

30-OCT-2019 11:07 S:\Shared\Division One Resurfacing & Retreatment Plans\2020-2021 Resurfacing\DA00471-Dare US 158 & Secondary\2020CPT.01.04.10281.1.Dladdc.-tshl.dgn \$\$\$USERNAME\$\$\$

CONTRACT: DA00471 WBS #: 2020CPT.01.04.10281.1, ETC.

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

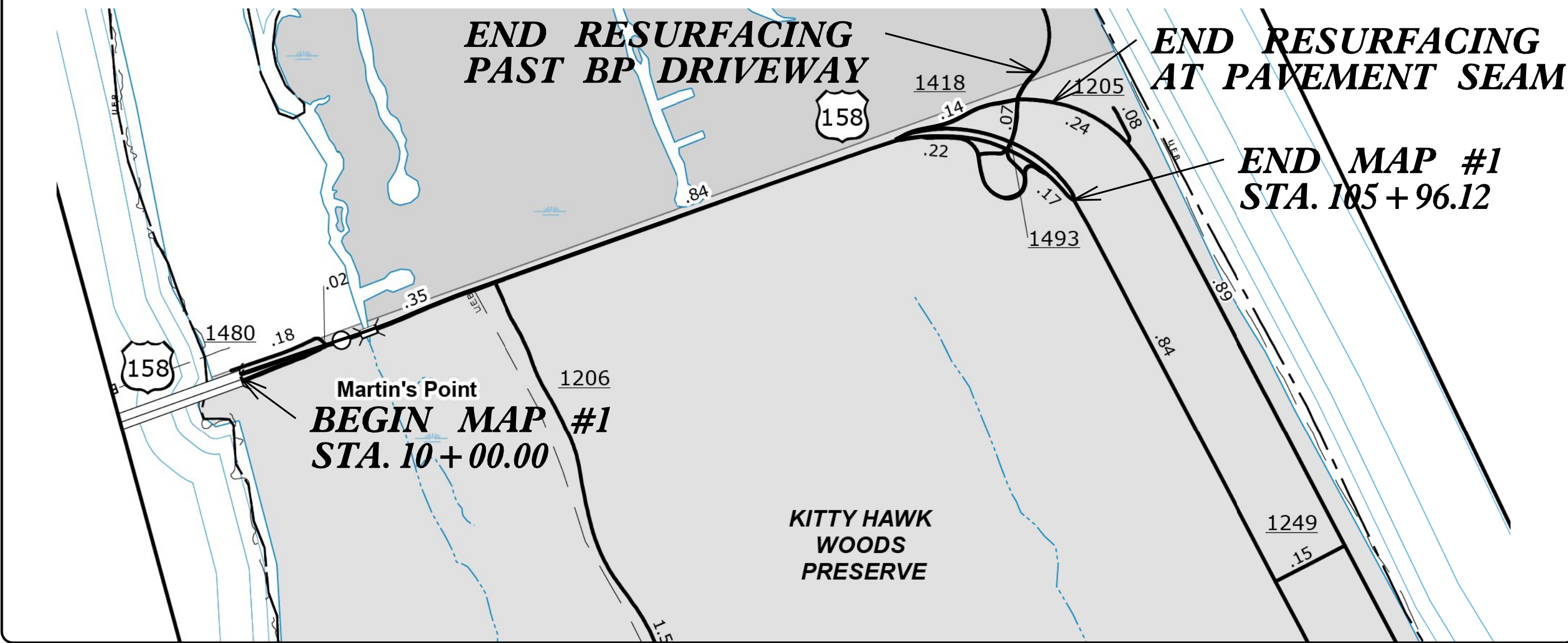
DARE COUNTY

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.
N.C.	2020CPT.01.04.10281.1, ETC.	1
STATE PROJ. NO.		DESCRIPTION
2020CPT.01.04.10281.1		PE, CONST



**LOCATION: US 158 FROM EAST END WRIGHT MEMORIAL BRIDGE
THROUGH AND INCLUDING THE INTERSECTION OF SR 1493 AT SOUTHERN
SHORES AND THE KITTY HAWK REST AREA**

**TYPE OF WORK: GUARDRAIL, CONCRETE CURB RAMPS, MILLING, RESURFACING
AND LONG LIFE PAVEMENT MARKINGS AND MARKERS**



GRAPHIC SCALES

NTS

MAP LENGTH

LENGTH ROADWAY MAP #1 = 1.817 MILES

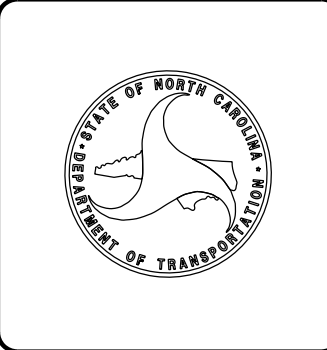
Prepared In the Office of:
DIVISION OF HIGHWAYS
113 Airport Dr., Edenton NC, 27932

2018 STANDARD SPECIFICATIONS

W. B. HOBBS, PE
DIVISION PROJECT TEAM LEAD

CHRIS SLACHTA
DIVISION PROPOSALS ENGINEER

S. P. FENWICK, PLS
DIVISION DESIGN ENGINEER



STATE	STATE PROJECT REFERENCE NO.	SHEET NO.
N.C.	2020CPT.01.04.10281.1, ETC.	2
STATE PROJ. NO.		DESCRIPTION
2020CPT.01.04.20281.1		PE, CONST

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

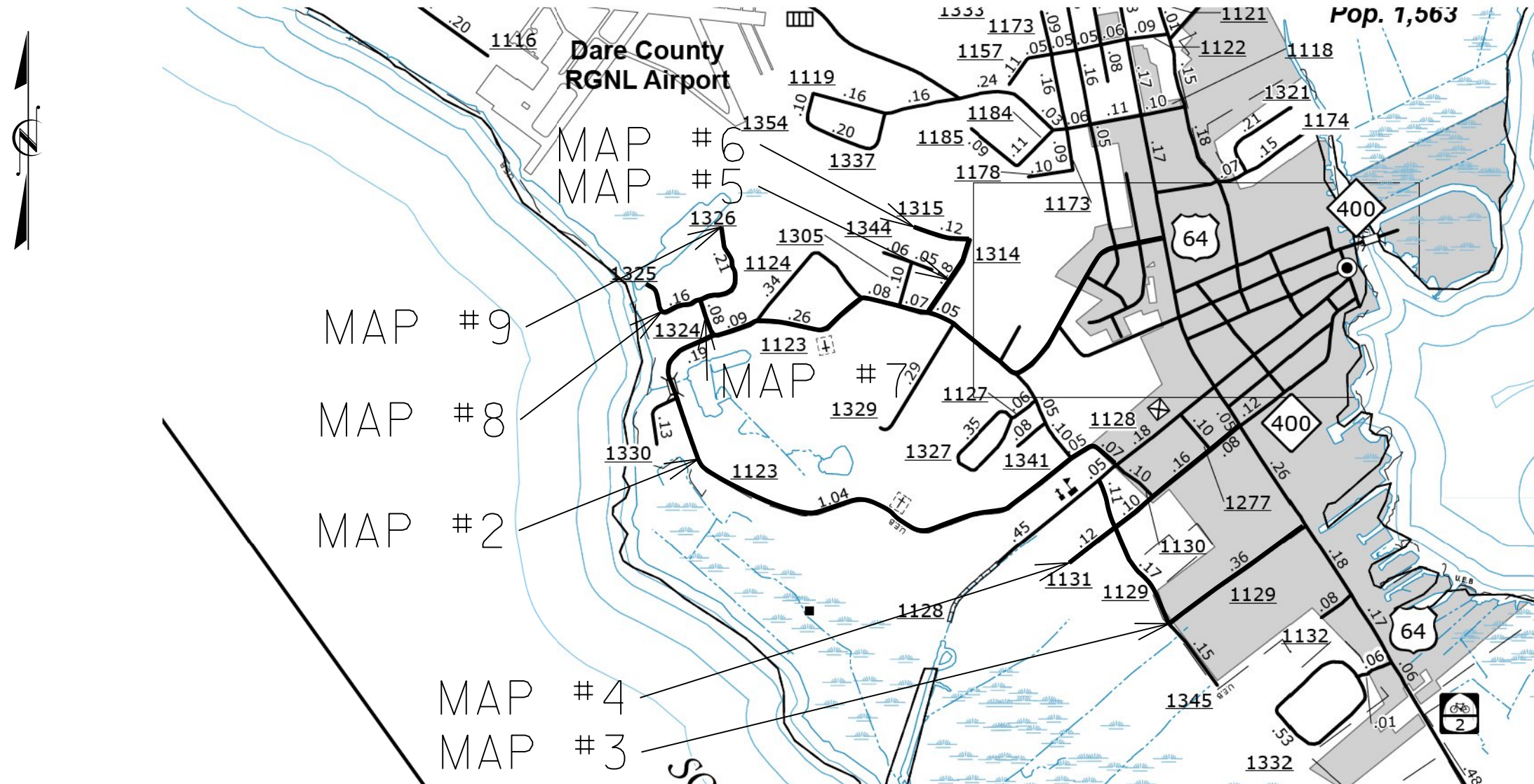
DARE COUNTY

LOCATION:

MAP #2 - SR 1123 (BURNSIDE RD.) FROM SR 1128 TO US 64/264
 MAP #3 - SR 1129 (BOWSERTOWN/CALIFORNIA RD.) FROM SR 1128 TO US 64/264
 MAP #4 - SR 1131 (FERNANDO ST.) FROM DEAD END TO US 64/264
 MAP #5 - SR 1314 (THE OAKS RD.) FROM SR 1123 TO SR 1315
 MAP #6 - SR 1315 (THE DOGWOODS RD.) SR 1314 TO PAVEMENT JOINT
 MAP #7 - SR 1324 (CANNON GATE RD.) FROM SR 1123 TO SR 1326
 MAP #8 - SR 1325 (MUSKET LN.) FROM SR 1324 TO DEAD END
 MAP #9 - SR 1326 (CANNON TRAIL) FROM SR 1324 TO CUL-DE-SAC

TYPE OF WORK:

MILLING & RESURFACING



CONTRACT: DA00471 WBS #: 2020CPT.01.04.10281.1, ETC.

GRAPHIC SCALES

NTS

MAP LENGTHS

MAP #2 = 2.53 MILES
 MAP #3 = 0.69 MILES
 MAP #4 = 0.47 MILES
 MAP #5 = 0.18 MILES
 MAP #6 = 0.18 MILES
 MAP #7 = 0.08 MILES
 MAP #8 = 0.08 MILES
 MAP #9 = 0.29 MILES

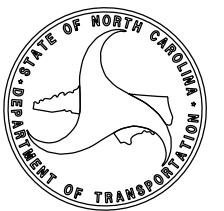
Prepared in the Office of:
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113 Airport Dr., Edenton NC, 27932

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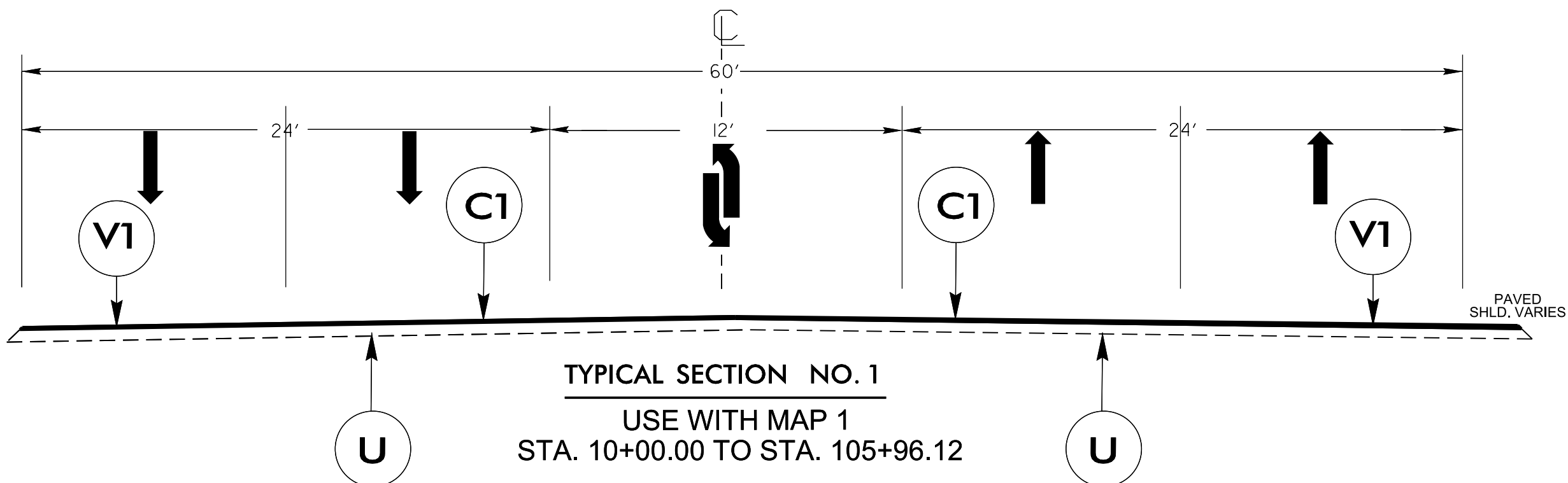
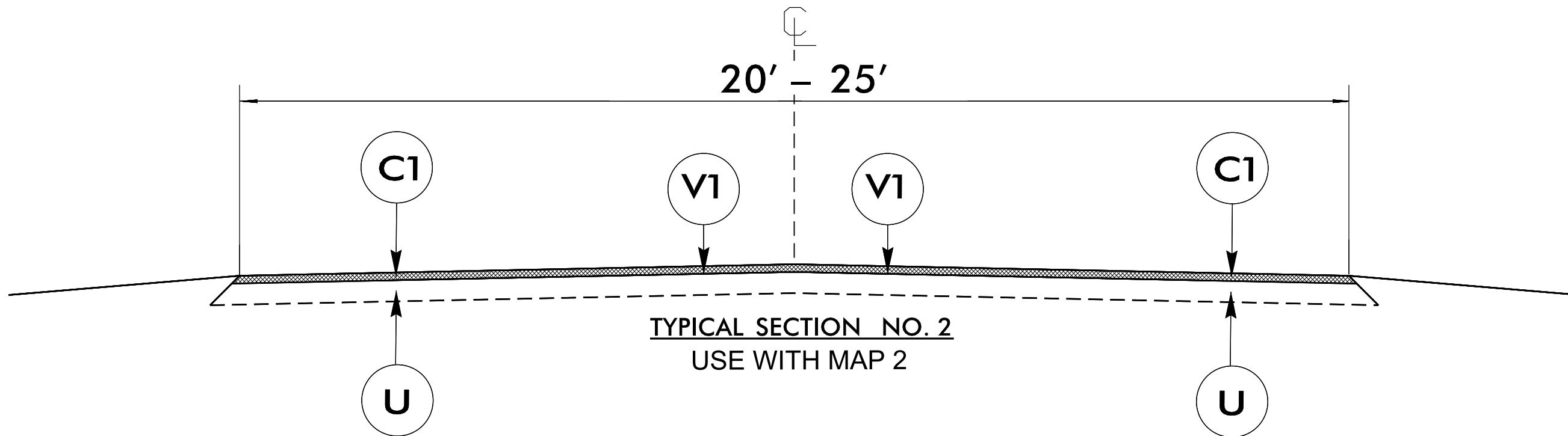


PAVEMENT SCHEDULE

C1	PROP. APPROX. 1.5" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD.
V1	MILLING ASPHALT PAVEMENT, 1.5" IN DEPTH.
V2	MILLING ASPHALT PAVEMENT, 1.0" IN DEPTH.
U	EXISTING PAVEMENT.

NOTES:

- *ALL PAVED S.R. ROADS OR RAMPS TO BE RESURFACED TO THE ENDS OF THE RADII, OR AS DIRECTED BY THE ENGINEER
- *EDGES, PAVEMENT WIDENING, INTERSECTIONS, AND BRIDGE FLARES ARE INCLUDED IN THE SUMMARY OF QUANTITIES
- *SIGNAL LOOP SAWCUTS TO BE COMPLETED BEFORE FINAL LIFT OF ASPHALT.



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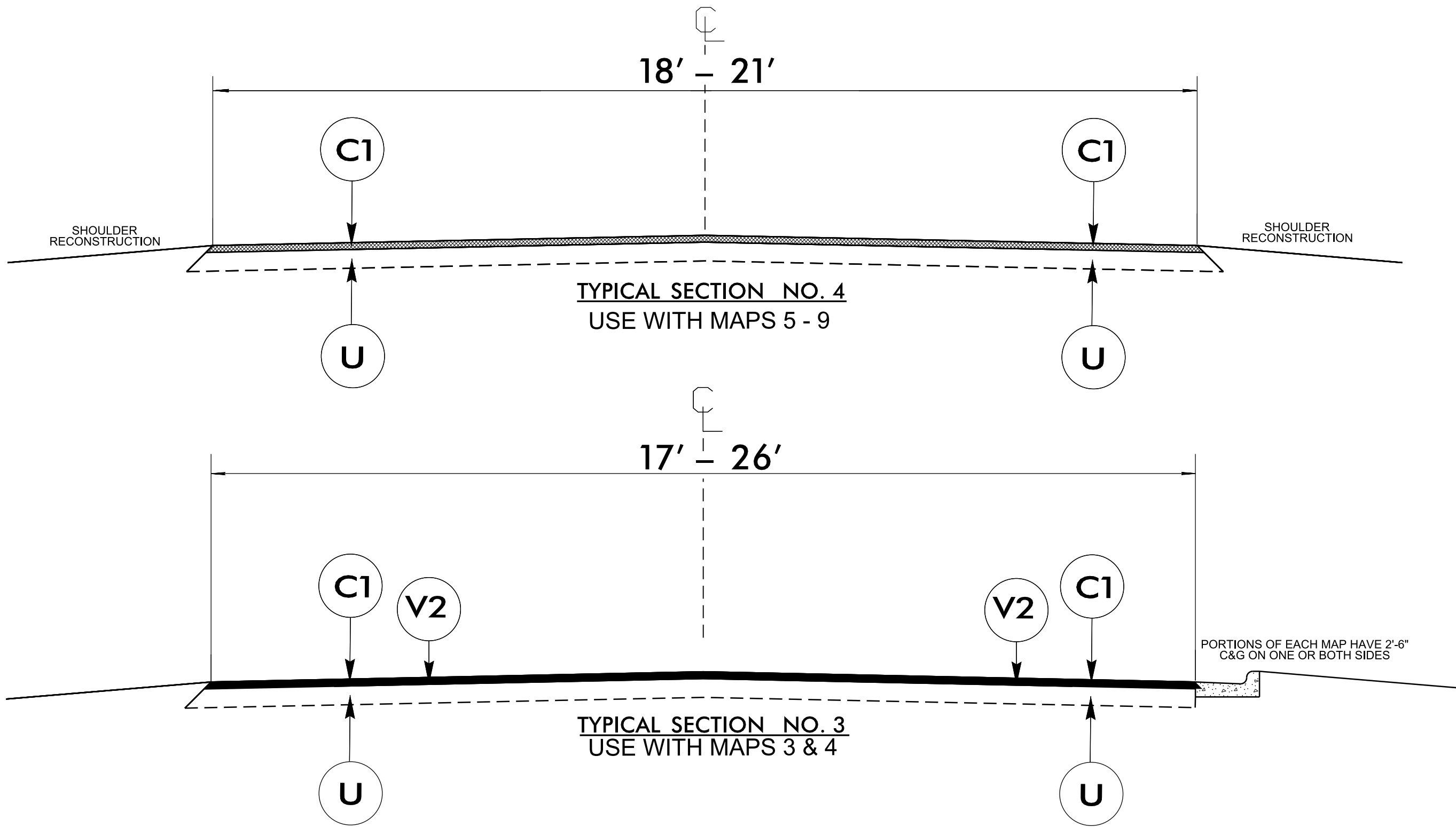
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 One Resurfacing & Retreatment Plans\2020-2021 Resurfacing\DA00471-Dore US 156 & Secondary\2020CPT.01.04.10281J.D1dde-sh2.dgn

SUMMARY OF QUANTITIES

PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	TYP NO	LANES	LANE TYPE	FINAL SURFACE TESTING REQUIRED	MTV REQUIRED	WARM MIX ASPHALT REQUIRED	LENGTH	WIDTH	MOBILIZATION	BORROW EXCAVATION	INCIDENTAL STONE BASE	SHOULDER RECONSTRUCTION	MILLING ASPHALT PAVEMENT (1 1/2")	MILLING ASPHALT PAVEMENT (1")	INCIDENTAL MILLING	ASPHALT CONCRETE SURFACE COURSE, SB, SB	ASPHALT FOR PLANT MIX	4" CONCRETE SIDEWALK	CONCRETE CURB RAMP	ADJUSTMENT OF MANHOLES	ADJUSTMENT OF METER OR VALVE BOXES	STEEL BEAM GUARDRAIL	GUARDRAIL END UNIT, TYPE TL-3	GUARDRAIL END UNIT, TYPE CAT-1	GUARDRAIL ANCHOR UNIT, TYPE III	GUARDRAIL ANCHOR UNIT, TYPE B-83	REMOVE EXIST GUARDRAIL	TEMPORARY SILT FENCE	SEEDING & MULCHING	JUNCTION BOX	COIR FIBER WATTLE	INDUCTIVE LOOP SAWCUT	LEAD-IN CABLE (14-2)	WORK ZONE ADV/GEN WARNING SIGNING	TEMPORARY TRAFFIC CONTROL (SP)	THERMO PAVEMENT MARKING LINES 4", 90 MILS	THERMO PAVEMENT MARKING LINES 6", 90 MILS	THERMO PAVEMENT MARKING SYMBOL, 90 MILS	PAINT PAVEMENT MARKING LINES, 4"	PAINT PAVEMENT MARKING LINES, 24"	PAINT PAVEMENT MARKING CHARACTER	PAINT PAVEMENT MARKING SYMBOL	GENERIC PAVEMENT MARKING ITEM (THERMO LINES, 24" 90 MIL)	GENERIC PAVEMENT MARKING ITEM (THERMO CHARACTER, 90 MIL)	GENERIC PAVEMENT MARKING ITEM (HOT SPRAYED LINES, WHITE 4" 90 MIL)	GENERIC PAVEMENT MARKING ITEM (HOT SPRAYED YELLOW 4" 90 MIL)	SNOWPLB PAVEMENT MARKER	
																																																				MI
2020CPT.01.04.10281.1	Dare	1	US 158	FROM WRIGHT MEMORIAL BRIDGE TO AND INCLUDE KH REST AREA	1	5	MU	NO	YES	NO	1.817	60	1		6		69,100		1,653	6,300	422					1,284	10	5	3	3	1,910.25	200		7	40	9,690		100	208	1	2,500	46,750	114	46,750	1,350	32	114	1,350	32.00	24,674	26,928	500
2020CPT.01.04.20281.1	Dare	2	SR 1123, BURNSIDE RD.	FROM SR 1128 TO US 64/264	2	2	2WU	NO	NO	NO	2.53	20-25	*		8		30,331		2,134	2,563	172										200			40			462	*			26,928	112		112	32.00	24,674	26,928	500				
2020CPT.01.04.20281.1	Dare	3	SR 1129, BOWSERSTOWN RD.	FROM SR 1128 TO US 64/264	3	2	2WU	NO	NO	NO	0.89	20-26	*						5,182	15	776	52														150	*			7,498	14		14		6,298	7,498						
2020CPT.01.04.20281.1	Dare	4	SR 1131, FERVANDO ST.	FROM DEAD END TO US 64/264	3	2	2WU	NO	NO	NO	0.47	17-23	*						5,650	380	478	32														171	*			4,858					2,352	4,858						
2020CPT.01.04.20281.1	Dare	5	SR 1314, THE OAKS RD.	FROM SR 1123 TO SR 1315	4	2	2WU	NO	NO	NO	0.18	21	*	17.5		0.36				184	12																															
2020CPT.01.04.20281.1	Dare	6	SR 1315, DOGWOODS RD.	FROM SR 1314 TO PAVEMENT JOINT	4	2	2WU	NO	NO	NO	0.18	21	*	17.5		0.36				184	12																															
2020CPT.01.04.20281.1	Dare	7	SR 1324, CANNON GATE RD.	FROM SR 1123 TO SR 1326	4	2	2WU	NO	NO	NO	0.08	18	*	8		0.16				70	5																															
2020CPT.01.04.20281.1	Dare	8	SR 1325, MUSKET LAINE.	FROM SR 1324 TO DEAD END	4	2	2WU	NO	NO	NO	0.08	19	*	8		0.16				74	5																															
2020CPT.01.04.20281.1	Dare	9	SR 1326, CANNON TRAIL	FROM SR 1324 TO CUL-DE-SAC	4	2	2WU	NO	NO	NO	0.29	18	*	29		0.58				254	17																															
GRAND TOTAL											6.317		1	80	14	1.62	99,431	14,832	4,182	10,883	729	5	1	6	3	1,284	9	7	3	3	1,910.25	400	0.8	7	80	9,690	100	1,126	1	2,500	46,750	114	86,034	1,476	32	114	1,476	32	33,324	39,284	500	

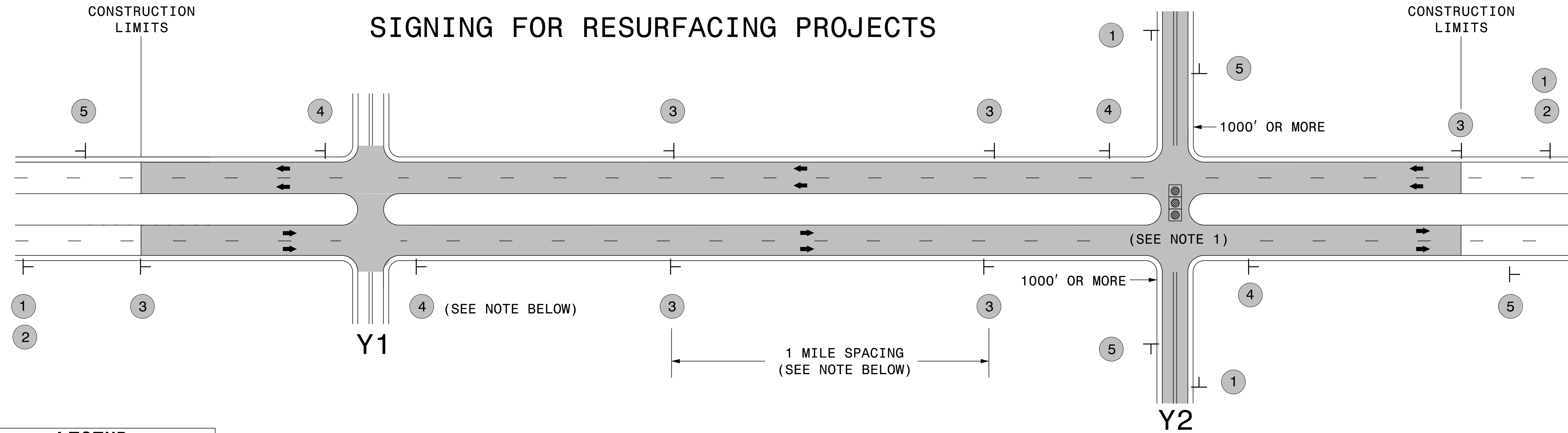
STATE OF NORTH CAROLINA
 DIVISION OF HIGHWAYS

"N" = DISTANCE FROM EDGE OF LANE TO FACE OF GUARDRAIL.
 TOTAL SHOULDER WIDTH = DISTANCE FROM EDGE OF TRAVEL LANE TO SHOULDER BREAK POINT.
 FLARE LENGTH = DISTANCE FROM LAST SECTION OF PARALLEL GUARDRAIL TO END OF GUARDRAIL.
 W = TOTAL WIDTH OF FLARE FROM BEGINNING OF TAPER TO END OF GUARDRAIL.
 G = GATING IMPACT ATTENUATOR TYPE 350
 NG = NON-GATING IMPACT ATTENUATOR TYPE 350

GUARDRAIL SUMMARY

SURVEY LINE	BEG. STA.	END STA.	LOCATION	LENGTH			WARRANT POINT		"N" DIST. FROM E.O.L.	TOTAL SHOUL. WIDTH	FLARE LENGTH		W		ANCHORS						IMPACT ATTENUATOR TYPE TL-3			REMOVE EXISTING GUARDRAIL	REMARKS				
				STRAIGHT	SHOP CURVED	DOUBLE FACED	APPROACH END	TRAILING END			APPROACH END	TRAILING END	APPROACH END	TRAILING END	TYPE III	*	GREU T-3	*	*	CAT-1	*	B-83	*			EA	G	NG	
-E-	10+00.00	12+61.31	EBL-RT	259.0																							259.0	EAST END WRIGHT MEMORIAL BRIDGE	
-E-	10+00.00	11+16.24	EBL-MEDIAN	119.0																							119.0	EAST END WRIGHT MEMORIAL BRIDGE	
-E-	10+00.00	11+45.16	WBL-MEDIAN	145.5																							145.5	EAST END WRIGHT MEMORIAL BRIDGE	
-E-	10+00.00	12+24.31	WBL-RT	230.75																							230.75	EAST END WRIGHT MEMORIAL BRIDGE	
-E-	25+63.72	27+59.47	LT	217.0																							217.0	BRIDGE OVER GUNGUITE CREEK	
-E-	22+80.12	24+95.96	RT	217.0																							217.0	BRIDGE OVER GUNGUITE CREEK	
-E-	88+02.15	90+60.00	MEDIAN	308.0																							308.0	SOUTHERN SHORES @ SIGN MAST	
-E-	104+67.24	105+80.00	LT	116.00																							116.00	SOUTHERN SHORES	
-E-	103+30.58	105+78.24	MEDIAN	298.0																							298.0	SOUTHERN SHORES @ SIGN MAST	
LESS ANCHOR DEDUCTIONS																													
	GREU TL-3	9 @ 50.0'	=	450.0'																									
	CAT-1	7 @ 6.5'	=	-45.5'																									
	B-83	3 @ 25.0'	=	-75.0'																									
	TYPE III	3 @ 18.25'	=	-54.75'																									
TOTAL				1284																								1910.25	

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 \$\$\$\$STANDARD\$\$\$\$



LEGEND
 ┆ STATIONARY SIGN
 ← DIRECTION OF TRAFFIC FLOW

MAINLINE (-L-) SIGNING

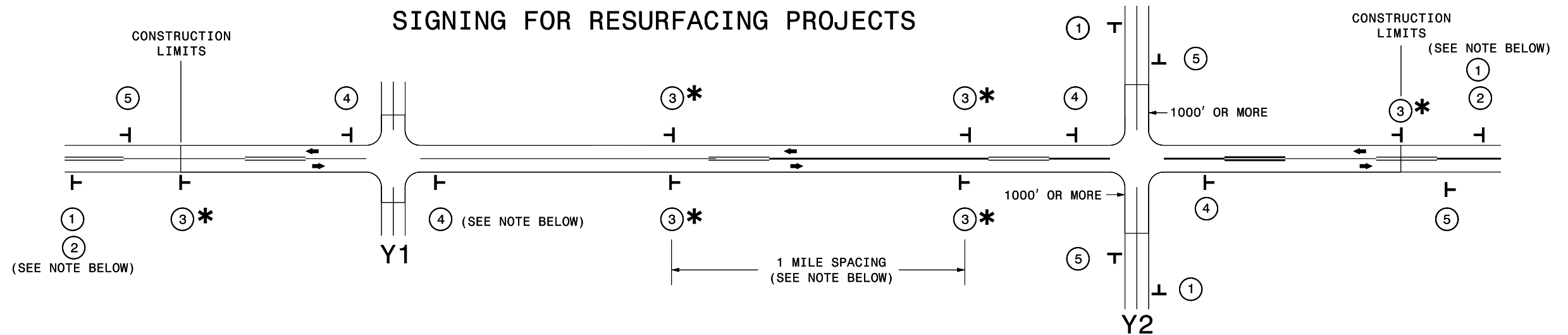
-Y- LINE SIGNING

SIGNING NOTES AND PLACEMENT PER DIRECTION	1	 W20-1 48" X 48"	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"> 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;"> W20-1 48" X 48" </div> <div style="text-align: center;"> W20-7 A 48" X 48" </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.
	2	 W7-3aP 24" X 18"	#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)	
	3	 SP 13107 48" X 48"	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.	
	4	 SP 13106 48" X 48"	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	 G20-2 A 48" X 24"	PLACE 500' FOLLOWING THE END OF CONSTRUCTION LIMITS.	

3/23/2015
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**RESURFACING
 ADVANCE WARNING SIGNS
 FOR RURAL AND SUBURBAN
 MULTI-LANE ROADWAYS
 W/ SHOULDER SECTIONS**

SIGNING FOR RESURFACING PROJECTS



LEGEND	
T	STATIONARY SIGN
←	DIRECTION OF TRAFFIC FLOW

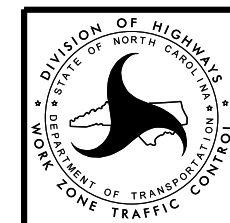
MAINLINE (-L-) SIGNING

-Y- LINE SIGNING

SIGNING NOTES AND PLACEMENT PER DIRECTION		
<div style="display: flex; flex-direction: column; align-items: center;"> <div style="border: 1px solid black; padding: 2px; margin-bottom: 5px;">①</div> <div style="border: 1px solid black; padding: 2px;">②</div> </div>	<div style="display: flex; align-items: center; margin-bottom: 10px;"> <div style="margin-left: 10px;"> <p>PLACE 1000' PRIOR TO BEGINNING OF CONSTRUCTION LIMITS. ONLY USED ON -Y- LINES IF RESURFACING LIMITS EXTEND 1000' ALONG -Y- LINE.</p> </div> </div> <div style="display: flex; align-items: center;"> <div style="margin-left: 10px;"> <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> </div> </div>	<p style="text-align: center;">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 style="text-align: center; font-size: small;">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; margin: 10px 0;"> </div> <p style="text-align: center; font-size: small;">PLACED 500' IN ADVANCE OF FLAGGER. PLACED 250' IN ADVANCE OF FLAGGER.</p>
<div style="border: 1px solid black; padding: 2px;">③*</div>	<div style="display: flex; align-items: center;"> <div style="margin-left: 10px;"> <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> </div> </div>	
<div style="border: 1px solid black; padding: 2px;">④</div>	<div style="display: flex; align-items: center;"> <div style="margin-left: 10px;"> <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> </div> </div>	
<div style="border: 1px solid black; padding: 2px;">⑤</div>	<div style="display: flex; align-items: center;"> <div style="margin-left: 10px;"> <p>PLACE 500' FOLLOWING THE END OF CONSTRUCTION LIMITS.</p> </div> </div>	

* SIGNING FOR ASPHALT SURFACE TREATMENTS (ONLY)

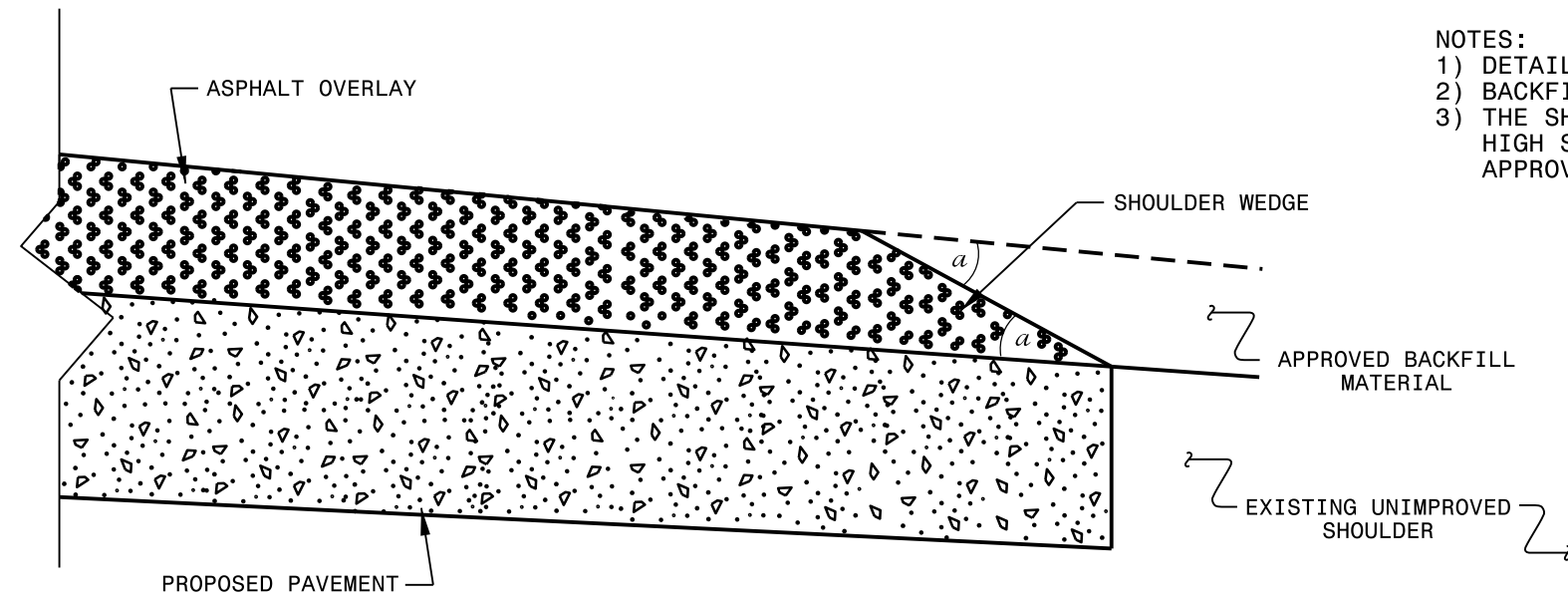
SUBSTITUTE LOW/SOFT SHOULDER SIGNS BY ALTERNATING THE FOLLOWING TWO SIGNS: STARTING WITH "UNMARKED PAVEMENT AHEAD" (SP 06026) FOLLOWED BY "LOOSE GRAVEL" (W8-7).



RESURFACING
ADVANCE WARNING SIGNS
FOR
RURAL AND SUBURBAN
2 LANE ROADWAYS

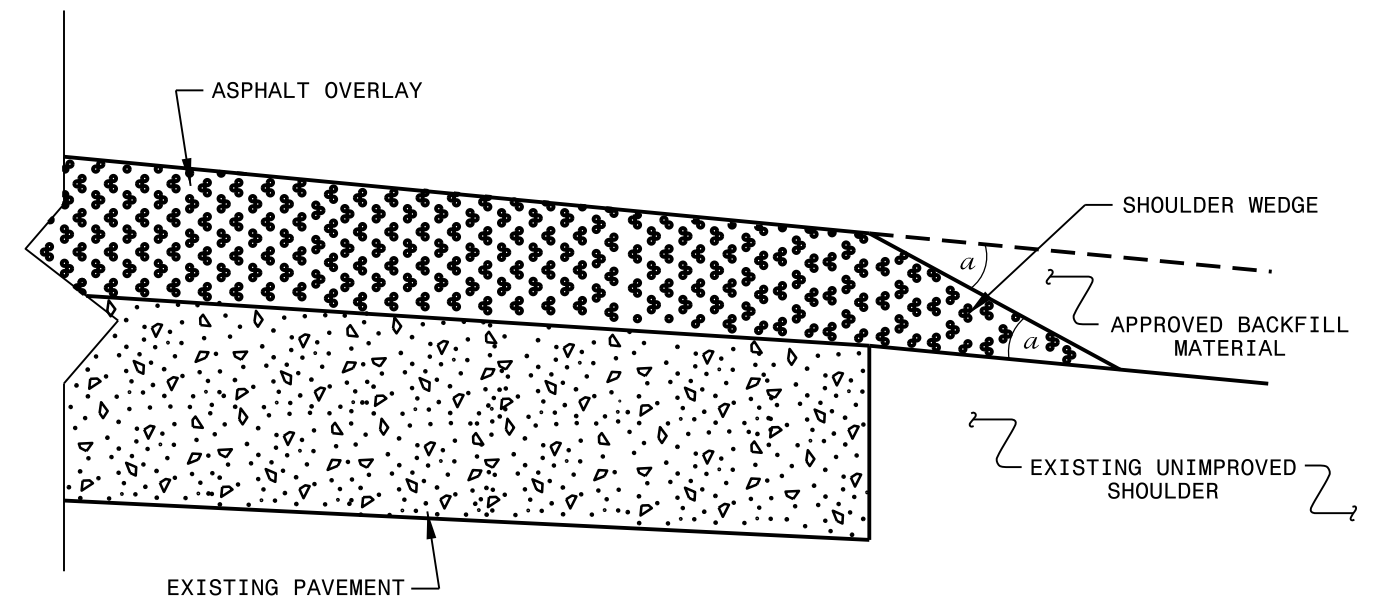
NOTES:

- 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.



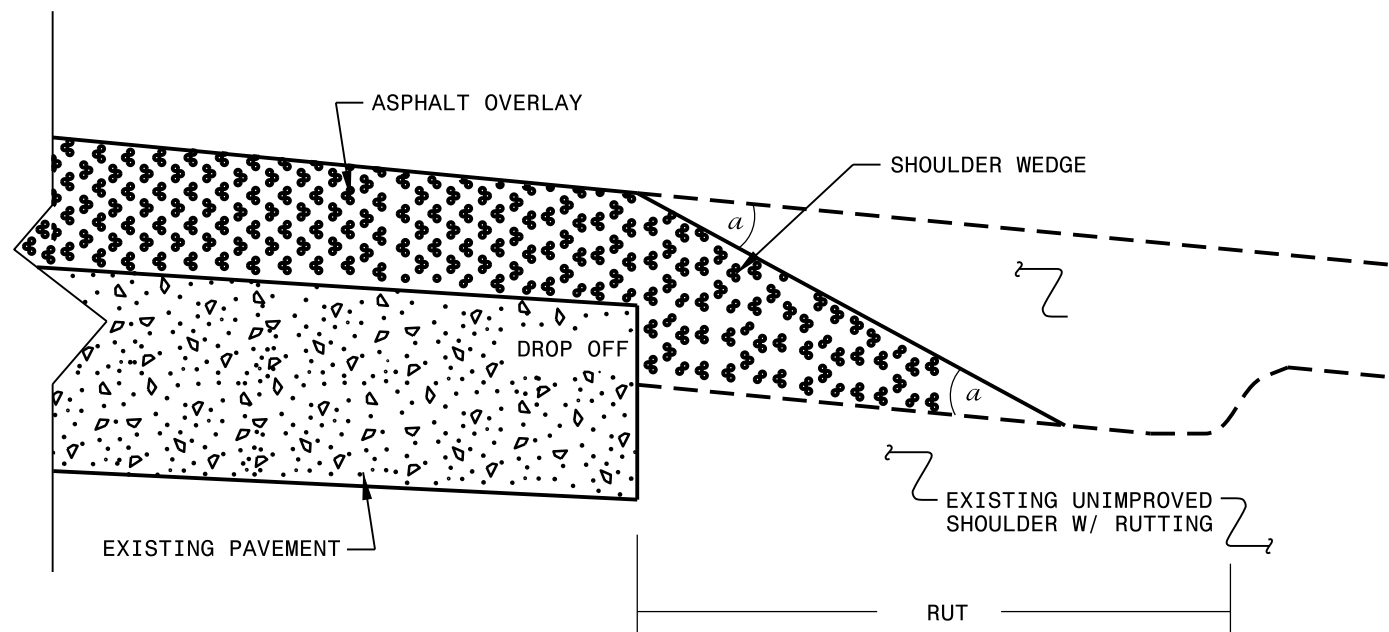
SHOULDER WEDGE DETAIL

(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/shoulderwedge/detail.dgn

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

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DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

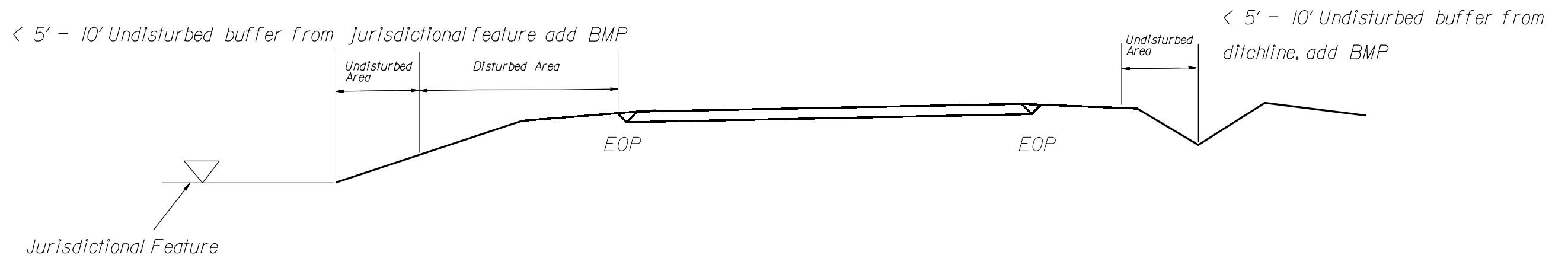
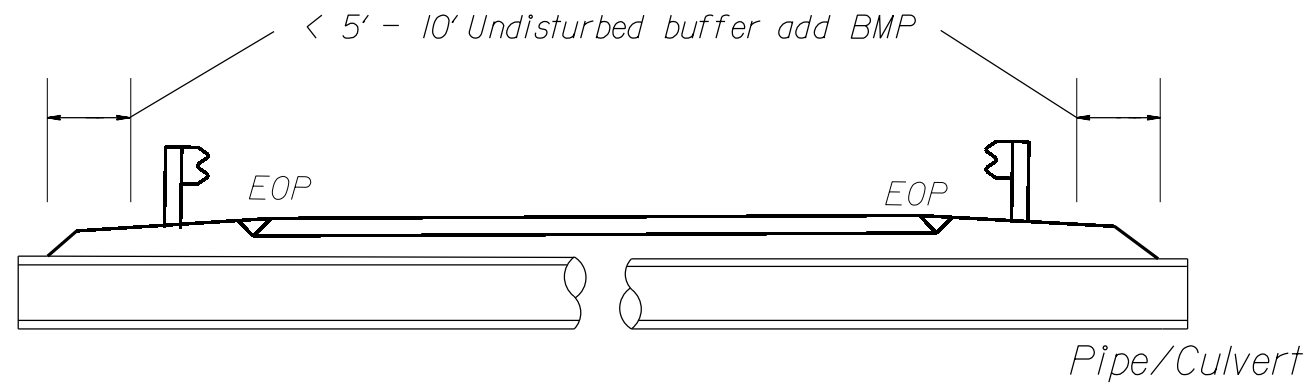
SOIL STABILIZATION TIMEFRAMES

<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.

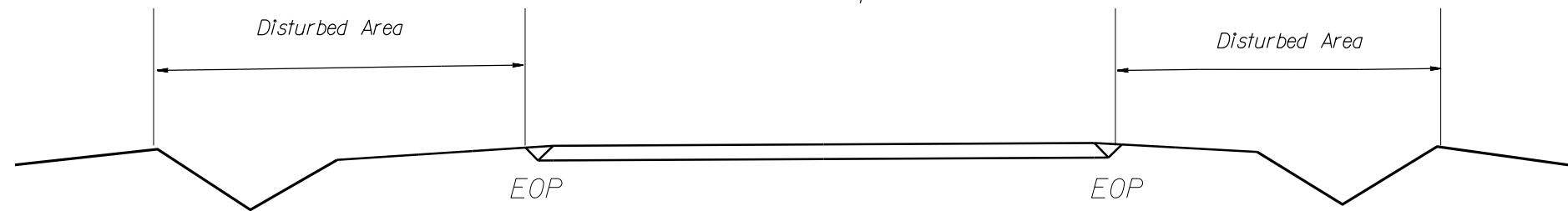
NOTES: Less than 5' - 10' undisturbed buffer from ROW, ditchline, water feature, or drainage inlet, add BMP.

BMP Options: Wattle or Silt Fence

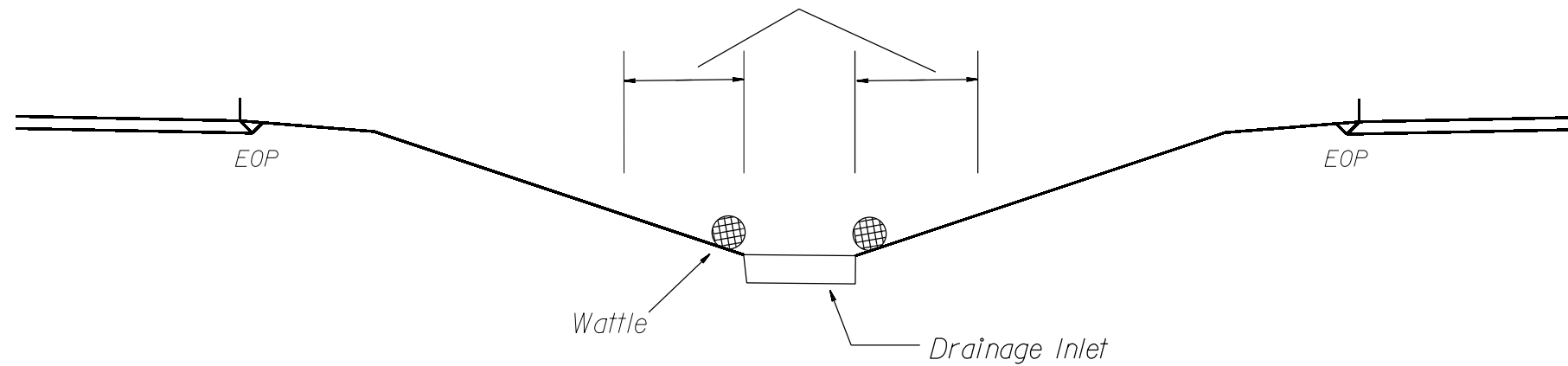
EROSION CONTROL DETAIL



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

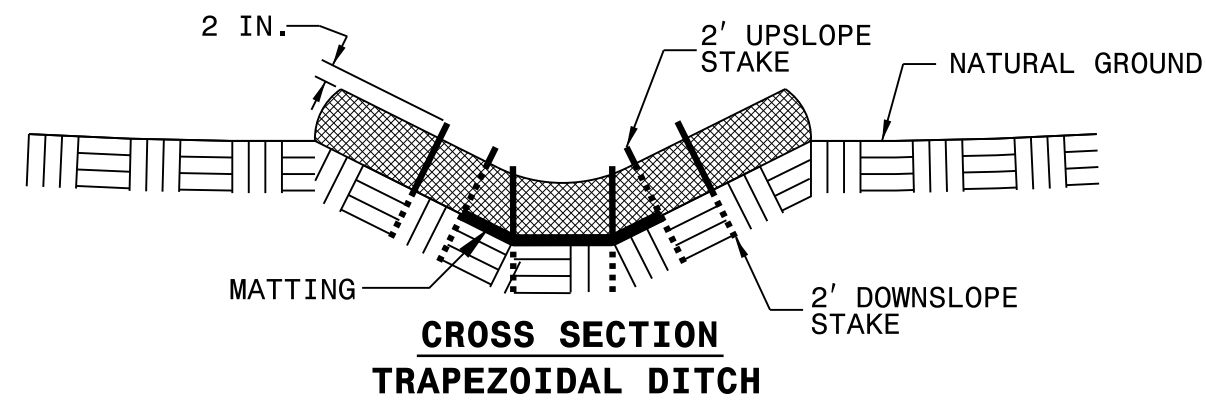
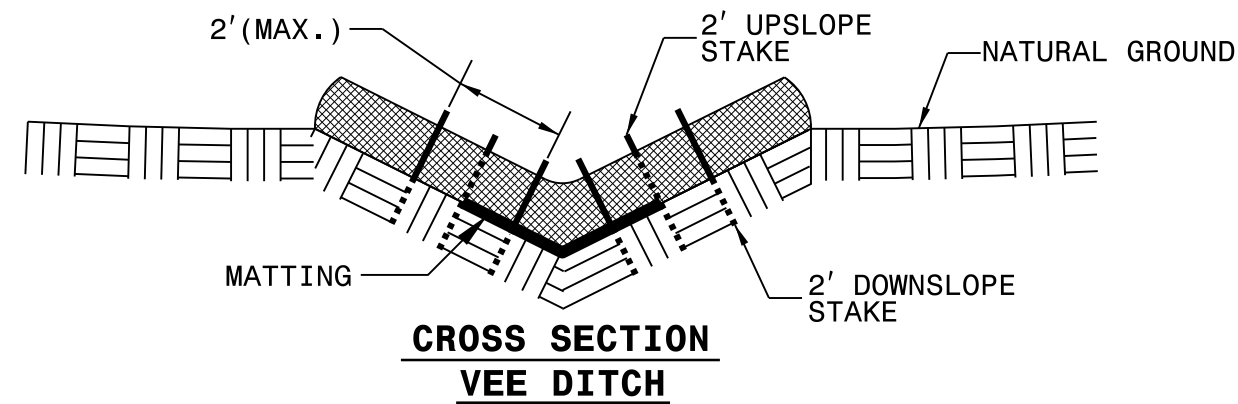
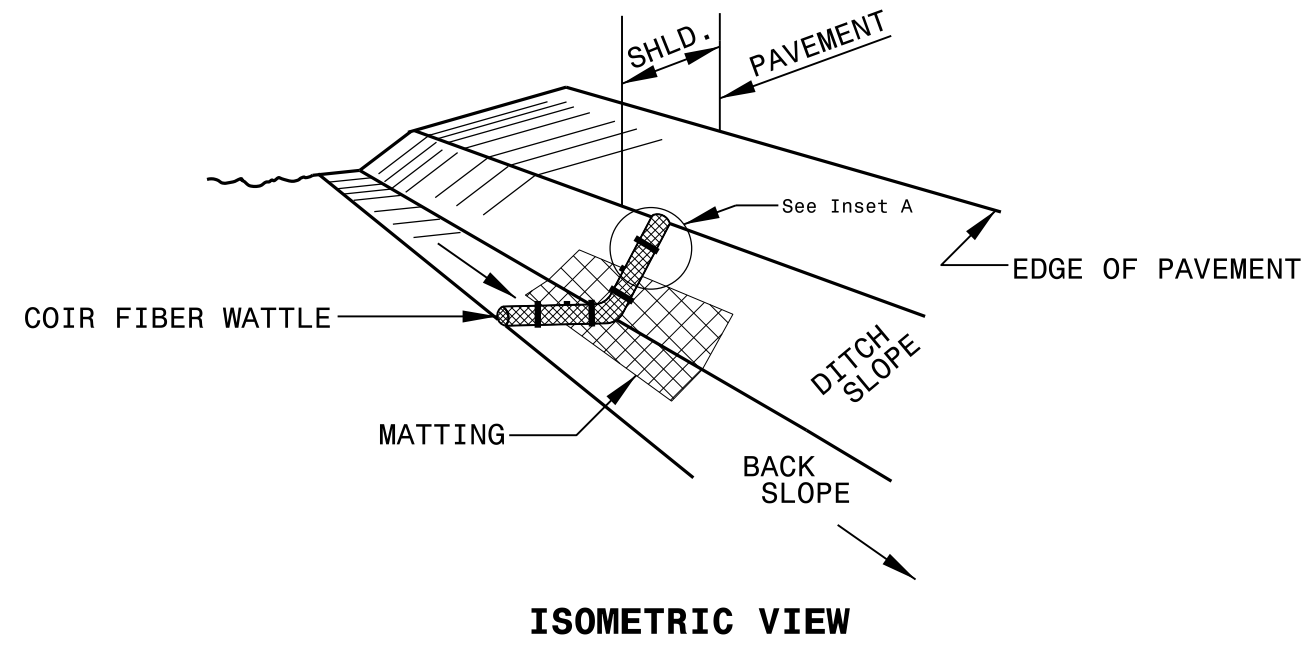


< 5' - 10' Undisturbed buffer from inlet, add wattle



NOT TO SCALE

COIR FIBER WATTLE DETAIL



NOTES:

USE MINIMUM 12 IN. DIAMETER COIR FIBER (COCONUT FIBER) WATTLE.

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

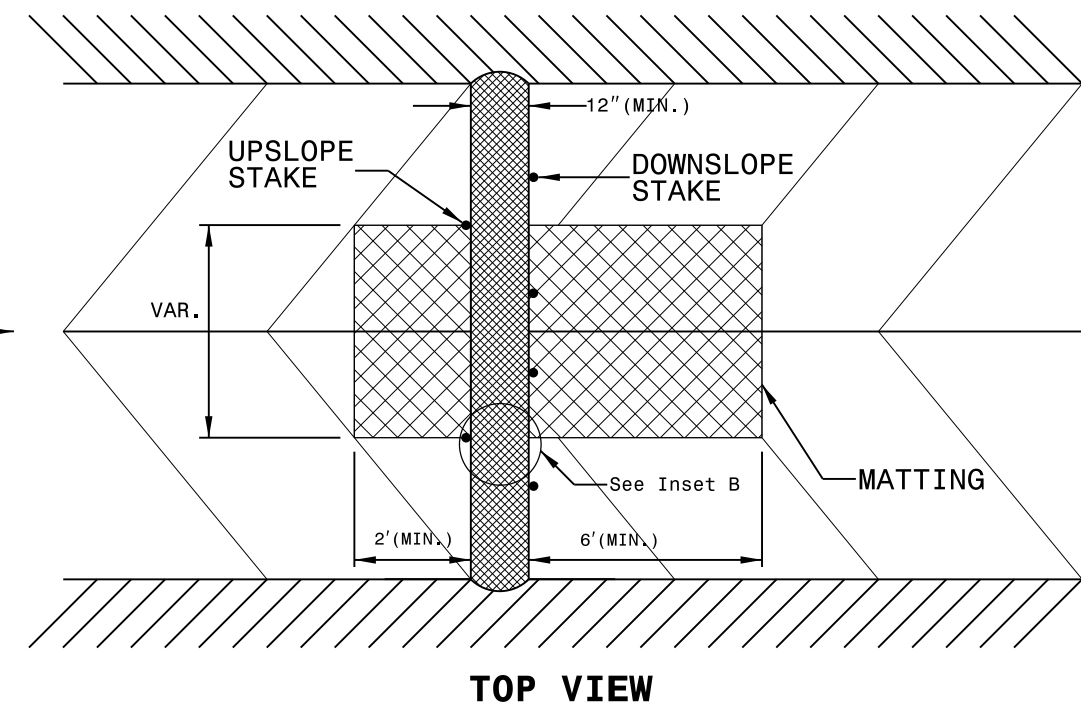
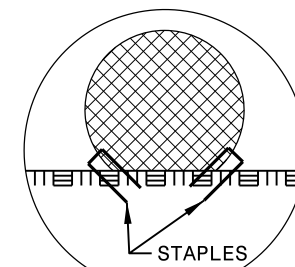
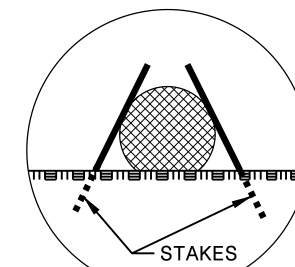
ONLY INSTALL WATTLE(S) TO A HEIGHT IN DITCH SO FLOW WILL NOT WASH AROUND WATTLE AND SCOUR DITCH SLOPES AND AS DIRECTED.

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

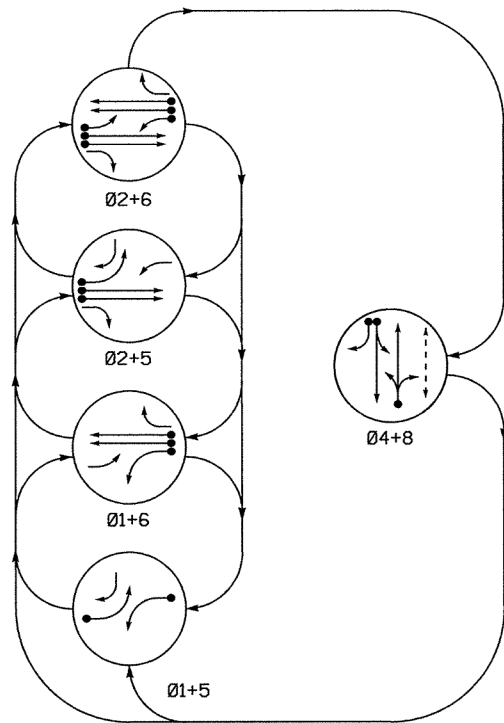
PROVIDE STAPLES MADE OF 0.125 IN. DIAMETER STEEL WIRE FORMED INTO A U SHAPE NOT LESS THAN 12" IN LENGTH.

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.



PHASING DIAGRAM



PHASING DIAGRAM DETECTION LEGEND

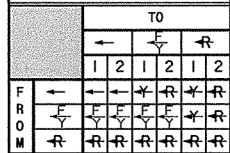
- ←●→ DETECTED MOVEMENT
- ←○→ UNDETECTED MOVEMENT (OVERLAP)
- UNSIGNALIZED MOVEMENT
- ←- - -> PEDESTRIAN MOVEMENT

TABLE OF OPERATION

SIGNAL FACE	PHASE				
	Ø 1+5	Ø 2+5	Ø 2+6	Ø 4+8	FLASH
11	---	---	---	---	---
21, 22	R	R	G	G	R
41	R	R	R	R	G
42	R	R	R	R	G
51	---	---	---	---	---
61, 62	R	G	R	G	R
81, 82	R	R	R	R	G
P81, P82	DW	DW	DW	DW	W DRK

W - Walk
DW - Don't Walk
DRK - Dark

STANDARD SIGNAL FACE CLEARANCES FOR FLASHING LEFT TURN SIGNAL



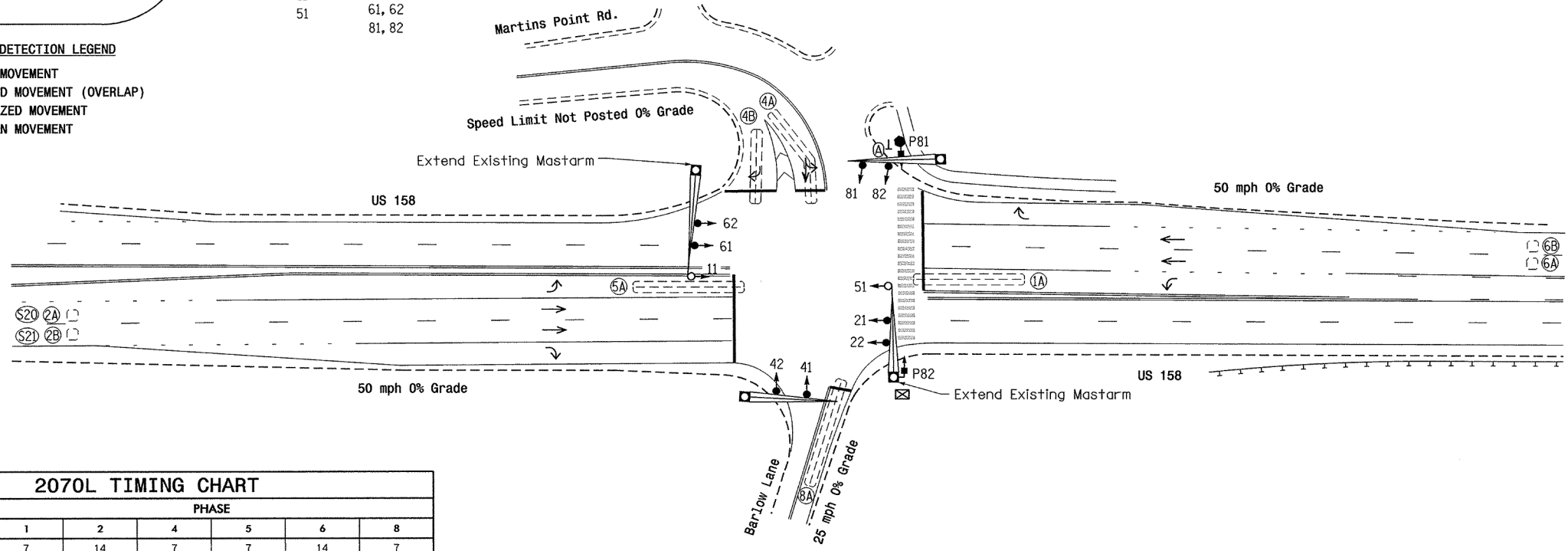
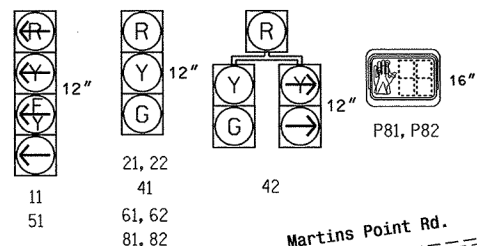
⚡ = Flashing Yellow Arrow

2070L LOOP & DETECTOR INSTALLATION

LOOP	SIZE (FT)	TURNS	DISTANCE FROM STOPBAR (FT)	DETECTOR PROGRAMMING							
				PHASE	CALLING	EXTENSION	STRETCH TIME	DELAY TIME	SYSTEM LOOP	NEW CARD	
1A	6X60	2-4-2	+5	-	1	Y	Y	-	15	-	Y
2A/S20	6X6	Existing	355	-	2	Y	Y	-	-	-	Y
2B/S21	6X6	Existing	355	-	2	Y	Y	-	-	-	Y
4A	6X60	2-4-2	+5	-	4	Y	Y	-	3	-	Y
4B	6X40	2-4-2	+5	-	4	Y	Y	-	15	-	Y
5A	6X60	2-4-2	+5	-	5	Y	Y	-	15	-	Y
6A, 6B	6X6	Existing	325	-	6	Y	Y	-	-	-	Y
8A	6X60	2-4-2	+5	-	8	Y	Y	-	10	-	Y

SIGNAL FACE I.D.

ALL HEADS L.E.D.



2070L TIMING CHART

FEATURE	PHASE					
	1	2	4	5	6	8
Min Green 1 *	7	14	7	7	14	7
Extension 1 *	1.0	6.0	1.0	1.0	6.0	1.0
Max Green 1 *	15	150	25	15	150	25
Yellow Clearance	3.0	4.8	3.2	3.0	4.8	3.2
Red Clearance	2.9	1.5	2.9	2.6	1.5	2.9
Walk 1 *	-	-	-	-	-	4
Don't Walk 1	-	-	-	-	-	20
Seconds Per Actuation *	-	1.5	-	-	1.5	-
Max Variable Initial *	-	40	-	-	37	-
Time Before Reduction *	-	25	-	-	25	-
Time To Reduce *	-	50	-	-	50	-
Minimum Gap	-	3.0	-	-	3.0	-
Recall Mode	-	MIN RECALL	-	-	MIN RECALL	-
Vehicle Call Memory	-	YELLOW	-	-	YELLOW	-
Dual Entry	-	-	ON	-	-	ON
Simultaneous Gap	ON	ON	ON	ON	ON	ON

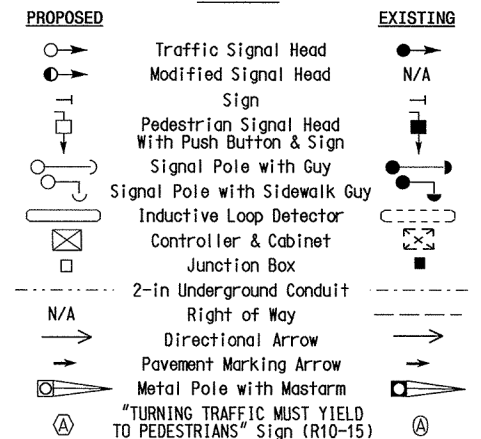
* These values may be field adjusted. Do not adjust Min Green and Extension times for phases 2 and 6 lower than what is shown. Min Green for all other phases should not be lower than 4 seconds.

5 Phase Fully Actuated US 158 (North Croatan Highway) CLS

NOTES

- Refer to "Roadway Standard Drawings NCDOT" dated July 2006 and "Standard Specifications for Roads and Structures" dated July 2006.
- Do not program signal for late night flashing operation unless otherwise directed by the Engineer.
- Phase 1 or phase 5 may be lagged.
- Set all detector units to presence mode.
- In the event of loop replacement, refer to the current Signals and Geometrics Design Manual and submit a Plan of Record to the Signals and Geometrics Section.
- Omit "WALK" and flashing "DON'T WALK" with no pedestrian calls.
- Program pedestrian heads to countdown the flashing "Don't Walk" time only.
- Maximum times shown in timing chart are for free-run operation only. Coordinated signal system timing values supersede these values.
- Closed loop system data: Controller Asset #0513.

LEGEND



Signal Upgrade Corr. File No. 01-08-207

US 158 At Barlow Lane/Martins Point Road

Division 01 Dare County Kitty Hawk

PREPARED BY: Monif Bazzarie REVIEWED BY: JPG

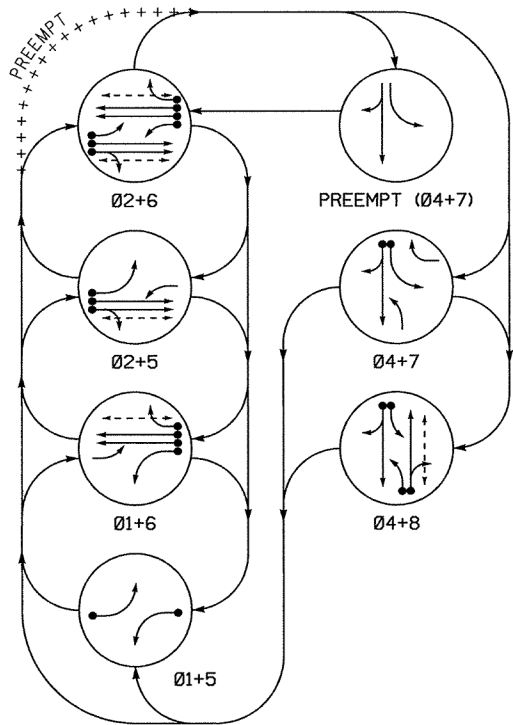
DATE: March 2009

SCALE: 1"=40'

DATE: 3/12/09

SIG. INVENTORY NO: 01-0513

PHASING DIAGRAM



PHASING DIAGRAM DETECTION LEGEND

- DETECTED MOVEMENT
- UNDETECTED MOVEMENT (OVERLAP)
- ⋯ UNSIGNALIZED MOVEMENT
- ⚡ PEDESTRIAN MOVEMENT

TABLE OF OPERATION

SIGNAL FACE	PHASE							
	01+5	02+5	02+6	04+7	04+8	PREEMPT	FLASH	FL
11	←	←	←	←	←	←	←	←
21, 22	R	R	G	G	R	R	R	Y
41, 42	R	R	R	G	G	G	R	Y
51	←	←	←	←	←	←	←	←
61	R	G	R	G	R	R	R	Y
62	R	G	R	G	R	R	R	Y
71	←	←	←	←	←	←	←	←
81	←	←	←	←	←	←	←	←
82, 83	R	R	R	R	G	R	R	Y
P21, P22	DW	DW	W	W	DW	DW	DW	DRK
P61, P62	DW	W	DW	W	DW	DW	DW	DRK
P81, P82	DW	DW	DW	DW	W	DW	DW	DRK

W - Walk
DW - Don't Walk
DRK - Dark

STANDARD SIGNAL FACE CLEARANCES FOR FLASHING LEFT TURN SIGNAL

FROM	TO	
	1	2
F	←	←
R	←	←
O	←	←
M	←	←

F = Flashing Yellow Arrow

SIGNAL FACE I.D.

All Heads L.E.D.

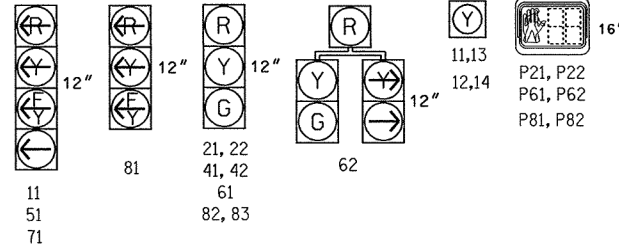


TABLE OF OPERATION SCHOOL ZONE FLASHER

SIGNAL FACE	INTERVAL	
	1	2
11, 13	ON	OFF
12, 14	OFF	ON

2070L LOOP & DETECTOR INSTALLATION

LOOP	SIZE (FT)	TURNS	DISTANCE FROM STOPBAR (FT)	NEW LOOP	DETECTOR PROGRAMMING				LOOP SYSTEM NEW CARD		
					PHASE	CALLING	EXTENSION	STRETCH TIME			
1A	6x60	2-4-2	+5	-	1	Y	Y	-	15	-	Y
2A	6x6	5	355	-	2	Y	Y	-	-	-	Y
2B	6x6	5	355	-	2	Y	Y	-	-	-	Y
4A	6x60	2-4-2	0	-	4	Y	Y	-	10	-	Y
4B	6x40	2-4-2	+5	-	4	Y	Y	-	3	-	Y
5A	6x60	2-4-2	+5	-	5	Y	Y	-	15	-	Y
6A	6x6	5	355	-	6	Y	Y	-	-	-	Y
6B	6x6	5	355	-	6	Y	Y	-	-	-	Y
7A	6x15	3	50	-	7	Y	Y	-	10	-	Y
8A	6x60	2-4-2	0	-	8	Y	Y	-	3	-	Y
8B	6x60	2-4-2	0	-	8	Y	Y	-	10	-	Y
S01	6x6	Existing	0	-	-	-	-	-	-	-	Y
S02	6x6	Existing	0	-	-	-	-	-	-	-	Y

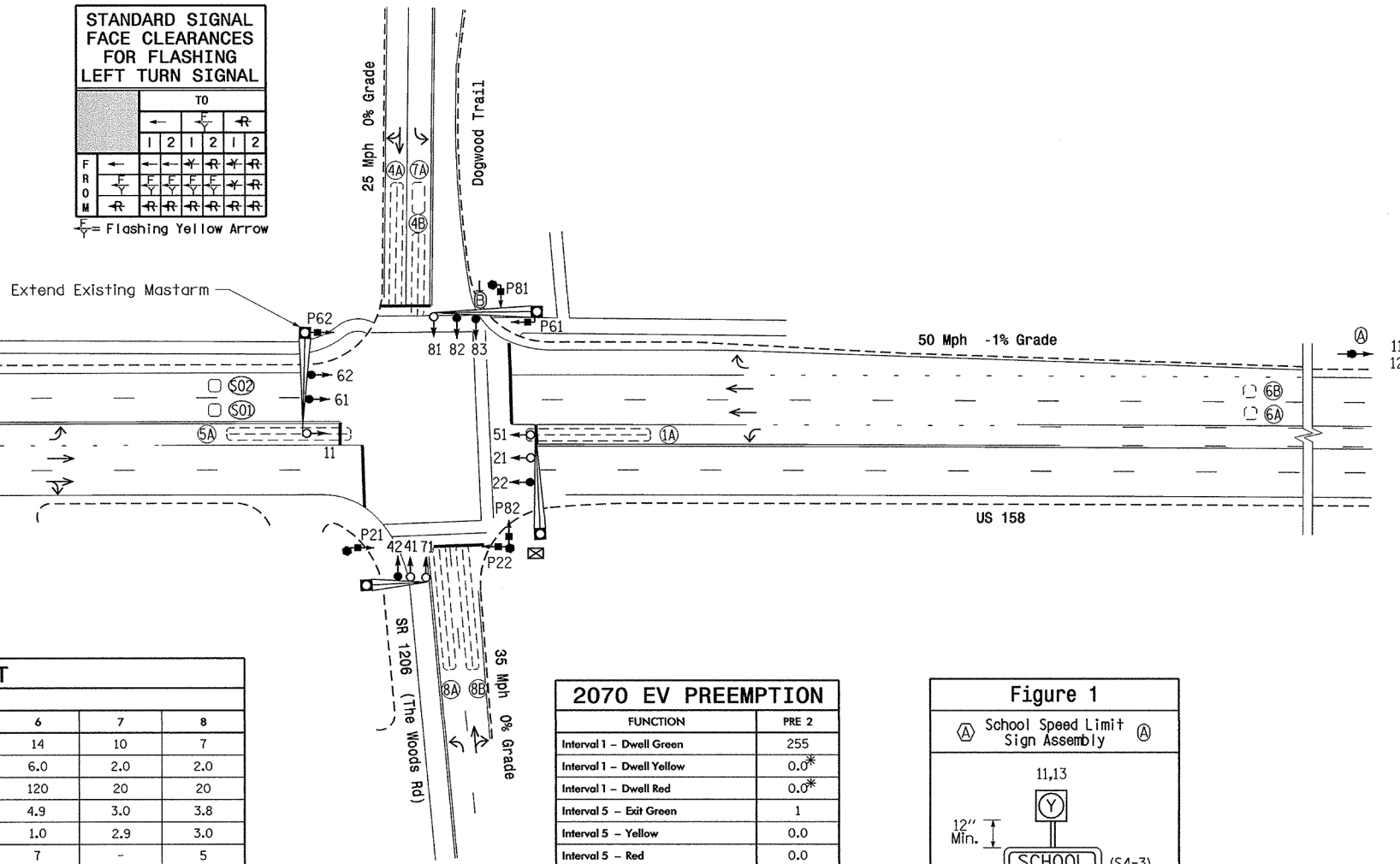
6 Phase Fully Actuated w/EV Preemption US 158 (North Croatan Highway) CLS

NOTES

- Refer to "Roadway Standard Drawings NCDOT" dated July 2006 and "Standard Specifications for Roads and Structures" dated July 2006.
- Do not program signal for late night flashing operation unless otherwise directed by the Engineer.
- Phase 1 or phase 5 may be lagged.
- Phase 7 may be lagged.
- Reposition existing signal heads numbered 22,42,82 and 83.
- Set all detector units to presence mode.
- In the event of loop replacement, refer to the current Signals and Geometrics Design Manual and submit a Plan of Record to the Signals and Geometrics Section.
- Omit "WALK" and flashing "DON'T WALK" with no pedestrian calls.
- Program pedestrian heads to countdown the flashing "Don't Walk" time only.
- The emergency vehicle preemption switch is located in the fire station on Dogwood Trail.
- The Division Traffic Engineer will determine the Delay Time and Dwell Min Time for the emergency vehicle preemption timing.
- Flash School Zone Flashers school days only as directed by the Division Traffic Engineer.
- Maximum times shown in timing chart are for free-run operation only. Coordinated signal system timing values supersede these values.
- Closed loop system data: Controller Asset # 0326.

LEGEND

- | | | | |
|---|--|---|---|
| ○ | PROPOSED | ● | EXISTING |
| ○ | Traffic Signal Head | ○ | Modified Signal Head |
| □ | Sign | □ | Signal Pole with Guy |
| ⊕ | Pedestrian Signal Head With Push Button & Sign | ⊕ | Signal Pole with Sidewalk Guy |
| □ | Inductive Loop Detector | □ | Controller & Cabinet Junction Box |
| ⊗ | 2-in Underground Conduit | ⊗ | Right of Way |
| → | Directional Arrow | → | Pavement Marking Arrow |
| ⓐ | Sign Assembly "A" (See Figure 1) | ⓐ | "TURNING TRAFFIC MUST YIELD TO PEDESTRIANS" Sign (R10-15) |
| ⓑ | | ⓑ | |



2070L TIMING CHART

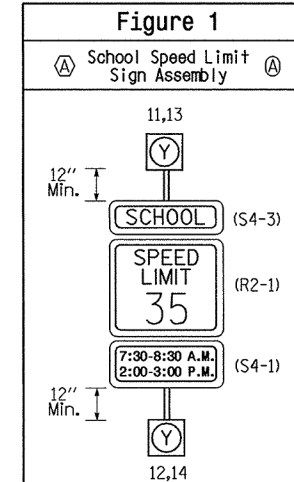
FEATURE	PHASE							
	1	2	4	5	6	7	8	
Min Green 1*	7	14	7	7	14	10	7	
Extension 1*	2.0	6.0	2.5	2.0	6.0	2.0	2.0	
Max Green 1*	15	120	20	15	120	20	20	
Yellow Clearance	3.0	4.9	3.8	3.0	4.9	3.0	3.8	
Red Clearance	2.6	1.0	3.0	2.6	1.0	2.9	3.0	
Walk 1*	-	7	-	-	7	-	5	
Don't Walk 1	-	10	-	-	11	-	22	
Seconds Per Actuation*	-	1.5	-	-	1.5	-	-	
Max Variable Initial*	-	40	-	-	40	-	-	
Time Before Reduction*	-	20	-	-	20	-	-	
Time To Reduce*	-	40	-	-	40	-	-	
Minimum Gap	-	3.0	-	-	3.0	-	-	
Recall Mode	-	MIN RECALL	-	-	MIN RECALL	-	-	
Vehicle Call Memory	-	YELLOW	-	-	YELLOW	-	-	
Dual Entry	-	-	ON	-	-	-	ON	
Simultaneous Gap	ON	ON	ON	ON	ON	ON	ON	

* These values may be field adjusted. Do not adjust Min Green and Extension times for phases 2 and 6 lower than what is shown. Min Green for all other phases should not be lower than 4 seconds.

2070 EV PREEMPTION

FUNCTION	PRE 2
Interval 1 - Dwell Green	255
Interval 1 - Dwell Yellow	0.0*
Interval 1 - Dwell Red	0.0*
Interval 5 - Exit Green	1
Interval 5 - Yellow	0.0
Interval 5 - Red	0.0
Delay Time	**
Min Green Before Pre	1
Ped Clear Before Pre	0
Yellow Clear Before Pre	0.0*
Red Clear Before Pre	0.0*
Dwell Min Time	**
Enable Backup Protection	Y
Ped Clear Through Yellow	Y

* Time defaults to time used for phase during normal operation
** See note number 11

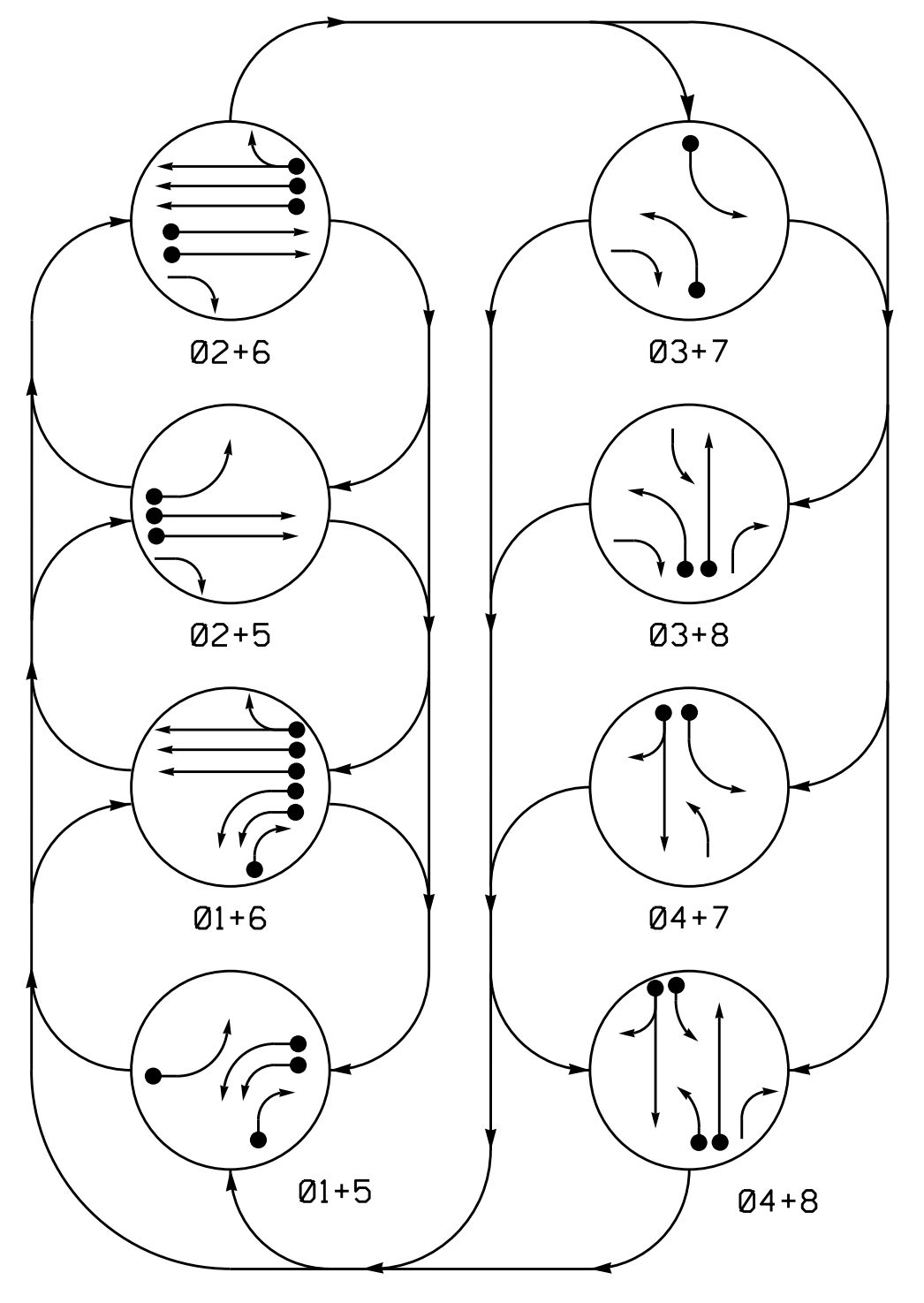


Signal Upgrade Corr. File No. 01-08-207

	US 158 At SR 1206 (The Woods Road) / Dogwood Trail			
	Division 1	Dare County		Kitty Hawk
	PLAN DATE:	March 2009		REVIEWED BY:
PREPARED BY: Monif Bazzario		REVIEWED BY:		
SCALE 1"=40'	REVISIONS	INIT.	DATE	
			SIG. INVENTORY NO. 01-0326	

22-APR-2009 11:09 5:01 PM s:\projects\signal design\seattle\eastern_rpt\and\y-01\01-0326\Fig010326_sig.dgn, 20090316.dgn

PHASING DIAGRAM



PHASING DIAGRAM DETECTION LEGEND

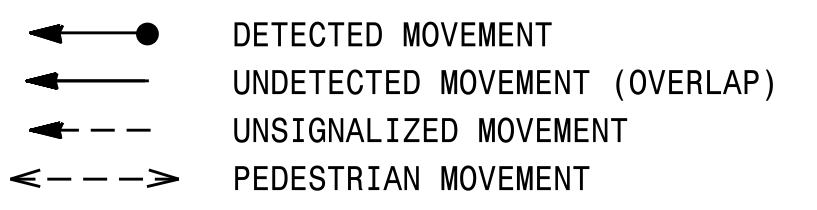
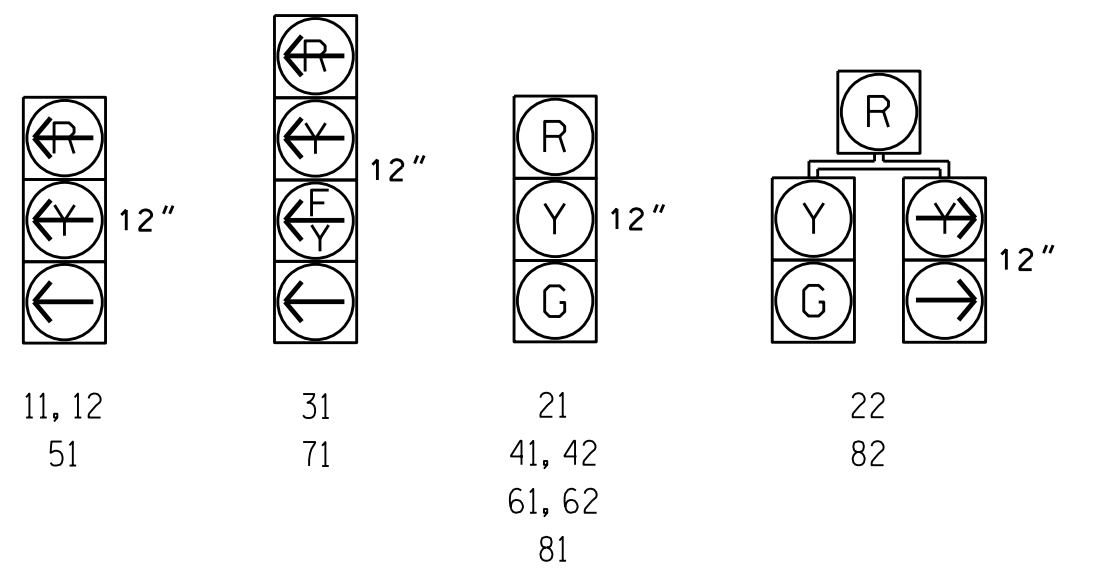


TABLE OF OPERATION

SIGNAL FACE	PHASE							
	01+5	01+6	02+5	02+6	03+7	03+8	04+7	04+8
11,12	←	←	←	←	←	←	←	←
21	R	R	G	G	R	R	R	Y
22	R	R	G	G	R	R	R	Y
31	←	←	←	←	←	←	←	←
41,42	R	R	R	R	R	R	G	G
51	←	←	←	←	←	←	←	←
61,62	R	G	R	G	R	R	R	Y
71	←	←	←	←	←	←	←	←
81	R	R	R	R	R	G	R	G
82	R	R	R	R	R	G	R	G

SIGNAL FACE I.D.

All Heads L.E.D.



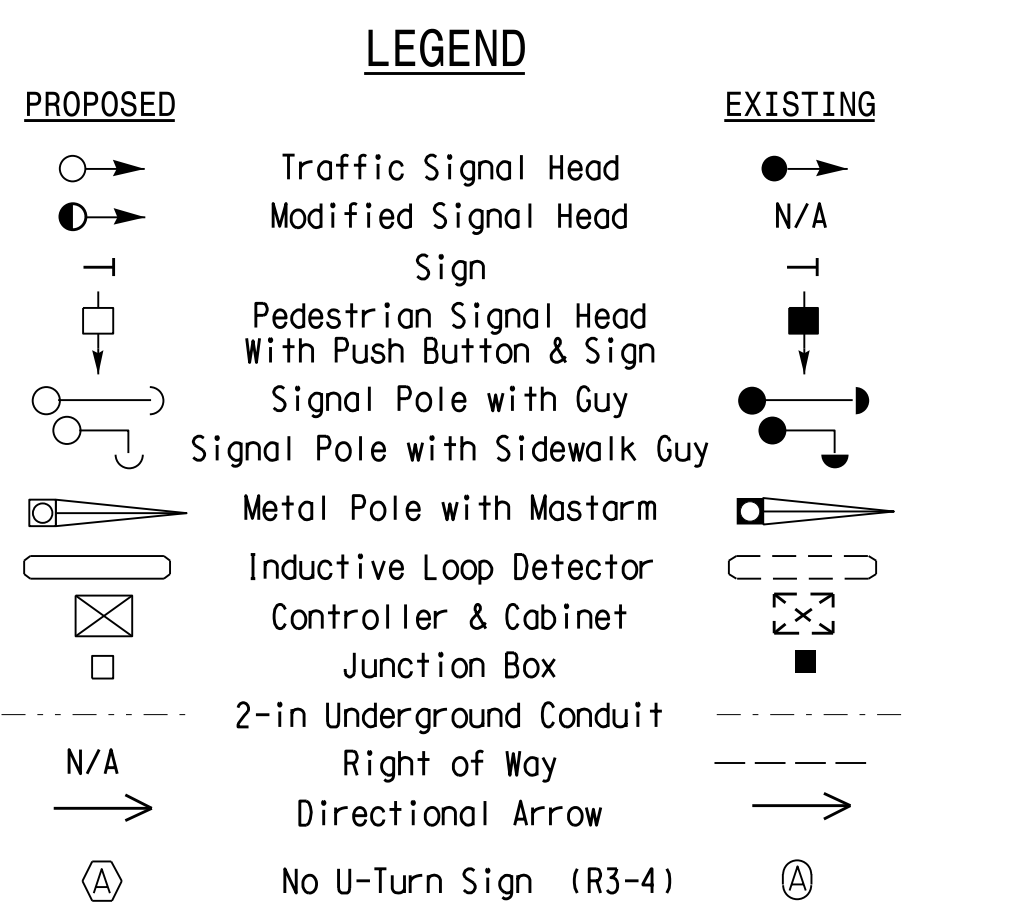
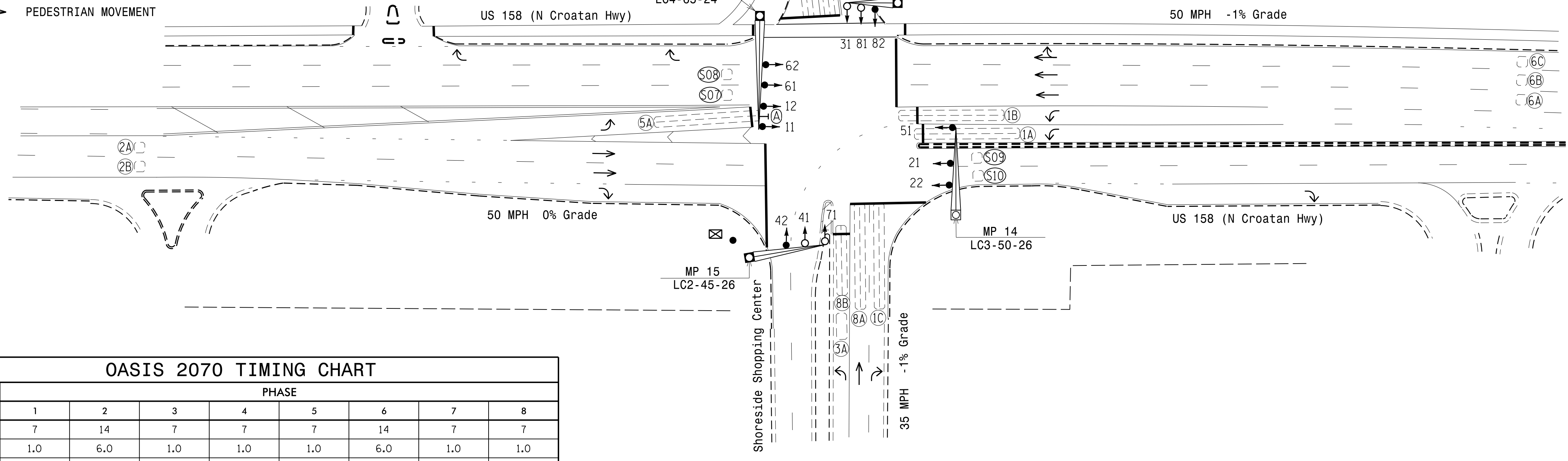
OASIS 2070 LOOP & DETECTOR INSTALLATION CHART

LOOP	SIZE (FT)	DISTANCE FROM STOPBAR (FT)	TURNS	NEW LOOP	DETECTOR PROGRAMMING						
					PHASE	CALLING	EXTENSION	FULL TIME DELAY	STRETCH TIME	DELAY TIME	SYSTEM LOOP
1A	6X60	+5	2-4-2	-	1	Y	Y	-	-	-	Y
1B	6X60	+10	2-4-2	-	1	Y	Y	-	-	-	Y
1C	6X60	0	2-4-2	-	1	Y	Y	-	-	15	Y
2A	6X6	355	4	-	2	Y	Y	-	-	-	Y
2B	6X6	355	4	-	2	Y	Y	-	-	-	Y
3A	6X15	50	3	-	3	Y	Y	-	-	10	Y
4A	6X60	0	2-4-2	-	4	Y	Y	-	-	10	Y
4B	6X40	0	2-4-2	-	4	Y	Y	-	-	3	Y
5A	6X60	+5	2-4-2	-	5	Y	Y	-	-	3	Y
6A	6X6	355	6	-	6	Y	Y	-	-	-	Y
6B	6X6	355	6	-	6	Y	Y	-	-	-	Y
6C	6X6	355	6	-	6	Y	Y	-	-	-	Y
7A	6X15	50	3	-	7	Y	Y	-	-	10	Y
8A	6X60	0	2-4-2	-	8	Y	Y	-	-	-	Y
8B	6X40	+5	2-4-2	-	8	Y	Y	-	-	-	Y
S07	6X6	±100	EXISTING	-	-	-	-	-	-	-	Y
S08	6X6	±100	EXISTING	-	-	-	-	-	-	-	Y
S09	6X6	±125	EXISTING	-	-	-	-	-	-	-	Y
S10	6X6	±125	EXISTING	-	-	-	-	-	-	-	Y

8 Phase Fully Actuated US 158 (Croatan Hwy) North/NC 12 CLS

NOTES

- Refer to "Roadway Standard Drawings NCDOT" dated January 2012 and "Standard Specifications for Roads and Structures" dated January 2012.
- Phase 1 and/or phase 5 may be lagged.
- Phase 3 and/or 7 may be lagged.
- Reposition existing signal head numbered 42.
- Set all detector units to presence mode.
- In the event of loop replacement, refer to the current ITS and Signals Design Manual and submit a Plan of Record to the Signal Design Section.
- Pavement markings are existing.
- Maximum times shown in timing chart are for free-run operation only. Coordinated signal system timing values supersede these values.
- Closed loop system data: Controller Asset #0572.



OASIS 2070 TIMING CHART

FEATURE	PHASE							
	1	2	3	4	5	6	7	8
Min Green 1 *	7	14	7	7	7	14	7	7
Extension 1 *	1.0	6.0	1.0	1.0	1.0	6.0	1.0	1.0
Max Green 1 *	25	120	25	20	15	120	15	20
Yellow Clearance	3.0	4.8	3.0	3.9	3.0	4.9	3.0	3.9
Red Clearance	3.2	1.1	2.9	2.9	2.4	1.0	3.1	2.9
Walk 1 *	-	-	-	-	-	-	-	-
Don't Walk 1	-	-	-	-	-	-	-	-
Seconds Per Actuation *	-	1.5	-	-	-	1.5	-	-
Max Variable Initial *	-	30	-	-	-	30	-	-
Time Before Reduction *	-	40	-	-	-	40	-	-
Time To Reduce *	-	60	-	-	-	60	-	-
Minimum Gap	-	3.0	-	-	-	3.0	-	-
Recall Mode	-	MIN RECALL	-	-	-	MIN RECALL	-	-
Vehicle Call Memory	-	YELLOW	-	-	-	YELLOW	-	-
Dual Entry	-	-	-	ON	-	-	-	ON
Simultaneous Gap	ON	ON	ON	ON	ON	ON	ON	ON

* These values may be field adjusted. Do not adjust Min Green and Extension times for phases 2 and 6 lower than what is shown. Min Green for all other phases should not be lower than 4 seconds.

Signal Upgrade Corr. File No. 01-14-28345

US 158 (N Croatan Hwy) at Shoreside Shopping Center/ Juniper Trail

Division 1 Dare County Kitty Hawk

PLAN DATE: December 2014 REVIEWED BY: JPG

PREPARED BY: EM Minshew REVIEWED BY:

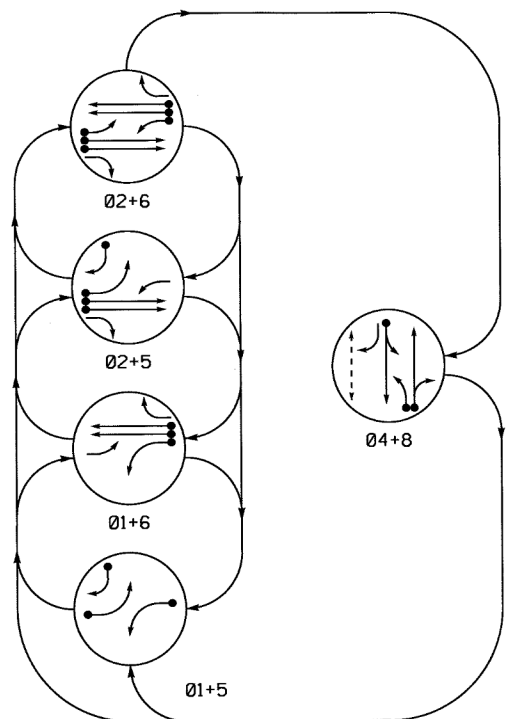
SEAL

DATE: 1/7/2015

SIG. INVENTORY NO. 01-0572

C:\Users\eminshew\OneDrive\Documents\Signal Design\Section\East\Region\01-14-28345\01-14-28345.dgn
 SS-4901AR\15-44
 SS-4901AR\15-44
 eminshew

PHASING DIAGRAM



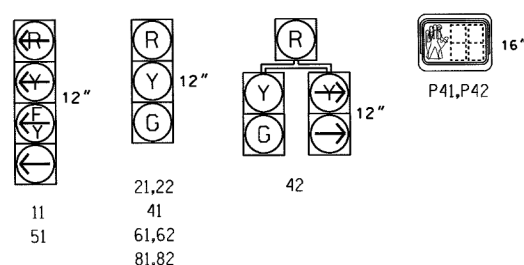
PHASING DIAGRAM DETECTION LEGEND
 ● DETECTED MOVEMENT
 ○ UNDETECTED MOVEMENT (OVERLAP)
 - UNSIGNALIZED MOVEMENT
 - PEDESTRIAN MOVEMENT

TABLE OF OPERATION

SIGNAL FACE	PHASE				FLIGHT
	01+5	01+6	02+5	02+6	
11	-	-	-	-	-
21,22	R	R	G	G	R
41	R	R	R	R	G
42	R	R	R	R	G
51	-	-	-	-	-
61,62	R	G	R	G	R
81,82	R	R	R	R	G
P41,P42	DW	DW	DW	DW	DRK

W - Walk
 DW - Don't Walk
 DRK - Dark

SIGNAL FACE I.D.
 All Heads L.E.D.



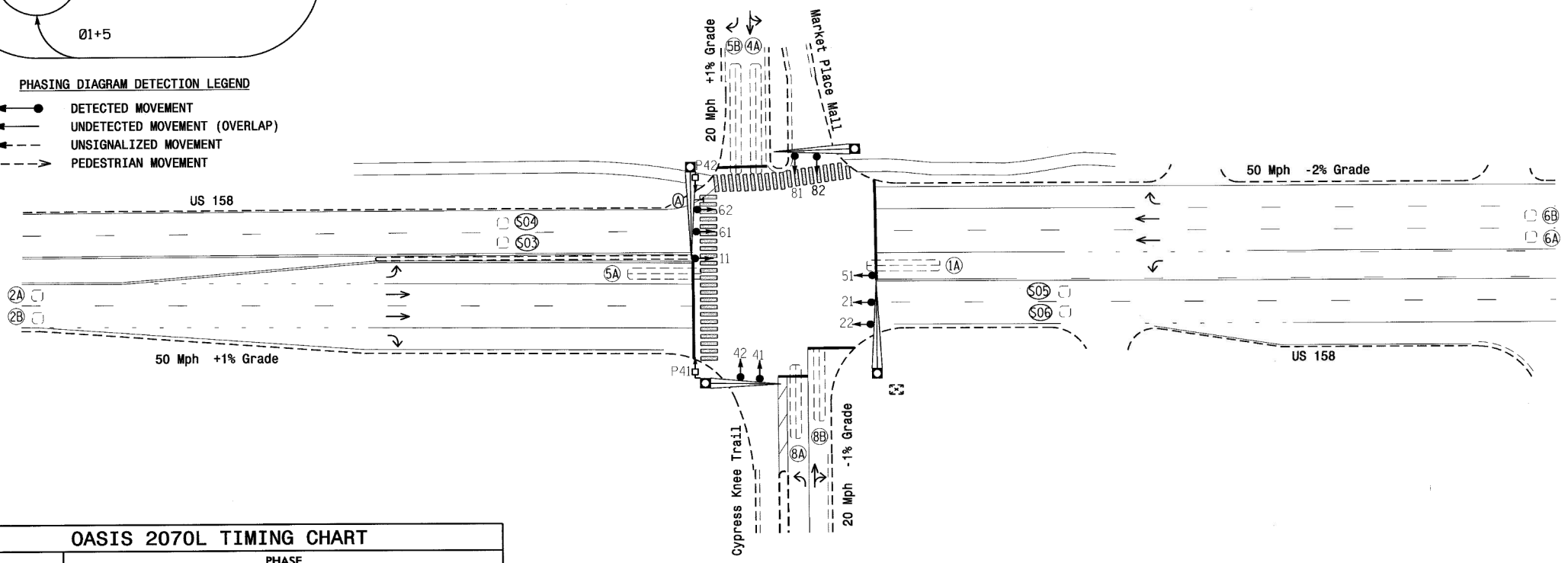
OASIS 2070L LOOP & DETECTOR INSTALLATION

LOOP	INDUCTIVE LOOPS			DETECTOR PROGRAMMING							
	SIZE (FT)	DISTANCE FROM STOPBAR (FT)	URNS	PHASE	CALLING	EXTENSION	FULL TIME DELAY	STRETCH TIME	DELAY TIME	SYSTEM LOOP NEW	CARD NEW
1A	6X40	+5	2-4-2	1	Y	Y	-	-	15	-	-
2A	6X6	355	5	2	Y	Y	Y	-	3	-	-
2B	6X6	355	5	2	Y	Y	-	-	-	-	-
4A	6X60	+5	2-4-2	4	Y	Y	-	-	-	-	-
5A	6X40	+5	2-4-2	5	Y	Y	-	-	15	-	-
5B	6X60	+5	2-4-2	5	Y	Y	-	-	15	-	-
6A	6X6	355	5	6	Y	Y	-	-	-	-	-
6B	6X6	355	5	6	Y	Y	-	-	-	-	-
8A	6X40	+5	2-4-2	8	Y	Y	-	-	3	-	-
8B	6X40	0	2-4-2	8	Y	Y	-	-	10	-	-
S03	6X6	+200	Exist	-	-	-	-	-	-	Y	-
S04	6X6	+200	Exist	-	-	-	-	-	-	Y	-
S05	6X6	+200	Exist	-	-	-	-	-	-	Y	-
S06	6X6	+200	Exist	-	-	-	-	-	-	Y	-

5 Phase Fully Actuated
 US 158 (North Croatan Highway) CLS

NOTES

1. Refer to "Roadway Standard Drawings NCDOT" dated January 2012 and "Standard Specifications for Roads and Structures" dated January 2012.
2. Do not program signal for late night flashing operation unless otherwise directed by the Engineer.
3. Phase 1 and/or phase 5 may be lagged.
4. Set all detector units to presence mode.
5. Omit "WALK" and flashing "DON'T WALK" with no pedestrian calls.
6. Program pedestrian heads to countdown the flashing "Don't Walk" time only.
7. Program phase 4 ped detector to call phase 4 and 8 ped
8. Phase 8 ped is a dummy ped to allow phase 4 leading ped interval to run while vehicle signals are displaying all red
9. Maximum times shown in timing chart are for free-run operation only. Coordinated signal system timing values supersede these values.
10. Closed loop system data:
 Controller Asset # 0337.

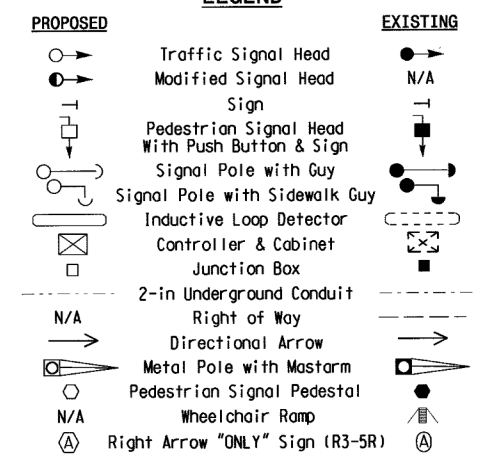


OASIS 2070L TIMING CHART

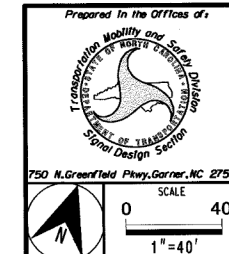
FEATURE	PHASE					
	1	2	4	5	6	8
Min Green 1 *	7	14	7	7	14	7
Extension 1 *	2.0	6.0	2.0	2.0	6.0	2.0
Max Green 1 *	25	120	35	25	120	35
Yellow Clearance	3.0	5.0	3.0	3.0	5.0	3.0
Red Clearance	2.6	1.3	3.3	2.6	1.3	2.9
Walk 1 *	-	-	7	-	-	7
Don't Walk 1	-	-	26	-	-	26
Walk Advance Time	-	-	7	-	-	7
Seconds Per Actuation *	-	1.5	-	-	1.5	-
Max Variable Initial *	-	40	-	-	40	-
Time Before Reduction *	-	20	-	-	20	-
Time To Reduce *	-	40	-	-	40	-
Minimum Gap	-	3.0	-	-	3.0	-
Recall Mode	-	MIN RECALL	-	-	MIN RECALL	-
Vehicle Call Memory	-	YELLOW	-	-	YELLOW	-
Dual Entry	-	-	ON	-	-	ON
Simultaneous Gap	ON	ON	ON	ON	ON	ON

* These values may be field adjusted. Do not adjust Min Green and Extension times for phases 2 and 6 lower than what is shown. Min Green for all other phases should not be lower than 4 seconds.

LEGEND



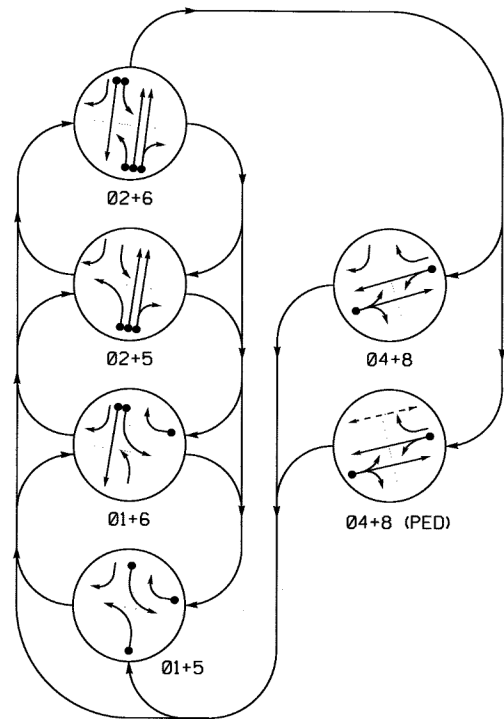
Signal Upgrade Corr.File No. 01-12-18211



US 158 at Cypress Knee Trail/Market Place Mall	
Division 1	Dare County Southern Shores
PLAN DATE: June 2012	REVIEWED BY: JG
PREPARED BY: Jeff Spence	REVIEWED BY:
REVISIONS:	INIT. DATE



PHASING DIAGRAM

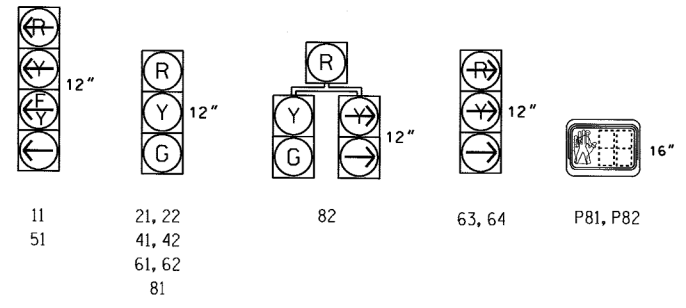


PHASING DIAGRAM DETECTION LEGEND
 ● DETECTED MOVEMENT
 ○ UNDETECTED MOVEMENT (OVERLAP)
 - - - UNSIGNALIZED MOVEMENT
 - - - PEDESTRIAN MOVEMENT

TABLE OF OPERATION

SIGNAL FACE	PHASE						FLASH
	Ø1+5	Ø1+6	Ø2+5	Ø2+6	Ø4+8	Ø4+8 (PED)	
11	-	-	F	F	R	R	Y
21,22	R	R	G	G	R	R	Y
41,42	R	R	R	R	G	G	R
51	-	F	-	F	R	R	Y
61,62	R	G	R	G	R	R	Y
63,64	-	-	-	-	R	Y	-
81	R	R	R	R	G	G	R
82	R	R	R	R	G	G	R
P81,P82	DW	DW	DW	DW	W	DRK	-

SIGNAL FACE I.D.
 All Heads L.E.D.



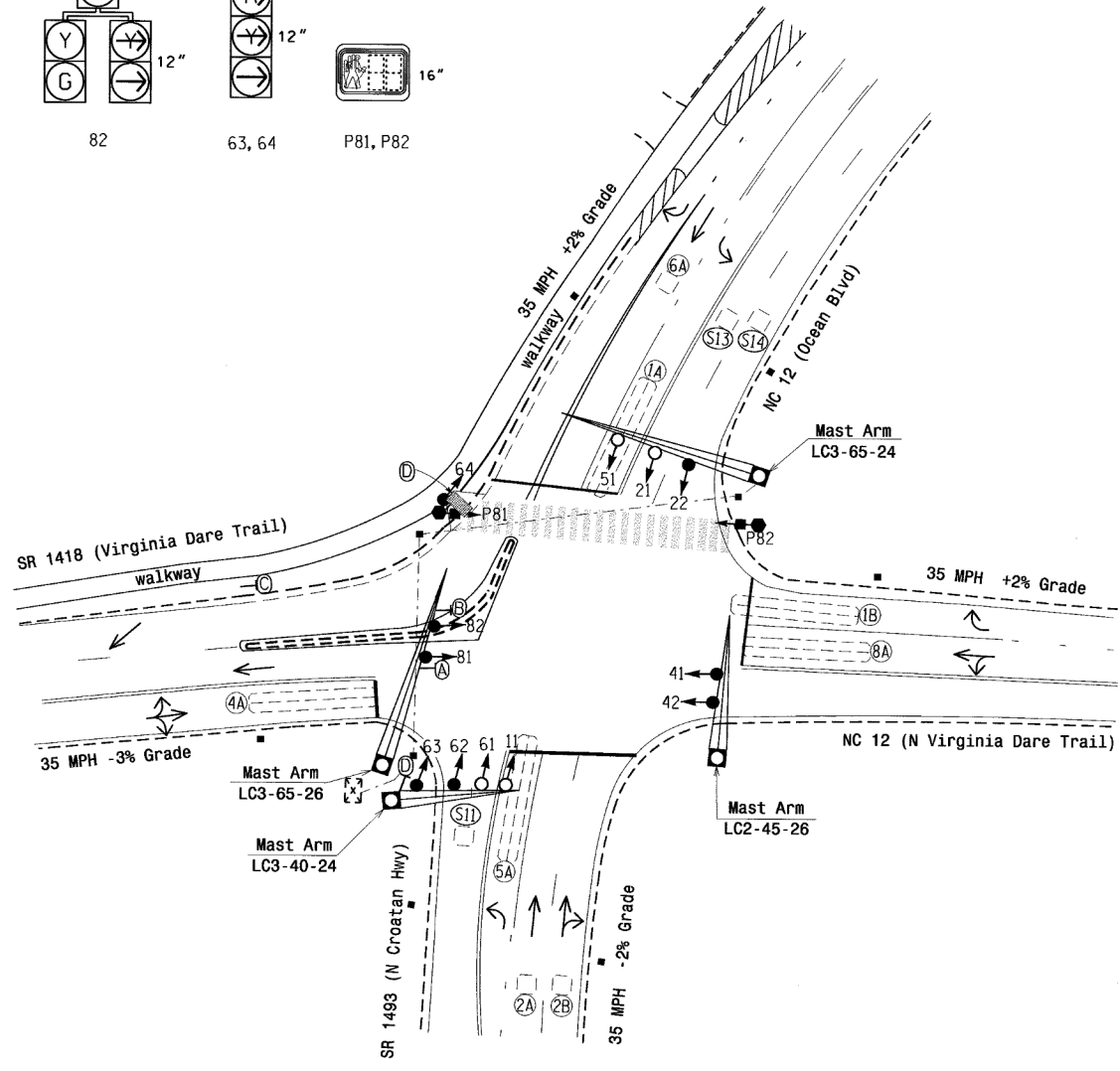
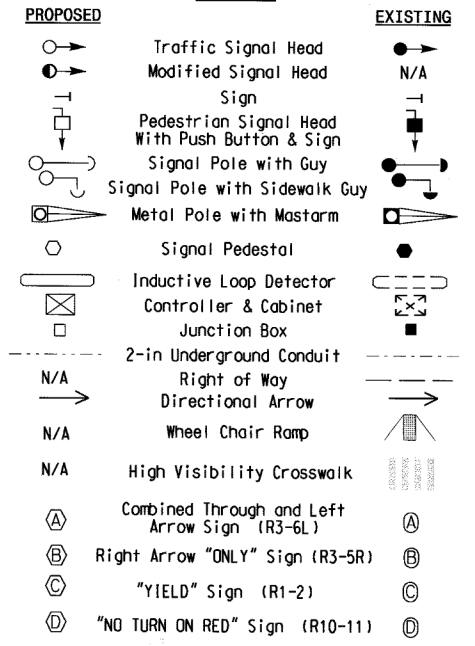
OASIS 2070L LOOP & DETECTOR INSTALLATION CHART

LOOP	SIZE (FT)	DISTANCE FROM STOPBAR (FT)	TURNS	NEW LOOP	DETECTOR PROGRAMMING				STRETCH TIME	DELAY TIME	SYSTEM LOOP	NEW CARD
					PHASE	CALLING	EXTENSION	FULL TIME DELAY				
1A	6X40	0	2-4-2	-	1	Y	Y	-	-	15	-	-
1B	6X40	+5	2-4-2	-	1	Y	Y	-	-	15	-	-
2A,2B	6X6	70	3	-	2	Y	Y	-	-	-	-	-
4A	6X40	0	2-4-2	-	4	Y	Y	-	-	5	-	-
5A	6X40	+5	2-4-2	-	5	Y	Y	-	-	15	-	-
6A	6X6	70	3	-	6	Y	Y	-	-	-	-	-
8A	6X40	0	2-4-2	-	8	Y	Y	-	-	3	-	-
S11	6X6	+115	3	-	-	-	-	-	-	-	Y	-
S13	6X6	+150	3	-	-	-	-	-	-	-	Y	-
S14	6X6	+150	3	-	-	-	-	-	-	-	Y	-

5 Phase Fully Actuated US 158 (Croatan Hwy) North/NC 12 CLS
NOTES

- Refer to "Roadway Standard Drawings NCDOT" dated January 2012 and "Standard Specifications for Roads and Structures" dated January 2012.
- Do not program signal for late night flashing operation unless otherwise directed by the Engineer.
- Disable Backup Protect for phase 2 and 6.
- Phase 1 and/or phase 5 may be lagged.
- Reposition existing signal heads numbered 22 and 62.
- Set all detector units to presence mode.
- Omit "WALK" and flashing "DON'T WALK" with no pedestrian calls.
- Program pedestrian heads to countdown the flashing "Don't Walk" time only.
- Maximum times shown in timing chart are for free-run operation only. Coordinated signal system timing values supersede these values.
- Closed loop system data: Controller Asset #0718.

LEGEND



OASIS 2070L TIMING CHART

FEATURE	PHASE					
	1	2	4	5	6	8
Min Green 1*	7	10	7	7	10	7
Extension 1*	1.0	3.0	1.0	1.0	3.0	1.0
Max Green 1*	15	70	15	15	70	15
Yellow Clearance	3.0	4.0	4.1	3.0	4.0	3.7
Red Clearance	2.1	1.7	1.8	2.1	1.7	2.1
Walk 1*	-	-	-	-	-	7
Don't Walk 1	-	-	-	-	-	22
Seconds Per Actuation*	-	-	-	-	-	-
Max Variable Initial*	-	-	-	-	-	-
Time Before Reduction*	-	-	-	-	-	-
Time To Reduce*	-	-	-	-	-	-
Minimum Gap	-	-	-	-	-	-
Recall Mode	-	MIN RECALL	-	-	MIN RECALL	-
Vehicle Call Memory	-	YELLOW	-	-	YELLOW	-
Dual Entry	-	-	ON	-	-	ON
Simultaneous Gap	ON	ON	ON	ON	ON	ON

* These values may be field adjusted. Do not adjust Min Green and Extension times for phases 2 and 6 lower than what is shown. Min Green for all other phases should not be lower than 4 seconds.

Signal Upgrade/ Corr. File No. 01-12-18788

Prepared in the Offices of:
 Transportation Mobility and Safety Division
 NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
 Signal Design Section

NC 12 (Ocean Blvd)/
 SR 1493 (N Croatan Hwy)
 at
 NC 12 (N Virginia Dare Trail)/
 SR 1418 (Virginia Dare Trail)
 Dare County Kitty Hawk

PLAN DATE: August 2012 REVIEWED BY: PL Alexander, PE
 PREPARED BY: EM Minshew REVIEWED BY:

750 N. Greenfield Pkwy, Garner, NC 27529

SCALE: 0 30
 1" = 30'

SIGNATURE: [Signature] DATE: 9/27/12
 SIG. INVENTORY NO. 01-0718

27-SEP-2012 09:21 S:\IT\ASUM\15\SIGNAL\01-12-18788\01-12-18788.dwg

5 Phase Fully Actuated (Southern Shores CLS)

PHASING DIAGRAM

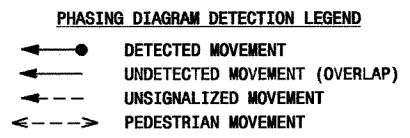
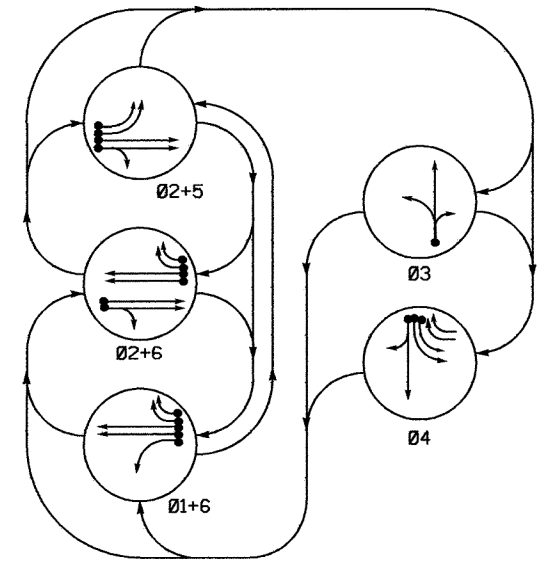
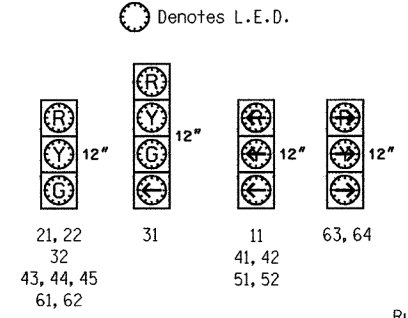


TABLE OF OPERATION

SIGNAL FACE	PHASE					
	Ø 1 + 6	Ø 2 + 6	Ø 2 + 5	Ø 3	Ø 4	F Pedestrian
11	→	→	→	→	→	→
21, 22	R	G	G	R	R	Y
31	R	R	R	G	R	R
32	R	R	R	G	R	R
41, 42	→	→	→	→	→	→
43, 44, 45	R	R	R	R	G	R
51, 52	→	→	→	→	→	→
61, 62	G	G	R	R	R	Y
63, 64	→	→	→	→	→	→

SIGNAL FACE I.D.



2070L LOOP & DETECTOR INSTALLATION

LOOP	SIZE (FT)	TURNS	DISTANCE FROM STOPBAR (FT)	NEW LOOP	DETECTOR PROGRAMMING						
					PHASE	CALLING	EXTENSION	FULL TIME DELAY	STRETCH TIME	DELAY TIME	NEW CARD
1A	6x60	2-4-2	+5	-	1	Y	Y	-	-	-	Y
* 2A	6x6	Existing	355	-	2	Y	Y	-	-	-	Y
* 2B	6x6	Existing	355	-	2	Y	Y	-	-	-	Y
3A	6x40	2-4-2	+5	Y	3	Y	Y	-	-	10	Y
4A	6x60	2-4-2	+5	Y	4	Y	Y	-	-	3	Y
4B	6x60	2-4-2	+5	Y	4	Y	Y	-	-	-	Y
4C	6x60	2-4-2	+5	Y	4	Y	Y	-	-	10	Y
5A	6x60	2-4-2	+5	-	5	Y	Y	-	-	-	Y
5B	6x60	2-4-2	+5	-	5	Y	Y	-	-	-	Y
* 6A	6x6	Existing	355	-	6	Y	Y	-	-	-	Y
* 6B	6x6	Existing	355	-	6	Y	Y	-	-	-	Y
* 6C	6x6	Existing	355	-	6	Y	Y	-	-	-	Y
* 6D	6x6	Existing	355	-	6	Y	Y	-	-	-	Y

* See note 9.

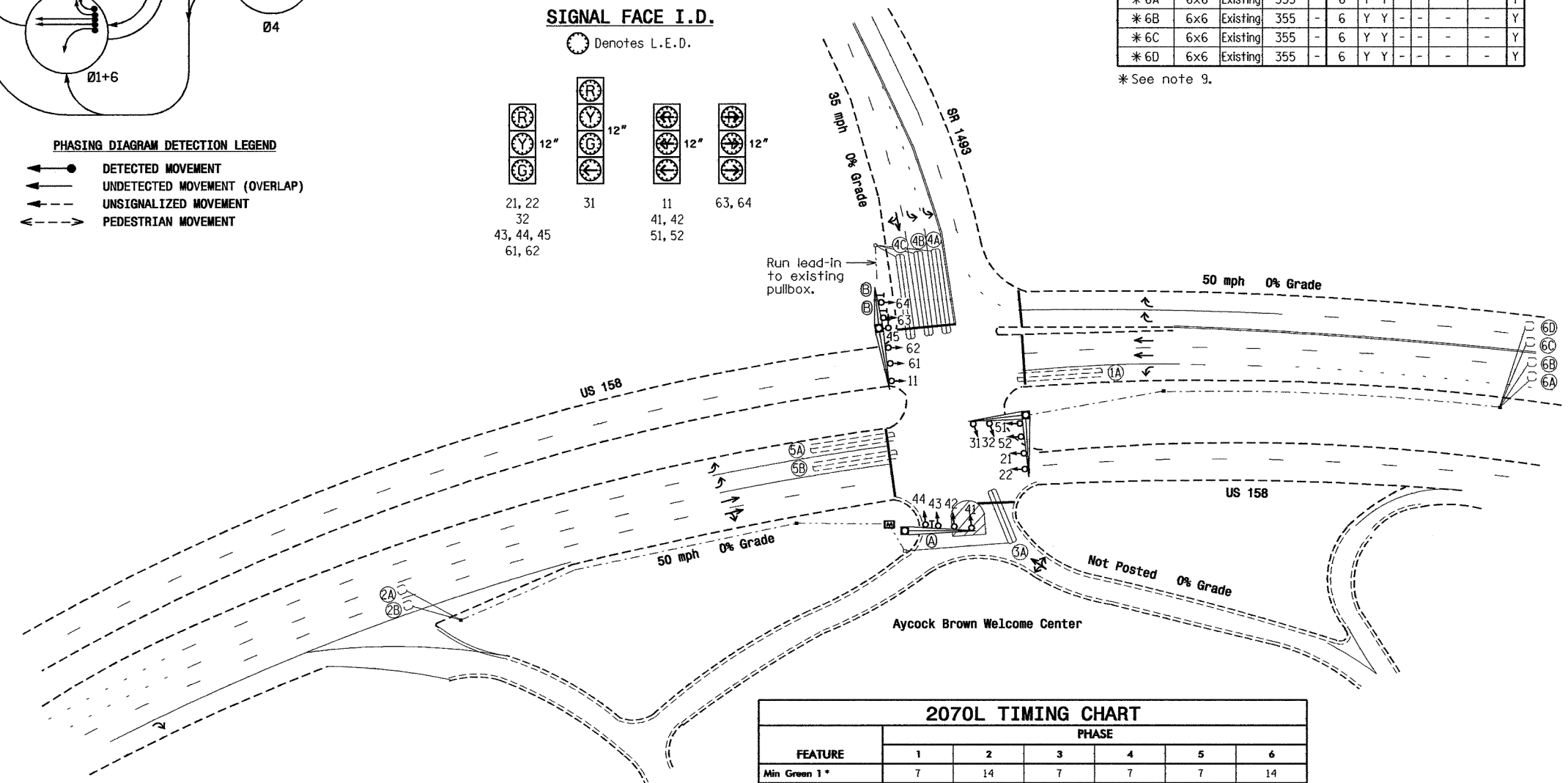
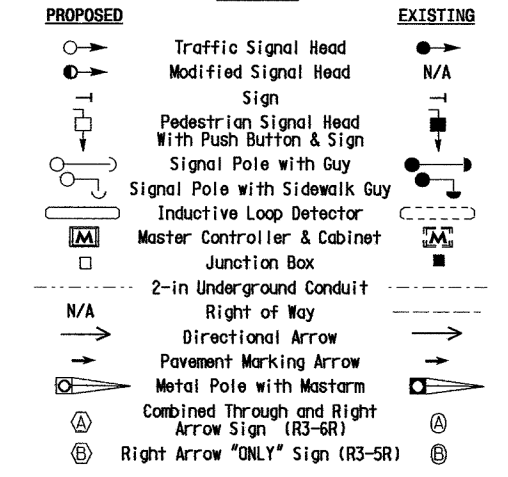
NOTES

- Refer to "Roadway Standard Drawings NCDOT" dated January 2002 and "Standard Specifications for Roads and Structures" dated January 2002.
- Pavement markings are existing.
- Do not program signal for late night flashing operation unless otherwise directed by the Engineer.
- Maximum times shown in timing chart are for free-run operation only. Coordinated signal system timing values shall supersede these values.
- During coordination, the order of phase 1 and phase 5 may be reversed.
- During coordination, the order of phase 3 and phase 4 may be reversed.
- Remove existing "Left Turn Signal" sign-(R10-10L).
- Set all detector units to presence mode.
- Run new lead-in cable to each of the following existing loops: 2A, 2B, 6A, 6B, 6C, and 6D. Wire these loops on separate detectors.
- Closed loop system data: Master Asset 10106, Controller Asset 0316.

PLAN QUANTITIES

Pay Item	Feet
Signal Cable	250
Messenger Cable	-
Lead-in Cable	1860

LEGEND



2070L TIMING CHART

FEATURE	PHASE					
	1	2	3	4	5	6
Min Green 1 *	7	14	7	7	7	14
Extension 1 *	1.0	8.0	2.0	1.0	1.0	6.0
Max Green 1 *	20	120	30	40	120	90
Yellow Clearance	4.0	4.7	4.0	4.0	4.0	4.7
Red Clearance	3.0	2.5	2.8	3.1	3.0	2.5
Walk 1 *	-	-	-	-	-	-
Don't Walk 1	-	-	-	-	-	-
Seconds Per Actuation *	-	1.5	-	-	-	1.5
Max Variable Initial *	-	40	-	-	-	40
Time Before Reduction *	-	20	-	-	-	15
Time To Reduction *	-	40	-	-	-	30
Minimum Gap	-	3.0	-	-	-	3.0
Recall Mode	-	MIN RECALL	-	-	-	MIN RECALL
Vehicle Call Memory	-	YELLOW	-	-	-	YELLOW
Dual Entry	-	-	-	-	-	-
Simultaneous Gap	ON	ON	ON	ON	ON	ON

* These values may be field adjusted. Do not adjust Min Green and Extension times for phases 2 and 6 lower than what is shown. Min Green for all other phases should not be lower than 4 seconds.

Signal Upgrade

Prepared in the Office of: **TP1000362**

US 158 at SR 1493 / Welcome Center

Division 01 Dare County Kitty Hawk
 PLAN DATE: September 2003 REVIEWED BY: S.I. Franklin
 PREPARED BY: L. A. Elliott REVIEWED BY:

122 N. McDowell St., Raleigh, NC 27603

SCALE: 0 50 1"=50'

SIGNATURE: [Signature] DATE: 1/30/04
 SIG. INVENTORY NO. 01-0316