

3 Phase Fully Actuated/EV Preempt Signal System D02-02_Cape Carteret

NOTES

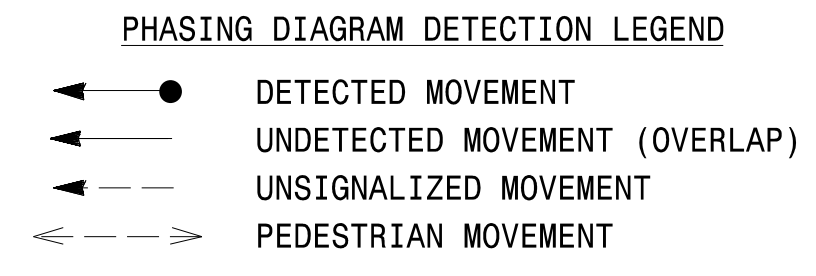
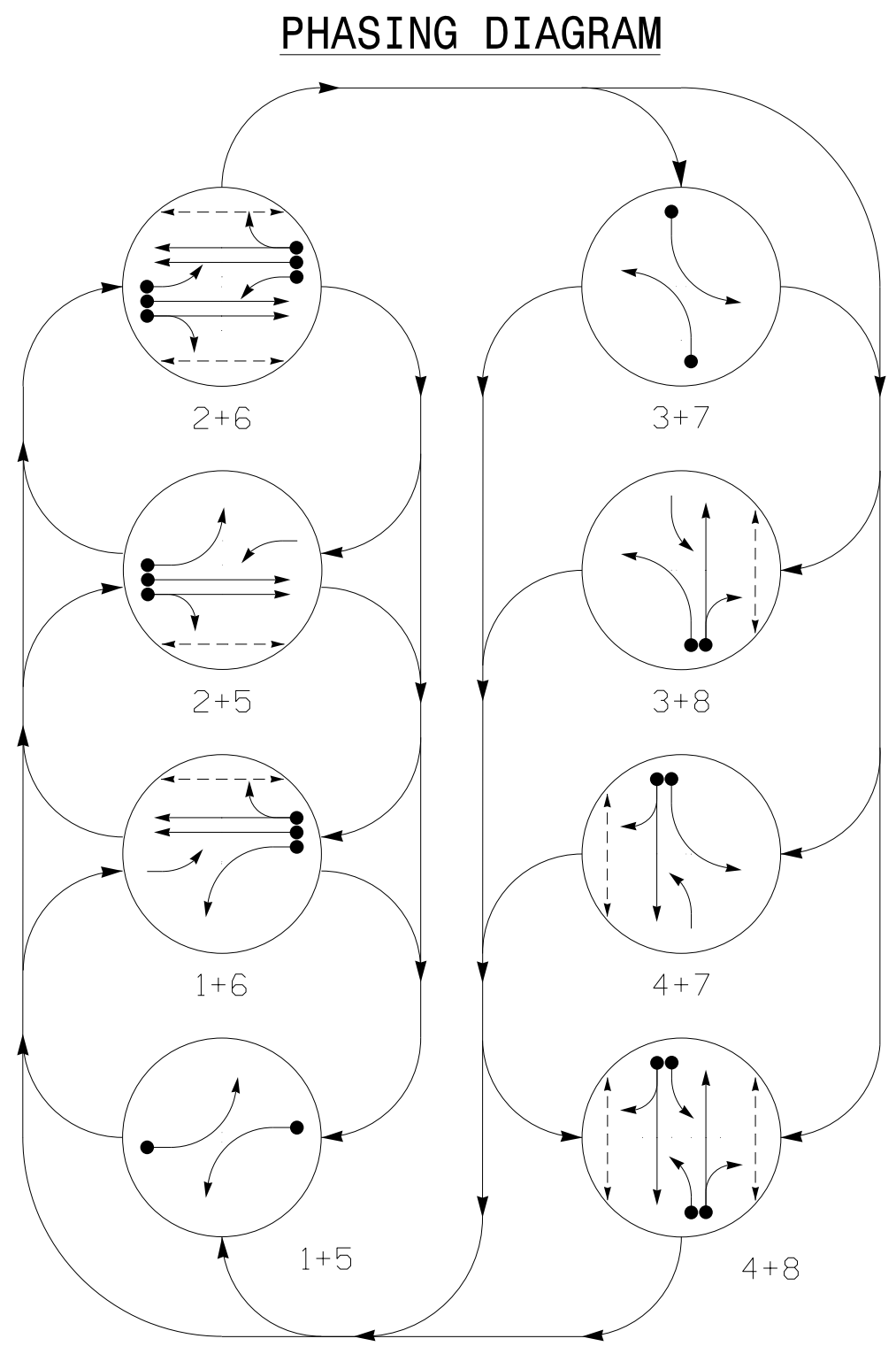
1. Refer to "Roadway Standard Drawings NCDOT" dated January 2024 and "Standard Specifications for Roads and Structures" dated January 2024.
2. Do not program signal for late night flashing operation unless otherwise directed by the Engineer.
3. Phase 1 and/or 5 may be lagged.
4. Phase 3 and/or 7 may be lagged.
5. Set all detector units to presence mode.
6. Locate new cabinet so as not to obstruct sight distance of vehicles turning right on red.
7. This intersection features an optical preemption system.
8. This intersection uses multizone-microwave detection. Install detectors according to the manufacturer's instructions to achieve the desired detection. Existing detectors will need to be re-aimed to pick up any new zone locations.
9. Maximum times shown in timing chart are for free-run operation only. Coordinated signal system timing values supersede these values.
10. See pavement marking plans for stop bar and crosswalk locations.

MAXTIME DETECTOR INSTALLATION CHART											
DETECTOR				PROGRAMMING							
LOOP	SIZE (FT)	DISTANCE FROM STOPBAR (FT)	TURNS	NEW LOOP	CALL PHASE	DELAY TIME	EXTEND TIME	EXTEND	ADDED INITIAL	CALL	DELAY DURING GREEN
1A	*	0	*	-	1	15	-	X	-	X	-
3A	*	0	*	-	3	15	-	X	-	X	-
4A	*	0	*	-	4	10	-	X	-	X	-
5A	*	0	*	-	5	15	-	X	-	X	-
7A	*	0	*	-	7	15	-	X	-	X	-
8A	*	0	*	-	8	10	-	X	-	X	-

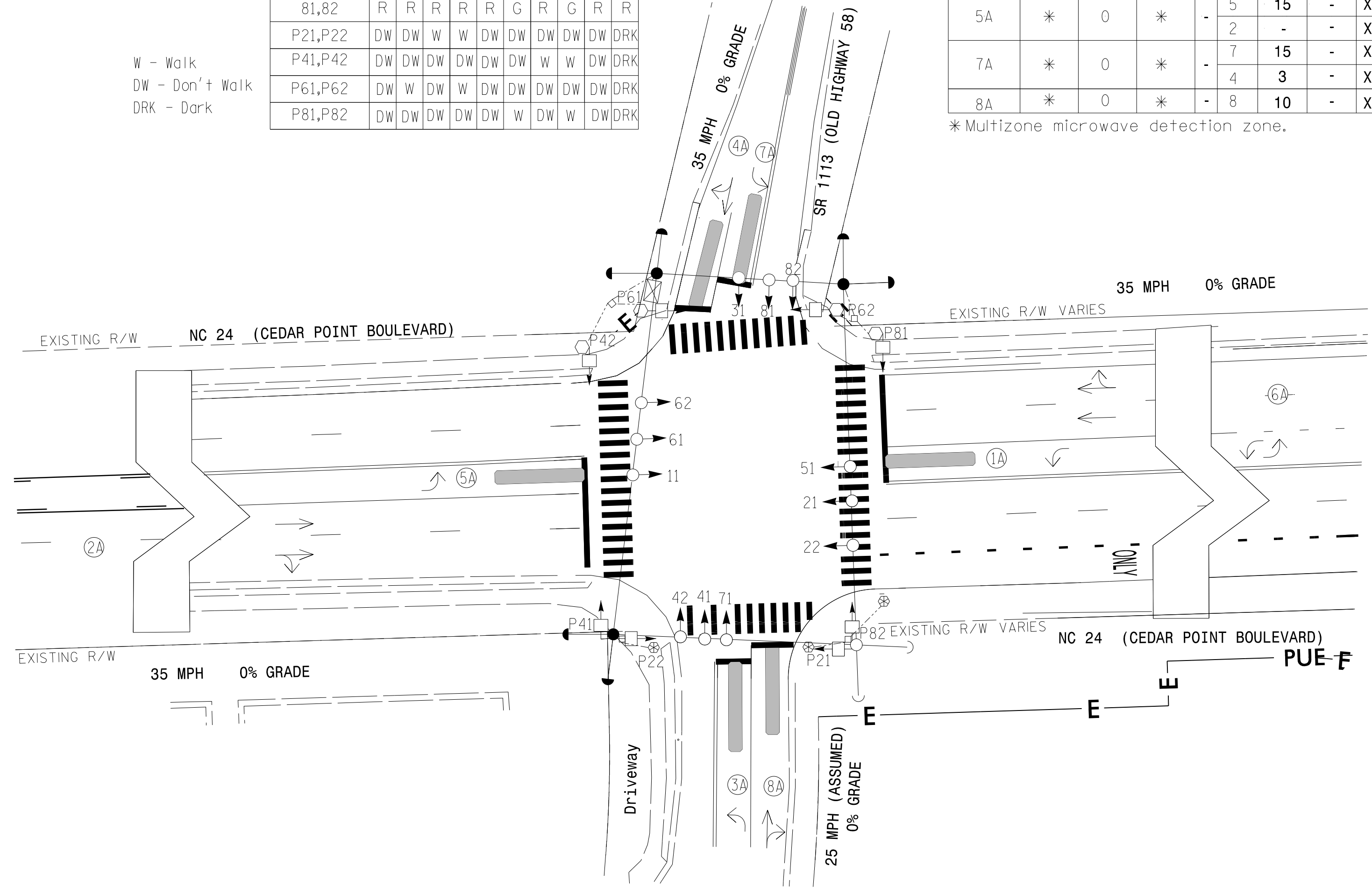
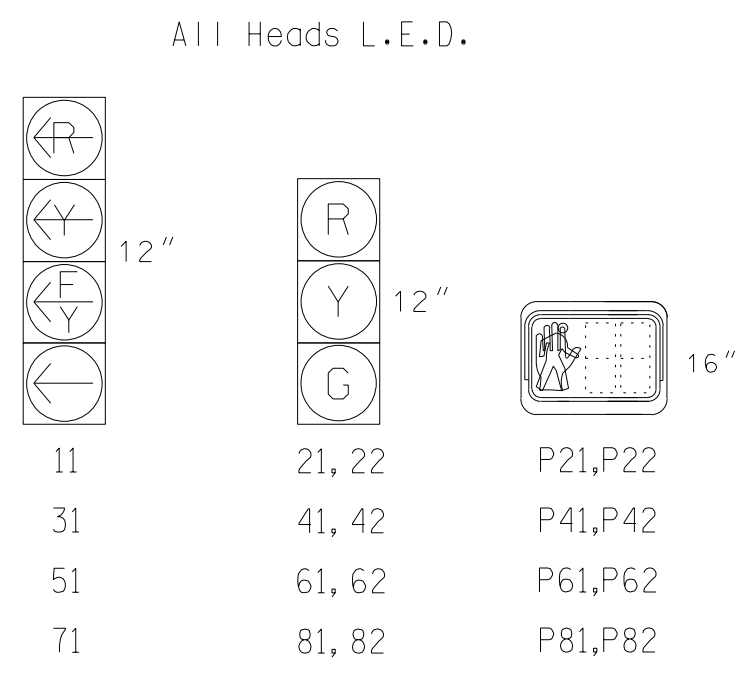
* Multizone microwave detection zone.

SIGNAL FACE	PHASE									
	1+5	1+6	2+5	2+6	3+7	3+8	4+7	4+8	PRE 3	F T O D L
11	←	←	←	←	←	←	←	←	←	←
21,22	R	R	G	G	R	R	R	R	R	R
31	←	←	←	←	←	←	←	←	←	←
41,42	R	R	R	R	R	R	R	G	G	R
51	←	←	←	←	←	←	←	←	←	←
61,62	R	G	R	G	R	R	R	R	R	R
71	←	←	←	←	←	←	←	←	←	←
81,82	R	R	R	R	R	G	R	G	R	R
P21,P22	DW	DW	W	W	DW	DW	DW	DW	DW	DRK
P41,P42	DW	DW	DW	DW	DW	DW	W	W	DW	DRK
P61,P62	DW	W	DW	W	DW	DW	DW	DW	DW	DRK
P81,P82	DW	DW	DW	DW	W	DW	W	DW	DRK	

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



SIGNAL FACE I.D.



PROPOSED	EXISTING

FEATURE	PHASE							
	1	2	3	4	5	6	7	8
Walk *	-	14	-	13	-	14	-	13
Ped Clear	-	12	-	18	-	12	-	20
Min Green *	7	12	7	7	7	12	7	7
Passage *	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Max 1 *	15	90	15	15	15	90	15	15
Yellow Change	3.0	3.8	3.0	3.8	3.0	3.8	3.0	3.8
Red Clear	2.8	2.0	2.8	2.8	2.4	2.0	2.8	2.8
Added Initial *	-	-	-	-	-	-	-	-
Maximum Initial *	-	-	-	-	-	-	-	-
Time Before Reduction *	-	-	-	-	-	-	-	-
Time To Reduce *	-	-	-	-	-	-	-	-
Minimum Gap	-	-	-	-	-	-	-	-
Advanced Walk	-	7	-	6	-	7	-	6
Non Lock Detector	X	-	X	X	X	-	X	X
Vehicle Recall	-	MIN RECALL	-	-	-	MIN RECALL	-	-
Dual Entry	-	-	-	X	-	-	-	X

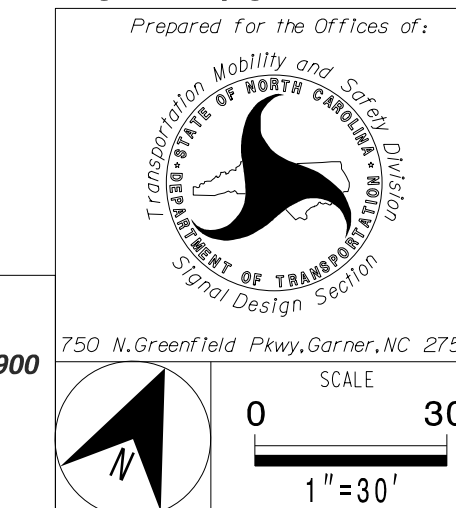
* These values may be field adjusted. Do not adjust Min Green and Passage times for phases 2 and 6 lower than what is shown. Min Green for all other phases should not be lower than 4 seconds.

MAXTIME EV PREEMPT	
FUNCTION	PRE 3
Type	EMERG VEH
Exit Phases	2,6
Delay	0
Call Extend Time	2.0
Max Presence	120
Enter Min Green	1
Enter Walk	1
Enter Ped Clear	25.5 *
Enter Yellow Change	25.5 *
Enter Red Clear	25.5 *
Track Green	0
Track Yellow Change	25.5 *
Track Red Clear	25.5 *
Dwell Green	7
Exit Min Green	25.5 *
Exit Yellow Change	25.5 *
Exit Red Clear	25.5 *
Exit Type	EXIT PHASES
Ped Clear Through Yellow	Y
Require All Red Entry	-

* Controller uses lesser of time shown and the normal time used for phase.

ADVANCED MICROWAVE EXTENDED RANGE DETECTION			
FUNCTION	Sensor 1 (2A)	Sensor 2 (6A)	
Channel	1	1	
Phase	2	6	
Direction of Travel	EB	WB	
Type	PRIORITY		PRIORITY
Level	2	2	2
Discovery Zone (ft)	<750	<750	<750
Range (ft)	600-100	150-100	600-100
Enable Speed	Y	Y	Y
Speed Range (mph)	35-100	1-35	35-100
Enable Estimated Time of Arrival	Y	N	Y
Estimated Time of Arrival (sec)	2.5-6.5	-	2.5-6.5

Signal Upgrade



GFT Infrastructure, Inc.
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Raleigh, NC 27603
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NC 24 (Cedar Point Boulevard) at SR 1113 (Old Highway 58)
Division 2 Carteret County Cape Carteret
PLAN DATE: April 2026 REVIEWED BY: D. Hartland
PREPARED BY: Nadia Degbotse REVIEWED BY:

SEAL
DONALD L. HARTLAND
Professional Engineer
No. 047962
4/6/2026