48															
		"	"	MILL & FILL FULL WIDTH 40' (MP 0.50-0.54)	3	NO	0.04	40															
TOTAL FOR MAP NO. 3							0.54															1,050	300
3CR.10671.117	Onslow	4	NC 210	I.C.W. BRIDGE (BRIDGE NO. 28) TO PENDER COUNTY LINE (MP 0.00 - 6.78) AND 82 NON-SYSTEM INTERSECTIONS		NO	0	1	1,820.00														
		"	"	MILL & FILL FULL WIDTH 42' (MP 0.00-0.15)	3	NO	0.15	42															
		"	"	MILL & FILL FULL WIDTH 32' (MP 0.15-0.17)	3	NO	0.02	32															
		"	"	MILL & FILL FULL WIDTH 32' (MP 0.17-0.19, 0.43-0.53)	6	NO	0.12	32															
		"	"	MILL & FILL IN TAPERS 32'-44' (MP 0.19-0.25)	6	NO	0.06	38															
		"	"	MILL & FILL FULL WIDTH 44' (MP 0.25-0.34)	6	NO	0.09	44															
		"	"	MILL & FILL FULL WIDTH 56' (MP 0.34-0.36)	6	NO	0.02	56															
		"	"	MILL & FILL IN TAPERS 56'-32' (MP 0.36-0.43)	6	NO	0.07	44															
		"	"	MILL & FILL FULL WIDTH 32' (MP 0.53-5.23)	7	NO	4.7	32											7.05				
		"	"	MILL & FILL IN TAPERS 32'-56' (MP 5.23-5.34, 5.38-5.49)	8	NO	0.22	44											0.33				
		"	"	MILL & FILL FULL WIDTH 56' (MP 5.34-5.38)	8	NO	0.04	56											0.06				
		"	"	MILL & FILL FULL WIDTH 32' (MP 5.49-6.78)	8	NO	1.29	32											1.94				
TOTAL FOR MAP NO. 4							6.78		1,820.00										9.38				
TOTAL FOR PROJ NO. 3CR.10671.117							8.34		1,820.00										9.38		5.00	4,500	1,000

PROJECT NO.	SHEET NO.	TOTAL NO.
3CR.10671.117, 3CR.20711.117	5	
3CR.20671.117,		

SUMMARY OF QUANTITIES

PROJECT NO.	COUNTY	MAP NO.	ROUTE	DESCRIPTION	TYP	FINAL SURFACE TESTING REQUIRED	LENGTH MI	WIDTH FT	BORROW EXC. CY	REMOVE & REPLACE SIDEWALK SY	INC. STONE BASE TONS	SHOULDER RECONST. SMI	1 1/2" MILLING SY	1" MILLING SY	INC. MILLING SY	BASE COURSE, B25.0B TONS	INT. COURSE, I19.0B TONS	SURFACE COURSE, S9.5B TONS	ASPHALT BINDER FOR PLANT MIX TON	PATCHING EXISTING PAVEMENT (MILL), S9.5B TON	PATCHING EXISTING PAVEMENT (FULL DEPTH) TON	CONCRETE CURB RAMPS EA	INC. CONC SY	2'-6" CURB & GUTTER, REMOVE AND REPLACE LF	ADJ. OF MANHOLES EA	ADJ. OF METER OR VALVE BOX EA	STEEL BM GR LF			
3CR.20711.117	Pender	5	SR 1572 (SIDBURY RD.)	US 17 TO NEW HANOVER COUNTY LINE, RESURFACE (MP 0.00 - 1.60)	9	NO	1.6	24	336		50	3.20			107	900		2,176	170	140			40							
TOTAL FOR MAP NO. 5							1.6		336		50	3.20			107	900		2,176	170	140			40							
TOTAL FOR PROJ NO. 3CR.20711.117							1.6		336		50	3.20			107	900		2,176	170	140			40							
3CR.20671.117	Onslow	6	SR 1107 (DAWSON CABIN RD.)	US 17 TO SR 1105 (HAWES RUN RD.) (MP 0.00 - 4.44)		NO	0	1							303						50									
		"	"	RESURFACE FULL WIDTH 20' (MP VARIES)	10	NO	4.03	20	1,693			8.06						4,596	276											
		"	"	RESURFACE IN TAPERS 20'-32' (MP 0.75-0.77, 1.14-1.20, 1.63-1.65, 2.57-2.60, 3.12-3.16)	10	NO	0.17	26	71			0.34						252	15											
		"	"	RESURFACE FULL WIDTH 32' (MP 0.77-0.83, 1.20-1.24, 1.65-1.71, 2.60-2.64, 3.16-3.20)	10	NO	0.24	32	101			0.48						437	26											
TOTAL FOR MAP NO. 6							4.44		1,865			8.88			303			5,285	317	50										
3CR.20671.117	Onslow	7	SR 1423 (OLD 30 RD.)	0.20 MI. WEST OF SR 1413 (ROCKY RUN RD.) TO 1428 (RIGGS RD.), RESURFACE (MP 0.00 - 2.50)	10	NO	2.5	22	1,050		60	5.00			75			3,120	187								2			
TOTAL FOR MAP NO. 7							2.5		1,050		60	5.00			75			3,120	187									2		
3CR.20671.117	Onslow	8	SR 1423 (OLD 30 RD.)	SR 1411 (WATERS RD.) TO MP 0.65 (PAVEMENT JOINT), RESURFACE (MP 0.00 - 0.65)	10	NO	0.65	20.5	273		30	1.30			75			755	45											
TOTAL FOR MAP NO. 8							0.65		273		30	1.30			75			755	45											
3CR.20671.117	Onslow	9	SR 1411 (OLE 30 RD. / WATERS RD.)	SR 1406 (PINEY GREEN RD.) TO SR 1423 (OLD 30 RD.), RESURFACE (MP 0.00 - 0.98)	10	NO	0.98	20	412		30	1.96			75			1,110	67								4			
TOTAL FOR MAP NO. 9							0.98		412		30	1.96			75			1,110	67									4		
3CR.20671.117	Onslow	10	SR 1407 (WOLF SWAMP RD.)	SR 1406 (PINEY GREEN RD.) TO US 17, RESURFACE (MP 0.00 - 1.17)	11	NO	1.17	22	1,309		30	2.34			300		2,376	1,464	202	80										
TOTAL FOR MAP NO. 10							1.17		1,309		30	2.34			300		2,376	1,464	202	80										
3CR.20671.117	Onslow	11	SR 1308 (GUM BRANCH RD.)	SR 1388 (TIMOTHY RD.) TO SR 1003 (WILMINGTON ST.) (MP 0.00 - 5.95)		NO	0	1							147						30									
		"	"	RESURFACE IN TAPERS 22'-48' (MP 0.00-0.82)	10	NO	0.82	35	344			1.64						1,632	98											
		"	"	RESURFACE IN TAPERS 48'-56' (MP 0.82-0.88)	10	NO	0.06	52	25			0.12						177	11											
		"	"	RESURFACE FULL WIDTH 56' (MP 0.88-0.92)	10	NO	0.04	56	17			0.08						127	8											
		"	"	RESURFACE IN TAPERS 56'-36' (MP 0.92-0.97)	10	NO	0.05	46	21			0.10						130	8											
		"	"	RESURFACE IN TAPERS 36'-22' (MP 0.97-1.02, 1.36-1.42, 1.51-1.56)	10	NO	0.16	29	67			0.32						264	16											
		"	"	RESURFACE FULL WIDTH 22' (MP 1.02-1.36, 1.56-4.70, 4.95-5.79)	10	NO	4.32	22	1,814			8.64						5,417	325											
		"	"	RESURFACE FULL WIDTH 36' (MP 1.42-1.51)	10	NO	0.09	36	38			0.18						184	11											
		"	"	NO WORK, (MP 4.70 TO MP 4.95)		NO	0.25	22																						
		"	"	RESURFACE IN TAPERS 22'-28' (MP 5.79-5.95)	12	NO	0.16	25					2,347					228	14											
TOTAL FOR MAP NO. 11							5.95		2,326		150	11.08	2,347		147		2,376	19,893	491	30								6		
TOTAL FOR PROJ NO. 3CR.20671.117							15.69		7,235		150	30.56	2,347	434	9,382	900	16,297	40,675	3,264	975	175	11	40	180	10	52	1,720.00			
GRAND TOTAL							25.63		13,481	165	1,225	46.26	64,289	434	9,382	900	16,297	40,675	3,264	975	175	11	40	180	10	52	1,720.00			

PROJECT NO.	SHEET NO.	TOTAL NO.
3CR.10671.117, 3CR.20711.117	6	
3CR.20671.117		

SUMMARY OF QUANTITIES

PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	TYP	FINAL SURFACE TESTING REQUIRED	LENGTH MI	WIDTH FT	GR ANCHOR UNITS, TYPE 350	GR ANCHOR UNITS, TYPE B-83	REMOVE EXISTING GR	PORTABLE LIGHTING	TEMP. SILT FENCE	STONE FOR EC CLASS B	SEDIMENT CONTROL STONE	TEMP. MULCHING	MATTING (EROSION CONTROL)	1/4" HARDWARE CLOTH	WATTLE	SEED & MULCHING	SEED FOR REPAIR SEEDING	FERTILIZER FOR REPAIR SEEDING	JUNCTION BOX (STANDARD SIZE)	INDUCTIVE LOOP	LEAD-IN CABLE (14-2)		
NO		NO			NO		MI	FT	EA	EA	LF	LS	LF	TON	TON	ACR	SY	LF	LF	AC	LB	TON	EA	LF	LF		
3CR.20711.117	Pender	5	SR 1572 (SIDBURY RD.)	US 17 TO NEW HANOVER COUNTY LINE, RESURFACE (MP 0.00 - 1.60)	9	NO	1.6	24					160	40	40	1.60	20	80	30	2.33	80	0.40					
TOTAL FOR MAP NO. 5							1.6						160	40	40	1.60	20	80	30	2.33	80	0.40					
TOTAL FOR PROJ NO. 3CR.20711.117							1.6						160	40	40	1.60	20	80	30	2.33	80	0.40					
3CR.20671.117	Onslow	6	SR 1107 (DAWSON CABIN RD.)	US 17 TO SR 1105 (HAWES RUN RD.) (MP 0.00 - 4.44)		NO	0	1				0.50	449	113	113	4.49	30	225	70	6.47	225	1.12		300			
		"	"	RESURFACE FULL WIDTH 20' (MP VARIES)	10	NO	4.03	20																			
		"	"	RESURFACE IN TAPERS 20'-32' (MP 0.75-0.77, 1.14-1.20, 1.63-1.65, 2.57-2.60, 3.12-3.16)	10	NO	0.17	26																			
		"	"	RESURFACE FULL WIDTH 32' (MP 0.77-0.83, 1.20-1.24, 1.65-1.71, 2.60-2.64, 3.16-3.20)	10	NO	0.24	32																			
TOTAL FOR MAP NO. 6							4.44					0.50	449	113	113	4.49	30	225	70	6.47	225	1.12		300			
3CR.20671.117	Onslow	7	SR 1423 (OLD 30 RD.)	0.20 MI. WEST OF SR 1413 (ROCKY RUN RD.) TO 1428 (RIGGS RD.), RESURFACE (MP 0.00 - 2.50)	10	NO	2.5	22					250	63	63	2.50	20	125	40	3.64	125	0.63					
TOTAL FOR MAP NO. 7							2.5						250	63	63	2.50	20	125	40	3.64	125	0.63					
3CR.20671.117	Onslow	8	SR 1423 (OLD 30 RD.)	SR 1411 (WATERS RD.) TO MP 0.65 (PAVEMENT JOINT), RESURFACE (MP 0.00 - 0.65)	10	NO	0.65	20.5					65	17	17	0.65	10	33	10	0.94	33	0.16					
TOTAL FOR MAP NO. 8							0.65						65	17	17	0.65	10	33	10	0.94	33	0.16					
3CR.20671.117	Onslow	9	SR 1411 (OLE 30 RD. / WATERS RD.)	SR 1406 (PINEY GREEN RD.) TO SR 1423 (OLD 30 RD.), RESURFACE (MP 0.00 - 0.98)	10	NO	0.98	20					98	25	25	0.98	10	49	20	1.43	49	0.25					
TOTAL FOR MAP NO. 9							0.98						98	25	25	0.98	10	49	20	1.43	49	0.25					
3CR.20671.117	Onslow	10	SR 1407 (WOLF SWAMP RD.)	SR 1406 (PINEY GREEN RD.) TO US 17, RESURFACE (MP 0.00 - 1.17)	11	NO	1.17	22					117	30	30	1.17	10	59	20	1.71	59	0.29					
TOTAL FOR MAP NO. 10							1.17						117	30	30	1.17	10	59	20	1.71	59	0.29					
3CR.20671.117	Onslow	11	SR 1308 (GUM BRANCH RD.)	SR 1388 (TIMOTHY RD.) TO SR 1003 (WILMINGTON ST.) (MP 0.00 - 5.95)		NO	0	1				0.50	547	137	137	5.47	40	274	90	6.52	274	1.37		150			
		"	"	RESURFACE IN TAPERS 22'-48' (MP 0.00-0.82)	10	NO	0.82	35												1.23							
		"	"	RESURFACE IN TAPERS 48'-56' (MP 0.82-0.88)	10	NO	0.06	52												0.09							
		"	"	RESURFACE FULL WIDTH 56' (MP 0.88-0.92)	10	NO	0.04	56												0.06							
		"	"	RESURFACE IN TAPERS 56'-36' (MP 0.92-0.97)	10	NO	0.05	46												0.08							
		"	"	RESURFACE IN TAPERS 36'-22' (MP 0.97-1.02, 1.36-1.42, 1.51-1.56)	10	NO	0.16	29												0.24							
		"	"	RESURFACE FULL WIDTH 22' (MP 1.02-1.36, 1.56-4.70, 4.95-5.79)	10	NO	4.32	22												6.48							
		"	"	RESURFACE FULL WIDTH 36' (MP 1.42-1.51)	10	NO	0.09	36												0.14							
		"	"	NO WORK, (MP 4.70 TO MP 4.95)		NO	0.25	22																			
		"	"	RESURFACE IN TAPERS 22'-28' (MP 5.79-5.95)	12	NO	0.16	25																			
TOTAL FOR MAP NO. 11							5.95					0.50	547	137	137	5.47	40	274	90	14.83	274	1.37		150			
TOTAL FOR PROJ NO. 3CR.20671.117							15.69						1.00	1,526	385	385	15.26	120	765	250	29.02	765	3.82		450		
GRAND TOTAL							25.63			2.00	2.00	1,820.00	1.00	1,686	425	425	16.86	140	845	280	40.73	845	4.22	5.00	4,950	1,000	

PROJECT NO.	SHEET NO.	TOTAL NO.
3CR.10671.117, 3CR.20711.117 3CR.20671.117,	7	

THERMOPLASTIC AND PAINT QUANTITIES

PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	LENGTH	WIDTH	472610000-N		472610000-N	468500000-E		468600000-E		469500000-E		471000000-E	472100000-E			472500000-E					481000000-E		482000000-E				
							HEATED-IN-PLACE THERMOPLASTIC SYMBOL (HELMETED BICYCLIST) 90 M EA	HEATED-IN-PLACE THERMOPLASTIC SYMBOL (MINI STR. ARROW) 90 M EA	EA	4" X 90 M YELLOW THERMO	4" X 90 M WHITE THERMO	4" X 120 M WHITE THERMO	4" X 120 M YELLOW THERMO	8" X 90 M WHITE THERMO	8" X 90 M YELLOW THERMO	24" X 120 M WHITE THERMO	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA
3CR.10671.117	Onslow	1	NC 24 BUSINESS (UNDIVIDED)	US 17 BUSINESS TO BEG. DIVIDED HWY. 8 NON-SYSTEM INTERSECTIONS (MP 0.00 - 0.50)	0	1																									
				MILL & FILL IN TAPERS 62'-89' (MP 0.00-0.03)	0.03	77.5				158	158	158			158		62		2							158	158	158			
				MILL & FILL IN TAPERS 89'-68' (MP 0.03-0.04)	0.01	82.5						106	53	106	53		160	12	2	2	2	2	1				53	106	53		
				MILL & FILL FULL WIDTH 72' (MP 0.04-0.50)	0.46	72						4,858	2,429	4,858						2	2	2				2,429	4,858				
TOTAL FOR MAP NO. 1					0.5					158	5,122	2,640	4,964	211		222	12	4	4	4	4	1		2,640	5,122	211					
3CR.10671.117	Onslow	2	NC 24 BUSINESS - WBL	0.13 MI. WEST OF US 17 OVERPASS TO END DIVIDED HWY. (MP 0.00 - 0.52) AND 3 NON-SYSTEM INTERSECTIONS	0	1																									
				MILL & FILL FULL WIDTH 44' (MP 0.00-0.04)	0.04	44				211	211	106															317	211			
				MILL & FILL FULL WIDTH 38' (MP 0.04-0.19)	0.15	38				792	792	396															1,188	792			
				MILL & FILL FULL WIDTH 34' (MP 0.19-0.20)	0.01	34				53	53	26															79	53			
				MILL & FILL IN TAPERS 34'-46' (MP 0.20-0.23)	0.03	40				158	158	100															259	158			
				MILL & FILL FULL WIDTH 46' (MP 0.23-0.28)	0.05	46				264		396					50		3	5							396	264			
				MILL & FILL IN TAPERS 46'-58' (MP 0.28-0.31)	0.03	52				158		140								8				2			140	158			
				MILL & FILL FULL WIDTH 58' (MP 0.31-0.35)	0.04	58				211		370			211		48										370	211	211		
				MILL & FILL FULL WIDTH 54' (MP 0.35-0.45)	0.1	54				528	528	924					125				4	4	2				924	528	125		
				MILL & FILL FULL WIDTH 40' (MP 0.45-0.52)	0.07	42				370	370	185									7	3			2		185	370			
TOTAL FOR MAP NO. 2					0.52					2,745	2,112	2,643		336		98		7	20	2		2		3,858	2,745	336					
3CR.10671.117	Onslow	3	NC 24 BUSINESS - EBL	BEG. DIVIDED HWY. TO 0.13 MI. WEST OF US 17 OVERPASS (MP 0.00 - 0.54) AND 2 NON-SYSTEM INTERSECTIONS	0	1																									
				MILL & FILL FULL WIDTH 35' (MP 0.00-0.11)	0.11	35					581	290					70										290				
				MILL & FILL FULL WIDTH 46' (MP 0.11-0.20)	0.09	46				475	475	832									3	6					832	475			
				MILL & FILL IN TAPERS 46'-58' (MP 0.20-0.22)	0.02	52				106	106	40			106							4					40	106	106		
				MILL & FILL FULL WIDTH 58' (MP 0.22-0.27)	0.05	58						264	198			100		60		2	1						198		100		
				MILL & FILL FULL WIDTH 48' (MP 0.27-0.48)	0.21	48						1,109	832							4							832				
				MILL & FILL FULL WIDTH 48' (MP 0.48-0.50)	0.02	48				106	106	158															264	106			
MILL & FILL FULL WIDTH 40' (MP 0.50-0.54)	0.04	40				211	211	106															317	211							
TOTAL FOR MAP NO. 3					0.54					898	2,852	2,456		206		130		9	16	1				2,773	898	206					
3CR.10671.117	Onslow	4	NC 210	I.C.W. BRIDGE (BRIDGE NO. 28) TO PENDER COUNTY LINE (MP 0.00 - 6.78) AND 82 NON-SYSTEM INTERSECTIONS	0	1	58	56	6																						
				MILL & FILL FULL WIDTH 42' (MP 0.00-0.15)	0.15	42					1,584		1,584														1,584	1,584			
				MILL & FILL FULL WIDTH 32' (MP 0.15-0.17)	0.02	32					211		211														211	211			
				MILL & FILL FULL WIDTH 32' (MP 0.17-0.19, 0.43-0.53)	0.12	32				1,267	1,267																1,267	1,267			
				MILL & FILL IN TAPERS 32'-44' (MP 0.19-0.25)	0.06	38					634		1,267			300											634	1,267	300		
				MILL & FILL FULL WIDTH 44' (MP 0.25-0.34)	0.09	44					950	539	950								3	3					1,489	950			
				MILL & FILL FULL WIDTH 56' (MP 0.34-0.36)	0.02	56					211	120	422			150						3					331	422	150		
				MILL & FILL IN TAPERS 56'-32' (MP 0.36-0.43)	0.07	44					739	92	1,478			250											832	1,478	250		
				MILL & FILL FULL WIDTH 32' (MP 0.53-5.23)	4.7	32						49,632		49,632													49,632	49,632			
				MILL & FILL IN TAPERS 32'-56' (MP 5.23-5.34, 5.38-5.49)	0.22	44						2,323		2,904								4	3	2			4	2,323	2,904		
MILL & FILL FULL WIDTH 56' (MP 5.34-5.38)	0.04	56						422	268	422								1					690	422							
MILL & FILL FULL WIDTH 32' (MP 5.49-6.78)	1.29	32						13,622	6,811	17,028			24				5	5					20,434	17,028							
TOTAL FOR MAP NO. 4					6.78					1,267	71,595	7,830	75,898	753		700		13	14	2		8		79,427	77,165	700					
TOTAL FOR PROJ NO. 3CR.10671.117					8.34		114	56	6	5,068	81,681	15,569	80,862		753	700		474	12	33	54	9	4	11	88,698	85,930	753	700			

PROJECT NO.	SHEET NO.	TOTAL NO.
3CR.10671.117, 3CR.20711.117	8	
3CR.20671.117,		

THERMOPLASTIC AND PAINT QUANTITIES

PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	LENGTH	WIDTH	4835000000-E	4840000000-N		4845000000-N					4900000000-N		4905000000-N	
							24" WHITE PAINT	PAINT MSG ONLY	PAINT MSG SCHOOL	PAINT LT ARROW	PAINT STR ARROW	PAINT STR & RT ARROW	PAINT STR & LT ARROW	PAINT RT ARROW	YELLOW & YELLOW MARKERS	CYAN & RED MARKERS	SNOW PLOWABLE MARKERS (C/R)	SNOW PLOWABLE MARKERS (Y/Y)
NO		NO					LF	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	
3CR.10671.117	Onslow	1	NC 24 BUSINESS (UNDIVIDED)	US 17 BUSINESS TO BEG. DIVIDED HWY. 8 NON-SYSTEM INTERSECTIONS (MP 0.00 - 0.50)	0	1												
		"	"	MILL & FILL IN TAPERS 62'-89' (MP 0.00-0.03)	0.03	77.5	62			2							16	
		"	"	MILL & FILL IN TAPERS 89'-68' (MP 0.03-0.04)	0.01	82.5	160	12		2	2	2	2	1			5	1
		"	"	MILL & FILL FULL WIDTH 72' (MP 0.04-0.50)	0.46	72					2	2	2				121	30
TOTAL FOR MAP NO. 1					0.5		222	12		4	4	4	4	1			142	31
3CR.10671.117	Onslow	2	NC 24 BUSINESS - WBL	0.13 MI. WEST OF US 17 OVERPASS TO END DIVIDED HWY. (MP 0.00 - 0.52) AND 3 NON-SYSTEM INTERSECTIONS	0	1												
		"	"	MILL & FILL FULL WIDTH 44' (MP 0.00-0.04)	0.04	44											5	
		"	"	MILL & FILL FULL WIDTH 38' (MP 0.04-0.19)	0.15	38											20	
		"	"	MILL & FILL FULL WIDTH 34' (MP 0.19-0.20)	0.01	34											1	
		"	"	MILL & FILL IN TAPERS 34'-46' (MP 0.20-0.23)	0.03	40											9	
		"	"	MILL & FILL FULL WIDTH 46' (MP 0.23-0.28)	0.05	46	50			3	5						20	
		"	"	MILL & FILL IN TAPERS 46'-58' (MP 0.28-0.31)	0.03	52					8			2			11	
		"	"	MILL & FILL FULL WIDTH 58' (MP 0.31-0.35)	0.04	58	48										29	
		"	"	MILL & FILL FULL WIDTH 54' (MP 0.35-0.45)	0.1	54				4	4	2					46	
		"	"	MILL & FILL FULL WIDTH 40' (MP 0.45-0.52)	0.07	42					3						9	
TOTAL FOR MAP NO. 2					0.52		98			7	20	2		2			150	
3CR.10671.117	Onslow	3	NC 24 BUSINESS - EBL	BEG. DIVIDED HWY. TO 0.13 MI. WEST OF US 17 OVERPASS (MP 0.00 - 0.54) AND 2 NON-SYSTEM INTERSECTIONS	0	1												
		"	"	MILL & FILL FULL WIDTH 35' (MP 0.00-0.11)	0.11	35	70										15	
		"	"	MILL & FILL FULL WIDTH 46' (MP 0.11-0.20)	0.09	46				3	6						42	
		"	"	MILL & FILL IN TAPERS 46'-58' (MP 0.20-0.22)	0.02	52					4						10	
		"	"	MILL & FILL FULL WIDTH 58' (MP 0.22-0.27)	0.05	58	60			2	1						10	
		"	"	MILL & FILL FULL WIDTH 48' (MP 0.27-0.48)	0.21	48				4							42	
		"	"	MILL & FILL FULL WIDTH 48' (MP 0.48-0.50)	0.02	48											8	
		"	"	MILL & FILL FULL WIDTH 40' (MP 0.50-0.54)	0.04	40											5	
TOTAL FOR MAP NO. 3					0.54		130			9	16	1					132	
3CR.10671.117	Onslow	4	NC 210	I.C.W. BRIDGE (BRIDGE NO. 28) TO PENDER COUNTY LINE (MP 0.00 - 6.78) AND 82 NON-SYSTEM INTERSECTIONS	0	1												
		"	"	MILL & FILL FULL WIDTH 42' (MP 0.00-0.15)	0.15	42									10			
		"	"	MILL & FILL FULL WIDTH 32' (MP 0.15-0.17)	0.02	32									1			
		"	"	MILL & FILL FULL WIDTH 32' (MP 0.17-0.19, 0.43-0.53)	0.12	32									8			
		"	"	MILL & FILL IN TAPERS 32'-44' (MP 0.19-0.25)	0.06	38									8			
		"	"	MILL & FILL FULL WIDTH 44' (MP 0.25-0.34)	0.09	44				3	3				6	40		
		"	"	MILL & FILL FULL WIDTH 56' (MP 0.34-0.36)	0.02	56					3				3	9		
		"	"	MILL & FILL IN TAPERS 56'-32' (MP 0.36-0.43)	0.07	44									9	5		
		"	"	MILL & FILL FULL WITDH 32' (MP 0.53-5.23)	4.7	32									310			
		"	"	MILL & FILL IN TAPERS 32'-56' (MP 5.23-5.34, 5.38-5.49)	0.22	44				4	3	2			29			
		"	"	MILL & FILL FULL WIDTH 56' (MP 5.34-5.38)	0.04	56				1					3	25		
		"	"	MILL & FILL FULL WIDTH 32' (MP 5.49-6.78)	1.29	32	24			5	5				170	341		
TOTAL FOR MAP NO. 4					6.78		24			13	14	2		8	557	420		
TOTAL FOR PROJ NO. 3CR.10671.117					8.34		474	12		33	54	9	4	11	557	420	424	31
							12		111					977		455		

PROJECT NO.	SHEET NO.	TOTAL NO.
3CR.10671.117, 3CR.20711.117	9	
3CR.20671.117,		

THERMOPLASTIC AND PAINT QUANTITIES

PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	LENGTH	WIDTH	4726110000-N		4726100000-N	4685000000-E		4686000000-E		4695000000-E		4710000000-E	4721000000-E		4725000000-E			4810000000-E				
							HEATED-IN-PLACE THERMO-PLASTIC SYMBOL (HELMETED BICYCLIST) 90 M EA	HEATED-IN-PLACE THERMO-PLASTIC SYMBOL (MINI STR. ARROW) 90 M EA	HEATED-IN-PLACE THERMO-PLASTIC CHARACTER 120 M EA	4" X 90 M YELLOW THERMO LF	4" X 90 M WHITE 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	24" X 120 M WHITE THERMO LF	THERMO MSG ONLY 120 M EA	THERMO MSG SCHOOL 120 M EA	THERMO LT ARROW 90 M EA	THERMO STR ARROW 90 M EA	THERMO STR & RT ARROW 90 M EA	THERMO STR & LT ARROW 90 M EA	THERMO RT ARROW 90 M EA	4" WHITE PAINT LF	4" YELLOW PAINT LF	
3CR.20711.117	Pender	5	SR 1572 (SIDBURY RD.)	US 17 TO NEW HANOVER COUNTY LINE, RESURFACE (MP 0.00 - 1.60)	1.6	24																	33,792	25,344		
TOTAL FOR MAP NO. 5					1.6																		33,792	25,344		
TOTAL FOR PROJ NO. 3CR.20711.117					1.6																		33,792	25,344		
																							59,136			
3CR.20671.117	Onslow	6	SR 1107 (DAWSON CABIN RD.)	US 17 TO SR 1105 (HAWES RUN RD.) (MP 0.00 - 4.44)	0	1																				
		"	"	RESURFACE FULL WIDTH 20' (MP VARIES)	4.03	20						42,557		42,557										42,557	42,557	
		"	"	RESURFACE IN TAPERS 20'-32' (MP 0.75-0.77, 1.14-1.20, 1.63-1.65, 2.57-2.60, 3.12-3.16)	0.17	26						1,795	120	1,795										1,915	1,795	
		"	"	RESURFACE FULL WIDTH 32' (MP 0.77-0.83, 1.20-1.24, 1.65-1.71, 2.60-2.64, 3.16-3.20)	0.24	32						2,534	1,267	2,534										3,802	2,534	
TOTAL FOR MAP NO. 6					4.44							46,886	1,387	46,886									48,274	46,886		
3CR.20671.117	Onslow	7	SR 1423 (OLD 30 RD.)	0.20 MI. WEST OF SR 1413 (ROCKY RUN RD.) TO 1428 (RIGGS RD.), RESURFACE (MP 0.00 - 2.50)	2.5	22																		52,800	39,600	
TOTAL FOR MAP NO. 7					2.5																			52,800	39,600	
3CR.20671.117	Onslow	8	SR 1423 (OLD 30 RD.)	SR 1411 (WATERS RD.) TO MP 0.65 (PAVEMENT JOINT), RESURFACE (MP 0.00 - 0.65)	0.65	20.5																		13,728	10,296	
TOTAL FOR MAP NO. 8					0.65																			13,728	10,296	
3CR.20671.117	Onslow	9	SR 1411 (OLE 30 RD. / WATERS RD.)	SR 1406 (PINEY GREEN RD.) TO SR 1423 (OLD 30 RD.), RESURFACE (MP 0.00 - 0.98)	0.98	20																		20,698	15,523	
TOTAL FOR MAP NO. 9					0.98																			20,698	15,523	
3CR.20671.117	Onslow	10	SR 1407 (WOLF SWAMP RD.)	SR 1406 (PINEY GREEN RD.) TO US 17, RESURFACE (MP 0.00 - 1.17)	1.17	22																		37,066	27,799	
TOTAL FOR MAP NO. 10					1.17																			37,066	27,799	
3CR.20671.117	Onslow	11	SR 1308 (GUM BRAN CH RD.)	SR 1388 (TIMOTHY RD.) TO SR 1003 (WILMINGTON ST.) (MP 0.00 - 5.95)	0	1																				
		"	"	RESURFACE IN TAPERS 22'-48' (MP 0.00-0.82)	0.82	35						8,659	4,907	17,318			250							13,566	17,318	
		"	"	RESURFACE IN TAPERS 48'-56' (MP 0.82-0.88)	0.06	52						634	84	1,267			100							718	1,267	
		"	"	RESURFACE FULL WIDTH 56' (MP 0.88-0.92)	0.04	56						422	422	422			50		6		2	2		2	845	422
		"	"	RESURFACE IN TAPERS 56'-36' (MP 0.92-0.97)	0.05	46						528	66	1,056			100								594	1,056
		"	"	RESURFACE IN TAPERS 36'-22' (MP 0.97-1.02, 1.36-1.42, 1.51-1.56)	0.16	29						1,690	211	3,379			250		50		6				1,901	3,379
		"	"	RESURFACE FULL WIDTH 22' (MP 1.02-1.36, 1.56-4.70, 4.95-5.79)	4.32	22						45,619		45,619											45,619	45,619
		"	"	RESURFACE FULL WIDTH 36' (MP 1.42-1.51)	0.09	36						950	475	950			150				2				1,426	950
		"	"	NO WORK, (MP 4.70 TO MP 4.95)	0.25	22																				
		"	"	RESURFACE IN TAPERS 22'-28' (MP 5.79-5.95)	0.16	25						1,690		1,690					14						1,690	1,690
TOTAL FOR MAP NO. 11					5.95							60,192	6,165	71,701			850	114		12	4	2	2	2	66,359	71,701
TOTAL FOR PROJ NO. 3CR.20671.117					15.69							107,078	7,552	118,587			850	114		12	4	2	2	2	238,925	211,805
							107,078		126,139		850		114		12		8		450,730							
GRAND TOTAL					25.63		58	56	6	5,068	188,759	23,121	199,449	753	1,550	588	12	12	37	56	9	4	13	361,415	323,079	
							114		193,827		222,570		2,303		24		119		684,494							

PROJECT NO.	SHEET NO.	TOTAL NO.
3CR.10671.117, 3CR.20711.117	10	
3CR.20671.117,		

THERMOPLASTIC AND PAINT QUANTITIES

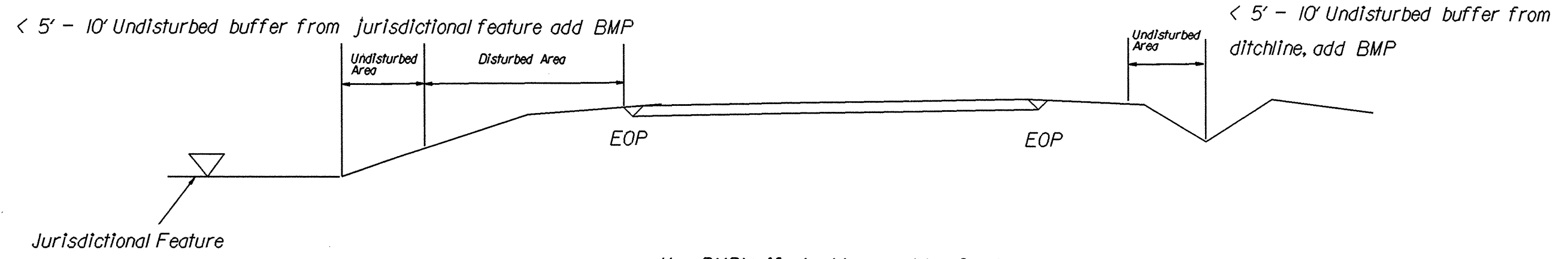
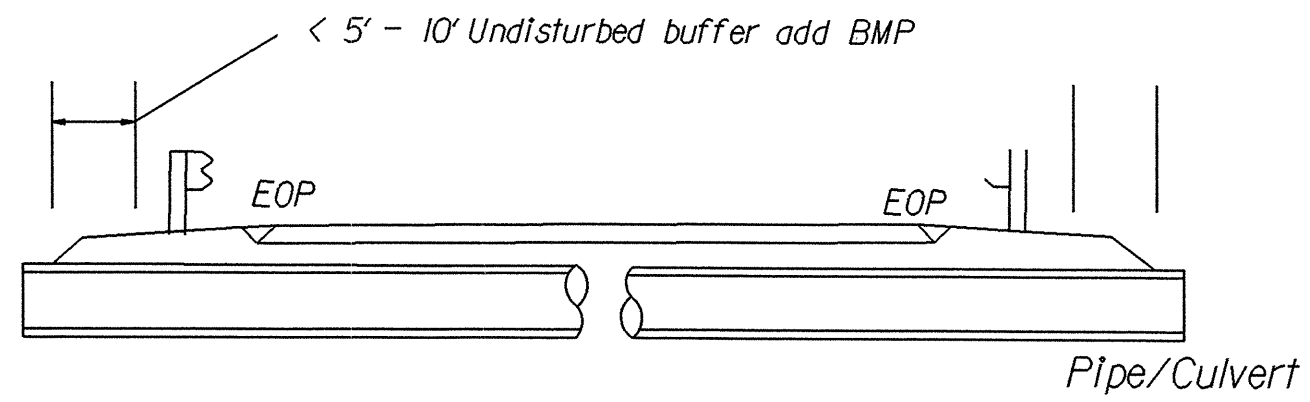
PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	LENGTH	WIDTH	482000000-E		483500000-E	484000000-N		484500000-N					490000000-N		490500000-N				
							8" WHITE PAINT	8" YELLOW PAINT	24" WHITE PAINT	PAINT MSG ONLY	PAINT MSG SCHOOL	PAINT LT ARROW	PAINT STR ARROW	PAINT STR & RT ARROW	PAINT STR & LT ARROW	PAINT RT ARROW	YELLOW & YELLOW MARKERS	CYAN & RED MARKERS	SNOW PLOWABLE MARKERS (C/R)	SNOW PLOWABLE MARKERS (Y/Y)			
							LF	LF	LF	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA				
3CR.20711.117	Pender	5	SR 1572 (SIDBURY RD.)	US 17 TO NEW HANOVER COUNTY LINE, RESURFACE (MP 0.00 - 1.60)	1.6	24													106				
TOTAL FOR MAP NO. 5					1.6														106				
TOTAL FOR PROJ NO. 3CR.20711.117					1.6														106				
																			106				
3CR.20671.117	Onslow	6	SR 1107 (DAWSON CABIN RD.)	US 17 TO SR 1105 (HAWES RUN RD.) (MP 0.00 - 4.44)	0	1																	
		"	"	RESURFACE FULL WIDTH 20' (MP VARIES)	4.03	20														266			
		"	"	RESURFACE IN TAPERS 20'-32' (MP 0.75-0.77, 1.14-1.20, 1.63-1.65, 2.57-2.60, 3.12-3.16)	0.17	26														11	30		
		"	"	RESURFACE FULL WIDTH 32' (MP 0.77-0.83, 1.20-1.24, 1.65-1.71, 2.60-2.64, 3.16-3.20)	0.24	32														16	63		
TOTAL FOR MAP NO. 6					4.44															293	93		
3CR.20671.117	Onslow	7	SR 1423 (OLD 30 RD.)	0.20 MI. WEST OF SR 1413 (ROCKY RUN RD.) TO 1428 (RIGGS RD.), RESURFACE (MP 0.00 - 2.50)	2.5	22															165		
TOTAL FOR MAP NO. 7					2.5																165		
3CR.20671.117	Onslow	8	SR 1423 (OLD 30 RD.)	SR 1411 (WATERS RD.) TO MP 0.65 (PAVEMENT JOINT), RESURFACE (MP 0.00 - 0.65)	0.65	20.5															43		
TOTAL FOR MAP NO. 8					0.65																43		
3CR.20671.117	Onslow	9	SR 1411 (OLE 30 RD. / WATERS RD.)	SR 1406 (PINEY GREEN RD.) TO SR 1423 (OLD 30 RD.), RESURFACE (MP 0.00 - 0.98)	0.98	20															1	65	
TOTAL FOR MAP NO. 9					0.98																	1	65
3CR.20671.117	Onslow	10	SR 1407 (WOLF SWAMP RD.)	SR 1406 (PINEY GREEN RD.) TO US 17, RESURFACE (MP 0.00 - 1.17)	1.17	22																77	
TOTAL FOR MAP NO. 10					1.17																	77	
3CR.20671.117	Onslow	11	SR 1308 (GUM BRAN CH RD.)	SR 1388 (TIMOTHY RD.) TO SR 1003 (WILMINGTON ST.) (MP 0.00 - 5.95)	0	1																	
		"	"	RESURFACE IN TAPERS 22'-48' (MP 0.00-0.82)	0.82	35		250														108	360
		"	"	RESURFACE IN TAPERS 48'-56' (MP 0.82-0.88)	0.06	52		100														8	21
		"	"	RESURFACE FULL WIDTH 56' (MP 0.88-0.92)	0.04	56			50		6	2										3	21
		"	"	RESURFACE IN TAPERS 56'-36' (MP 0.92-0.97)	0.05	46		100														7	3
		"	"	RESURFACE IN TAPERS 36'-22' (MP 0.97-1.02, 1.36-1.42, 1.51-1.56)	0.16	29		250	50		6											21	11
		"	"	RESURFACE FULL WIDTH 22' (MP 1.02-1.36, 1.56-4.70, 4.95-5.79)	4.32	22																	285
		"	"	RESURFACE FULL WIDTH 36' (MP 1.42-1.51)	0.09	36		150														6	24
		"	"	NO WORK, (MP 4.70 TO MP 4.95)	0.25	22																	
		"	"	RESURFACE IN TAPERS 22'-28' (MP 5.79-5.95)	0.16	25			14														11
TOTAL FOR MAP NO. 11					5.95			850	114		12	4	2							2	449	440	
TOTAL FOR PROJ NO. 3CR.20671.117					15.69			850	114		12	4	2		3					927	533	165	
GRAND TOTAL					25.63			753	1,550	588	12	12	37	56	9	4	14			1,590	953	424	196
								2,303			24			120						2,543		620	

PROJECT REFERENCE NO. 3CR.10671.117, ETC.	SHEET NO. EC-1
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

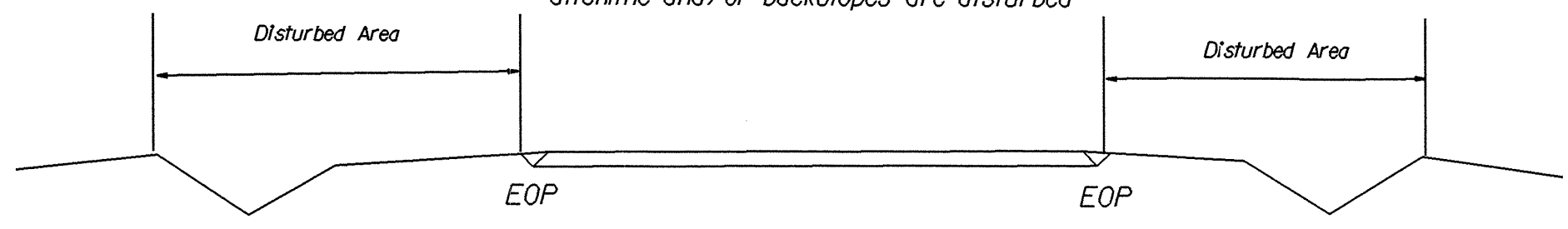
NOTES: Less than 5' - 10' undisturbed buffer from ROW, ditchline, water feature, or drainage inlet, add BMP.

BMP Options: Wattle or Silt Fence

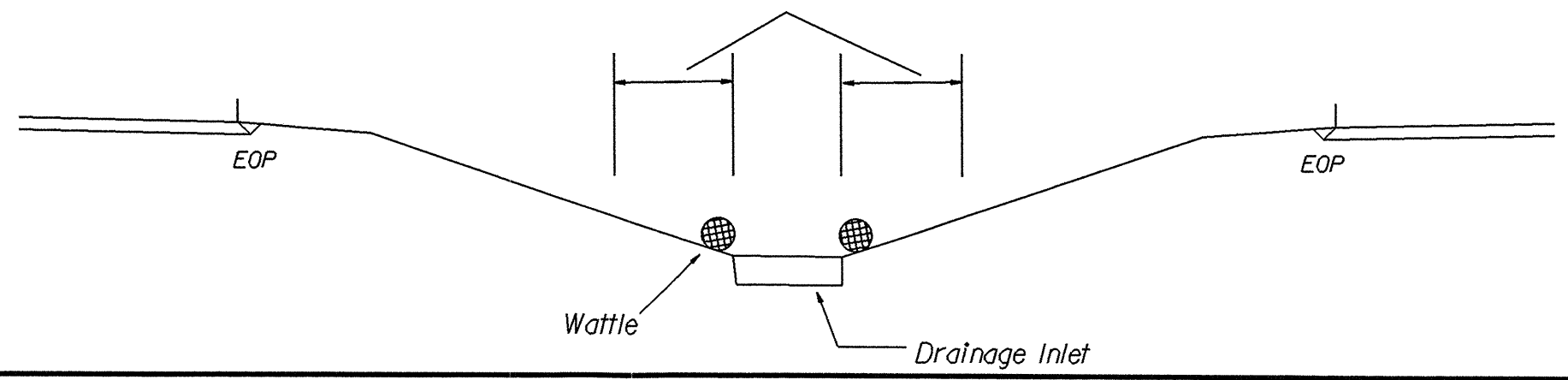
EROSION CONTROL DETAIL



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



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



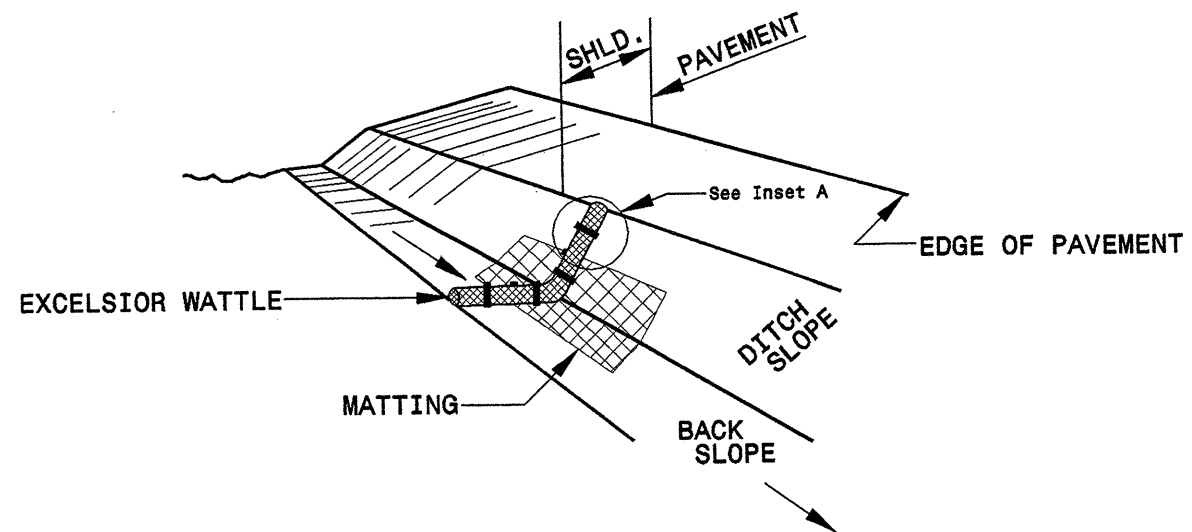
NOT TO SCALE

REVISIONS

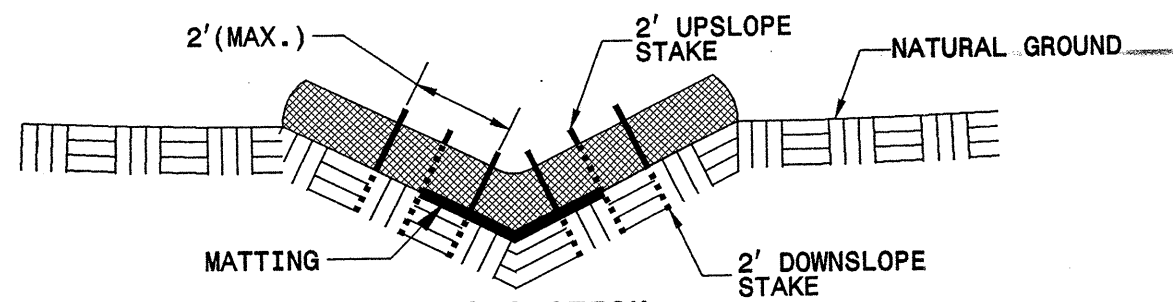
8/17/94
 15:NDX-2011\FE2
 P:\RDY\2011\FE2\2012_3CR.10671.117_ONHLOW\ROADWAY\Proj\3CR.10671.117_Rdwy_TYPICALS_2012.dgn
 11/13/2012 10:57:16 AM

PROJECT REFERENCE NO. 3CR.10471.117.5K	SHEET NO. EC-2
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

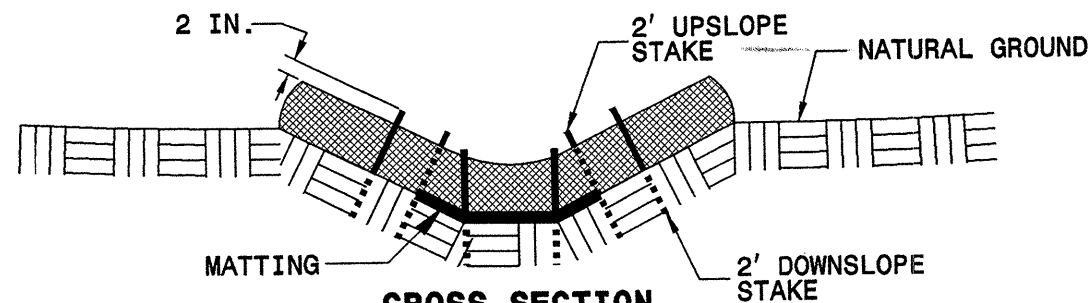
WATTLE DETAIL



ISOMETRIC VIEW



CROSS SECTION VEE DITCH



CROSS SECTION TRAPEZOIDAL DITCH

NOTES:

USE MINIMUM 12 IN. DIAMETER EXCELSIOR WATTLE.

USE 2 FT. WOODEN STAKES WITH A 2 IN. BY 2 IN. NOMINAL CROSS SECTION.

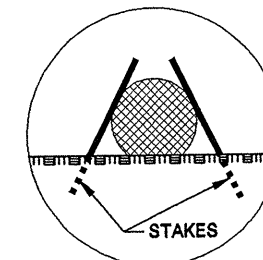
ONLY INSTALL WATTLE(S) TO A HEIGHT IN DITCH SO FLOW WILL NOT WASH AROUND WATTLE AND SCOUR DITCH SLOPES AND AS DIRECTED.

INSTALL A MINIMUM OF 2 UPSLOPE STAKES AND 4 DOWNSLOPE STAKES AT AN ANGLE TO WEDGE WATTLE TO BOTTOM OF DITCH.

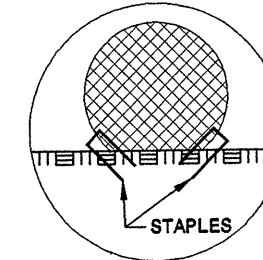
PROVIDE STAPLES MADE OF 0.125 IN. DIAMETER STEEL WIRE FORMED INTO A U SHAPE NOT LESS THAN 12" IN LENGTH.

INSTALL STAPLES APPROXIMATELY EVERY 1 LINEAR FOOT ON BOTH SIDES OF WATTLE AND AT EACH END TO SECURE IT TO THE SOIL.

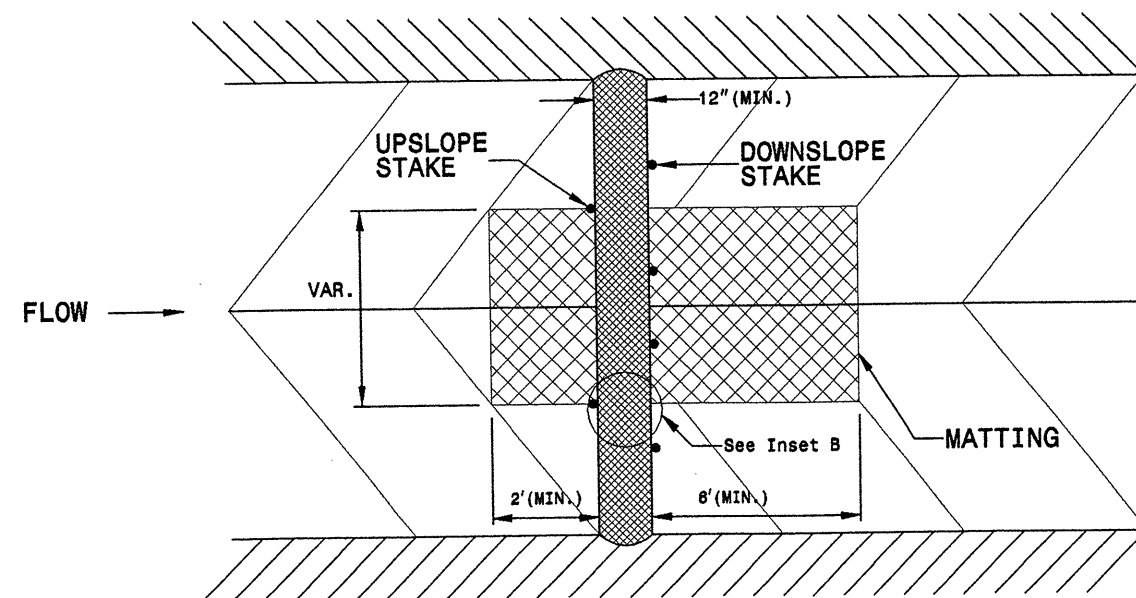
INSTALL MATTING IN ACCORDANCE WITH SECTION 1631 OF THE STANDARD SPECIFICATIONS.



INSET A



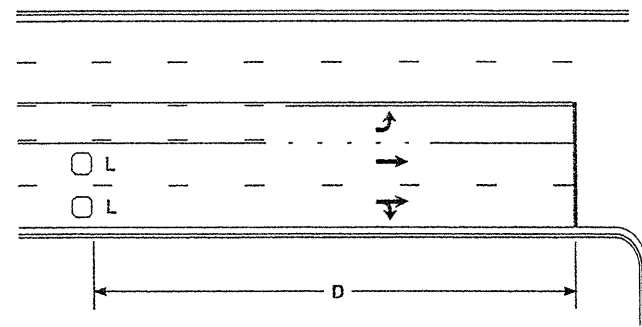
INSET B



TOP VIEW

High Speed Detection

[≥40 mph (64 km/hr)]

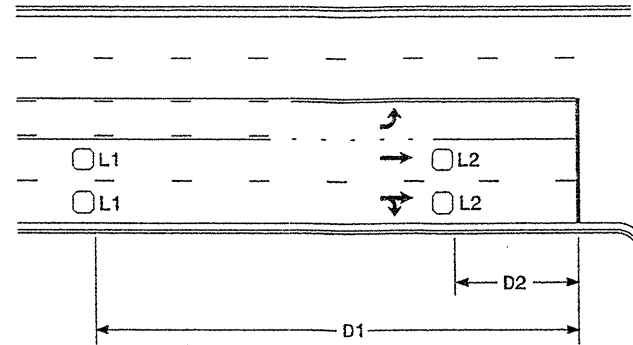


Speed Limit mph (km/hr)	D ft (m)
40 (64)	250 (75)
45 (72)	300 (90)
50 (80)	355 (110)
55 (88)	420 (130)

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

OR



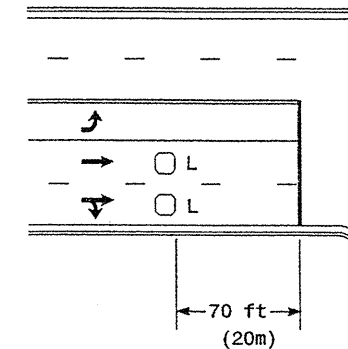
Speed Limit mph (km/hr)	D1 ft (m)	D2 ft (m)
40 (64)	250 (75)	80 (25)
45 (72)	300 (90)	90 (27)
50 (80)	355 (110)	100 (30)
55 (88)	420 (130)	110 (35)

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

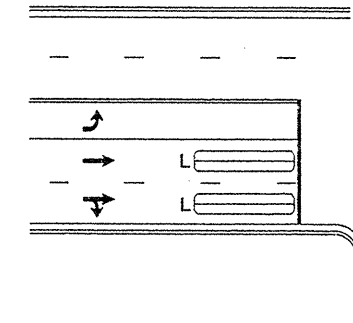
Low Speed Detection

[≤35 mph (56 km/hr)]



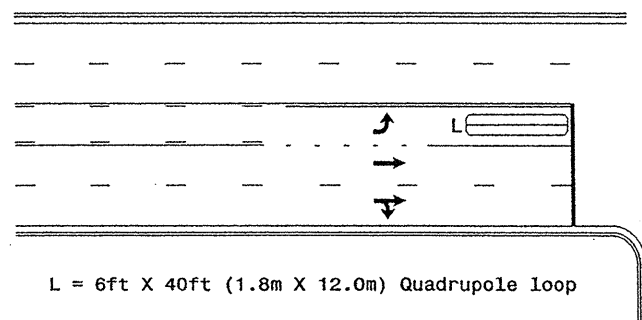
L = 6ft X 6ft (1.8m X 1.8m)
Wired in series

OR



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

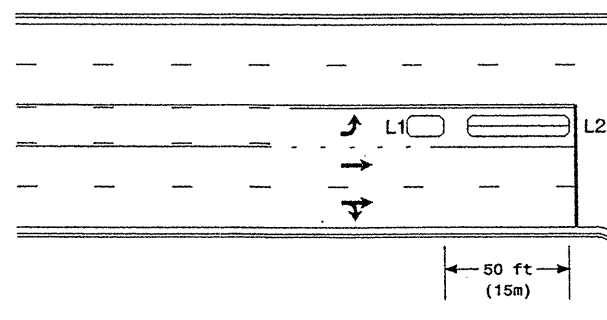
Left Turn Lane Detection



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

Presence Loop Detection

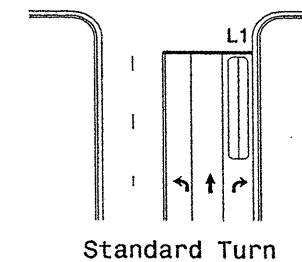
OR



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

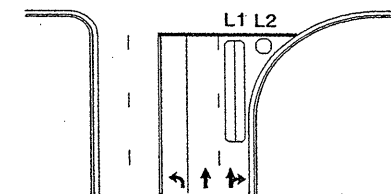
Queue Loop Detection

Right Turn Lane Detection

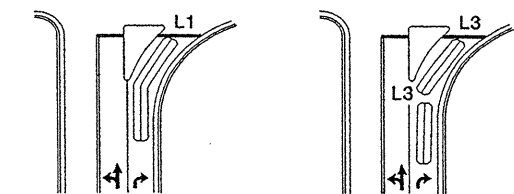


Standard Turn

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

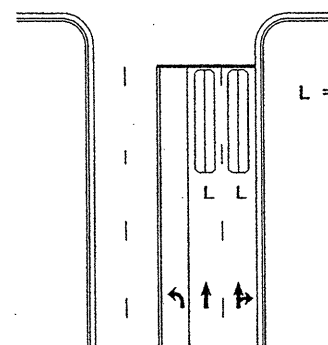


Wide Radius Turn



Channelized Turn

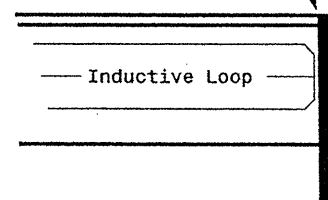
Side Street Detection



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

	Typical Loop Locations		
	PLAN DATE: June 2006 PREPARED BY: P. L. Alexander	REVIEWED BY: REVIEWED BY:	
REVISIONS Revise pavement markings			SIGNATURE: [Signature] DATE: 12/14/06

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

11-08

ENGLISH DETAIL DRAWING FOR
INDUCTIVE DETECTION LOOPS

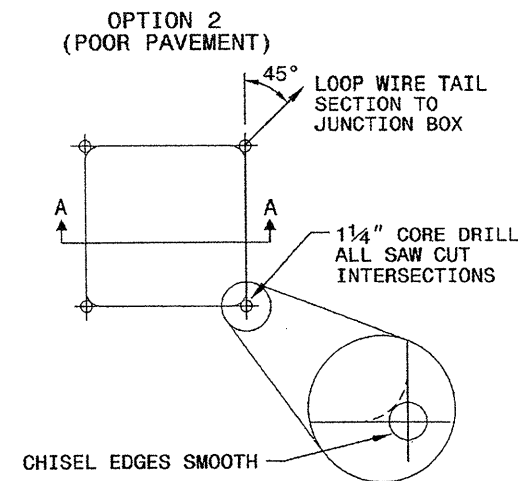
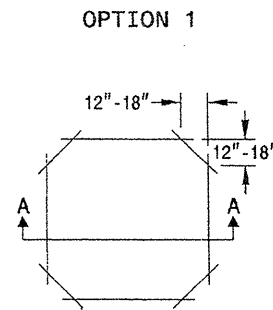
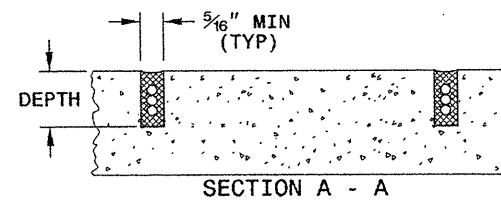
SHEET 1 OF 3
1725D01

CONVENTIONAL 4-SIDED LOOP

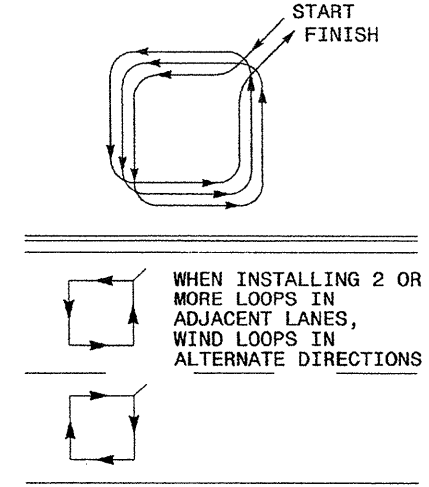
SAW CUT OPTIONS

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



LOOP WINDING METHOD



LOOP WIRE TWISTING METHOD

INCORRECT WAY TO TWIST WIRE



CORRECT WAY TO TWIST WIRE



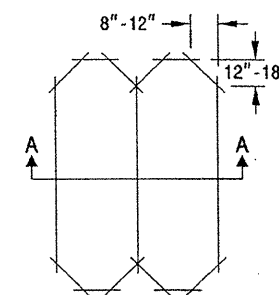
NOTES

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.

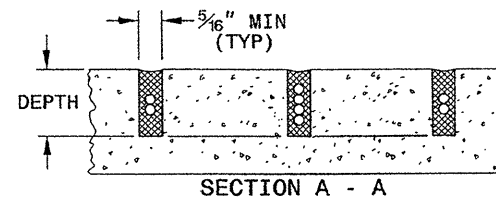
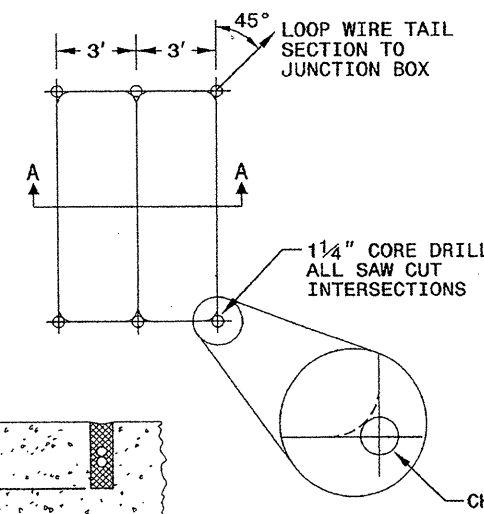
QUADRUPOLE LOOP

SAW CUT OPTIONS

OPTION 1

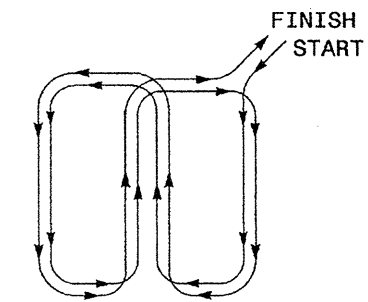


OPTION 2 (POOR PAVEMENT)



DEPTH IS 2.5" FOR CONCRETE AND 3.0" FOR ASPHALT

LOOP WINDING METHOD



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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. DENNIS

Milton I. Dennis 4/24/08
SIGNATURE DATE

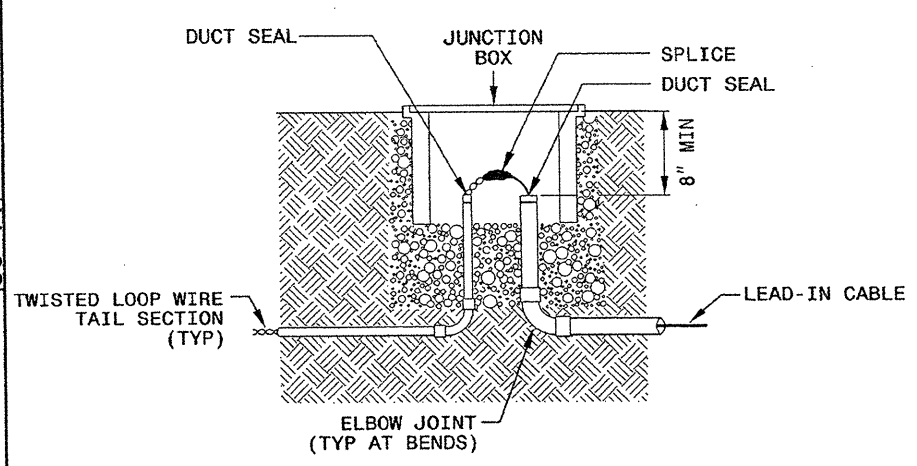
STATE OF NORTH CAROLINA
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 RALEIGH, N.C.

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 ENGLISH DETAIL DRAWING FOR
INDUCTIVE DETECTION LOOPS
 LOOP WIRE DETAILS

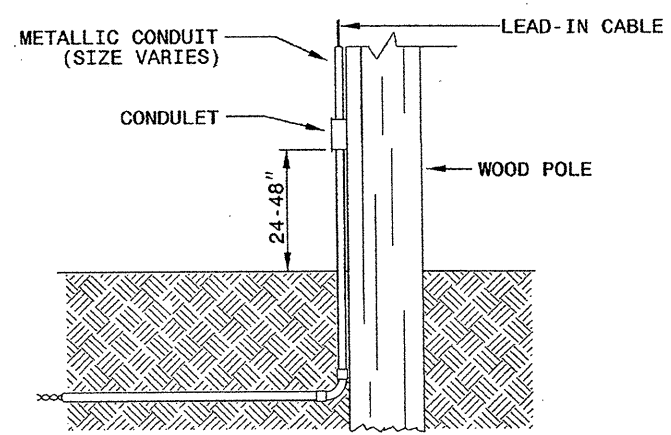
SHEET 2 OF 3
1725D01

LOOP WIRE SPLICE POINT DETAILS

LOOP WIRE AT JUNCTION BOX



LOOP WIRE AT POLE

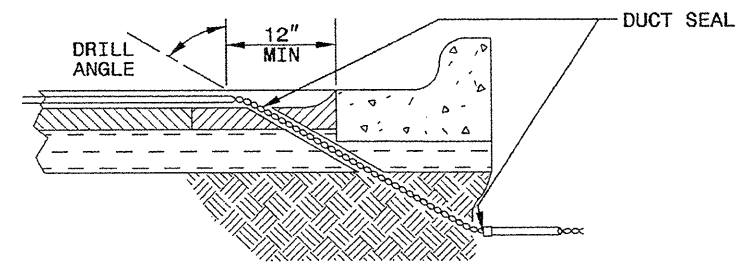


NOTE

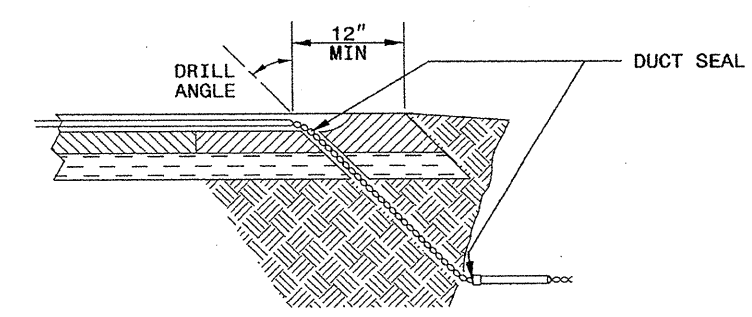
SPLICE ALL LOOP WIRE TAIL SECTIONS/LEAD-IN CABLE IN JUNCTION BOXES OR APPROVED CONDULETS.

LOOP WIRE PAVEMENT EDGE DETAILS

LOOP WIRE AT CURB & GUTTER SECTION



LOOP WIRE AT PAVEMENT SECTION



NOTES

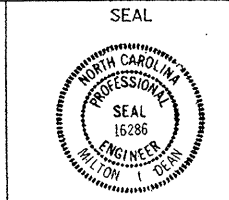
1. DO NOT EXCAVATE UNDER CURB AND GUTTER SECTIONS FOR CONDUIT INSTALLATION.
2. TWIST LOOP WIRE TAIL SECTIONS FROM WHERE LOOP WIRE TAIL LEAVES SAW CUT TO JUNCTION BOX, INCLUDING THROUGH CONDUIT.
3. BEFORE SEALING LOOPS, INSTALL DUCT SEAL WHERE LOOP WIRE TAIL SECTION LEAVES SAW CUT IN PAVEMENT AND AT ENTRANCE OF CONDUIT TO JUNCTION BOX.

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ENGLISH DETAIL DRAWING FOR
INDUCTIVE DETECTION LOOPS
 LOOP WIRE DETAILS

SHEET 2 OF 3
1725D01

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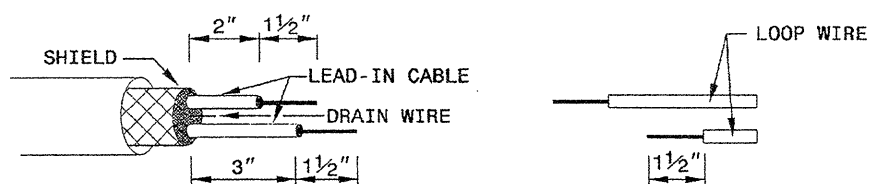
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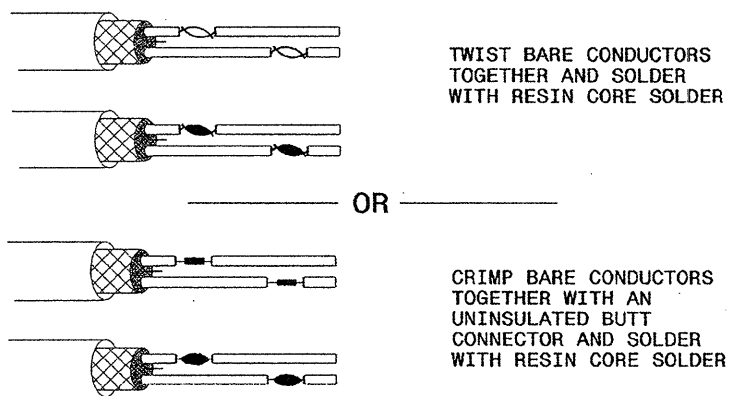
ENGLISH DETAIL DRAWING FOR
INDUCTIVE DETECTION LOOPS
SPlicing FOR LEAD-IN CABLE AND LOOP WIRE

SHEET 3 OF 3
1725D01

STEP 1. STRIP LOOP WIRE AND LEAD-IN CABLE

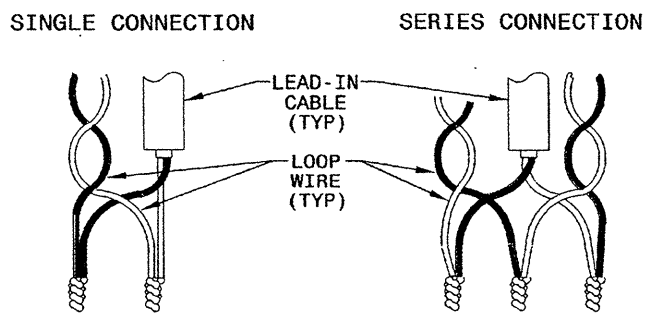


STEP 2. CONNECT AND SOLDER

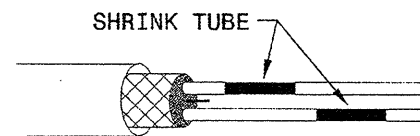


BOND SHIELD DRAIN WIRE AT SPLICE SECTIONS (DO NOT GROUND)

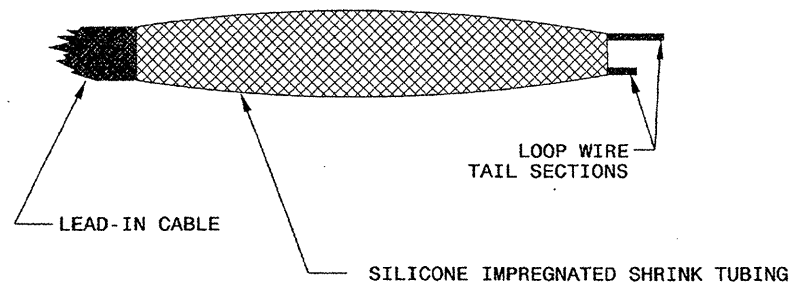
LOOP WIRE AND LEAD-IN CABLE CONNECTION DETAILS



STEP 3. INSULATE EACH SOLDER JOINT SEPARATELY



STEP 4. ENVIRONMENTALLY PROTECT SPLICE



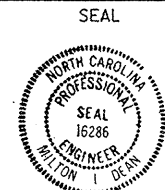
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INDUCTIVE DETECTION LOOPS
SPlicing FOR LEAD-IN CABLE AND LOOP WIRE

SHEET 3 OF 3
1725D01

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