

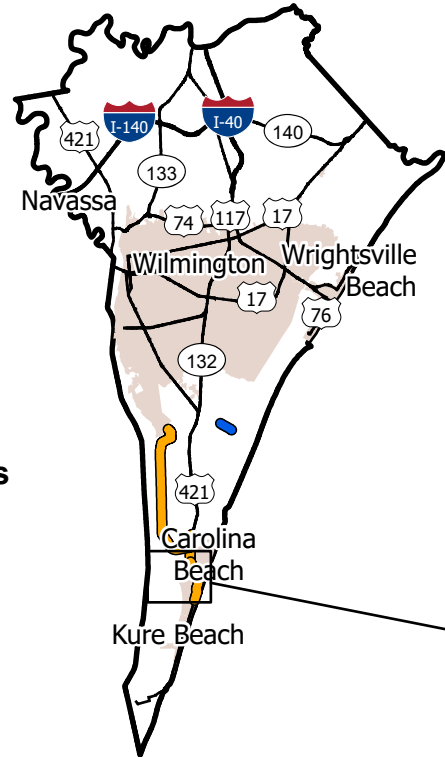
WBS NO: 2025CPT.03.05.10651, ETC.

CONTRACT: DC00457

**STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS
NEW HANOVER COUNTY**

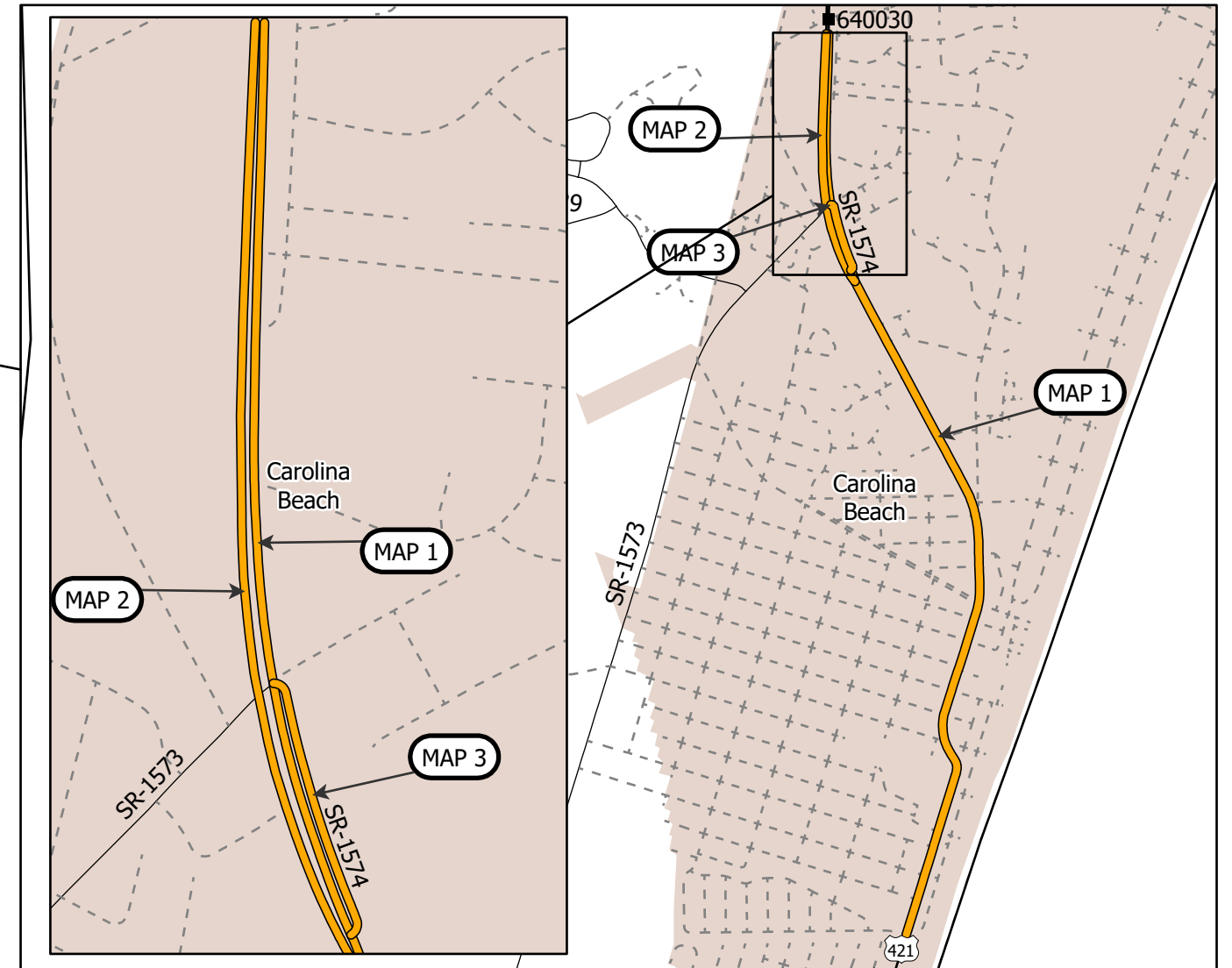
TYPE OF WORK: RESURFACING & PRESERVATION

STATE	STATE PROJECT REFERENCE NUMBER	SHEET NO.
NC	2025CPT.03.05.10651, ETC.	1
STATE PROJECT NUMBER		DESCRIPTION



- Preservation
- Resurfacing
- Division 3 Bridges

MAP	ROUTE	Description	TYPE
1	US-421 (LAKE PARK BLVD)	FROM CAROLINA SANDS DRIVE (NS) TO BRIDGE #30 (OVER THE ICWW) [MP 5.56 - MP 7.70]	Resurfacing
2	US-421 S (LAKE PARK BLVD SBL)	FROM BRIDGE #30 (OVER ICWW) TO SR 1574 [MP 21.81 -MP 22.38]	Resurfacing
3	SR 1574 (SERVICE ROAD)	FROM US HWY 421 (LAKE PARK BLVD.) TO SR 1573 (DOW RD.) [MP 0.00 - MP 0.16]	Resurfacing



PROJECT LENGTH

MAP	MILES
1	2.14
2	0.57
3	0.16

Prepared in the Office of:
DIVISION OF HIGHWAYS
5501 BARBADOS BLVD., CASTLE HAYNE, NC, 28429

This exhibit does not meet NC 47-30 requirements and therefore is not intended for design, construction, or recording or transfer of title.



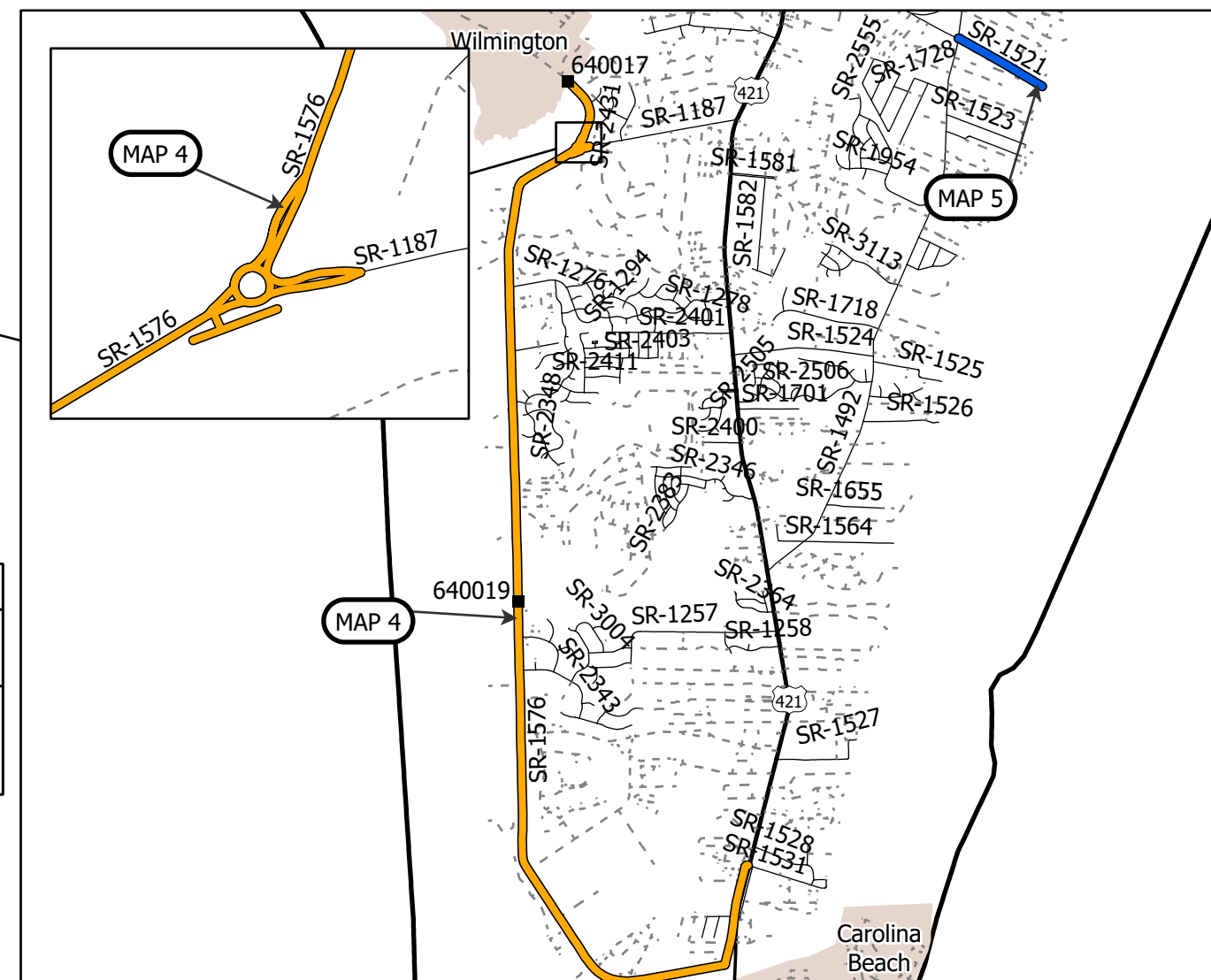
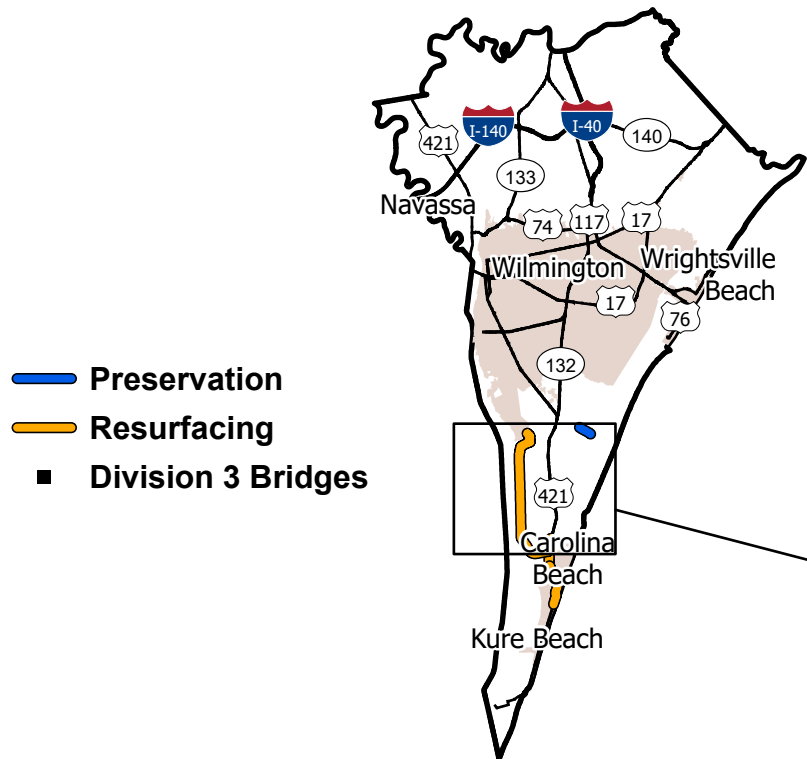
WBS NO: 2025CPT.03.05.10651, ETC.

CONTRACT: DC00457

STATE OF NORTH CAROLINA
 DIVISION OF HIGHWAYS
NEW HANOVER COUNTY

TYPE OF WORK: RESURFACING & PRESERVATION

STATE	STATE PROJECT REFERENCE NUMBER	SHEET NO.
NC	2025CPT.03.05.10651, ETC.	2
STATE PROJECT NUMBER		DESCRIPTION



MAP	ROUTE	Description	TYPE
4	SR-1576 (RIVER RD)	FROM US HWY 421 (CAROLINA BEACH ROAD) TO END OF STATE MAINTENANCE [MP 0.03 - MP 6.75]	Resurfacing
5	SR-1521 (PEDEN POINT RD)	FROM SR 1492 (MYRTLE GROVE ROAD) TO DEAD END [MP 1.05 - MP 1.61]	Preservation

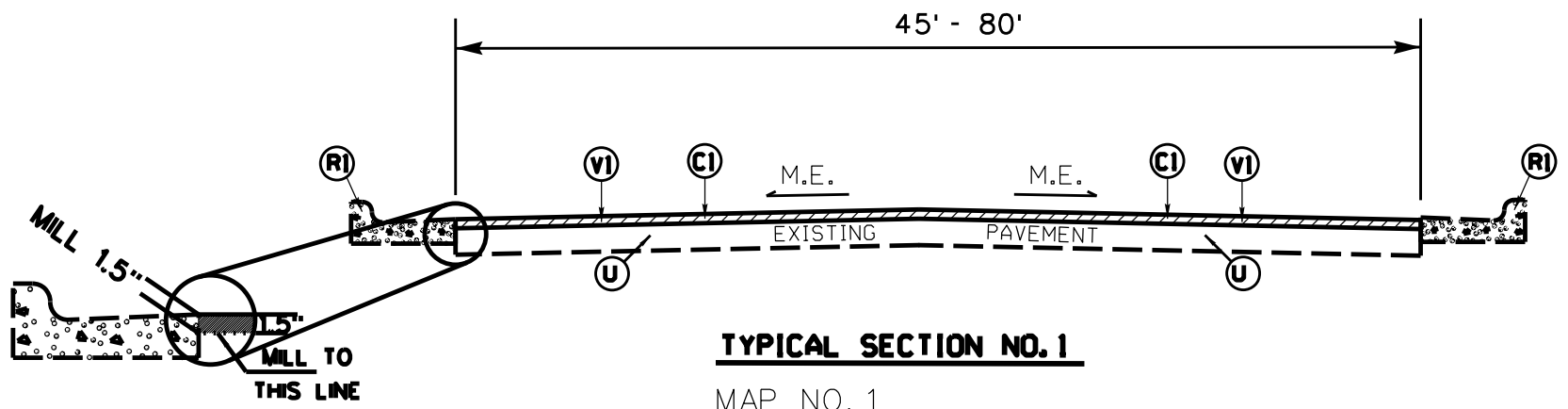
PROJECT LENGTH

MAP	MILES
4	6.72
5	0.56

Prepared in the Office of:
DIVISION OF HIGHWAYS
 5501 BARBADOS BLVD., CASTLE HAYNE, NC, 28429

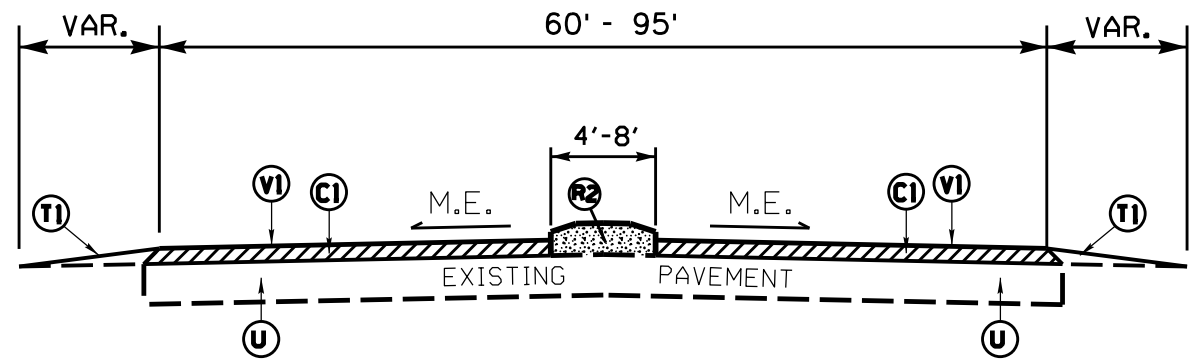
This exhibit does not meet NC 47-30 requirements and therefore is not intended for design, construction, or recording or transfer of title.





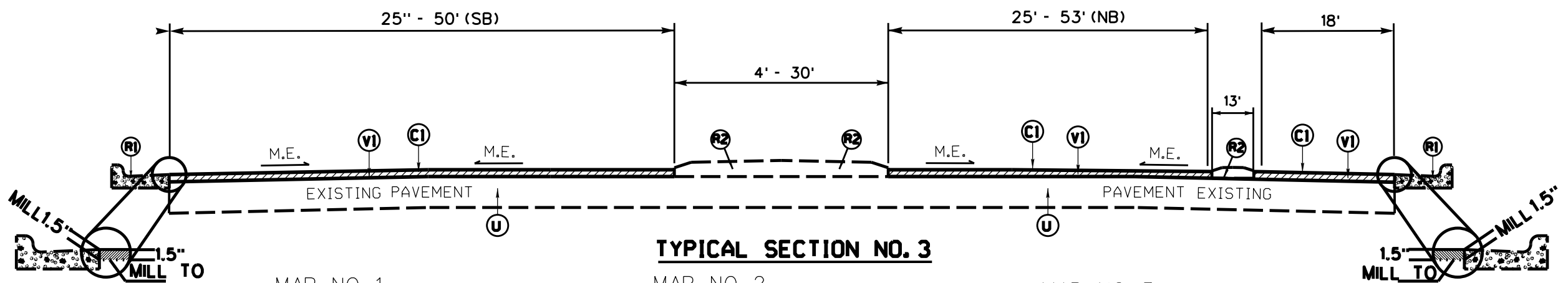
TYPICAL SECTION NO. 1

MAP NO. 1
 US HWY 421 (LAKE PARK BLVD.)
 MP 5.56 - MP 7.14



TYPICAL SECTION NO. 2

MAP NO. 1 US HWY 421 (LAKE PARK BLVD.) MP 7.31 - MP 7.70
 MAP NO. 2 US HWY 421 (LAKE PARK BLVD.) MP 21.81 - MP 22.32



TYPICAL SECTION NO. 3

MAP NO. 1 US HWY 421 (LAKE PARK BLVD.) MP 7.14 - MP 7.31
 MAP NO. 2 US HWY 421 (LAKE PARK BLVD.) MP 22.32 - MP 22.38
 MAP NO. 3 SR 1574 (SERVICE RD.) MP 0.00 - MP 0.16

PAVEMENT SCHEDULE	
C1	PROP. APPROX. 1 1/2" DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ.YD.
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.
R1	EXISTING CONCRETE 2'6" CURB AND GUTTER
R2	EXISTING MONOLITHIC ISLAND
V1	1 1/2" MILLING
T1	EARTH MATERIAL (SHOULDER RECONSTRUCTION)
U	EXISTING PAVEMENT

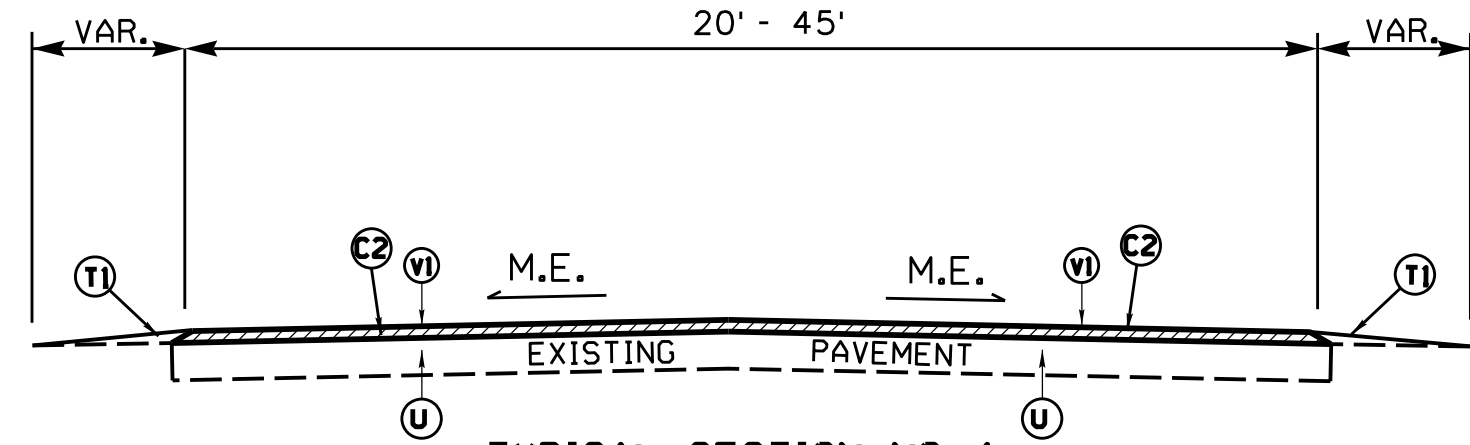
NOTES: MILL A SINGLE LANE AND PAVE BACK BY THE END OF EACH WORK DAY.
 SHOULDER WORK ON MAP NO. 1 AND 4 AS NEEDED, TO BE DETERMINED BY ENGINEER.

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

REVISIONS

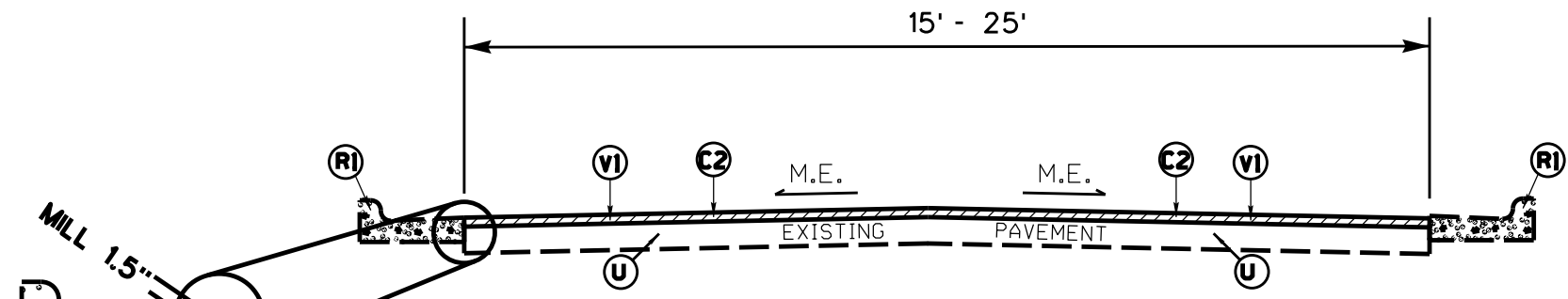
8/17/99

SYSTEM TIME 8/17/99 10:00 AM



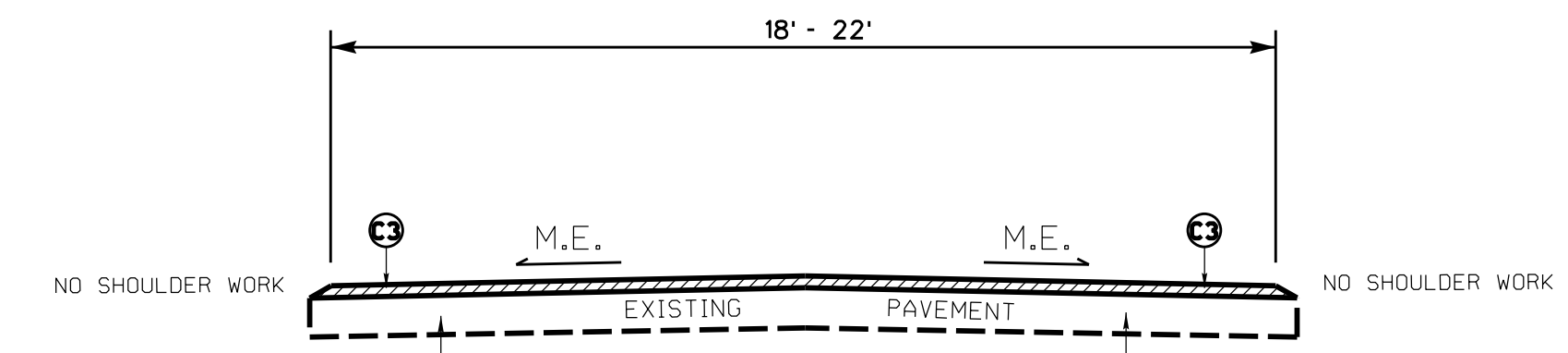
TYPICAL SECTION NO. 4

MAP NO. 4
SR 1576 (RIVER RD.)
MP 0.03 - MP 6.75



TYPICAL SECTION NO. 5

MAP NO. 4 SR 1576 (RIVER RD.) NE MP 6.31 - MP 6.39
MAP NO. 4 SR 1576 (RIVER RD.) SW MP 0.40 - MP 0.46



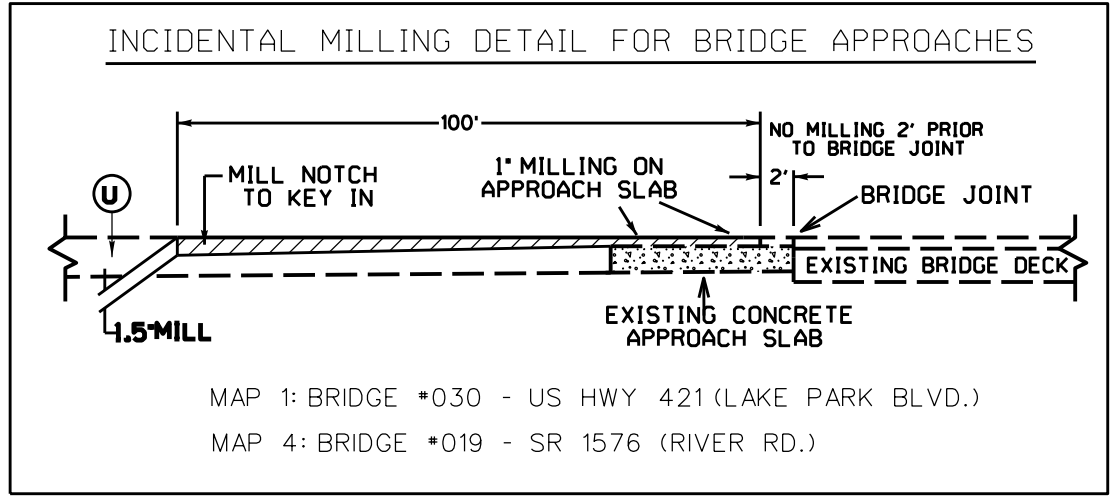
TYPICAL SECTION NO. 6

MAP NO. 5
SR 1521 (PEDEN POINT RD.)
MP 1.05 - MP 1.61

PAVEMENT SCHEDULE	
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.
R1	EXISTING CONCRETE 2'6" CURB AND GUTTER
V1	1 1/2" MILLING
T1	EARTH MATERIAL (SHOULDER RECONSTRUCTION)
U	EXISTING PAVEMENT

NOTES: MILL A SINGLE LANE AND PAVE BACK BY THE END OF EACH WORK DAY.
SHOULDER WORK ON MAP NO. 1 AND 4 AS NEEDED, TO BE DETERMINED BY ENGINEER.
MAP NO. 4 - TYPICAL SECTION NO. 5 PAVE UP TO EXISTING JOINT ON SR 1187 (SANDERS RD.)

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



MAP 1: BRIDGE #030 - US HWY 421 (LAKE PARK BLVD.)
MAP 4: BRIDGE #019 - SR 1576 (RIVER RD.)

2024 ROADWAY ENGLISH STANDARD DRAWINGS

EFF.01-16-2024 REV.

The following Roadway Standards as appear in "Roadway Standard Drawings" Highway Design Branch - N.C. Department of Transportation - Raleigh, N.C., Dated January, 2024 are applicable to this project and by reference hereby are considered a part of these plans:

STD.NO.	TITLE
DIVISION 8 - INCIDENTALS	
846.01	Concrete Curb, Gutter and Curb & Gutter
852.01	Concrete Islands
DIVISION 12 - PVMT MARKING, MARKERS AND DELINEATION	
1205.08	Pavement Markings - Symbols & Word Messages

REVISIONS

8/17/99

SYSTEM TIME 8/17/99 10:00 AM

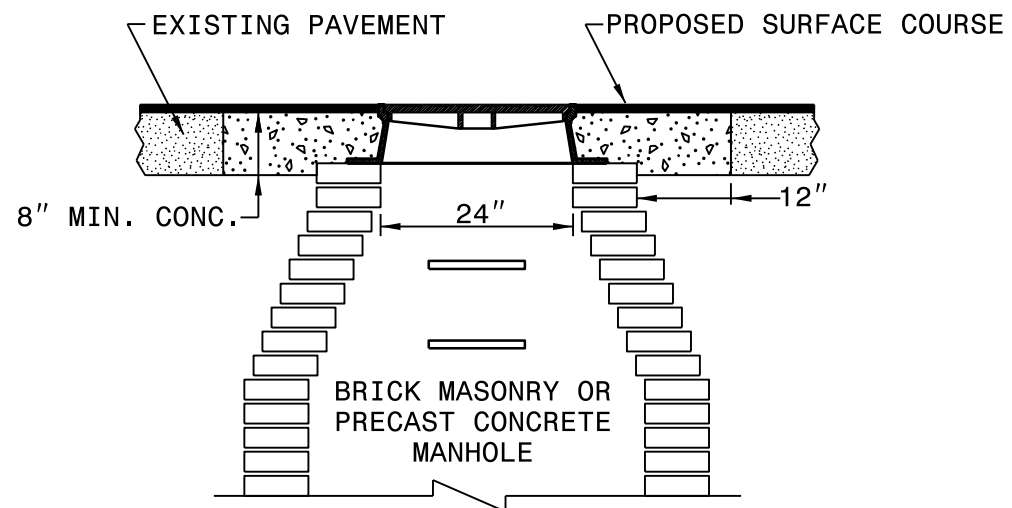
STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

ENGLISH DETAIL DRAWING FOR
MANHOLE AND VALVE BOX ADJUSTMENTS

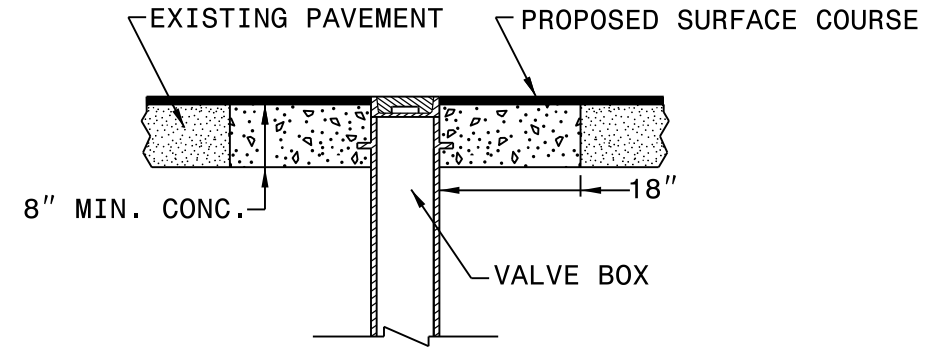
SHEET 1 OF 1
840D55

GENERAL NOTES:

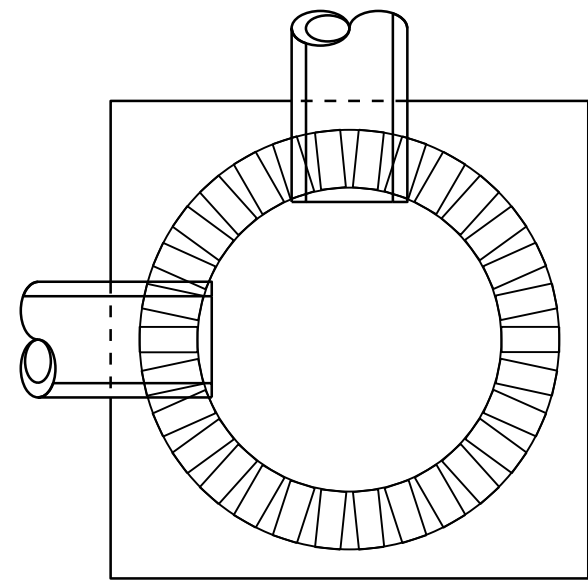
1. USE RAPID SET GROUT, MORTAR, OR CONCRETE THAT WILL TAKE FULL SET AND BECOME LOAD BEARING WITHIN SIXTY MINUTES OF PLACEMENT WITH A MINIMUM COMPRESSIVE STRENGTH OF 4000 PSI.
2. REMOVE ALL FAULTY EXISTING BRICKWORK AND REPLACE WITH NEW BRICK MASONRY.
3. SHEER CUT EXCAVATION FOR THE ADJUSTMENT ON ALL SIDES.
4. FILL AREA BELOW 8" DEPTH WITH 78M OR NO. 57 CLEAN STONE.
5. MIX MORTAR TO NCDOT SPECIFICATIONS.
6. MORTAR JOINTS $\frac{1}{2}$ " +/- $\frac{1}{8}$ "
7. CONSTRUCT AN ASPHALT RAMP IN ACCORDANCE WITH SECTION 858-3 OF THE 2018 STANDARD SPECIFICATIONS.



MANHOLE CONCRETE ENCASEMENT



VALVE BOX CONCRETE ENCASEMENT



ELEVATION VIEW

PLACE BRICK ACCORDING TO ELEVATION VIEW

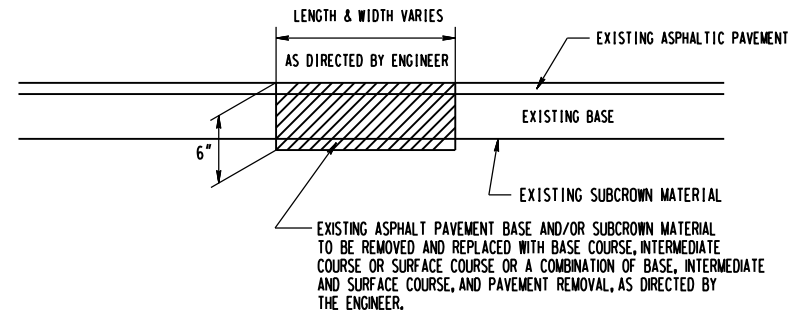
ENGLISH DETAIL DRAWING FOR
MANHOLE AND VALVE BOX ADJUSTMENTS

SHEET 1 OF 1
840D55

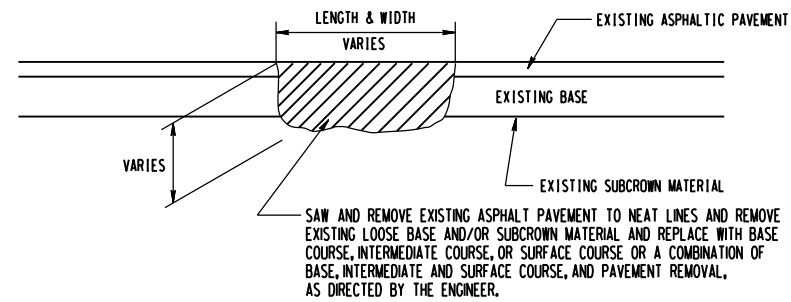
REVISIONS

28-NOV-2017 10:49
S:\Division Resurfacing\z Design Standards & CADD\CADD_Specs.Dwg\Tutorials_Curb, Etc.dwg
\$\$\$\$\$

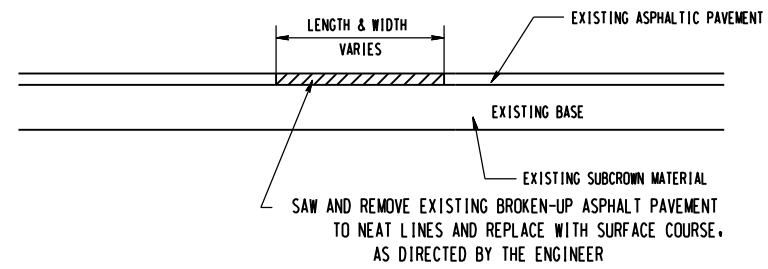
DETAILS OF REPAIRING EXISTING PAVEMENT PRIOR TO RESURFACING FOR FULL DEPTH AND MILLING



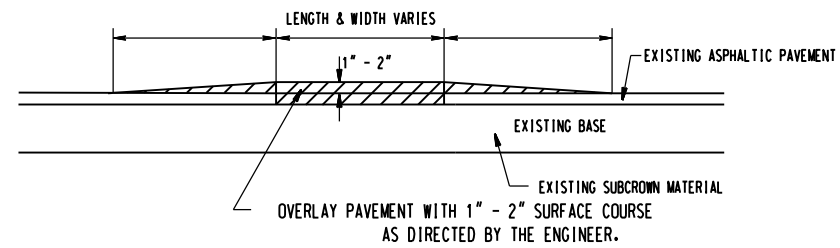
DETAIL NO. 1



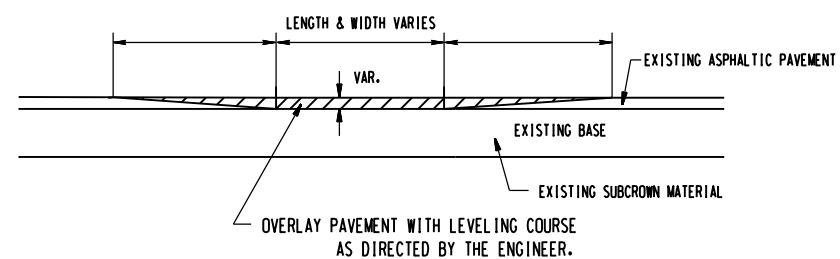
DETAIL NO. 2



DETAIL NO. 3



DETAIL NO. 4

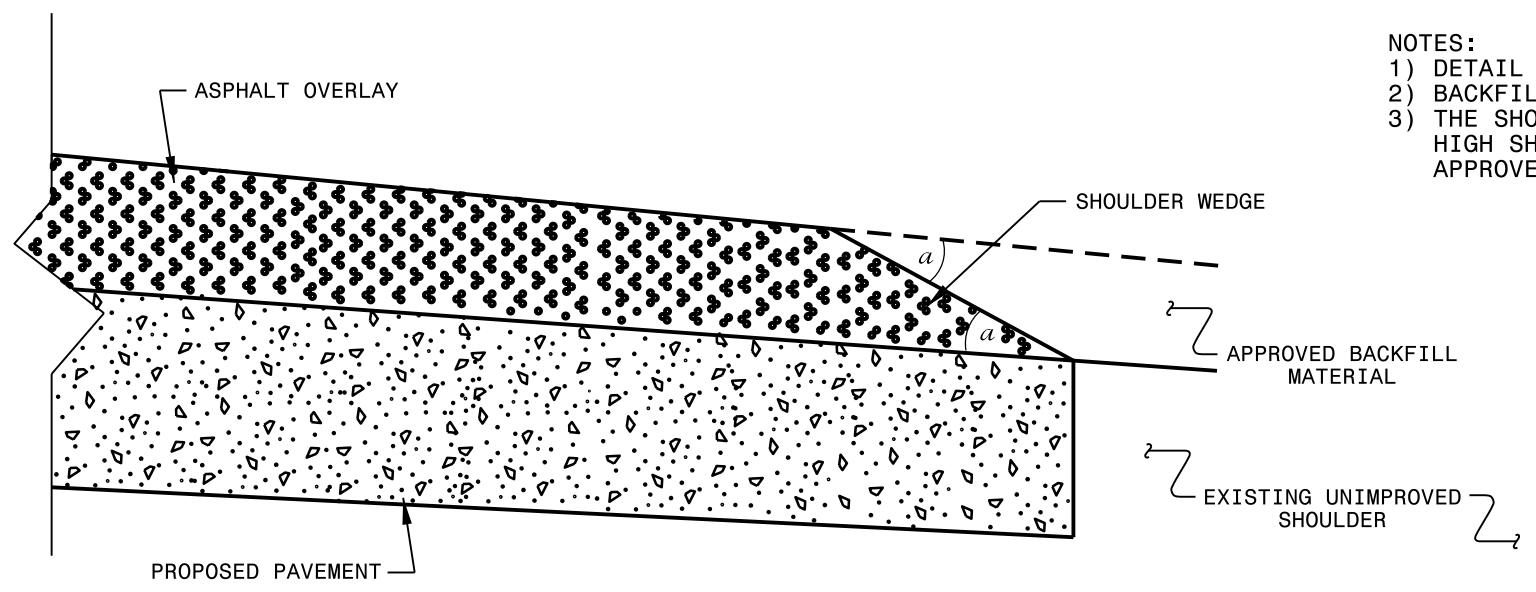


DETAIL NO. 5

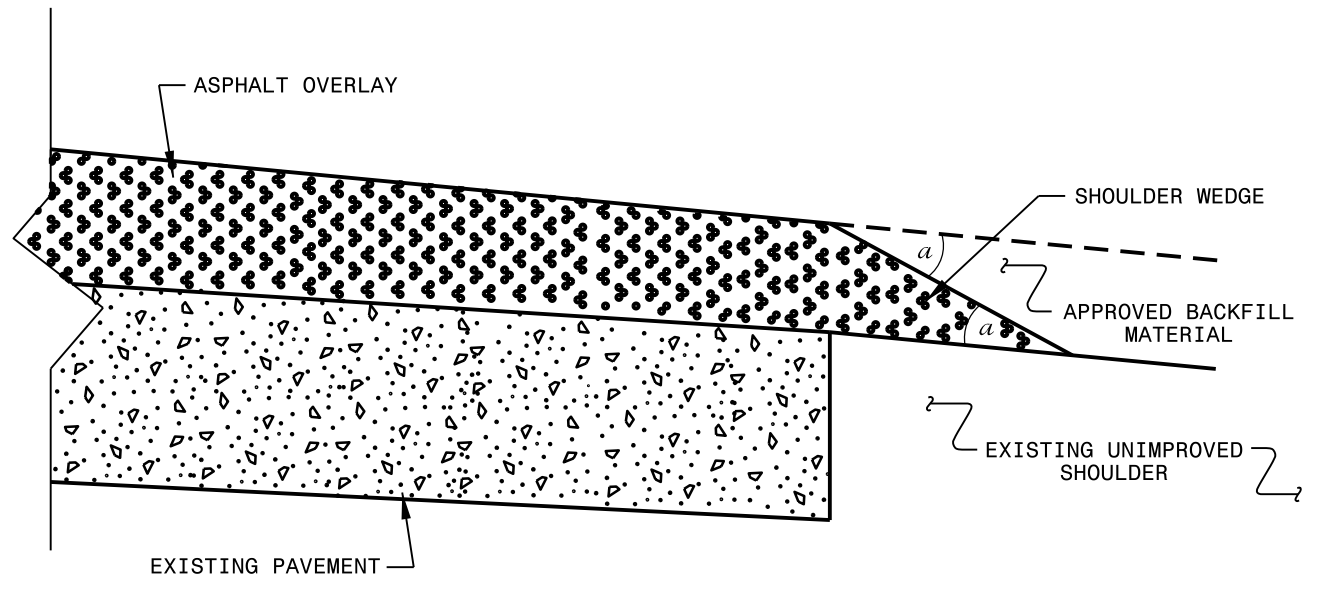
REVISIONS

20-APP-2015-1156
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 \$\$\$SUNRISE\$\$\$

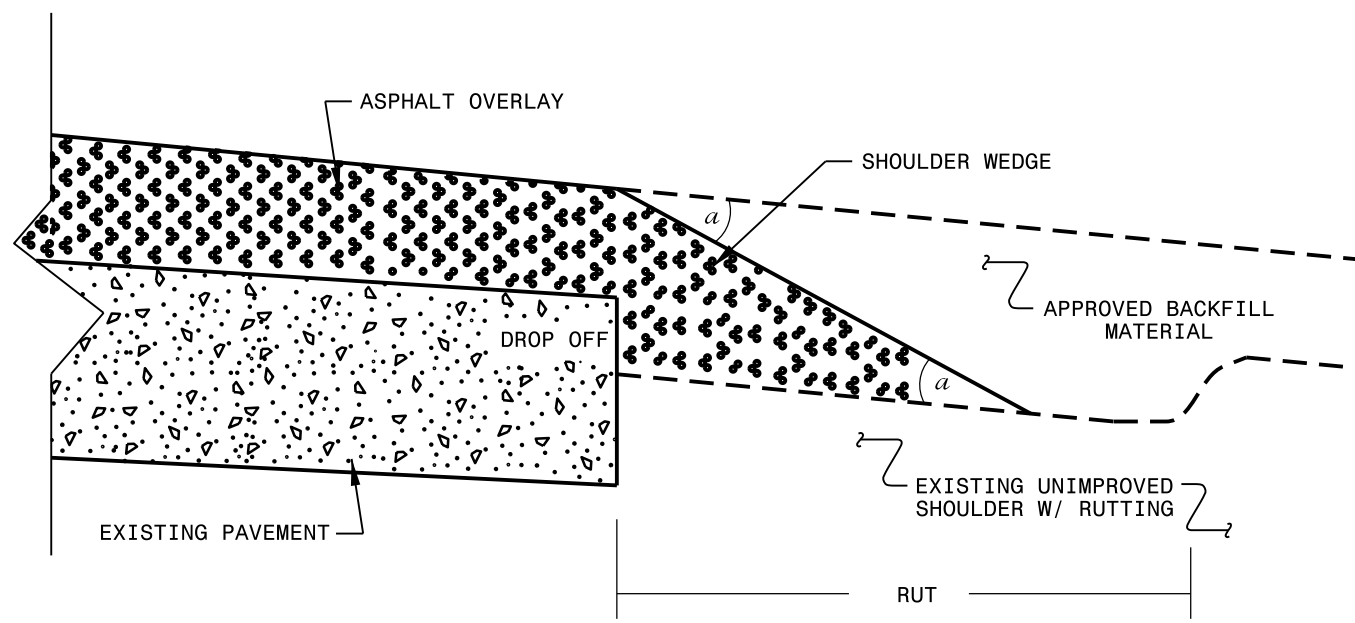
- NOTES:
- 1) DETAIL DOES NOT APPLY TO OGAFC AND ULTRA-THIN BONDED WEARING COURSE.
 - 2) BACKFILL SHOULDER WITH APPROVED MATERIAL.
 - 3) THE SHOULDER WEDGE DEVICE MAY BE DISENGAGED AT PAVED DRIVEWAYS, SIDE STREETS, HIGH SHOULDERS, AND OTHER LOCATIONS NOT FEASIBLE TO CONSTRUCT AS APPROVED BY THE ENGINEER.



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\A1\CS0\2025\2532

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

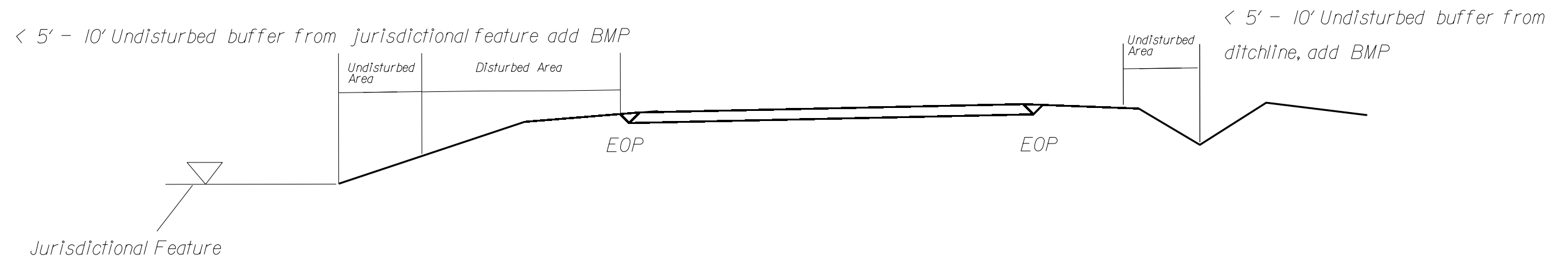
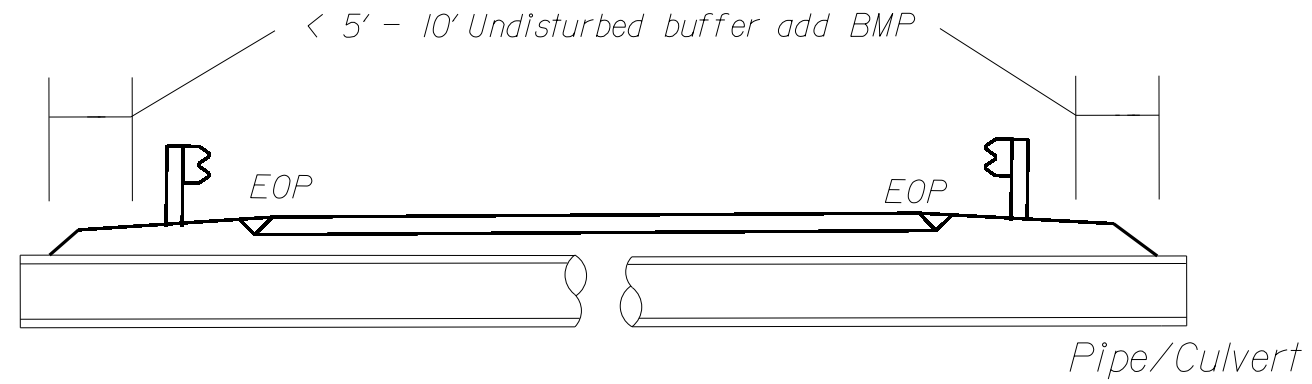
SOIL STABILIZATION TIMEFRAMES

<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

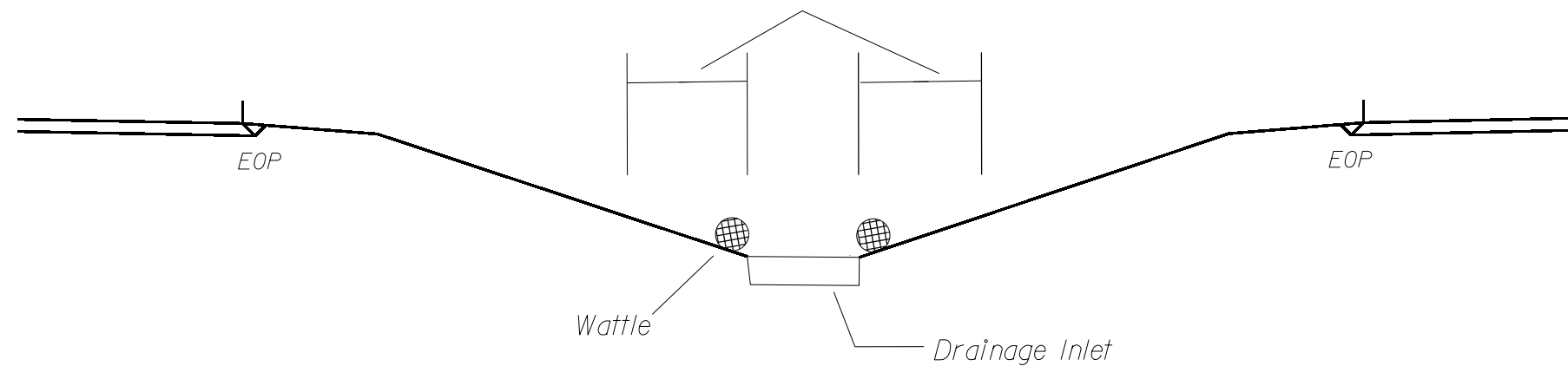
EROSION CONTROL DETAIL



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

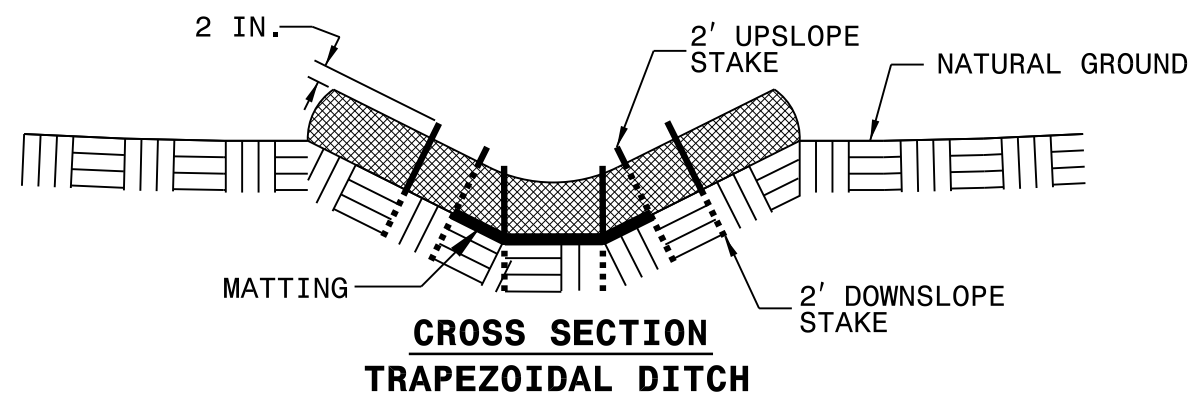
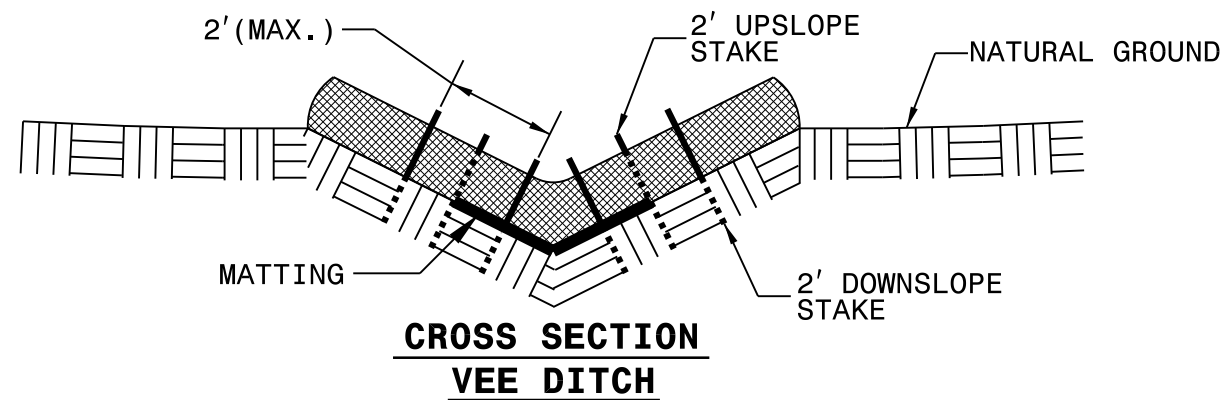
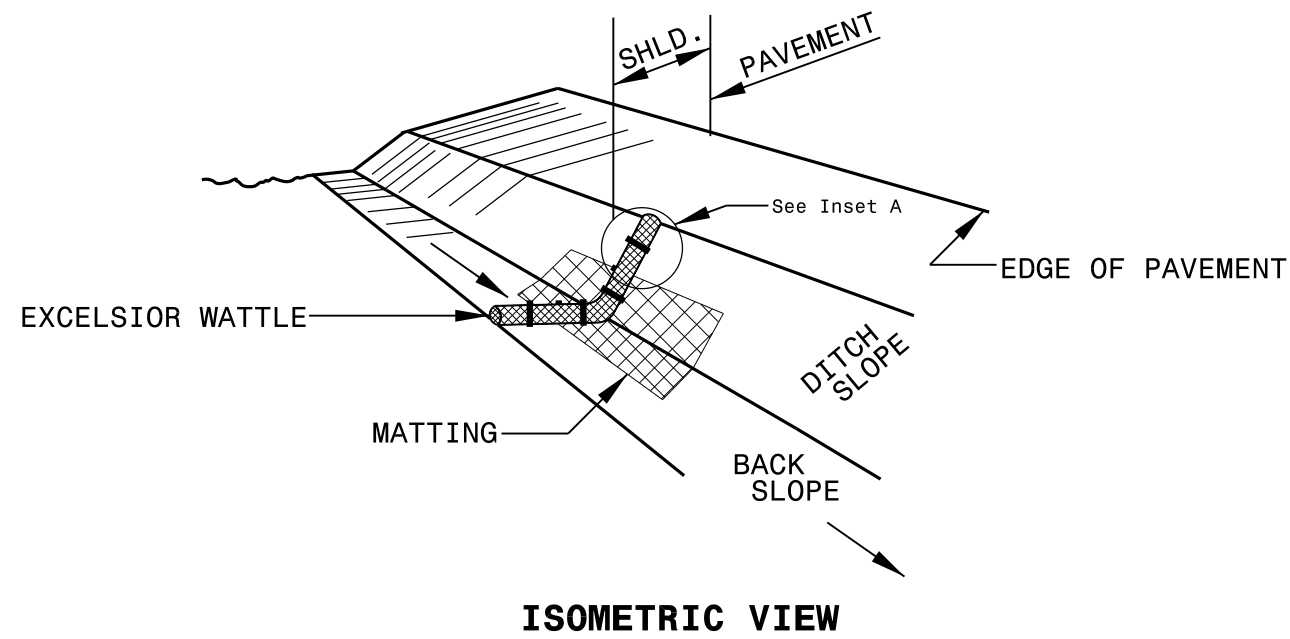


< 5' - 10' Undisturbed buffer from inlet, add wattle



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.

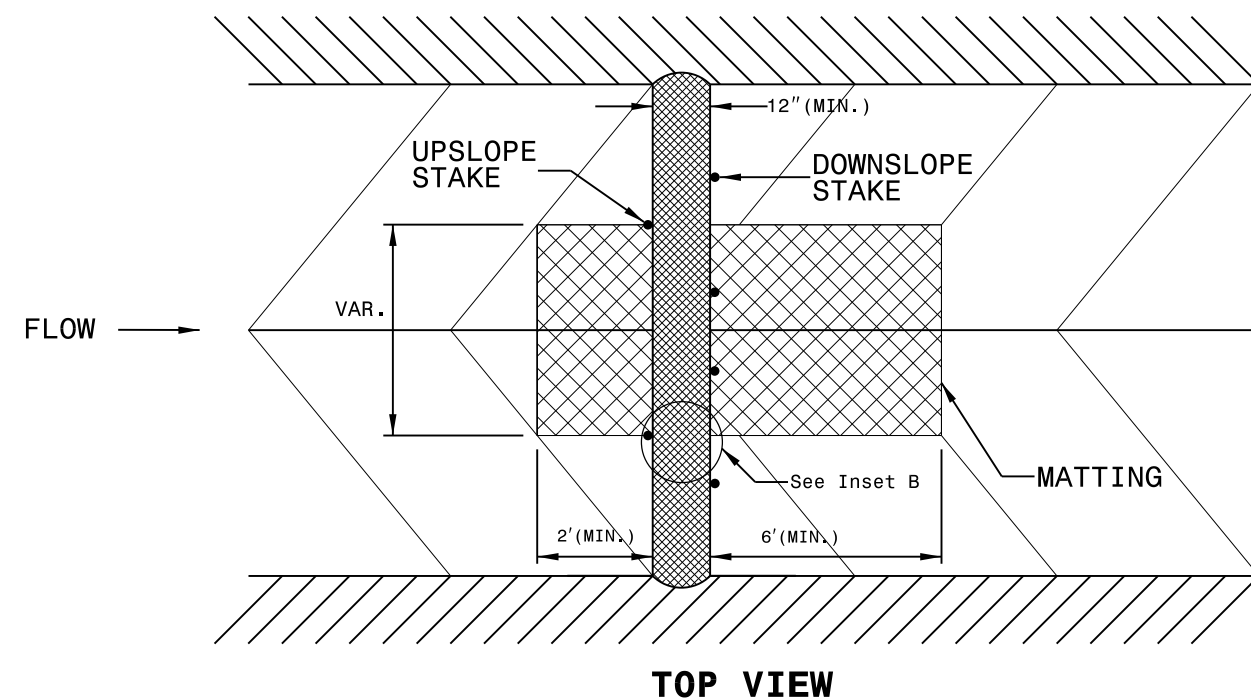
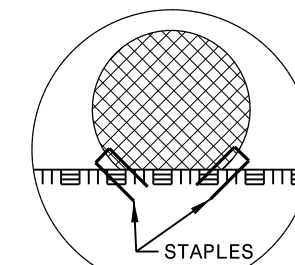
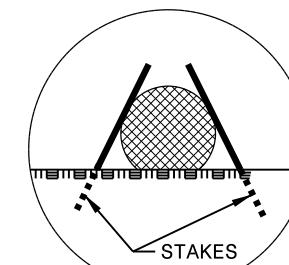
ONLY INSTALL WATTLE(S) TO A HEIGHT IN DITCH SO FLOW WILL NOT WASH AROUND WATTLE AND SCOUR DITCH SLOPES AND AS DIRECTED.

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.

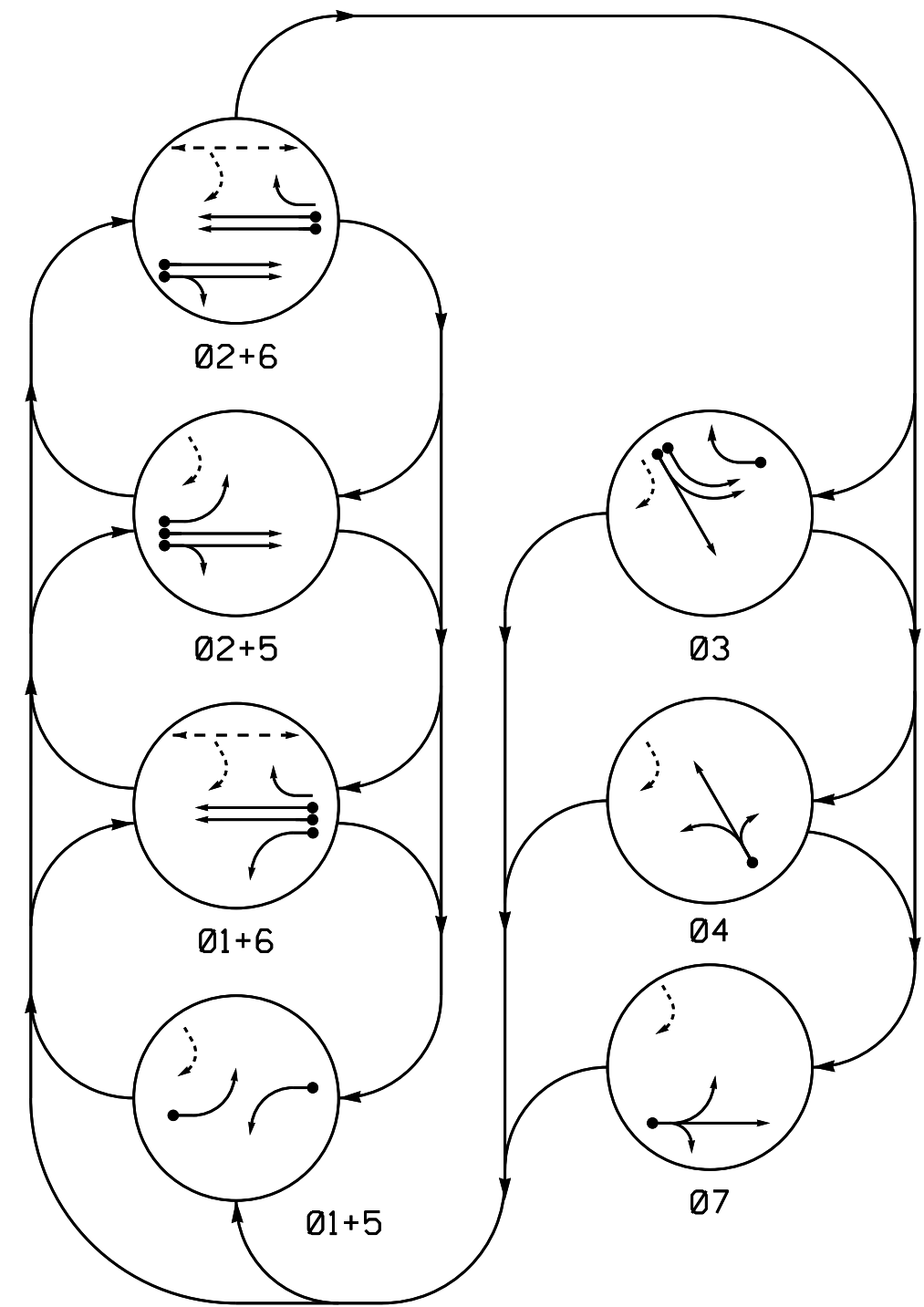
INSTALL STAPLES APPROXIMATELY EVERY 1 LINEAR FOOT ON BOTH SIDES OF WATTLE AND AT EACH END TO SECURE IT TO THE SOIL.

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



PROJECT REFERENCE NO.	SHEET NO.
N/A	SIG-1

PHASING DIAGRAM



PHASING DIAGRAM DETECTION LEGEND

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

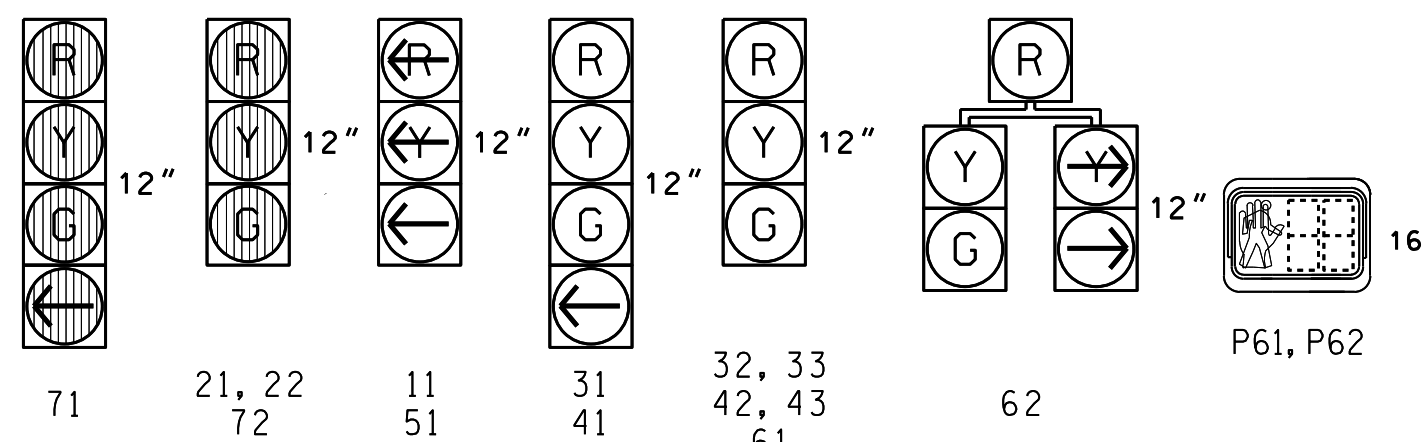
TABLE OF OPERATION

SIGNAL FACE	PHASE							F
	Ø 1 + 5	Ø 1 + 6	Ø 2 + 5	Ø 2 + 6	Ø 3	Ø 4	Ø 7	
11	-	-	R	R	R	R	R	R
21, 22	R	R	G	G	R	R	R	Y
31	R	R	R	R	G	R	R	R
32, 33	R	R	R	R	G	R	R	R
41	R	R	R	R	R	G	R	R
42, 43	R	R	R	R	R	G	R	R
51	-	R	-	R	R	R	R	R
61	R	G	R	G	R	R	R	Y
62	R	G	R	G	R	R	R	Y
71	R	R	R	R	R	G	R	R
72	R	R	R	R	R	R	G	R
P61, P62	DW	W	DW	W	DW	DW	DW	DRK

SIGNAL FACE I.D.

All Heads L.E.D.

Denotes Louvers

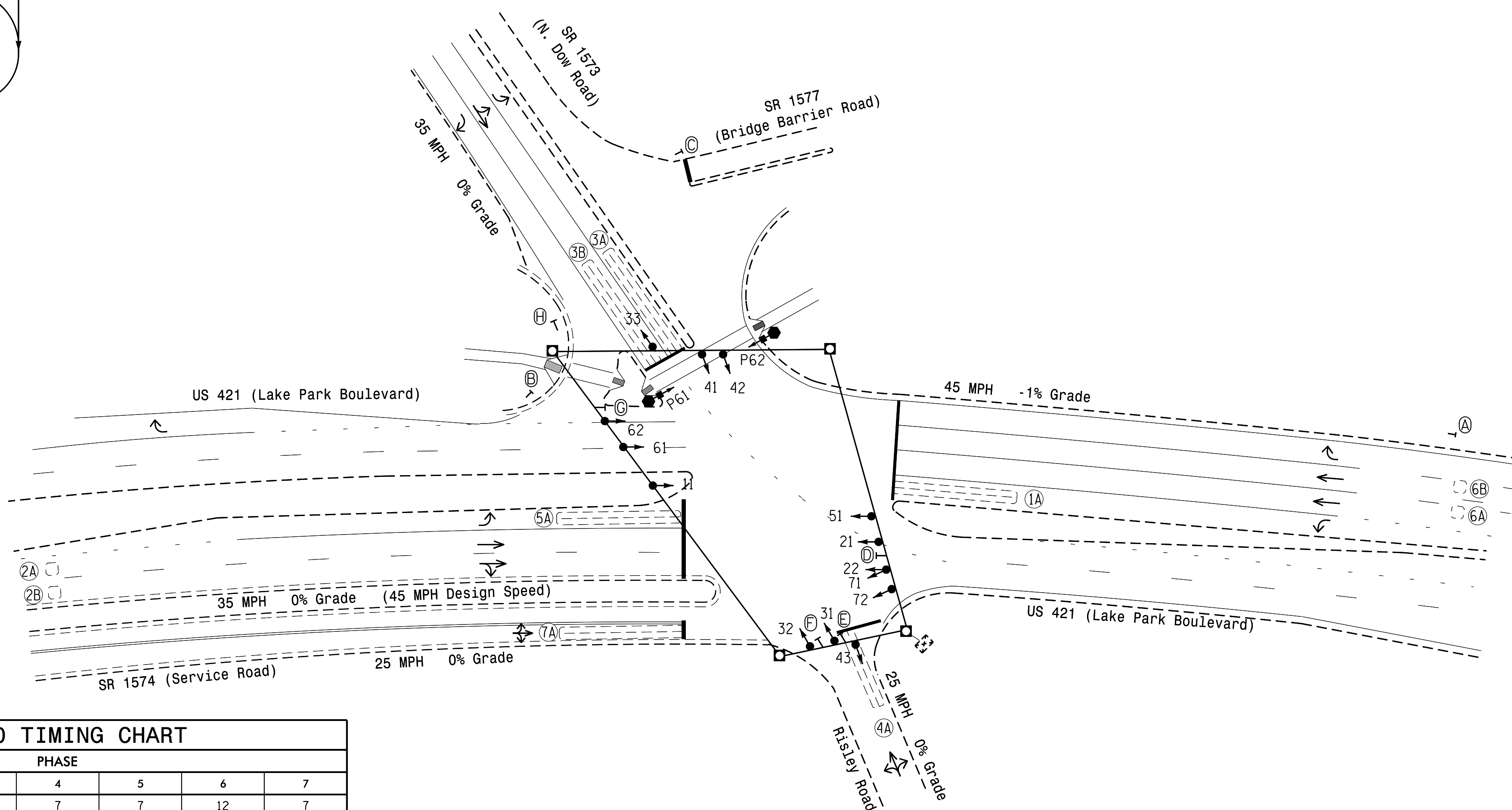


OASIS 2070 LOOP & DETECTOR INSTALLATION CHART

LOOP	INDUCTIVE LOOPS			DETECTOR PROGRAMMING					SYSTEM LOOP	NEW CARD
	SIZE (FT)	DISTANCE FROM STOPBAR (FT)	TURNS	PHASE	CALLING	EXTENSION	FULL TIME DELAY	STRETCH TIME		
1A	6X60	0	2-4-2	-	1	Y	Y	-	-	-
2A	6X6	300	5	-	2	Y	Y	-	-	-
2B	6X6	300	5	-	2	Y	Y	-	-	-
3A	6X60	+7	2-4-2	-	3	Y	Y	-	-	-
3B	6X60	+7	2-4-2	-	3	Y	Y	-	-	-
4A	6X40	0	2-4-2	-	4	Y	Y	-	-	-
5A	6X60	0	2-4-2	-	5	Y	Y	-	-	-
6A	6X6	300	5	-	6	Y	Y	-	-	-
6B	6X6	300	5	-	6	Y	Y	-	-	-
7A	6X60	0	2-4-2	-	7	Y	Y	-	5	-

7 Phase Fully Actuated US 421 (Carolina Beach) Closed Loop System 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.
- Phase 1 or phase 5 may be lagged.
- The order of phase 3, phase 4, and phase 7 may be switched.
- Program controller for quad sequential phasing (See Electrical Details).
- 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: #0941.



LEGEND

PROPOSED	EXISTING
	N/A
N/A	

OASIS 2070 TIMING CHART

FEATURE	PHASE						
	1	2	3	4	5	6	7
Min Green 1 *	7	12	7	7	7	12	7
Extension 1 *	1.0	6.0	1.5	1.0	1.0	6.0	1.0
Max Green 1 *	15	90	30	20	15	90	15
Yellow Clearance	3.0	4.5	3.8	3.2	3.0	4.6	3.2
Red Clearance	3.2	1.4	3.1	3.9	3.6	1.2	4.4
Walk 1 *	-	-	-	-	-	7	-
Don't Walk 1	-	-	-	-	-	12	-
Seconds Per Actuation *	-	1.8	-	-	-	1.8	-
Max Variable Initial *	-	34	-	-	-	34	-
Time Before Reduction *	-	15	-	-	-	15	-
Time To Reduce *	-	45	-	-	-	45	-
Minimum Gap	-	3.2	-	-	-	3.2	-
Recall Mode	-	MIN RECALL	-	-	-	MIN RECALL	-
Vehicle Call Memory	-	YELLOW	-	-	-	YELLOW	-
Dual Entry	-	-	-	-	-	-	-
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.

Signal Revision

REVISION SEAL

Prepared in the Offices of:

150 N. Greenfield Pkwy, Garner, NC 27529

SCALE: 1" = 40'

DATE: 12/12/2014

US 421 (Lake Park Boulevard) at SR 1573 (N. Dow Road) and Risley Road/Service Road

Division 3 New Hanover County Carolina Beach

PLAN DATE: March 2006 REVIEWED BY: N Bitting

PREPARED BY: L Boyer REVIEWED BY: JG

Revised clearance times

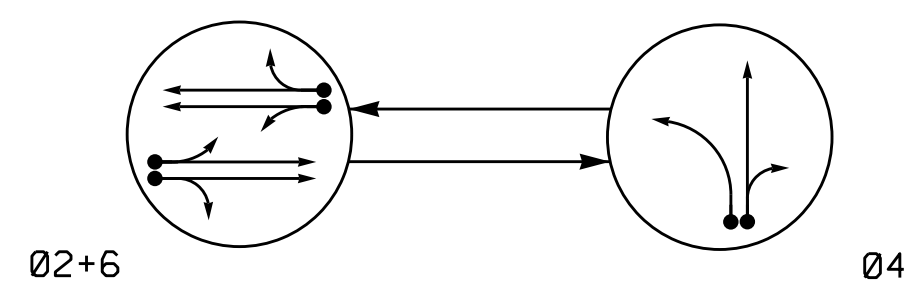
Not a certified document as to the Original Document but Only as to the Revisions - This document originally issued and sealed by Boniface Madu, PE-025475 on 4/04/2006. This document is only certified as to the revisions.

SIGNATURE: DATE: 12/12/2014

SIG. INVENTORY NO. 03-0941

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PHASING DIAGRAM



PHASING DIAGRAM DETECTION LEGEND

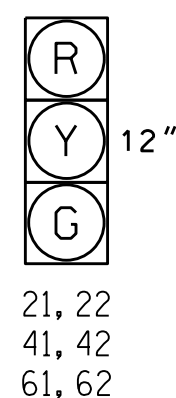
- ←●→ DETECTED MOVEMENT
- ←→ UNDETECTED MOVEMENT (OVERLAP)
- UNSIGNALIZED MOVEMENT
- ←--- PEDESTRIAN MOVEMENT

TABLE OF OPERATION

SIGNAL FACE	PHASE		
	02+6	04	FLIGHT
21, 22	G	R	Y
41, 42	R	G	R
61, 62	G	R	Y

SIGNAL FACE I.D.

All Heads L.E.D.



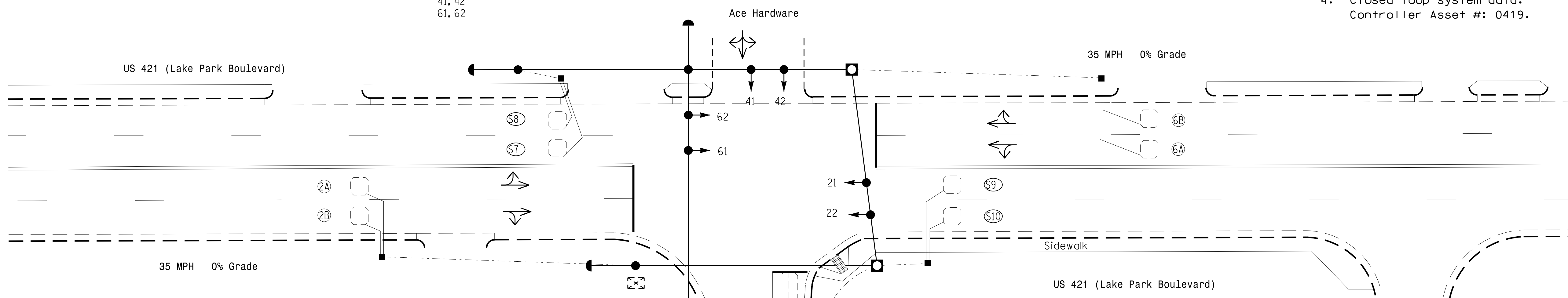
OASIS 2070 LOOP & DETECTOR INSTALLATION CHART

LOOP	INDUCTIVE LOOPS				DETECTOR PROGRAMMING							
	SIZE (FT)	DISTANCE FROM STOPBAR (FT)	TURNS	NEW LOOP	PHASE	CALLING	EXTENSION	FULL TIME DELAY	STRETCH TIME	DELAY TIME	SYSTEM LOOP	NEW CARD
2A, 2B	6X6	90	4	-	2	Y	Y	-	-	-	-	-
4A	6X60	0	2-4-2	-	4	Y	Y	-	-	3	-	-
4B	6X60	0	2-4-2	-	4	Y	Y	-	-	15	-	-
6A, 6B	6X6	90	4	-	6	Y	Y	-	-	-	-	-
S7	6X6	+105	4	-	-	-	-	-	-	-	Y	-
S8	6X6	+105	4	-	-	-	-	-	-	-	Y	-
S9	6X6	+105	4	-	-	-	-	-	-	-	Y	-
S10	6X6	+105	4	-	-	-	-	-	-	-	Y	-

2 Phase
Fully Actuated
US 421 (Carolina Beach) CLS

NOTES

- Refer to "Roadway Standard Drawings NCDOT" dated January 2012 and "Standard Specifications for Roads and Structures" dated January 2012.
- Set all detector units to presence mode.
- 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 #: 0419.



OASIS 2070 TIMING CHART

FEATURE	PHASE		
	2	4	6
Min Green 1 *	10	7	10
Extension 1 *	3.0	1.0	3.0
Max Green 1 *	45	20	45
Yellow Clearance	3.8	3.1	3.8
Red Clearance	1.2	1.8	1.3
Walk 1 *	-	-	-
Don't Walk 1	-	-	-
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	-	-	-
Simultaneous Gap	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.

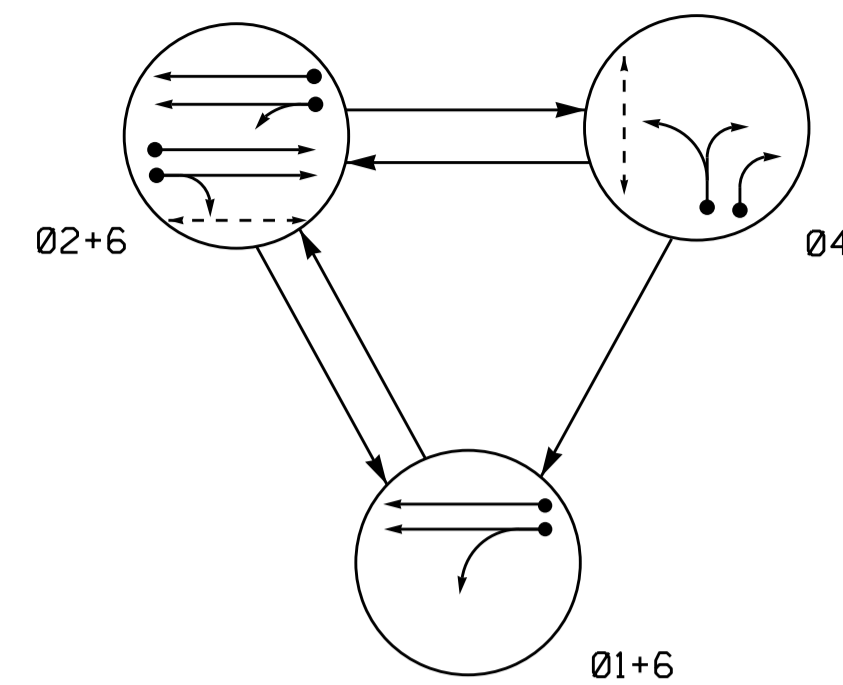
PROPOSED	EXISTING
	N/A
	N/A
	N/A

Signal Revision

		US 421 (N. Lake Park Boulevard) at Federal Point Shopping Center Entrance	SEAL Not a certified document as to the Original Document but Only as to the Revisions - This document originally Issued and sealed by Timothy J. Williams, 24393 on 03/13/03 This document is only certified as to the revisions.
		Division 03 New Hanover County Carolina Beach PLAN DATE: February 2003 REVIEWED BY: R.J. Ziemba PREPARED BY: C.E. Carter REVIEWED BY:	REVISIONS Update timing chart to reflect revised speed limit on US 421.

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 12/16/2013 12:16:20 PM
 RJP

PHASING DIAGRAM



SIGNAL FACE	PHASE			
	Ø 1 + 6	Ø 2 + 6	Ø 4	FLASH
21,22	R	G	R	Y
41	R	R	Y	R
42	R	R	Y	R
61	G	G	R	Y
62	G	G	R	Y
P21,P22	DW	W	DW	DRK
P41,P42	DW	DW	W	DRK

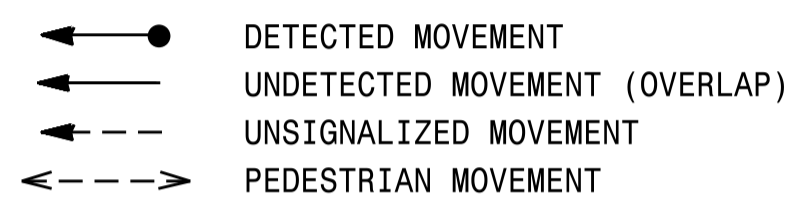
OASIS 2070 LOOP & DETECTOR INSTALLATION CHART											
LOOP	SIZE (FT)	DISTANCE FROM STOPBAR (FT)	TURNS	NEW LOOP	DETECTOR PROGRAMMING					SYSTEM LOOP	NEW CARD
					PHASE	CALLING	EXTENSION	STRETCH TIME	DELAY TIME		
1A	6X40	0	2-4-2	-	1	Y	Y	-	-	15	-
2A,2B	6X6	70	3	-	2	Y	Y	-	-	-	-
4A	6X40	0	2-4-2	-	4	Y	Y	-	-	3	-
4B	6X40	0	2-4-2	-	4	Y	Y	-	-	15	-
6A	6X6	70	3	-	6	Y	Y	-	-	-	-
S7	6X6	+75	3	-	-	-	-	-	-	-	Y
S8	6X6	+75	3	-	-	-	-	-	-	-	Y
S9	6X6	+70	3	-	-	-	-	-	-	-	Y
S10	6X6	+70	3	-	-	-	-	-	-	-	Y

3 Phase
Fully Actuated
US 421 Carolina Beach CLS

NOTES

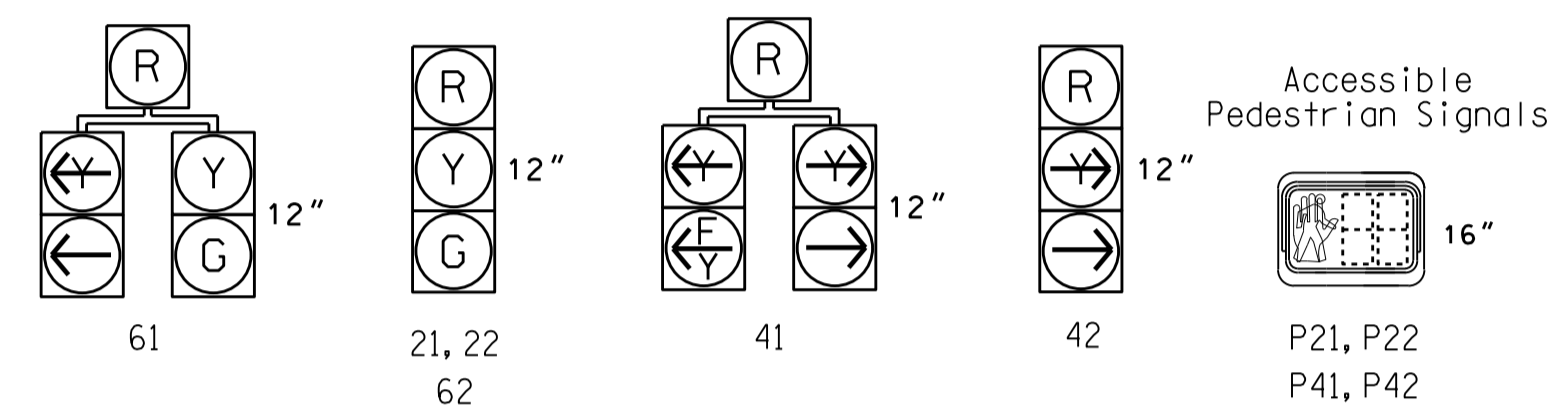
1. Refer to "Roadway Standard Drawings NCDOT" dated January 2012 and "Standard Specifications for Roads and Structures" dated January 2012.
2. Do not program signal for late night flashing operation unless otherwise directed by the Engineer.
3. Phase 1 may be lagged.
4. Set all detector units to presence 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. This intersection features accessible pedestrian signals utilizing percussive tone walk indications and/or speech messages.
8. Maximum times shown in timing chart are for free-run operation only. Coordinated signal system timing values supersede these values.
9. Closed loop system data:
Controller Asset #0055.

PHASING DIAGRAM DETECTION LEGEND



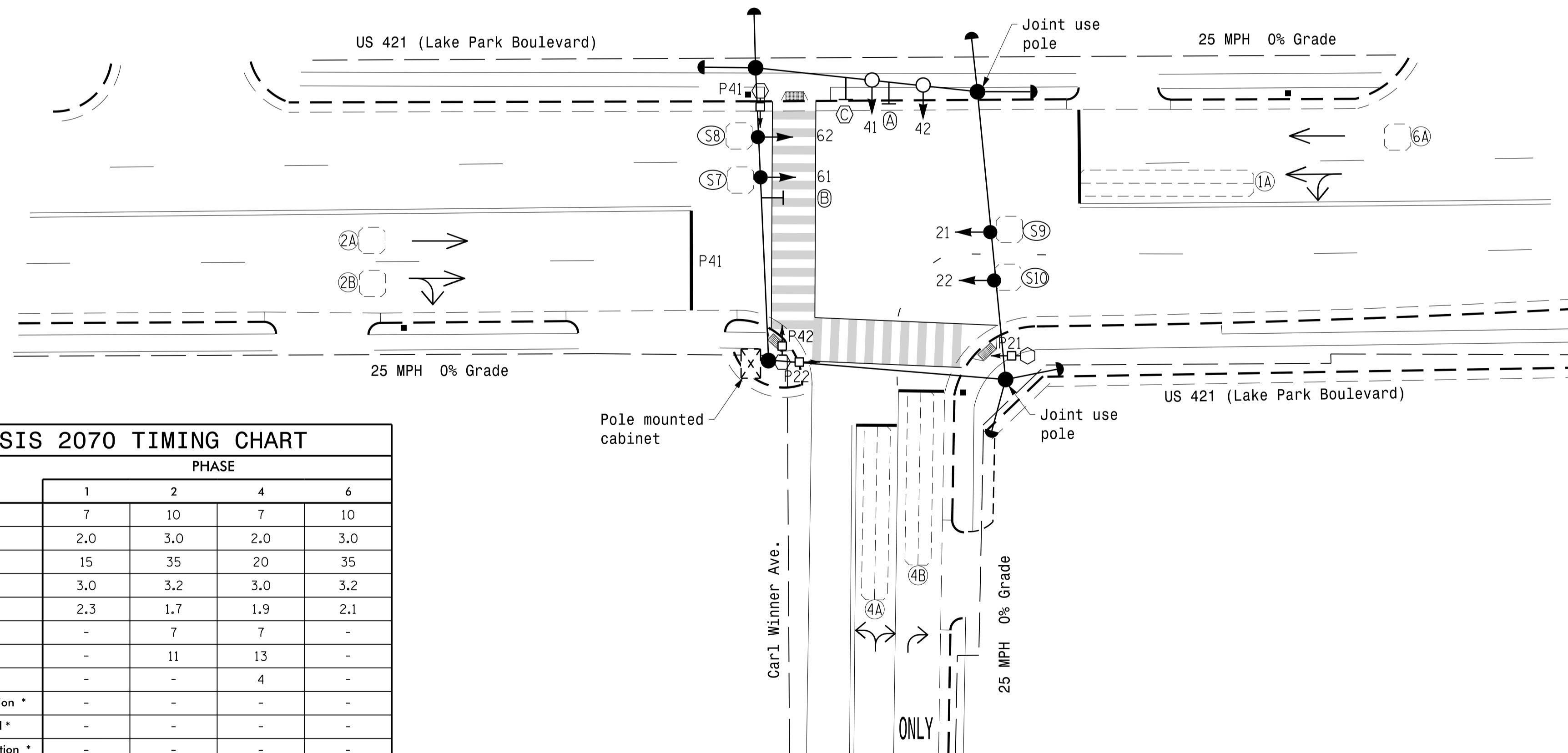
SIGNAL FACE I.D.

All Heads L.E.D.



ACCESSIBLE PEDESTRIAN SIGNAL OPERATION			
SIGNAL FACE	VOICE	TONES	INTERVAL
P21	-	X	Walk
P21	X	-	Flashing Don't Walk / Don't Walk
P22	X	-	Walk
P22	X	-	Flashing Don't Walk / Don't Walk
P41	-	X	Walk
P41	X	-	Flashing Don't Walk / Don't Walk
P42	X	-	Walk
P42	X	-	Flashing Don't Walk / Don't Walk

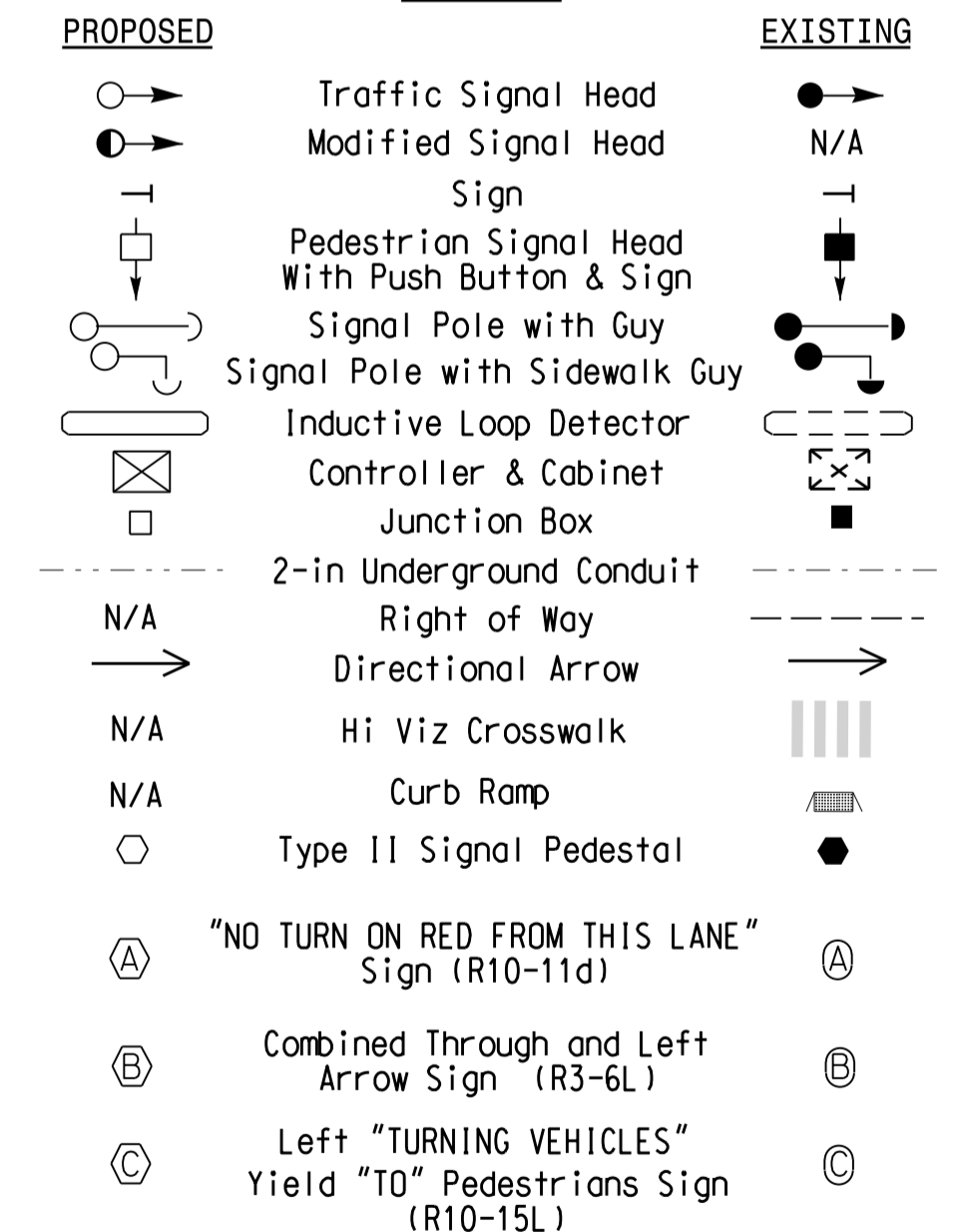
SPEECH MESSAGE	
(Percussive Tone)	Wait. Wait to cross Carl Winner.
	Carl Winner. Walk sign is on to cross Carl Winner.
(Percussive Tone)	Wait. Wait to cross Lake Park.
	Lake Park. Walk sign is on to cross Lake Park.



FEATURE	PHASE			
	1	2	4	6
Min Green 1 *	7	10	7	10
Extension 1 *	2.0	3.0	2.0	3.0
Max Green 1 *	15	35	20	35
Yellow Clearance	3.0	3.2	3.0	3.2
Red Clearance	2.3	1.7	1.9	2.1
Walk 1 *	-	7	7	-
Don't Walk 1	-	11	13	-
Advance Walk	-	-	4	-
Seconds Per Actuation *	-	-	-	-
Max Variable Initial *	-	-	-	-
Time Before Reduction *	-	-	-	-
Time To Reduction *	-	-	-	-
Minimum Gap	-	-	-	-
Recall Mode	-	MIN RECALL	-	MIN RECALL
Vehicle Call Memory	-	YELLOW	-	YELLOW
Dual Entry	-	-	-	-
Simultaneous Gap	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

	US 421 (Lake Park Boulevard) at Carl Winner Ave.		SEAL 030530 ZACHARY M. LITTLE ENGINEER
	Division 3 New Hanover County Carolina Beach PLAN DATE: October 2023 REVIEWED BY: ZML	PREPARED BY: BMH REVIEWED BY:	
SCALE: 1" = 20' 	REVISIONS:		DATE:

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

SIG. INVENTORY NO. 03-0055

PROJECT REFERENCE NO.	SHEET NO.
36249.3109	Sig.

PHASING DIAGRAM

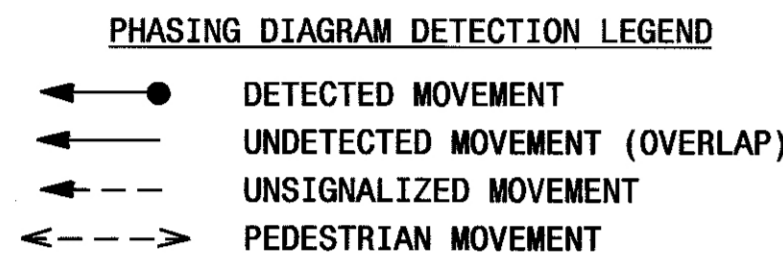
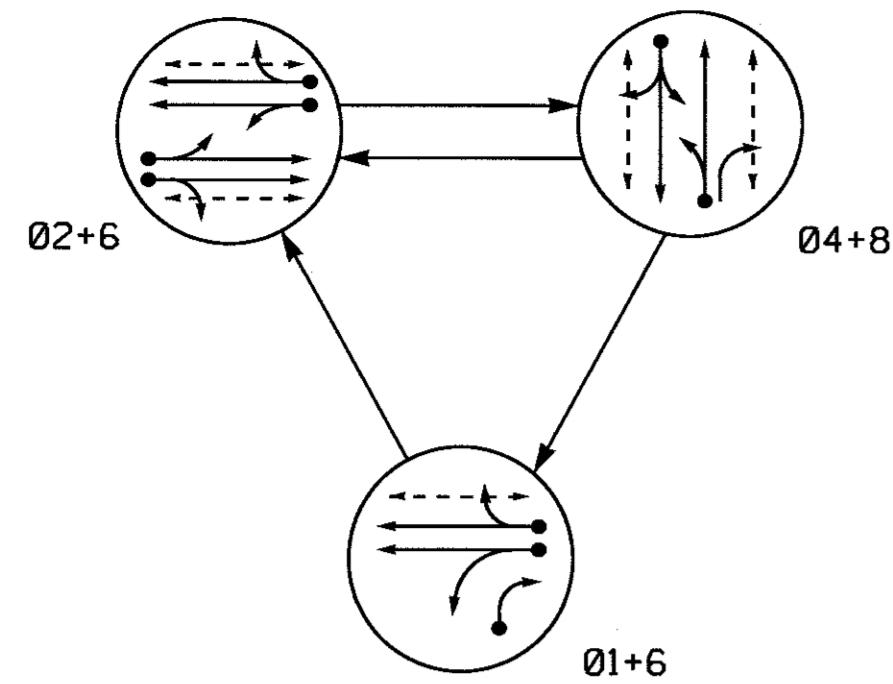


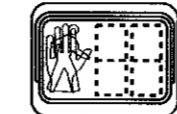
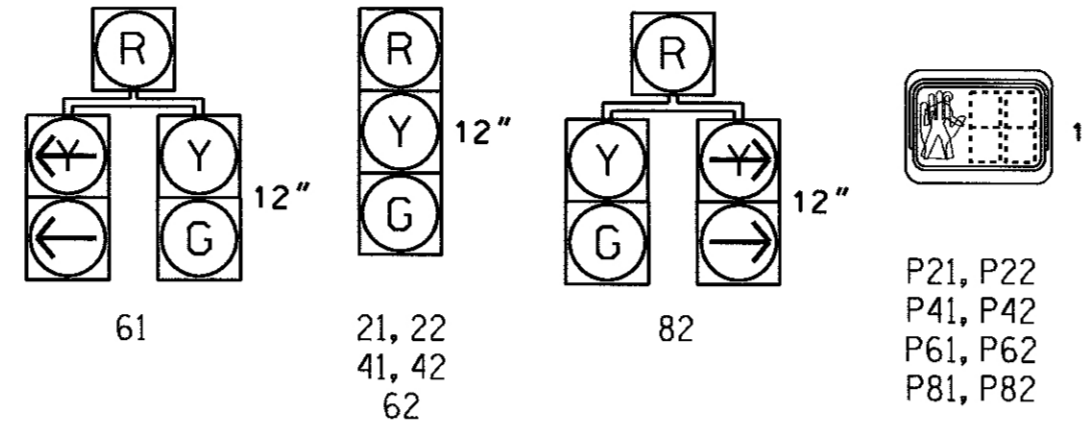
TABLE OF OPERATION

SIGNAL FACE	PHASE			
	01+6	02+6	04+8	FLASH
21, 22	R	G	R	Y
41, 42	R	R	G	R
61	Y	G	R	Y
62	G	G	R	Y
81	R	R	G	R
82	R	R	G	R
P21, P22	DW	W	DW	DRK
P41, P42	DW	W	DW	DRK
P61, P62	W	W	DW	DRK
P81, P82	DW	DW	W	DRK

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

SIGNAL FACE I.D.

All Heads L.E.D.



P21, P22
 P41, P42
 P61, P62
 P81, P82

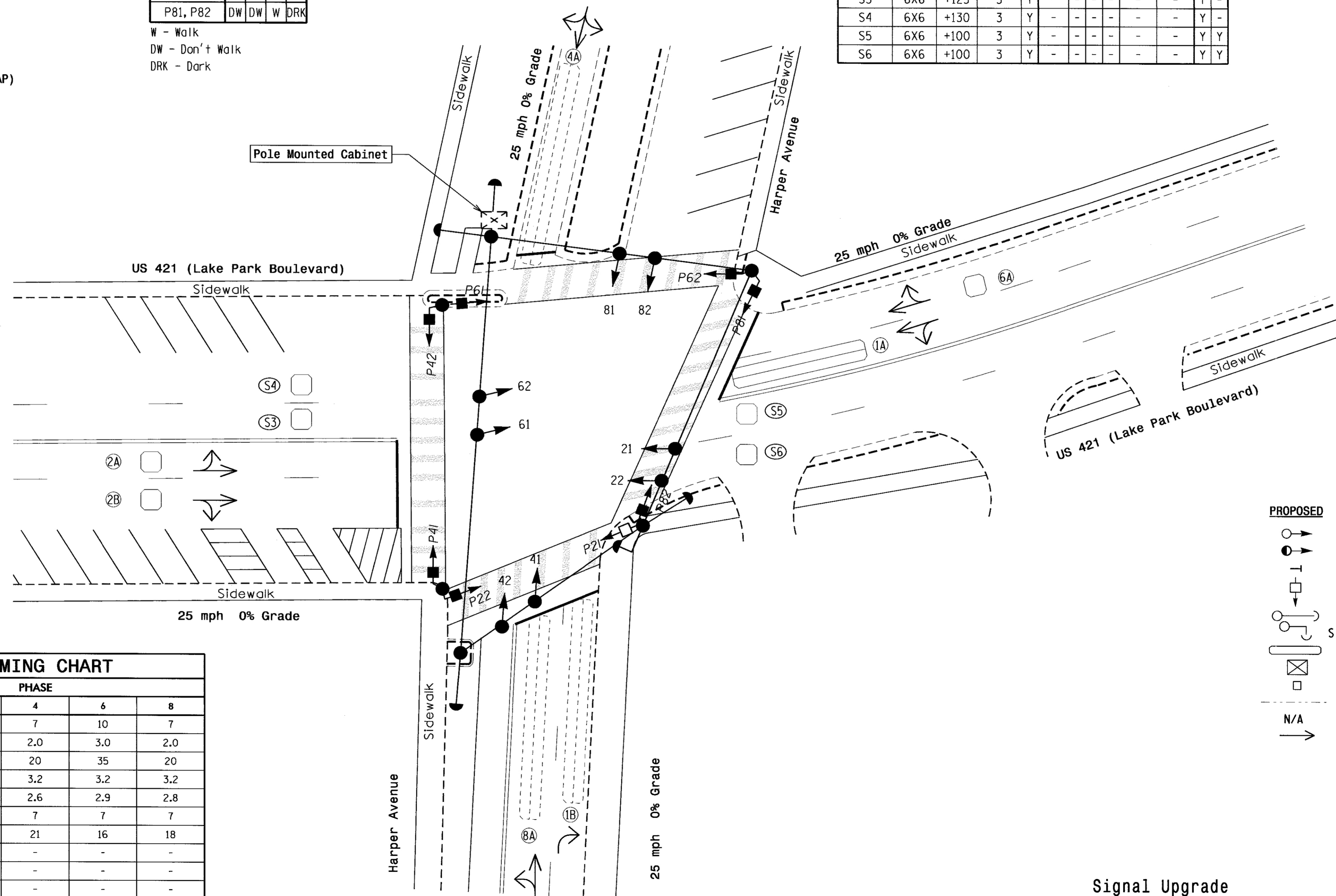
OASIS 2070L LOOP & DETECTOR INSTALLATION CHART

LOOP	SIZE (FT)	DISTANCE FROM STOPBAR (FT)	TURNS	NEW LOOP	DETECTOR PROGRAMMING					SYSTEM LOOP	NEW CARD	
					PHASE	CALLING	EXTENSION	FULL TIME DELAY	STRETCH TIME			DELAY TIME
1A	6X40	0	2-4-2	Y	1	Y	Y	-	-	15	-	-
1B	6X60	0	2-4-2	-	1	Y	Y	-	-	15	-	-
2A	6X6	70	3	Y	2	Y	Y	-	-	-	-	-
2B	6X6	70	3	Y	2	Y	Y	-	-	-	-	-
4A	6X60	0	2-4-2	-	4	Y	Y	-	-	5	-	-
6A	6X6	70	3	Y	6	Y	Y	-	-	-	-	-
8A	6X60	0	2-4-2	-	8	Y	Y	-	-	3	-	-
S3	6X6	+125	3	Y	-	-	-	-	-	-	Y	-
S4	6X6	+130	3	Y	-	-	-	-	-	-	Y	-
S5	6X6	+100	3	Y	-	-	-	-	-	-	Y	Y
S6	6X6	+100	3	Y	-	-	-	-	-	-	Y	Y

3 Phase Fully Actuated US 421 Carolina Beach Closed Loop System

NOTES

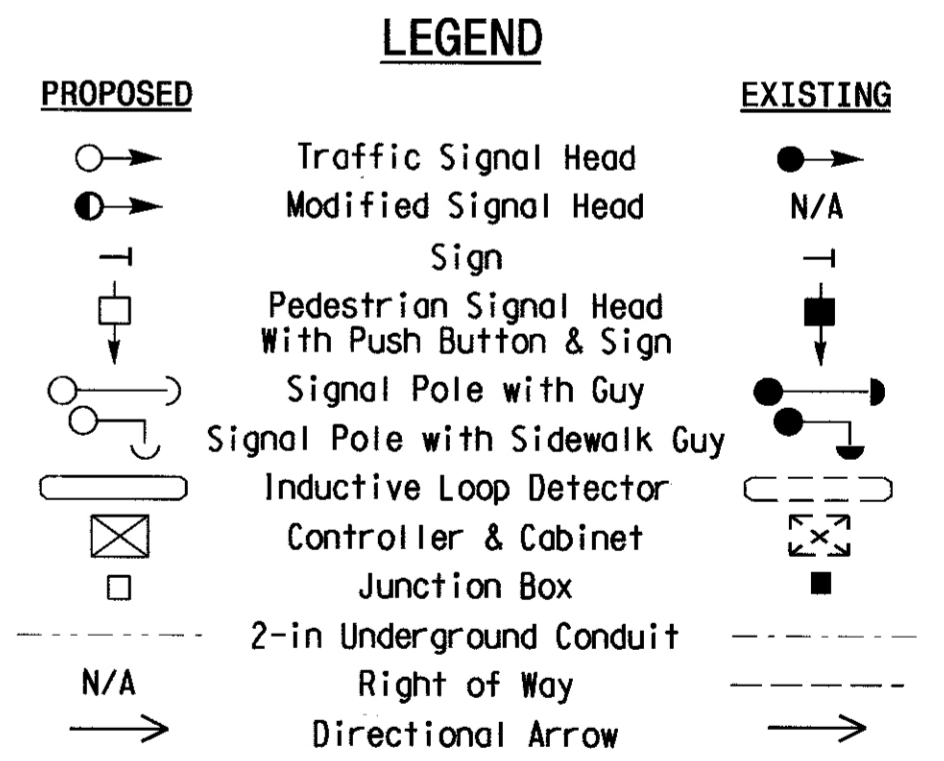
- Refer to "Roadway Standard Drawings NCDOT" dated July 2006 and "Standard Specifications for Roads and Structures" dated July 2006.
- Do not program signal for late night flashing operation unless otherwise directed by the Engineer.
- Omit phase 1 during phase 2 on.
- Program controller to clear from phase 2+6 to phase 1+6 by progressing through phase 4+8 (see Electrical Details).
- 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.
- 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 #0056.



OASIS 2070L TIMING CHART

FEATURE	PHASE				
	1	2	4	6	8
Min Green 1 *	7	10	7	10	7
Extension 1 *	2.0	3.0	2.0	3.0	2.0
Max Green 1 *	15	35	20	35	20
Yellow Clearance	3.0	3.2	3.2	3.2	3.2
Red Clearance	3.1	2.7	2.6	2.9	2.8
Walk 1 *	-	7	7	7	7
Don't Walk 1	-	12	21	16	18
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

* 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.

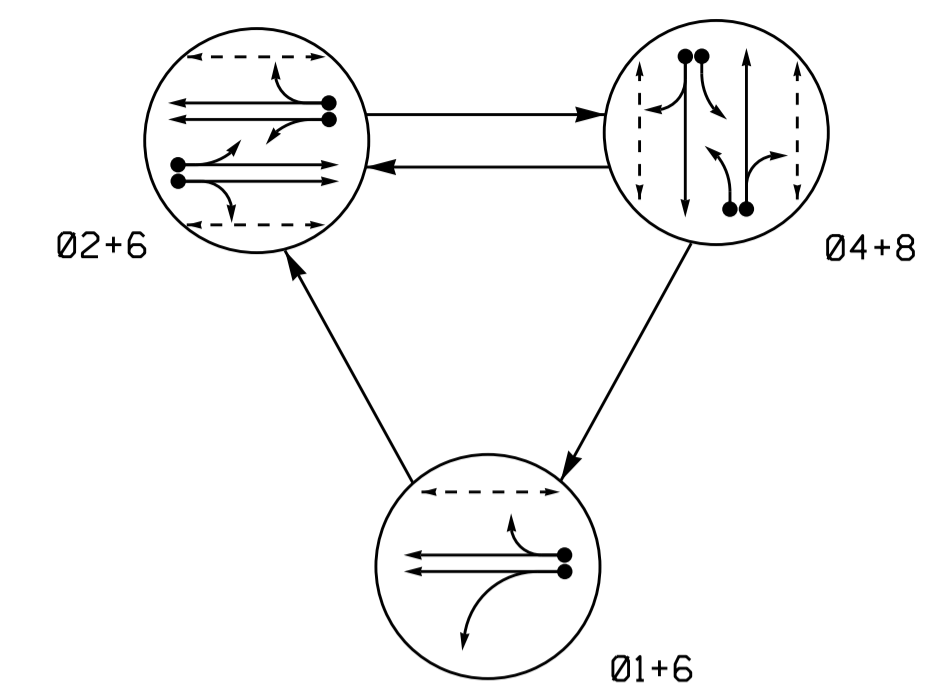


Signal Upgrade

	Prepared in the Offices of: US 421 (Lake Park Boulevard) at Harper Avenue		SEAL NORTH CAROLINA PROFESSIONAL ENGINEER I. O. UMZURIKE License No. 23489
	Division 3 New Hanover County Carolina Beach PLAN DATE: November 2011 PREPARED BY: I. O. Umzurike	REVIEWED BY: REVIEWED BY:	

14-DEC-2011 06:140
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 I:\umzurike

PHASING DIAGRAM



PHASING DIAGRAM DETECTION LEGEND

- → DETECTED MOVEMENT
- → UNDETECTED MOVEMENT (OVERLAP)
- - - → UNSIGNALIZED MOVEMENT
- ← - - - → PEDESTRIAN MOVEMENT

TABLE OF OPERATION

SIGNAL FACE	PHASE				FLASH
	01+6	02+6	04+8	08	
21,22	R	G	R	Y	
41	R	R	F	R	
42,43	R	R	G	R	
61	G	G	R	Y	
62	G	G	R	Y	
81	R	R	F	R	
82,83	R	R	G	R	
P21,P22	DW	W	DW	DRK	
P41,P42	DW	DW	W	DRK	
P61,P62	W	W	DW	DRK	
P81,P82	DW	DW	W	DRK	

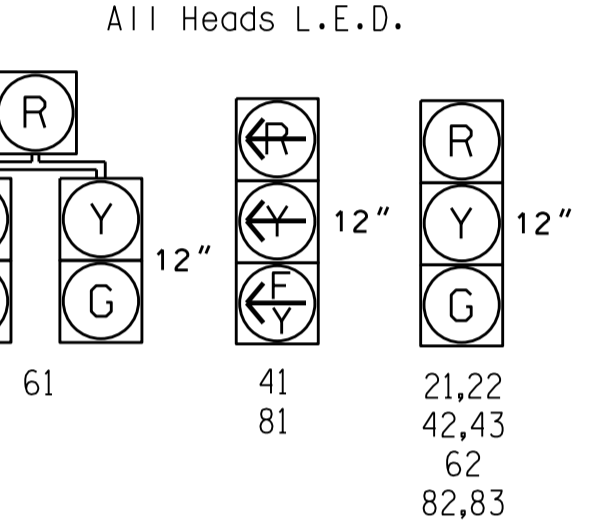
APS OPERATION

APS	INTERVAL	MESSAGE
P21,P22	Walk	(Rapid Ticks)
	FDW/Don't Walk	-----
P41,P42	Walk	(Rapid Ticks)
	FDW/Don't Walk	-----
P61,P62	Walk	(Rapid Ticks)
	FDW/Don't Walk	-----
P81,P82	Walk	(Rapid Ticks)
	FDW/Don't Walk	-----

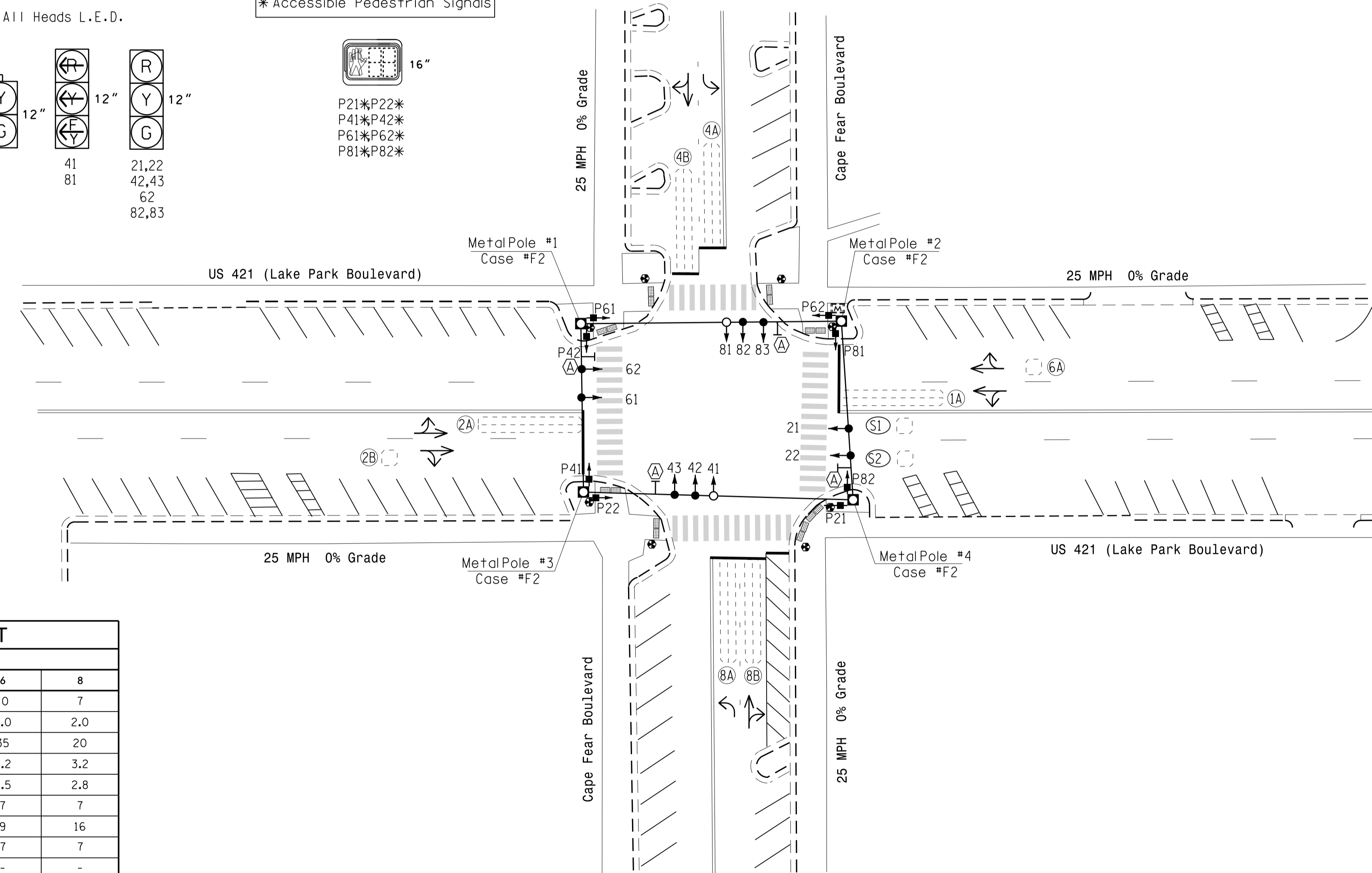
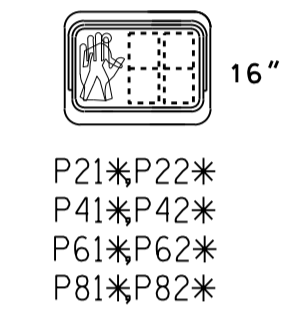
OASIS 2070 LOOP & DETECTOR INSTALLATION CHART

LOOP	SIZE (FT)	DISTANCE FROM STOPBAR (FT)	TURNS	DETECTOR PROGRAMMING								
				NEW LOOP	PHASE	CALLING	EXTENSION	FULL TIME DELAY	STRETCH TIME	DELAY TIME	SYSTEM LOOP	NEW CARD
1A	6X40	0	2-4-2	-	1	Y	Y	-	-	15	-	-
2A	6X40	0	2-4-2	-	2	Y	Y	-	-	-	-	-
2B	6X6	70	3	-	2	Y	Y	-	-	-	-	-
4A	6X40	0	2-4-2	-	4	Y	Y	-	-	3	-	-
4B	6X40	0	2-4-2	-	4	Y	Y	-	-	10	-	-
6A	6X6	70	3	-	6	Y	Y	-	-	-	-	-
8A	6X40	0	2-4-2	-	8	Y	Y	-	-	3	-	-
8B	6X40	0	2-4-2	-	8	Y	Y	-	-	10	-	-
S1	6X6	+120	3	-	-	-	-	-	-	-	Y	-
S2	6X6	+120	3	-	-	-	-	-	-	-	Y	-

SIGNAL FACE I.D.



* Accessible Pedestrian Signals



- 3 Phase Fully Actuated**
D03-05 Carolina Beach
- NOTES**
1. Refer to "Roadway Standard Drawings NCDOT" dated January 2018 and "Standard Specifications for Roads and Structures" dated January 2018.
 2. Do not program signal for late night flashing operation unless otherwise directed by the Engineer.
 3. Omit phase 1 during phase 2 on.
 4. Program controller to clear from phase 2+6 to phase 1+6 by progressing through phase 4+8 (see Electrical Details).
 5. Reposition existing signal heads numbered 42,43,82, and 83.
 6. Set all detector units to presence mode.
 7. Omit "WALK" and flashing "DON'T WALK" with no pedestrian calls.
 8. Program pedestrian heads to countdown the flashing "Don't Walk" time only.
 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: Master Asset # 10305 Controller Asset # 0057.

OASIS 2070 TIMING CHART

FEATURE	PHASE				
	1	2	4	6	8
Min Green 1 *	7	10	7	10	7
Extension 1 *	2.0	3.0	2.0	3.0	2.0
Max Green 1 *	15	35	20	35	20
Yellow Clearance	3.0	3.2	3.2	3.2	3.2
Red Clearance	2.6	2.5	2.8	2.5	2.8
Walk 1 *	-	7	7	7	7
Don't Walk 1	-	12	14	9	16
Advance Walk	-	7	7	7	7
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

* 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

PROPOSED	EXISTING
○ → Traffic Signal Head	● → N/A
○ → Modified Signal Head	○ → N/A
○ → Sign	○ → N/A
○ → Pedestrian Signal Head With Push Button & Sign	○ → N/A
○ → Signal Pole with Guy	○ → N/A
○ → Signal Pole with Sidewalk Guy	○ → N/A
○ → Inductive Loop Detector	○ → N/A
○ → Controller & Cabinet	○ → N/A
○ → Junction Box	○ → N/A
○ → 2-in Underground Conduit	○ → N/A
○ → Right of Way	○ → N/A
○ → Directional Arrow	○ → N/A
○ → Master Controller & Cabinet	○ → N/A
○ → Metal Strain Pole	○ → N/A
○ → Type I Pushbutton Post	○ → N/A
○ → Wheelchair Ramp	○ → N/A
○ → "NO TURN ON RED" Sign (R10-11)	○ → N/A

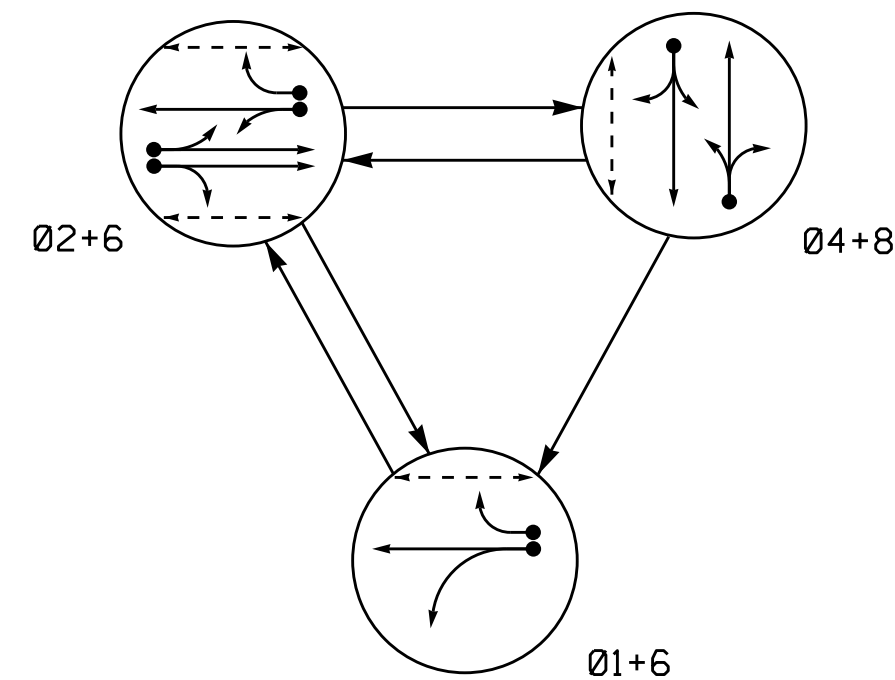
Signal Upgrade

Prepared in the Offices of:

US 421 (Lake Park Boulevard) at Cape Fear Boulevard
 Division 3 New Hanover County Carolina Beach
 PLAN DATE: September 2020 REVIEWED BY: ZML
 PREPARED BY: Jeff Spence REVIEWED BY:
 REVISIONS: _____ INIT. DATE _____
 SCALE: 1"=30'
 DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED
 SEAL: _____
 DATE: 11/25/2020
 SIG. INVENTORY NO. 03-0057

12-NOV-2020 13:39
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 J.Spence

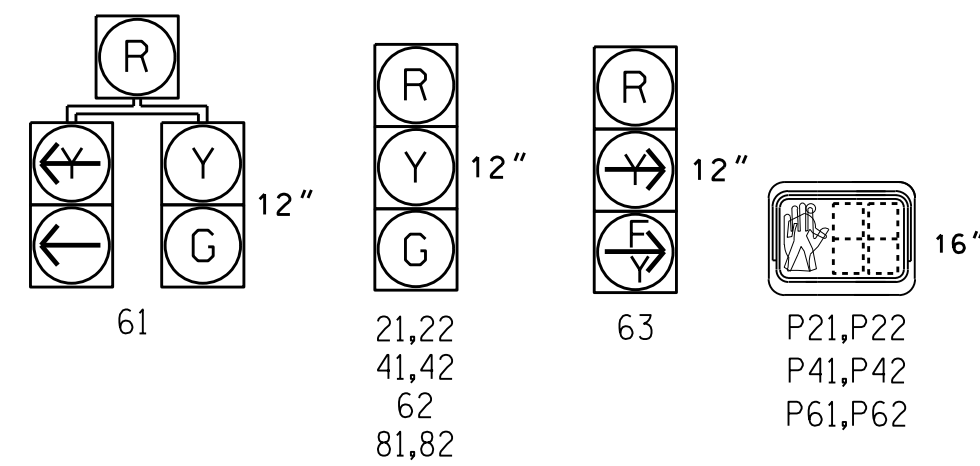
PHASING DIAGRAM



SIGNAL FACE	PHASE			
	01+6	02+6	04+8	F L C B H
21,22	R	G	R	Y
41,42	R	R	G	R
61	R	G	R	Y
62	G	G	R	Y
63	R	Y	R	Y
81,82	R	R	G	R
P21,P22	DW	W	DW	DRK
P41,P42	DW	DW	W	DRK
P61,P62	W	W	DW	DRK

SIGNAL FACE I.D.

All Heads L.E.D.



PHASING DIAGRAM DETECTION LEGEND

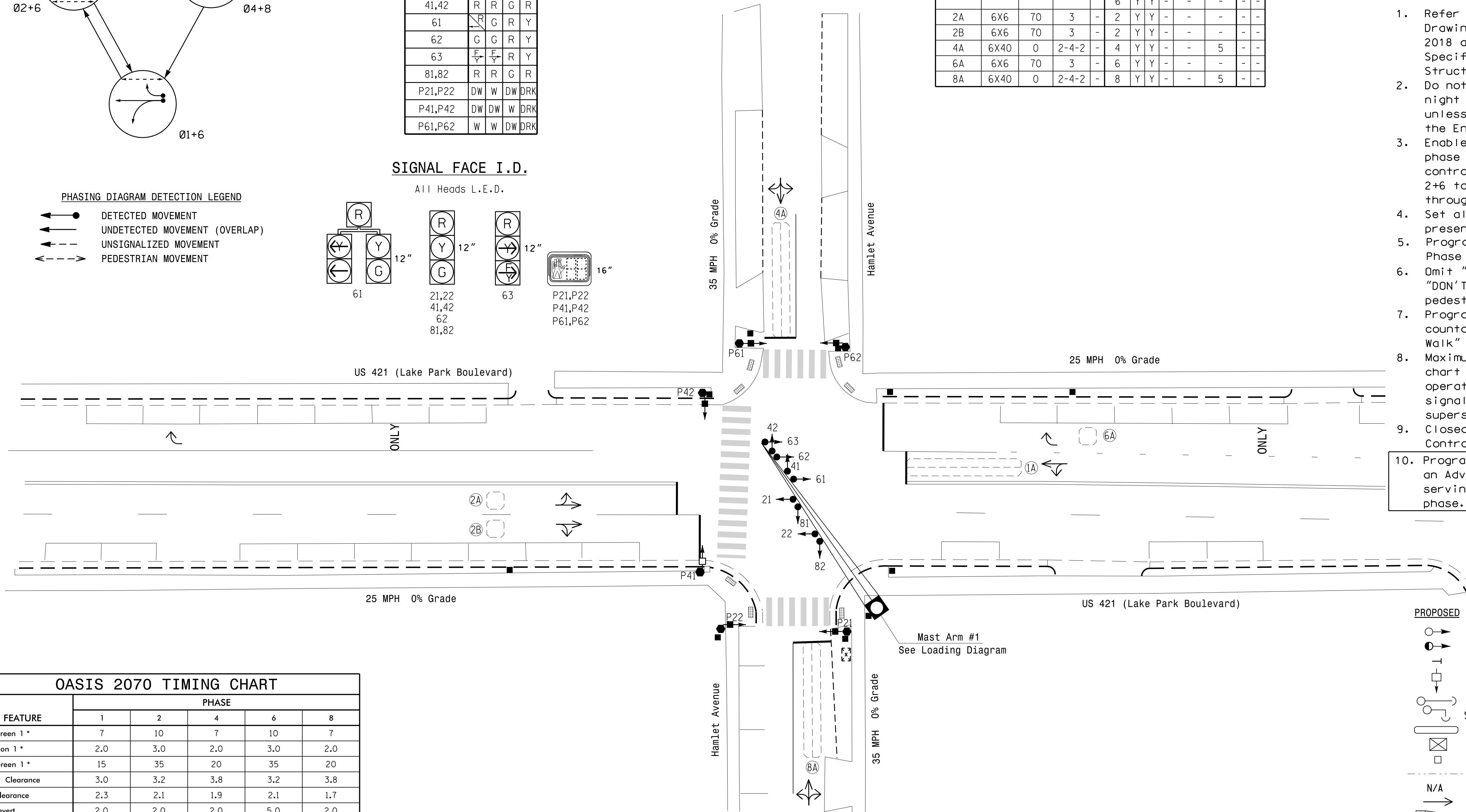
- ➔ DETECTED MOVEMENT
- ➔ UNDETECTED MOVEMENT (OVERLAP)
- ➔ UNSIGNALIZED MOVEMENT
- ➔ PEDESTRIAN MOVEMENT

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

3 Phase Fully Actuated
D03-05_Carolina Beach

NOTES

- Refer to "Roadway Standard Drawings NCDOT" dated January 2018 and "Standard Specifications for Roads and Structures" dated January 2018.
- Do not program signal for late night flashing operation unless otherwise directed by the Engineer.
- Enable Backup Protect for phase 6 to allow the controller to clear from phase 2+6 to phase 1+6 by progressing through an all red display.
- Set all detector units to presence mode.
- Program Phase 4 ped detector to call Phase 4 ped and dummy Phase 8 ped.
- 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 # 1165.
- Program the controller to allow an Advance Walk movement before serving phase 4 vehicle phase.



FEATURE	PHASE				
	1	2	4	6	8
Min Green 1 *	7	10	7	10	7
Extension 1 *	2.0	3.0	2.0	3.0	2.0
Max Green 1 *	15	35	20	35	20
Yellow Clearance	3.0	3.2	3.8	3.2	3.8
Red Clearance	2.3	2.1	1.9	2.1	1.7
Red Revert	2.0	2.0	2.0	5.0	2.0
Walk 1 *	-	7	10	7	10
Don't Walk 1	-	6	15	7	15
Advance Walk 1	-	-	6	-	6
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

* 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.

PROPOSED		EXISTING	
	Traffic Signal Head		Traffic Signal Head
	Modified Signal Head		N/A
	Pedestrian Signal Head With Push Button & Sign		Pedestrian Signal Head
	Signal Pole with Guy		Signal Pole with Guy
	Signal Pole with Sidewalk Guy		Signal Pole with Sidewalk Guy
	Inductive Loop Detector		Inductive Loop Detector
	Controller & Cabinet		Controller & Cabinet
	Junction Box		Junction Box
	2-in Underground Conduit		2-in Underground Conduit
	Right of Way		Right of Way
	Directional Arrow		Directional Arrow
	Metal Pole with Mastarm		Metal Pole with Mastarm
	Type II Signal Pedestal		Type II Signal Pedestal

Signal Upgrade

Prepared in the Offices of:

750 N. Greenfield Pkwy, Garner, NC 27529

**US 421 (Lake Park Blvd.)
at
Hamlet Avenue**

Division 3 New Hanover County Carolina Beach

PLAN DATE: December 2023 REVIEWED BY: ZML

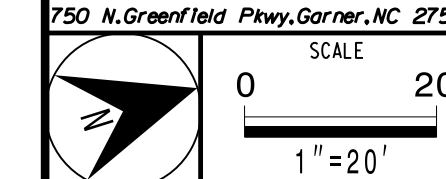
PREPARED BY: Jeff Spence REVIEWED BY:

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

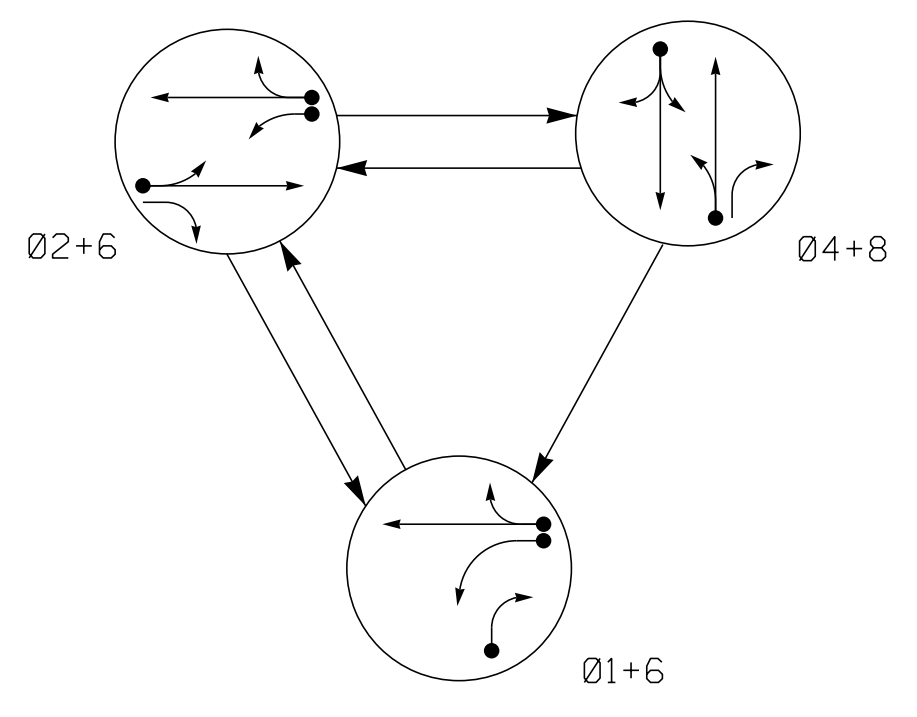
SEAL

12/14/2023

SIG. INVENTORY NO. 03-1165

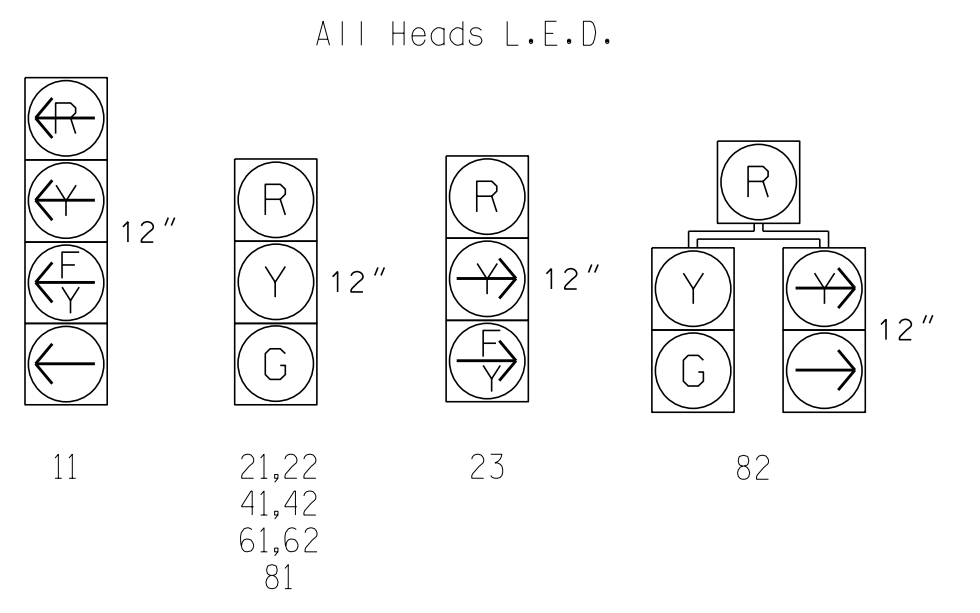


PHASING DIAGRAM



SIGNAL FACE	PHASE			
	Ø 1 + 6	Ø 2 + 6	Ø 4 + 8	F HEADS
11	←	←	←	←
21,22	R	G	R	Y
23	R	←	R	←
41,42	R	R	G	R
61,62	G	G	R	Y
81	R	R	G	R
82	←	←	R	R

SIGNAL FACE I.D.



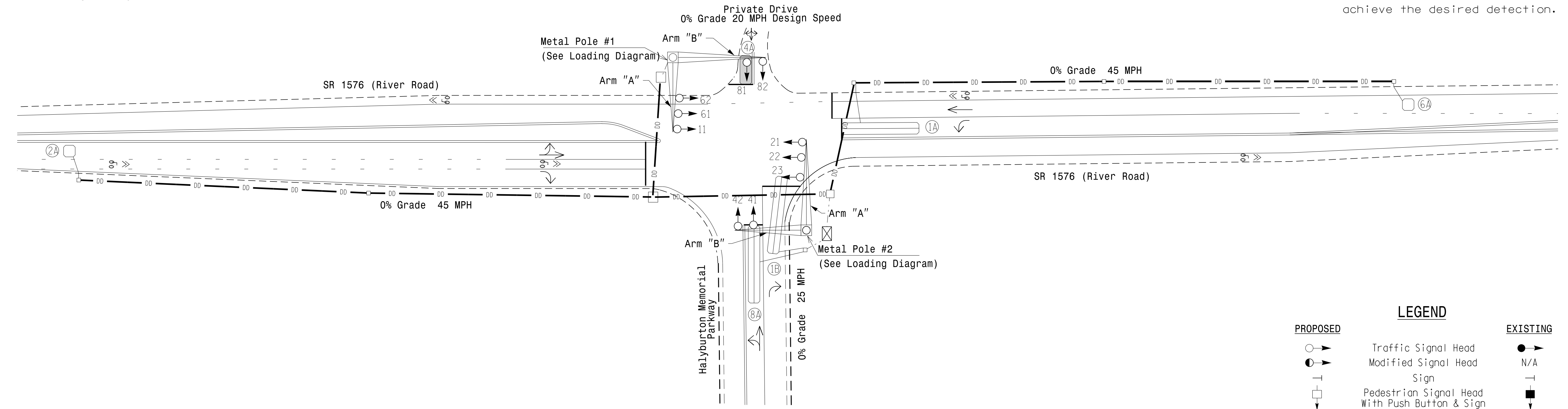
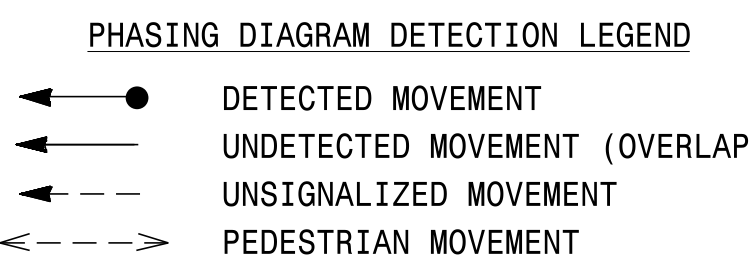
INDUCTIVE LOOPS						DETECTOR PROGRAMMING						
LOOP	SIZE (FT)	DISTANCE FROM STOPBAR (FT)	TURNS	NEW LOOP	PHASE	CALLING	EXTENSION	FULL TIME DELAY	STRETCH TIME	DELAY TIME	SYSTEM LOOP	NEW CARD
1A	6X40	0	2-4-2	Y	1	Y	Y	-	-	15	-	Y
1B	6X40	+5	2-4-2	Y	6	Y	Y	Y	-	3	-	Y
2A	6X6	300	5	Y	2	Y	Y	-	-	-	-	Y
4A	6X15	0	*	Y	4	Y	Y	-	-	5	-	Y
6A	6X6	300	5	Y	6	Y	Y	-	-	-	-	Y
8A	6X40	0	2-4-2	Y	8	Y	Y	-	-	3	-	Y

* Multizone Microwave Detection

3 Phase Fully Actuated Isolated

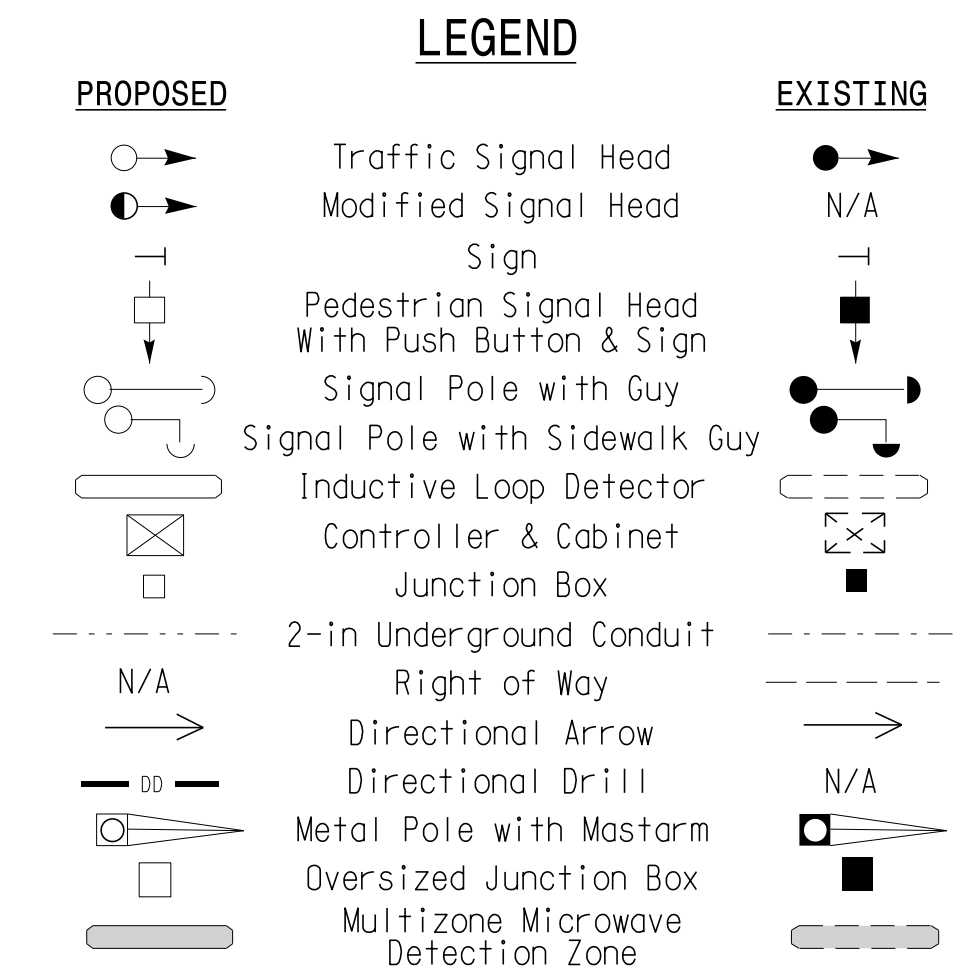
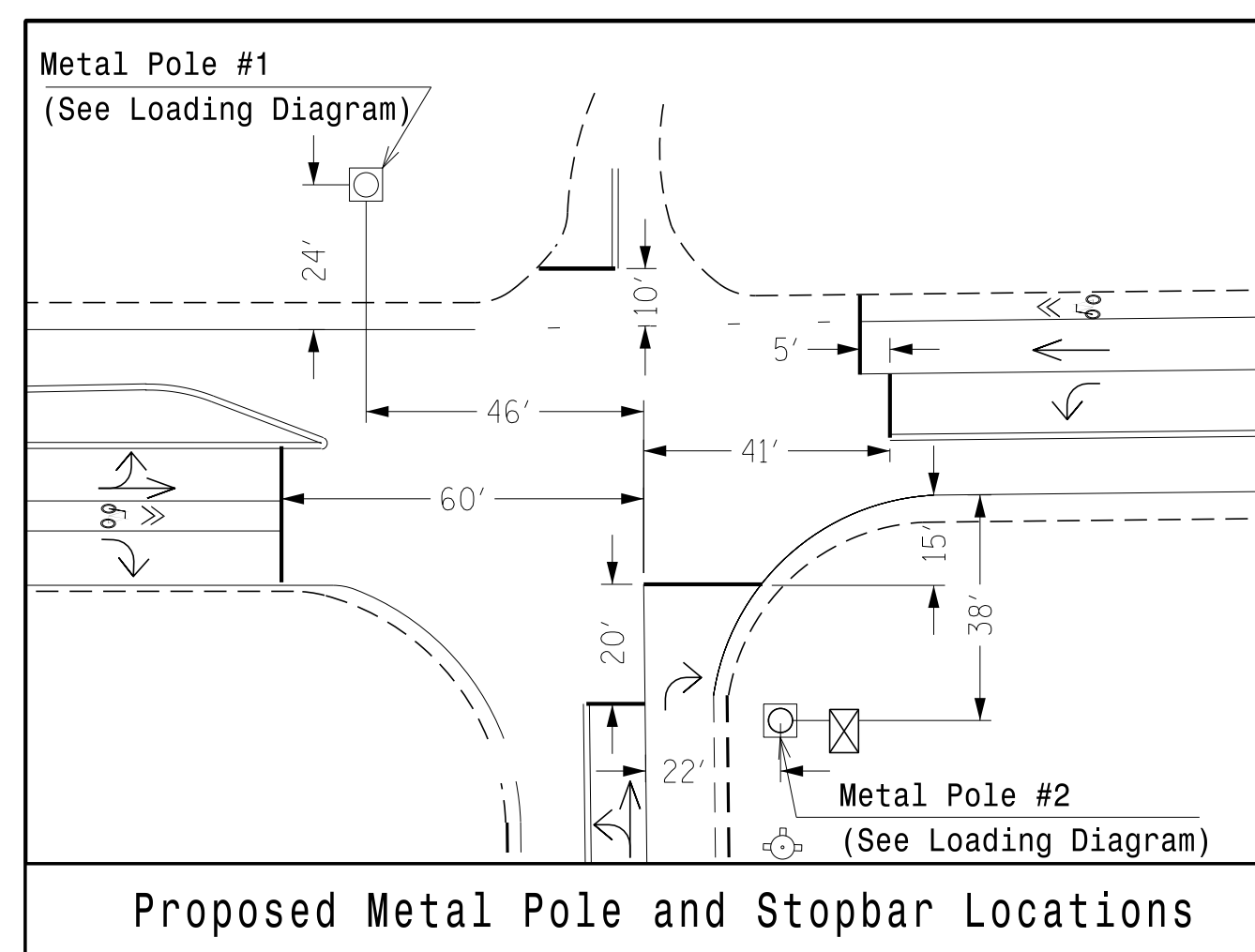
NOTES

- Refer to "Roadway Standard Drawings NCDOT" dated January 2018 and "Standard Specifications for Roads and Structures" dated January 2018.
- Do not program signal for late night flashing operation unless otherwise directed by the Engineer.
- Enable Backup Protect for phase 6 to allow the controller to clear from phase 2+6 to phase 1 by progressing through an all red display.
- Set all detector units to presence mode.
- Locate new cabinet so as not to obstruct sight distance of vehicles turning right on red.
- This intersection uses multi-zone microwave detection. Install detectors according to the manufacturer's instructions to achieve the desired detection.



FEATURE	PHASE				
	1	2	4	6	8
Min Green 1 *	7	12	7	12	7
Extension 1 *	2.0	6.0	2.0	6.0	2.0
Max Green 1 *	15	90	25	90	25
Yellow Clearance	3.0	4.5	3.0	4.5	3.2
Red Clearance	2.3	1.2	1.9	1.2	2.0
Red Revert	2.0	2.0	2.0	5.0	2.0
Walk 1 *	-	-	-	-	-
Don't Walk 1	-	-	-	-	-
Seconds Per Actuation *	-	2.5	-	2.5	-
Max Variable Initial *	-	34	-	34	-
Time Before Reduction *	-	15	-	15	-
Time To Reduce *	-	30	-	30	-
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

* 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.



New Installation

Prepared in the Offices of:

750 N. Greenfield Pkwy, Garner, NC 27529

SR 1576 (River Road) at Halyburton Memorial Parkway / Private Drive

Division 3 New Hanover County Wilmington

PLAN DATE: June 2022 REVIEWED BY: ZML

PREPARED BY: KGP, Jr. REVIEWED BY:

REVISIONS	INIT.	DATE

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

SEAL

Zachary M. Little, ENGINEER

DATE: 08/30/2022

SIG. INVENTORY NO. 03-1190

20-AUG-2023 1:41:48
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PROJECT NO.	SHEET NO.
2025CPT.03.05.10651, ETC.	17

SUMMARY OF QUANTITIES

PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	TYP NO	LANES	LANE TYPE	FINAL SURFACE TESTING REQUIRED	WARM MIX ASPHALT REQUIRED	LENGTH	WIDTH	BEGIN MP	END MP	0106000000-E	1220000000-E	1245000000-E	1297000000-E	1330000000-E	1519000000-E	1520000000-E
														BORROW EXCAVATION	INCIDENTAL STONE BASE	SHOULDER RECONSTRUCTION	1.5" MILLING	INCIDENTAL MILLING	SURFACE COURSE, S9.5B	LEVELING COURSE, S9.5B
										MI	FT			CY	TON	SMI	SY	SY	TON	TON
2025CPT.03.05.10651	New Hanover	1	US HWY 421 (LAKE PARK BLVD)	FROM CAROLINA SANDS DR (NS) TO BRIDGE #30 (OVER THE ICWW) [MP 5.56 - MP 7.70]	1, 2, 3	4	MU	NO	NO	2.14	45	5.56	7.70	20	10	0.25	55,788	50		
TOTAL FOR MAP NO. 1										2.14				20	10	0.25	55,788	50		
2025CPT.03.05.10651	New Hanover	2	US HWY 421 (LAKE PARK BLVD SBL)	FROM BRIDGE #30 (OVER ICWW) TO SR 1574 [MP 21.81 - MP 22.38]	2, 3	2	MU	NO	NO	0.57	40	21.81	22.38	20	10	0.39	14,720	50		
TOTAL FOR MAP NO. 2										0.57				20	10	0.39	14,720	50		
TOTAL FOR PROJ NO. 2025CPT.03.05.10651										2.71				40	20	0.64	70,508	100		
2025CPT.03.05.20651	New Hanover	3	SR-1574 (SERVICE RD)	FROM US HWY 421 (N. LAKE PARK BLVD) TO US HWY 421 (N. LAKE PARK BLVD) [MP 0.00 - MP 0.16]	3	2	2WU	NO	NO	0.16	18	0.00	0.16				1,932			
TOTAL FOR MAP NO. 3										0.16							1,932			
2025CPT.03.05.20651	New Hanover	4	SR-1576 (RIVER RD)	FROM US HWY 421 (CAROLINA BEACH ROAD) TO MOTT CREEK BRIDGE 17 (NS) [MP 0.03 - MP 6.75]	4, 5	2	2WU	NO	NO	6.72	28	0.03	6.75	820	106	13.54	4,137	1,033	10,749	
TOTAL FOR MAP NO. 4										6.72				820	106	13.54	4,137	1,033	10,749	
TOTAL FOR PROJ NO. 2025CPT.03.05.20651										6.88				820	106	13.54	6,069	1,033	10,749	
2025CPT.03.05.20652	New Hanover	5	SR-1521 (PEDEN POINT RD)	FROM SR 1492 (MYRTLE GROVE RD) TO DEAD END [MP 1.05 - MP 1.61]	6	2	2WU	NO	NO	0.56	18	1.05	1.61		15				345	10
TOTAL FOR MAP NO. 5										0.56					15				345	10
TOTAL FOR PROJ NO. 2025CPT.03.05.20652										0.56					15				345	10
GRAND TOTAL										10.15				860	141	14.18	76,577	1,133	11,094	10

PROJECT NO.	SHEET NO.
2025CPT.03.05.10651, ETC.	18

SUMMARY OF QUANTITIES

PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	TYP NO	LANES	LANE TYPE	FINAL SURFACE TESTING REQUIRED	WARM MIX ASPHALT REQUIRED	LENGTH	WIDTH	BEGIN MP	END MP	1523000000-E	1524000000-E	1575000000-E	1705000000-E	1705500000-E	1881000000-E		2605000000-N		
														SURFACE COURSE, S9.5C	LEVELING COURSE, S9.5C	ASPHALT BINDER FOR PLANT MIX	PATCHING EXISTING PAVEMENT (FULL DEPTH)	PATCHING EXISTING PAVEMENT (MILL)	SINUSOIDAL MILLED RUMBLE STRIPS (18 INCH), TYPE CENTERLINE (GENERIC)	SINUSOIDAL MILLED RUMBLE STRIPS (14 INCH), TYPE SHOULDER (GENERIC)	CONCRETE CURB RAMP		
											MI	FT											
											TON	TON	TON	TON	TON	LF	LF	EA					
2025CPT.03.05.10651	New Hanover	1	US HWY 421 (LAKE PARK BLVD)	FROM CAROLINA SANDS DR (NS) TO BRIDGE #30 (OVER THE ICWW) [MP 5.56 - MP 7.70]	1, 2, 3	4	MU	NO	NO	2.14	45	5.56	7.70	5,357	20	319		34			15		
TOTAL FOR MAP NO. 1											2.14				5,357	20	319		34			15	
2025CPT.03.05.10651	New Hanover	2	US HWY 421 (LAKE PARK BLVD SBL)	FROM BRIDGE #30 (OVER ICWW) TO SR 1574 [MP 21.81 - MP 22.38]	2, 3	2	MU	NO	NO	0.57	40	21.81	22.38	1,341	10	80		10					
TOTAL FOR MAP NO. 2											0.57				1,341	10	80		10				
TOTAL FOR PROJ NO. 2025CPT.03.05.10651											2.71				6,698	30	399		44			15	
2025CPT.03.05.20651	New Hanover	3	SR-1574 (SERVICE RD)	FROM US HWY 421 (N. LAKE PARK BLVD) TO US HWY 421 (N. LAKE PARK BLVD) [MP 0.00 - MP 0.16]	3	2	2WU	NO	NO	0.16	18	0.00	0.16	178		11							
TOTAL FOR MAP NO. 3											0.16				178		11						
2025CPT.03.05.20651	New Hanover	4	SR-1576 (RIVER RD)	FROM US HWY 421 (CAROLINA BEACH ROAD) TO MOTT CREEK BRIDGE 17 (NS) [MP 0.03 - MP 6.75]	4, 5	2	2WU	NO	NO	6.72	28	0.03	6.75		2,085	853		662	35,675	71,350			
TOTAL FOR MAP NO. 4											6.72					2,085	853		662	35,675	71,350		
TOTAL FOR PROJ NO. 2025CPT.03.05.20651											6.88				178	2,085	864		662	35,675	71,350		
																					107,025		
2025CPT.03.05.20652	New Hanover	5	SR-1521 (PEDEN POINT RD)	FROM SR 1492 (MYRTLE GROVE RD) TO DEAD END [MP 1.05 - MP 1.61]	6	2	2WU	NO	NO	0.56	18	1.05	1.61			25		30					
TOTAL FOR MAP NO. 5											0.56						25		30				
TOTAL FOR PROJ NO. 2025CPT.03.05.20652											0.56						25		30				
GRAND TOTAL											10.15				6,876	2,115	1,288		30	706	35,675	71,350	15
																					107,025		

PROJECT NO.	SHEET NO.
2025CPT.03.05.10651, ETC.	19

SUMMARY OF QUANTITIES

PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	TYP NO	LANES	LANE TYPE	FINAL SURFACE TESTING REQUIRED	WARM MIX ASPHALT REQUIRED	LENGTH	WIDTH	BEGIN MP	END MP	2612300000-N	2738000000-E		2739000000-E	2752000000-E			2759000000-N		
														RETROFIT EXISTING CONCRETE CURB RAMPS	REMOVE CONCRETE SIDEWALK (GENERIC)	REMOVE AND REPLACE 4" CONCRETE SIDEWALK (GENERIC)	REMOVE & REPLACE 4" CONCRETE ISLAND COVER (GENERIC)	2'-6" CURB & GUTTER, REMOVE (GENERIC)	2'-6" CURB & GUTTER, REMOVE & REPLACE (GENERIC)	9" X 6" CONCRETE CURB, REMOVE & REPLACE (GENERIC)	ADJUSTMENT OF MONUMENTS (GENERIC)	REMOVE CURB RAMPS (GENERIC)	
														EA	SY	SY	SY	LF	LF	LF	EA	EA	
2025CPT.03.05.10651	New Hanover	1	US HWY 421 (LAKE PARK BLVD)	FROM CAROLINA SANDS DR (NS) TO BRIDGE #30 (OVER THE ICWW) [MP 5.56 - MP 7.70]	1, 2, 3	4	MU	NO	NO	2.14	45	5.56	7.70	7	20	40	56	14	268	60	2	9	
TOTAL FOR MAP NO. 1										2.14				7	20	40	56	14	268	60	2	9	
2025CPT.03.05.10651	New Hanover	2	US HWY 421 (LAKE PARK BLVD SBL)	FROM BRIDGE #30 (OVER ICWW) TO SR 1574 [MP 21.81 - MP 22.38]	2, 3	2	MU	NO	NO	0.57	40	21.81	22.38										
TOTAL FOR MAP NO. 2										0.57													
TOTAL FOR PROJ NO. 2025CPT.03.05.10651										2.71				7	20	40	56	14	268	60	2	9	
														60			342			11			
2025CPT.03.05.20651	New Hanover	3	SR-1574 (SERVICE RD)	FROM US HWY 421 (N. LAKE PARK BLVD) TO US HWY 421 (N. LAKE PARK BLVD) [MP 0.00 - MP 0.16]	3	2	2WU	NO	NO	0.16	18	0.00	0.16										
TOTAL FOR MAP NO. 3										0.16													
2025CPT.03.05.20651	New Hanover	4	SR-1576 (RIVER RD)	FROM US HWY 421 (CAROLINA BEACH ROAD) TO MOTT CREEK BRIDGE 17 (NS) [MP 0.03 - MP 6.75]	4, 5	2	2WU	NO	NO	6.72	28	0.03	6.75									1	
TOTAL FOR MAP NO. 4										6.72												1	
TOTAL FOR PROJ NO. 2025CPT.03.05.20651										6.88												1	
																				1			
2025CPT.03.05.20652	New Hanover	5	SR-1521 (PEDEN POINT RD)	FROM SR 1492 (MYRTLE GROVE RD) TO DEAD END [MP 1.05 - MP 1.61]	6	2	2WU	NO	NO	0.56	18	1.05	1.61										
TOTAL FOR MAP NO. 5										0.56													
TOTAL FOR PROJ NO. 2025CPT.03.05.20652										0.56													
GRAND TOTAL										10.15				7	20	40	56	14	268	60	3	9	
														60			342			12			

PROJECT NO.	SHEET NO.
2025CPT.03.05.10651, ETC.	20

SUMMARY OF QUANTITIES

PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	TYP NO	LANES	LANE TYPE	FINAL SURFACE TESTING REQUIRED	WARM MIX ASPHALT REQUIRED	LENGTH	WIDTH	BEGIN MP	END MP	2815000000-N	2830000000-N	2845000000-N	5255000000-N	6000000000-E	6009000000-E	6012000000-E
														ADJUSTMENT OF DROP INLET	ADJUSTMENT OF MANHOLES	ADJUSTMENT OF METER OR VALVE BOX	PORTABLE LIGHTING	TEMPORARY SILT FENCE	STONE FOR EC CLASS B	SEDIMENT CONTROL STONE
														EA	EA	EA	LS	LF	TON	TON
2025CPT.03.05.10651	New Hanover	1	US HWY 421 (LAKE PARK BLVD)	FROM CAROLINA SANDS DR (NS) TO BRIDGE #30 (OVER THE ICWW) [MP 5.56 - MP 7.70]	1, 2, 3	4	MU	NO	NO	2.14	45	5.56	7.70	14	29	20	0.50	225	55	55
TOTAL FOR MAP NO. 1										2.14				14	29	20	0.50	225	55	55
2025CPT.03.05.10651	New Hanover	2	US HWY 421 (LAKE PARK BLVD SBL)	FROM BRIDGE #30 (OVER ICWW) TO SR 1574 [MP 21.81 - MP 22.38]	2, 3	2	MU	NO	NO	0.57	40	21.81	22.38		2		0.50	65	15	15
TOTAL FOR MAP NO. 2										0.57					2		0.50	65	15	15
TOTAL FOR PROJ NO. 2025CPT.03.05.10651										2.71				14	31	20	1	290	70	70
2025CPT.03.05.20651	New Hanover	3	SR-1574 (SERVICE RD)	FROM US HWY 421 (N. LAKE PARK BLVD) TO US HWY 421 (N. LAKE PARK BLVD) [MP 0.00 - MP 0.16]	3	2	2WU	NO	NO	0.16	18	0.00	0.16							
TOTAL FOR MAP NO. 3										0.16										
2025CPT.03.05.20651	New Hanover	4	SR-1576 (RIVER RD)	FROM US HWY 421 (CAROLINA BEACH ROAD) TO MOTT CREEK BRIDGE 17 (NS) [MP 0.03 - MP 6.75]	4, 5	2	2WU	NO	NO	6.72	28	0.03	6.75		1	3		677	170	170
TOTAL FOR MAP NO. 4										6.72					1	3		677	170	170
TOTAL FOR PROJ NO. 2025CPT.03.05.20651										6.88					1	3		677	170	170
2025CPT.03.05.20652	New Hanover	5	SR-1521 (PEDEN POINT RD)	FROM SR 1492 (MYRTLE GROVE RD) TO DEAD END [MP 1.05 - MP 1.61]	6	2	2WU	NO	NO	0.56	18	1.05	1.61							
TOTAL FOR MAP NO. 5										0.56										
TOTAL FOR PROJ NO. 2025CPT.03.05.20652										0.56										
GRAND TOTAL										10.15				14	32	23	1	967	240	240

PROJECT NO.	SHEET NO.
2025CPT.03.05.10651, ETC.	21

SUMMARY OF QUANTITIES

PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	TYP NO	LANES	LANE TYPE	FINAL SURFACE TESTING REQUIRED	WARM MIX ASPHALT REQUIRED	LENGTH	WIDTH	BEGIN MP	END MP	6015000000-E	6018000000-E	6021000000-E	6036000000-E	6042000000-E	6071010000-E	6084000000-E			
														TEMPORARY MULCHING	SEED FOR TEMPORARY SEEDING	FERTILIZER FOR TEMPORARY SEEDING	MATTING FOR EROSION CONTROL	1/4" HARDWARE CLOTH	WATTLE	SEED & MULCHING			
														MI	FT								
														ACR	LBS	TON	SY	LF	LF	AC			
2025CPT.03.05.10651	New Hanover	1	US HWY 421 (LAKE PARK BLVD)	FROM CAROLINA SANDS DR (NS) TO BRIDGE #30 (OVER THE ICWW) [MP 5.56 - MP 7.70]	1, 2, 3	4	MU	NO	NO	2.14	45	5.56	7.70	2.25	110	0.55	20	110	40	2.20			
TOTAL FOR MAP NO. 1										2.14				2.25	110	0.55	20	110	40	2.20			
2025CPT.03.05.10651	New Hanover	2	US HWY 421 (LAKE PARK BLVD SBL)	FROM BRIDGE #30 (OVER ICWW) TO SR 1574 [MP 21.81 - MP 22.38]	2, 3	2	MU	NO	NO	0.57	40	21.81	22.38	0.65	30	0.15	10	30	10	0.60			
TOTAL FOR MAP NO. 2										0.57				0.65	30	0.15	10	30	10	0.60			
TOTAL FOR PROJ NO. 2025CPT.03.05.10651										2.71				2.90	140	0.70	30	140	50	2.80			
2025CPT.03.05.20651	New Hanover	3	SR-1574 (SERVICE RD)	FROM US HWY 421 (N. LAKE PARK BLVD) TO US HWY 421 (N. LAKE PARK BLVD) [MP 0.00 - MP 0.16]	3	2	2WU	NO	NO	0.16	18	0.00	0.16										
TOTAL FOR MAP NO. 3										0.16													
2025CPT.03.05.20651	New Hanover	4	SR-1576 (RIVER RD)	FROM US HWY 421 (CAROLINA BEACH ROAD) TO MOTT CREEK BRIDGE 17 (NS) [MP 0.03 - MP 6.75]	4, 5	2	2WU	NO	NO	6.72	28	0.03	6.75	6.75	340	1.70	50	340	110	6.50			
TOTAL FOR MAP NO. 4										6.72				6.75	340	1.70	50	340	110	6.50			
TOTAL FOR PROJ NO. 2025CPT.03.05.20651										6.88				6.75	340	1.70	50	340	110	6.50			
2025CPT.03.05.20652	New Hanover	5	SR-1521 (PEDEN POINT RD)	FROM SR 1492 (MYRTLE GROVE RD) TO DEAD END [MP 1.05 - MP 1.61]	6	2	2WU	NO	NO	0.56	18	1.05	1.61										
TOTAL FOR MAP NO. 5										0.56													
TOTAL FOR PROJ NO. 2025CPT.03.05.20652										0.56													
GRAND TOTAL										10.15				9.65	480	2.40	80	480	160	9.30			

PROJECT NO.	SHEET NO.
2025CPT.03.05.10651, ETC.	22

SUMMARY OF QUANTITIES

PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	TYP NO	LANES	LANE TYPE	FINAL SURFACE TESTING REQUIRED	WARM MIX ASPHALT REQUIRED	LENGTH	WIDTH	BEGIN MP	END MP	6090000000-E	6093000000-E	6117000000-N	7060000000-E	7120000000-E	7132000000-E	7444000000-E		
														SEED FOR REPAIR SEEDING	FERTILIZER FOR REPAIR SEEDING	RESPONSE FOR EROSION CONTROL	SIGNAL CABLE 16-7	VEHICLE SIGNAL HEAD (12", 3 SECTION)	VEHICLE SIGNAL HEAD (12", 4 SECTION)	INDUCTIVE LOOP SAWCUT		
														MI	FT	LB	TON	EA	LF	EA	EA	LF
2025CPT.03.05.10651	New Hanover	1	US HWY 421 (LAKE PARK BLVD)	FROM CAROLINA SANDS DR (NS) TO BRIDGE #30 (OVER THE ICWW) [MP 5.56 - MP 7.70]	1, 2, 3	4	MU	NO	NO	2.14	45	5.56	7.70	110	0.55	5	160	2	1	6,234		
TOTAL FOR MAP NO. 1										2.14				110	0.55	5	160	2	1	6,234		
2025CPT.03.05.10651	New Hanover	2	US HWY 421 (LAKE PARK BLVD SBL)	FROM BRIDGE #30 (OVER ICWW) TO SR 1574 [MP 21.81 - MP 22.38]	2, 3	2	MU	NO	NO	0.57	40	21.81	22.38	30	0.15	2						
TOTAL FOR MAP NO. 2										0.57				30	0.15	2						
TOTAL FOR PROJ NO. 2025CPT.03.05.10651										2.71				140	0.70	7	160	2	1	6,234		
2025CPT.03.05.20651	New Hanover	3	SR-1574 (SERVICE RD)	FROM US HWY 421 (N. LAKE PARK BLVD) TO US HWY 421 (N. LAKE PARK BLVD) [MP 0.00 - MP 0.16]	3	2	2WU	NO	NO	0.16	18	0.00	0.16									
TOTAL FOR MAP NO. 3										0.16												
2025CPT.03.05.20651	New Hanover	4	SR-1576 (RIVER RD)	FROM US HWY 421 (CAROLINA BEACH ROAD) TO MOTT CREEK BRIDGE 17 (NS) [MP 0.03 - MP 6.75]	4, 5	2	2WU	NO	NO	6.72	28	0.03	6.75	340	1.70	14				510		
TOTAL FOR MAP NO. 4										6.72				340	1.70	14				510		
TOTAL FOR PROJ NO. 2025CPT.03.05.20651										6.88				340	1.70	14				510		
2025CPT.03.05.20652	New Hanover	5	SR-1521 (PEDEN POINT RD)	FROM SR 1492 (MYRTLE GROVE RD) TO DEAD END [MP 1.05 - MP 1.61]	6	2	2WU	NO	NO	0.56	18	1.05	1.61									
TOTAL FOR MAP NO. 5										0.56												
TOTAL FOR PROJ NO. 2025CPT.03.05.20652										0.56												
GRAND TOTAL										10.15				480	2.40	21	160	2	1	6,744		

PROJECT NO.	SHEET NO.
2025CPT.03.05.10651, ETC.	23

THERMOPLASTIC AND PAINT QUANTITIES

PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	TYP NO	LANES	LANE TYPE	LENGTH	WIDTH	BEGIN MP	END MP	4413000000-E	4415000000-N	4420000000-N	4434000000-N	4457000000-N	4480000000-N	4510000000-N	4685000000-E	
												WORK ZONE ADVANCE/GENERAL WARNING SIGNING	FLASHING ARROW BOARD	PORT CHANG MSG SIGN	SEQUENTIAL FLASHING WARNING LIGHTS	TEMPORARY TRAFFIC CONTROL	TMA	LAW ENFORCEMENT	4" X 90 M WHITE THERMO	4" X 90 M YELLOW THERMO
												MI	EA	EA	EA	LS	EA	HR	LF	LF
2025CPT.03.05.10651	New Hanover	1	US HWY 421 (LAKE PARK BLVD)	FROM CAROLINA SANDS DR (NS) TO BRIDGE #30 (OVER THE ICWW) [MP 5.56 - MP 7.70]	1, 2, 3	4	MU	2.14	45	5.56	7.70	256	2	2	10	0.22	2	280	4,442	
TOTAL FOR MAP NO. 1							2.14					256	2	2	10	0.22	2	280	4,442	
2025CPT.03.05.10651	New Hanover	2	US HWY 421 (LAKE PARK BLVD SBL)	FROM BRIDGE #30 (OVER ICWW) TO SR 1574 [MP 21.81 - MP 22.38]	2, 3	2	MU	0.57	40	21.81	22.38	80	1	1	10	0.06	1	80		
TOTAL FOR MAP NO. 2							0.57					80	1	1	10	0.06	1	80		
TOTAL FOR PROJ NO. 2025CPT.03.05.10651							2.71					336	3	3	20	0.28	3	360	4,442	
																			4,442	
2025CPT.03.05.20651	New Hanover	3	SR-1574 (SERVICE RD)	FROM US HWY 421 (N. LAKE PARK BLVD) TO US HWY 421 (N. LAKE PARK BLVD) [MP 0.00 - MP 0.16]	3	2	2WU	0.16	18	0.00	0.16							40		1,514
TOTAL FOR MAP NO. 3							0.16											40		1,514
2025CPT.03.05.20651	New Hanover	4	SR-1576 (RIVER RD)	FROM US HWY 421 (CAROLINA BEACH ROAD) TO MOTT CREEK BRIDGE 17 (NS) [MP 0.03 - MP 6.75]	4, 5	2	2WU	6.72	28	0.03	6.75	768						80		
TOTAL FOR MAP NO. 4							6.72					768						80		
TOTAL FOR PROJ NO. 2025CPT.03.05.20651							6.88					768						120		1,514
																			1,514	
2025CPT.03.05.20652	New Hanover	5	SR-1521 (PEDEN POINT RD)	FROM SR 1492 (MYRTLE GROVE RD) TO DEAD END [MP 1.05 - MP 1.61]	6	2	2WU	0.56	18	1.05	1.61							0.05		
TOTAL FOR MAP NO. 5							0.56											0.05		
TOTAL FOR PROJ NO. 2025CPT.03.05.20652							0.56											0.05		
GRAND TOTAL								10.15				1,104	3	3	20	1	3	480	4,442	1,514
																			5,956	

PROJECT NO.	SHEET NO.
2025CPT.03.05.10651, ETC.	24

THERMOPLASTIC AND PAINT QUANTITIES

PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	TYP NO	LANES	LANE TYPE	LENGTH	WIDTH	BEGIN MP	END MP	4688000000-E		4695000000-E		4700000000-E	4709000000-E	4720000000-E			
												6" X90 M YELLOW THERMO	6" X90 M WHITE THERMO	8" X90 M YELLOW THERMO	8" X90 M WHITE THERMO	12" X90 M WHITE THERMO	THERMOPLAST IC PAVEMENT MARKING LINES (24" X 90 MILS)	THERMO MSG ONLY (90 MIL)	THERMOPLAST IC PAVEMENT MARKING CHARACTER (90 MILS)	THERMO MSG BIKE LANE 90 M	
												MI	FT	LF	LF	LF	LF	EA	EA	EA	
2025CPT.03.05.10651	New Hanover	1	US HWY 421 (LAKE PARK BLVD)	FROM CAROLINA SANDS DR (NS) TO BRIDGE #30 (OVER THE ICWW) [MP 5.56 - MP 7.70]	1, 2, 3	4	MU	2.14	45	5.56	7.70	17,002	6,728	193	3,190	746	1,141	8	9		
TOTAL FOR MAP NO. 1								2.14				17,002	6,728	193	3,190	746	1,141	8	9		
2025CPT.03.05.10651	New Hanover	2	US HWY 421 (LAKE PARK BLVD SBL)	FROM BRIDGE #30 (OVER ICWW) TO SR 1574 [MP 21.81 - MP 22.38]	2, 3	2	MU	0.57	40	21.81	22.38	847	4,895	40		150	258	2			
TOTAL FOR MAP NO. 2								0.57				847	4,895	40		150	258	2			
TOTAL FOR PROJ NO. 2025CPT.03.05.10651								2.71				17,849	11,623	233	3,190	896	1,399	10	9		
												29,472	3,423				19				
2025CPT.03.05.20651	New Hanover	3	SR-1574 (SERVICE RD)	FROM US HWY 421 (N. LAKE PARK BLVD) TO US HWY 421 (N. LAKE PARK BLVD) [MP 0.00 - MP 0.16]	3	2	2WU	0.16	18	0.00	0.16						10				
TOTAL FOR MAP NO. 3								0.16									10				
2025CPT.03.05.20651	New Hanover	4	SR-1576 (RIVER RD)	FROM US HWY 421 (CAROLINA BEACH ROAD) TO MOTT CREEK BRIDGE 17 (NS) [MP 0.03 - MP 6.75]	4, 5	2	2WU	6.72	28	0.03	6.75	52,786	73,786				49			9	
TOTAL FOR MAP NO. 4								6.72				52,786	73,786				49			9	
TOTAL FOR PROJ NO. 2025CPT.03.05.20651								6.88				52,786	73,786				59			9	
												126,572				9					
2025CPT.03.05.20652	New Hanover	5	SR-1521 (PEDEN POINT RD)	FROM SR 1492 (MYRTLE GROVE RD) TO DEAD END [MP 1.05 - MP 1.61]	6	2	2WU	0.56	18	1.05	1.61										
TOTAL FOR MAP NO. 5								0.56													
TOTAL FOR PROJ NO. 2025CPT.03.05.20652								0.56													
GRAND TOTAL								10.15				70,635	85,409	233	3,190	896	1,458	10	9	9	
												156,044		3,423				28			

PROJECT NO.	SHEET NO.
2025CPT.03.05.10651, ETC.	25

THERMOPLASTIC AND PAINT QUANTITIES

PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	TYP NO	LANES	LANE TYPE	LENGTH	WIDTH	BEGIN MP	END MP	472500000-E					472610000-E	4726110000-E			
												THERMO STR ARROW (90 MIL)	THERMO LT ARROW (90 MIL)	THERMO RT ARROW (90 MIL)	THERMO STR & LT ARROW (90 MIL)	THERMO STR & RT ARROW (90 MIL)	24" YIELD LINE TRIANGLE (90 MIL)	HEATED-IN-PLACE THERMOPLAST IC PAVEMENT MARKING CHARACTER	HEATED-IN-PLACE THERMOPLAST IC PVMT. MARKING SYMBOL	HEATED-IN-PLACE THERMOPLAST IC BIKE SYM	
												EA	EA	EA	EA	EA	EA	EA	EA	EA	
2025CPT.03.05.10651	New Hanover	1	US HWY 421 (LAKE PARK BLVD)	FROM CAROLINA SANDS DR (NS) TO BRIDGE #30 (OVER THE ICWW) [MP 5.56 - MP 7.70]	1, 2, 3	4	MU	2.14	45	5.56	7.70	17	9	8	17	20		6			
TOTAL FOR MAP NO. 1								2.14				17	9	8	17	20		6			
2025CPT.03.05.10651	New Hanover	2	US HWY 421 (LAKE PARK BLVD SBL)	FROM BRIDGE #30 (OVER ICWW) TO SR 1574 [MP 21.81 - MP 22.38]	2, 3	2	MU	0.57	40	21.81	22.38	8	6	8		2					
TOTAL FOR MAP NO. 2								0.57				8	6	8		2					
TOTAL FOR PROJ NO. 2025CPT.03.05.10651								2.71				25	15	16	17	22			6		
												95						6			
2025CPT.03.05.20651	New Hanover	3	SR-1574 (SERVICE RD)	FROM US HWY 421 (N. LAKE PARK BLVD) TO US HWY 421 (N. LAKE PARK BLVD) [MP 0.00 - MP 0.16]	3	2	2WU	0.16	18	0.00	0.16										
TOTAL FOR MAP NO. 3								0.16													
2025CPT.03.05.20651	New Hanover	4	SR-1576 (RIVER RD)	FROM US HWY 421 (CAROLINA BEACH ROAD) TO MOTT CREEK BRIDGE 17 (NS) [MP 0.03 - MP 6.75]	4, 5	2	2WU	6.72	28	0.03	6.75	62	8	14	1		15	8	62		
TOTAL FOR MAP NO. 4								6.72				62	8	14	1		15	8		62	
TOTAL FOR PROJ NO. 2025CPT.03.05.20651								6.88				62	8	14	1		15	8		62	
												100						62			
2025CPT.03.05.20652	New Hanover	5	SR-1521 (PEDEN POINT RD)	FROM SR 1492 (MYRTLE GROVE RD) TO DEAD END [MP 1.05 - MP 1.61]	6	2	2WU	0.56	18	1.05	1.61										
TOTAL FOR MAP NO. 5								0.56													
TOTAL FOR PROJ NO. 2025CPT.03.05.20652								0.56													
GRAND TOTAL								10.15				87	23	30	18	22	15	8	6	62	
												195						68			

PROJECT NO.	SHEET NO.
2025CPT.03.05.10651, ETC.	26

THERMOPLASTIC AND PAINT QUANTITIES

PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	TYP NO	LANES	LANE TYPE	LENGTH	WIDTH	BEGIN MP	END MP	4810000000-E		4850000000-E	4900000000-N	4905100000-N		
												4" WHITE PAINT	4" YELLOW PAINT	REMOVAL OF PAVEMENT MARKING LINES (4")	YELLOW & YELLOW MARKERS	NON CAST IRON SNOWPLOWABLE MARKERS (Y/Y)	NON CAST IRON SNOWPLOWABLE MARKERS (C/R)	
												LF	LF	LF	EA	EA	EA	
								MI	FT									
2025CPT.03.05.10651	New Hanover	1	US HWY 421 (LAKE PARK BLVD)	FROM CAROLINA SANDS DR (NS) TO BRIDGE #30 (OVER THE ICWW) [MP 5.56 - MP 7.70]	1, 2, 3	4	MU	2.14	45	5.56	7.70	3,950			93	220	235	
TOTAL FOR MAP NO. 1								2.14				3,950			93	220	235	
2025CPT.03.05.10651	New Hanover	2	US HWY 421 (LAKE PARK BLVD SBL)	FROM BRIDGE #30 (OVER ICWW) TO SR 1574 [MP 21.81 - MP 22.38]	2, 3	2	MU	0.57	40	21.81	22.38				75	5	120	
TOTAL FOR MAP NO. 2								0.57							75	5	120	
TOTAL FOR PROJ NO. 2025CPT.03.05.10651								2.71				3,950			168	225	355	
												3,950			580			
2025CPT.03.05.20651	New Hanover	3	SR-1574 (SERVICE RD)	FROM US HWY 421 (N. LAKE PARK BLVD) TO US HWY 421 (N. LAKE PARK BLVD) [MP 0.00 - MP 0.16]	3	2	2WU	0.16	18	0.00	0.16				18	10		
TOTAL FOR MAP NO. 3								0.16							18	10		
2025CPT.03.05.20651	New Hanover	4	SR-1576 (RIVER RD)	FROM US HWY 421 (CAROLINA BEACH ROAD) TO MOTT CREEK BRIDGE 17 (NS) [MP 0.03 - MP 6.75]	4, 5	2	2WU	6.72	28	0.03	6.75	74,356	53,364	570		530	122	
TOTAL FOR MAP NO. 4								6.72				74,356	53,364	570		530	122	
TOTAL FOR PROJ NO. 2025CPT.03.05.20651								6.88				74,356	53,364	570	18	540	122	
												127,720			662			
2025CPT.03.05.20652	New Hanover	5	SR-1521 (PEDEN POINT RD)	FROM SR 1492 (MYRTLE GROVE RD) TO DEAD END [MP 1.05 - MP 1.61]	6	2	2WU	0.56	18	1.05	1.61							
TOTAL FOR MAP NO. 5								0.56										
TOTAL FOR PROJ NO. 2025CPT.03.05.20652								0.56										
GRAND TOTAL								10.15				78,306	53,364	570	186	765	477	
												131,670			1,242			

TIP NO. 2025CPT.03.05.10651	SHEET NO. PMP-1
APPROVED: _____	
DATE: _____	
SEAL	
DocuSigned by: <i>Jonathan Guy</i>	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

PAVEMENT MARKING PLAN
NEW HANOVER COUNTY

LOCATION: N LAKE PARK BLVD (US 421) FROM CHARLOTTE AVE TO HARPER AVE

TIP PROJECT:

ROADWAY STANDARD DRAWING

THE FOLLOWING ROADWAY STANDARDS AS THEY APPEAR IN "ROADWAY STANDARD DRAWINGS" -N.C. DEPARTMENT OF TRANSPORTATION - RALEIGH, N.C., DATED JANUARY 2024 ARE APPLICABLE TO THIS PROJECT AND BY REFERENCE HEREBY ARE CONSIDERED A PART OF THESE PLANS:

STD. NO.	TITLE
1205.01	PAVEMENT MARKINGS - LINE TYPES AND OFFSETS
1205.02	PAVEMENT MARKINGS - TWO-LANE AND MULTI-LANE ROADWAYS
1205.04	PAVEMENT MARKINGS - INTERSECTIONS
1205.05	PAVEMENT MARKINGS - TURN LANES
1205.06	PAVEMENT MARKINGS - LANE DROPS
1205.07	PAVEMENT MARKINGS - PEDESTRIAN CROSSWALKS
1205.08	PAVEMENT MARKINGS - SYMBOLS AND WORD MESSAGES
1205.09	PAVEMENT MARKINGS - PAINTED ISLANDS
1250.01	RAISED PAVEMENT MARKERS - INSTALLATION SPACING
1251.01	RAISED PAVEMENT MARKERS - PERMANENT AND TEMPORARY

GENERAL NOTES

THE FOLLOWING GENERAL NOTES APPLY AT ALL TIMES FOR THE DURATION OF THE CONSTRUCTION PROJECT, EXCEPT WHEN OTHERWISE NOTED IN THE PLAN, OR DIRECTED BY THE ENGINEER.

- PAVEMENT MARKING NOTES:
- A) INSTALL PAVEMENT MARKINGS AND PAVEMENT MARKERS ON THE FINAL SURFACE AS FOLLOWS:

ROAD NAME	MARKING	MARKER
ALL ROADS	THERMOPLASTIC	PERMANENT RAISED
 - B) TIE PROPOSED PAVEMENT MARKING LINES TO EXISTING PAVEMENT MARKING LINES.
 - C) REMOVE/REPLACE ANY CONFLICTING/DAMAGED PAVEMENT MARKINGS AND MARKERS.
 - D) STOP BAR LOCATION AT NON-SIGNALIZED INTERSECTIONS MAY BE ADJUSTED AS DIRECTED BY THE ENGINEER.
 - E) UNLESS OTHERWISE SPECIFIED, HEATED-IN-PLACE THERMOPLASTIC MAY BE USED IN LIEU OF EXTRUDED THERMOPLASTIC FOR STOP BARS, SYMBOLS, CHARACTERS AND DIAGONALS. IF HEATED-IN-PLACE IS USED, IT SHALL BE PAID FOR USING THE EXTRUDED THERMOPLASTIC PAY ITEM.

PAVEMENT MARKING SCHEDULE

FINAL
PAVEMENT MARKINGS

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
THERMOPLASTIC PAVEMENT MARKINGS (4", 90 MILS)			
T1	WHITE EDGELINE		THERMOPLASTIC PAVEMENT MARKING SYMBOLS (90 MILS)
THERMOPLASTIC PAVEMENT MARKINGS (6", 90 MILS)			
T21	WHITE SOLID LANE LINE	T70	LEFT TURN ARROW
T22	10 FT. WHITE SKIP	T73	COMBO. LEFT/STRAIGHT ARROW
T33	YELLOW DOUBLE CENTER	T74	COMBO. RIGHT/STRAIGHT ARROW
		T100	ALPHANUMERIC CHAR.
		T101	HANDICAP PARKING
THERMOPLASTIC PAVEMENT MARKINGS (8", 90 MILS)			
T41	WHITE DIAGONAL	MA	PERMANENT RAISED PAVEMENT MARKERS YELLOW & YELLOW CRYSTAL & RED
T46	WHITE CROSSWALK LINE	MB	
THERMOPLASTIC PAVEMENT MARKINGS (24", 90 MILS)			
T61	WHITE STOPBAR		
T62	WHITE CROSSWALK LINE		

INDEX

SHEET NO.	DESCRIPTION
PMP-1	PAVEMENT MARKING PLAN TITLE AND SCHEDULE SHEET
PMP-2	PAVEMENT MARKING PLANS

CONTRACT:

\$FILE\$
\$DATE\$

PLAN REVIEWED BY: N.C.D.O.T. SIGNING AND DELINEATION UNIT		
_____	SIGNING & DELINEATION REGIONAL ENGINEER	
_____	SIGNING & DELINEATION PROJECT DESIGN ENGINEER	

PLAN PREPARED BY: Kimley-Horn and Associates		
JONATHAN GUY, P.E.	PROJECT DESIGN ENGINEER	
TIMOTHY BRUMFIELD, P.E.	DESIGNER	

TIP NO. 2025CPT.03.05.10651	SHEET NO. PMP-2
APPROVED: _____	
DATE: _____	
SEAL	
DocuSigned by: <i>Jonathan Guy</i> 342/18485238400	
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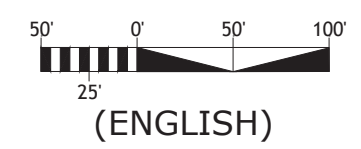
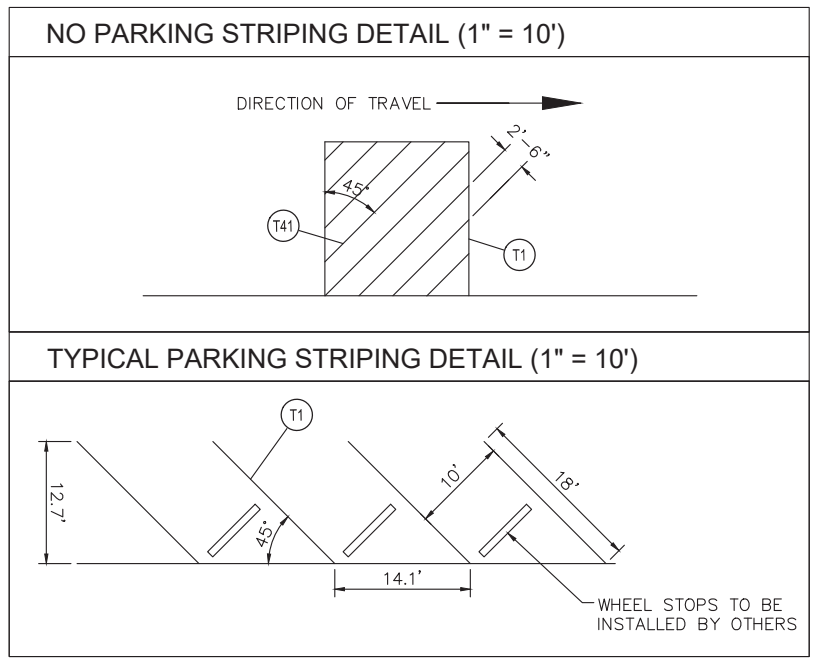
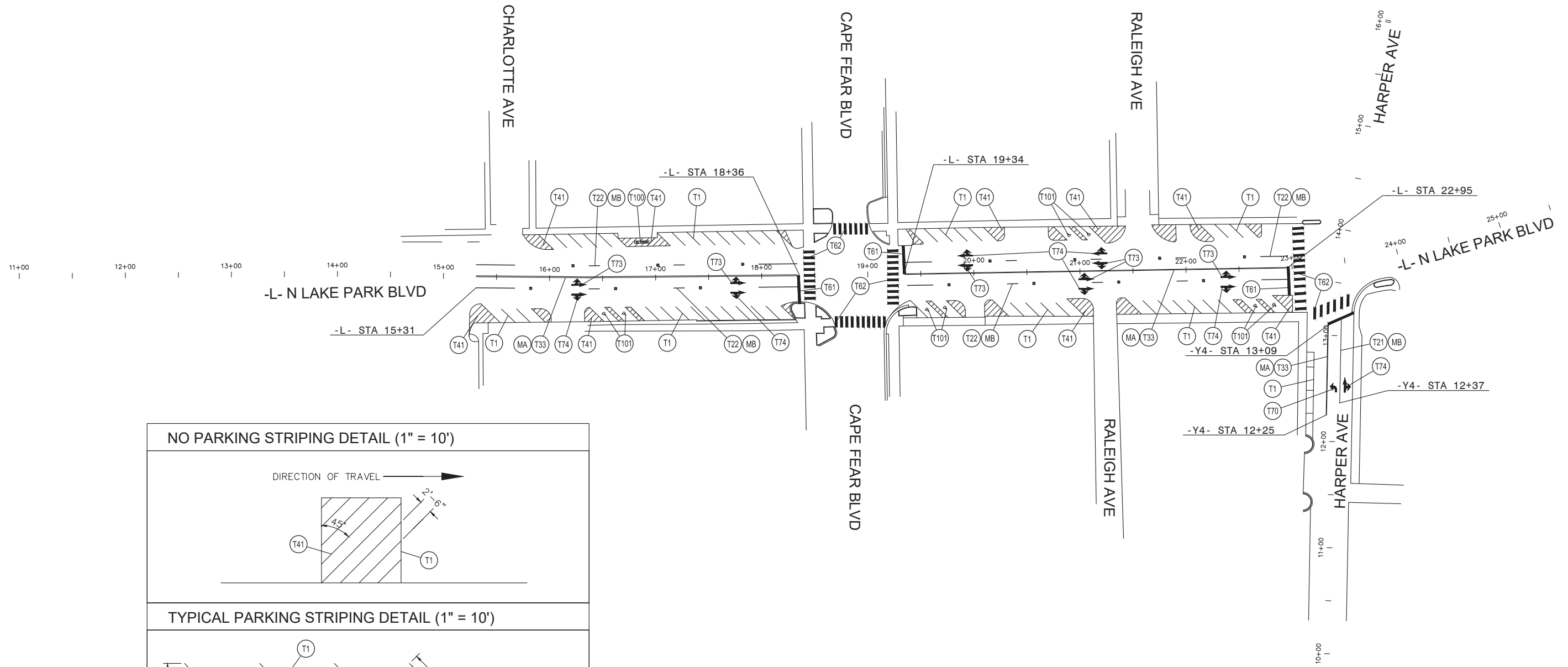
ACCESS PARKING SPACE SYMBOL



HEATED-IN PLACE THERMOPLASTIC

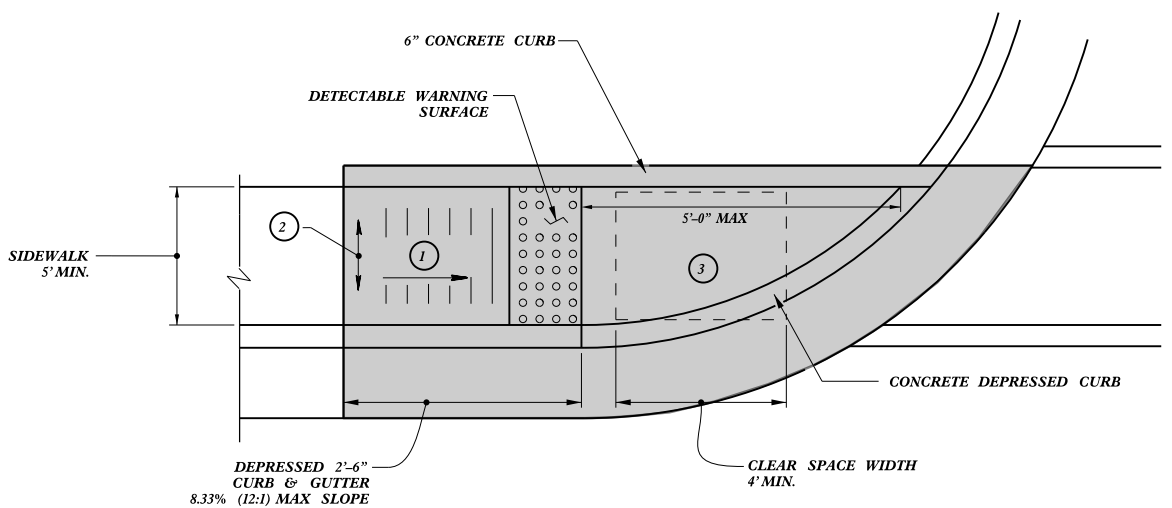
PAVEMENT MARKING FHWA / ADA APPROVED

SYMBOL & BORDER: WHITE / BACKGROUND: BLUE

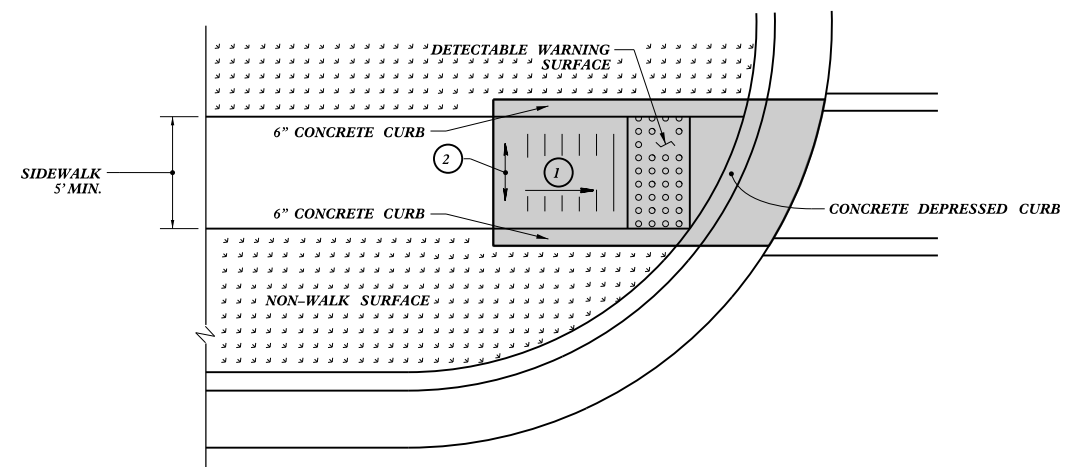


PAVEMENT MARKING DETAIL

\$FILE\$
\$DATE\$



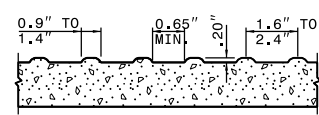
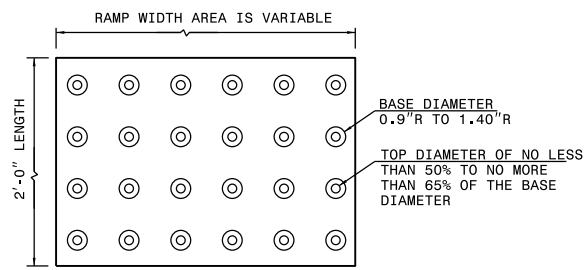
TYPE 1



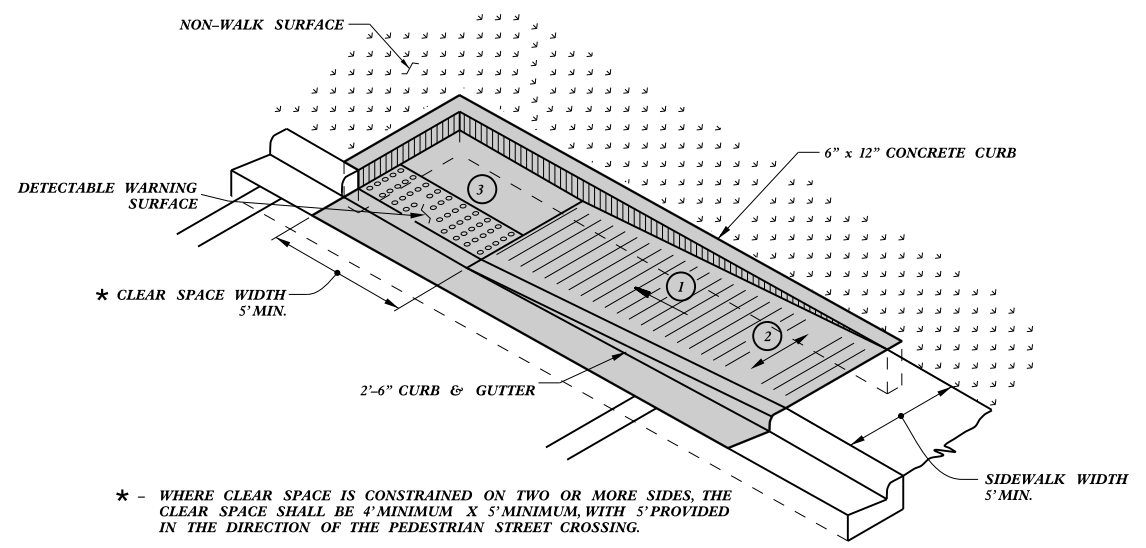
TYPE 1 MODIFIED

- 1 8.33% (12:1) MAX RAMP SLOPE
- 2 CROSS SLOPE: 2.00%
- 3 MAXIMUM CROSS SLOPE AND LONGITUDINAL SLOPE OF 2.00%.

NOTES:
DETECTABLE WARNING SURFACE SHALL COVER 2'-0" LENGTH AND FULL WIDTH OF THE RAMP FLOOR AS SHOWN ON THE DETAILS.
DETECTABLE WARNING SURFACE SHALL CONTRAST VISIBLY WITH ADJOINING SURFACE, EITHER LIGHT-ON-DARK, OR DARK-ON-LIGHT SEQUENCE COVERING THE ENTIRE RAMP.



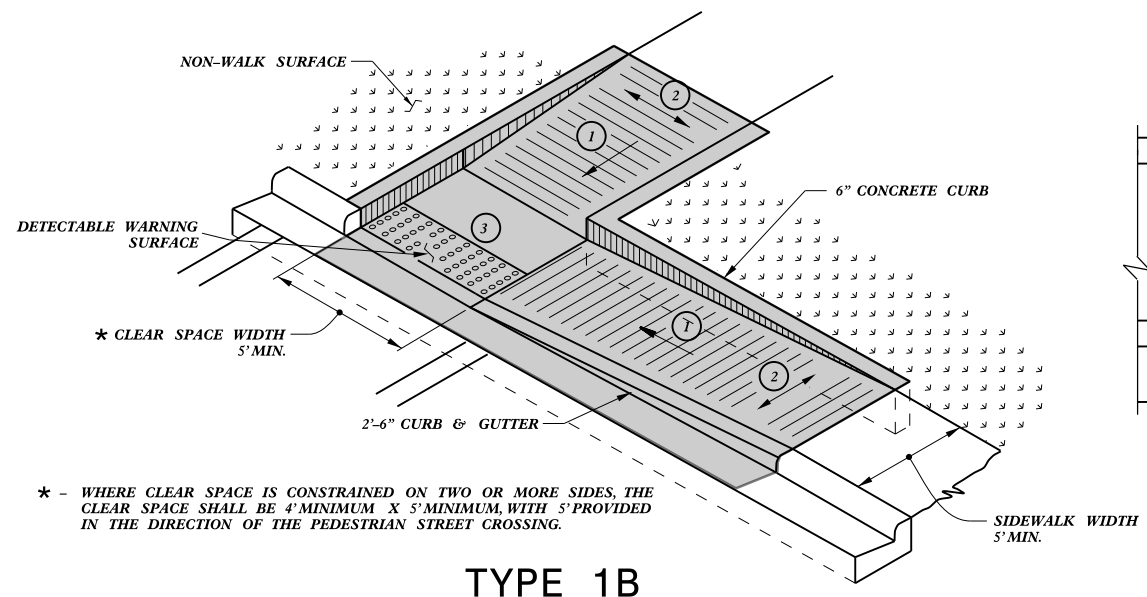
DETECTABLE WARNING SURFACE



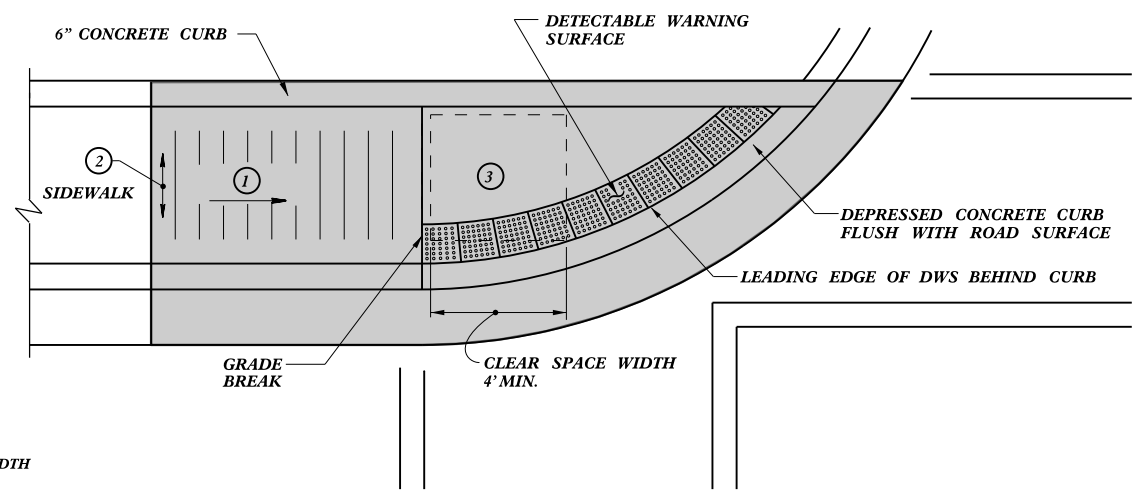
★ - WHERE CLEAR SPACE IS CONSTRAINED ON TWO OR MORE SIDES, THE CLEAR SPACE SHALL BE 4' MINIMUM X 5' MINIMUM, WITH 5' PROVIDED IN THE DIRECTION OF THE PEDESTRIAN STREET CROSSING.

TYPE 1A

PAY LIMITS FOR 1 CURB RAMP



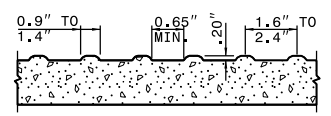
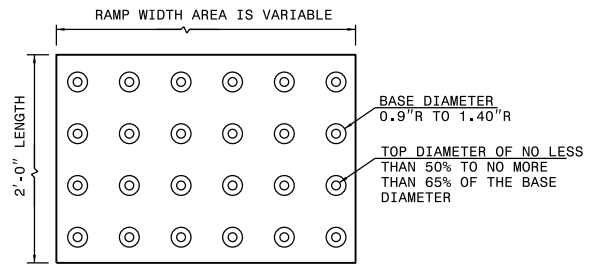
TYPE 1B



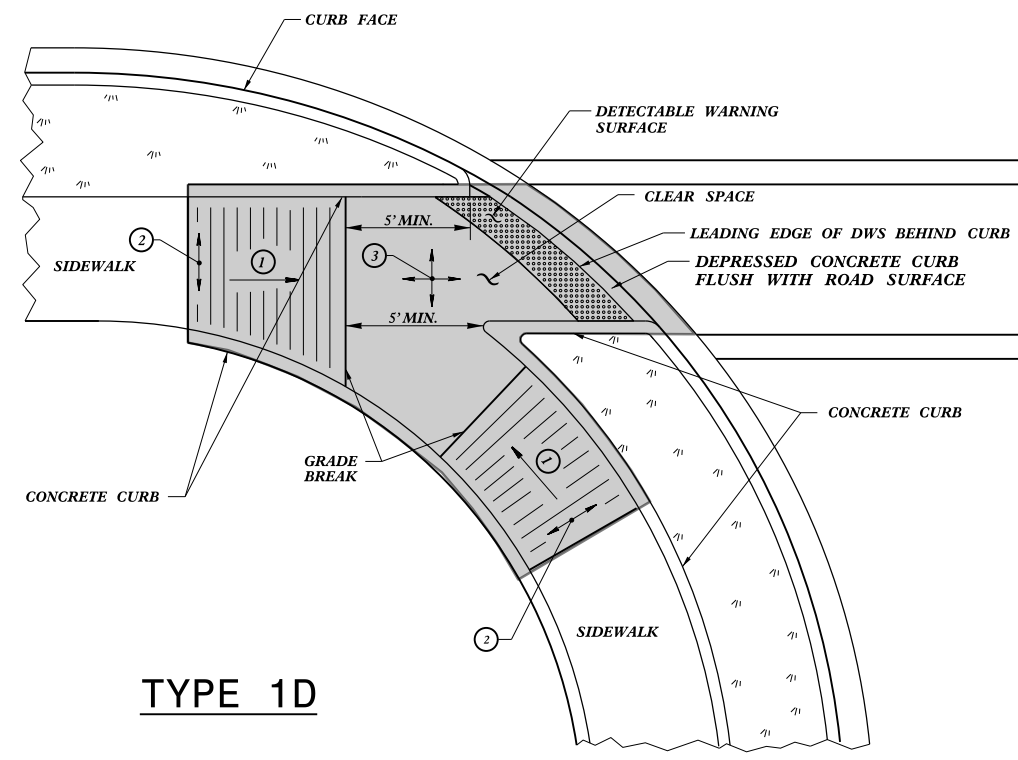
TYPE 1C

- ① 8.33% (12:1) MAX RAMP SLOPE
- ② CROSS SLOPE: 2.00%
- ③ MAXIMUM CROSS SLOPE AND LONGITUDINAL SLOPE OF 2.00%.

NOTES:
DETECTABLE WARNING SURFACE SHALL COVER 2'-0" LENGTH AND FULL WIDTH OF THE RAMP FLOOR AS SHOWN ON THE DETAILS.
DETECTABLE WARNING SURFACE SHALL CONTRAST VISIBLY WITH ADJOINING SURFACE, EITHER LIGHT-ON-DARK, OR DARK-ON-LIGHT SEQUENCE COVERING THE ENTIRE RAMP.



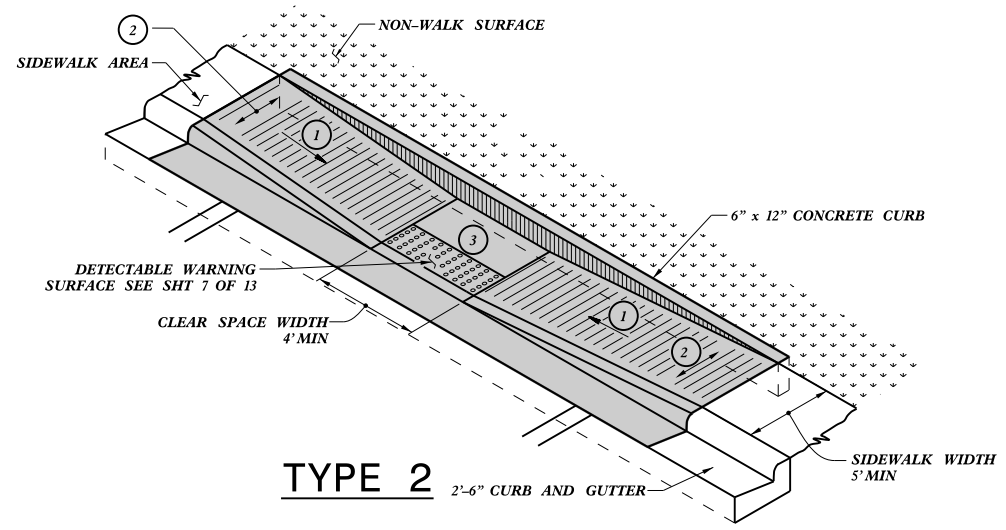
DETECTABLE WARNING SURFACE



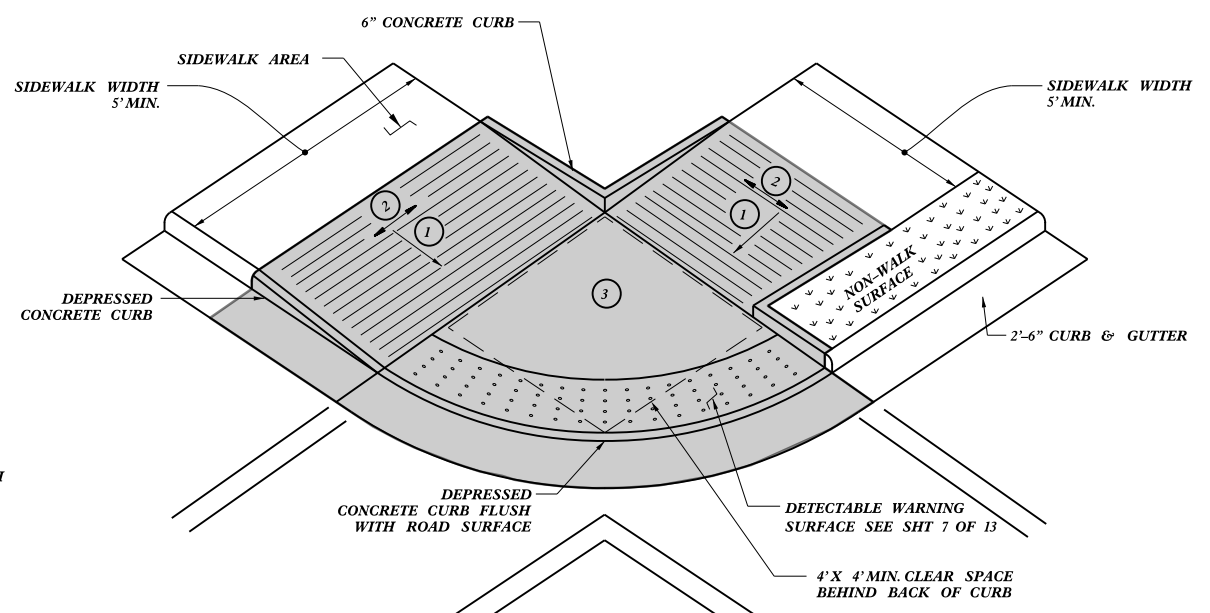
TYPE 1D

PAY LIMITS FOR 1 CURB RAMP

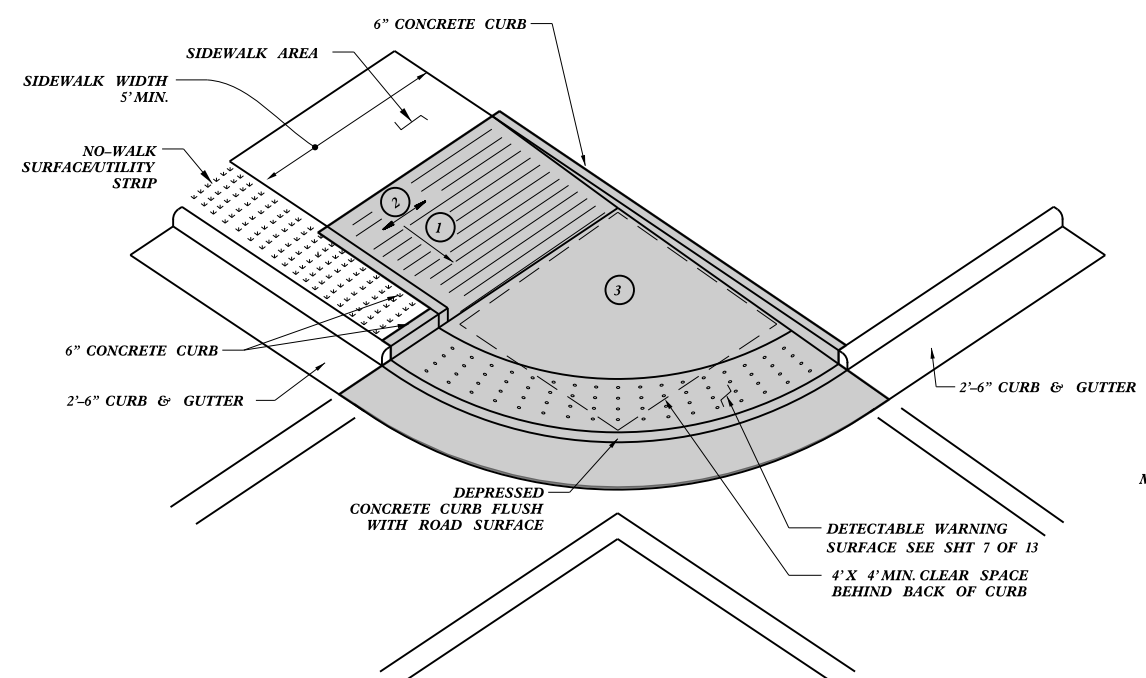
CURB RAMP
PARALLEL RAMP



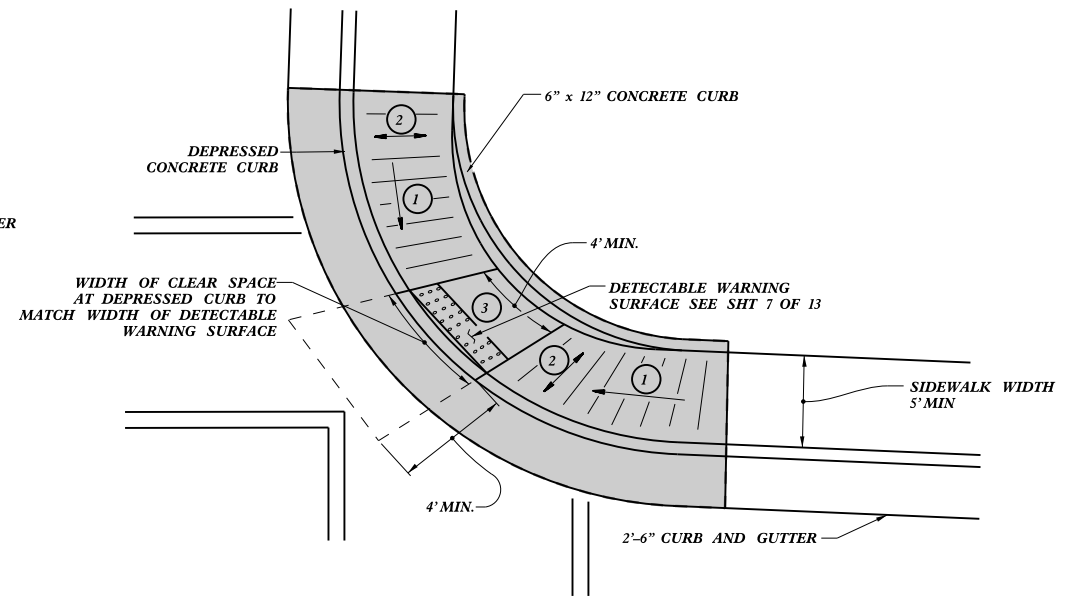
TYPE 2
2'-6" CURB AND GUTTER



TYPE 2A



TYPE 2A MODIFIED

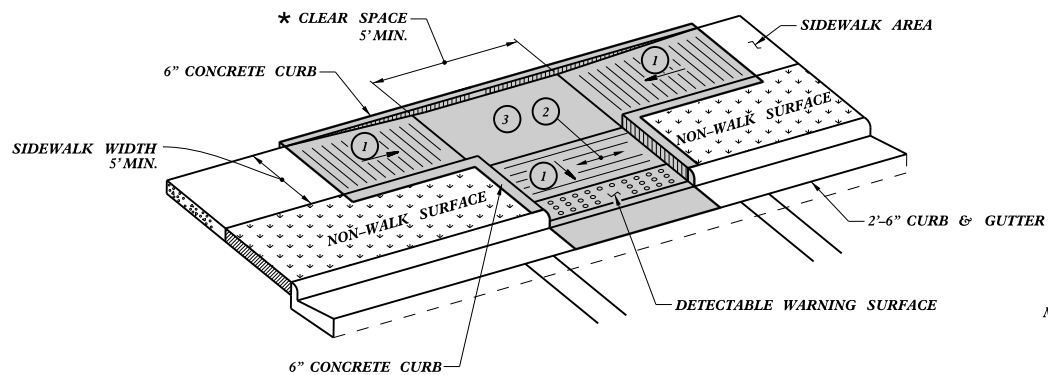


TYPE 2B

- ① 8.33% (12:1) MAX RAMP SLOPE
- ② CROSS SLOPE: 2.00%
- ③ MAXIMUM CROSS SLOPE AND LONGITUDINAL SLOPE OF 2.00%.

PAY LIMITS FOR 1 CURB RAMP

* - WHERE CLEAR SPACE IS CONSTRAINED ON TWO OR MORE SIDES, THE CLEAR SPACE SHALL BE 4' MINIMUM X 5' MINIMUM, WITH 5' PROVIDED IN THE DIRECTION OF THE PEDESTRIAN STREET CROSSING.

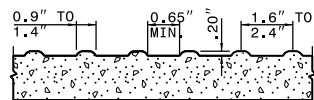
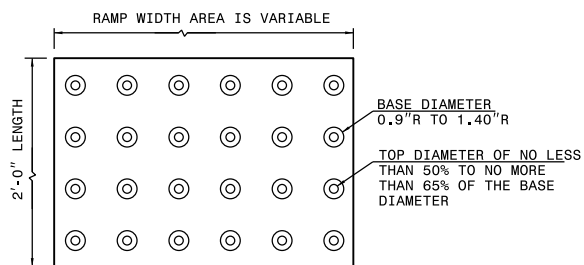


TYPE 3

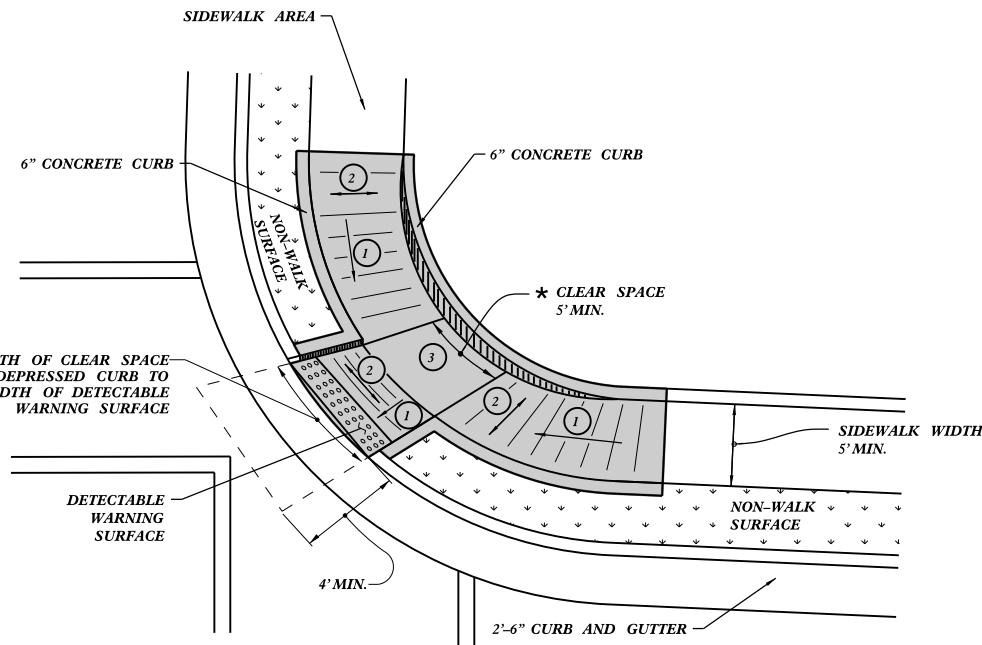
NOTES:

DETECTABLE WARNING SURFACE SHALL COVER 2'-0" LENGTH AND FULL WIDTH OF THE RAMP FLOOR AS SHOWN ON THE DETAILS.

DETECTABLE WARNING SURFACE SHALL CONTRAST VISIBLY WITH ADJOINING SURFACE, EITHER LIGHT-ON-DARK, OR DARK-ON-LIGHT SEQUENCE COVERING THE ENTIRE RAMP.




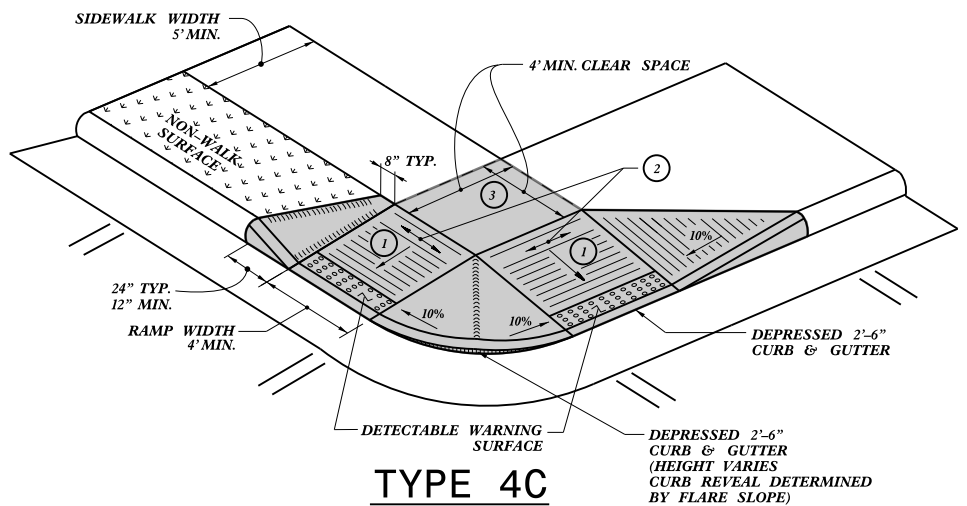
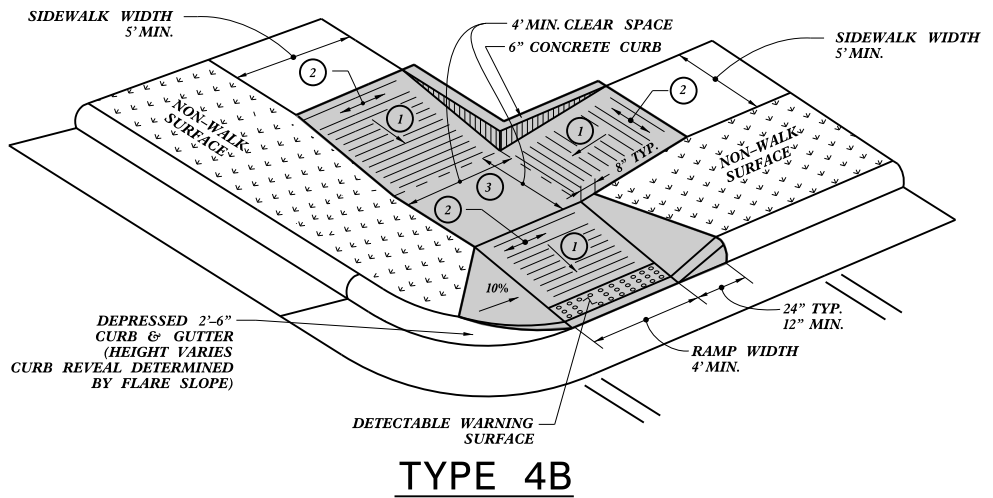
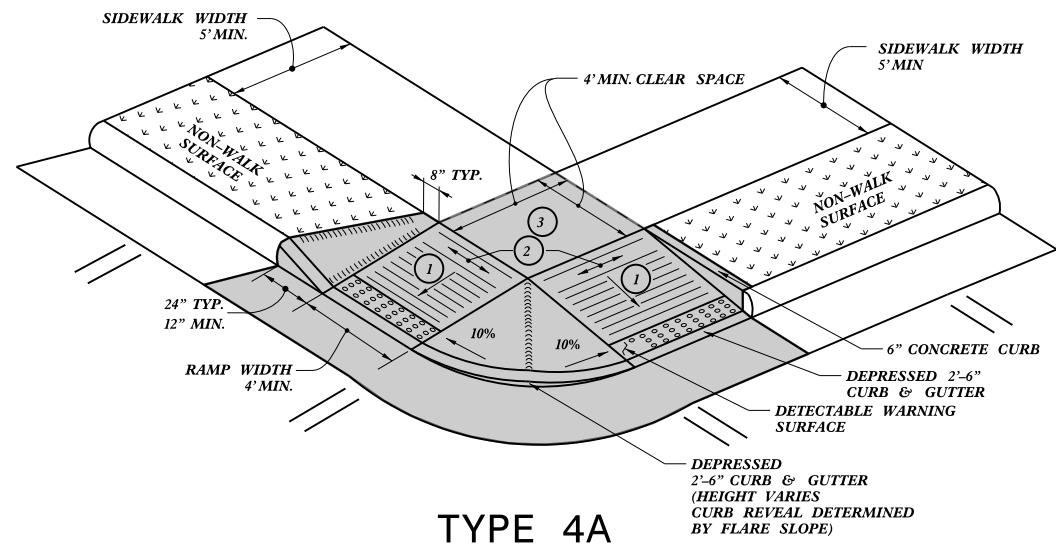
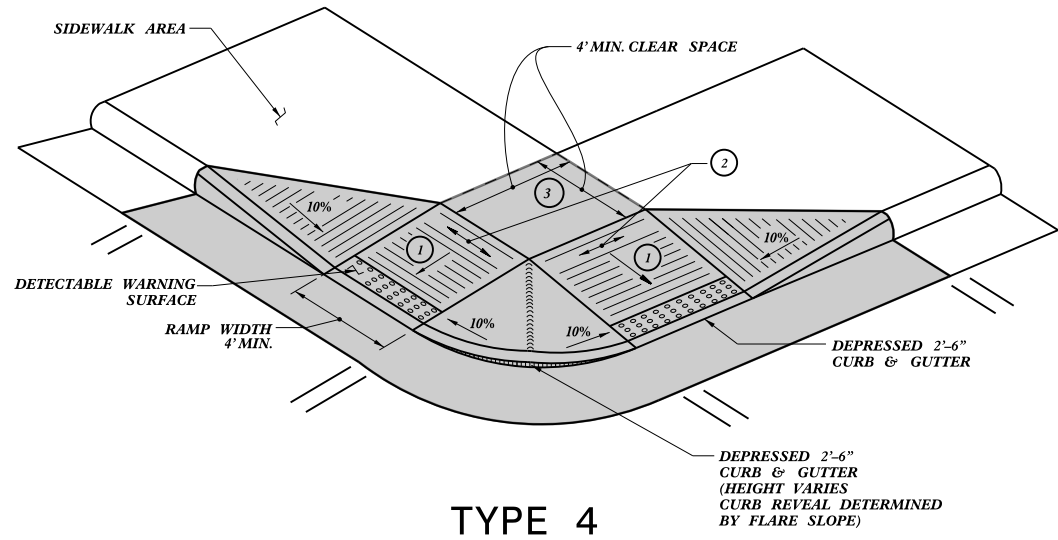
DETECTABLE WARNING SURFACE



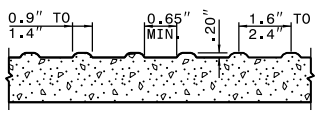
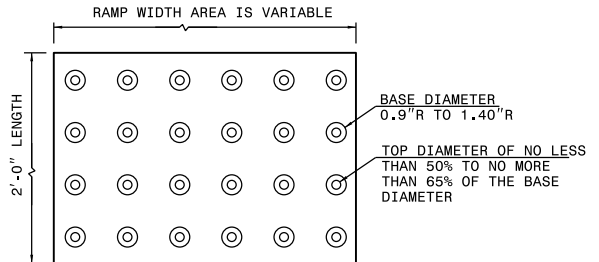
**TYPE 3 MODIFIED
INSTALLATION IN A RADIUS**

- 1 8.33% (12:1) MAX RAMP SLOPE
- 2 CROSS SLOPE: 2.00%
- 3 MAXIMUM CROSS SLOPE AND LONGITUDINAL SLOPE OF 2.00%

 PAY LIMITS FOR 1 CURB RAMP



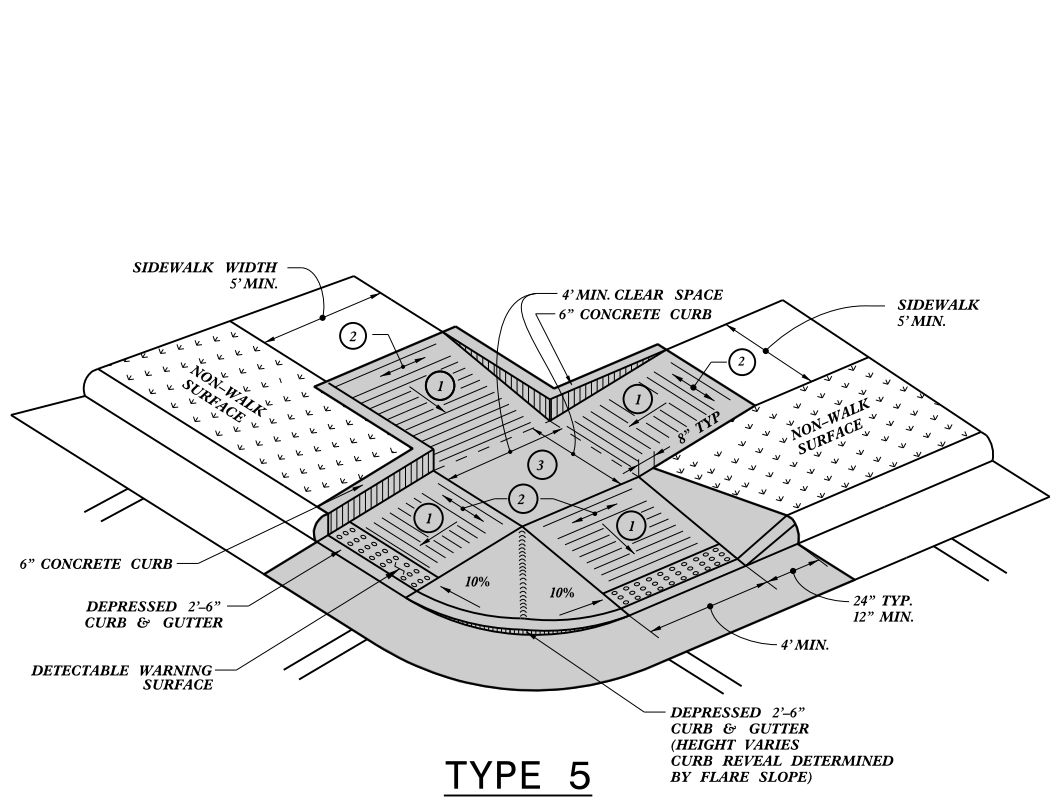
NOTES:
DETECTABLE WARNING SURFACE SHALL COVER 2'-0" LENGTH AND FULL WIDTH OF THE RAMP FLOOR AS SHOWN ON THE DETAILS.
DETECTABLE WARNING SURFACE SHALL CONTRAST VISIBLY WITH ADJOINING SURFACE, EITHER LIGHT-ON-DARK, OR DARK-ON-LIGHT SEQUENCE COVERING THE ENTIRE RAMP.



- ① 8.33% (12:1) MAX RAMP SLOPE
- ② CROSS SLOPE: 2.00%
- ③ MAXIMUM CROSS SLOPE AND LONGITUDINAL SLOPE OF 2.00%.

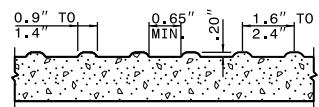
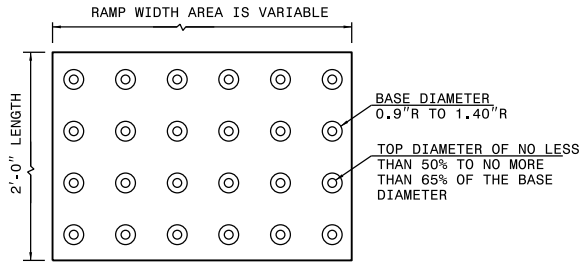
PAY LIMITS FOR 1 OR 2 CURB RAMPS (CALCULATE BASED ON NUMBER OF SETS OF DETECTABLE WARNING SURFACES)

DETECTABLE WARNING SURFACE

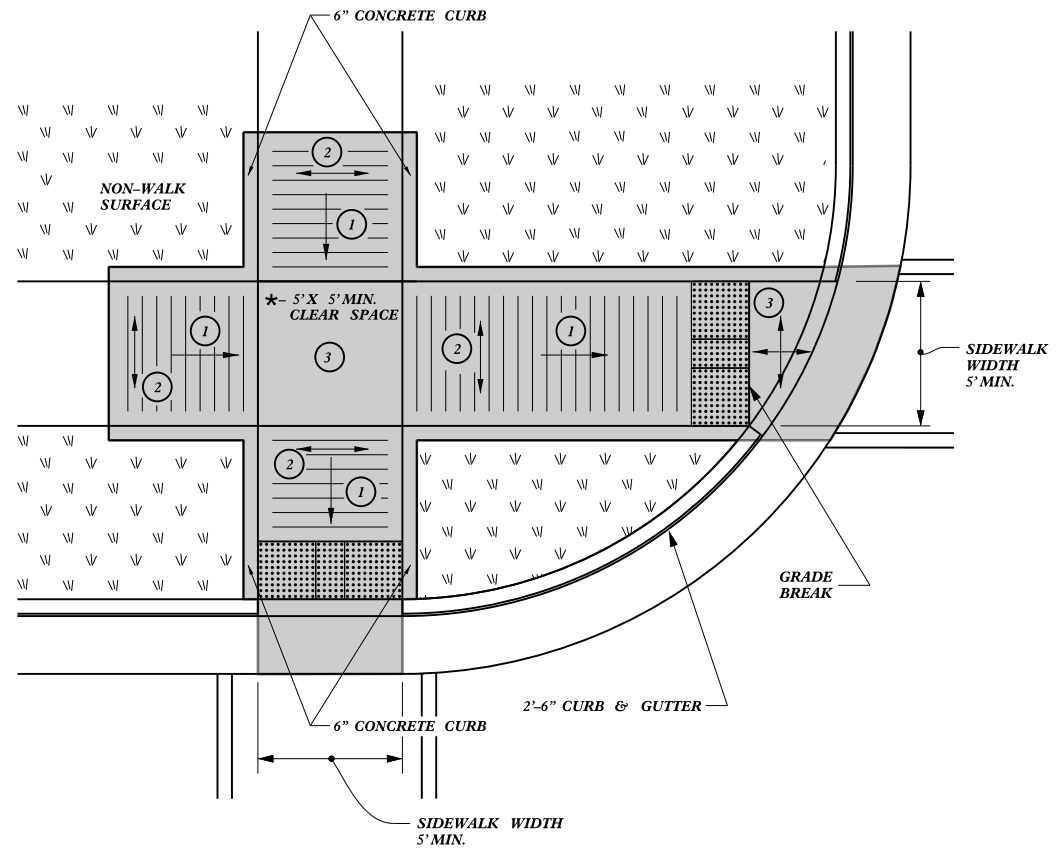


TYPE 5

NOTES:
DETECTABLE WARNING SURFACE SHALL COVER 2'-0" LENGTH AND FULL WIDTH OF THE RAMP FLOOR AS SHOWN ON THE DETAILS.
DETECTABLE WARNING SURFACE SHALL CONTRAST VISIBLY WITH ADJOINING SURFACE, EITHER LIGHT-ON-DARK, OR DARK-ON-LIGHT SEQUENCE COVERING THE ENTIRE RAMP.



DETECTABLE WARNING SURFACE

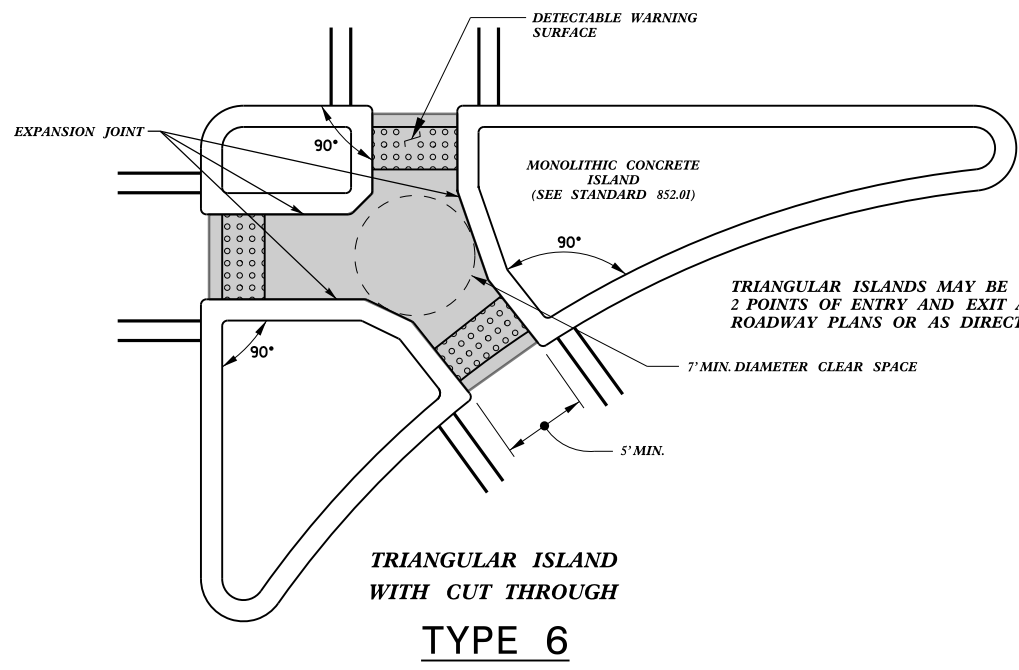


TYPE 5A

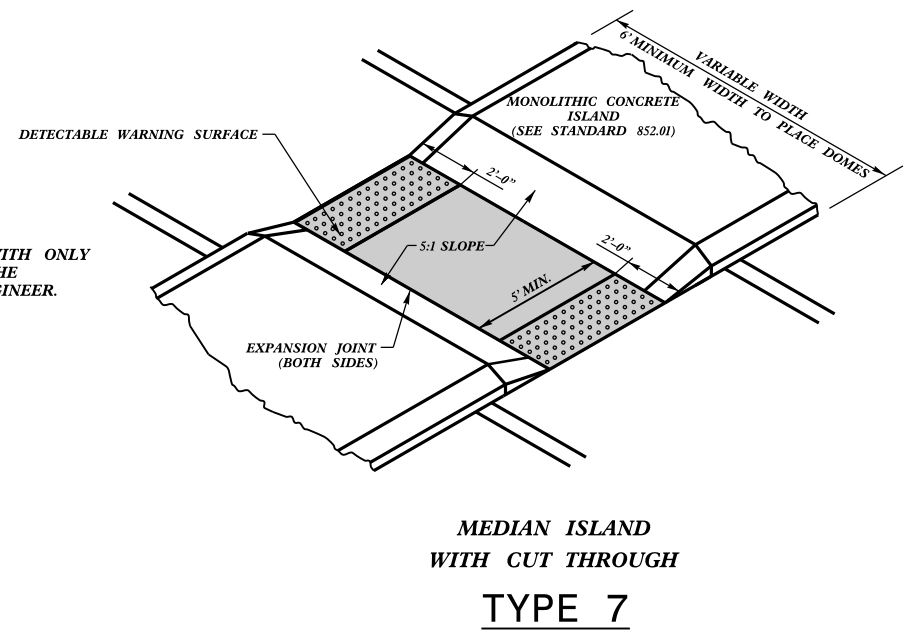
* - WHERE CLEAR SPACE IS CONSTRAINED ON TWO OR MORE SIDES, THE CLEAR SPACE SHALL BE 4' MINIMUM X 5' MINIMUM, WITH 5' PROVIDED IN THE DIRECTION OF THE PEDESTRIAN STREET CROSSING.

- ① 8.33% (12:1) MAX RAMP SLOPE
- ② CROSS SLOPE: 2.00%
- ③ MAXIMUM CROSS SLOPE AND LONGITUDINAL SLOPE OF 2.00%


■ PAY LIMITS FOR 1 OR 2 CURB RAMPS (CALCULATE BASED ON NUMBER OF SETS OF DETECTABLE WARNING SURFACES)



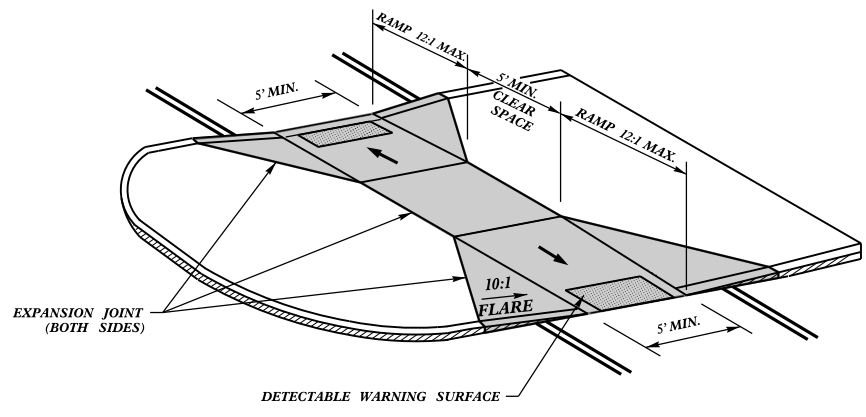
**TRIANGULAR ISLAND
WITH CUT THROUGH
TYPE 6**



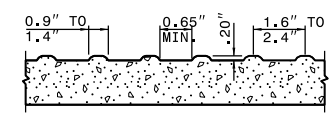
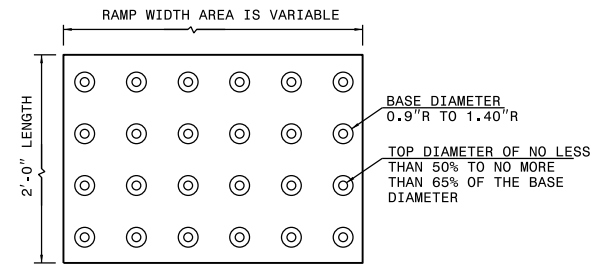
**MEDIAN ISLAND
WITH CUT THROUGH
TYPE 7**

 PAY LIMITS FOR 2 OR 3 CURB RAMPS
(CALCULATE BASED ON NUMBER OF
SETS OF DETECTABLE WARNING SURFACES)

NOTES:
DETECTABLE WARNING SURFACE SHALL COVER 2'-0" LENGTH AND FULL WIDTH OF THE RAMP FLOOR AS SHOWN ON THE DETAILS.
DETECTABLE WARNING SURFACE SHALL CONTRAST VISIBLY WITH ADJOINING SURFACE, EITHER LIGHT-ON-DARK, OR DARK-ON-LIGHT SEQUENCE COVERING THE ENTIRE RAMP.



**MEDIAN ISLAND
CURB RAMPS
TYPE 8**

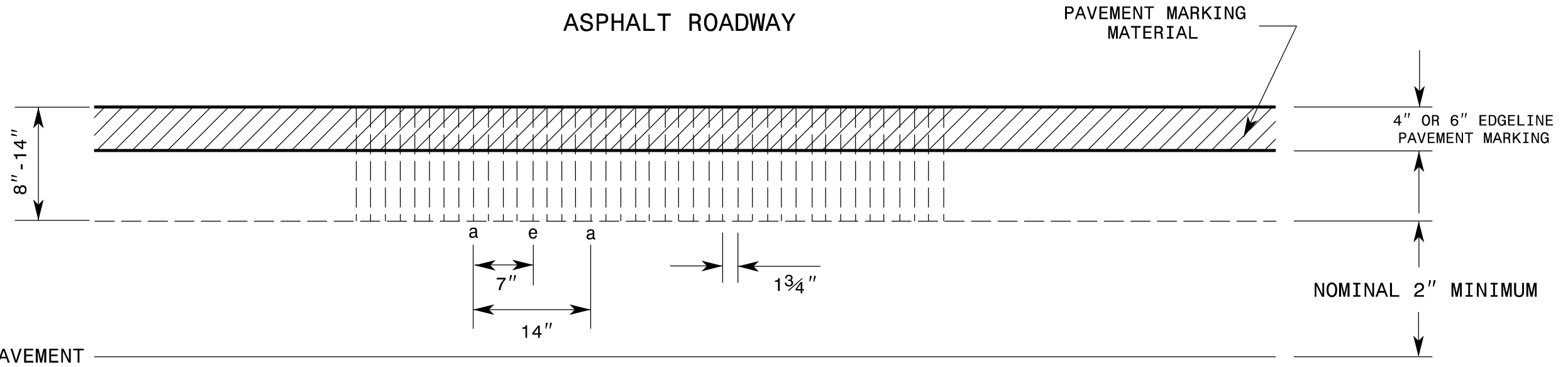


DETECTABLE WARNING SURFACE

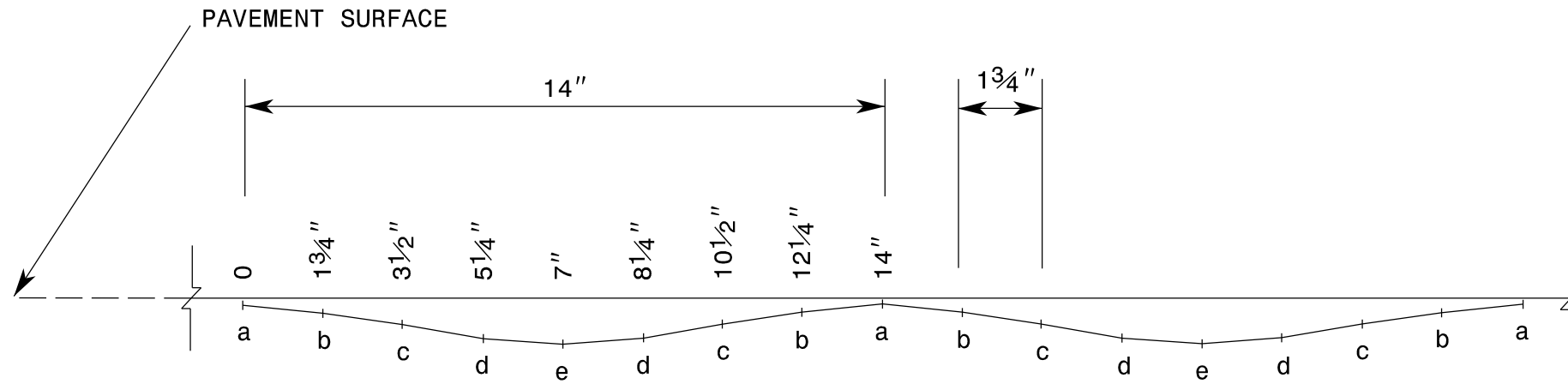
See Table 1 within Rumble Strip Policy for Design Guidance

PLAN VIEW

TRAVEL LANE(S)
ASPHALT ROADWAY



PROFILE VIEW



LOCATION	DEPTH	
	MIL	INCHES
a	62.5	1/16"
b	125	1/8"
c	219	7/32"
d	344	11/32"
e	375	3/8"

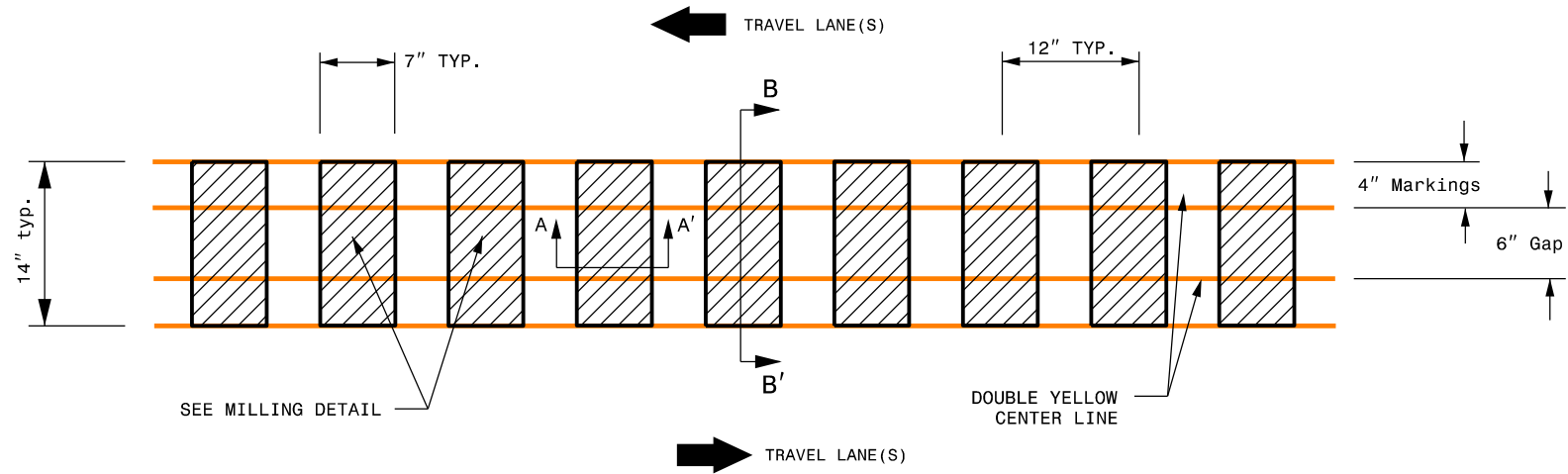
REFERENCE DRAWING ID: Sin.Stripe

NOTES:

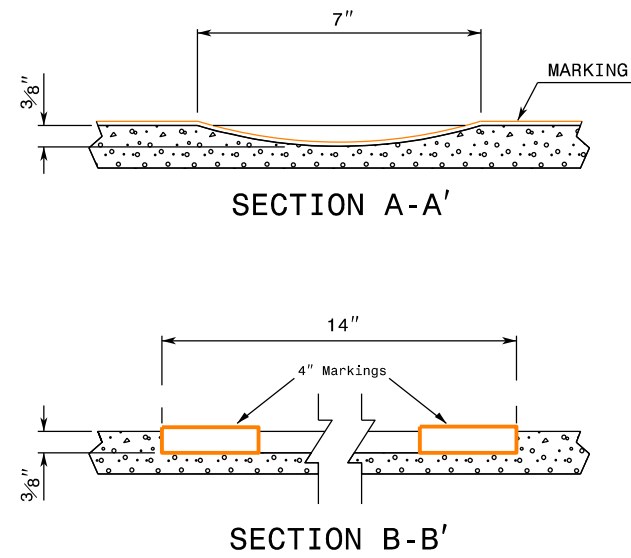
- 1) Specification in table taken from MNDOT Research Project Final Report 2016-23: *Sinusoidal Rumble Strip Design Optimization Study By: Terhaar et. al, June 2016*
- 2) USING A VACUUM, REMOVE ALL DEBRIS FROM THE MILLINGS JUST PRIOR TO PLACING ANY PAVEMENT MARKINGS.
- 3) ENSURE GLASS BEADS ARE SPREAD UNIFORMLY OVER THE ENTIRE SURFACE OF THE PAVEMENT MARKING MATERIAL.

See Table 2 within Rumble Strip Policy for Design Guidance

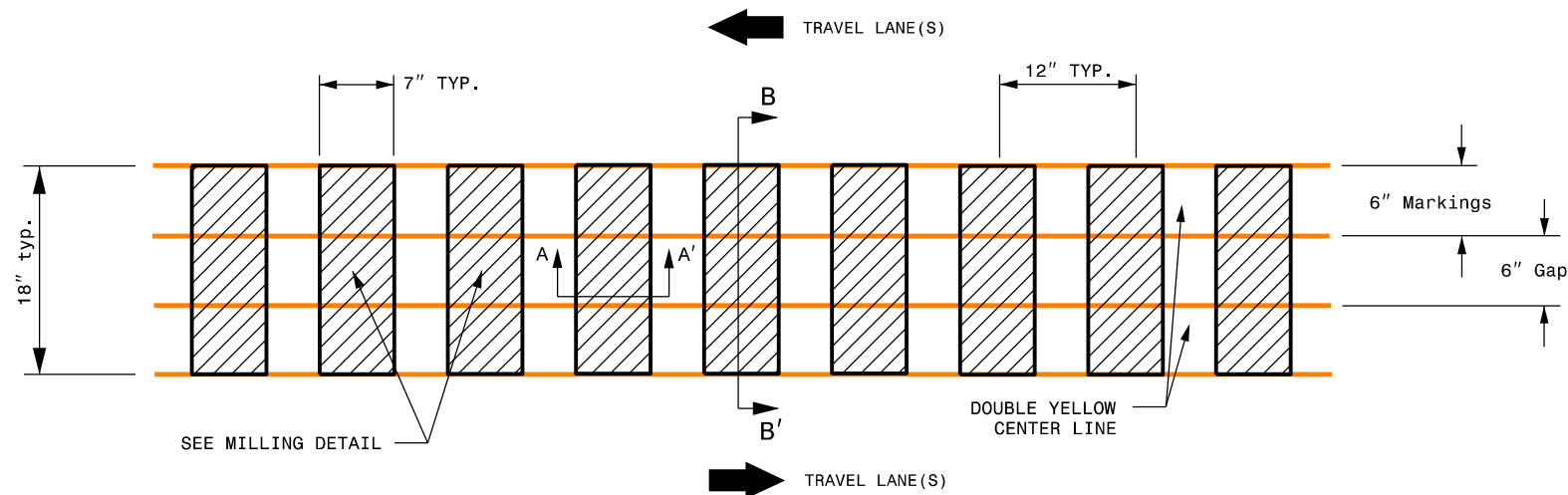
If 4" Markings will be used:



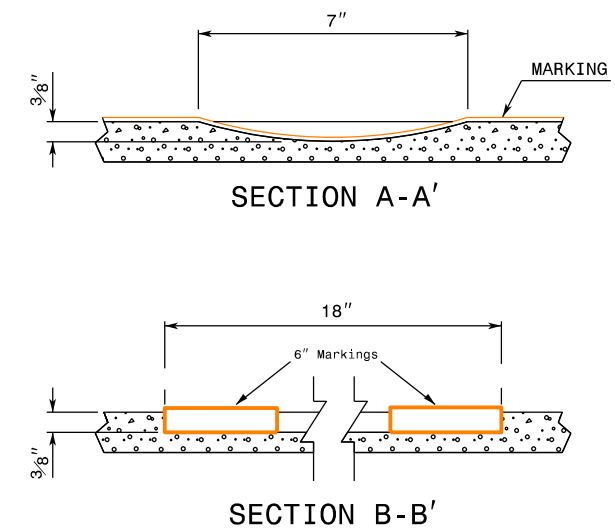
MILLING DETAIL - 4" Markings



If 6" Markings will be used:



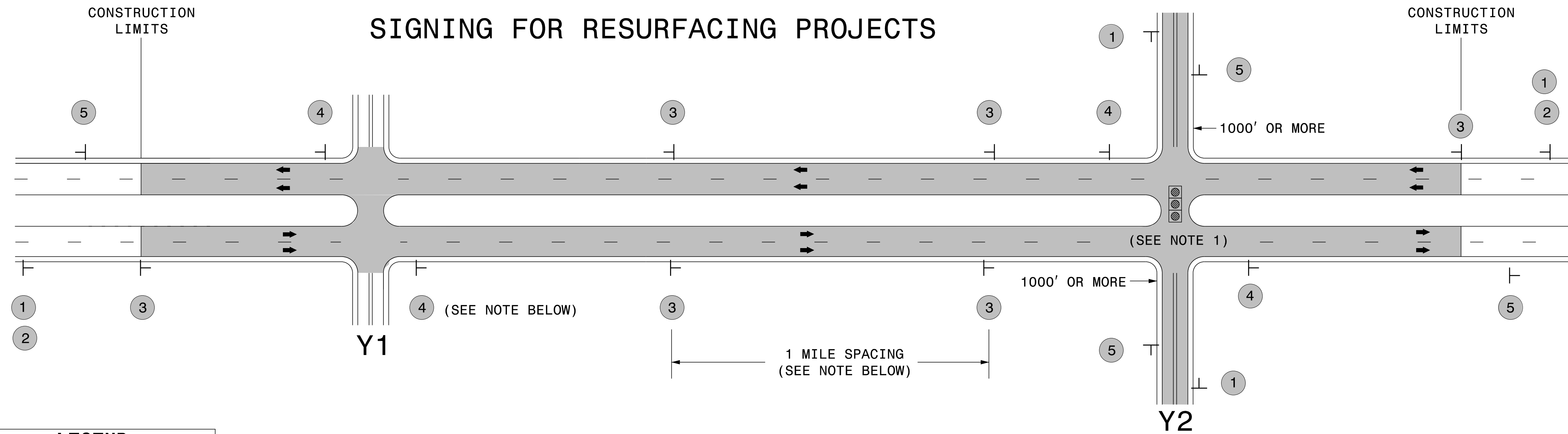
MILLING DETAIL - 6" Markings



REFERENCE DRAWING ID: Trad.CL

NOTES:

- 1) USING A VACUUM, REMOVE ALL DEBRIS FROM THE MILLINGS JUST PRIOR TO PLACING ANY PAVEMENT MARKINGS.
- 2) ENSURE GLASS BEADS ARE SPREAD UNIFORMLY OVER THE ENTIRE SURFACE OF THE PAVEMENT MARKING MATERIAL.



LEGEND
 ┆ STATIONARY SIGN
 ← DIRECTION OF TRAFFIC FLOW

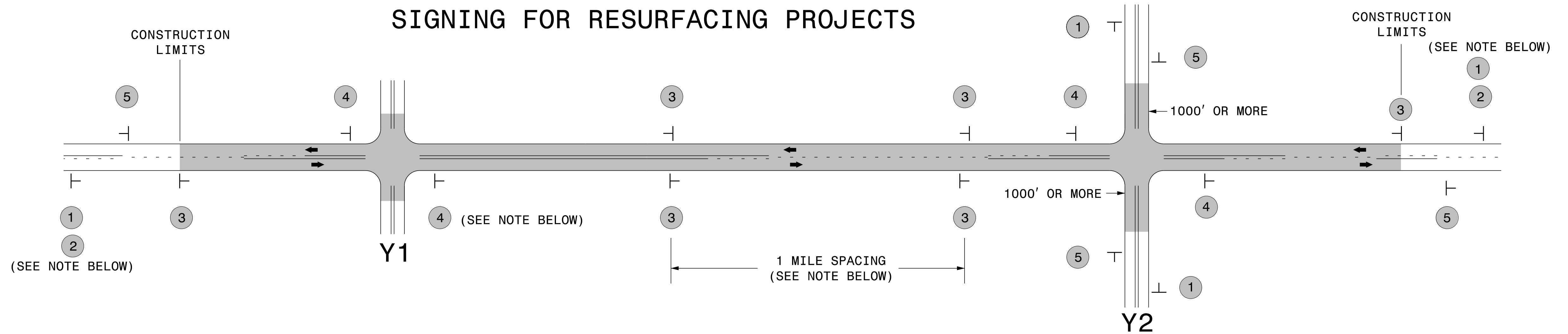
MAINLINE (-L-) SIGNING

-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.		

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

SIGNING FOR RESURFACING PROJECTS

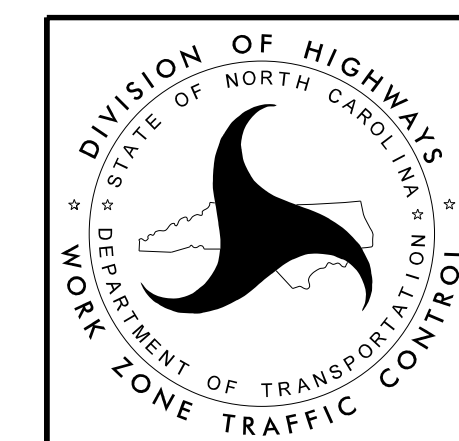


LEGEND	
┆	STATIONARY SIGN
←	DIRECTION OF TRAFFIC FLOW

MAINLINE (-L-) SIGNING

-Y- LINE SIGNING

SIGNING NOTES AND PLACEMENT PER DIRECTION	MAINLINE (-L-) SIGNING		-Y- LINE SIGNING	
	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;"> <div style="text-align: center;"> <p>W20-1 48" X 48"</p> </div> <div style="text-align: center;"> <p>W20-7 A 48" X 48"</p> </div> </div> <p>PLACED 500' IN ADVANCE OF FLAGGER. PLACED 250' IN ADVANCE OF FLAGGER.</p>
	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.		



**RESURFACING
 ADVANCE WARNING SIGNS
 FOR
 RURAL AND SUBURBAN
 2 LANE ROADWAYS**