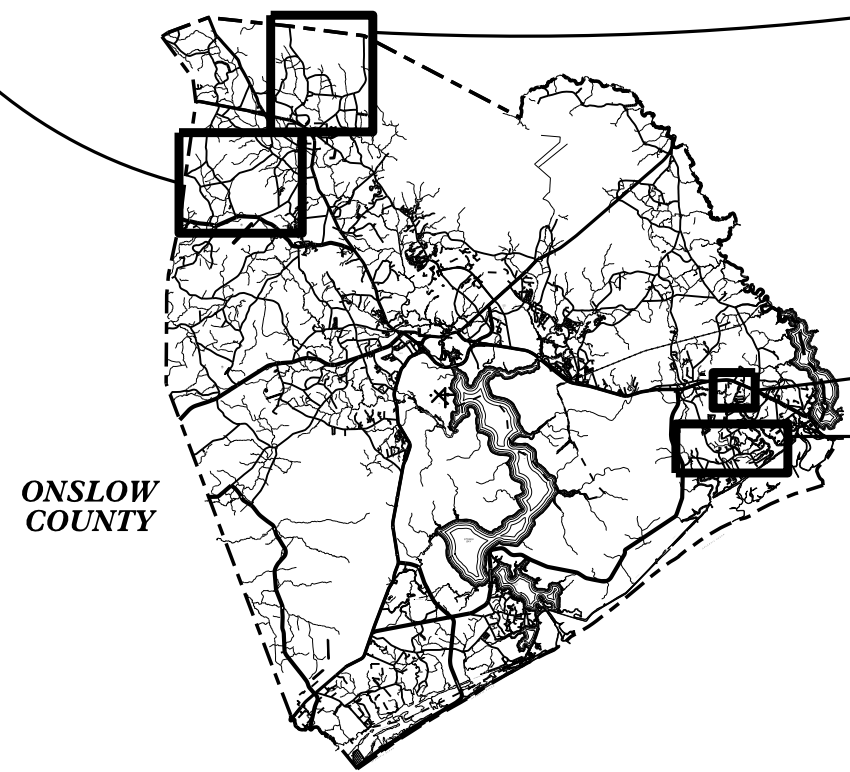
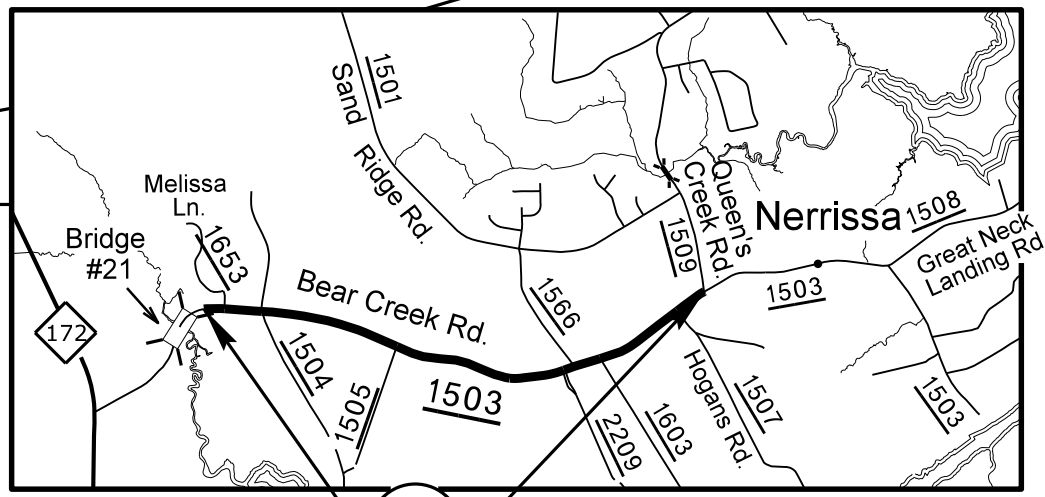
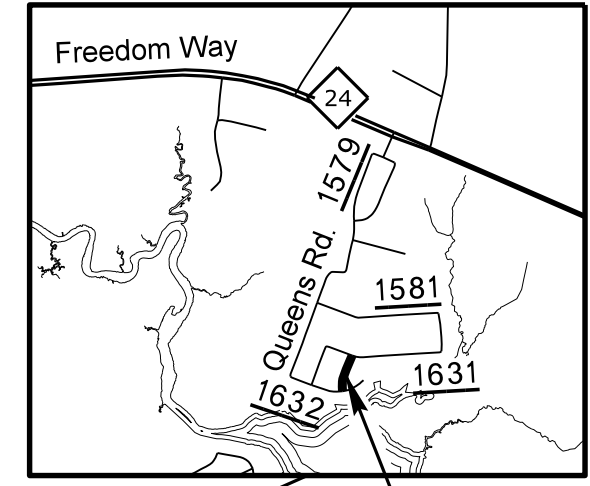
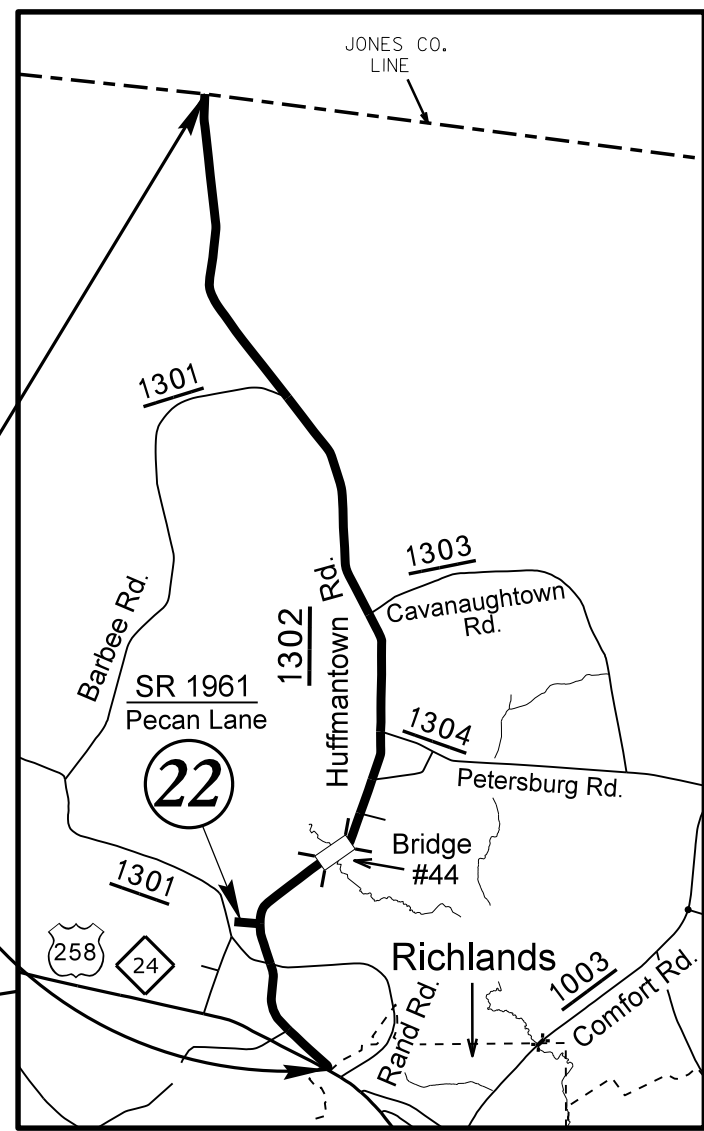
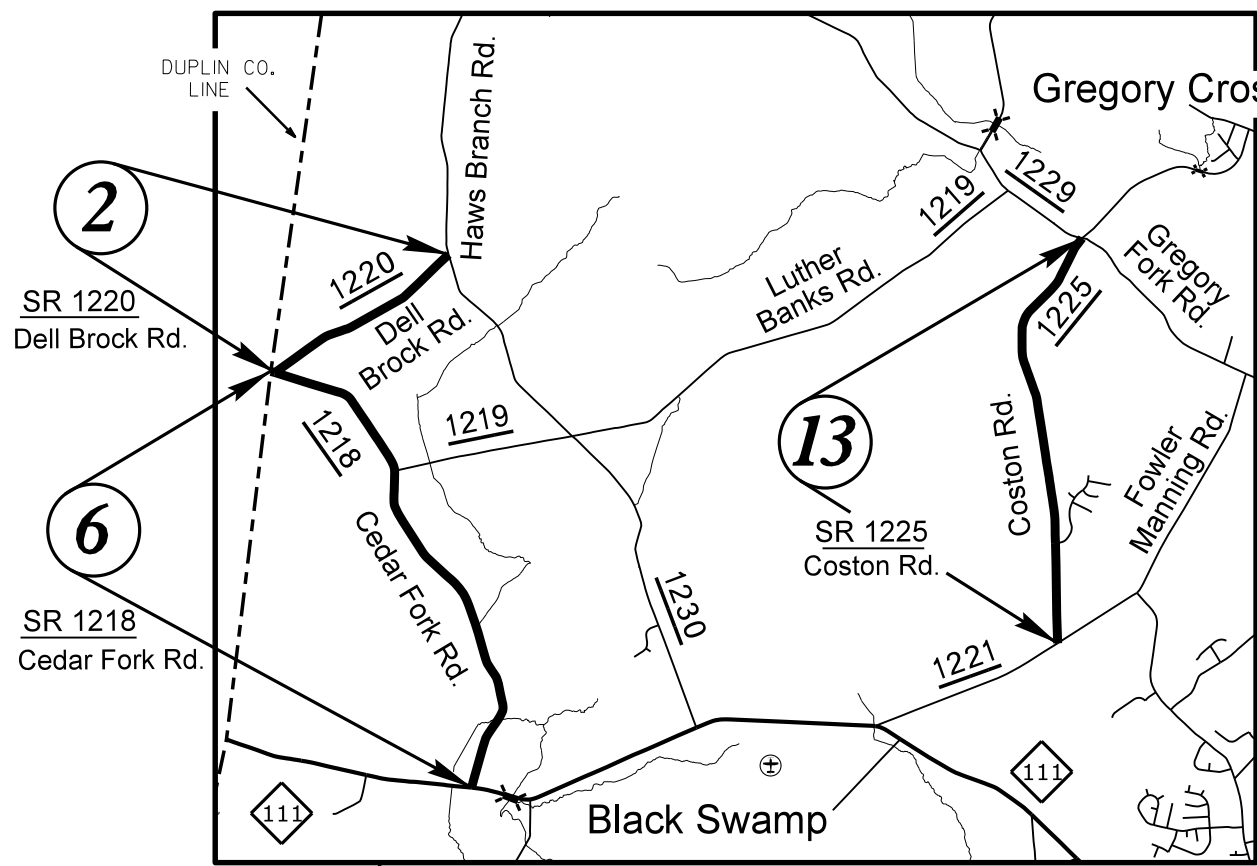
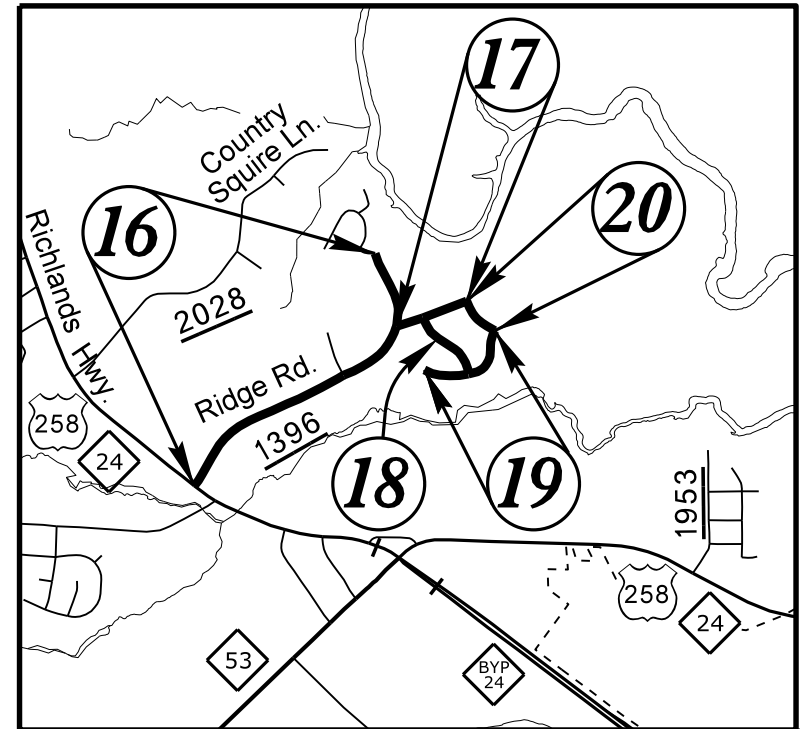


ONslow COUNTY - CONT.

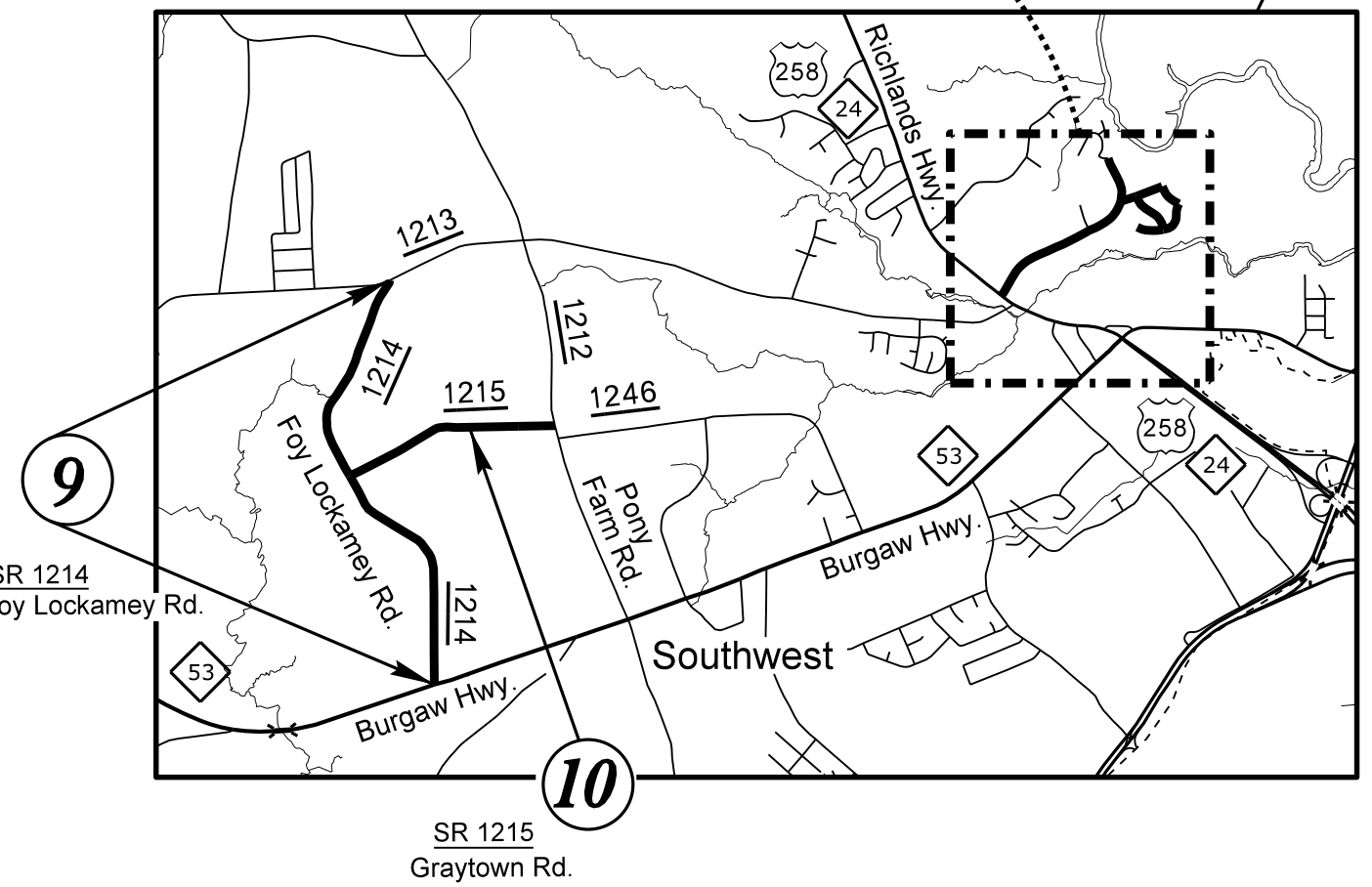
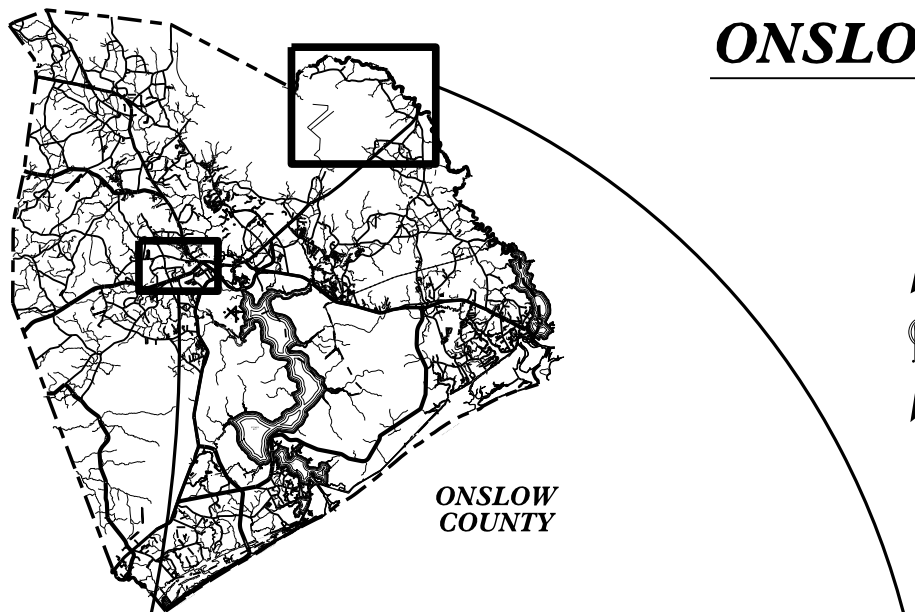
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 REVISIONS
 MAPS N.T.S.



ONSLOW COUNTY - CONT.

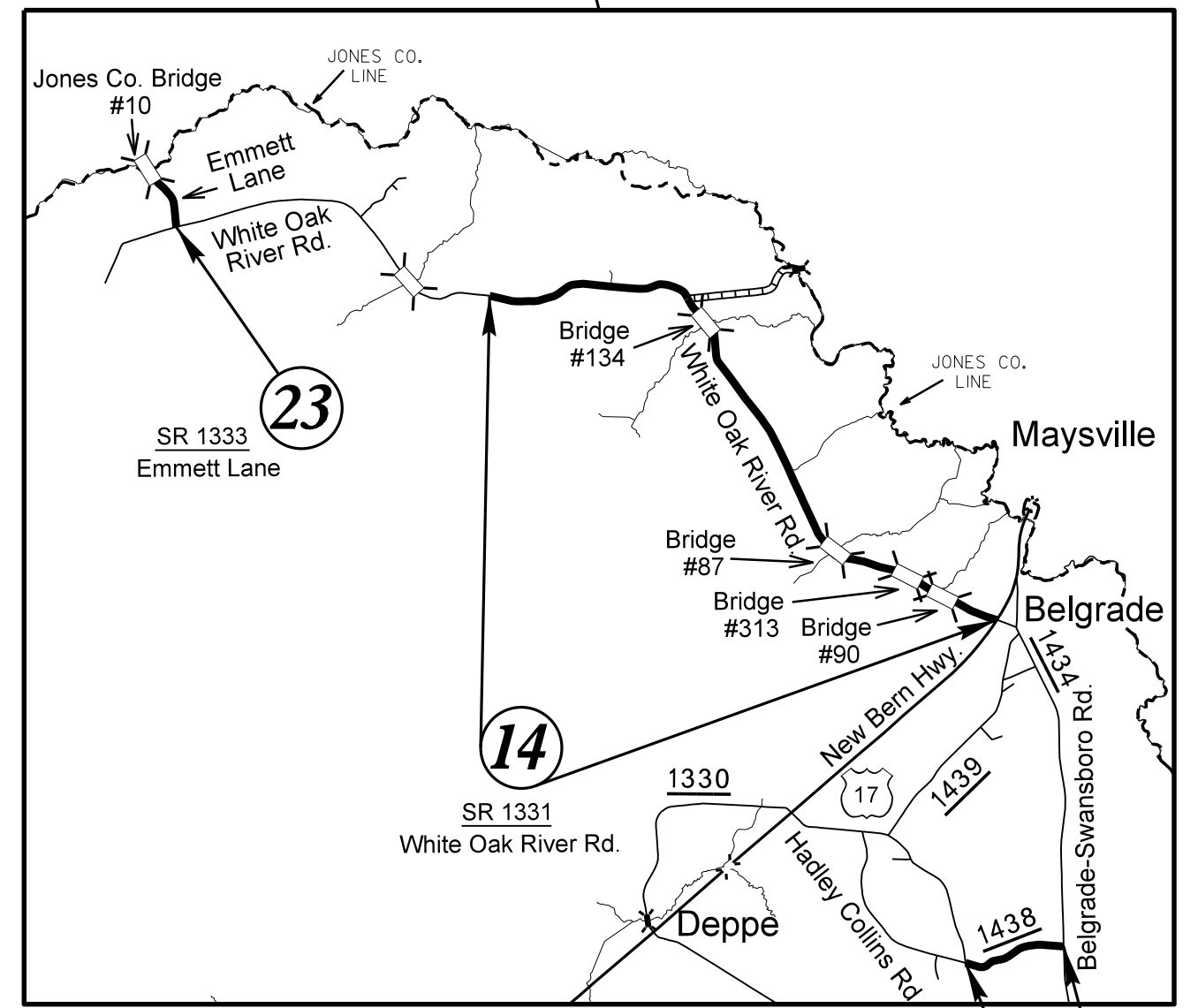


- 16** SR 1396
Ridge Rd.
- 17** SR 1927
Willbarry Rd.
- 18** SR 1928
Deerfield Rd.
- 19** SR 1929
Riverbend Rd.
- 20** SR 2003
Crooked Creek Rd.



SR 1214
Foy Lockamey Rd.

SR 1215
Graytown Rd.



SR 1333
Emmett Lane

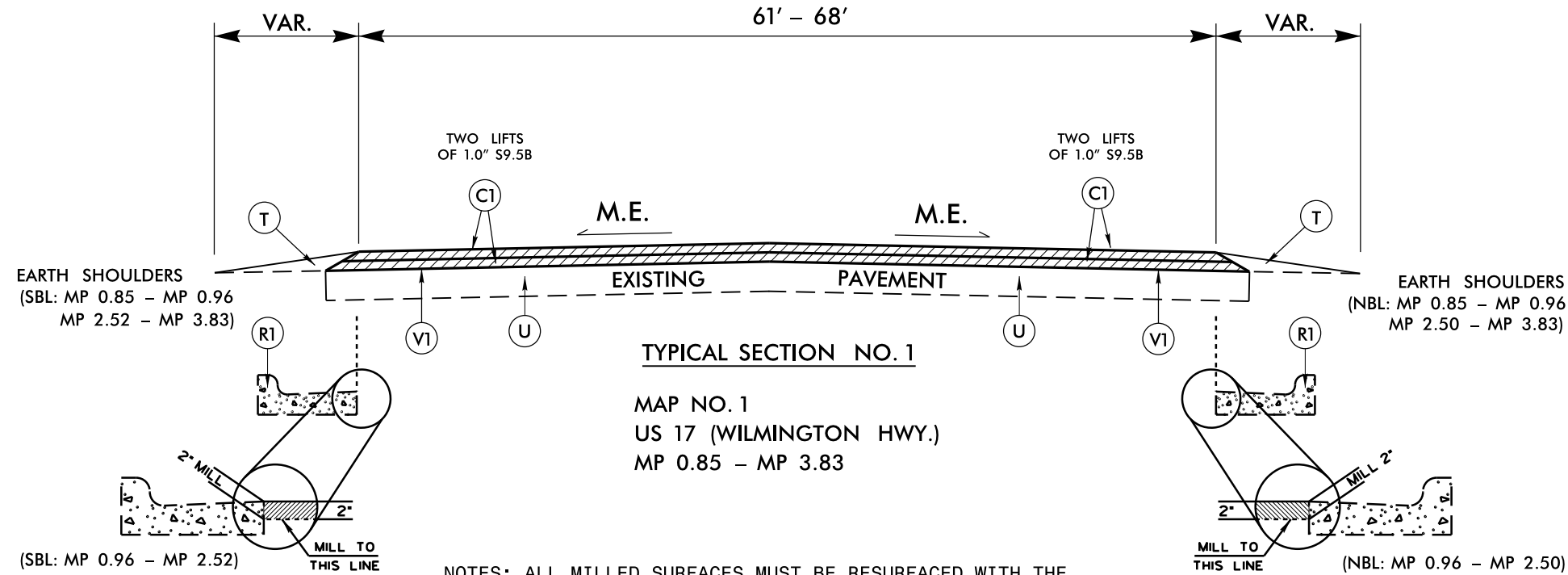
SR 1331
White Oak River Rd.

SR 1438
Hadley Collins Rd.

MAPS N.T.S.

REVISIONS

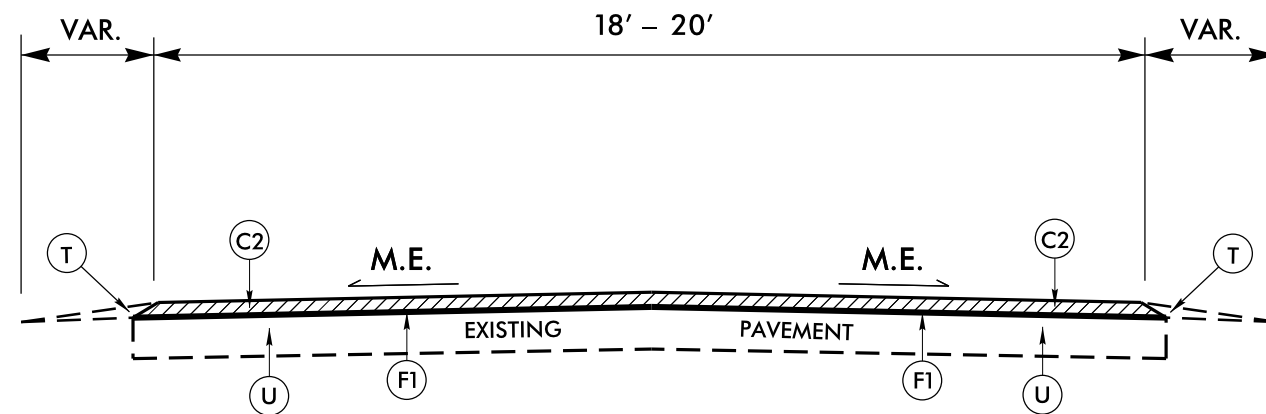
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 \$\$\$SPLSRNAME\$\$\$



TYPICAL SECTION NO. 1

MAP NO. 1
US 17 (WILMINGTON HWY.)
MP 0.85 - MP 3.83

NOTES: ALL MILLED SURFACES MUST BE RESURFACED WITH THE FIRST 1.0" S9.5B LIFT BY THE END OF EACH WORK DAY.
MILL & RESURFACE 1.5" ON SECONDARY ROUTES AND MUNICIPAL STREET -Y- LINES
SHOULDER WORK ON MAP NO.1 AS NEEDED, TO BE DETERMINED BY ENGINEER.



TYPICAL SECTION NO. 2

MAP NO. 2
SR 1220 (DELL BROCK RD.)
MP 0.00 - MP 1.24

MAP NO. 13
SR 1225 (COSTON RD.)
MP 0.00 - MP 2.53

MAP NO. 21
SR 1302 (HUFFMANTOWN RD.)
MP 0.00 - MP 4.18
MP 4.20 - MP 5.60

Ⓟ V1 MILL 2" DEPTH
Ⓟ V2 MILL 1.5" DEPTH ON
SECONDARY ROUTE -Y- LINES

NOTES: SHOULDER WORK ON MAP NO. 21 AS NEEDED, TO BE DETERMINED BY ENGINEER.

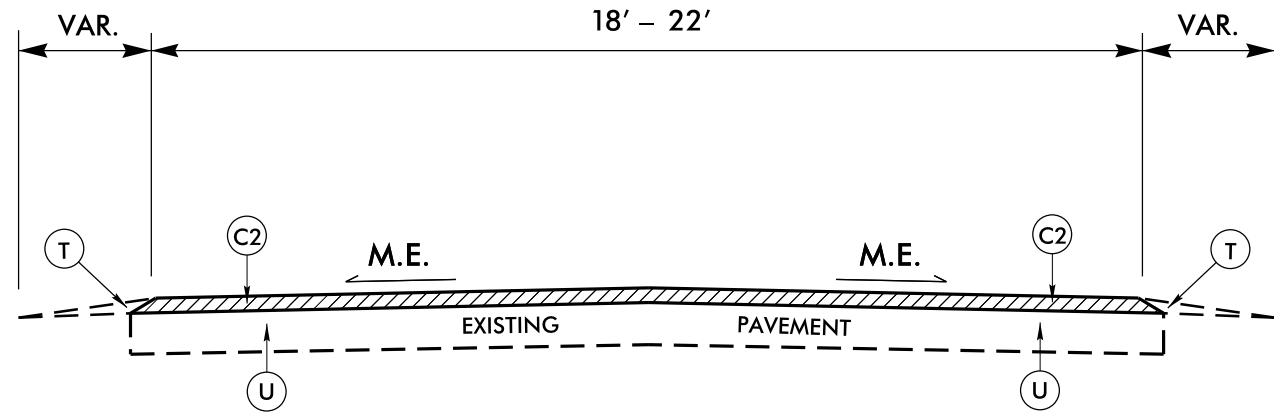
WEEP HOLES SHALL BE CUT IN THE SHOULDERS TO ALLOW DRAINAGE IN CASE OF A RAIN EVENT FOLLOWING 2" MILLING (DUE TO WAVING THE RESURFACING REQUIREMENT THE SAME DAY ON THIS MAP).

PAVEMENT SCHEDULE

C1	PROP. APPROX. 2" DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 110 LBS. PER SQ.YD. IN EACH OF TWO LAYERS
C2	PROP. APPROX. 1 1/2" DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 165 LBS. PER SQ.YD.
C3	PROP. APPROX. 1" DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 110 LBS. PER SQ.YD.
F1	ASPHALT SURFACE TREATMENT - MAT COAT #67 STONE (GRANITE)
R1	EXISTING CONCRETE 2'-6" CURB & GUTTER
R2	EXISTING CONCRETE BRIDGE RAIL
T	EARTH MATERIAL (SHOULDER RECONSTRUCTION)
U	EXISTING PAVEMENT
V1	MILLING ASPHALT PAVEMENT, 2" DEPTH
V2	MILLING ASPHALT PAVEMENT, 1 1/2" DEPTH
V3	MILLING ASPHALT PAVEMENT, 0" - 1 1/2" DEPTH
V4	MILLING ASPHALT PAVEMENT, 1" DEPTH

PAVEMENT EDGE SLOPES ARE 1:1, EXCEPT FINAL SURFACE COURSE. SEE SHOULDER WEDGE DETAIL.

REVISIONS
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 - 2020 Resurfacing\Onslow\2019CPT.03.02.10671, ETC.\RALEIGH - SUBMITTAL\2019CPT.03.02.10671, ETC.\Rdy_tup.dgn
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TYPICAL SECTION NO. 3

PAVEMENT SCHEDULE	
C2	1 1/2" S9.5B
R1	EXISTING 2'-6" CURB & GUTTER
T	EARTH MATERIAL (SH. RECONSTR.)
U	EXISTING PAVEMENT
V3	MILLING 0" - 1 1/2" DEPTH

MAP NO. 3
SR 1633 (PRINCE DR.)
MP 0.00 - MP 0.12

MAP NO. 6
SR 1218 (CEDAR FORK RD.)
MP 0.02 - MP 3.09

MAP NO. 7
SR 1561 (CHARLES CREEK RD.)
MP 0.00 - MP 0.50

MAP NO. 8
SR 1438 (HADLEY COLLINS RD.)
MP 0.00 - MP 0.77

MAP NO. 9
SR 1214 (FOY LOCKAMEY RD.)
MP 0.20 - MP 1.86

MAP NO. 10
SR 1215 (GRAYTOWN RD.)
MP 0.00 - MP 0.89

MAP NO. 12
SR 1411 (WATERS RD.)
MP 0.00 - MP 2.13

MAP NO. 15
SR 1503 (BEAR CREEK RD.)
MP 0.00 - MP 2.36

MAP NO. 16
SR 1396 (RIDGE RD.)
MP 0.00 - MP 0.35
MP 0.38 - MP 0.83

MAP NO. 17
SR 1927 (WILLBARRY RD.)
MP 0.00 - MP 0.18

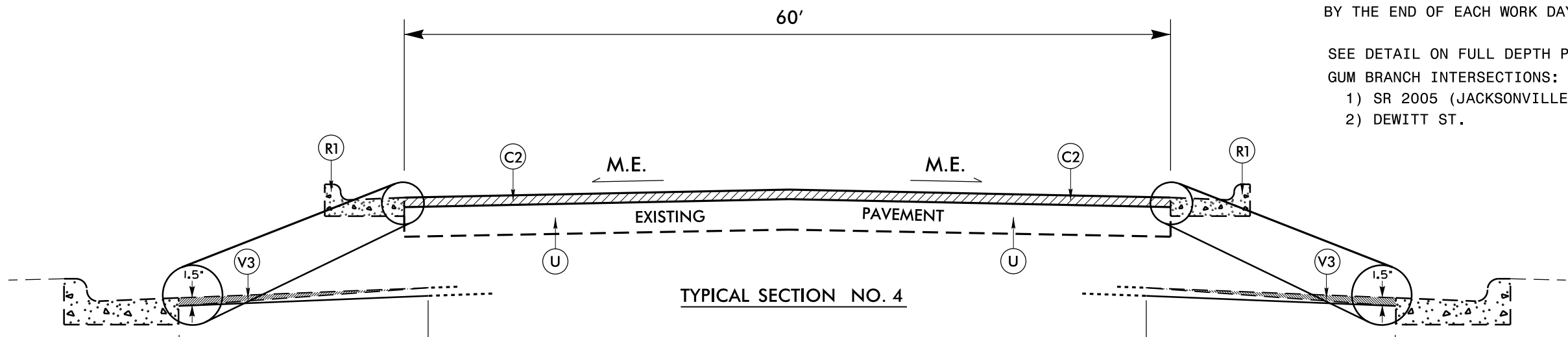
MAP NO. 18
SR 1928 (DEERFIELD RD.)
MP 0.00 - MP 0.18

MAP NO. 19
SR 1929 (RIVERBEND RD.)
MP 0.00 - MP 0.24

MAP NO. 20
SR 2003 (CROOKED CREEK RD.)
MP 0.00 - MP 0.10

MAP NO. 22
SR 1961 (PECAN LN.)
MP 0.00 - MP 0.05

MAP NO. 26
SR 1121 (VERONA RD.)
MP 0.00 - MP 1.05



TYPICAL SECTION NO. 4

MAP NO. 4
SR 1308 (GUM BRANCH RD.)
MP 8.60 - MP 10.02
(NO WORK WESTERN BLVD.
INTERSECTION MP 10.02 - MP 10.36)

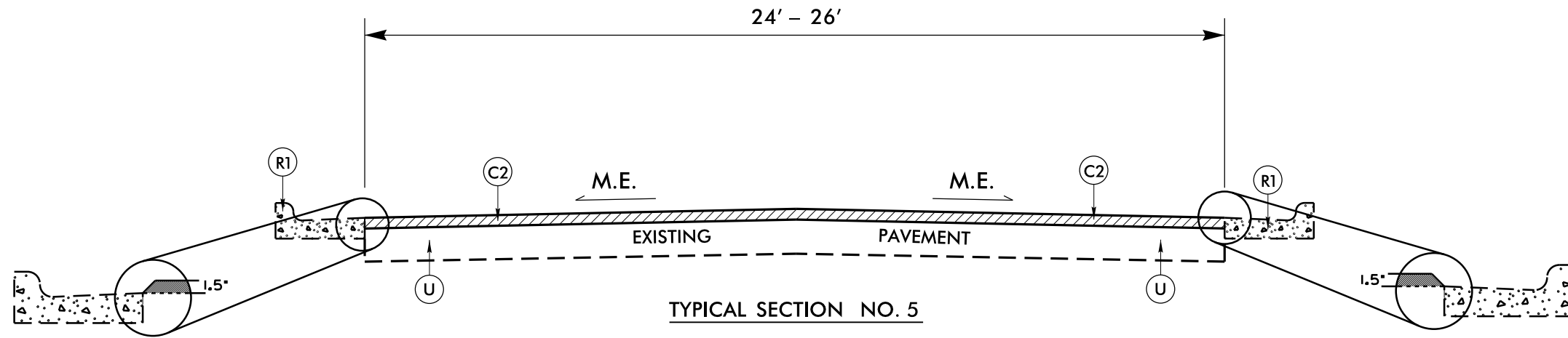
MAP NO. 5
SR 1308 (GUM BRANCH RD.)
MP 10.36 - MP 11.45
MP 11.59 - MP 13.15
(NO WORK HENDERSON DR.
INTERSECTION MP 11.45 - MP 11.59)

NOTES: ALL MILLED SURFACES MUST BE RESURFACED BY THE END OF EACH WORK DAY.

SEE DETAIL ON FULL DEPTH PATCHING FOR GUM BRANCH INTERSECTIONS:
1) SR 2005 (JACKSONVILLE HS ACCESS RD.)
2) DEWITT ST.

REVISIONS

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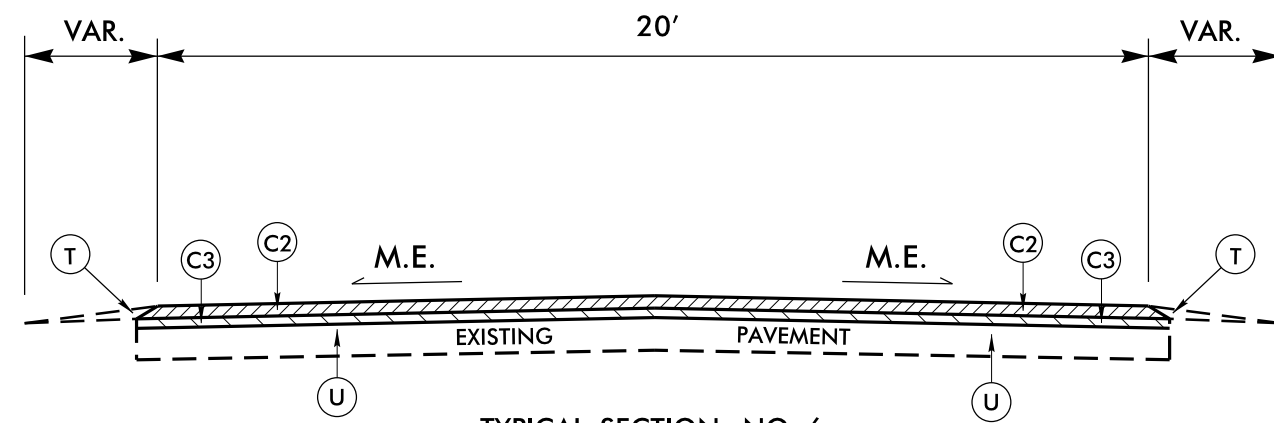


TYPICAL SECTION NO. 5

MAP NO. 11
SR 1852 (TROTTERS RUN)
MP 0.00 – MP 0.05

MAP NO. 16
SR 1396 (RIDGE RD.)
MP 0.35 – MP 0.38

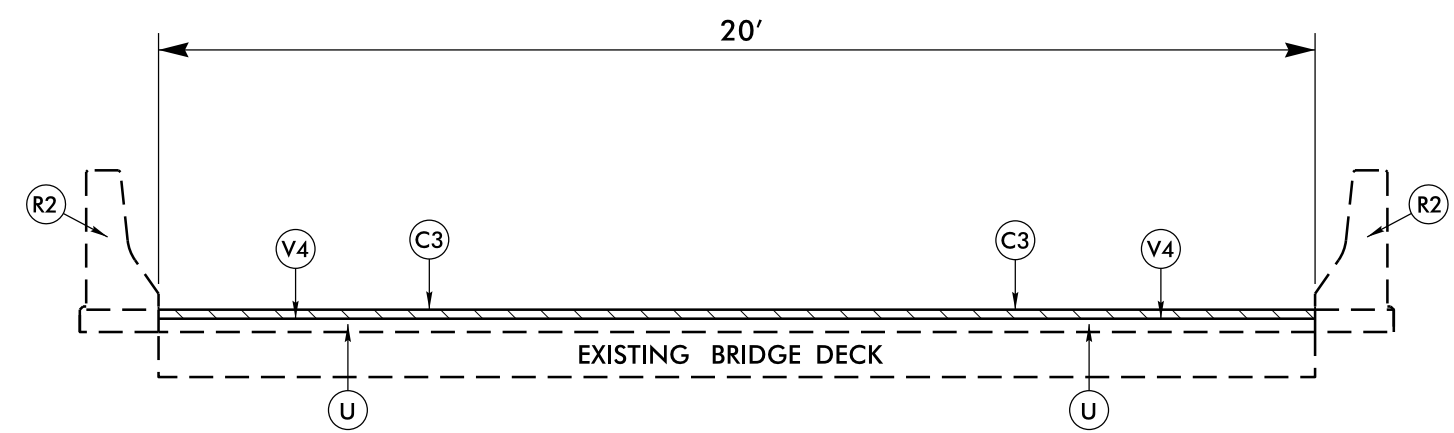
PAVEMENT SCHEDULE	
C2	1½" S9.5B
C3	1" S9.5B
R1	EXISTING 2'-6" CURB & GUTTER
R2	EXISTING CONCRETE BRIDGE RAIL
T	EARTH MATERIAL (SH. RECONSTR.)
U	EXISTING PAVEMENT
V4	MILLING 1" DEPTH



TYPICAL SECTION NO. 6

MAP NO. 14
SR 1331 (WHITE OAK RIVER RD.)
MP 0.00 – MP 5.02

NO PAVING BRIDGE NO. 90
NO PAVING BRIDGE NO. 87
NO PAVING BRIDGE NO. 313
(FROM MP 0.37 – MP 0.85)
NO PAVING BRIDGE NO. 134
(FROM MP 3.18 – MP 3.31)



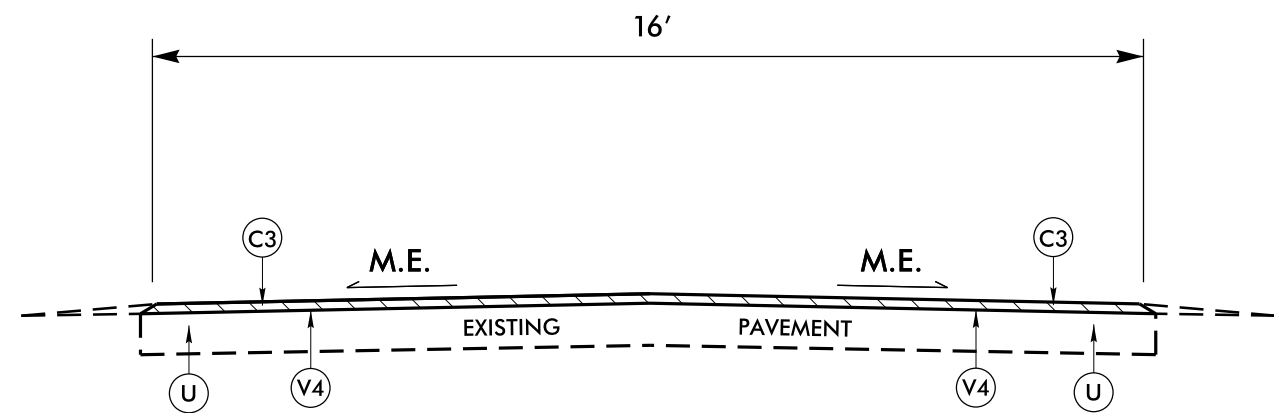
TYPICAL SECTION NO. 7

MAP NO. 21
SR 1302 (HUFFMANTOWN RD.)
BRIDGE NO. 44
MP 4.18 – MP 4.20

NOTES: ALL MILLED SURFACES MUST BE RESURFACED BY THE END OF EACH WORK DAY.

REVISIONS

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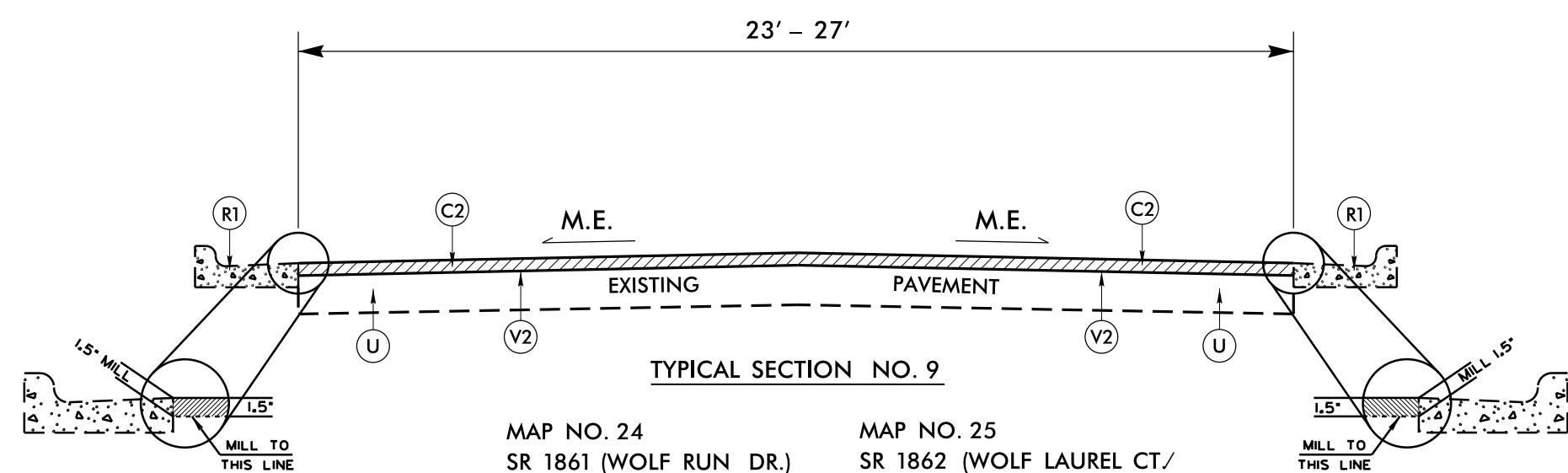


TYPICAL SECTION NO. 8

MAP NO. 23
SR 1333 (EMMETT LANE)
MP 0.00 – MP 0.48

NOTES: ALL MILLED SURFACES MUST BE RESURFACED BY THE END OF EACH WORK DAY.

PAVEMENT SCHEDULE	
C2	1½" S9.5B
C3	1" S9.5B
R1	EXISTING 2'-6" CURB & GUTTER
U	EXISTING PAVEMENT
V2	MILLING 1½" DEPTH
V4	MILLING 1" DEPTH



TYPICAL SECTION NO. 9

MAP NO. 24
SR 1861 (WOLF RUN DR.)
MP 0.00 – MP 0.13

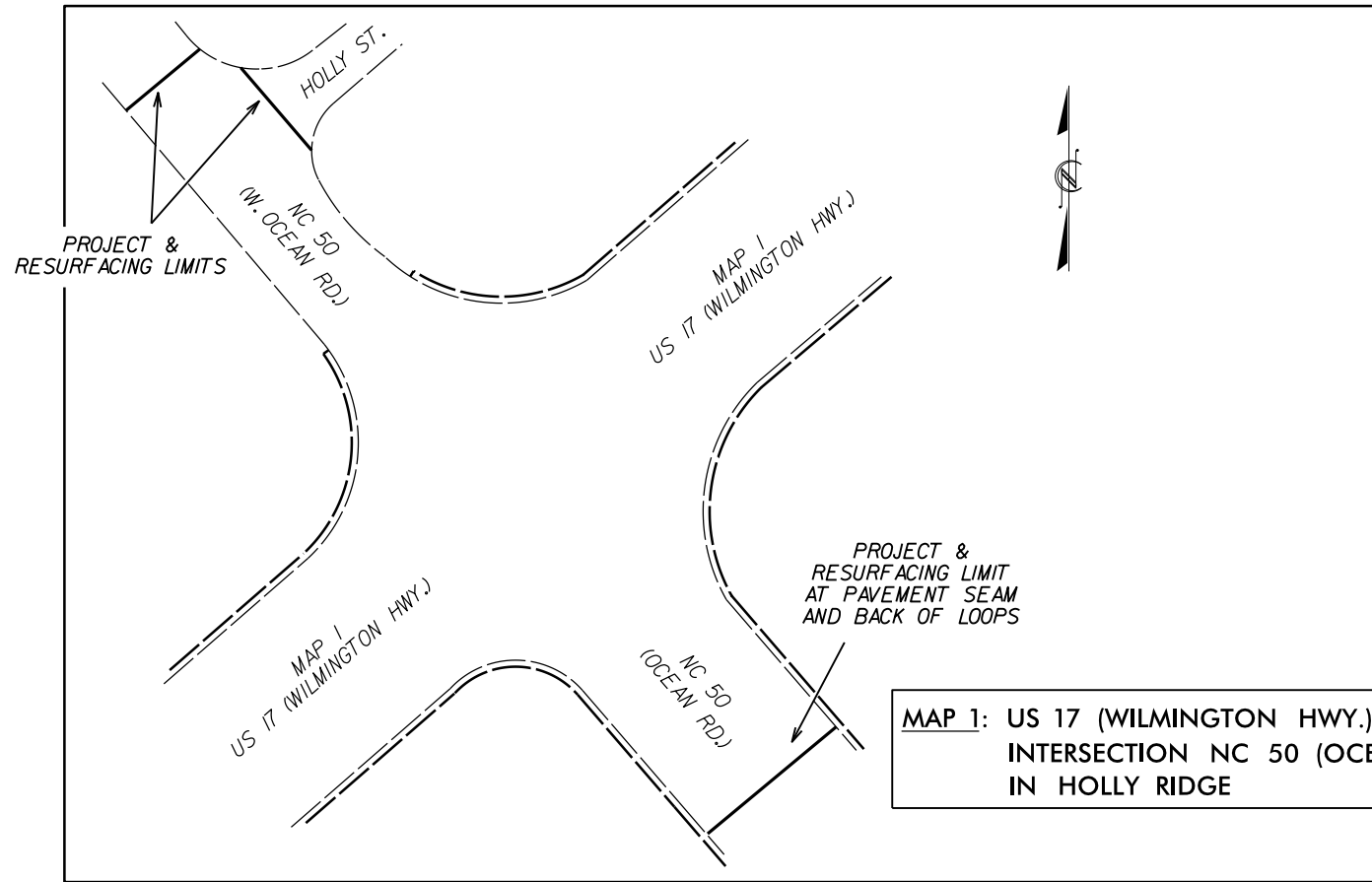
MAP NO. 25
SR 1862 (WOLF LAUREL CT/
WOLF RUN LANE)
MP 0.00 – MP 0.13

NOTES: ALL MILLED SURFACES MUST BE RESURFACED BY THE END OF EACH WORK DAY.

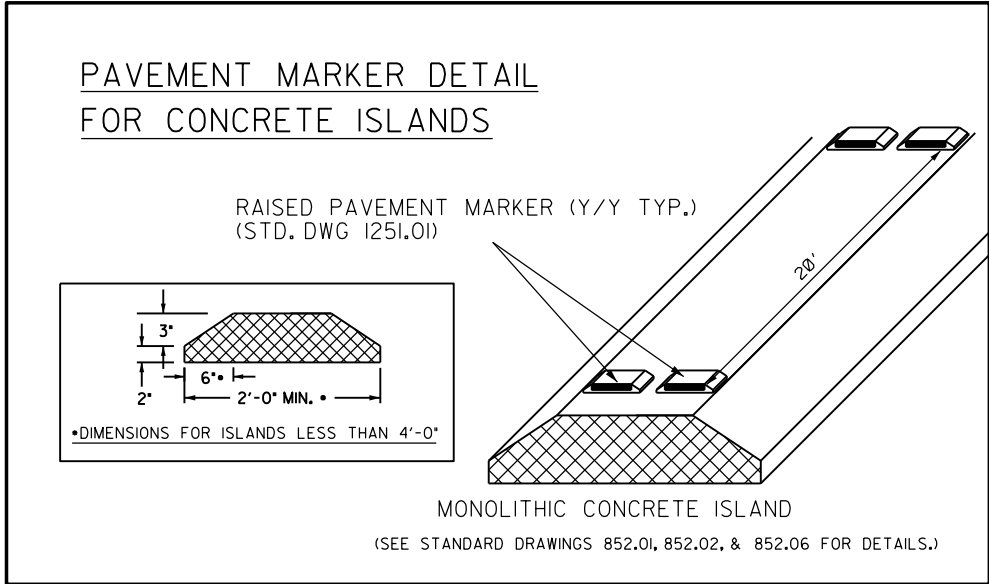
ALL RELEVANT -Y- LINES MILL 1.5" DEPTH.

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RESURFACING LIMITS, PEDESTRIAN IMPROVEMENTS & LIST OF STANDARD DRAWINGS, ETC.



MAP 1: US 17 (WILMINGTON HWY.) AT INTERSECTION NC 50 (OCEAN RD.) IN HOLLY RIDGE

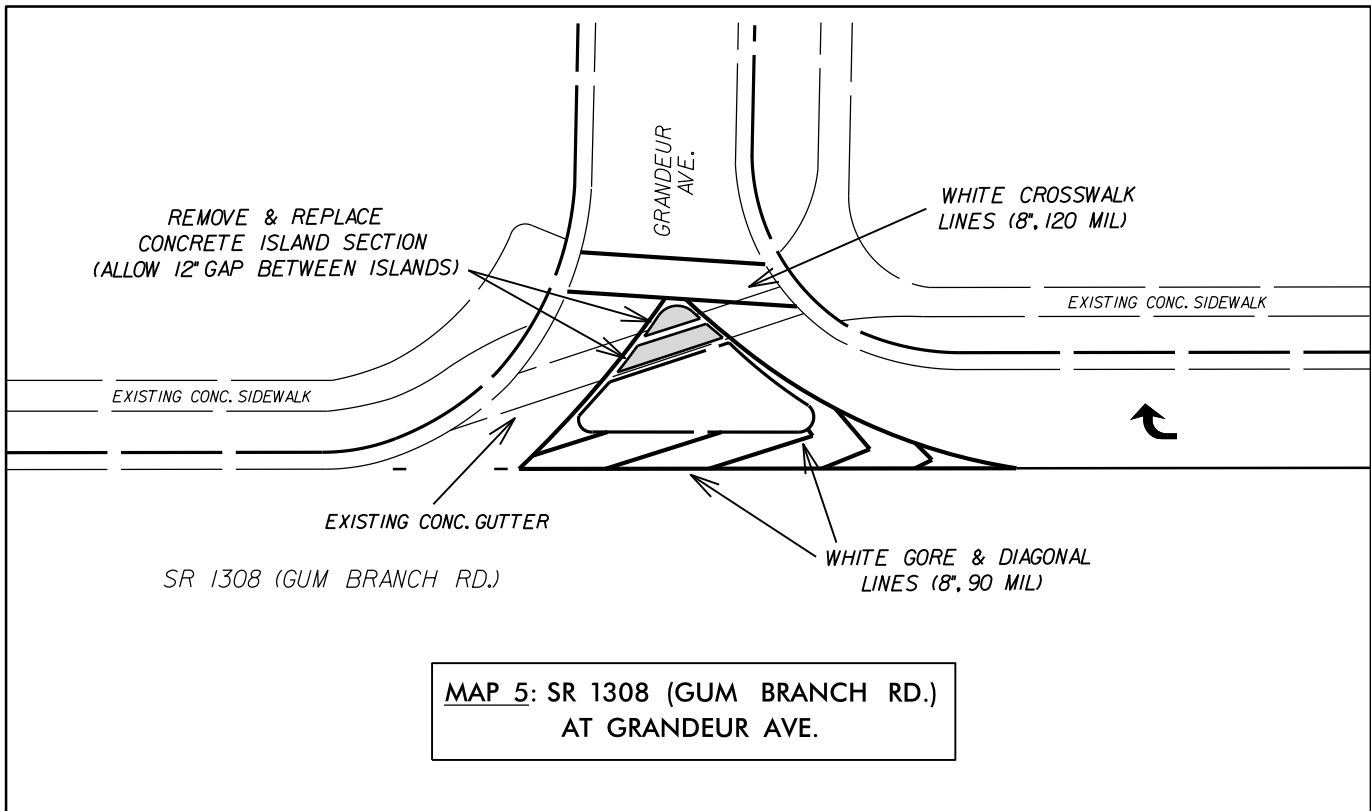


EFF.01-16-2018 REV.

2018 ROADWAY ENGLISH STANDARD DRAWINGS

The following Roadway Standards as appear in "Roadway Standard Drawings" Highway Design Branch - N.C. Department of Transportation - Raleigh, N.C., Dated January, 2018 are applicable to this project and by reference hereby are considered a part of these plans:

STD.NO.	TITLE
DIVISION 8 - INCIDENTALS	
852.01	Concrete Islands
862.01	Guardrail Placement
862.02	Guardrail Installation



MAP 5: SR 1308 (GUM BRANCH RD.) AT GRANDEUR AVE.

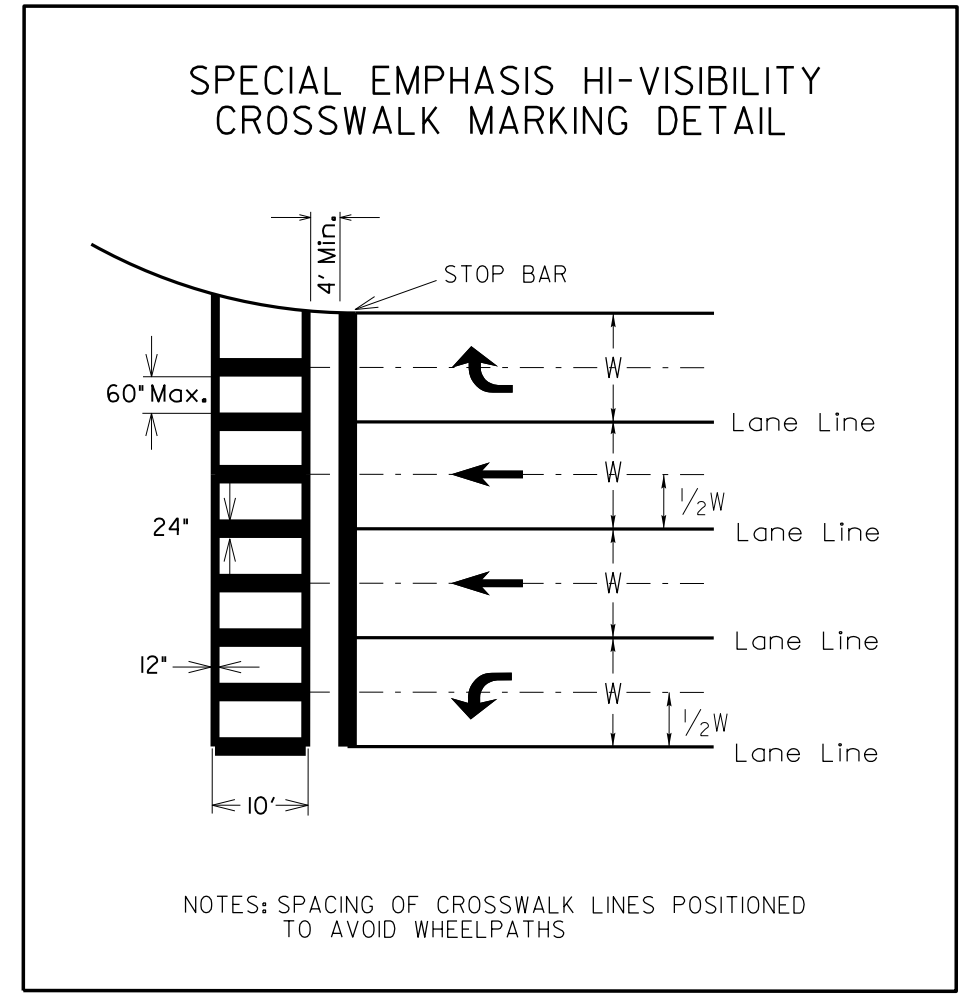
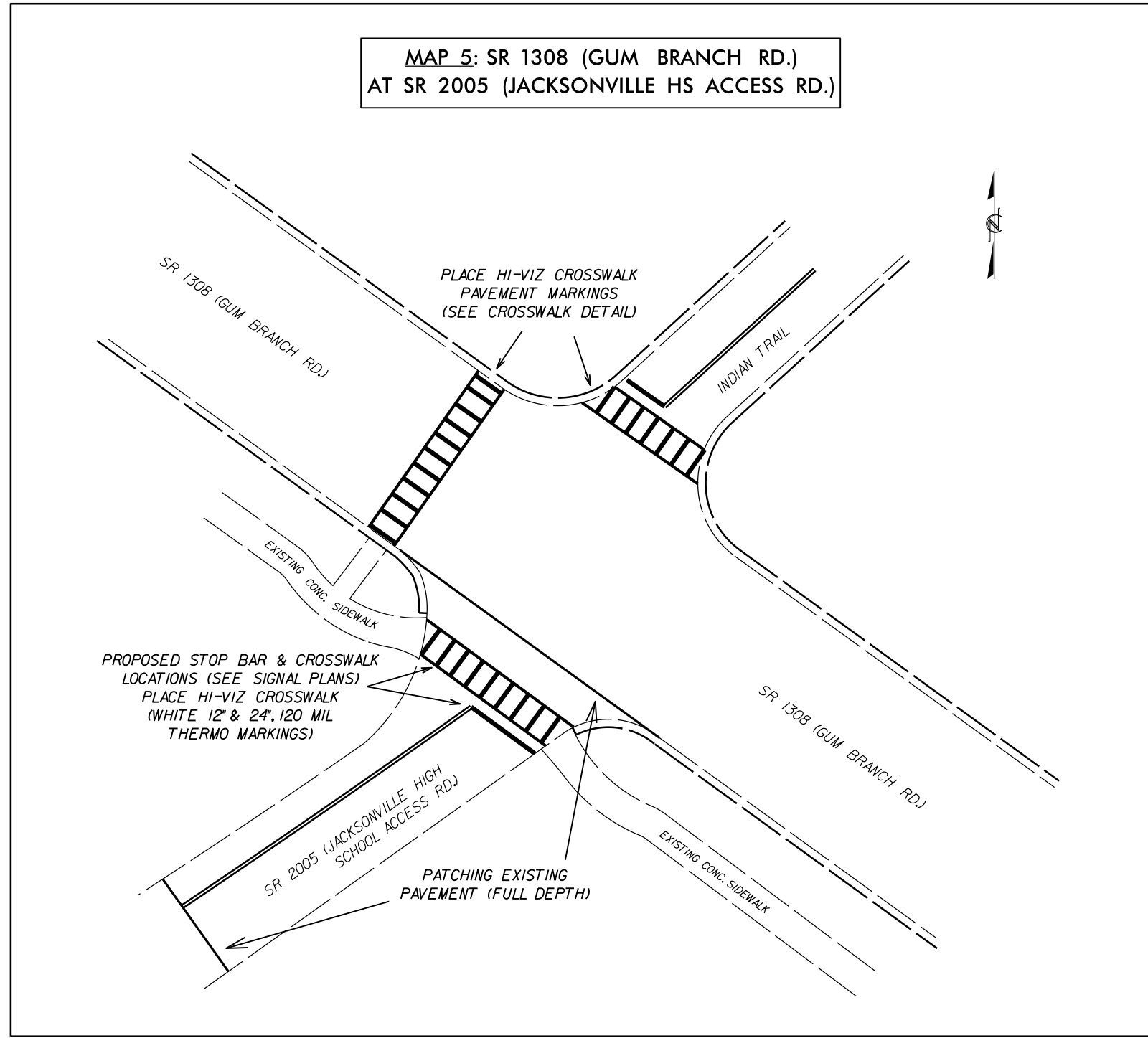
MAPS N.T.S.

REVISIONS

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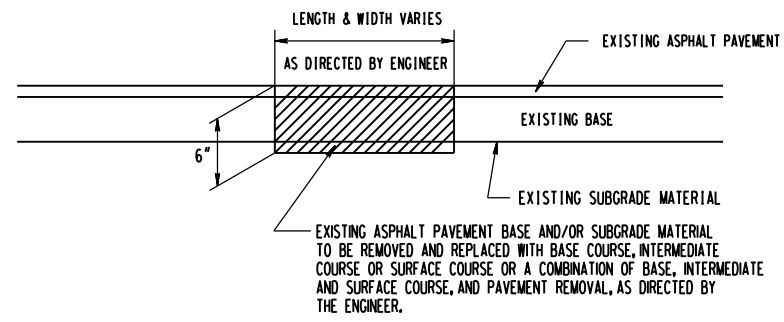
RESURFACING LIMITS, PEDESTRIAN IMPROVEMENTS & PAVEMENT MARKING DETAILS

**MAP 5: SR 1308 (GUM BRANCH RD.)
AT SR 2005 (JACKSONVILLE HS ACCESS RD.)**

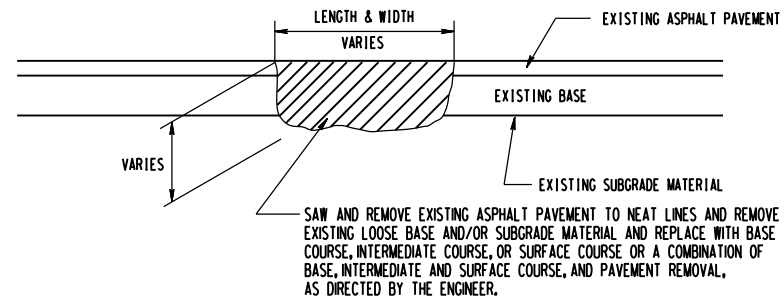


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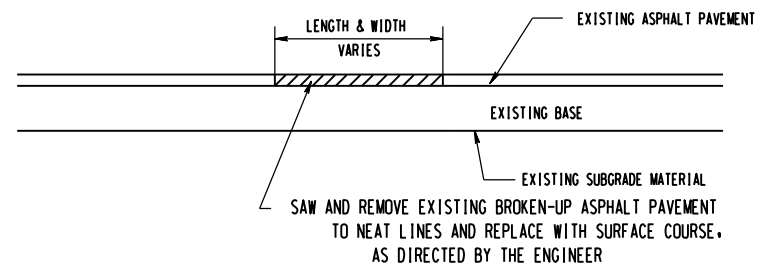
DETAILS OF PATCHING EXISTING PAVEMENT PRIOR TO RESURFACING FOR FULL DEPTH AND MILLING



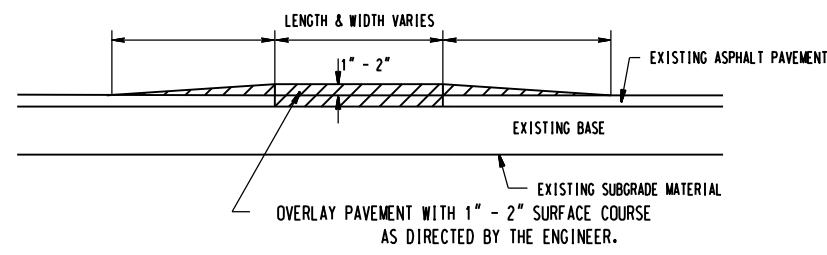
DETAIL NO. 1



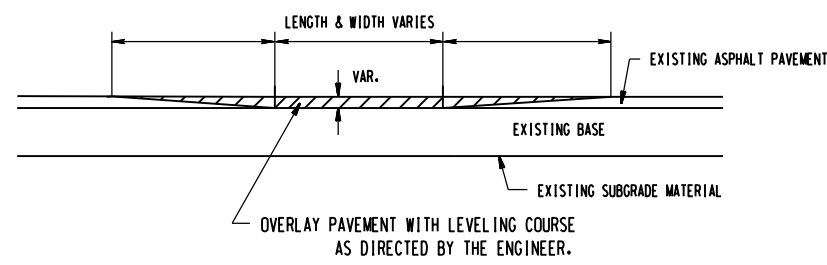
DETAIL NO. 2



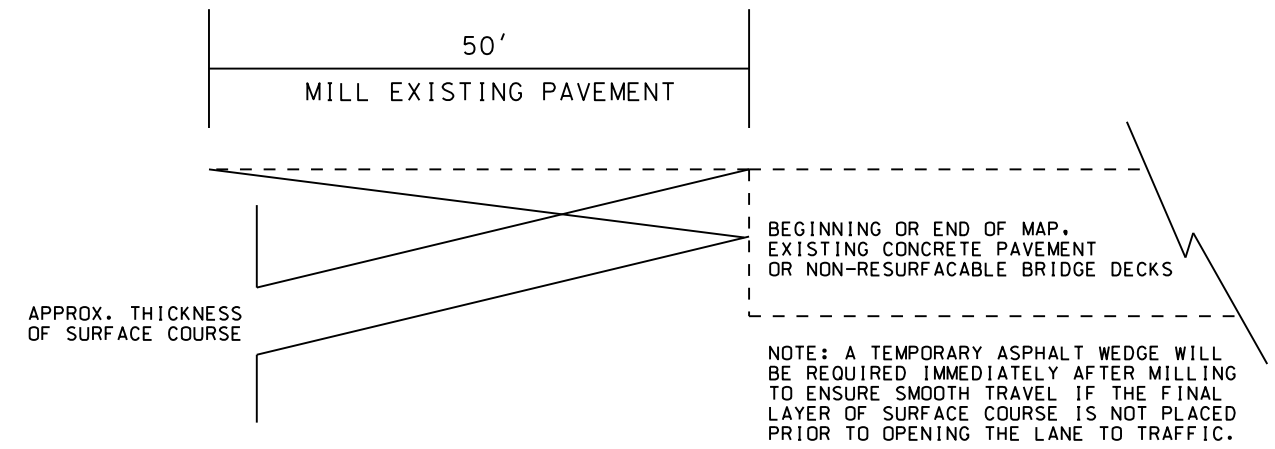
DETAIL NO. 3



DETAIL NO. 4

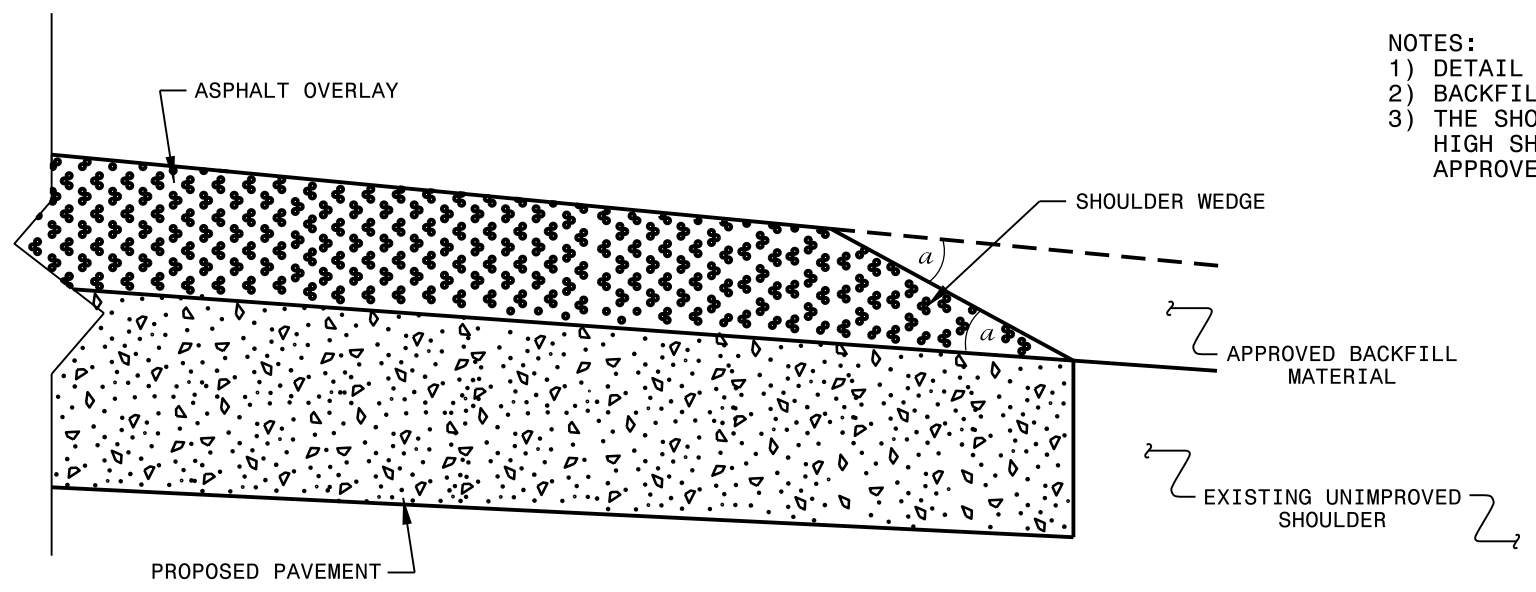


DETAIL NO. 5

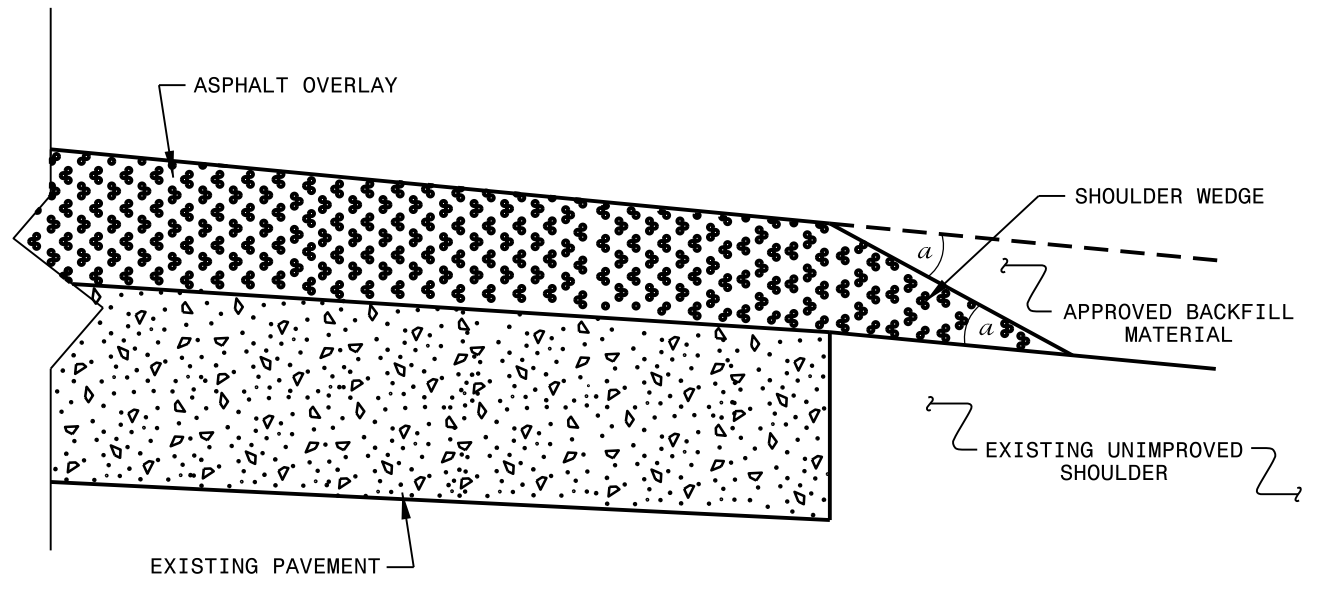


DETAIL FOR MILLING & INCIDENTAL MILLING PAY ITEMS:
MAY BE USED AT THE BEGINNING & END OF MAPS
AND AT APPROACH & TRAILING ENDS OF BRIDGES

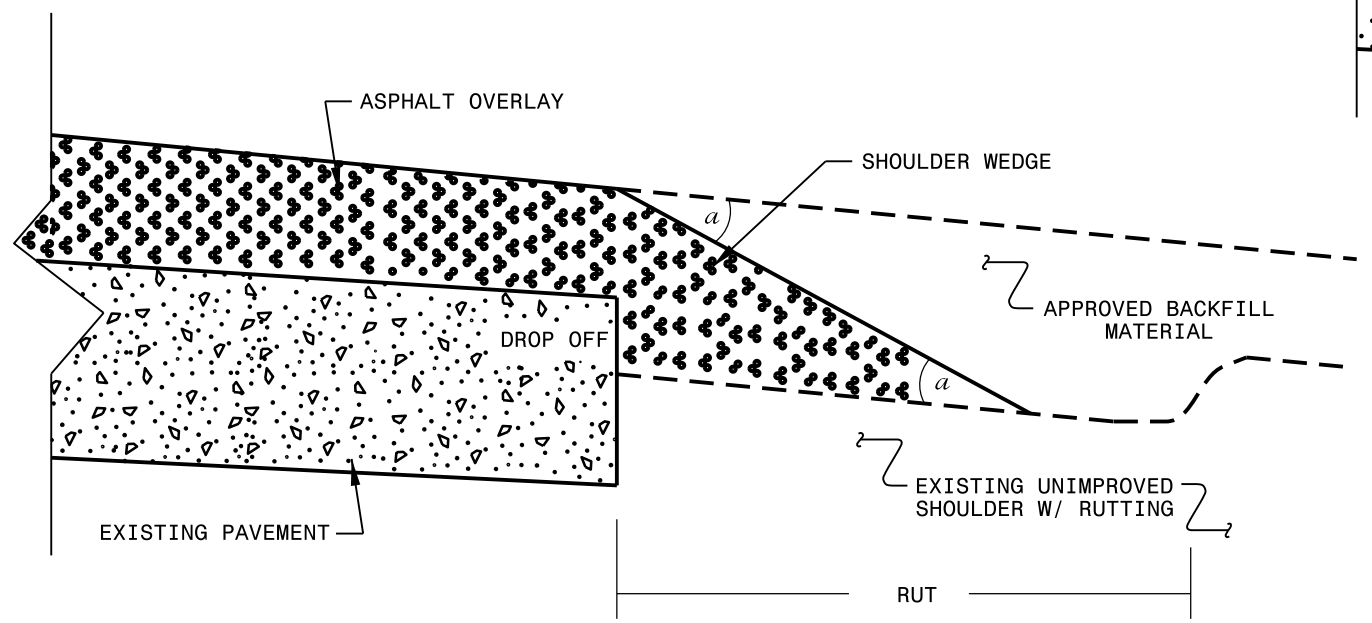
- NOTES:
- 1) DETAIL DOES NOT APPLY TO OGAFC AND ULTRA-THIN BONDED WEARING COURSE.
 - 2) BACKFILL SHOULDER WITH APPROVED MATERIAL.
 - 3) THE SHOULDER WEDGE DEVICE MAY BE DISENGAGED AT PAVED DRIVEWAYS, SIDE STREETS, HIGH SHOULDERS, AND OTHER LOCATIONS NOT FEASIBLE TO CONSTRUCT AS APPROVED BY THE ENGINEER.



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



SHOULDER WEDGE DETAIL
(Resurfacing Projects w/ NO Widening)



SHOULDER WEDGE DETAIL
(Resurfacing Adjacent to Rutted Shoulder)

- SHOULDER WEDGE ANGLE = 30°

CONTRACT STANDARDS AND DEVELOPMENT UNIT			
Office 919-707-6950		FAX 919-250-4119	
SHOULDER WEDGE DETAILS			
ORIGINAL BY: T.SPELL	DATE: 7-19-11		
MODIFIED BY:	DATE: 2/2/16		
CHECKED BY:	DATE:		
FILE SPEC.: s:\usr\details\stand\shoulderwedgedetail.dgn			

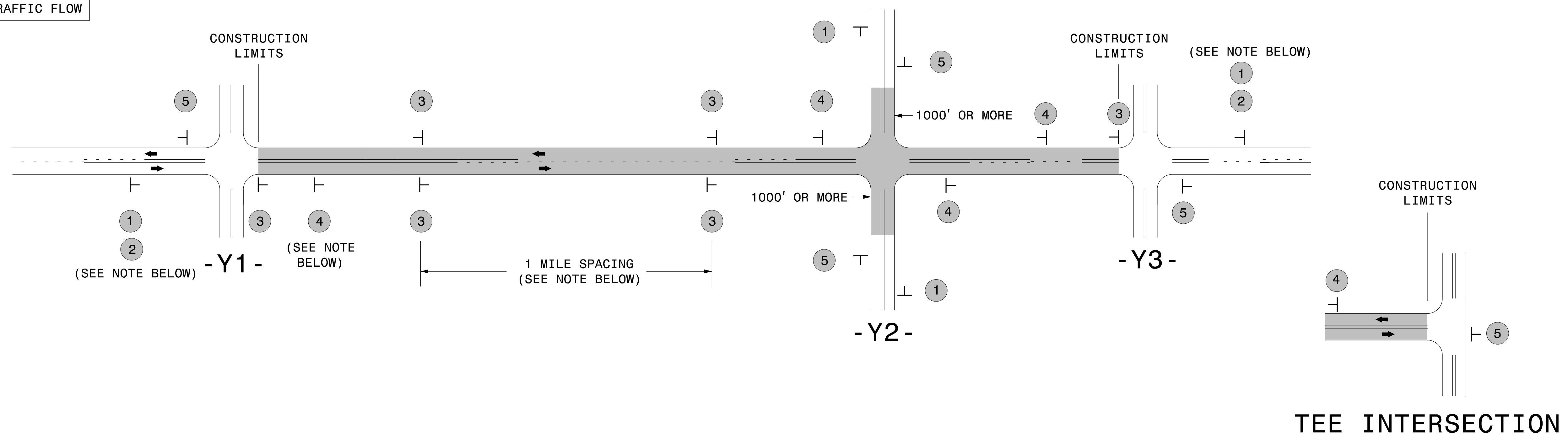
27 JUN 2018 13:22
 s:\usr\details\stand\shoulderwedgedetail.dgn
 3\Sampson August 2018 Revised Shoulder Wedge Detail.dgn
 P:\porter_41_CSD_20152542

SIGNING FOR RESURFACING PROJECTS

LEGEND

┃ STATIONARY SIGN

← DIRECTION OF TRAFFIC FLOW



MAINLINE (-L-) SIGNING

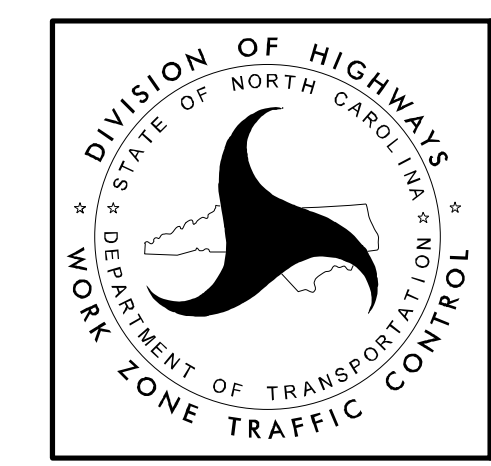
-Y- LINE SIGNING

SIGNING NOTES AND PLACEMENT PER DIRECTION	1		PLACE 1000' PRIOR TO BEGINNING OF CONSTRUCTION LIMITS. ONLY USED ON -Y- LINES IF RESURFACING LIMITS EXTEND 1000' ALONG -Y- LINE.	<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, PORTABLE ADVANCE WARNING SIGNS SHALL BE USED ALONG THE -Y- LINE AS SHOWN BELOW. REMOVE UPON COMPLETION OF WORK.</p> <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> W20-1 48" X 48" PLACED 500' IN ADVANCE OF FLAGGER. </div> <div style="text-align: center;"> W20-7 A 48" X 48" PLACED 250' IN ADVANCE OF FLAGGER. </div> </div>
	2		#2 SIGN ONLY USED WHEN CONSTRUCTION LIMITS ARE 2 OR MORE MILES IN LENGTH. ROUND UP TO NEXT WHOLE NUMBER. (NO FRACTIONAL OR DECIMAL NUMBERS)	
	3		<ul style="list-style-type: none"> PLACE INITIALLY AT THE CONSTRUCTION LIMITS AND SPACE 1 MILE APART THEREAFTER. AT TEE INTERSECTIONS INSTALL INITIALLY 1/2 MILE FROM INTERSECTION AND SPACE 1 MILE APART THEREAFTER. 	
	4		<ul style="list-style-type: none"> 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. FOR TEE INTERSECTIONS, INSTALL WITHIN 500' +/- OF THE INTERSECTION ALONG -L- LINE. 	
	5		PLACE 500' FOLLOWING THE END OF CONSTRUCTION LIMITS OR AS SHOWN WHEN WORK ENDS AT A 3-WAY TEE INTERSECTION.	

THE ABOVE SIGNS ARE ALL THAT ARE REQUIRED FOR A CONTRACTOR TO BEGIN A RESURFACING CONTRACT. ANY ADDITIONAL SIGNS REQUESTED BY NCDOT DIVISIONS SHALL BE INSTALLED WITHIN 7 BUSINESS DAYS OF THE START OF CONTRACT WORK.

MAPS LESS THAN 2 MILES

FOR RESURFACING MAPS WITH CONSTRUCTION LIMITS LESS THAN 2 MILES IN LENGTH, NO STATIONARY SIGNS ARE REQUIRED. USE PORTABLE "ROAD UNDER CONSTRUCTION" OR "ROAD WORK AHEAD" SIGNS IN LIEU OF STATIONARY ADVANCE WARNINGS SIGNS.

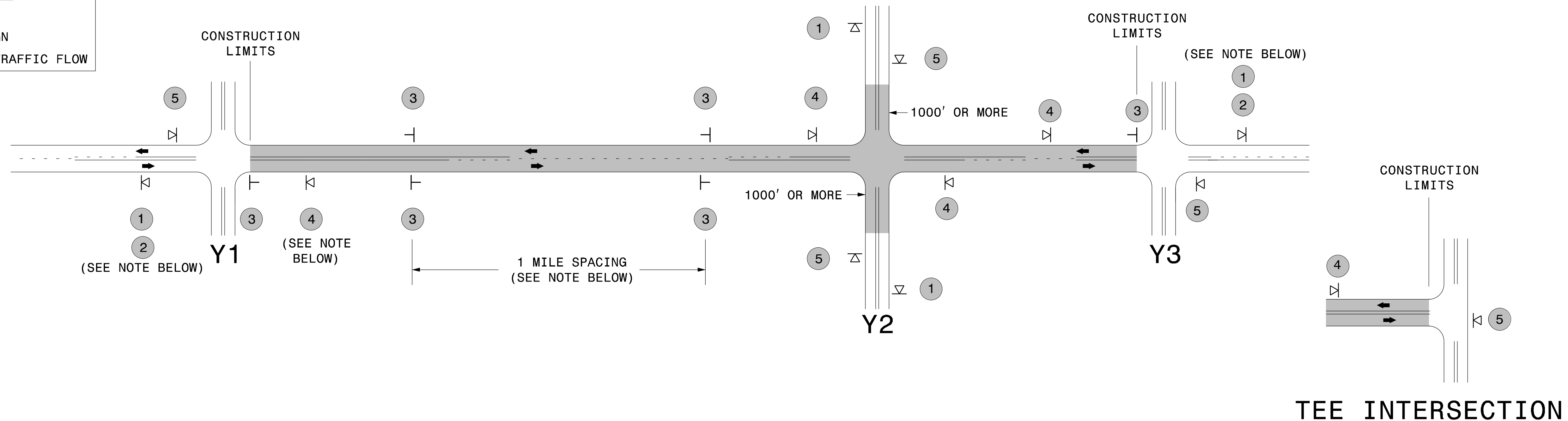


ADVANCE WARNING SIGNS FOR RURAL AND SUBURBAN 2-LANE ROADWAY RESURFACING

SIGNING FOR ASPHALT SURFACE TREATMENT

LEGEND

- ◻ PORTABLE SIGN
- └ STATIONARY SIGN
- ← DIRECTION OF TRAFFIC FLOW



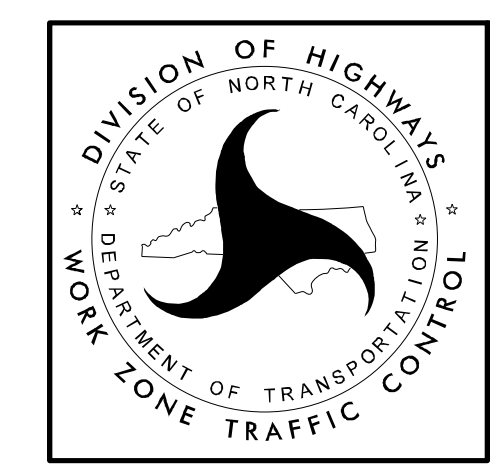
MAINLINE (-L-) SIGNING

-Y- LINE SIGNING

SIGNING NOTES AND PLACEMENT PER DIRECTION	1	 	<ul style="list-style-type: none"> - PLACE 1000' PRIOR TO BEGINNING OF CONSTRUCTION LIMITS. ONLY USED ON -Y- LINES IF RESURFACING LIMITS EXTEND 1000' ALONG -Y- LINE. - SIGN #2 ONLY USED WHEN RESURFACING LIMITS ARE 2 OR MORE MILES IN LENGTH. ROUND UP TO THE NEAREST WHOLE NUMBER. DO NOT USE FRACTIONAL OR DECIMAL NUMBERS. 	<p>STATIONARY SIGNING NOT REQUIRED FOR THE FOLLOWING -Y- LINE CONDITIONS:</p> <ol style="list-style-type: none"> 1) LESS THAN 1000' OF RESURFACING ALONG -Y- LINE 2) SUBDIVISION ROADS 3) DEAD END ROADS <p>WHEN PAVING/CONSTRUCTION ACTIVITIES PROCEED ACROSS AN UNSIGNED -Y- LINE, PORTABLE ADVANCE WARNING SIGNS SHALL BE USED ALONG THE -Y- LINE AS SHOWN BELOW. REMOVE UPON COMPLETION OF WORK.</p> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;"> <small>W20-1 48" X 48"</small> PLACED 500' IN ADVANCE OF FLAGGER. </div> <div style="text-align: center;"> <small>W20-7 A 48" X 48"</small> PLACED 250' IN ADVANCE OF FLAGGER. </div> </div>
	3	 	<ul style="list-style-type: none"> - ALTERNATE THE FOLLOWING TWO SIGNS: - STARTING WITH "LOOSE GRAVEL" (W8-7) FOLLOWED BY "UNMARKED PAVEMENT". - PLACE INITIALLY AT THE CONSTRUCTION LIMITS AND SPACED 1 MILE APART THEREAFTER. - AT TEE INTERSECTIONS INSTALL INITIALLY 0.5 MILE FROM INTERSECTION AND SPACE 1 MILE APART THEREAFTER. 	
	4		<ul style="list-style-type: none"> - 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. 	
	5		<ul style="list-style-type: none"> - PLACE 500' FOLLOWING THE END OF CONSTRUCTION LIMITS OR AS SHOWN WHEN WORK ENDS AT A 3-WAY TEE INTERSECTION. 	
	<p>THE ABOVE SIGNS ARE ALL THAT ARE REQUIRED FOR A CONTRACTOR TO BEGIN A RESURFACING CONTRACT. ANY ADDITIONAL SIGNS REQUESTED BY NCDOT DIVISIONS SHALL BE INSTALLED WITHIN 7 BUSINESS DAYS OF THE START OF CONTRACT WORK.</p>			

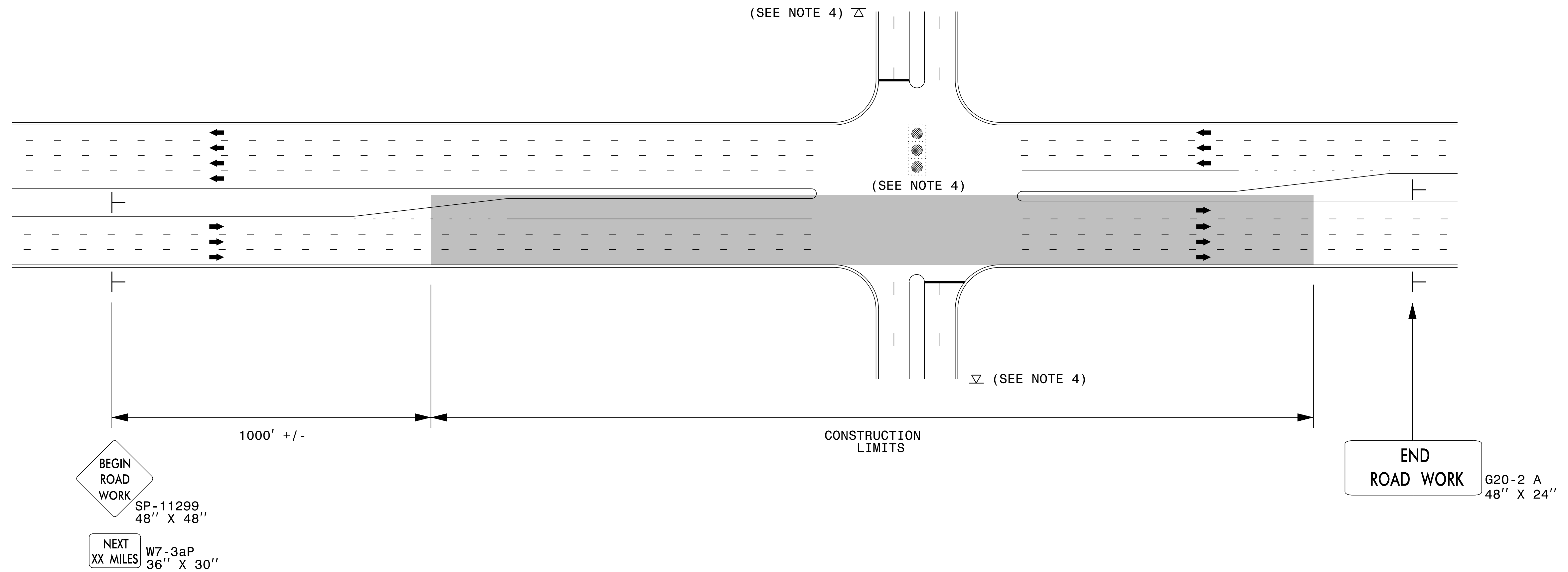
MAPS LESS THAN 2 MILES

FOR AST RESURFACING MAPS WITH CONSTRUCTION LIMITS LESS THAN 2 MILES IN LENGTH, USE A STATIONARY "LOOSE GRAVEL" SIGN AT THE BEGINNING CONSTRUCTION LIMIT FOLLOWED BY AN "UNMARKED PAVEMENT" SIGN MIDWAY THROUGH AND AN "END ROAD WORK" SIGN AT THE END CONSTRUCTION LIMIT.



ADVANCE WARNING SIGNS FOR 2-LANE ROADWAY ASPHALT SURFACE TREATMENT

URBAN / SUBURBAN WORKZONES

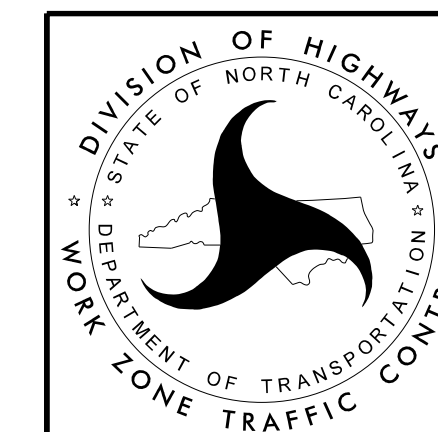


NOTES:

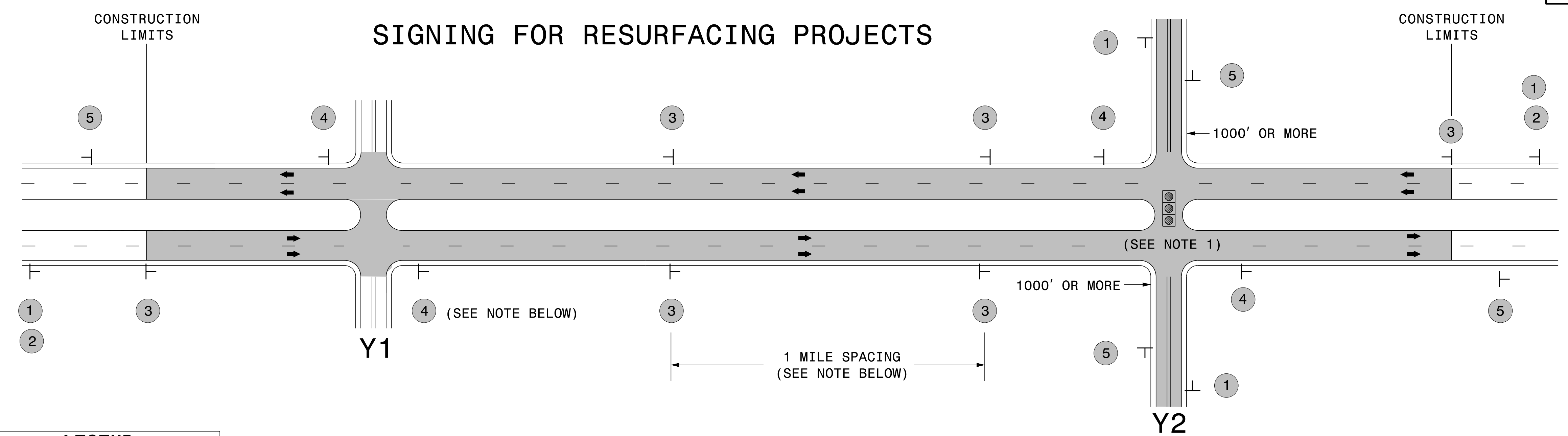
- 1) 48" x 48" SIZED SIGNS (SP- 11299) MAY BE REDUCED TO 36" X 36" ON ROADWAYS WITH SPEED LIMITS OF 40 MPH OR LESS.
- 2) MOUNT SIGNS THAT ARE LARGER THAN 10 SQUARE FEET IN AREA ON TWO OR MORE WOOD OR U-CHANNEL SUPPORTS. PERFORATED SQUARE TUBING SUPPORT SYSTEMS MAY SUPPORT LARGER AREAS ON A SINGLE SUPPORT.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

LEGEND

- ┆ STATIONARY SIGN
- ➔ DIRECTION OF TRAFFIC FLOW



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



LEGEND
 ┆ STATIONARY SIGN
 ← DIRECTION OF TRAFFIC FLOW

MAINLINE (-L-) SIGNING

-Y- LINE SIGNING

SIGNING NOTES AND PLACEMENT PER DIRECTION	 	<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"> 1) LESS THAN 1000' OF RESURFACING ALONG -Y- LINE 2) SUBDIVISION ROADS 3) 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> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;"> <small>W20-1 48" X 48"</small> </div> <div style="text-align: center;"> <small>W20-7 A 48" X 48"</small> </div> </div> <p>PLACED 500' IN ADVANCE OF FLAGGER. PLACED 250' IN ADVANCE OF FLAGGER.</p> <p>NOTES:</p> <ol style="list-style-type: none"> 1) MAY USE LAW ENFORCEMENT TO CONTROL TRAFFIC AT SIGNALIZED INTERSECTIONS AS DIRECTED BY THE ENGINEER. PROVIDE PORTABLE "ROAD WORK AHEAD" (W20-1) SIGNS 500' IN ADVANCE ALONG BOTH APPROACHES FROM THE SIDE STREETS WHEN PAVING PROCEEDS THROUGH THE INTERSECTION.
		<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>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>PLACE 500' FOLLOWING THE END OF CONSTRUCTION LIMITS.</p>	

**RESURFACING
 ADVANCE WARNING SIGNS
 FOR RURAL AND SUBURBAN
 MULTI-LANE ROADWAYS
 W/ SHOULDER SECTIONS**

3/23/2015
 C:\Users\rmgarrrett\Downloads\Resurfacing_AdvWarn_Ltr-Su_Shldr.dgn
 User:rmgarrrett

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

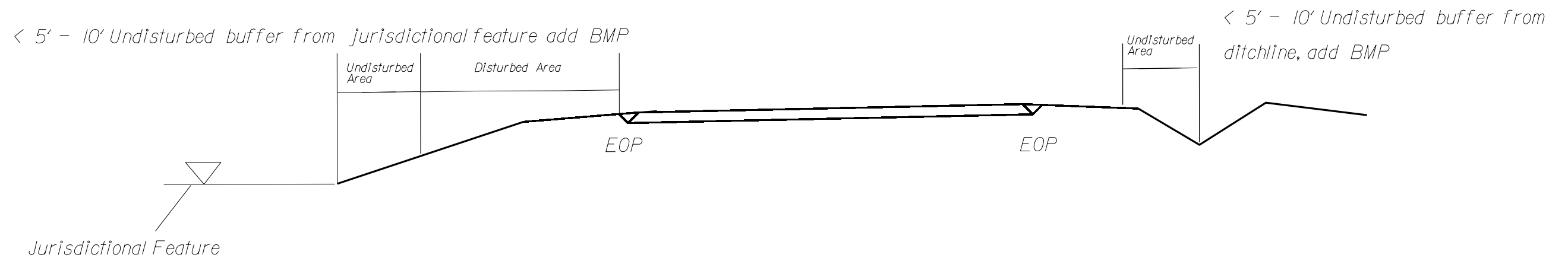
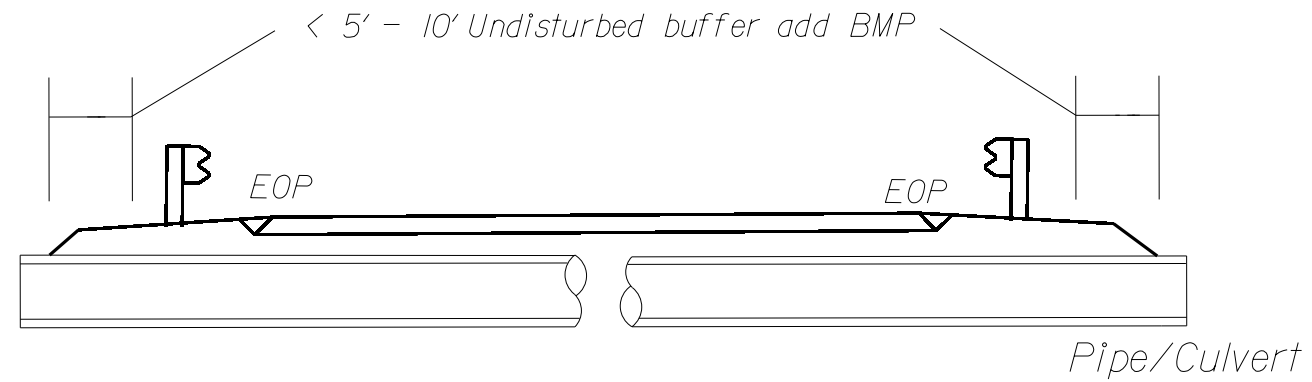
SOIL STABILIZATION TIMEFRAMES

<i>SITE DESCRIPTION</i>	<i>STABILIZATION TIME</i>	<i>TIMEFRAME EXCEPTIONS</i>
PERIMETER DIKES, SWALES, DITCHES AND SLOPES	7 DAYS	NONE
HIGH QUALITY WATER (HQW) 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 HQW ZONES.

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

BMP Options: Wattle or Silt Fence

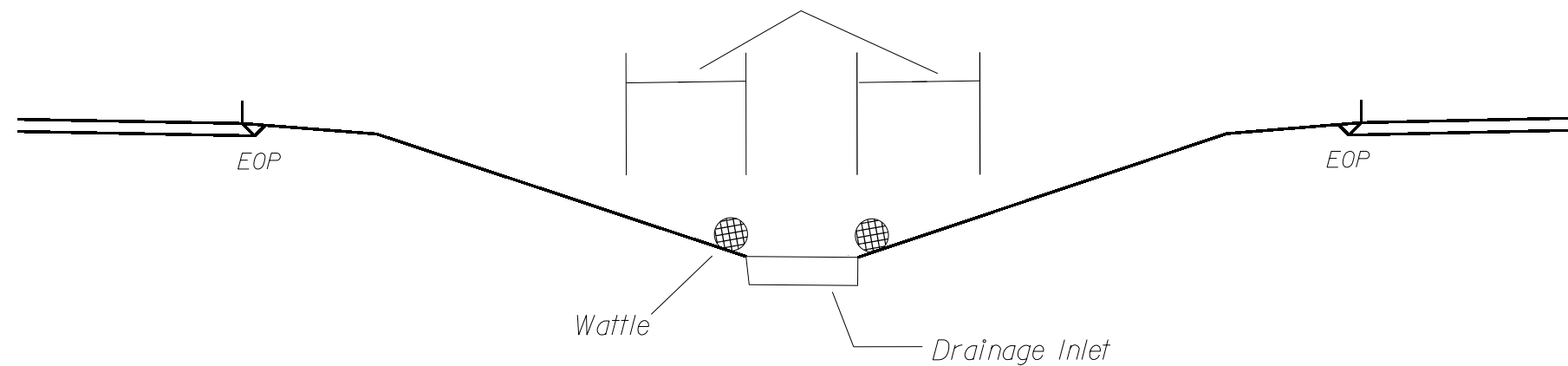
EROSION CONTROL DETAIL



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

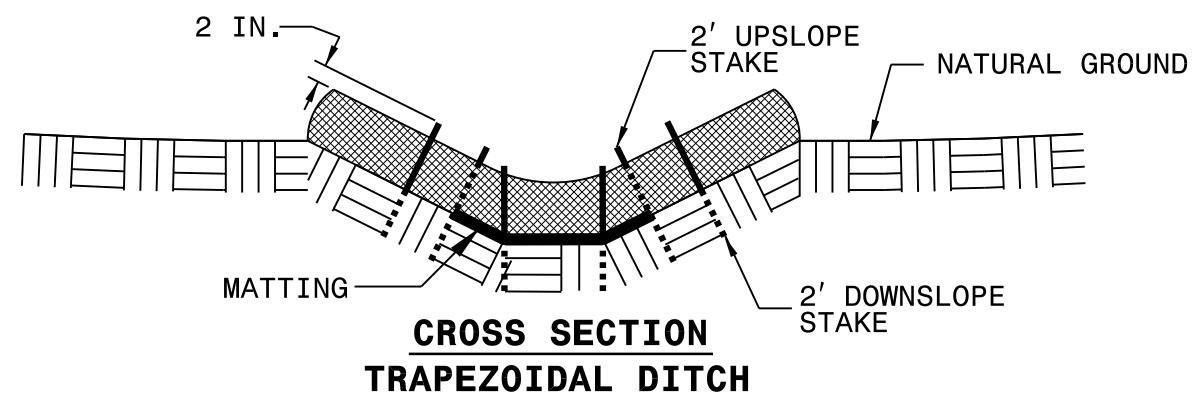
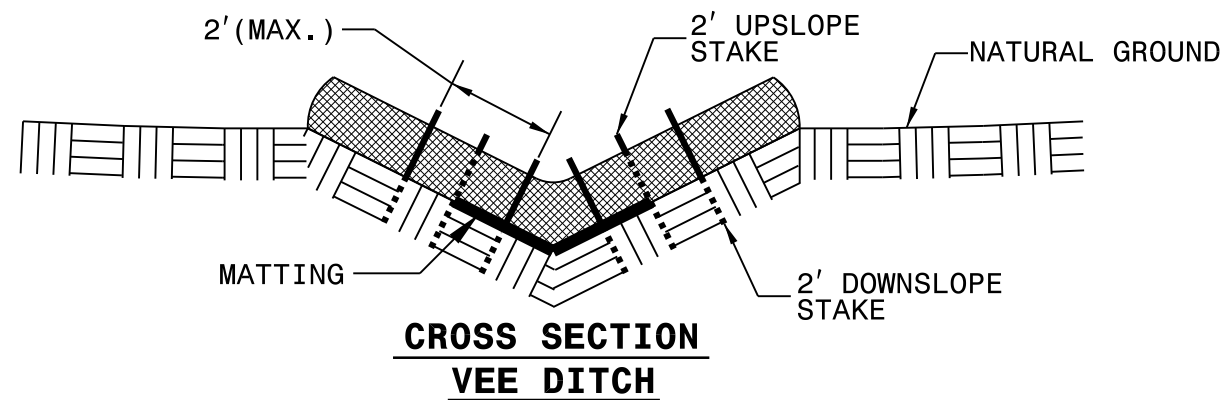
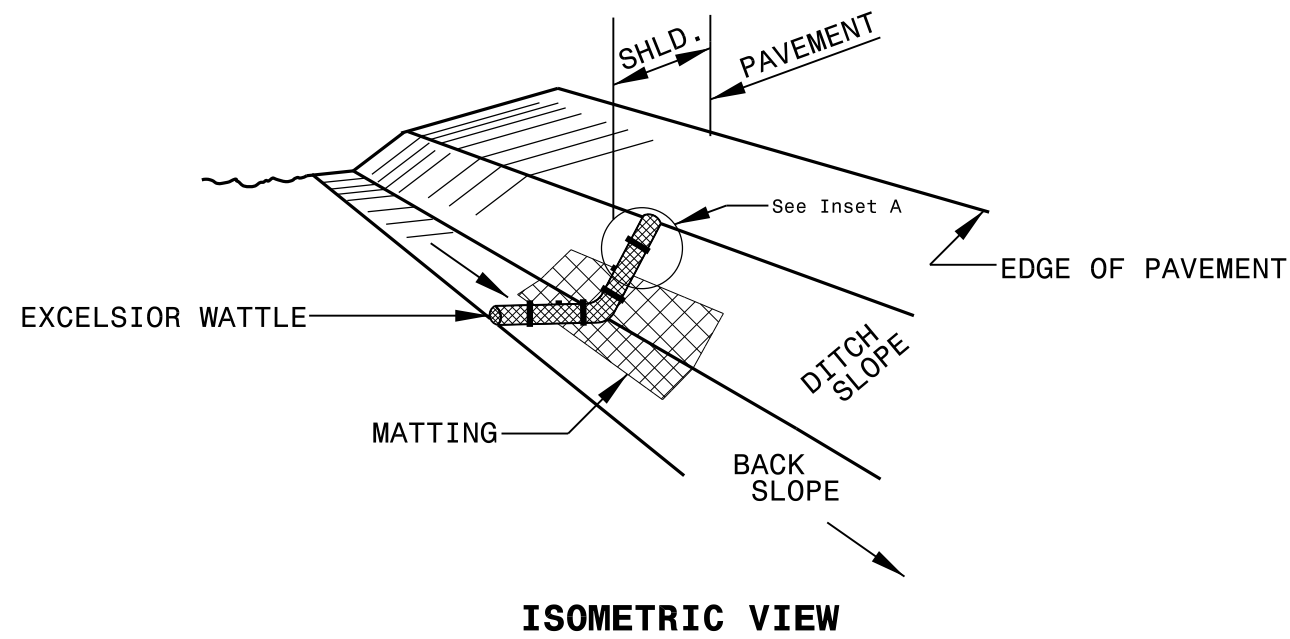


< 5' - 10' Undisturbed buffer from inlet, add wattle



NOT TO SCALE

WATTLE DETAIL



NOTES:

USE MINIMUM 12 IN. DIAMETER EXCELSIOR WATTLE.

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

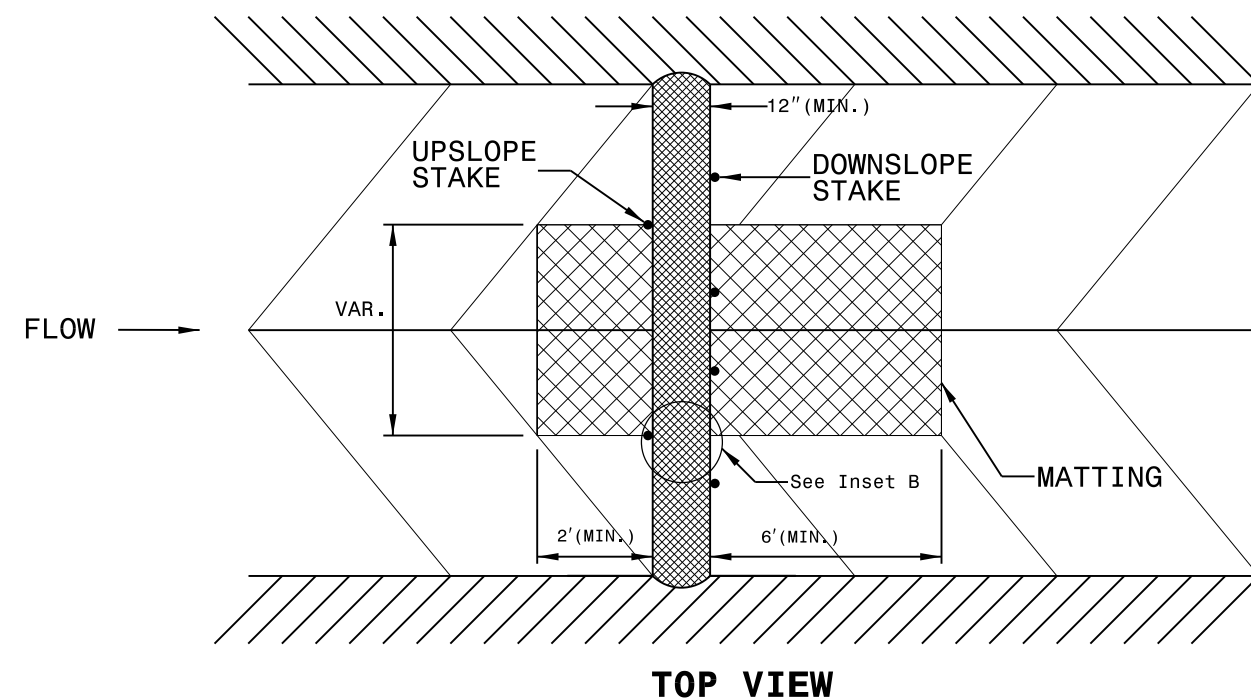
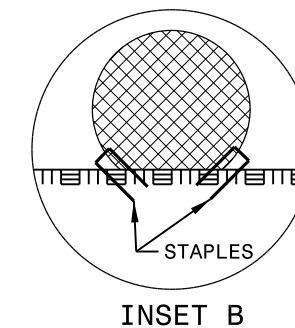
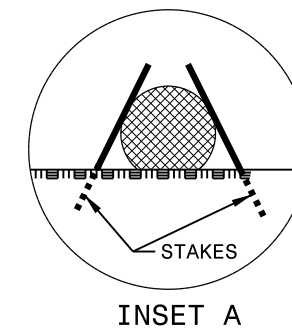
ONLY INSTALL WATTLE(S) TO A HEIGHT IN DITCH SO FLOW WILL NOT WASH AROUND WATTLE AND SCOUR DITCH SLOPES AND AS DIRECTED.

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

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

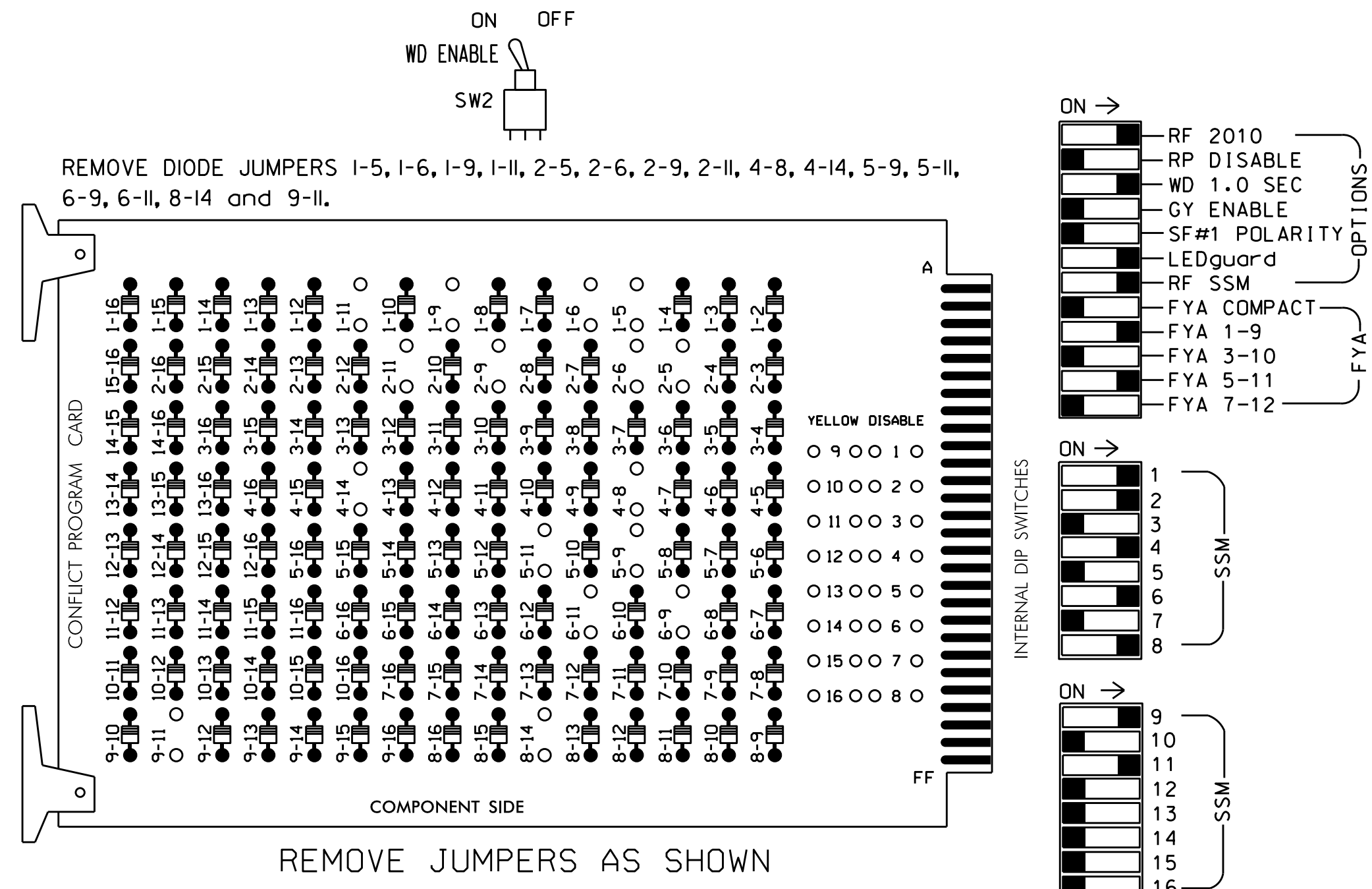
INSTALL STAPLES APPROXIMATELY EVERY 1 LINEAR FOOT ON BOTH SIDES OF WATTLE AND AT EACH END TO SECURE IT TO THE SOIL.

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



EDI MODEL 2010ECL-NC CONFLICT MONITOR PROGRAMMING DETAIL

(remove jumpers and set switches as shown)



REMOVE DIODE JUMPERS 1-5, 1-6, 1-9, 1-11, 2-5, 2-6, 2-9, 2-11, 4-8, 4-14, 5-9, 5-11, 6-9, 6-11, 8-14 and 9-11.

REMOVE JUMPERS AS SHOWN

NOTES:

- Card is provided with all diode jumpers in place. Removal of any jumper allows its channels to run concurrently.
- Make sure jumpers SEL2-SEL5 are present on the monitor board.

NOTE: conflict monitor must be EDI 2010ECL-NC to support FYA functionality.

■ = DENOTES POSITION OF SWITCH

INPUT FILE POSITION LAYOUT

(front view)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
FILE "I"	∅ 1 1A	∅ 2 2A	∅ 3 3A	∅ 4 4A	∅ 5 5A	∅ 6 6A	∅ 7 7A	∅ 8 8A	SYS. DET. S01	SYS. DET. S02	NOT USED	∅ 4 PED	∅ 5 PED	FS DC ISOLATOR
FILE "J"	∅ 5 5A	∅ 6 6A	∅ 7 7A	∅ 8 8A	∅ 9 9A	∅ 10 10A	∅ 11 11A	∅ 12 12A	∅ 13 13A	∅ 14 14A	CH. 3 PRE-3	CH. 1 UNUSED	CH. 4 UNUSED	CH. 2 UNUSED

EX.: 1A, 2A, ETC. = LOOP NO.'S

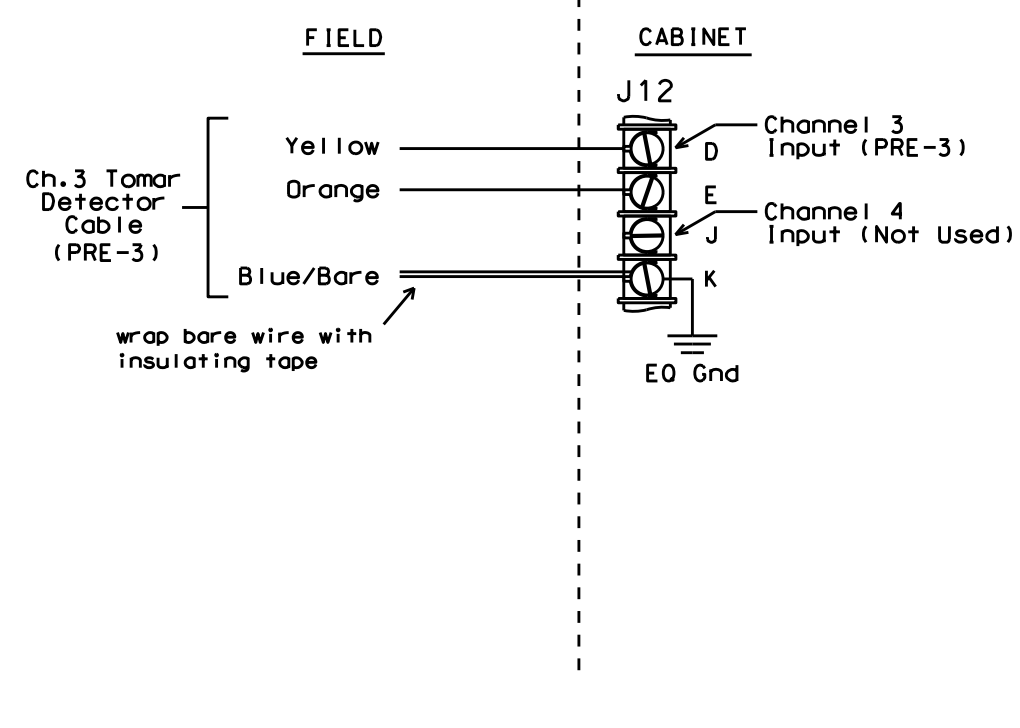
FS = FLASH SENSE
ST = STOP TIME

⊗ Wired Input - Do not populate slot with detector card

4 CHANNEL TOMAR OSP CARD
INSERT CARD INTO
SLOT J13

TYPICAL TOMAR FIELD WIRE DETAIL

(input file, rear view)



NOTES

- To prevent "flash-conflict" problems, insert red flash program blocks for all unused vehicle load switches in the output file. The installer shall verify that signal heads flash in accordance with the Signal Plans.
- Ensure that Red Enable is active at all times during normal operation. To prevent Red Failures on unused monitor channels, tie unused red monitor inputs 3,5, 7,10,12,13,14,15 & 16 to load switch AC+ per the cabinet manufacturer's instructions.
- Program phases 4 and 8 for Dual Entry.
- Enable Simultaneous Gap-Out for all phases.
- Program phases 2 and 6 for Variable Initial and Gap Reduction.
- Program phases 2 and 6 for Start Up In Green.
- Program phase 4 for 'STARTUP PED CALL'.
- Program phases 2 and 6 for Yellow Flash, and overlap 1 as Wag Overlaps.
- The cabinet and controller are part of the Jacksonville City Signal System.

EQUIPMENT INFORMATION

CONTROLLER.....2070
 * CABINET.....332 /W/ AUX
 SOFTWARE.....ECONOLITE OASIS
 CABINET MOUNT.....BASE
 OUTPUT FILE POSITIONS...18 WITH AUX. OUTPUT FILE
 LOAD SWITCHES USED.....S1,S2,S4,S4P,S5,S6,S8,S9,S12
 PHASES USED.....1,2,4,5,6,8
 OVERLAP "A".....1+2
 OVERLAP "B".....NOT USED
 OVERLAP "C".....5+6
 OVERLAP "D".....NOT USED
 * Auxiliary Output File required

INPUT FILE CONNECTION & PROGRAMMING CHART

LOOP NO.	LOOP TERMINAL	INPUT FILE POS.	PIN NO.	INPUT ASSIGNMENT NO.	DETECTOR NO.	NEMA PHASE	CALL	EXTEND	FULL TIME DELAY	STRETCH TIME	DELAY TIME
1A ¹	TB2-1,2	I1U	56	18	1	1	Y	Y			15
	-	J4U	48	10	26	6	Y	Y	Y		3
2A	TB2-5,6	I2U	39	1	2	2	Y	Y			
2B	TB2-7,8	I2L	43	5	12	2	Y	Y			
4A	TB4-9,10	I6U	41	3	4	4	Y	Y			5
* S01	TB6-9,10	I9U	60	22	11	SYS					
* S02	TB6-11,12	I9L	62	24	13	SYS					
5A ²	TB3-1,2	J1U	55	17	5	5	Y	Y			15
	-	I4U	47	9	22	2	Y	Y	Y		3
6A	TB3-5,6	J2U	40	2	6	6	Y	Y			
6B	TB3-7,8	J2L	44	6	16	6	Y	Y			
8A	TB5-9,10	J6U	42	4	8	8	Y	Y			3
8B	TB5-11,12	J6L	46	8	18	8	Y	Y			15
PED PUSH BUTTONS											
P41,P42	TB8-5,6	I12L	69	31	PED 4	4 PED					

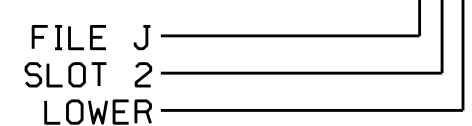
NOTE:
INSTALL DC ISOLATORS
IN INPUT FILE SLOT I12.

* SYSTEM DETECTOR ONLY. REMOVE THE VEHICLE PHASE ASSIGNED TO THIS DETECTOR IN THE DEFAULT PROGRAMMING.

¹Add jumper from I1-W to J4-W, on rear of input file.

²Add jumper from J1-W to I4-W, on rear of input file.

INPUT FILE POSITION LEGEND: J2L



SIGNAL HEAD HOOK-UP CHART

LOAD SWITCH NO.	S1	S2	S2P	S3	S4	S4P	S5	S6	S6P	S7	S8	S8P	S9	S10	S11	S12	S13	S14
PHASE	1	2	2 PED	3	4	4 PED	5	6	6 PED	7	8	8 PED	OLA	OLB	SPARE	OLC	OLD	SPARE
SIGNAL HEAD NO.	11*	82	21,22	NU	41,42	P41, P42	51*	61,62	NU	81,82	NU	11*	NU	NU	51*	NU	NU	
RED	*	128			101			134			107							
YELLOW		129			102		*	135			108							
GREEN		130			103			136			109							
RED ARROW													A121			A114		
YELLOW ARROW	126													A122		A115		
FLASHING YELLOW ARROW													A123		A116			
GREEN ARROW	127	127					133											
Hand							104											
Walker							106											

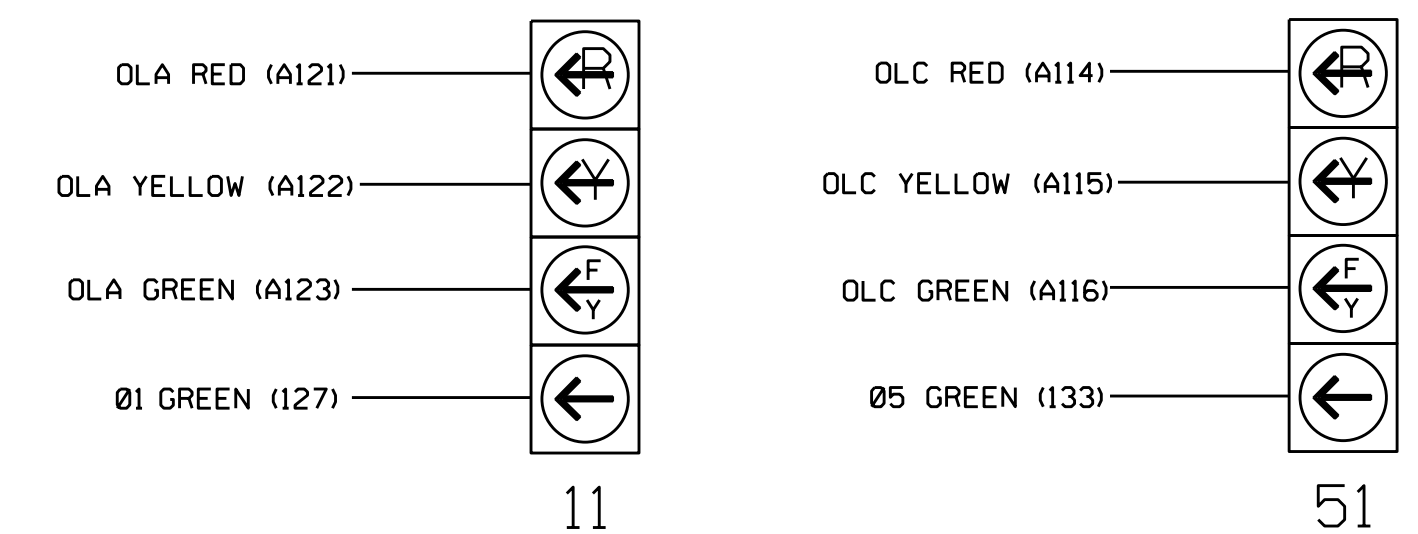
NU = Not Used

* Denotes install load resistor. See load resistor installation detail this sheet.

* See pictorial of head wiring in detail below.

4 SECTION FYA PPLT SIGNAL WIRING DETAIL

(wire signal heads as shown)



NOTE

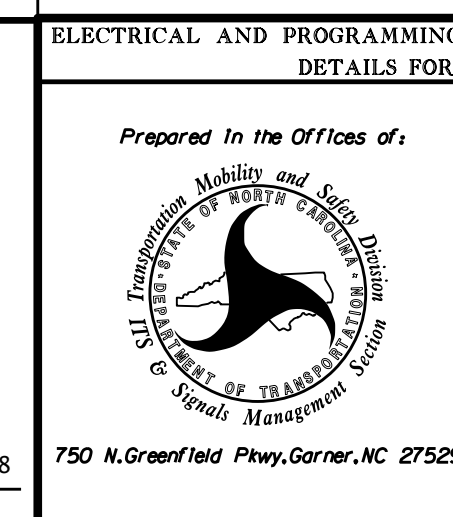
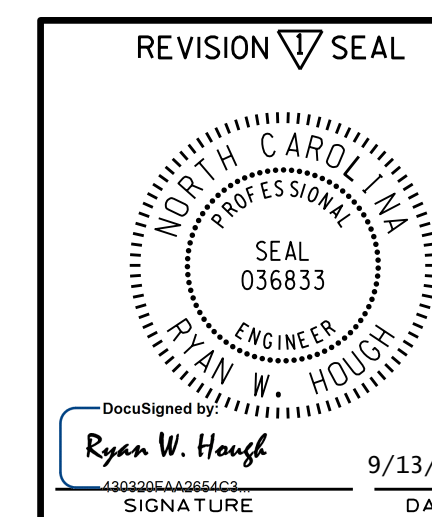
- The sequence display for this signal requires special logic programming. See sheet 2 of 2 for programming instructions.

COUNTDOWN PEDESTRIAN SIGNAL OPERATION

Countdown Ped Signals are required to display timing only during Ped Clearance Interval. Consult Ped Signal Module user's manual for instructions on selecting this feature.

THIS ELECTRICAL DETAIL IS FOR
 THE SIGNAL DESIGN: 03-0423
 DESIGNED: August 2018
 SEALED: 09-12-18
 REVISED: N/A

ELECTRICAL DETAIL SHEET 1 OF 2



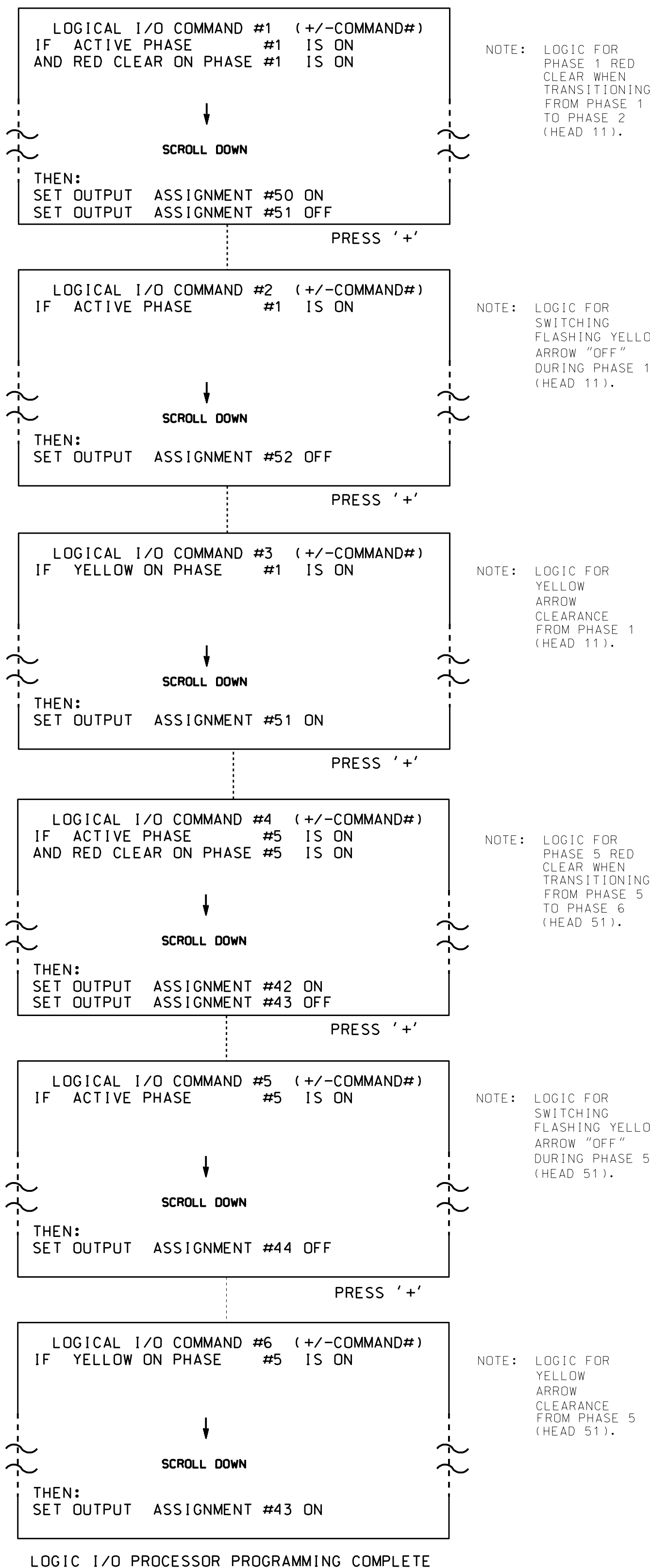
SR 1308 (Gum Branch Road) at Indian Drive/ Jacksonville HS Access Dr.		SEAL
Division 3	Onslow County	Jacksonville
PLAN DATE: July 2014	REVIEWED BY: WJ Hamilton	
PREPARED BY: NE Burns	REVIEWED BY:	
REVISIONS		DATE
Added system loops. (JJP)		9/13/18
SIGNATURE		DATE
SIC. INVENTORY NO. 03-0423		

Not a certified document as to the Original Document but only as to the Revisions - This document originally issued and sealed by William J. Hamilton, PE #32396, on 7-15-14. This document is only certified as to the revisions.

LOGICAL I/O PROCESSOR PROGRAMMING DETAIL TO PRODUCE SPECIAL FYA-PPLT SIGNAL SEQUENCE

(program controller as shown below)

- FROM MAIN MENU PRESS '2' (PHASE CONTROL), THEN '1' (PHASE CONTROL FUNCTIONS). SCROLL TO THE BOTTOM OF THE MENU AND ENABLE ACT LOGIC COMMANDS 1, 2, 3, 4, 5 AND 6.
- FROM MAIN MENU PRESS '6' (OUTPUTS), THEN '3' (LOGICAL I/O PROCESSOR).



OVERLAP PROGRAMMING DETAIL

(program controller as shown below)

FROM MAIN MENU PRESS '8' (OVERLAPS), THEN '1' (VEHICLE OVERLAP SETTINGS).

PAGE 1: VEHICLE OVERLAP 'A' SETTINGS
PHASE: 12345678910111213141516
VEH OVL PARENTS: XX
VEH OVL NOT VEH:
VEH OVL NOT PED:
VEH OVL GRN EXT:
STARTUP COLOR: - RED - YELLOW - GREEN
FLASH COLORS: - RED - YELLOW X GREEN

SELECT VEHICLE OVERLAP OPTIONS: (Y/N)
FLASH YELLOW IN CONTROLLER FLASH?...Y
GREEN EXTENSION (0-255 SEC)...0
YELLOW CLEAR (0=PARENT,3-25.5 SEC)...0.0
RED CLEAR (0=PARENT,0.1-25.5 SEC)...0.0
OUTPUT AS PHASE # (0=NONE, 1-16)...0

← NOTICE GREEN FLASH

PRESS '+' TWICE

PAGE 1: VEHICLE OVERLAP 'C' SETTINGS
PHASE: 12345678910111213141516
VEH OVL PARENTS: XX
VEH OVL NOT VEH:
VEH OVL NOT PED:
VEH OVL GRN EXT:
STARTUP COLOR: - RED - YELLOW - GREEN
FLASH COLORS: - RED - YELLOW X GREEN

SELECT VEHICLE OVERLAP OPTIONS: (Y/N)
FLASH YELLOW IN CONTROLLER FLASH?...Y
GREEN EXTENSION (0-255 SEC)...0
YELLOW CLEAR (0=PARENT,3-25.5 SEC)...0.0
RED CLEAR (0=PARENT,0.1-25.5 SEC)...0.0
OUTPUT AS PHASE # (0=NONE, 1-16)...0

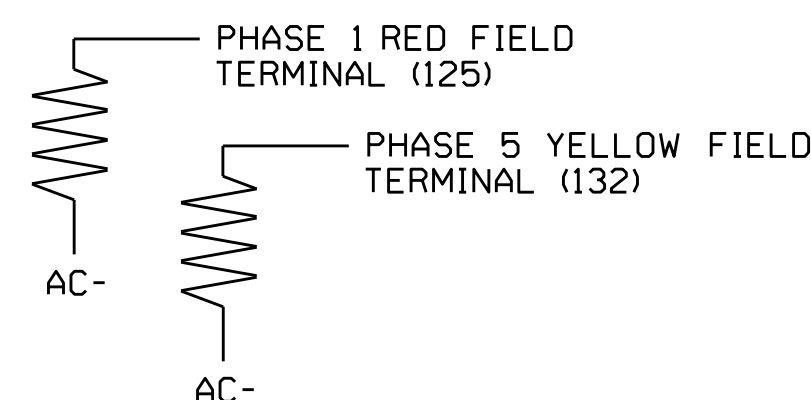
← NOTICE GREEN FLASH

OVERLAP PROGRAMMING COMPLETE

LOAD RESISTOR INSTALLATION DETAIL

(install resistors as shown below)

ACCEPTABLE VALUES	
VALUE (ohms)	WATTAGE
1.5K - 1.9K	25W (min)
2.0K - 3.0K	10W (min)



THIS ELECTRICAL DETAIL IS FOR
THE SIGNAL DESIGN: 03-0423
DESIGNED: August 2018
SEALED: 09-12-18
REVISED: N/A

EMERGENCY VEHICLE PREEMPTION

PROGRAMMING DETAIL

(program controller as shown below)

From Main Menu press 'A' (Preemption), then '1' (Standard Preemptions). Press the 'Next' twice to advance to Preemption #3.

PREEMPTION #3	SETTINGS (NEXT:1-10)
INTERVAL/TIMING	CLEAR/DWELL PHASES
GRN YEL RED	12345678910111213141516
1 255 0.0 0.0	X X
2 0 0.0 0.0	
3 0 0.0 0.0	
4 0 0.0 0.0	
5 1 0.0 0.0	X X

EXIT CALLS

OPTIONS

PRIORITY (Y/N TO SELECT)MED
DELAY TIMER (0-255 SEC)0
MIN GREEN BEFORE PRE (0= DEFAULT)...1
PED CLEAR BEFORE PRE (0= DEFAULT)...0
YELLOW CLEAR BEFORE PRE (0= DEFAULT).0.0
RED CLEAR BEFORE PRE (0= DEFAULT)...0.0
DWELL MIN TIMER (0-255 SEC)7
DWELL MAX TIMER (0=OFF,1-255MIN) ...0
DWELL HOLD-OVER TIMER (0-255)0
LATCH CALL?N
LINK TO NEXT PREEMPT?N
ENABLE BACKUP PROTECTION?N
HOLD CLEAR 1 PHASES DURING DELAY? ...N
FAST GREEN FLASH DWELL PHASES?N
PED CLEARANCE THROUGH YELLOW?Y
INHIBIT OVERLAP GREEN EXTENSION? ...N
SERVICE DURING SOFTWARE FLASH?N
REST IN RED DURING DWELL INTERVAL? ..N
FLASH DWELL INTERVAL?N
ALLOW PEDS IN DWELL INTERVAL?N
RE-TIME DWELL INTERVAL?N
OVERLAPS: ABCDEFGHIJKLMNQP
DWELL INT FLASH YELLOW
OMIT OVERLAPS:

PROGRAMMING COMPLETE

Program extend time on optical detector units for 2.0 sec.

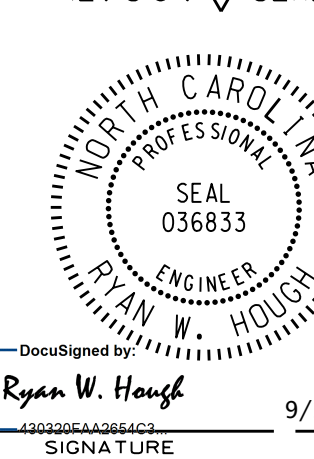
OUTPUT REFERENCE SCHEDULE

USE TO INTERPRET LOGIC PROCESSOR

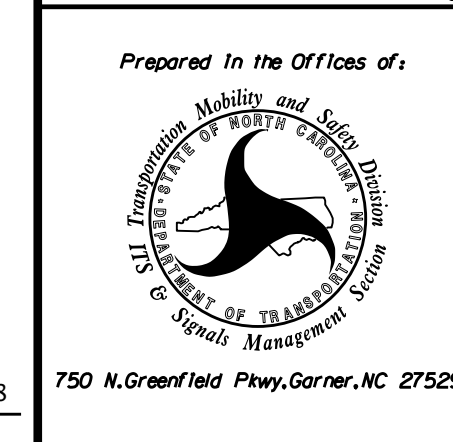
- OUTPUT 42 = Overlap C Red
- OUTPUT 43 = Overlap C Yellow
- OUTPUT 44 = Overlap C Green
- OUTPUT 50 = Overlap A Red
- OUTPUT 51 = Overlap A Yellow
- OUTPUT 52 = Overlap A Green

ELECTRICAL DETAIL SHEET 2 OF 2

REVISION SEAL



ELECTRICAL AND PROGRAMMING DETAILS FOR:



SR 1308 (Gum Branch Road)
at
Indian Drive/
Jacksonville HS Access Dr.

Division 3 Onslow County Jacksonville

PLAN DATE: July 2014 REVIEWED BY: WJ Hamilton

PREPARED BY: NE Burns REVIEWED BY:

REVISIONS

Added system loops. (JJP)

DATE: 9/13/18

SIGNATURE: RWJ

SEAL

Not a certified document as to the Original Document but only as to the Revisions - This document originally issued and sealed by William J. Hamilton, PE #32396, on 7-15-14. This document is only certified as to the revisions.

SIGNATURE DATE

SIG. INVENTORY NO. 03-0423