

09/08/99
 11-OCT-2013 07:47
 O:\RDY\DDC\RETRAT\2014\2014_Duplin_Sampson\ROADWAY\Proj\3CR.10311.147_Rdy_tsh_090613.dgn
 diafave AT D3CAD247798

WBS NO.: 3CR.10311.147, ETC.

CONTRACT:

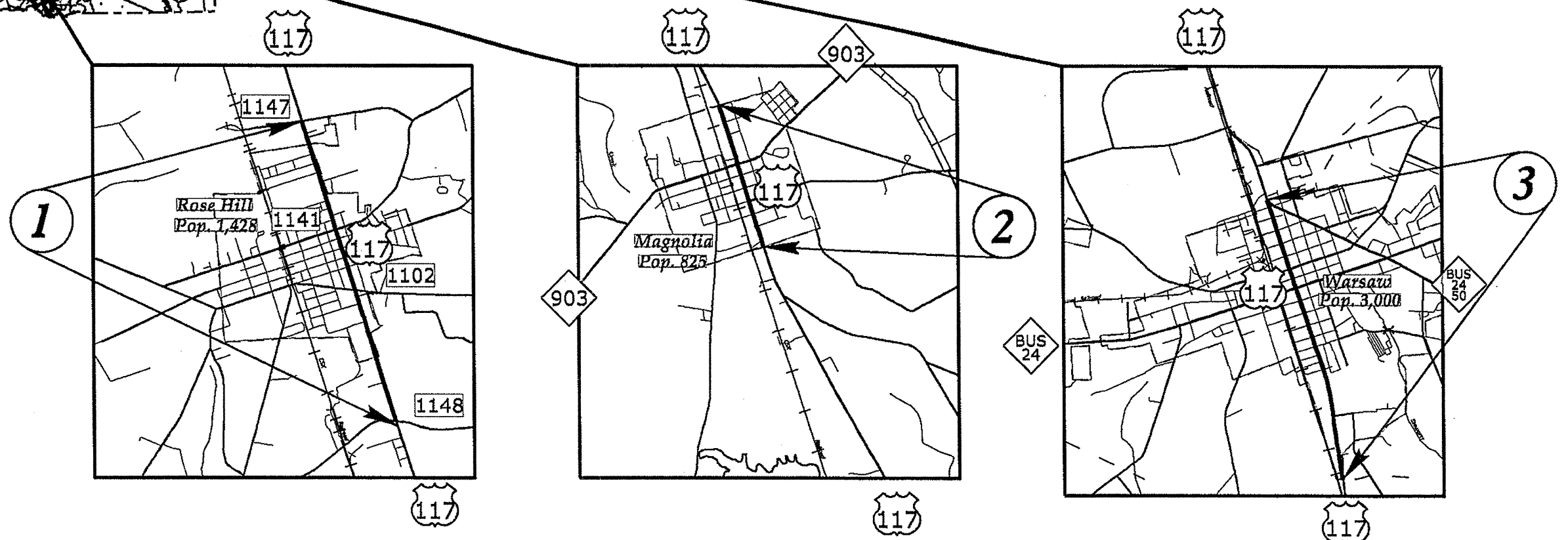
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

DUPLIN COUNTY

LOCATION:
DUPLIN PRIMARY: 3 SECTIONS OF US 117

TYPE OF WORK:
MILLING, WIDENING, RESURFACING,
SHOULDER RECONSTRUCTION, ETC.

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	3CR.10311.147, ETC.	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	



MAPS N.T.S. ON THIS SHEET: DUPLIN COUNTY PRIMARY

PROJECT LENGTH	
PRIMARY - DUPLIN CO.	
3CR.10311.147	
MAP NO. 1 =	2.37 MI.
MAP NO. 2 =	1.04 MI.
MAP NO. 3 =	1.27 MI.
SUB-TOTAL = 4.68 MI.	
TOTAL = 4.68 MI.	

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

2012 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE: _____

LETTING DATE: _____

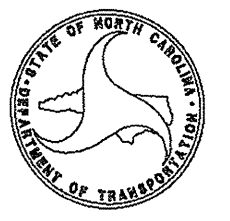
PROJECT ENGINEER: _____

PROJECT DESIGN ENGINEER: _____

ROADWAY DESIGN
TECHNICIAN

ADS, DNL, MPK

SIGNATURE: _____



05-DEC-2013 14:14 C:\RDY\DDC\RE\REAT\2014\2014_Duplin_Sampson\ROADWAY\Doc\20513_to_RALEIGH_REV_3\3CR.10311.147_Rdy_tsh_120513.dgn

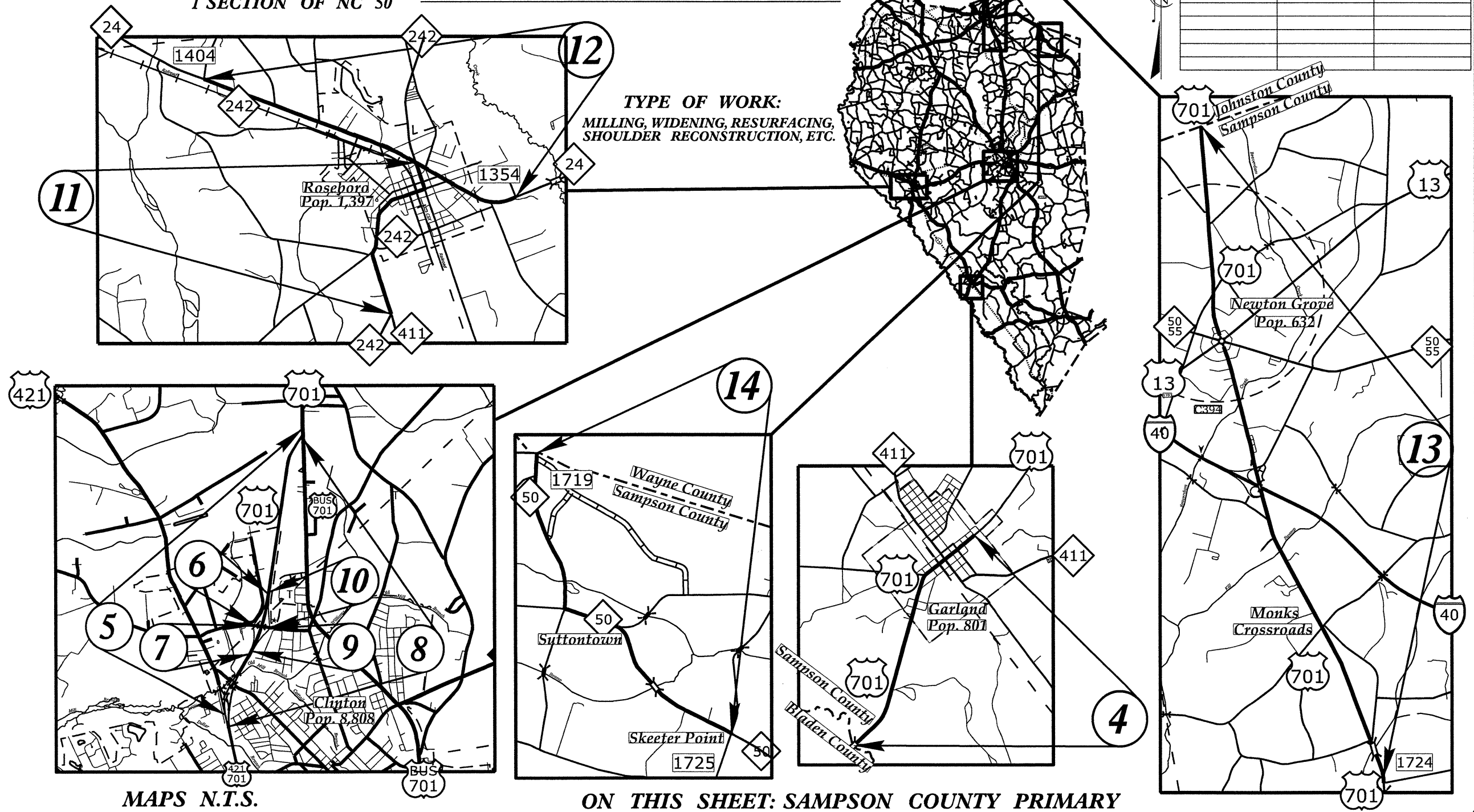
CONTRACT: WBS NO.: 3CR.10311.147, ETC.

LOCATION:

**SAMPSON PRIMARY: 8 SECTIONS OF US 701
1 SECTION OF NC 242
1 SECTION OF NC 24
1 SECTION OF NC 50**

SAMPSON COUNTY

TYPE OF WORK:
MILLING, WIDENING, RESURFACING,
SHOULDER RECONSTRUCTION, ETC.



STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	3CR.10821.147	2	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	

MAPS N.T.S.

ON THIS SHEET: SAMPSON COUNTY PRIMARY

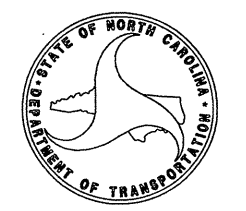
PROJECT LENGTH

PRIMARY - SAMPSON CO.		
3CR.10821.147		
MAP NO. 4 = 2.33 MI.	MAP NO. 8 = 2.60 MI.	MAP NO. 12 = 3.12 MI.
MAP NO. 5 = 2.49 MI.	MAP NO. 9 = 0.17 MI.	MAP NO. 13 = 6.22 MI.
MAP NO. 6 = 0.21 MI.	MAP NO. 10 = 0.19 MI.	MAP NO. 14 = 3.78 MI.
MAP NO. 7 = 0.18 MI.	MAP NO. 11 = 1.71 MI.	
SUB-TOTAL = 23.00 MI.		
TOTAL = 23.00 MI.		

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

2012 STANDARD SPECIFICATIONS	
RIGHT OF WAY DATE:	PROJECT ENGINEER
LETTING DATE:	PROJECT DESIGN ENGINEER

ROADWAY DESIGN TECHNICIAN
ADS, DNL, MPK SIGNATURE:



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 11-OCT-2013 07:49
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 diafave

WBS NO.: 3CR.10311.147, ETC.

CONTRACT:

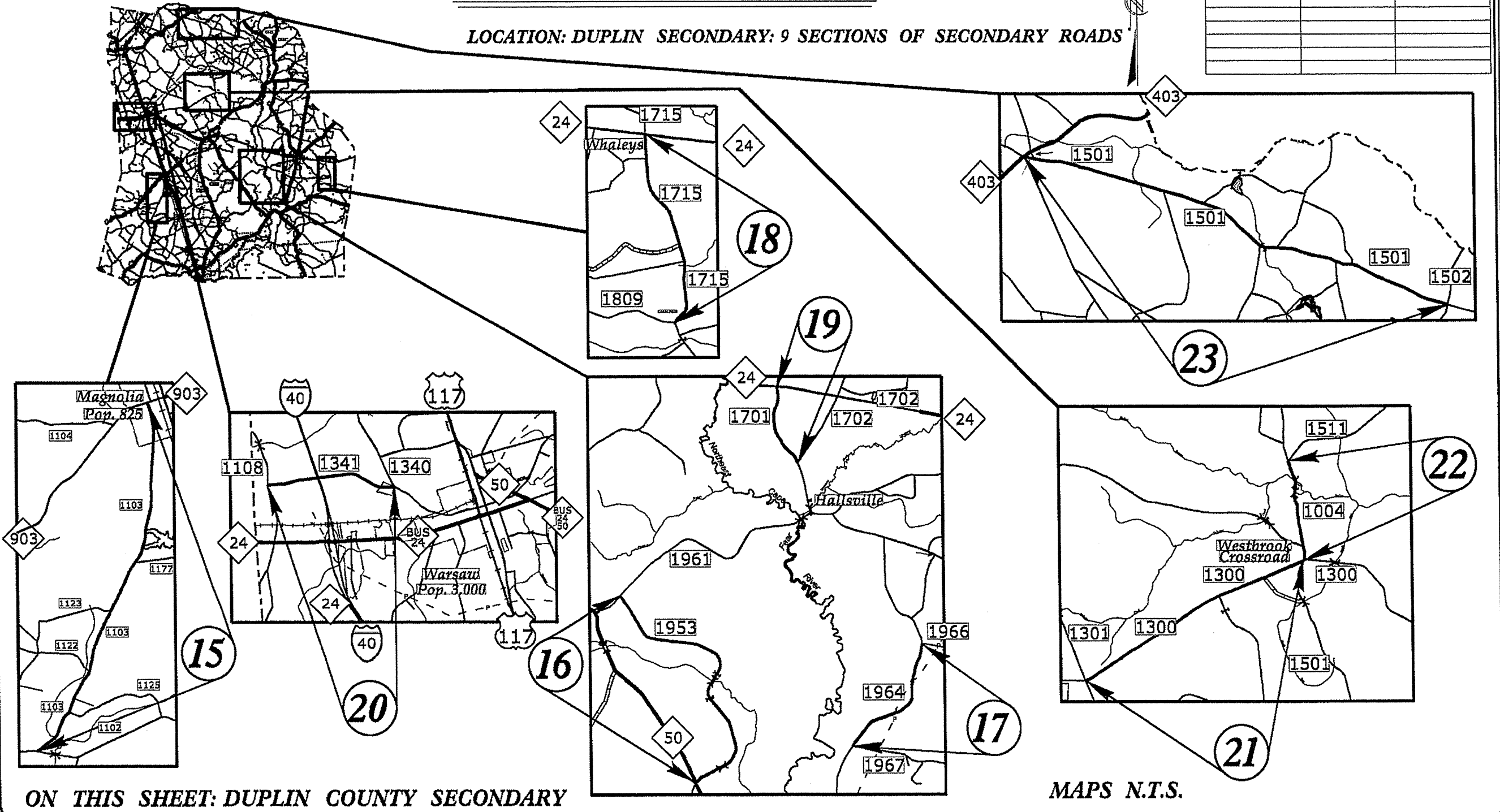
TYPE OF WORK:

**MILLING, WIDENING, RESURFACING,
SHOULDER RECONSTRUCTION, ETC.**

DUPLIN COUNTY

LOCATION: DUPLIN SECONDARY: 9 SECTIONS OF SECONDARY ROADS

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	3CR.20311.147	3	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	



ON THIS SHEET: DUPLIN COUNTY SECONDARY

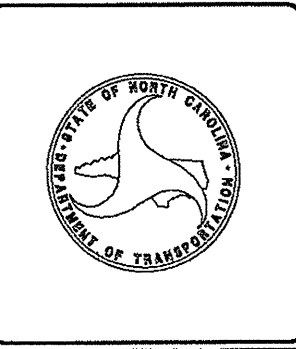
MAPS N.T.S.

PROJECT LENGTH		
SECONDARY - DUPLIN CO.		
3CR.20311.147		
MAP NO. 15 = 5.80 MI.	MAP NO. 18 = 2.92 MI.	MAP NO. 21 = 3.77 MI.
MAP NO. 16 = 4.19 MI.	MAP NO. 19 = 1.19 MI.	MAP NO. 22 = 1.64 MI.
MAP NO. 17 = 2.00 MI.	MAP NO. 20 = 1.95 MI.	MAP NO. 23 = 6.78 MI.
SUB-TOTAL = 30.24 MI.		
TOTAL = 30.24 MI.		

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

2012 STANDARD SPECIFICATIONS	
RIGHT OF WAY DATE:	PROJECT ENGINEER
LETTING DATE:	PROJECT DESIGN ENGINEER

	ROADWAY DESIGN TECHNICIAN
	ADS, DNL, MPK SIGNATURE:



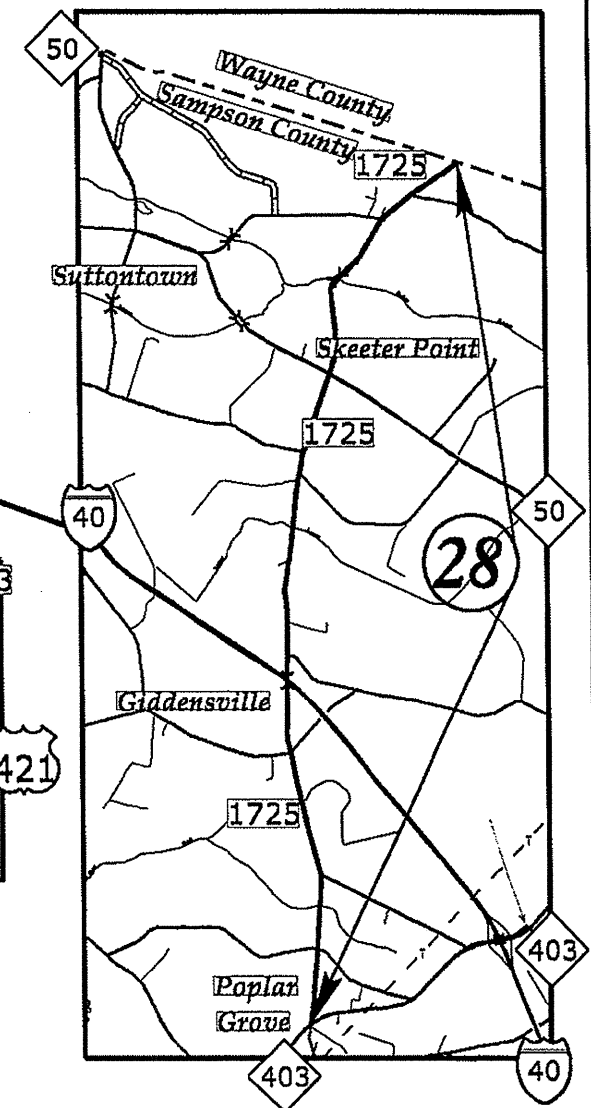
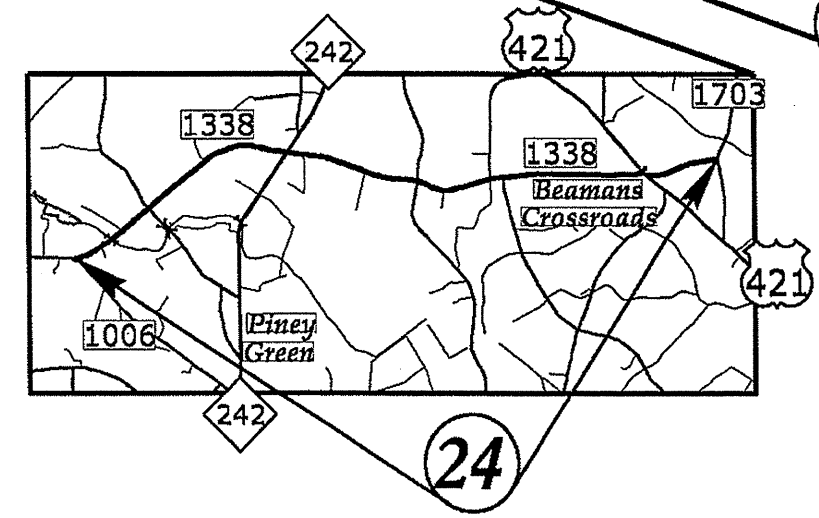
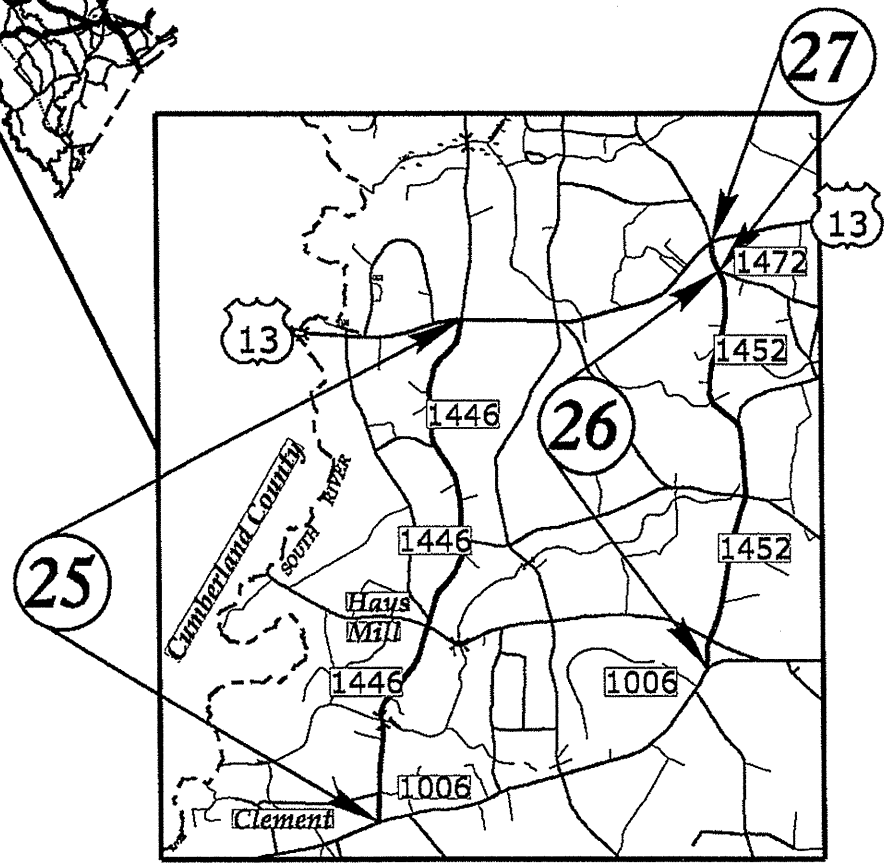
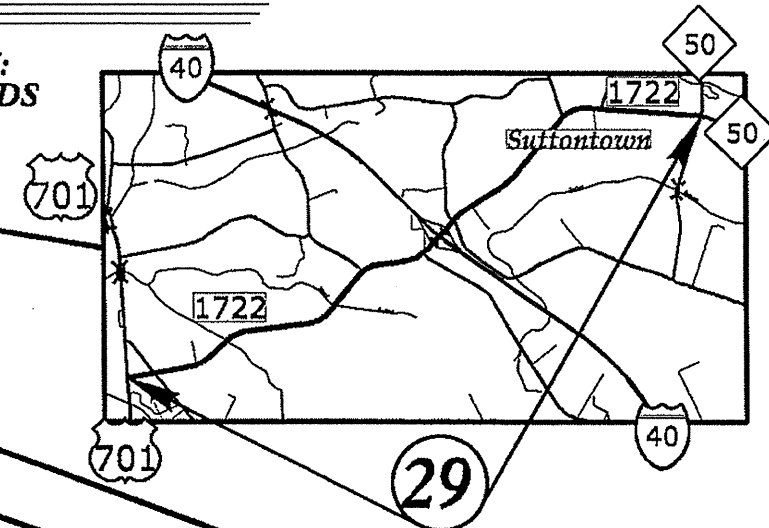
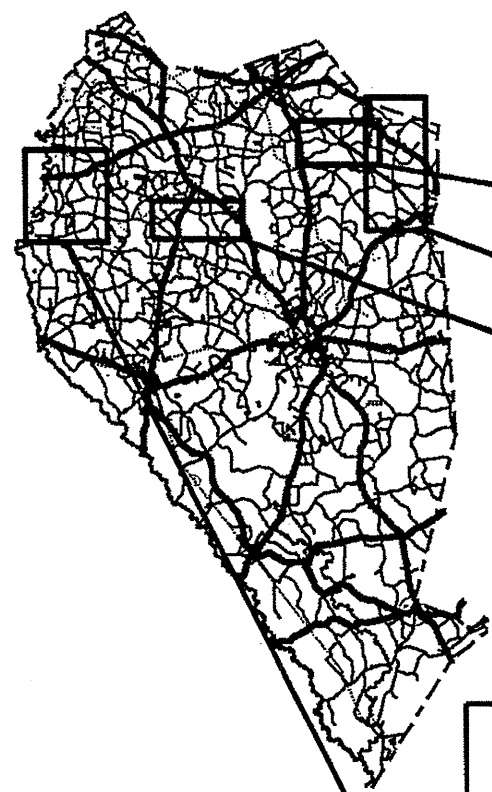
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WBS NO.: 3CR.10311.147, ETC.

CONTRACT:

SAMPSON COUNTY

LOCATION: SAMPSON SECONDARY:
6 SECTIONS OF SECONDARY ROADS



TYPE OF WORK:

**MILLING, WIDENING, RESURFACING,
SHOULDER RECONSTRUCTION, ETC.**

MAPS N.T.S.

ON THIS SHEET: SAMPSON COUNTY SECONDARY

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	3CR.20821.147	4	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	

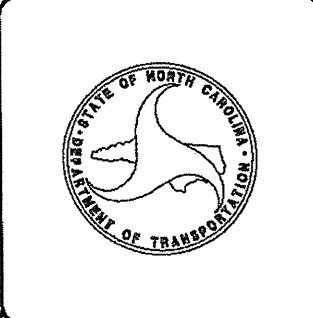
PROJECT LENGTH

SECONDARY - SAMPSON CO.			
3CR.20821.147			
MAP NO. 24 =	5.85 MI.	MAP NO. 27 =	0.30 MI.
MAP NO. 25 =	4.60 MI.	MAP NO. 28 =	7.80 MI.
MAP NO. 26 =	3.50 MI.	MAP NO. 29 =	5.75 MI.
SUB-TOTAL = 27.80 MI.			
TOTAL = 27.80 MI.			

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

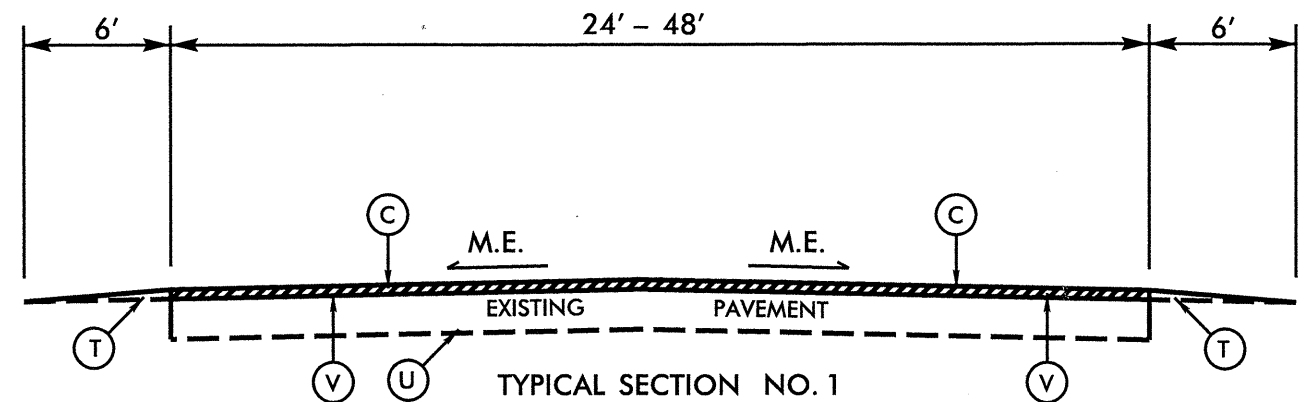
2012 STANDARD SPECIFICATIONS	
RIGHT OF WAY DATE:	PROJECT ENGINEER
LETTING DATE:	PROJECT DESIGN ENGINEER

ROADWAY DESIGN TECHNICIAN	ADS, DNL, MPK SIGNATURE:
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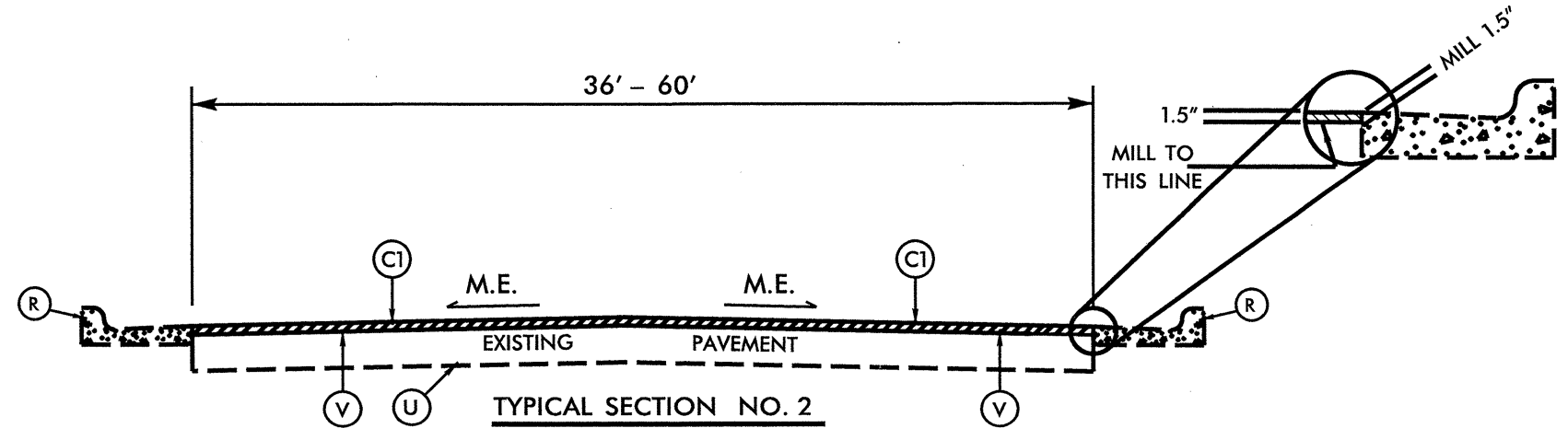


5/14/99

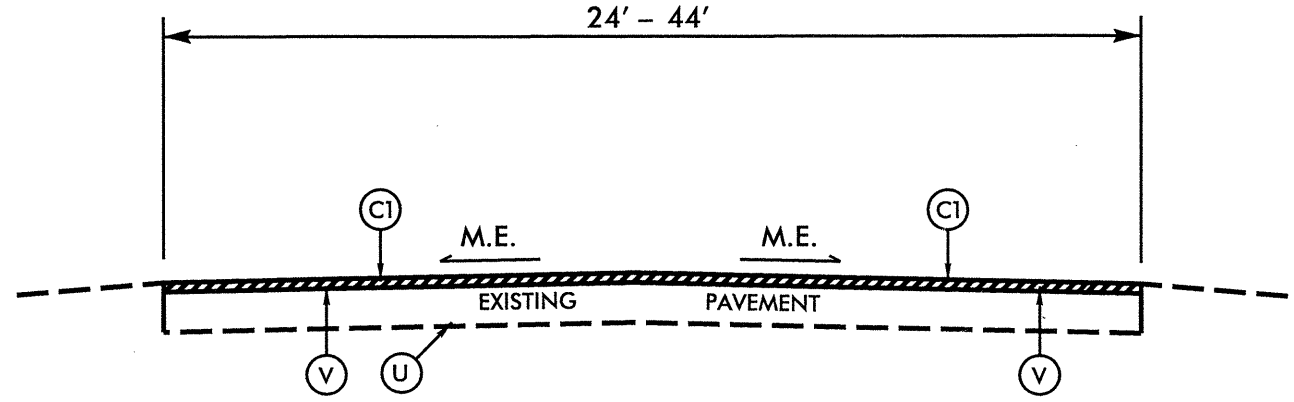
PROJECT REFERENCE NO. 33000471C	SHEET NO. 5
2ND SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



TYPICAL SECTION NO. 1
 MAP NO. 1
 MP 6.63 - MP 7.78
 MP 8.21 - MP 9.00



TYPICAL SECTION NO. 2
 MAP NO. 1 MP 7.78 - MP 8.21 MAP NO. 3 MP 20.05 - MP 21.25 MAP NO. 11 MP 4.38 - MP 4.86 MAP NO. 13 MP 35.90 - MP 36.35
 MAP NO. 2 MP 12.66 - MP 13.67 MAP NO. 4 MP 1.69 - MP 2.33 MP 4.97 - MP 5.16 (NO WORK) MP 36.35 - MP 36.46
 MP 36.46 - MP 36.98

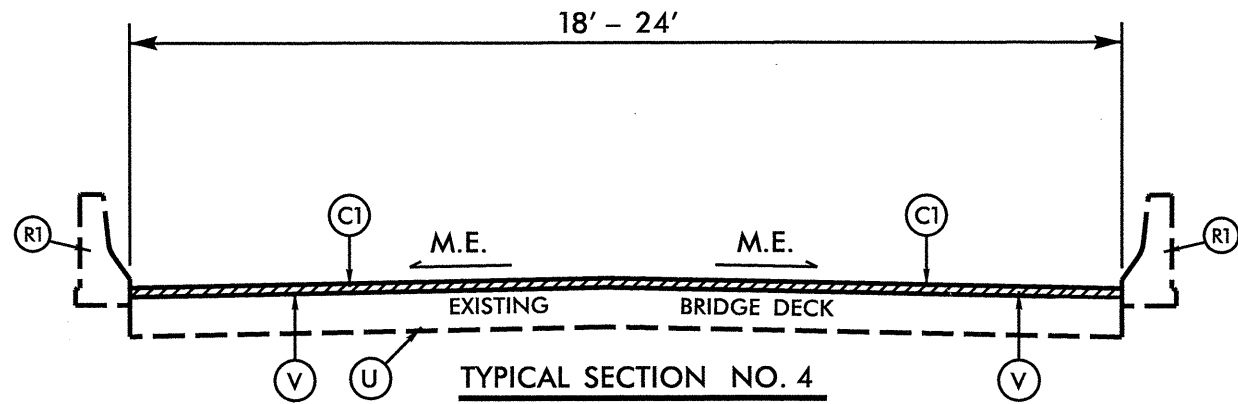


TYPICAL SECTION NO. 3
 MAP NO. 2 MP 12.63 - MP 12.66 MAP NO. 3 MP 21.25 - MP 21.32 MAP NO. 4 MP 0.00 - MP 0.04 MAP NO. 6 MP 0.00 - MP 0.21 MAP NO. 9 MP 0.00 - MP 0.17
 MP 0.06 - MP 1.69 MP 0.00 - MP 0.18 MAP NO. 7 MP 0.00 - MP 0.18 MAP NO. 10 MP 0.00 - MP 0.19

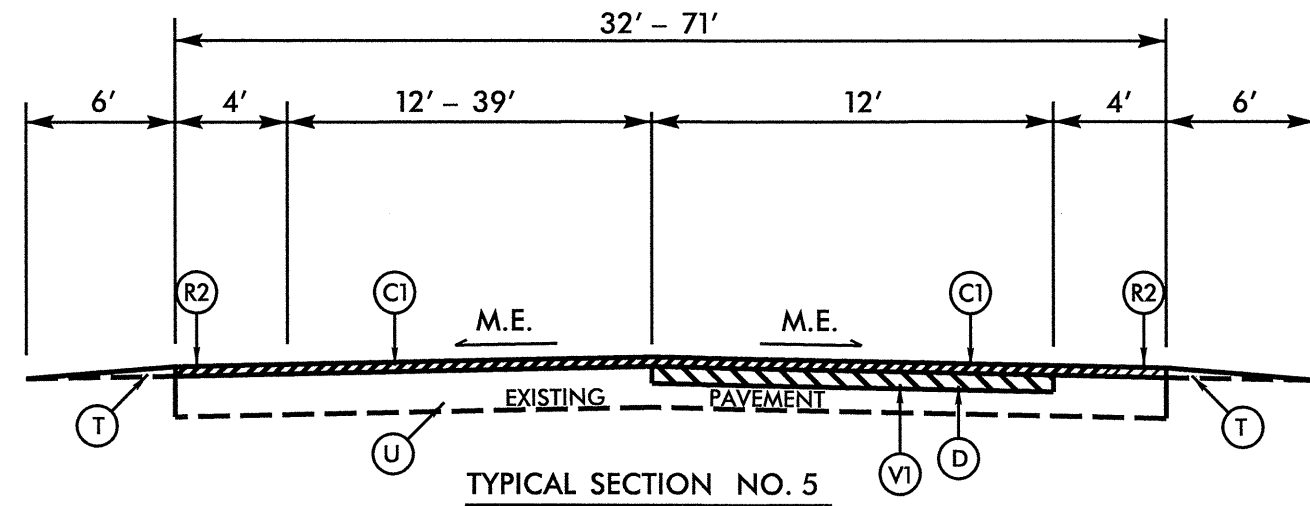
PAVEMENT SCHEDULE	
C	PROP. APPROX. 3" DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ.YD. IN EACH OF TWO LAYERS.
C1	PROP. APPROX. 1½" DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ.YD.
C2	PROP. APPROX. 2" DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 224 LBS. PER SQ.YD.
C3	PROP. APPROX. 1½" DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 165 LBS. PER SQ.YD.
D	PROP. APPROX. 2½" DEPTH ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 285 LBS. PER SQ.YD.
E	PROP. APPROX. 5½" DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 627 LBS. PER SQ.YD.
F	PROP. VARIABLE DEPTH MAT COAT.
R	EXISTING CONCRETE 2'-6" CURB & GUTTER
R1	EXISTING CONCRETE BRIDGE RAIL
R2	MILLED RUMBLE STRIPS
T	EARTH MATERIAL (SHOULDER RECONSTRUCTION)
U	EXISTING PAVEMENT.
V	MILLING BITUMINOUS PAVEMENT. 1 1/2" DEPTH.
V1	MILLING BITUMINOUS PAVEMENT. 2 1/2" DEPTH.
V2	MILLING BITUMINOUS PAVEMENT. 1.5" - 2.5" DEPTH.
V3	MILLING BITUMINOUS PAVEMENT. 1" DEPTH.

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

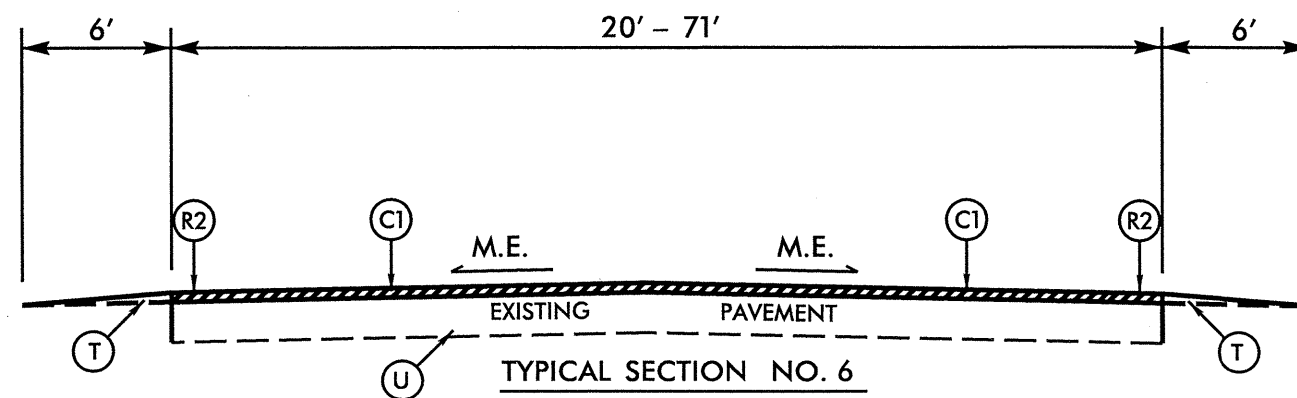
PROJECT REFERENCE NO. SR203/147.ETC.	SHEET NO. 6
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



MAP NO. 4
MP 0.04 - MP 0.06
MAP NO. 28
MP 1.30 - MP 1.31



MAP NO. 5
MP 17.05 - MP 17.08
MP 17.21 - MP 17.25
MP 17.46 - MP 18.02



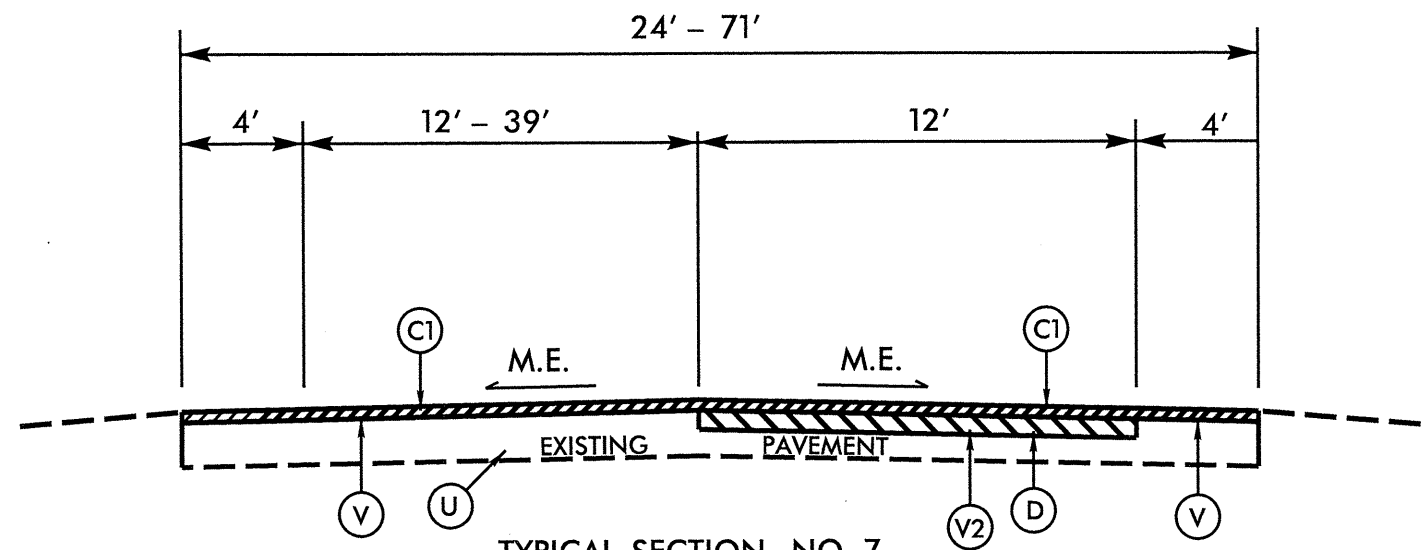
MAP NO. 5
MP 16.57 - MP 17.05
MP 17.08 - MP 17.21
MP 17.25 - MP 17.46
MP 18.02 - MP 18.79
(NO WORK) MP 18.79 - MP 18.82
MP 18.82 - MP 18.92
(NO WORK) 18.92 - MP 18.96
MP 18.96 - MP 19.05

PAVEMENT SCHEDULE	
C1	1½" S9.5B
D	2 1/2" I19.0B
R1	EX. CONC. BRIDGE RAIL
R2	MILLED RUMBLE STRIPS
T	EARTH MATERIAL (SHLDR. RECONST.)
U	EXISTING PAVEMENT
V	MILL 1 1/2" DEPTH
V1	MILL 2 1/2" DEPTH

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

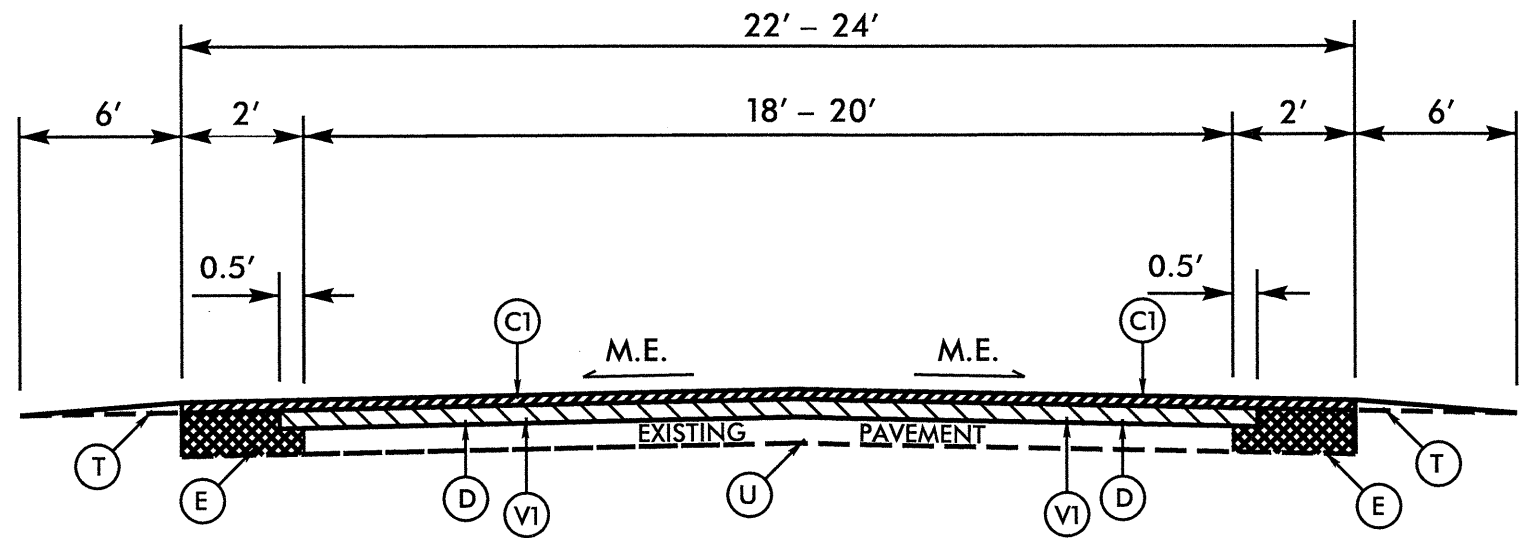
5/14/2018
SYTIME

PROJECT REFERENCE NO. 3CR1031147, ETC.	SHEET NO. 7
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



TYPICAL SECTION NO. 7

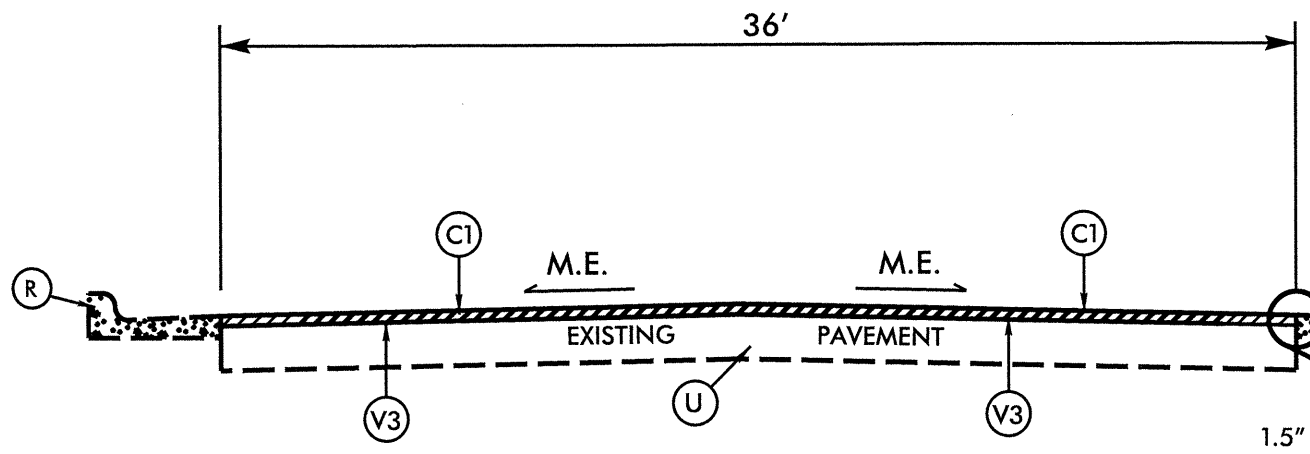
MAP NO. 8
 MP 19.32 - MP 19.51
 (NO WORK) MP 19.51 - MP 19.56
 MP 19.56 - MP 21.92



TYPICAL SECTION NO. 8

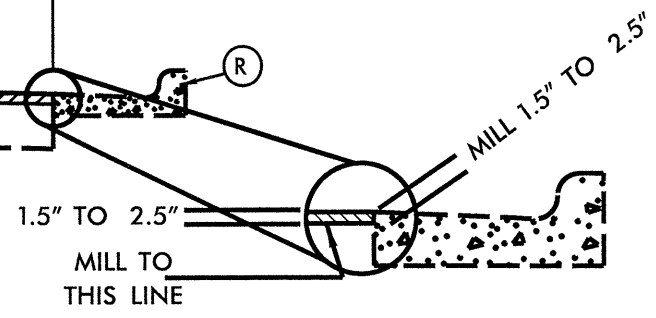
NOTE: WIDEN AND PLACE BASE.
 MILL AS SHOWN. PLACE INTERMEDIATE COURSE.
 RESURFACE ENTIRE ROADWAY

MAP NO. 11
 MP 3.76 - MP 4.38
 MAP NO. 14
 MP 4.63 - MP 5.52
 MP 5.54 - MP 8.41



TYPICAL SECTION NO. 9

MAP NO. 11
 MP 4.86 - MP 4.97
 MP 5.16 - MP 5.47



PAVEMENT SCHEDULE	
C1	1 1/2" S9.5B
D	2 1/2" I19.0B
E	5 1/2" B25.0B
R	EX. 2'-6" C & G
T	EARTH MATERIAL (SHLDR. RECONST.)
U	EXISTING PAVEMENT
V	MILL 1 1/2" DEPTH
V1	MILL 2 1/2" DEPTH
V2	MILL 4" DEPTH
V3	VAR. MILL 1.5" TO 2.5" DEPTH

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

5/14/99

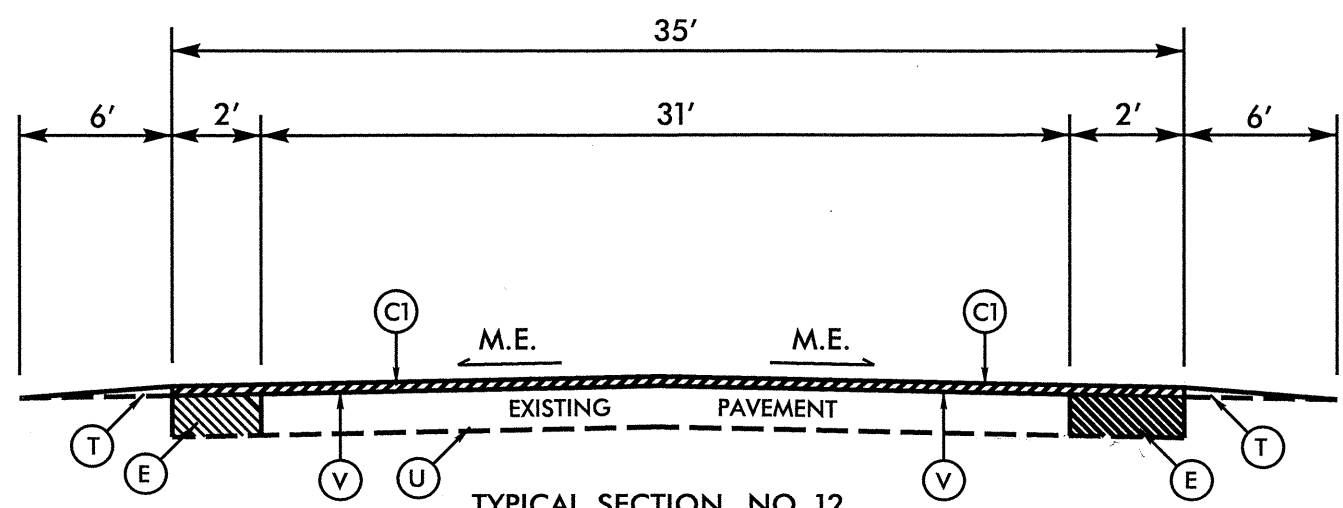
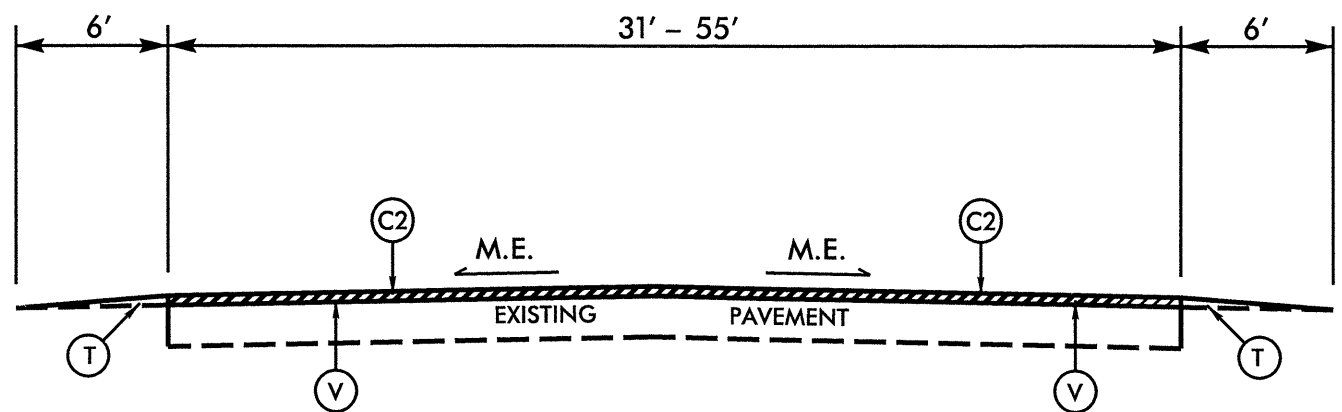
5/14/99

PROJECT REFERENCE NO. 320011410	SHEET NO. 8
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



TYPICAL SECTION NO. 10

MILL PATCHING ONLY
MAP NO. 12
MP 6.20 - MP 9.32



TYPICAL SECTION NO. 12

MAP NO. 13
MP 36.98 - MP 38.41

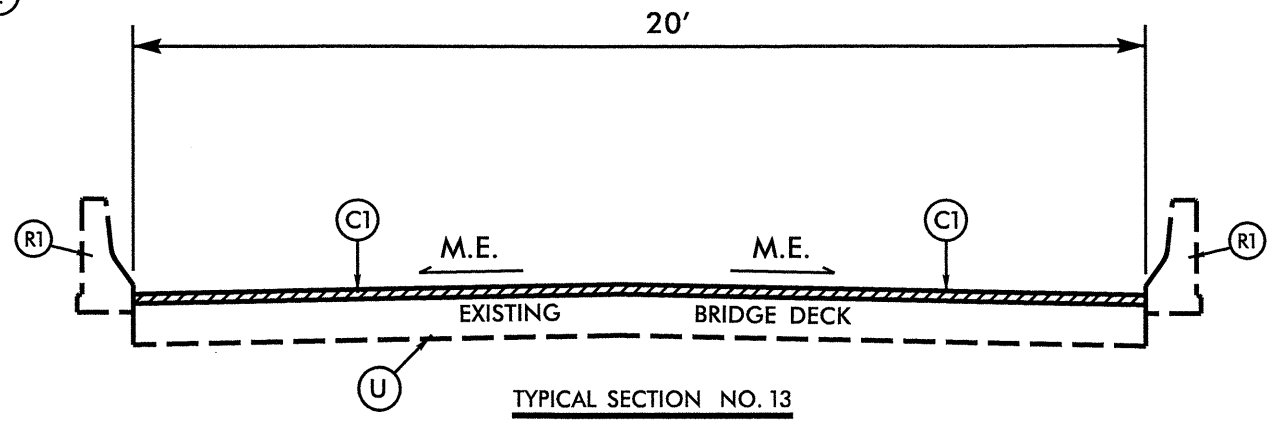
- 1. MILL ENTIRE ROADWAY.
- 2. PLACE WIDENING FLUSH WITH MILLED SURFACE.
- 3. OVERLAY ENTIRE ROADWAY.

TYPICAL SECTION NO. 11

MAP NO. 13
MP 32.19 - MP 34.97
(NO WORK) MP 34.97 - MP 35.03
MP 35.03 - MP 35.90

PAVEMENT SCHEDULE	
C1	1½" S9.5B
C2	2" S9.5B
E	5 1/2" B25.0B
R1	EX. CONC. BRIDGE RAIL
T	EARTH MATERIAL (SHLDR. RECONST.)
U	EXISTING PAVEMENT
V	MILL 1 1/2" DEPTH

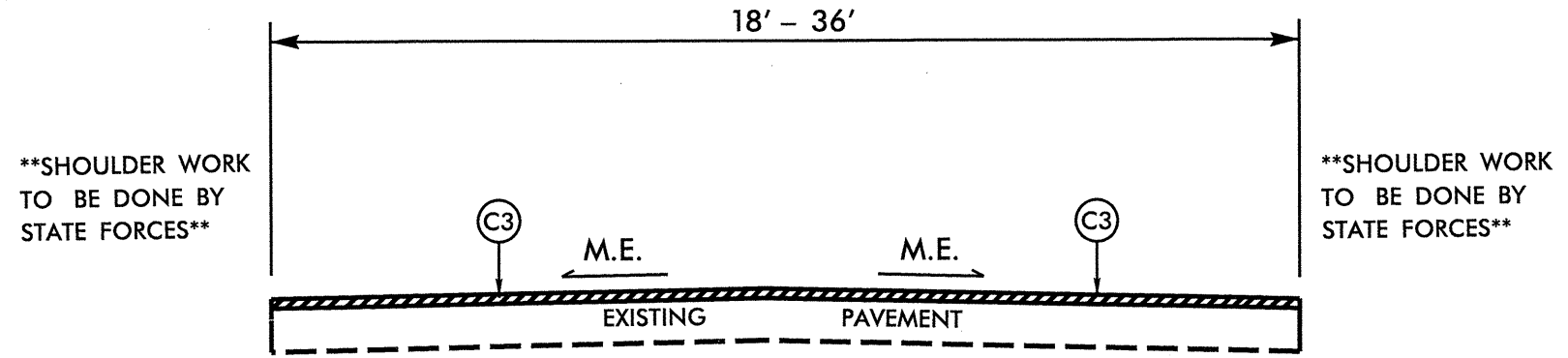
NOTE: PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE.
SEE STD. DRAWING 1205.01, SHEET 2 OF 2, TABLE 1 FOR EDGE LINE OFFSETS.
M.E. = MATCH EXISTING



TYPICAL SECTION NO. 13

MAP NO. 14
MP 5.52 - MP 5.54

PROJECT REFERENCE NO. SCR 1031147, ETC.	SHEET NO. 9
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

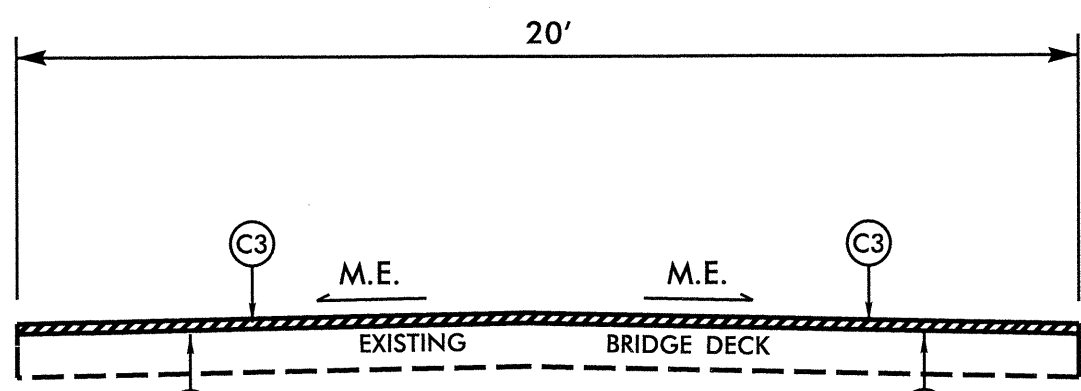


TYPICAL SECTION NO. 14

- | | | | |
|---------------------------------|--|---|---------------------------------|
| MAP NO. 15
MP 0.00 – MP 5.80 | MAP NO. 20
MP 0.01 – MP 1.18
(NO WORK) MP 1.18 – MP 1.22 | MAP NO. 23
MP 0.02 – MP 6.80 | MAP NO. 27
MP 3.50 – MP 3.80 |
| MAP NO. 16
MP 5.71 – MP 7.66 | MAP NO. 21
MP 1.22 – MP 1.96 | MAP NO. 24
MP 0.00 – MP 5.85 | MAP NO. 28
MP 0.00 – MP 1.30 |
| MAP NO. 17
MP 7.67 – MP 9.90 | MAP NO. 22
MP 4.42 – MP 8.19 | MAP NO. 25
MP 0.00 – MP 3.60
(NO WORK) MP 3.60 – 3.61 | MAP NO. 29
MP 1.31 – MP 7.80 |
| MAP NO. 18
MP 1.85 – MP 3.85 | MAP NO. 22
MP 3.60 – MP 4.69
(NO WORK) MP 4.69 – MP 4.72 | MAP NO. 26
MP 3.61 – 4.60 | (NO WORK) MP 3.00 – MP 3.10 |
| MAP NO. 19
MP 3.76 – MP 6.68 | MP 4.72 – 4.85
(NO WORK) MP 4.85 – MP 4.87 | MP 0.00 – MP 3.50 | MP 3.10 – MP 5.75 |
| MP 0.02 – MP 1.21 | MP 4.87 – MP 5.24 | | |

PAVEMENT SCHEDULE	
C3	1 1/2" SF9.5A
F	MAT COAT
T	EARTH MATERIAL (SHLDR. RECONST.)
U	EXISTING PAVEMENT
V4	MILL 1" DEPTH

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

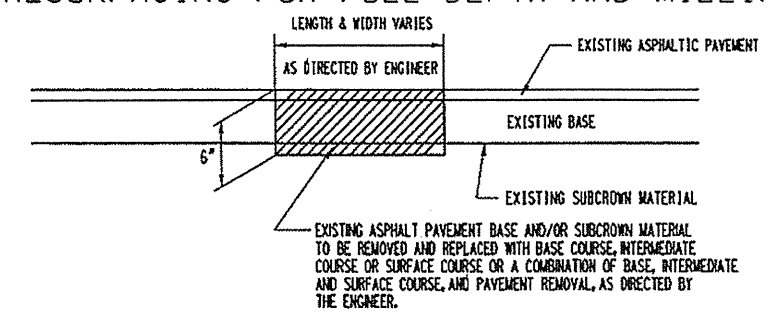


TYPICAL SECTION NO. 15

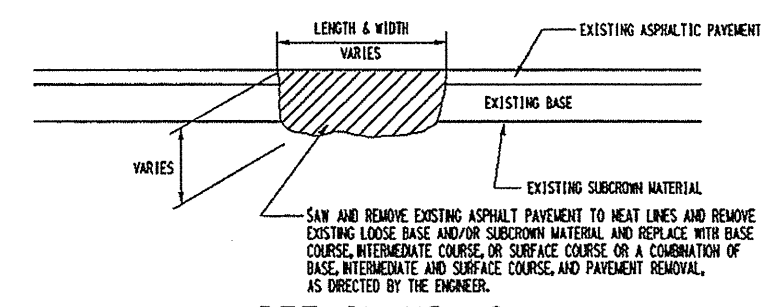
MAP NO. 16
MP 7.66 – MP 7.67

5/14/99

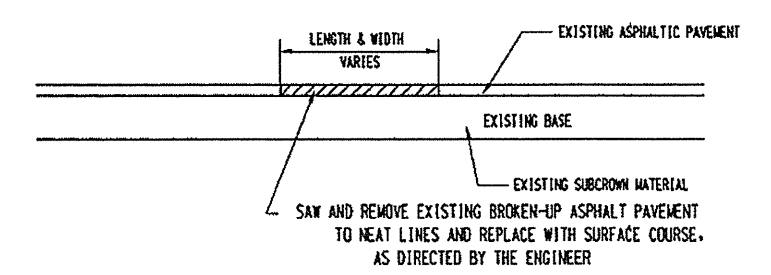
DETAILS OF REPAIRING EXISTING PAVEMENT PRIOR TO RESURFACING FOR FULL DEPTH AND MILLING



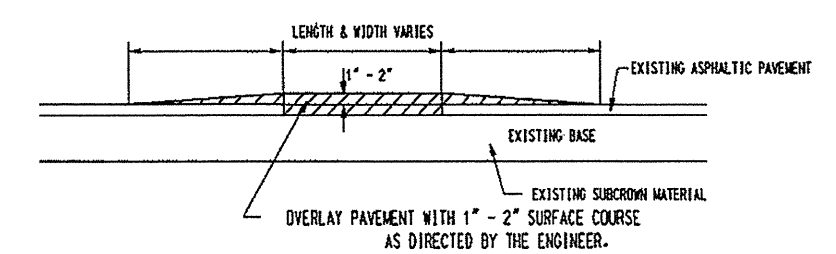
DETAIL NO. 1



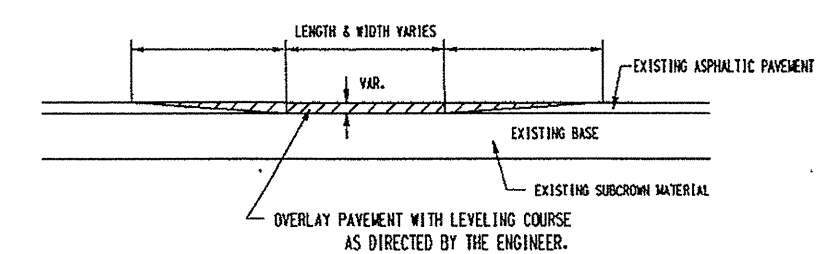
DETAIL NO. 2



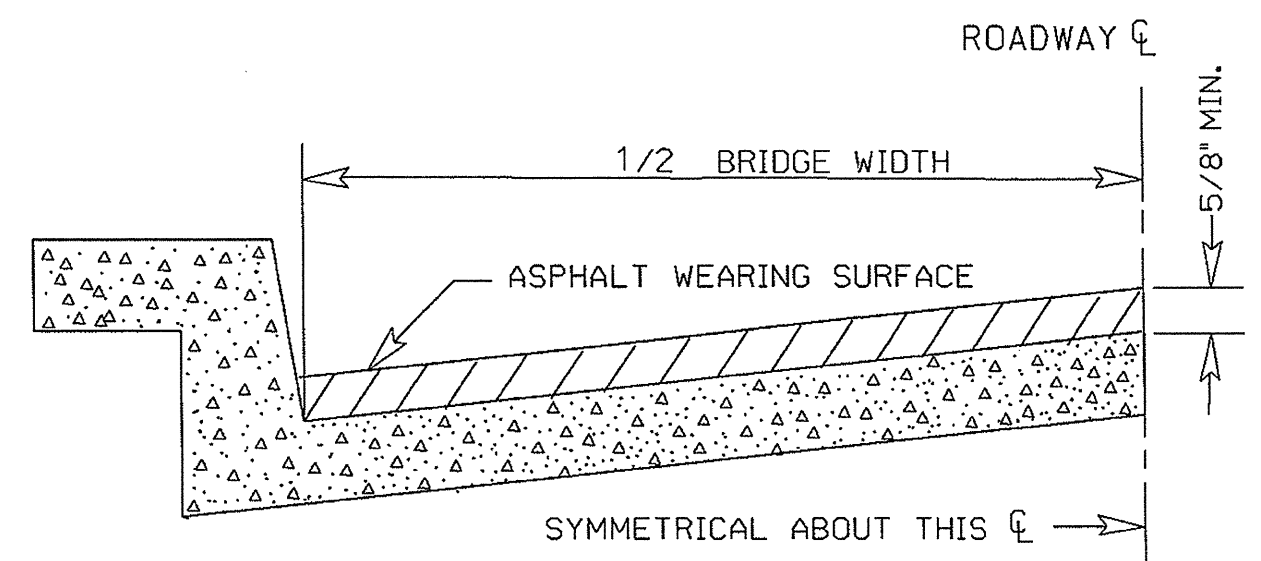
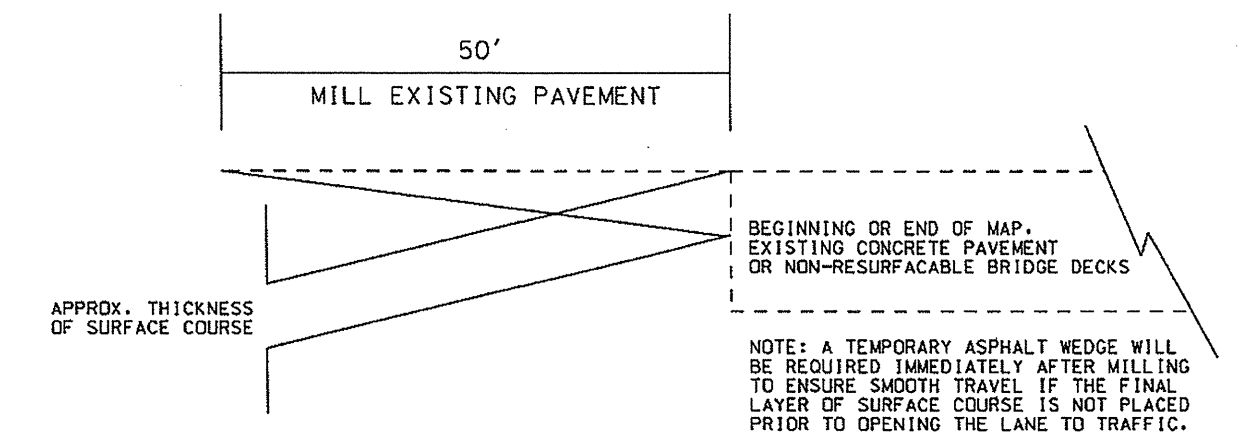
DETAIL NO. 3



DETAIL NO. 4



DETAIL NO. 5



BRIDGE HALF TYPICAL SECTION

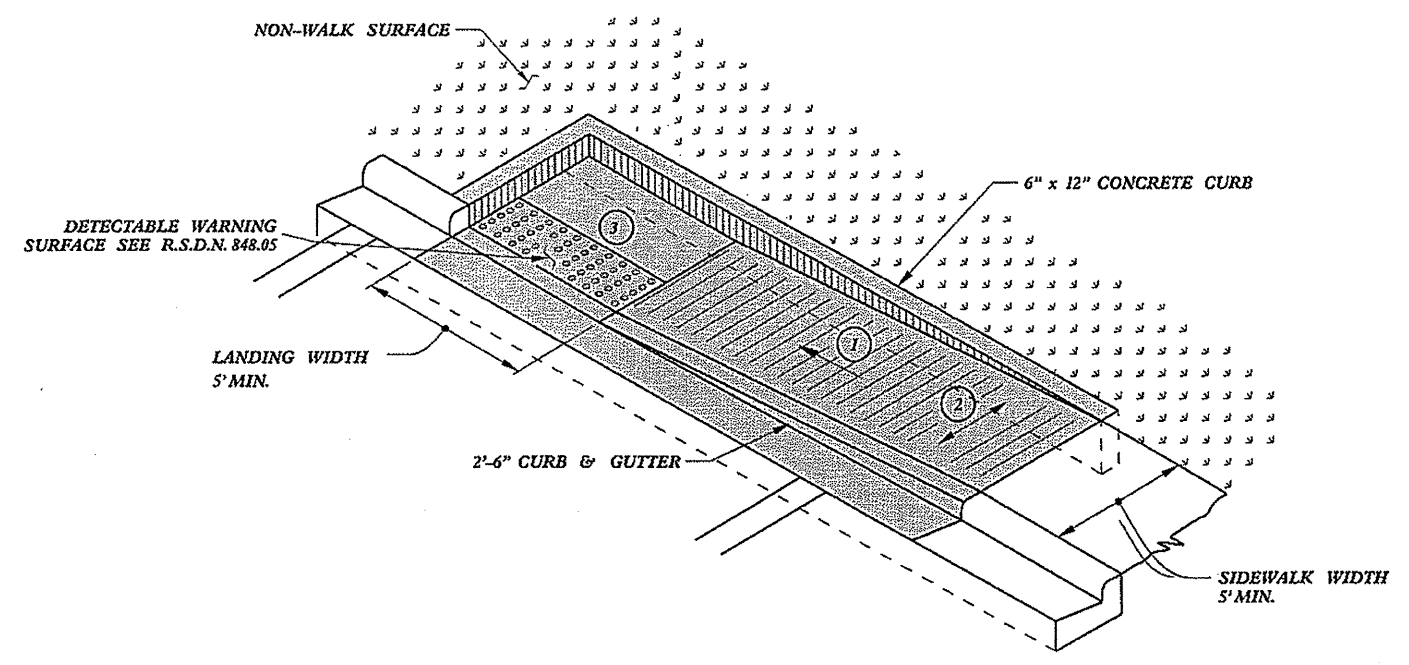
FOR BRIDGES WITH FLOOR DRAINS, CARE SHALL BE EXERCISED IN PLACING THE WEARING SURFACE AROUND FLOOR DRAINS SO AS NOT TO HINDER EFFECTIVE DRAINAGE. ALL DRAINS SHALL BE LEFT OPEN.

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.

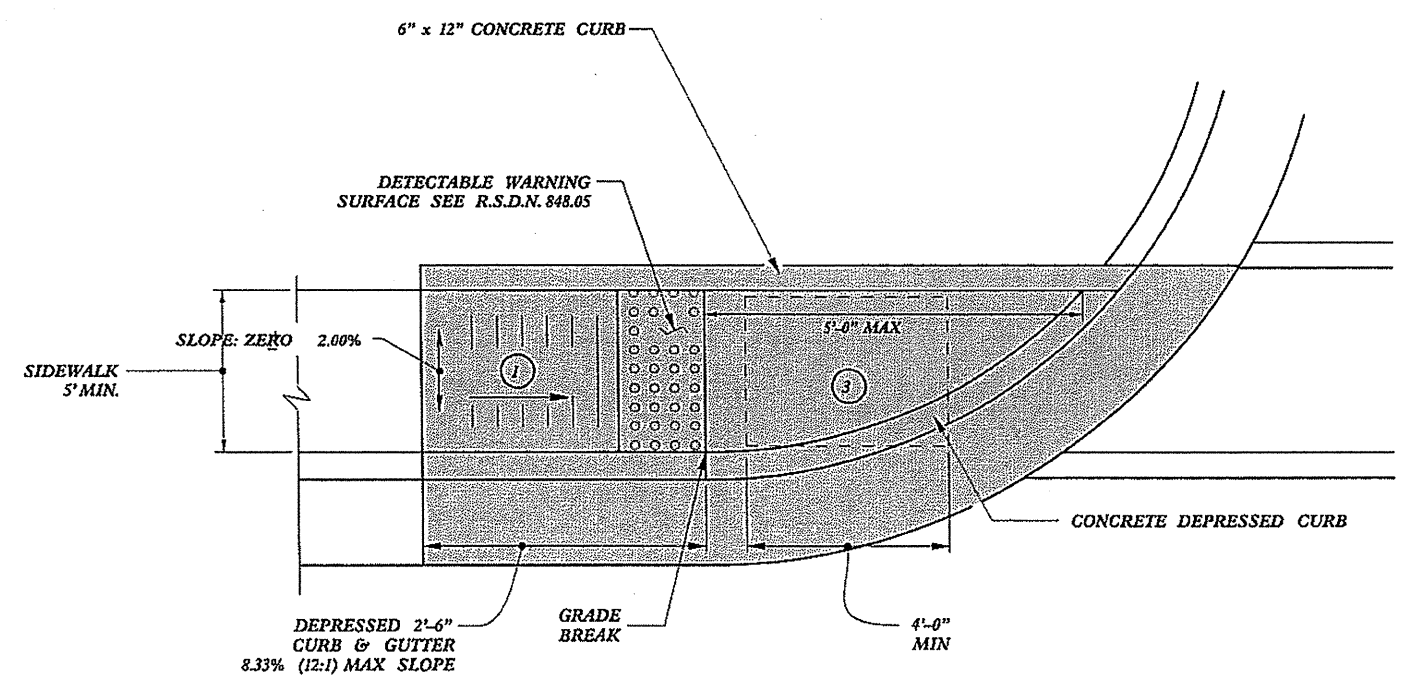
REVISIONS
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5/14/99
 R:\CONTRACTS\2012 Standard Drawings\Standard Drawings\Howerton\Special Details\Curb Ramp Details.dgn
 22-MAR-2012 15:06
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PAY LIMITS FOR CURB RAMP



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.

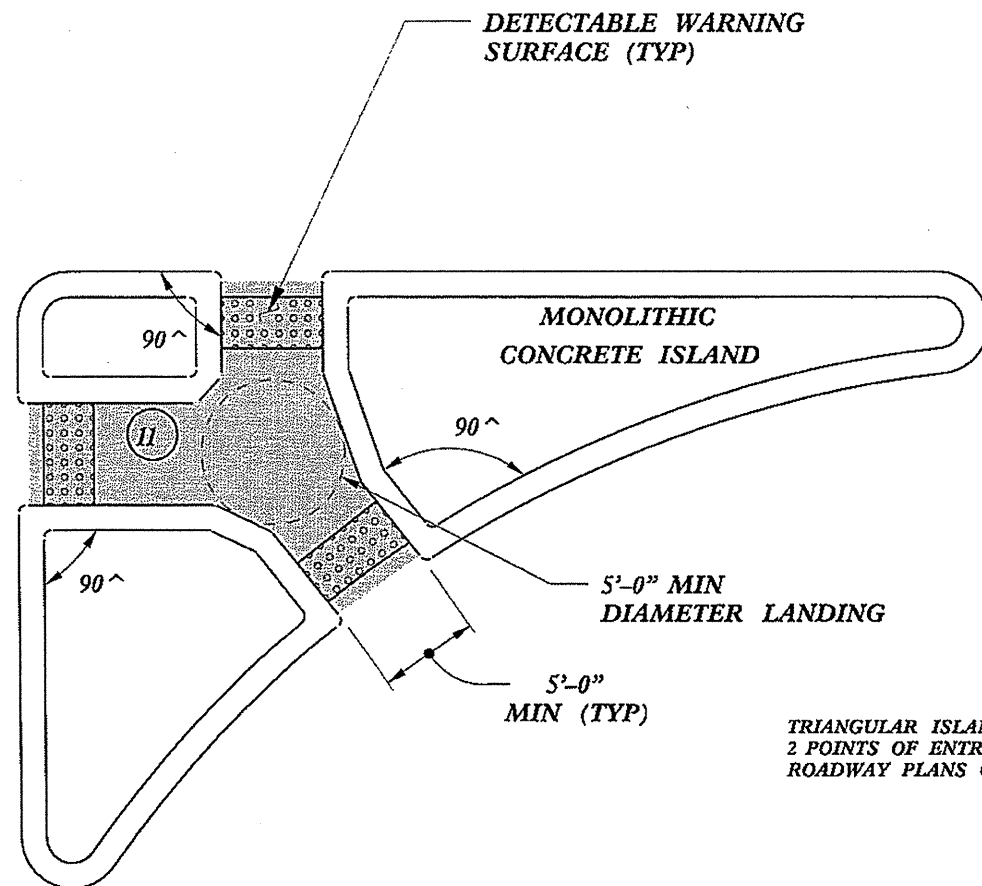
REFER TO ROADWAY STANDARD DRAWING NUMBER 848.05 SHEET 3 OF 3 FOR ALL RAMP NOTES

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.dgn	

5/14/99

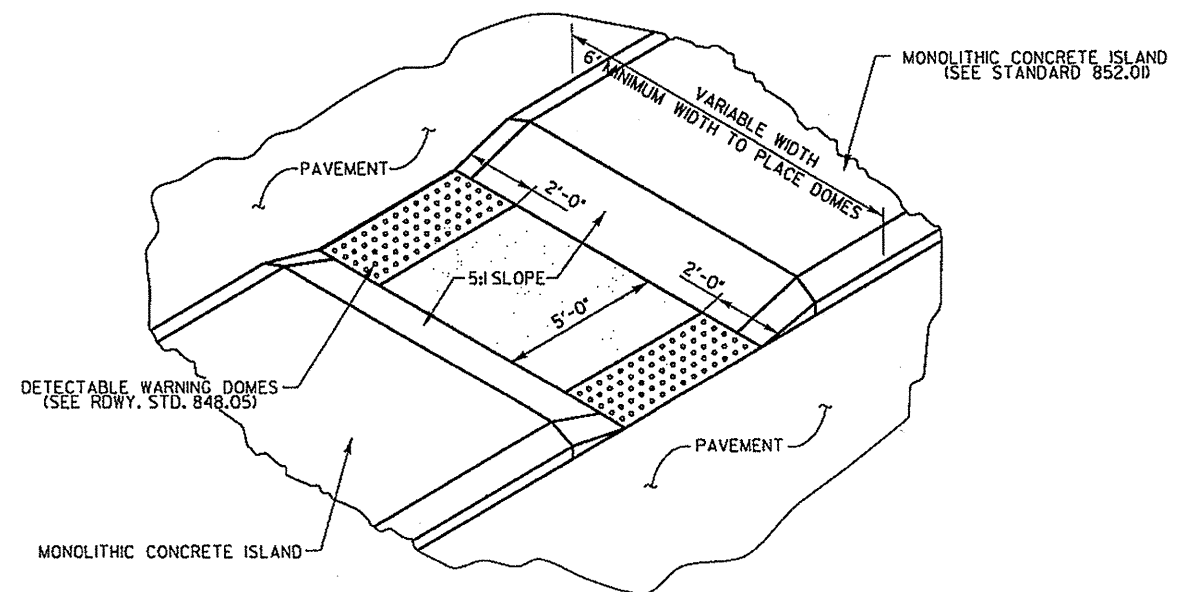
 USE STANDARD DRAWING SYMBOLS
 AND NOTATION

PAY LIMITS FOR 1 CURB RAMP

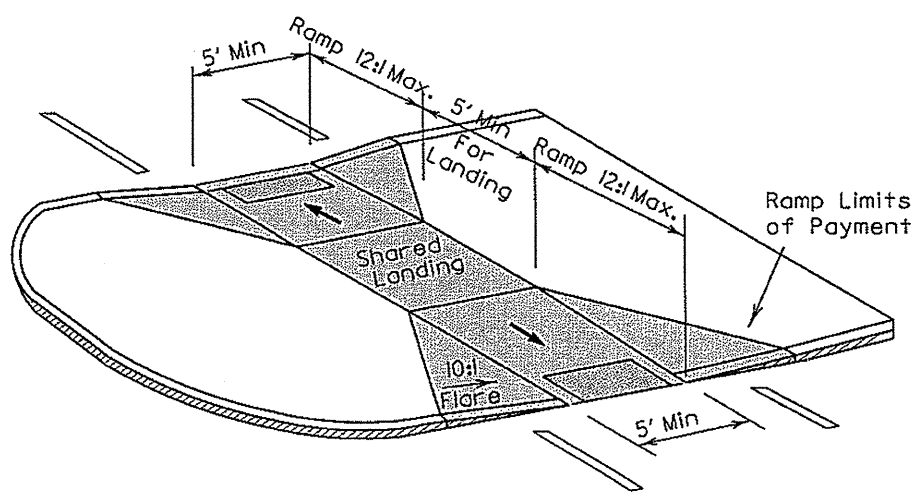


TRIANGULAR ISLANDS MAY BE CONSTRUCTED WITH ONLY 2 POINTS OF ENTRY AND EXIT AS SHOWN IN THE ROADWAY PLANS OR AS DIRECTED BY THE ENGINEER.

TRIANGULAR ISLAND WITH CUT THROUGH

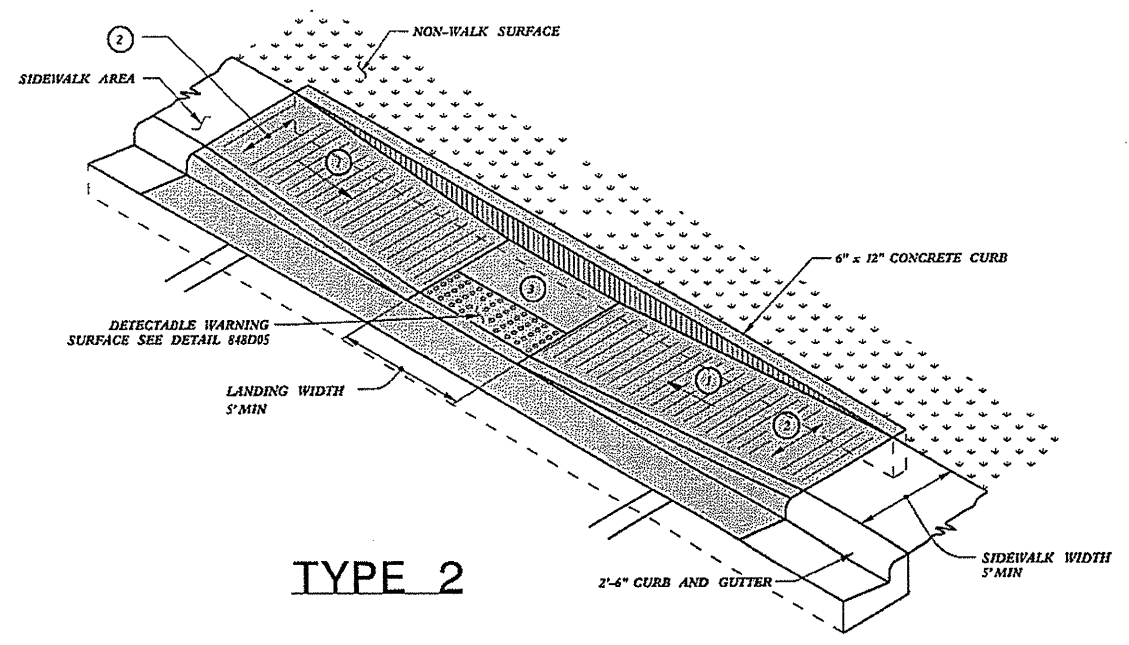


MEDIAN ISLAND WITH CUT THROUGH



MEDIAN ISLAND CURB RAMPS

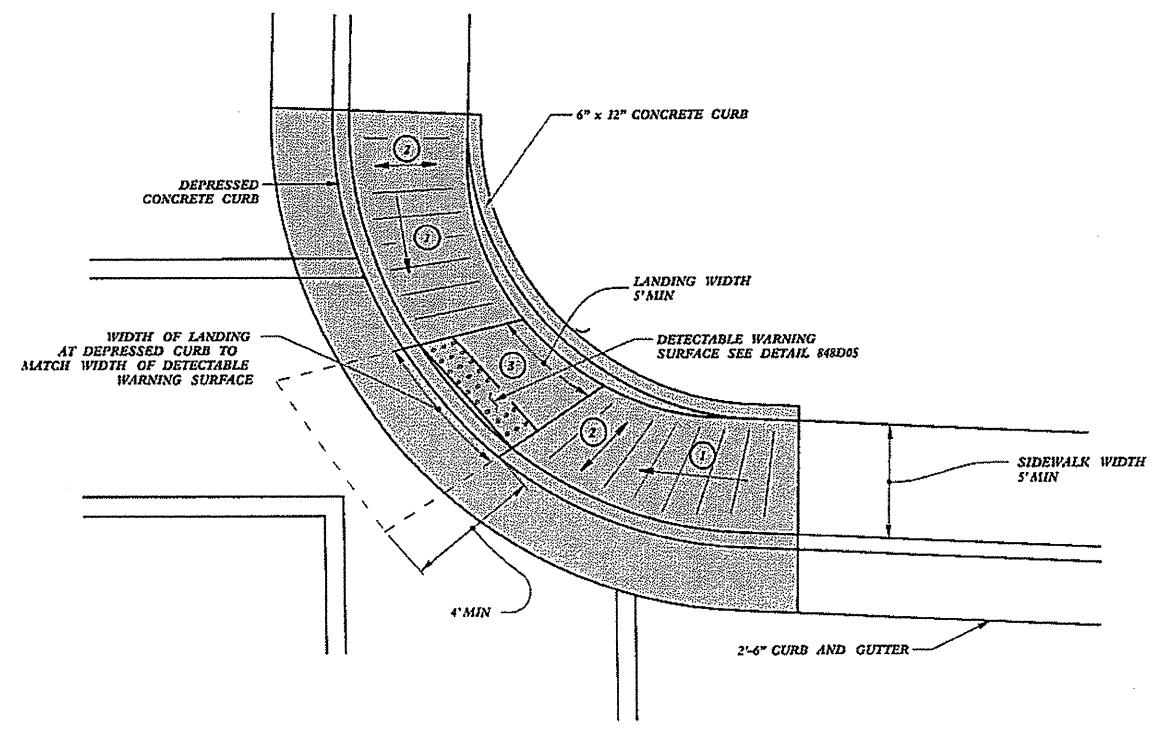
CONTRACT STANDARDS AND DEVELOPMENT UNIT Office 919-707-6950 FAX 919-250-4119	
CURB RAMPS Median or Turn Lane Islands	
ORIGINAL BY: J.S. HOWERTON	DATE: 7/7/11
MODIFIED BY:	DATE:
CHECKED BY:	DATE:
FILE SPEC: stds/2012CurbRamp/CurbRampDetails.dwg	



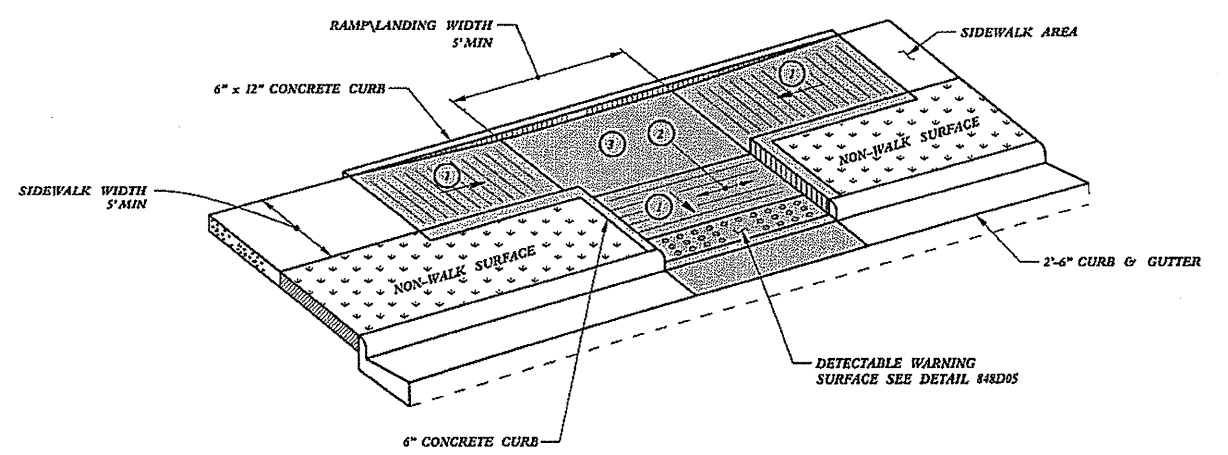
TYPE 2

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

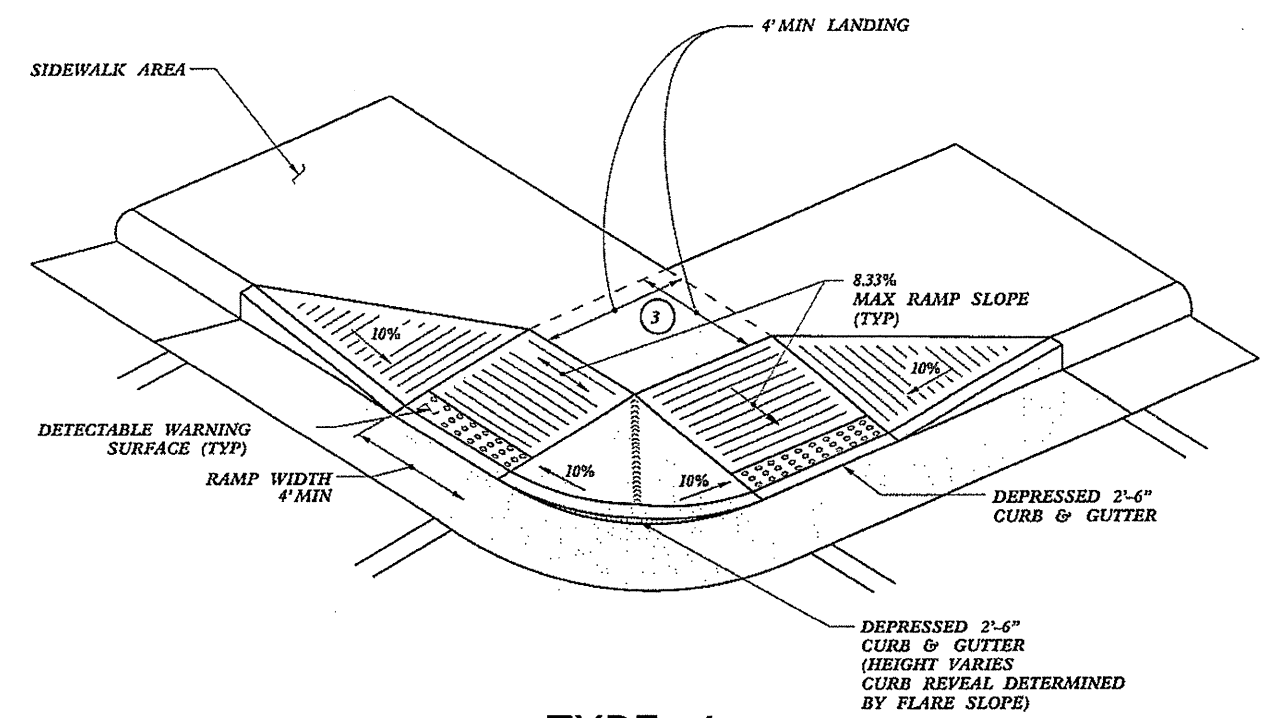
CONTRACT STANDARDS AND DEVELOPMENT UNIT	
Office 919-707-6950	FAX 919-250-4119
CURB RAMPS	
Parallel Ramps	
ORIGINAL BY: J.S. HOWERTON	DATE: 7/7/11
MODIFIED BY:	DATE:
CHECKED BY:	DATE:
FILE SPEC: stds/2012CurbRamp/CurbRampDetails.dwg	

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

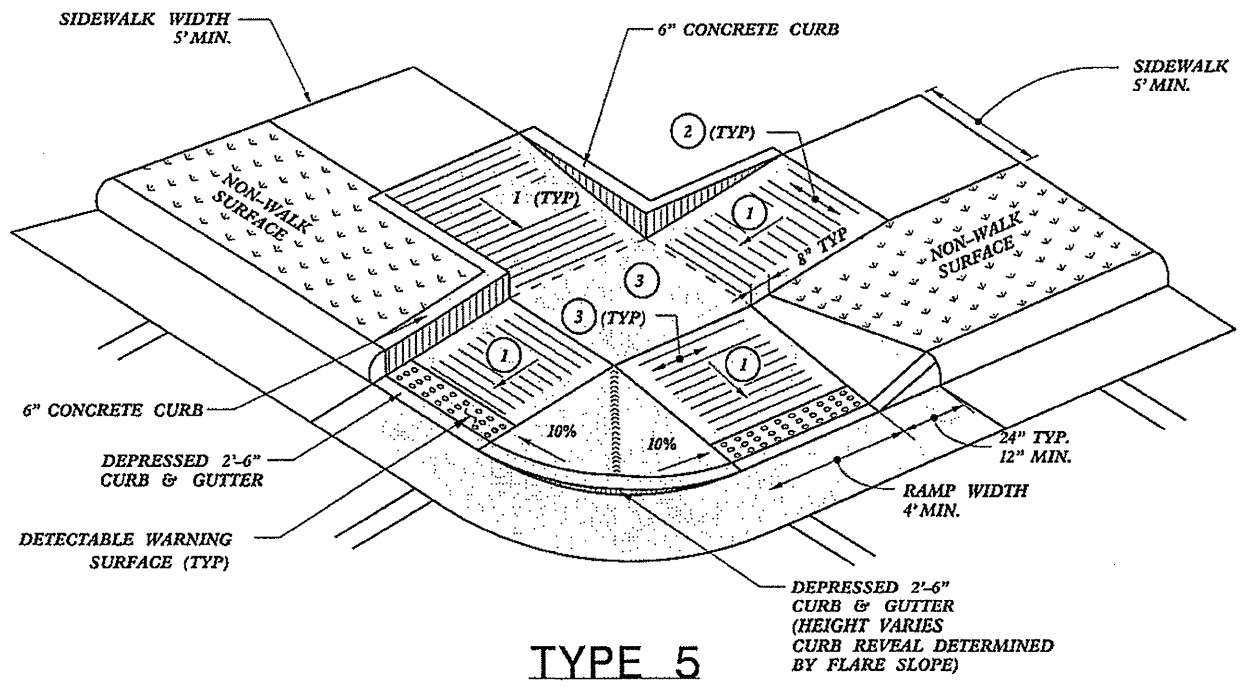
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5/14/99
 22-MAR-2012 15:08
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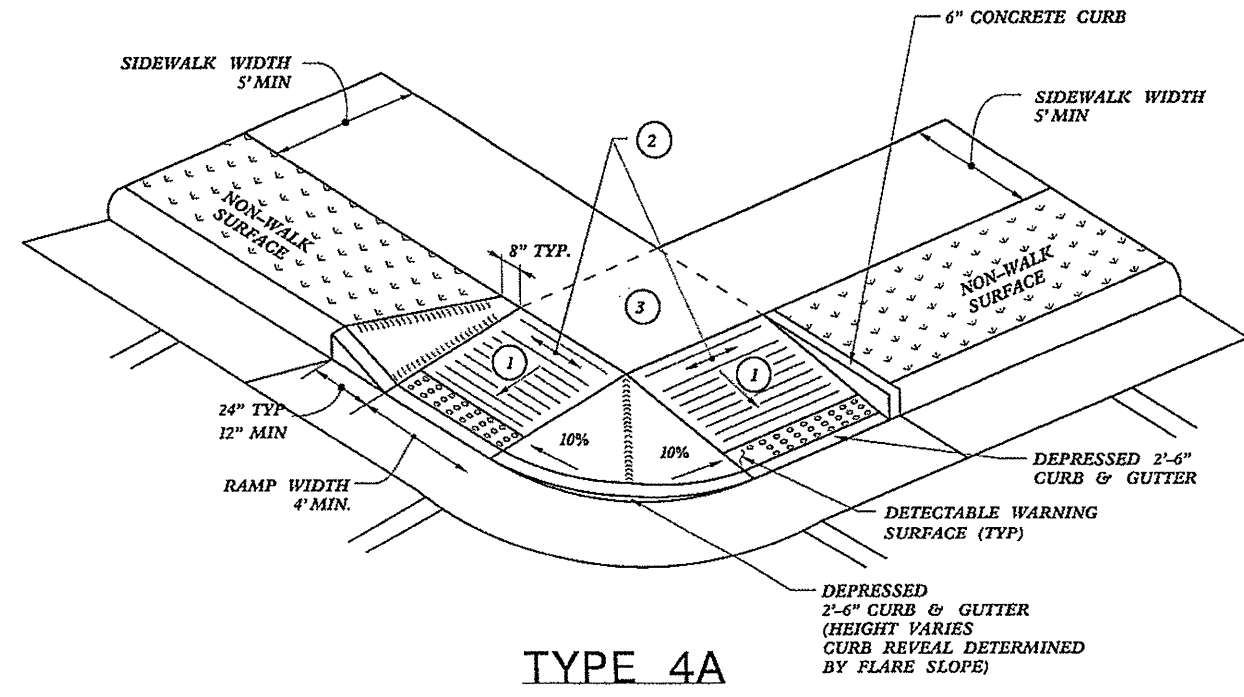
PAY LIMITS FOR CURB RAMP



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:
CHECKED BY:	DATE:
FILE SPEC: stds/2012CurbRamp/CurbRampDetails.dgn	

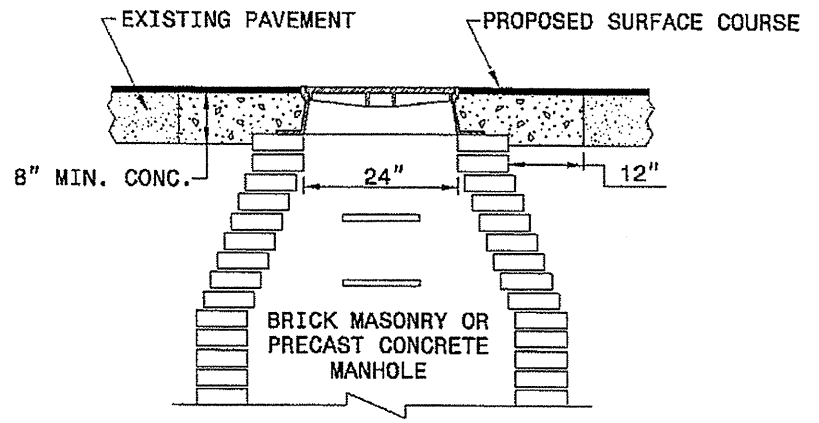
STATE OF
NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

ENGLISH DETAIL DRAWING FOR
MANHOLE AND VALVE BOX ADJUSTMENTS

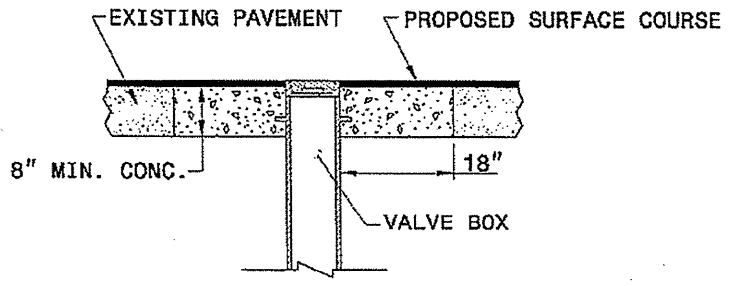
SHEET 1 OF 1
840D55

GENERAL NOTES:

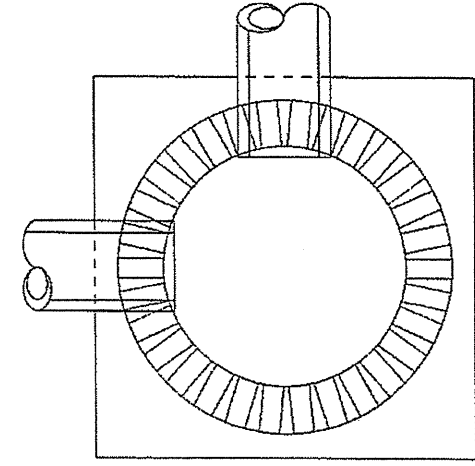
1. USE RAPID SET GROUT, MORTAR, OR CONCRETE WITH A MINIMUM COMPRESSIVE STRENGTH OF 4000 PSI.
2. REMOVE ALL FAULTY EXISTING BRICKWORK AND REPLACE WITH NEW BRICK MASONRY.
3. SHEER CUT EXCAVATION FOR THE ADJUSTMENT ON ALL SIDES.
4. FILL AREA BELOW 8" DEPTH WITH 78M OR NO. 57 CLEAN STONE.
5. MIX MORTAR TO NCDOT SPECIFICATIONS.
6. MORTAR JOINTS 1/2" +/- 1/8"



MANHOLE CONCRETE ENCASEMENT



VALVE BOX CONCRETE ENCASEMENT



ELEVATION VIEW

PLACE BRICK ACCORDING TO ELEVATION VIEW

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

ENGLISH DETAIL DRAWING FOR
MANHOLE AND VALVE BOX ADJUSTMENTS

SHEET 1 OF 1
840D55

PROJECT SERVICES UNIT
STANDARDS AND SPECIAL DESIGN
Office 919-250-4128 FAX 919-250-4119

SEE PLATE FOR TITLE

ORIGINAL BY: _____ DATE: _____
 MODIFIED BY: E.E. WARD DATE: _____
 CHECKED BY: _____ DATE: _____
 FILE SPEC.: Jusr/get4135/std/840D55.dgn

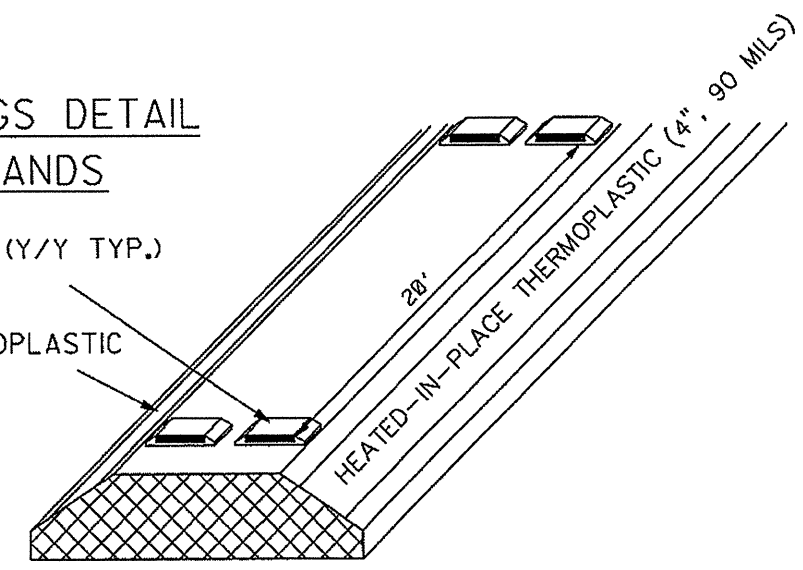
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 21, 2016

PAVEMENT MARKING DETAILS

PAVEMENT MARKINGS DETAIL FOR CONCRETE ISLANDS

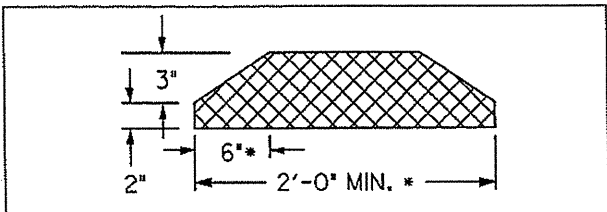
RAISED PAVEMENT MARKER (Y/Y TYP.)
(STD. DWG 1251.01)

HEATED-IN-PLACE THERMOPLASTIC
(4", 90 MILS)



MONOLITHIC CONCRETE ISLAND

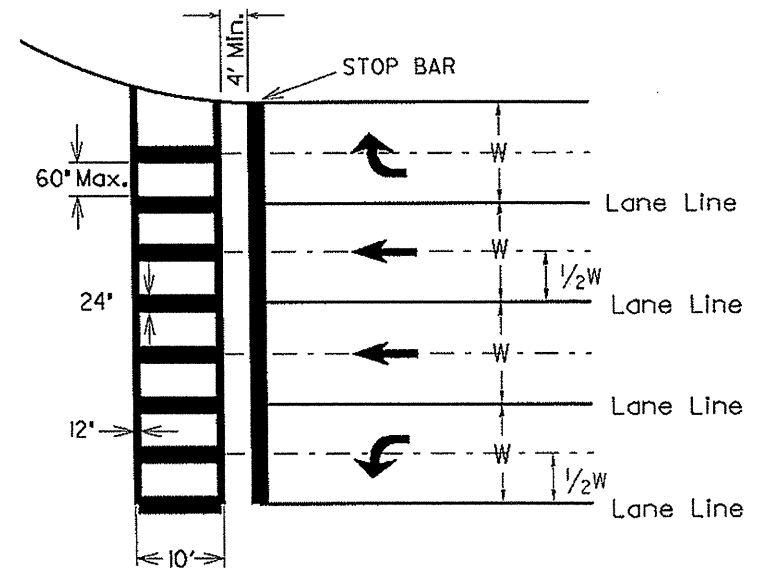
(SEE STANDARD DRAWINGS 852.01, 852.02, & 852.06 FOR DETAILS.)



*DIMENSIONS FOR ISLANDS LESS THAN 4'-0"

APPLY PORTLAND CEMENT CONCRETE SEALER
(FTI LOW-VOC SEALER) TO SIDES OF MEDIAN
PRIOR TO PLACEMENT OF 4" YELLOW
THERMOPLASTIC (90 MILS)

SPECIAL EMPHASIS HI-VISIBILITY CROSSWALK MARKING DETAIL



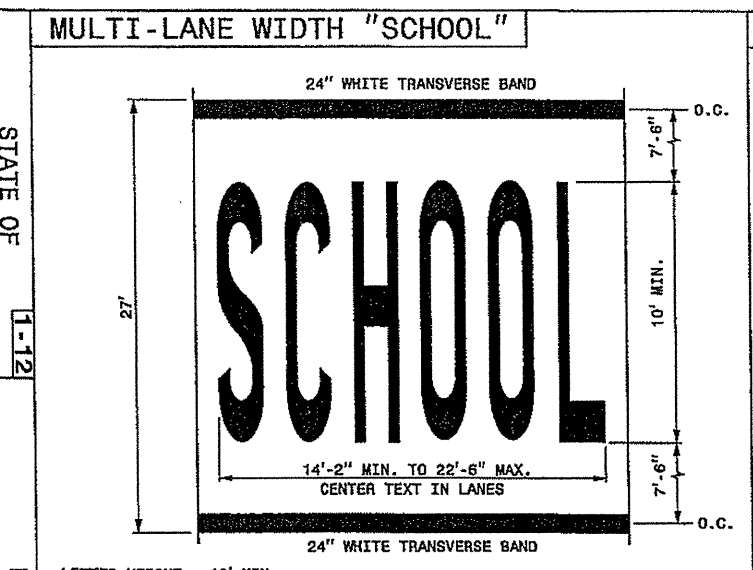
NOTES: SPACING OF CROSSWALK LINES POSITIONED
TO AVOID WHEELPATHS

REVISIONS

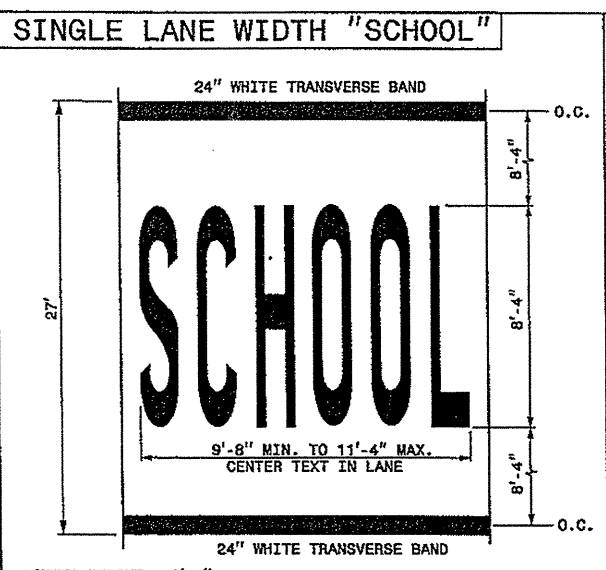
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TIP NO. BCR.10311.47, etc 19
 SHEET NO. 19
 APPROVED: *[Signature]*
 DATE: 7/8/12
 SEAL: *[Professional Seal]*

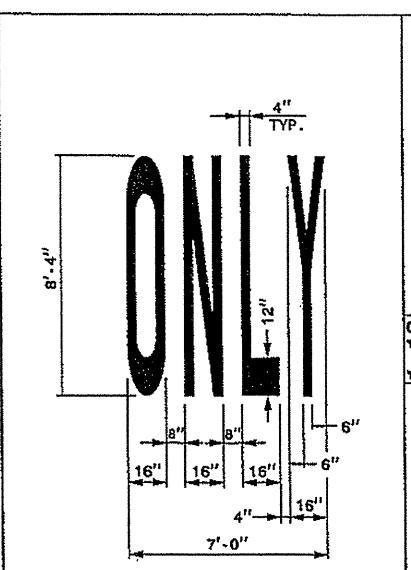
STATE OF NORTH CAROLINA
 DEPT. OF TRANSPORTATION
 DIVISION OF HIGHWAYS
 RALEIGH, N.C.



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.



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



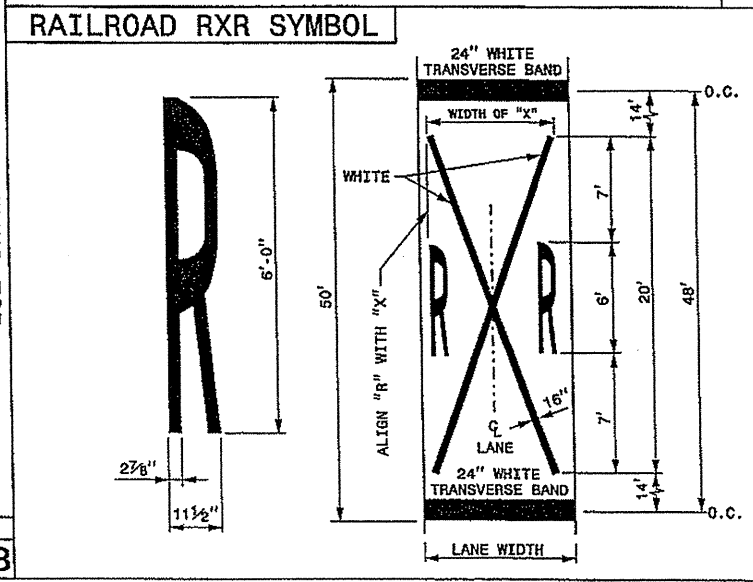
STATE OF NORTH CAROLINA
 DEPT. OF TRANSPORTATION
 DIVISION OF HIGHWAYS
 RALEIGH, N.C.

ENGLISH DETAIL DRAWING FOR
PAVEMENT MARKINGS
 SYMBOLS AND WORD MESSAGES

ENGLISH DETAIL DRAWING FOR
PAVEMENT MARKINGS
 SYMBOLS AND WORD MESSAGES

SHEET 3 OF 8
1205D08

SHEET 3 OF 8
1205D08



- 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 IN 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.

**REVISED PAVEMENT MARKING
 ROADWAY STANDARD DRAWING**

08-MAR-2012 12:48
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 38:10:25 AT: TE241745
 08-MAR-2012 12:48 Standard Drawings\Standard Dwg 8-17-11\Revised\1205D08.3 Revised 9-14-11...Sooled.dgn

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

<small>PROJECT REFERENCE NO.</small> 3CR.20311147	<small>SHEET NO.</small> 20
<small>ROADWAY DESIGN ENGINEER</small>	<small>HYDRAULICS ENGINEER</small>

SOIL STABILIZATION TIMEFRAMES

<i>SITE DESCRIPTION</i>	<i>STABILIZATION TIME</i>	<i>TIMEFRAME EXCEPTIONS</i>
PERIMETER DIKES, SWALES, DITCHES AND SLOPES	7 DAYS	NONE
HIGH QUALITY WATER (HOW) ZONES	7 DAYS	NONE
SLOPES STEEPER THAN 3:1	7 DAYS	IF SLOPES ARE 10' OR LESS IN LENGTH AND ARE NOT STEEPER THAN 2:1, 14 DAYS ARE ALLOWED.
SLOPES 3:1 OR FLATTER	14 DAYS	7 DAYS FOR SLOPES GREATER THAN 50' IN LENGTH.
ALL OTHER AREAS WITH SLOPES FLATTER THAN 4:1	14 DAYS	NONE, EXCEPT FOR PERIMETERS AND HOW ZONES.

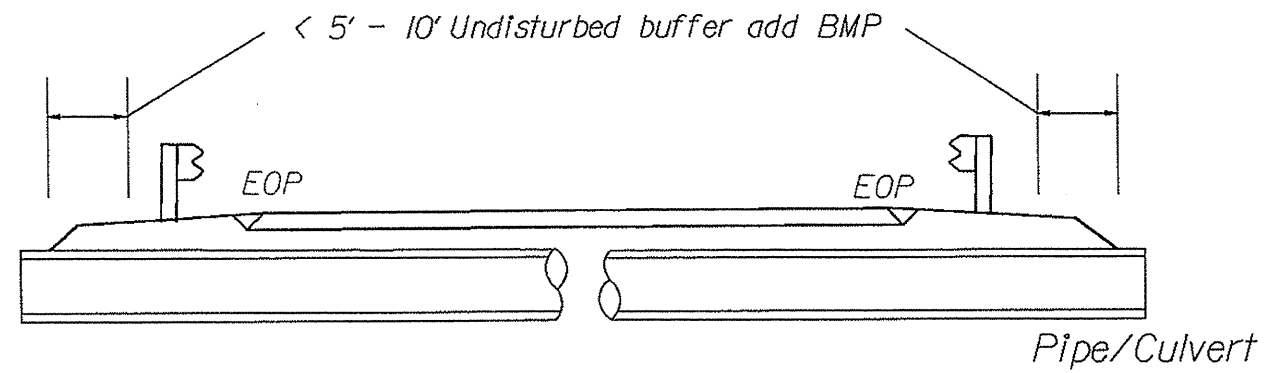
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PROJECT REFERENCE NO. 3CR.10311.147, ETC.	SHEET NO. 21
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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

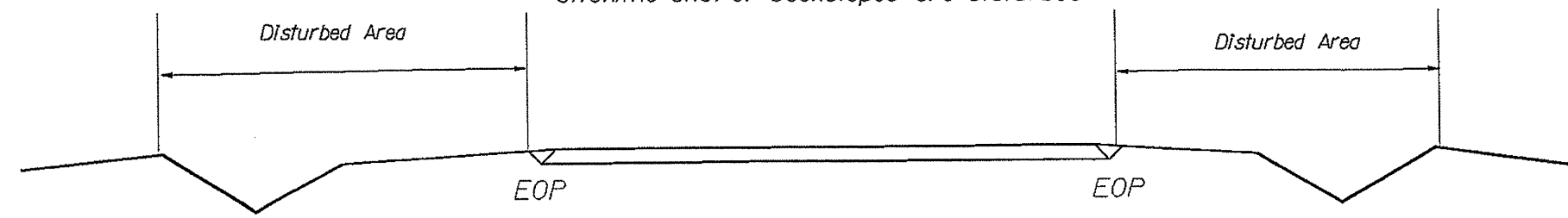
BMP Options: Wattle or Silt Fence

EROSION CONTROL DETAIL

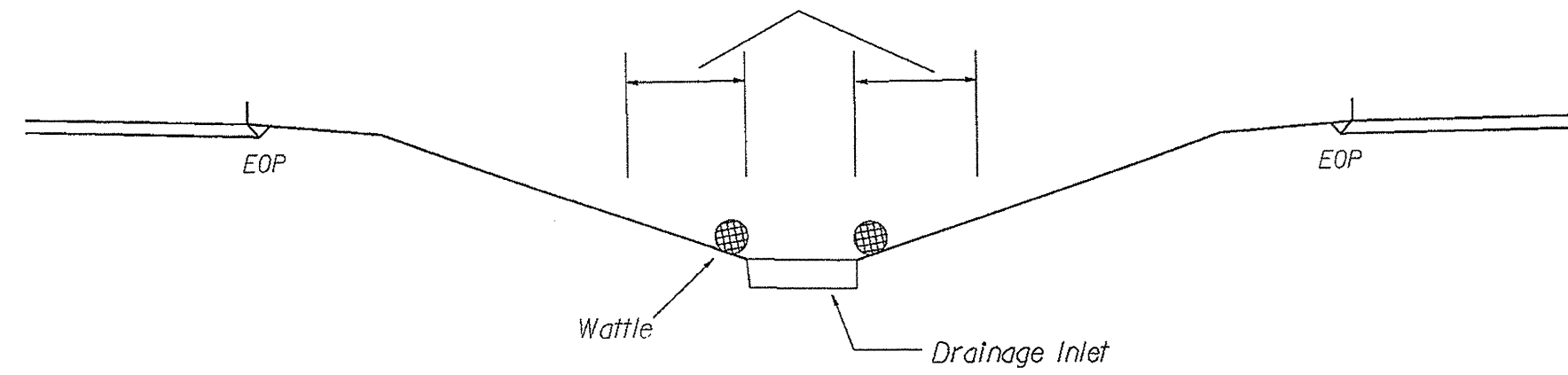


Jurisdictional Feature

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

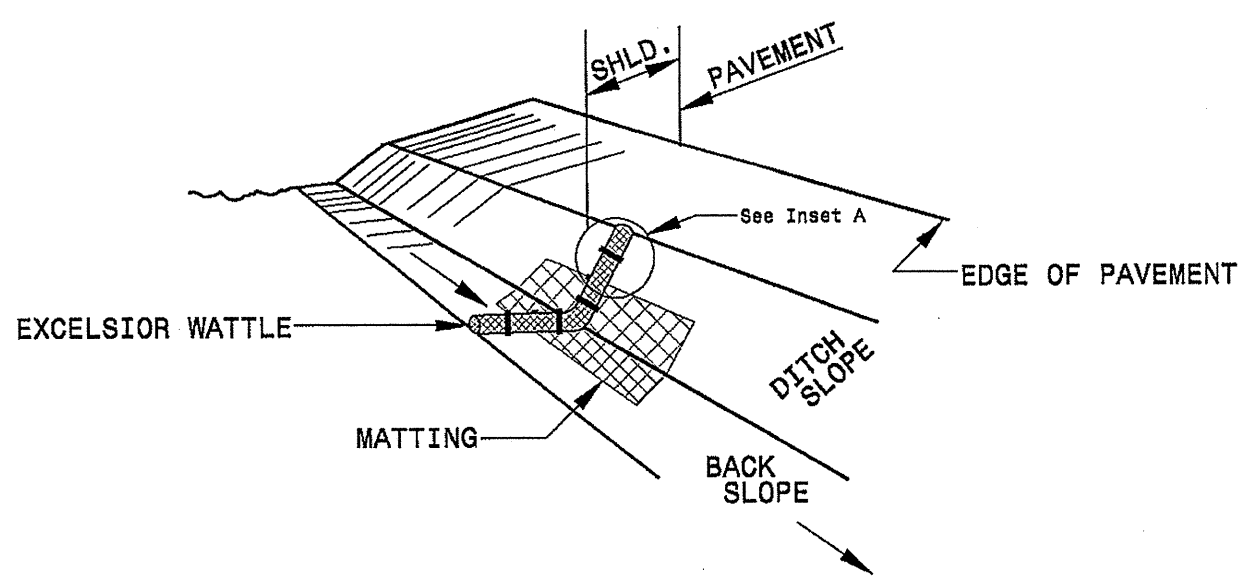


< 5' - 10' Undisturbed buffer from inlet, add wattle

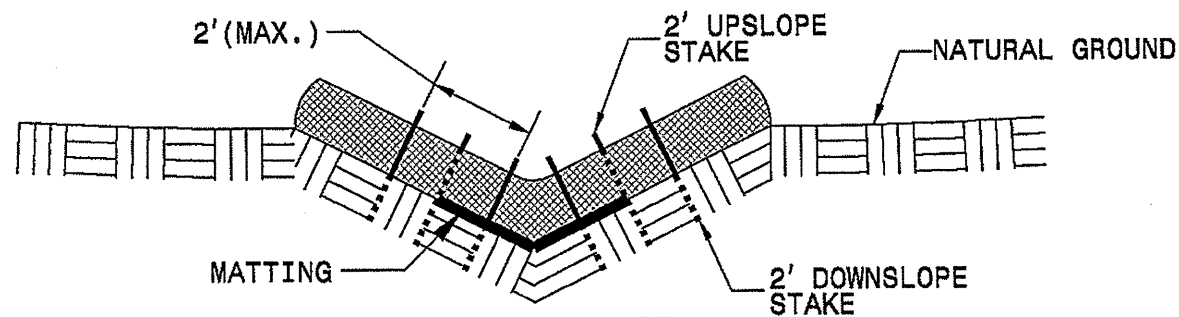


NOT TO SCALE

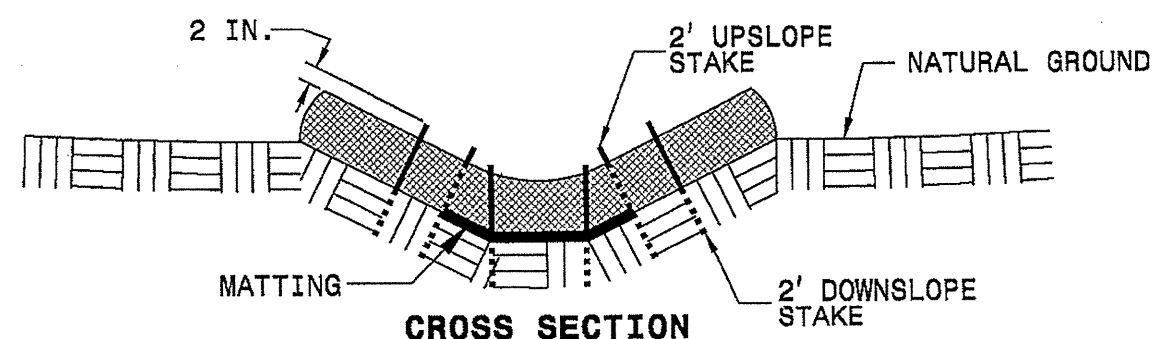
WATTLE DETAIL



ISOMETRIC VIEW



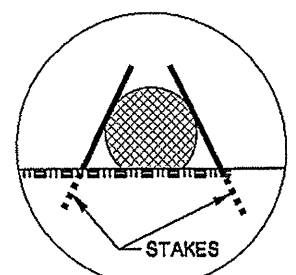
**CROSS SECTION
VEE DITCH**



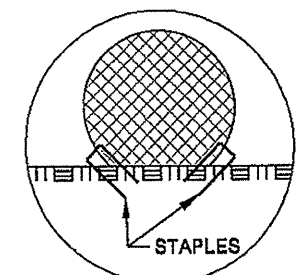
**CROSS SECTION
TRAPEZOIDAL DITCH**

NOTES:

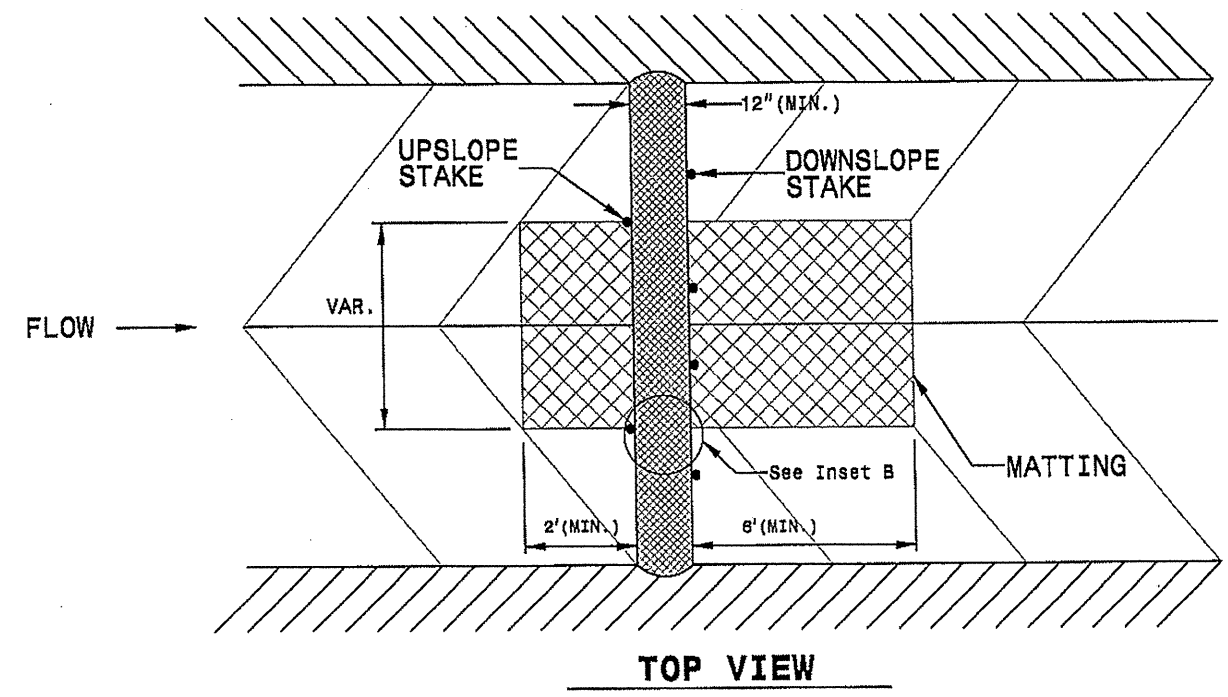
- USE MINIMUM 12 IN. DIAMETER EXCELSIOR WATTLE.
- USE 2 FT. WOODEN STAKES WITH A 2 IN. BY 2 IN. NOMINAL CROSS SECTION.
- ONLY INSTALL WATTLE(S) TO A HEIGHT IN DITCH SO FLOW WILL NOT WASH AROUND WATTLE AND SCOUR DITCH SLOPES AND AS DIRECTED.
- INSTALL A MINIMUM OF 2 UPSLOPE STAKES AND 4 DOWNSLOPE STAKES 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



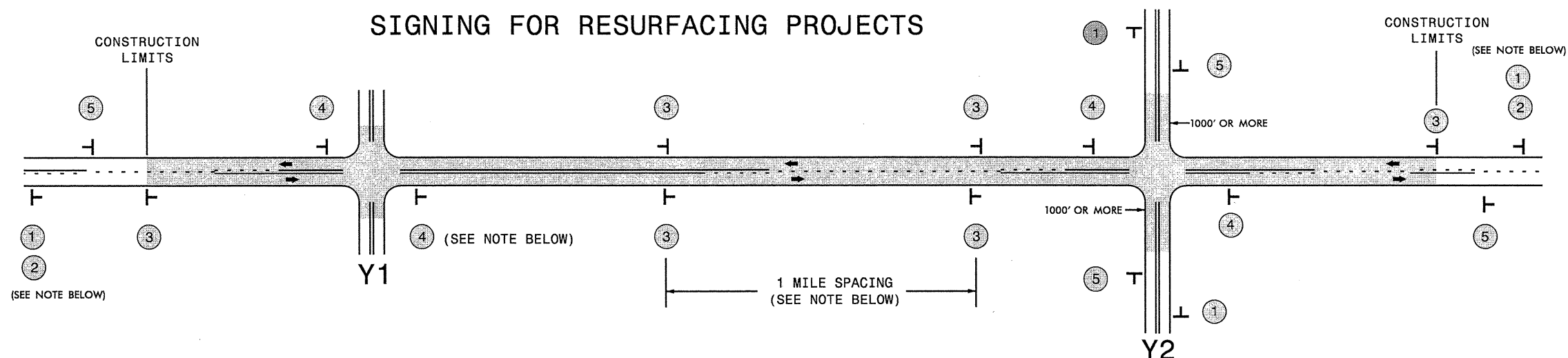
INSET B





TOP VIEW

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




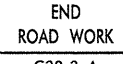
SIGNING FOR RESURFACING PROJECTS

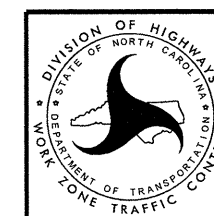


LEGEND
 STATIONARY SIGN
 DIRECTION OF TRAFFIC FLOW

MAINLINE (-L-) SIGNING

-Y- LINE SIGNING

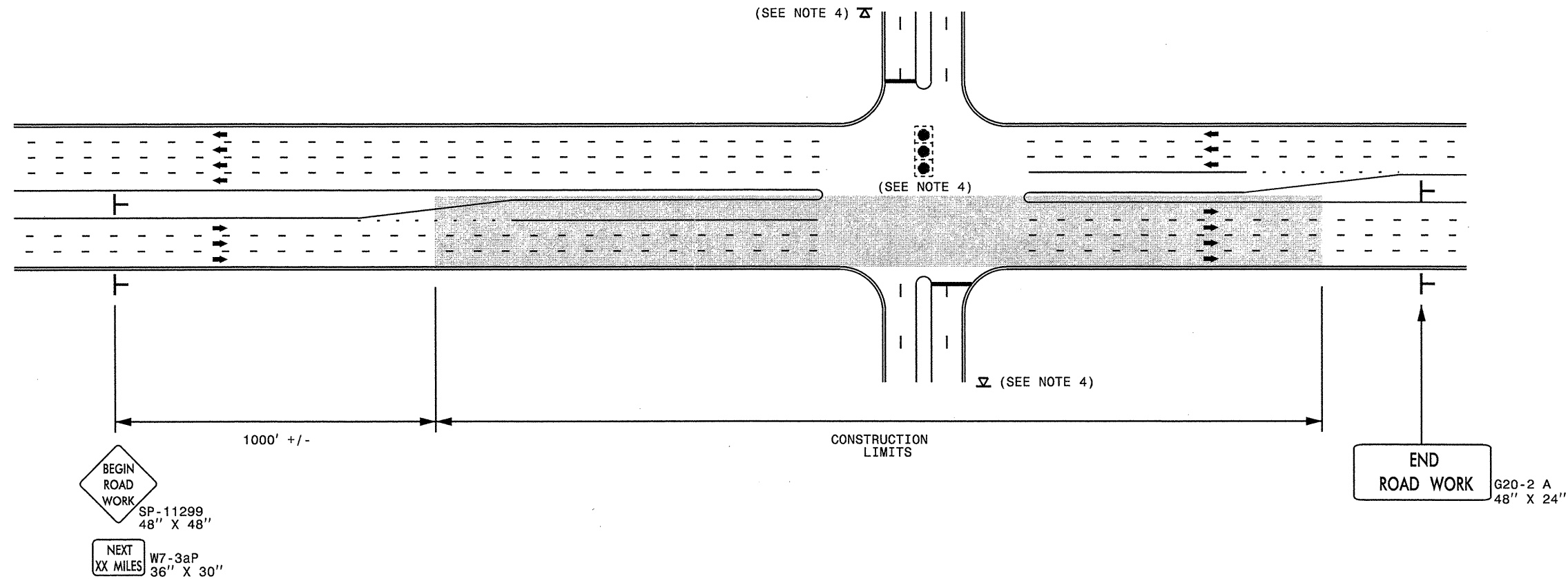
SIGNING NOTES AND PLACEMENT PER DIRECTION	<p>1  W20-1 48" X 48"</p> <p>2  W7-3aP 24" X 18"</p>	<p>PLACE 1000' PRIOR TO BEGINNING OF CONSTRUCTION LIMITS. ONLY USED ON -Y- LINES IF RESURFACING LIMITS EXTEND 1000' ALONG -Y- LINE.</p> <p>#2 SIGN ONLY USED WHEN RESURFACING LIMITS ARE 2 OR MORE MILES IN LENGTH. ROUND UP TO NEXT WHOLE NUMBER. (NO FRACTIONAL OR DECIMAL NUMBERS)</p>	<p>NO REQUIRED STATIONARY SIGNING FOR THE FOLLOWING -Y- LINE CONDITIONS:</p> <ol style="list-style-type: none"> LESS THAN 1000' OF RESURFACING ALONG -Y- LINE SUBDIVISION ROADS DEAD END ROADS <p>WHEN PAVING/CONSTRUCTION ACTIVITIES PROCEED ACROSS AN UNSIGNED -Y- LINE, ADVANCE WARNING PORTABLE SIGNS SHALL BE USED ALONG THE -Y- LINE AS SHOWN BELOW. REMOVE UPON COMPLETION OF WORK.</p> <p> W20-1 48" X 48"</p> <p> W20-7 A 48" X 48"</p> <p>PLACED 500' IN ADVANCE OF FLAGGER. PLACED 250' IN ADVANCE OF FLAGGER.</p>
	<p>3  SP 13107 48" X 48"</p>	<p>PLACE INITIALLY AT THE CONSTRUCTION LIMITS AND SPACED 1 MILE APART THEREAFTER. IF NO -Y- LINES EXIST, PLACE 2ND SET 1/2 MILE FROM THE CONSTRUCTION LIMITS AND THEN SPACE 1 MILE THEREAFTER.</p>	
	<p>4  SP 13106 48" X 48"</p>	<p>THESE ARE FOR -Y- LINES THAT ARE "THROUGH" ROADWAYS. DEAD END AND SUBDIVISION ROADS ARE NOT "THROUGH" ROADWAYS. INSTALL 500' +/- FROM EACH -Y- LINE APPROACH AS SHOWN ABOVE. FOR MULTIPLE -Y- LINES THAT ARE SEPARATED BY 0.25 MILES OR LESS, TREAT AS A SINGLE UNIT AND INSTALL WITHIN 500' OF EACH APPROACH. A MAXIMUM OF 2 SIGN SETS PER MILE. DO NOT INSTALL WHEN -Y- LINES ARE WITHIN 0.5 MILES FROM "END ROAD WORK" SIGN.</p>	
	<p>5  G20-2 A 48" X 24"</p>	<p>PLACE 500' FOLLOWING THE END OF CONSTRUCTION LIMITS.</p>	



RESURFACING
 ADVANCE WARNING SIGNS
 FOR
 RURAL AND SUBURBAN
 2 LANE ROADWAYS

I7-OCT-2013 07:29
 \\DOT\DFSR00701\GROUPS-WZTC\CC-TMU\WZTC\Resurfacing\2013Resurfacing\2013Eastern\2013_Div03\203468A-D-3CR.10311.147x4-Duplin-Sampson_USIT-Resurf-
 sb\lenings AT FE2658B

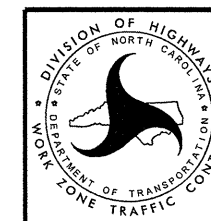
URBAN / SUBURBAN WORKZONES



NOTES:

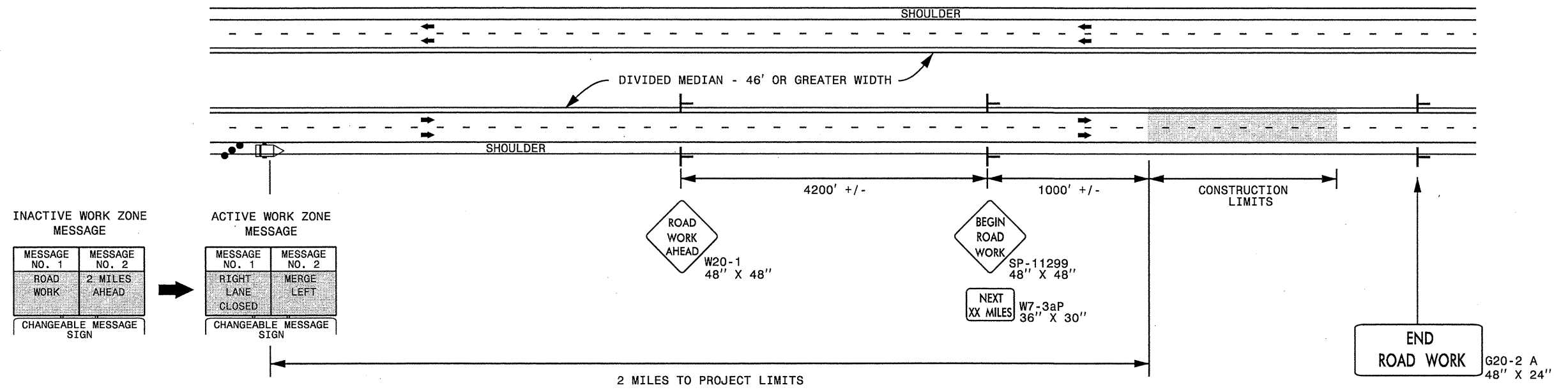
- 1) 48" x 48" SIZED SIGNS (SP- 11299) MAY BE REDUCED TO 36" X 36" ON ROADWAYS WITH SPEED LIMITS OF 40 MPH OR LESS.
- 2) MOUNT SIGNS THAT ARE LARGER THAN 10 SQUARE FEET IN AREA ON TWO OR MORE WOOD OR U-CHANNEL SUPPORTS. PERFORATED SQUARE TUBING SUPPORT SYSTEMS MAY SUPPORT LARGER AREAS ON A SINGLE SUPPORT. 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) USE LAW ENFORCEMENT TO CONTROL TRAFFIC AT SIGNALIZED INTERSECTIONS AND 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.

LEGEND	
└	STATIONARY SIGN
➔	DIRECTION OF TRAFFIC FLOW

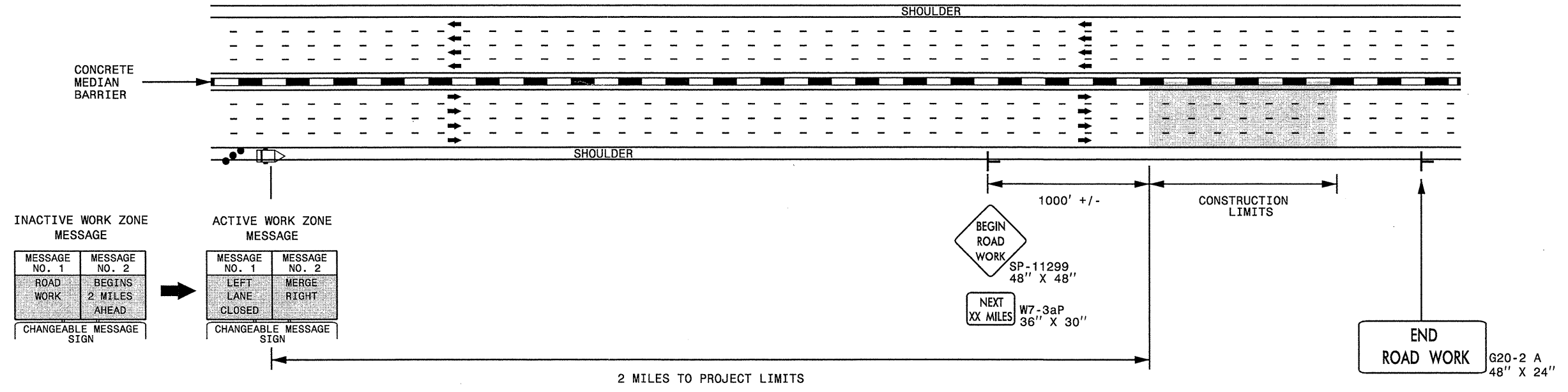


**RESURFACING ADVANCE
WARNING SIGNS FOR
URBAN / SUBURBAN
FACILITIES**

DIVIDED MEDIANS WITH WIDTHS 46' OR GREATER



DIVIDED MEDIANS WITH WIDTHS LESS THAN 46' OR WITH PERMANENT MEDIAN BARRIER



NOTES:

- 1) LATERAL CLEARANCE AT ALL SIGN LOCATIONS SHALL BE 6' AS MEASURED FROM THE EDGE OF PAVEMENT.
- 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) FOR MEDIAN WIDTHS LESS THAN 46' (MEASURED EDGELINE TO EDGELINE) USE THE BOTTOM DRAWING.
- 4) IF STATIONARY GENERAL WARNING SIGNS ARE USED, THEY WILL BE PAID FOR PER SECTION 104 OF THE NCDOT STANDARD SPECIFICATIONS AS EXTRA WORK.
- 5) INSTALL "ROAD WORK AHEAD" (W20-1) ALONG ENTRANCE RAMP 500' PRIOR TO RAMP TERMINAL, AND "END ROAD WORK" (G20-2a) AT THE END OF EXIT RAMP WITHIN THE WORK ZONE.
- 6) 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 AND WITH DIVIDED MEDIANS OF 46' OR GREATER. THESE PORTABLE SIGNS ARE INCIDENTAL TO THE OTHER ITEMS OF WORK INCLUDED IN THE TEMPORARY TRAFFIC CONTROL (LUMP SUM) PAY ITEM.

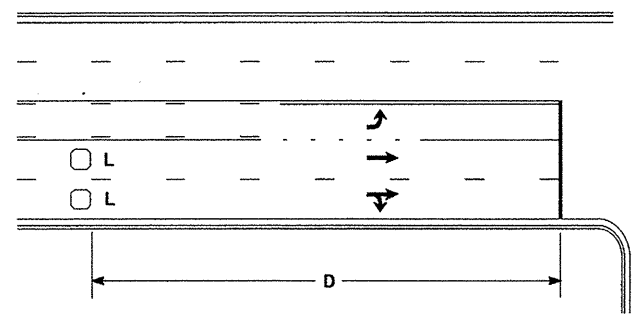
LEGEND

- CHANGEABLE MESSAGE SIGN (CMS)
- STATIONARY SIGN
- DIRECTION OF TRAFFIC FLOW
- TRAFFIC DRUM

RESURFACING ADVANCE WARNING SIGNS FOR HIGH SPEED FACILITIES ≥ 60 MPH

I:\OCT-2013\13H\DOT\DOTSR001\ON\GROUPS-WZTCCC-TMU\WZTC-Resurfacing\2013Resurfacing\2013Eastern\2013_Div03\C203468A-D_3CR\10311.147x4-Duplin-Sampson_USIT-Resurf-At-1E2658B

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

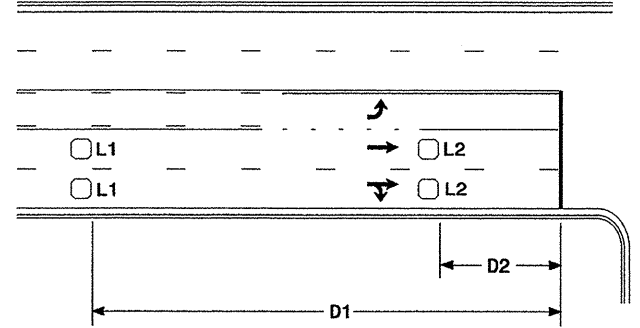


Speed Limit mph (km/hr)	D ft (m)
40 (64)	250 (75)
45 (72)	300 (90)
50 (80)	355 (110)
55 (88)	420 (130)

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

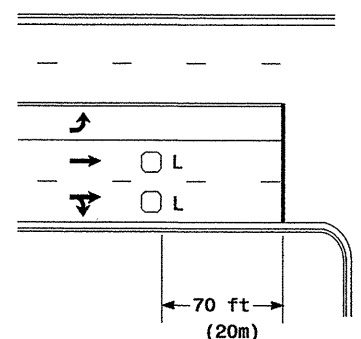


Speed Limit mph (km/hr)	D1 ft (m)	D2 ft (m)
40 (64)	250 (75)	80 (25)
45 (72)	300 (90)	90 (27)
50 (80)	355 (110)	100 (30)
55 (88)	420 (130)	110 (35)

L1 = 6ft X 6ft
(1.8m X 1.8m)
Wired in series
L2 = 6ft X 6ft
(1.8m X 1.8m)
Wired in series

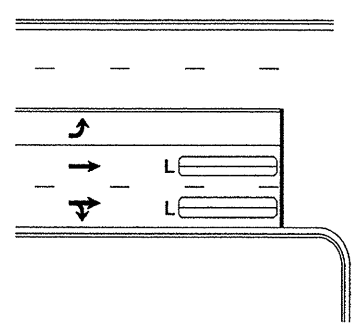
"Stretch" Operation

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



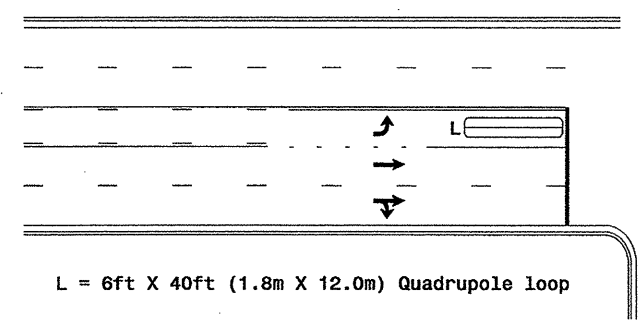
L = 6ft X 6ft (1.8m X 1.8m)
Wired in series

OR



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

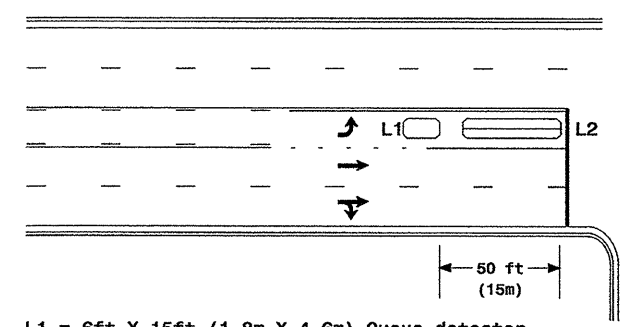
Left Turn Lane Detection



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

Presence Loop Detection

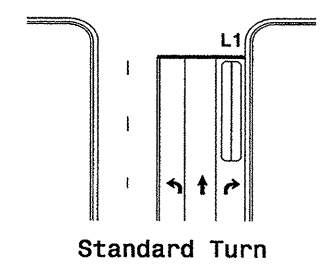
OR



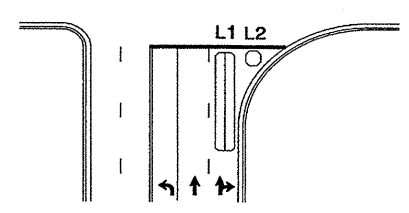
L1 = 6ft X 15ft (1.8m X 4.6m) Queue detector
L2 = 6ft X 40ft (1.8m X 12.0m) Quadrupole loop

Queue Loop Detection

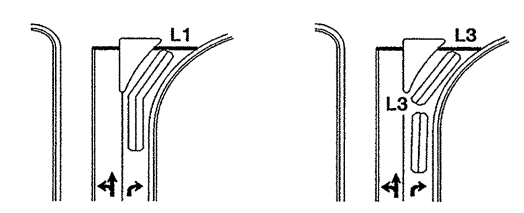
Right Turn Lane Detection



Standard Turn



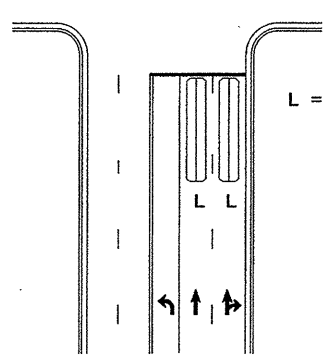
Wide Radius Turn



Channelized 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

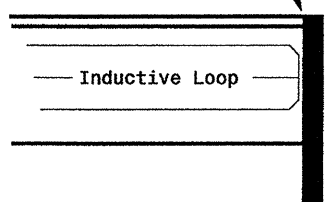
Side Street Detection



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:
SCALE: N/A	REVISIONS: Revise pavement markings	SIGNATURE: [Signature] DATE: 6/6/06