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STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

CUMBERLAND COUNTY

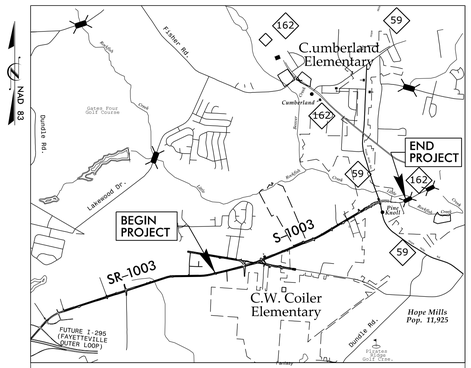
PROJECT REFERENCE NO.	SHEET NO.
U-3422B	Sig 1.0

APPROVED: Brittany Groome (Signed by) — 10/09/2026

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 052936 ENGINEER BRITTANY N GROOME

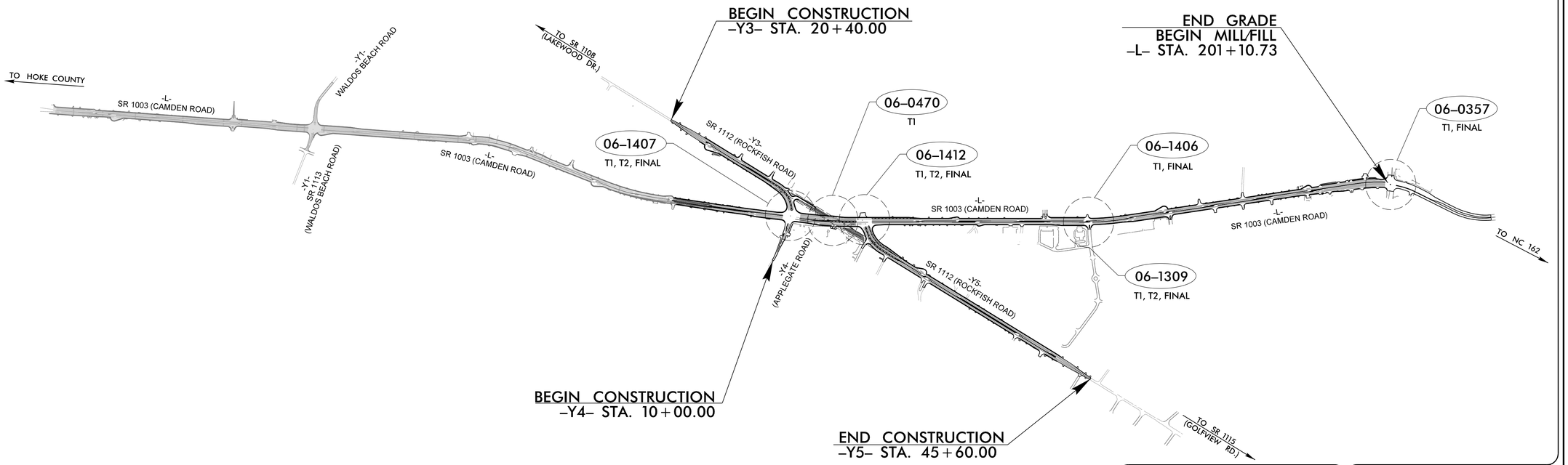
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VICINITY MAP

LOCATION: *SR 1003 (CAMDEN ROAD) FROM JUST WEST OF ROCKFISH (SR1112) TO NC 59 (HOPE MILLS ROAD)*

TYPE OF WORK: *TRAFFIC SIGNALS AND SIGNAL COMMUNICATIONS*



Refer to "Roadway Standard Drawings NCDOT" dated January 2024 and "Standard Specifications for Roads and Structures" dated January 2024.

Plans Prepared By:

DRMP

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www.DRMP.com

TIP PROJECT: U–3422B

PLANS PREPARED BY:

Brittany N. Groome, P.E., PTOE, RSP1 – Project Manager

Dana–Simone Griffith – Project Engineer

INDEX OF PLANS

Sheet Number	SIN	Location/ Description
Sig. 1.0	–	Project Title Sheet
Sig. 2.0–2.8	06–1407	SR 1003 (Camden Road) at SR 1112 (Rockfish Road)/Applegate Road
Sig. 3.0–3.3	06–0470	SR 1003 (Camden Road) at SR 1112 (Rockfish Road)
Sig. 4.0–4.8	06–1412	SR 1003 (Camden Road) at SR 1112 (Rockfish Road)/Ruby Road
Sig. 5.0–5.8	06–1309	SR 1003 (Camden Road) at South Peak Drive
Sig. 6.0–6.5	06–1406	SR 1003 (Camden Road) at Ellis Jackson Road
Sig. 7.0–7.5	06–0357	SR 1003 (Camden Road) at SR 1596 (North Main Street/Hope Mills Road)
Sig. M1A–M8	–	Standard Metal Pole Drawings

DIVISION OF HIGHWAYS

Mobility and Safety Division — TIS & Signals Management Section — STATE OF NORTH CAROLINA - DEPARTMENT OF TRANSPORTATION

750 N. Greenfield Pkwy, Garner, NC 27529

LEGEND

XX–XXXX — *TRAFFIC SIGNAL*

TRANSPORTATION SYSTEMS MANAGEMENT & OPERATIONS

Contacts:

Zachary Little, P.E. – Eastern Region Signals Engineer

D. Todd Joyce, P.E. – Signal Equipment Design Review Engineer

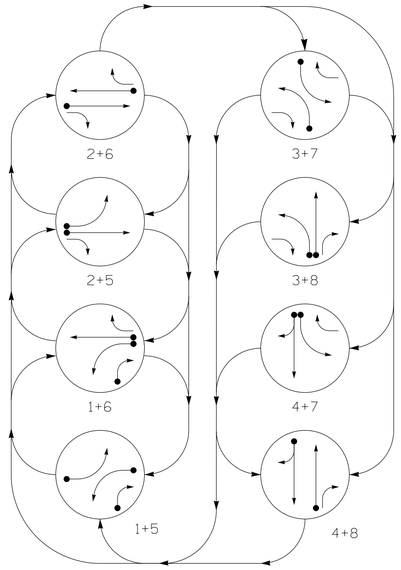
Ryan W. Hough, P.E. – State ITS Engineer

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PROJECT REFERENCE NO.	SHEET NO.
U-3422B	Sig-2.0

8 Phase Fully Actuated Camden Road CLS

PHASING DIAGRAM



PHASING DIAGRAM DETECTION LEGEND

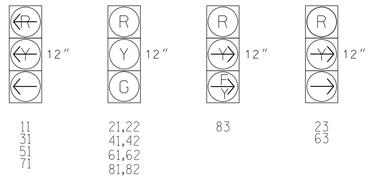
- DETECTED MOVEMENT
- UNDETECTED MOVEMENT (OVERLAP)
- UNSIGNALIZED MOVEMENT
- PEDESTRIAN MOVEMENT

TABLE OF OPERATION

SIGNAL FACE	PHASE 1+5	1+6	2+5	2+6	3+7	3+8	4+7	4+8	FLASH
11	←	←	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~
21,22	R	R	G	G	R	R	R	R	R
23	R	R	→	→	→	→	R	R	R
31	~~R~~	~~R~~	~~R~~	~~R~~	←	←	~~R~~	~~R~~	~~R~~
41,42	R	R	R	R	R	R	G	G	R
51	←	~~R~~	←	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~
61,62	R	G	R	G	R	R	R	R	R
63	R	→	R	→	→	R	→	R	R
71	~~R~~	~~R~~	~~R~~	~~R~~	←	~~R~~	←	~~R~~	~~R~~
81,82	R	R	R	R	R	G	R	G	R
83	F Y	F Y	R	R	R	F Y	R	F Y	R

SIGNAL FACE I.D.

All Heads L.E.D.



MAXTIME DETECTOR INSTALLATION CHART

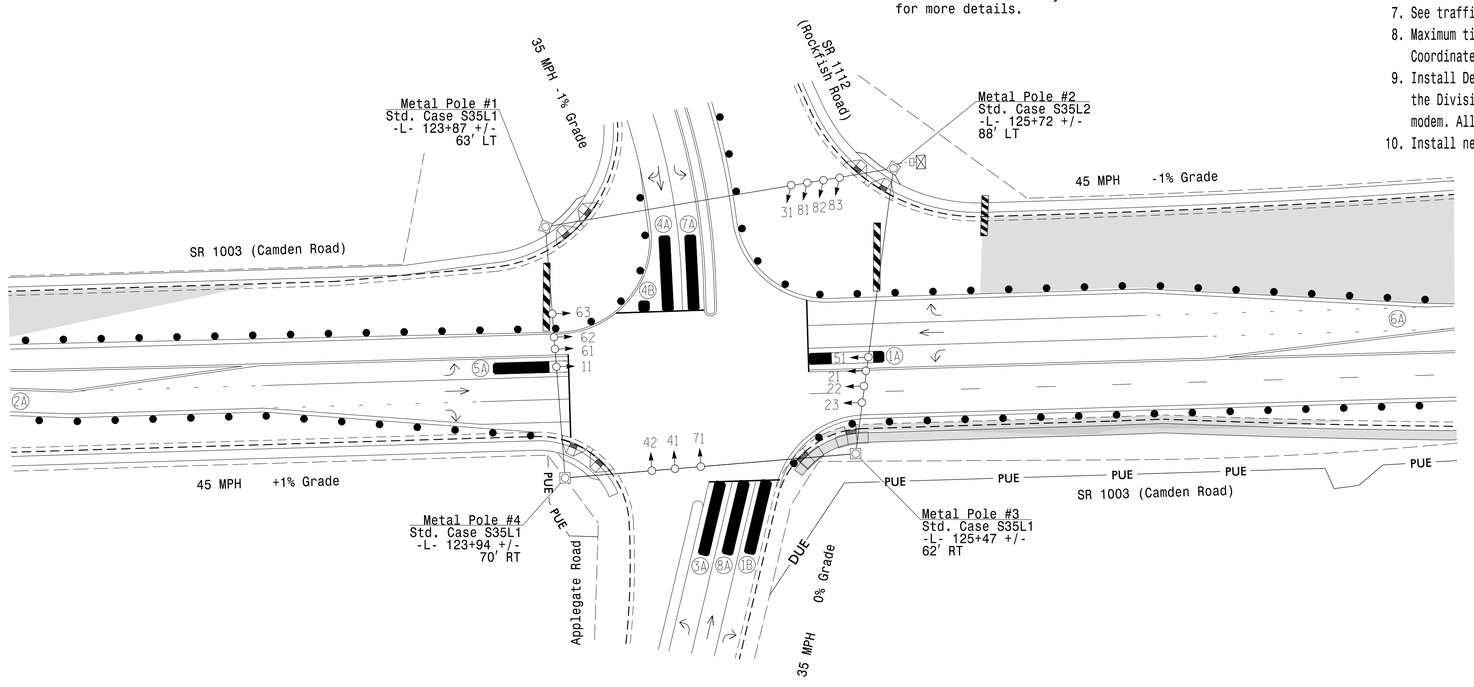
DETECTOR ZONE	SIZE (FT)	DISTANCE FROM STOPBAR (FT)	TURNS	NEW LOOP	PROGRAMMING CALL PHASE	DELAY TIME	EXTEND TIME	EXTEND	ADDED INITIAL	CALL	DELAY DURING GREEN	NEW CARD
1A	6X40	0	**	X	1	3.0	-	X	-	X	-	**
1B	6X40	0	**	X	1	15.0	-	X	-	X	-	**
2A	@	@	**	X	2	-	-	X	-	X	-	**
3A	6X40	0	**	X	3	-	-	X	-	X	-	**
4A	6X40	0	**	X	4	10.0	-	X	-	X	-	**
4B	6X6	0	**	X	4	15.0	-	X	-	X	-	**
5A	6X40	0	**	X	5	3.0	-	X	-	X	-	**
6A	@	@	**	X	6	-	-	X	-	X	-	**
7A	6X40	0	**	X	7	-	-	X	-	X	-	**
8A	6X40	0	**	X	8	-	-	X	-	X	-	**

** Microwave Detection Zone

@ Size and distance vary. See Microwave Detection chart for more details.

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 phase 5 may be lagged.
4. Phase 3 and/or phase 7 may be lagged.
5. Locate new cabinet so as not to obstruct sight distance of vehicles turning right on red.
6. This intersection uses multi-zone microwave detection. Install detectors according to the manufacturer's instructions to achieve the desired detection.
7. See traffic control plans for stop line locations.
8. Maximum times shown in timing chart are for free-run operation only. Coordinated signal system timing values supersede these values.
9. Install Department supplied cell modem inside the new cabinet. Contact the Division 6 Traffic Engineer at 910-364-0606 to request the cell modem. Allow 8 weeks lead time before anticipated deployment.
10. Install new ethernet edge switch inside the new cabinet.



LEGEND

PROPOSED		EXISTING
○→	Traffic Signal Head	●→
◐→	Modified Signal Head	N/A
⊣	Sign	⊣
□↓	Pedestrian Signal Head With Push Button & Sign	■↓
○	Signal Pole with Guy	●
○~	Signal Pole with Sidewalk Guy	●
▣	Metal Strain Pole	■
▭	Inductive Loop Detector	▭
⊠	Controller & Cabinet	⊠
□	Junction Box	■
▭	Oversized Junction Box	■
·-·-·	2-in Underground Conduit	·-·-·
N/A	Right of Way	– – –
→	Directional Arrow	→
▬	Non-Intrusive Detection Zone	▬
▒	Construction Zone	N/A
●●●	Construction Zone Drums	N/A
PUE	Proposed Utility Easement	N/A
DUE	Drainage Utility Easement	N/A

MAXTIME TIMING CHART

FEATURE	PHASE 1	2	3	4	5	6	7	8
Walk *	–	–	–	–	–	–	–	–
Ped Clear	–	–	–	–	–	–	–	–
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	20	15	90	15	20
Yellow Change	3.0	4.6	3.0	3.9	3.0	4.6	3.0	3.9
Red Clear	2.4	1.7	2.9	1.8	2.9	1.7	2.1	1.8
Added Initial *	–	–	–	–	–	–	–	–
Maximum Initial *	–	–	–	–	–	–	–	–
Time Before Reduction *	–	–	–	–	–	–	–	–
Time To Reduce *	–	–	–	–	–	–	–	–
Minimum Gap	–	–	–	–	–	–	–	–
Advance Walk	–	–	–	–	–	–	–	–
Non Lock Detector	X	–	X	X	X	–	X	X
Vehicle Recall	–	MIN RECALL	–	–	–	MIN RECALL	–	–
Dual Entry	–	–	–	–	–	–	–	–

* 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.

Microwave Detection

	2A			6A		
FUNCTION	Sensor 1			Sensor 2		
Channel	1			1		
Phase	2			6		
Direction of Travel	EB			WB		
Type	Priority			Priority		
Level	1	2	QUEUE	1	2	QUEUE
Discovery Zone (ft)	>= 750	< 750	-	>= 750	< 750	-
Range (ft)	900-100	600-100	150-100	900-100	600-100	150-100
Enable Speed	Y	Y	Y	Y	Y	Y
Speed Range (mph)	35-100	35-100	1-35	35-100	35-100	1-35
Enable Estimated Time of Arrival	Y	Y	N	Y	Y	N
Estimated Time of Arrival (sec)	2.5-10.0	2.5-6.5	-	2.5-10.0	2.5-6.5	-

THIS PLAN SUPERSEDES THE PLAN SEALED ON 12/22/2023

New Installation
Temporary Design 1 - (TMP Phase II)

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

Plans Prepared By:

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Prepared for:
Transportation Mobility and Safety Division
Signal Design Section
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
750 N.Greenfield Pkwy,Garner,NC 27529

SR 1003 (Camden Road) at SR 1112 (Rockfish Road) / Applegate Road

Division 6 Cumberland County Hope Mills

PLAN DATE: September 2026 REVIEWED BY: BN Groome

PREPARED BY: DS Griffith DRMP PROJ. NO.: 24941 (040)

SCALE 0 40 1"=40'

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 052936 ENGINEER BRITTANY N GROOME

Signed by: Brittany Groome 1E0934DE1D4484...

09/11/2026

SIGNATURE DATE

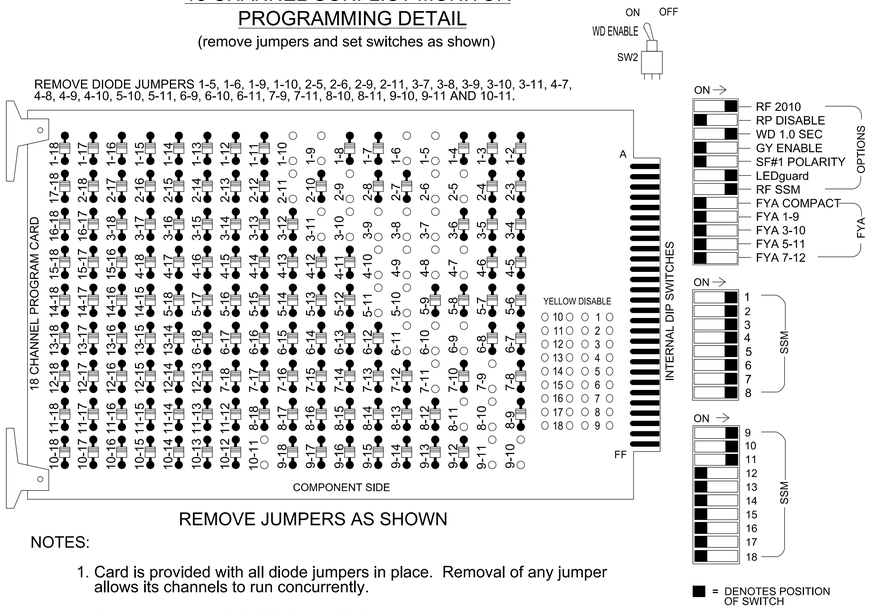
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U-3422B	Sig-2.1

18 CHANNEL CONFLICT MONITOR PROGRAMMING DETAIL

(remove jumpers and set switches as shown)



REMOVE JUMPERS AS SHOWN

NOTES:

1. Card is provided with all diode jumpers in place. Removal of any jumper allows its channels to run concurrently.
2. Ensure jumpers SEL2-SEL5 and SEL9 are present on the monitor board.
3. Ensure that the Red Enable is active at all times during normal operation.
4. Connect serial cable from conflict monitor to comm. port 1 of 2070 controller. Ensure conflict monitor communicates with 2070.

NOTES

1. To prevent "flash-conflict" problems, insert red flash program blocks for all vehicle load switches in the output file. The installer shall verify that signal heads flash in accordance with the signal plan.
2. Program controller to start up in phase 2 Green No Walk and phase 6 Green No Walk.
3. If this signal will be managed by an ATMS software, enable controller and detector logging for all detectors used at this location.
4. The cabinet and controller are part of the Camden Road Closed Loop Signal System.

SIGNAL HEAD HOOK-UP CHART

LOAD SWITCH NO.	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	S11	S12	AUX S1	AUX S2	AUX S3	AUX S4	AUX S5	AUX S6
CMU CHANNEL NO.	1	2	13	3	4	14	5	6	15	7	8	16	9	10	17	11	12	18
PHASE	1	2	2 PED	3	4	4 PED	5	6	6 PED	7	8	8 PED	OL1	OL2	OL5	OL3	OL4	OL6
SIGNAL HEAD NO.	11	21,22	NU	31	41,42	NU	51	61,62	NU	71	81,82	NU	63	83★	NU	23	NU	NU
RED		128			101			134			107		A121	A124		A114		
YELLOW		129			102			135			108							
GREEN		130			103			136			109							
RED ARROW	125			116			131			122								
YELLOW ARROW	126			117			132			123			A122	A125		A115		
FLASHING YELLOW ARROW														A126				
GREEN ARROW	127			118			133			124			A123			A116		

NU = Not Used

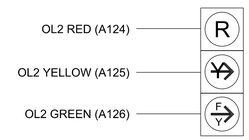
★See pictorial of head wiring in detail this sheet.

EQUIPMENT INFORMATION

Controller.....2070LX
Cabinet.....332 w/ Aux
Software.....Q-Free MAXTIME
Cabinet Mount.....Base
Output File Positions.....18 With Aux. Output File
Load Switches Used.....S1, S2, S4, S5, S7, S8, S10, S11, AUX S1, AUX S2, AUX S4
Phases Used.....1, 2, 3, 4, 5, 6, 7, 8
Overlap "1".....*
Overlap "2".....*
Overlap "3".....*
Overlap "4".....NOT USED
*See overlap programming detail sheet 2.

FYA SIGNAL WIRING DETAIL

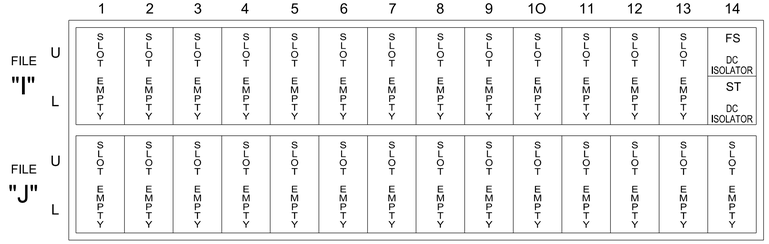
(wire signal head as shown)



83

INPUT FILE POSITION LAYOUT

(front view)



INPUT FILE CONNECTION & PROGRAMMING CHART

LOOP NO.	LOOP TERMINAL	INPUT FILE POS.	PIN NO.	INPUT POINT	DETECTOR NO.	CALL PHASE	DELAY TIME	EXTEND TIME	EXTEND	ADDED INITIAL	CALL	DELAY DURING GREEN
1A	-	-	-	*	33	1	3.0		X		X	
1B	-	-	-	*	49	1	15.0		X		X	
2A	-	-	-	*	38	2			X		X	
3A	-	-	-	*	34	3			X		X	
4A	-	-	-	*	44	4	10.0		X		X	
4B	-	-	-	*	45	4	15.0		X		X	
5A	-	-	-	*	35	5	3.0		X		X	
6A	-	-	-	*	54	6			X		X	
7A	-	-	-	*	36	7			X		X	
8A	-	-	-	*	60	8			X		X	

* For Input Point numbers, see SDLC Non-Intrusive Detection Chart detail on sheet 2.

INPUT FILE POSITION LEGEND: J2L
FILE J
SLOT 2
LOWER

MAXTIME STARTUP AND SOFTWARE FLASH PROGRAMMING DETAIL

Front Panel
Main Menu>Controller>Unit

Web Interface
Home>Controller>Unit

Start Up Parameters
Startup Clearance Hold
6

Unit Flash Parameters
All Red Flash Exit Time
6

SPECIAL DETECTOR NOTE

Install a multizone microwave detection system for vehicle detection. Perform installation according to the manufacturer's directions and NCDOT engineer approved mounting locations to accomplish the detection schemes shown on the Signal Design Plans.

Plans Prepared By:

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THIS PLAN SUPERSEDES THE PLAN SEALED ON 12/22/2023

THIS ELECTRICAL DETAIL IS FOR
THE SIGNAL DESIGN: 06-1407T1
DESIGNED: Sep 2026
SEALED: 09/11/2026
REVISED: N/A

Electrical Detail - Sheet 1 of 2
Temporary Design 1 - (TMP Phase II)

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ELECTRICAL AND PROGRAMMING DETAILS FOR:

Prepared for:

Transportation Mobility and Safety Division
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
Traffic Engineering Branch
Signals Management Section

750 N.Greenfield Pkwy,Garner,NC 27529

SR 1003 (Camden Road)
at
SR 1112 (Rockfish Road) / Applegate Road

Division 6 Cumberland County Hope Mills

PLAN DATE: September 2026 REVIEWED BY: BN Groome
PREPARED BY: DS Griffith DRMP PROJ. NO: 24941 (040)

REVISIONS	INIT.	DATE

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NORTH CAROLINA PROFESSIONAL SEAL 052936 ENGINEER BRITTANY N GROOME

Signed by: Brittany Groome
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09/11/2026
SIGNATURE DATE

SIG. INVENTORY NO. 06-1407TI

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PROJECT REFERENCE NO.	SHEET NO.
U-3422B	Sig-2.2

OUTPUT CHANNEL CONFIGURATION

Front Panel
Main Menu >Controller >More>Channels>Channels Config

Web Interface
Home >Controller >Advanced IO>Channels>Channels Configuration

Channel Configuration

Channel	Control Type	Control Source	Flash Yellow	Flash Red	Flash Alt	MMU Channel
1	Phase Vehicle	1		X	X	1
2	Phase Vehicle	2		X		2
3	Phase Vehicle	3		X	X	3
4	Phase Vehicle	4		X		4
5	Phase Vehicle	5		X		5
6	Phase Vehicle	6		X	X	6
7	Phase Vehicle	7		X		7
8	Phase Vehicle	8		X	X	8
9	Overlap	1		X	X	9
10	Overlap	2		X	X	10
11	Overlap	3		X		11
12	Overlap	4		X		12
13	Phase Ped	2				13
14	Phase Ped	4				14
15	Phase Ped	6				15
16	Phase Ped	8				16
17	Overlap	5		X	X	17
18	Overlap	6		X		18

SDLC NON-INTRUSIVE DETECTION CHART

	Detector Rack #3		Detector Rack #4	
Input Point	Det # (Index)	Detector Zone	Det # (Index)	Detector Zone
1	33	1A	49	1B
2	34	3A	50	NU
3	35	5A	51	NU
4	36	7A	52	NU
5	37	NU	53	NU
6	38	2A	54	6A
7	39	NU	55	NU
8	40	NU	56	NU
9	41	NU	57	NU
10	42	NU	58	NU
11	43	NU	59	NU
12	44	4A	60	8A
13	45	4B	61	NU
14	46	NU	62	NU
15	47	NU	63	NU
16	48	NU	64	NU

NU = Not Used

SPECIAL DETECTION IO MODULE PROGRAMMING

The Enhanced Out of Pavement Detection requires adjustments to the IO Modules in use. Follow the programming instructions below to ensure desired operation.

Front Panel
Main Menu >Controller >More >Advanced IO >IO Modules

Web Interface
Home >Controller >Advanced IO >Cabinet Configuration >IO Modules

IO Module 1

IO Module	Type	Fault Response
1	Caltrans 332	Default
2	TS2 DR3 BIU	Default
3	TS2 DR4 BIU	Default
4	TS2 MMU	Default

Advanced Cabinet Options

☑ Disable TS2 Cabinet Alarms

OVERLAP PROGRAMMING

Front Panel
Main Menu >Controller >Overlap >Overlap Parameters/Overlap Timings

Web Interface
Home >Controller >Overlap Configuration >Overlaps

Overlap Plan 1

Overlap	1	2	3
Type	Normal	FYA 4-Section	Normal
Included Phases	6,7	1,8	2,3
Modifier Phases	-	-	-
Modifier Overlap	-	-	-
Trail Green	0	0	0
Trail Yellow	0.0	0.0	0.0
Trail Red	0.0	0.0	0.0

FLASHER CIRCUIT MODIFICATION DETAIL

IN ORDER TO INSURE THAT SIGNALS FLASH CONCURRENTLY ON THE SAME APPROACH, MAKE THE FOLLOWING FLASHER CIRCUIT CHANGES:

1. ON REAR OF PDA - REMOVE WIRE FROM TERM. T2-4 AND TERMINATE ON T2-2.
2. ON REAR OF PDA - REMOVE WIRE FROM TERM. T2-5 AND TERMINATE ON T2-3.
3. REMOVE FLASHER UNIT 2.

THE CHANGES LISTED ABOVE TIES ALL PHASES AND OVERLAPS TO FLASHER UNIT 1.

THIS PLAN SUPERSEDES THE PLAN SEALED ON 12/22/2023

THIS ELECTRICAL DETAIL IS FOR
THE SIGNAL DESIGN: 06-1407T1
DESIGNED: Sep 2026
SEALED: 09/11/2026
REVISED: N/A

Electrical Detail - Sheet 2 of 2
Temporary Design 1 - (TMP Phase II)

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ELECTRICAL AND PROGRAMMING DETAILS FOR:

Prepared for:
Transportation Mobility and Safety Division
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
Signals Management Section
750 N.Greenfield Pkwy,Garner,NC 27529

SR 1003 (Camden Road)
at
SR 1112 (Rockfish Road) /
Applegate Road

Division 6 Cumberland County Hope Mills

PLAN DATE:	September 2026	REVIEWED BY:	BN Groome
PREPARED BY:	DS Griffith	DRMP PROJ. NO:	24941 (040)

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 052936 ENGINEER BRITTANY N GROOME

Signed by: Brittany Groome
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09/11/2026
SIGNATURE DATE

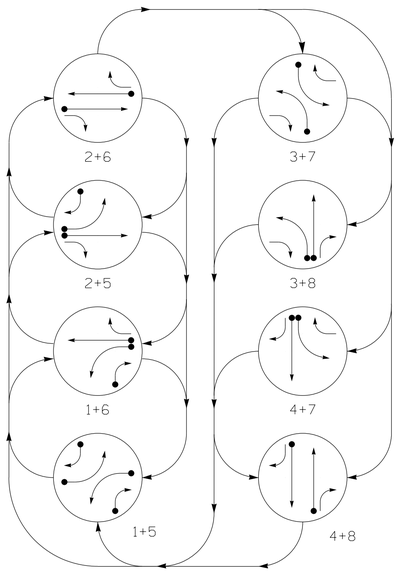
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PROJECT REFERENCE NO.	SHEET NO.
U-3422B	Sig-2.3

8 Phase
Fully Actuated
Camden Road CLS

PHASING DIAGRAM



PHASING DIAGRAM DETECTION LEGEND

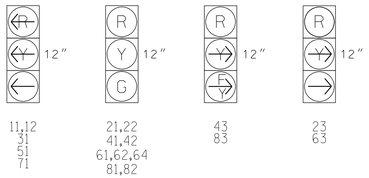
- DETECTED MOVEMENT
- UNDETECTED MOVEMENT (OVERLAP)
- UNSIGNALIZED MOVEMENT
- PEDESTRIAN MOVEMENT

TABLE OF OPERATION

SIGNAL FACE	PHASE 1+5	1+6	2+5	2+6	3+7	3+8	4+7	4+8	FLASH
11,12	↚	←	↰R	R	↰R	R	↰R	R	↰R
21,22	R	R	G	G	R	R	R	R	R
23	R	R	→	→	→	R	R	R	R
31	↰R	↰R	↰R	↰R	←	←	↰R	↰R	↰R
41,42	R	R	R	R	R	R	G	G	R
43	F Y	R	F Y	R	R	R	F Y	F Y	R
51	←	↰R	←	↰R	↰R	↰R	↰R	↰R	↰R
61,62,64	R	G	R	G	R	R	R	R	R
63	R	→	R	→	→	R	→	R	R
71	↰R	↰R	↰R	↰R	←	←	↰R	↰R	↰R
81,82	R	R	R	R	R	G	R	G	R
83	F Y	F Y	R	R	R	F Y	R	F Y	R

SIGNAL FACE I.D.

All Heads L.E.D.



MAXTIME DETECTOR INSTALLATION CHART

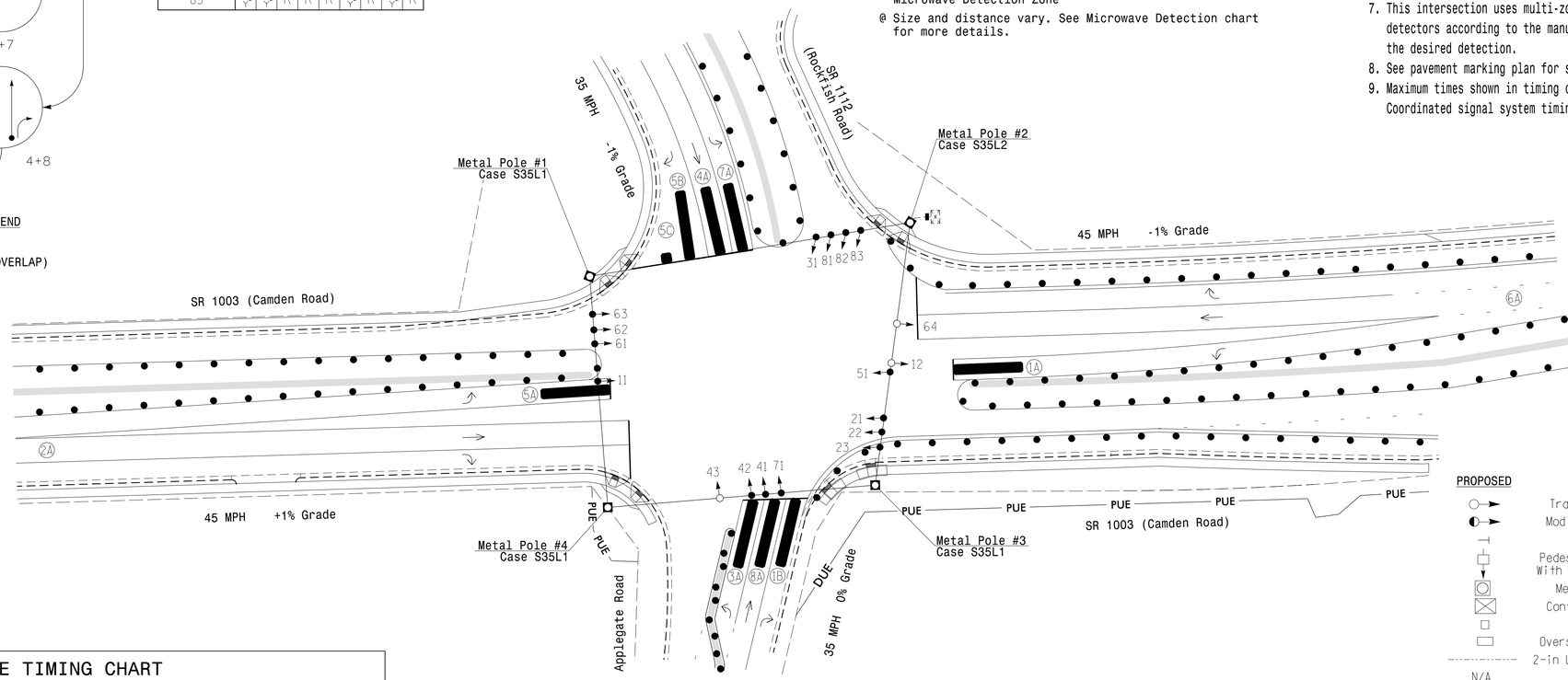
DETECTOR ZONE	SIZE (FT)	DISTANCE FROM STOPBAR (FT)	TURNS	NEW LOOP	PROGRAMMING CALL PHASE	DELAY TIME	EXTEND TIME	EXTEND	ADDED INITIAL	CALL	DELAY DURING GREEN	NEW CARD	
1A	6X40	0	**	X	1	3.0	-	X	-	X	-	**
1B	6X40	0	**	X	1	15.0	-	X	-	X	-	**
2A	@	@	**	X	2	-	-	X	-	X	-	**
3A	6X40	0	**	X	3	-	-	X	-	X	-	**
4A	6X40	0	**	X	4	-	-	X	-	X	-	**
5A	6X40	0	**	X	5	3.0	-	X	-	X	-	**
5B	6X40	0	**	X	5	15.0	-	X	-	X	-	**
5C	6X6	0	**	X	5	15.0	-	X	-	X	-	**
6A	@	@	**	X	6	-	-	X	-	X	-	**
7A	6X40	0	**	X	7	-	-	X	-	X	-	**
8A	6X40	0	**	X	8	-	-	X	-	X	-	**

** Microwave Detection Zone

@ Size and distance vary. See Microwave Detection chart for more details.

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 phase 5 may be lagged.
4. Phase 3 and/or phase 7 may be lagged.
5. Reposition existing signal heads 11, 21, 22, 23, 41, 42, 51, 61, 62, 63 & 71 as shown on plans.
6. Set all detector units to presence mode.
7. This intersection uses multi-zone microwave detection. Install detectors according to the manufacturer's instructions to achieve the desired detection.
8. See pavement marking plan for stop line locations.
9. Maximum times shown in timing chart are for free-run operation only. Coordinated signal system timing values supersede these values.



LEGEND

PROPOSED		EXISTING
○→	Traffic Signal Head	●→
◐→	Modified Signal Head	N/A
⊣	Sign	⊣
□	Pedestrian Signal Head With Push Button & Sign	■
◯	Metal Strain Pole	◙
⊠	Controller & Cabinet	⊠
□	Junction Box	■
▭	Oversized Junction Box	■
----------	2-in Underground Conduit	-·-·-·-
N/A	Right of Way	———
→	Directional Arrow	→
▬	Non-Intrusive Detection Zone	▬
▒	Construction Zone	N/A
●●	Construction Zone Drums	N/A
PUE	Proposed Utility Easement	N/A
DUE	Drainage Utility Easement	N/A

MAXTIME TIMING CHART

FEATURE	PHASE 1	2	3	4	5	6	7	8
Walk *	–	–	–	–	–	–	–	–
Ped Clear	–	–	–	–	–	–	–	–
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	20	15	90	15	20
Yellow Change	3.0	4.6	3.0	3.9	3.0	4.6	3.0	3.9
Red Clear	3.9	2.3	3.4	2.5	3.9	2.3	3.4	2.5
Added Initial *	–	–	–	–	–	–	–	–
Maximum Initial *	–	–	–	–	–	–	–	–
Time Before Reduction *	–	–	–	–	–	–	–	–
Time To Reduce *	–	–	–	–	–	–	–	–
Minimum Gap	–	–	–	–	–	–	–	–
Advance Walk	–	–	–	–	–	–	–	–
Non Lock Detector	X	–	X	X	X	–	X	X
Vehicle Recall	–	MIN RECALL	–	–	–	MIN RECALL	–	–
Dual Entry	–	–	–	–	–	–	–	–

* 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.

Microwave Detection

	2A			6A		
FUNCTION	Sensor 1			Sensor 2		
Channel	1			1		
Phase	2			6		
Direction of Travel	EB			WB		
Type	Priority			Priority		
Level	1	2	QUEUE	1	2	QUEUE
Discovery Zone (ft)	>= 750	< 750	-	>= 750	< 750	-
Range (ft)	900-100	600-100	150-100	900-100	600-100	150-100
Enable Speed	Y	Y	Y	Y	Y	Y
Speed Range (mph)	35-100	35-100	1-35	35-100	35-100	1-35
Enable Estimated Time of Arrival	Y	Y	N	Y	Y	N
Estimated Time of Arrival (sec)	2.5-10.0	2.5-6.5	-	2.5-10.0	2.5-6.5	-

THIS PLAN SUPERSEDES THE PLAN SEALED ON 12/22/2023

New Installation
Temporary Design 2 - (TMP Phase III)

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

Plans Prepared By:

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NC License No. F-1524 (704) 549-4260

Prepared for: Transportation Mobility and Safety Division, Signal Design Section, NC Department of Transportation
750 N.Greenfield Pkwy,Garner,NC 27529

SR 1003 (Camden Road)
at
SR 1112 (Rockfish Road) / Applegate Road

Division 6 Cumberland County Hope Mills

PLAN DATE: September 2026 REVIEWED BY: BN Groome
PREPARED BY: DS Griffith DRMP PROJ. NO.: 24941 (040)

SCALE 0 40 1"=40'

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 052936 ENGINEER BRITTANY N GROOME

Signed by: Brittany Groome 1E093406E1044454...
09/11/2026
SIGNATURE DATE

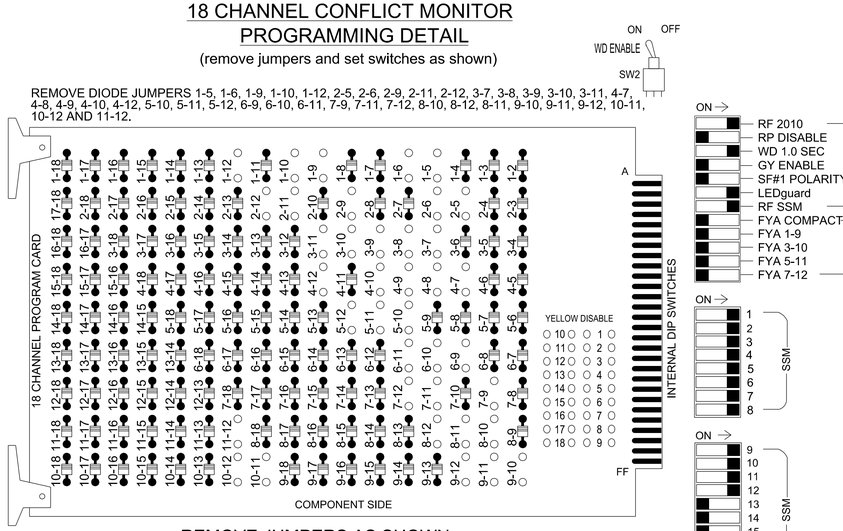
SIG. INVENTORY NO. 06-140712

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PROJECT REFERENCE NO.	SHEET NO.
U-3422B	Sig-2.4

18 CHANNEL CONFLICT MONITOR PROGRAMMING DETAIL

(remove jumpers and set switches as shown)



= DENOTES POSITION OF SWITCH

REMOVE JUMPERS AS SHOWN

NOTES:

1. Card is provided with all diode jumpers in place. Removal of any jumper allows its channels to run concurrently.
2. Ensure jumpers SEL2-SEL5 and SEL9 are present on the monitor board.
3. Ensure that the Red Enable is active at all times during normal operation.
4. Connect serial cable from conflict monitor to comm. port 1 of 2070 controller. Ensure conflict monitor communicates with 2070.

NOTES

1. To prevent "flash-conflict" problems, insert red flash program blocks for all vehicle load switches in the output file. The installer shall verify that signal heads flash in accordance with the signal plan.
2. Program controller to start up in phase 2 Green No Walk and phase 6 Green No Walk.
3. If this signal will be managed by an ATMS software, enable controller and detector logging for all detectors used at this location.
4. The cabinet and controller are part of the Camden Road Closed Loop Signal System.

EQUIPMENT INFORMATION

Controller.....2070LX
Cabinet.....332 w/ Aux
Software.....Q-Free MAXTIME
Cabinet Mount.....Base
Output File Positions.....18 With Aux. Output File
Load Switches Used.....S1, S2, S4, S5, S7, S8, S10, S11, AUX S1, AUX S2, AUX S4, AUX S5
Phases Used.....1, 2, 3, 4, 5, 6, 7, 8
Overlap "1".....*
Overlap "2".....*
Overlap "3".....*
Overlap "4".....*

*See overlap programming detail on sheet 2.

SIGNAL HEAD HOOK-UP CHART

LOAD SWITCH NO.	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	S11	S12	AUX S1	AUX S2	AUX S3	AUX S4	AUX S5	AUX S6
CMU CHANNEL NO.	1	2	13	3	4	14	5	6	15	7	8	16	9	10	17	11	12	18
PHASE	1	2	2 PED	3	4	4 PED	5	6	6 PED	7	8	8 PED	OL1	OL2	SPARE	OL3	OL4	SPARE
SIGNAL HEAD NO.	11	21,22	NU	31	41,42	NU	51	61,62, 64	NU	71	81,82	NU	63	83★	NU	23	43★	NU
RED		128			101			134			107		A121	A124		A114	A101	
YELLOW		129			102			135			108							
GREEN		130			103			136			109							
RED ARROW	125			116			131			122								
YELLOW ARROW	126			117			132			123			A122	A125		A115	A102	
FLASHING YELLOW ARROW														A126			A103	
GREEN ARROW	127			118			133			124			A123			A116		

NU = Not Used
★See pictorial of head wiring in detail this sheet.

FYA SIGNAL WIRING DETAIL

(wire signal head as shown)



INPUT FILE POSITION LAYOUT

(front view)

		1	2	3	4	5	6	7	8	9	10	11	12	13	14
FILE "I"	U	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	FS DC ISOLATOR
	L														ST DC ISOLATOR
FILE "J"	U	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY
	L														

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

FS = FLASH SENSE
ST = STOP TIME

INPUT FILE CONNECTION & PROGRAMMING CHART

LOOP NO.	LOOP TERMINAL	INPUT FILE POS.	PIN NO.	INPUT POINT	DETECTOR NO.	CALL PHASE	DELAY TIME	EXTEND TIME	EXTEND	ADDED INITIAL	CALL	DELAY DURING GREEN
1A	-	-	-	*	33	1	3.0		X		X	
1B	-	-	-	*	49	1	15.0		X		X	
2A	-	-	-	*	38	2			X		X	
3A	-	-	-	*	34	3			X		X	
4A	-	-	-	*	44	4			X		X	
5A	-	-	-	*	35	5	3.0		X		X	
5B	-	-	-	*	51	5	15.0		X		X	
5C	-	-	-	*	52	5	15.0		X		X	
6A	-	-	-	*	54	6			X		X	
7A	-	-	-	*	36	7			X		X	
8A	-	-	-	*	60	8			X		X	

* For Input Point numbers, see SDLC Non-Intrusive Detection Chart detail on sheet 2.

INPUT FILE POSITION LEGEND: J2L
FILE J
SLOT 2
LOWER

SPECIAL DETECTOR NOTE

Install a multizone microwave detection system for vehicle detection. Perform installation according to the manufacturer's directions and NCDOT engineer approved mounting locations to accomplish the detection schemes shown on the Signal Design Plans.

FLASHER CIRCUIT MODIFICATION DETAIL

IN ORDER TO INSURE THAT SIGNALS FLASH CONCURRENTLY ON THE SAME APPROACH, MAKE THE FOLLOWING FLASHER CIRCUIT CHANGES:

1. ON REAR OF PDA - REMOVE WIRE FROM TERM. T2-4 AND TERMINATE ON T2-2.
2. ON REAR OF PDA - REMOVE WIRE FROM TERM. T2-5 AND TERMINATE ON T2-3.
3. REMOVE FLASHER UNIT 2.

THE CHANGES LISTED ABOVE TIES ALL PHASES AND OVERLAPS TO FLASHER UNIT 1.

Plans Prepared By:

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8210 University Executive Park Dr. Suite 220
Charlotte, NC 28262
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THIS PLAN SUPERSEDES THE PLAN SEALED ON 12/22/2023

THIS ELECTRICAL DETAIL IS FOR THE SIGNAL DESIGN: 06-1407T2
DESIGNED: Sep 2026
SEALED: 09/11/2026
REVISED: N/A

Electrical Detail - Sheet 1 of 2
Temporary Design 2 - (TMP Phase III)

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

ELECTRICAL AND PROGRAMMING DETAILS FOR:

SR 1003 (Camden Road)
at
SR 1112 (Rockfish Road) / Applegate Road

Division 6 Cumberland County Hope Mills

PLAN DATE: September 2026 REVIEWED BY: BN Groome
PREPARED BY: DS Griffith DRMP PROJ. NO: 24941 (040)

REVISIONS	INIT.	DATE

Prepared for:
NC Department of Transportation Mobility and Safety Division Traffic Engineering Branch Signals Management Section
750 N.Greenfield Pkwy,Garner,NC 27529

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 052936 ENGINEER BRITTANY N GROOME

Signed by: Brittany Groome 1E0936A0E15A484...
09/11/2026
SIGNATURE DATE

SIG. INVENTORY NO. 06-1407T2

Docusign Envelope ID: 68D05315-339F-8877-826C-A54DFA71DCDF

PROJECT REFERENCE NO.	SHEET NO.
U-3422B	Sig-2.5

OUTPUT CHANNEL CONFIGURATION

Front Panel
Main Menu >Controller >More>Channels>Channels Config

Web Interface
Home >Controller >Advanced IO>Channels>Channels Configuration

Channel Configuration

Channel	Control Type	Control Source	Flash Yellow	Flash Red	Flash Alt	MMU Channel
1	Phase Vehicle	1		X	X	1
2	Phase Vehicle	2		X		2
3	Phase Vehicle	3		X	X	3
4	Phase Vehicle	4		X		4
5	Phase Vehicle	5		X		5
6	Phase Vehicle	6		X	X	6
7	Phase Vehicle	7		X		7
8	Phase Vehicle	8		X	X	8
9	Overlap	1		X	X	9
10	Overlap	2		X	X	10
11	Overlap	3		X		11
12	Overlap	4		X		12
13	Phase Ped	2				13
14	Phase Ped	4				14
15	Phase Ped	6				15
16	Phase Ped	8				16
17	Overlap	5		X	X	17
18	Overlap	6		X		18

SPECIAL DETECTION IO MODULE PROGRAMMING

The Enhanced Out of Pavement Detection requires adjustments to the IO Modules in use. Follow the programming instructions below to ensure desired operation.

Front Panel
Main Menu >Controller >More >Advanced IO >IO Modules

Web Interface
Home >Controller >Advanced IO >Cabinet Configuration >IO Modules

IO Module 1

IO Module	Type	Fault Response
1	Caltrans 332	Default
2	TS2 DR3 BIU	Default
3	TS2 DR4 BIU	Default
4	TS2 MMU	Default

Advanced Cabinet Options

☑ Disable TS2 Cabinet Alarms

SDLC NON-INTRUSIVE DETECTION CHART

	Detector Rack #3		Detector Rack #4	
Input Point	Det # (Index)	Detector Zone	Det # (Index)	Detector Zone
1	33	1A	49	1B
2	34	3A	50	NU
3	35	5A	51	5B
4	36	7A	52	5C
5	37	NU	53	NU
6	38	2A	54	6A
7	39	NU	55	NU
8	40	NU	56	NU
9	41	NU	57	NU
10	42	NU	58	NU
11	43	NU	59	NU
12	44	4A	60	8A
13	45	NU	61	NU
14	46	NU	62	NU
15	47	NU	63	NU
16	48	NU	64	NU

NU = Not Used

OVERLAP PROGRAMMING

Front Panel
Main Menu >Controller >Overlap >Overlap Parameters/Overlap Timings

Web Interface
Home >Controller >Overlap Configuration >Overlaps

Overlap Plan 1

Overlap	1	2	3	4
Type	Normal	FYA 4-Section	Normal	FYA 4-Section
Included Phases	6,7	1,8	2,3	4,5
Modifier Phases	-	-	-	-
Modifier Overlap	-	-	-	-
Trail Green	0	0	0	0
Trail Yellow	0.0	0.0	0.0	0.0
Trail Red	0.0	0.0	0.0	0.0

MAXTIME STARTUP AND SOFTWARE FLASH PROGRAMMING DETAIL

Front Panel
Main Menu>Controller>Unit

Web Interface
Home>Controller>Unit

Start Up Parameters

Startup Clearance Hold
6

Unit Flash Parameters

All Red Flash Exit Time
6

THIS PLAN SUPERSEDES THE PLAN SEALED ON 12/22/2023

THIS ELECTRICAL DETAIL IS FOR
THE SIGNAL DESIGN: 06-1407T2
DESIGNED: Sep 2026
SEALED:
REVISED: N/A

Electrical Detail - Sheet 2 of 2
Temporary Design 2 - (TMP Phase III)

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

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ELECTRICAL AND PROGRAMMING DETAILS FOR:

SR 1003 (Camden Road)
at
SR 1112 (Rockfish Road) / Applegate Road

Division 6 Cumberland County Hope Mills

Prepared for: NCDOT Transportation Mobility and Safety Division, Traffic Engineering Branch, Signals Management Section

750 N.Greenfield Pkwy,Garner,NC 27529

PLAN DATE: September 2026	REVIEWED BY: BN Groome
PREPARED BY: DS Griffith	DRMP PROJ. NO: 24941 (040)

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 052936 ENGINEER BRITTANY N GROOME

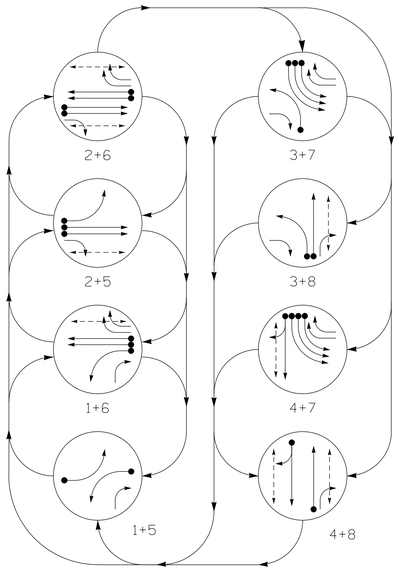
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SIG. INVENTORY NO. 06-1407T2

Docusign Envelope ID: 68D05315-339F-8877-826C-A54DFA71DCDF

PROJECT REFERENCE NO.	SHEET NO.
U-3422B	Sig-2.6

PHASING DIAGRAM



PHASING DIAGRAM DETECTION LEGEND

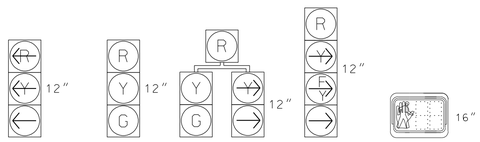
- DETECTED MOVEMENT
- UNDETECTED MOVEMENT (OVERLAP)
- UNSIGNALIZED MOVEMENT
- PEDESTRIAN MOVEMENT

TABLE OF OPERATION

SIGNAL FACE	PHASE 1+5	1+6	2+5	2+6	3+7	3+8	4+7	4+8	FLASH
11,12	←-	←-	-R	-R	-R	-R	-R	-R	-R
21,22	R	R	G	G	R	R	R	R	R
23	R	R	F	F	→-	→-	R	R	R
31	-R	-R	-R	-R	←-	←-	-R	-R	-R
41,42	R	R	R	R	R	R	G	G	R
51,52	←-	-R	←-	-R	-R	-R	-R	-R	-R
61,62,63	R	G	R	G	R	R	R	R	R
64,65,66	R	F	R	F	→-	R	→-	R	R
71,72,73	-R	-R	-R	-R	←-	-R	←-	-R	-R
81,83	R	R	R	R	R	G	R	G	R
82	R/→-	R/→-	R	R	R	G	R	G	R
P21,P22	DW	DW	W	W	DW	DW	DW	DW	DW
P41,P42	DW	DW	DW	DW	DW	DW	W	W	DW
P61,P62	DW	W	DW	W	DW	DW	DW	DW	DW
P81,P82	DW	DW	DW	DW	DW	W	DW	W	DW

SIGNAL FACE I.D.

All Heads L.E.D.



11,12
31
51,52
71,72,73

21,22
41,42
61,62,63
81,83

82

23
64,65,66

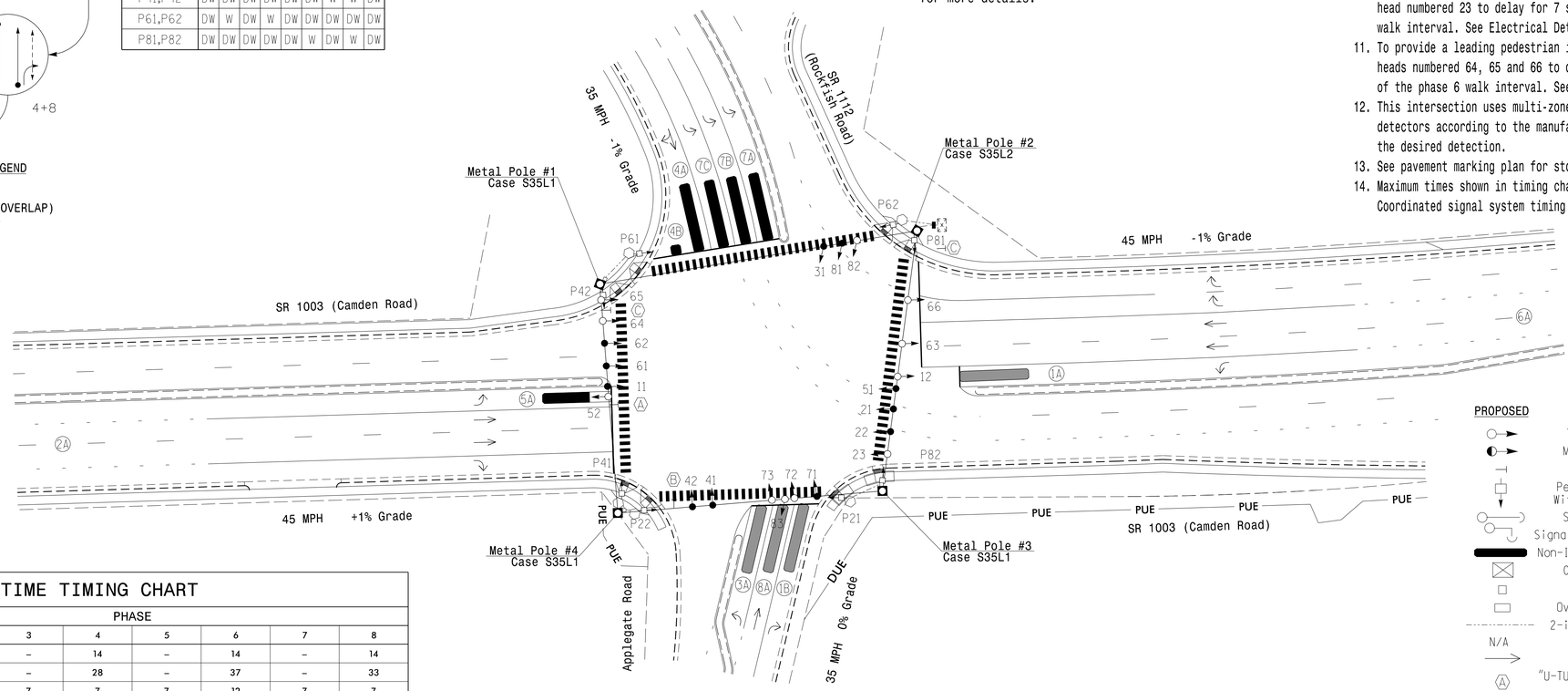
P21,P22
P41,P42
P61,P62
P81,P82

MAXTIME DETECTOR INSTALLATION CHART

DETECTOR ZONE	SIZE (FT)	DISTANCE FROM STOPBAR (FT)	TURNS	NEW LOOP	PROGRAMMING CALL PHASE	DELAY TIME	EXTEND TIME	EXTEND	ADDED INITIAL	CALL	DELAY DURING GREEN	NEW CARD
1A	6X40	0	**	-	1	-	-	X	-	X	-	**
1B	6X40	0	**	-	1	15.0	-	X	-	X	-	**
2A	@	@	**	X	2	-	-	X	-	X	-	**
3A	6X40	0	**	-	3	-	-	X	-	X	-	**
4A	6X40	0	**	X	4	10.0	-	X	-	X	-	**
4B	6X6	0	**	X	4	10.0	-	X	-	X	-	**
5A	6X40	0	**	X	5	-	-	X	-	X	-	**
6A	@	@	**	X	6	-	-	X	-	X	-	**
7A	6X40	0	**	X	7	-	-	X	-	X	-	**
7B	6X40	0	**	X	7	-	-	X	-	X	-	**
7C	6X40	0	**	X	7	-	-	X	-	X	-	**
8A	6X40	0	**	-	8	-	-	X	-	X	-	**

** Microwave Detection Zone

@ Size and distance vary. See Microwave Detection chart for more details.



LEGEND

PROPOSED		EXISTING
○→	Traffic Signal Head	●→
◐→	Modified Signal Head	N/A
⊣	Sign	⊣
□↓	Pedestrian Signal Head With Push Button & Sign	■↓
○	Signal Pole with Guy	●
○	Signal Pole with Sidewalk Guy	●
▬	Non-Intrusive Detection Zone	▬
⊠	Controller & Cabinet	⊠
□	Junction Box	■
▭	Oversized Junction Box	■
----	2-in Underground Conduit	----
N/A	Right of Way	----
→	Directional Arrow	→
Ⓐ	"U-TURN YIELD TO RIGHT TURN" Sign (R10-16)	Ⓐ
Ⓑ	"RIGHT TURN ON RED MUST YIELD TO U-TURN" Sign (R10-30)	Ⓑ
Ⓒ	Right "TURNING VEHICLES" Yield "TO" Pedestrian Sign (R10-15R)	Ⓒ
⬡	Type II Signal Pedestal	⬢
PUE	Proposed Utility Easement	N/A
DUE	Drainage Utility Easement	N/A

MAXTIME TIMING CHART

FEATURE	PHASE 1	2	3	4	5	6	7	8
Walk *	–	14	–	14	–	14	–	14
Ped Clear	–	27	–	28	–	37	–	33
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	50	15	90	15	50
Yellow Change	3.0	4.6	3.0	3.9	3.0	4.6	3.0	3.9
Red Clear	4.0	2.6	3.5	3.1	3.9	2.6	4.0	3.1
Added Initial *	–	–	–	–	–	–	–	–
Maximum Initial *	–	–	–	–	–	–	–	–
Time Before Reduction *	–	–	–	–	–	–	–	–
Time To Reduce *	–	–	–	–	–	–	–	–
Minimum Gap	–	–	–	–	–	–	–	–
Advance Walk	–	**	–	7	–	***	–	7
Non Lock Detector	X	–	X	X	X	–	X	X
Vehicle Recall	–	MIN RECALL	–	–	–	MIN RECALL	–	–
Dual Entry	–	–	–	–	–	–	–	–

* 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.

** See note #10

*** See note #11

Microwave Detection

FUNCTION	2A Sensor 1			6A Sensor 2		
Channel	1			1		
Phase	2			6		
Direction of Travel	EB			WB		
Type	Priority			Priority		
Level	1	2	QUEUE	1	2	QUEUE
Discovery Zone (ft)	>= 750	< 750	-	>= 750	< 750	-
Range (ft)	900-100	600-100	150-100	900-100	600-100	150-100
Enable Speed	Y	Y	Y	Y	Y	Y
Speed Range (mph)	35-100	35-100	1-35	35-100	35-100	1-35
Enable Estimated Time of Arrival	Y	Y	N	Y	Y	N
Estimated Time of Arrival (sec)	2.5-10.0	2.5-6.5	-	2.5-10.0	2.5-6.5	-

8 Phase Fully Actuated Camden Road CLS

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 phase 5 may be lagged.
4. Phase 3 and/or phase 7 may be lagged.
5. Reposition existing signal heads 21, 22, 41, 42, 51, 61 & 62 as shown on plans.
6. Reposition existing signal head numbered 71.
7. Set all detector units to presence mode.
8. Omit "WALK" and flashing "DON'T WALK" with no pedestrian calls.
9. Program pedestrian heads to countdown the flashing "Don't Walk" time only.
10. To provide a leading pedestrian interval on phase 2, program FYA head numbered 23 to delay for 7 seconds after the start of the phase 2 walk interval. See Electrical Details for programming.
11. To provide a leading pedestrian interval on phase 6, program FYA heads numbered 64, 65 and 66 to delay for 7 seconds after the start of the phase 6 walk interval. See Electrical Details for programming.
12. This intersection uses multi-zone microwave detection. Install detectors according to the manufacturer's instructions to achieve the desired detection.
13. See pavement marking plan for stop line locations.
14. Maximum times shown in timing chart are for free-run operation only. Coordinated signal system timing values supersede these values.

THIS PLAN SUPERSEDES THE PLAN SEALED ON 12/22/2023

Plans Prepared By:

DRMP

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Signal Upgrade - Final Design

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

Prepared for: Transportation Mobility and Safety Division, NC Department of Transportation, Signal Design Section

750 N.Greenfield Pkwy,Garner,NC 27529

SR 1003 (Camden Road) at SR 1112 (Rockfish Road) / Applegate Road

Division 6 Cumberland County Hope Mills

PLAN DATE: September 2026 REVIEWED BY: BN Groome

PREPARED BY: DS Griffith DRMP PROJ. NO.: 24941 (040)

SCALE 0 40 1"=40'

REVISIONS	INIT.	DATE

SEAL 052936 ENGINEER BRITTANY N GROOME NORTH CAROLINA PROFESSIONAL

Signed by: Brittany Groome 1E09340E1094484...

09/11/2026

SIGNATURE DATE

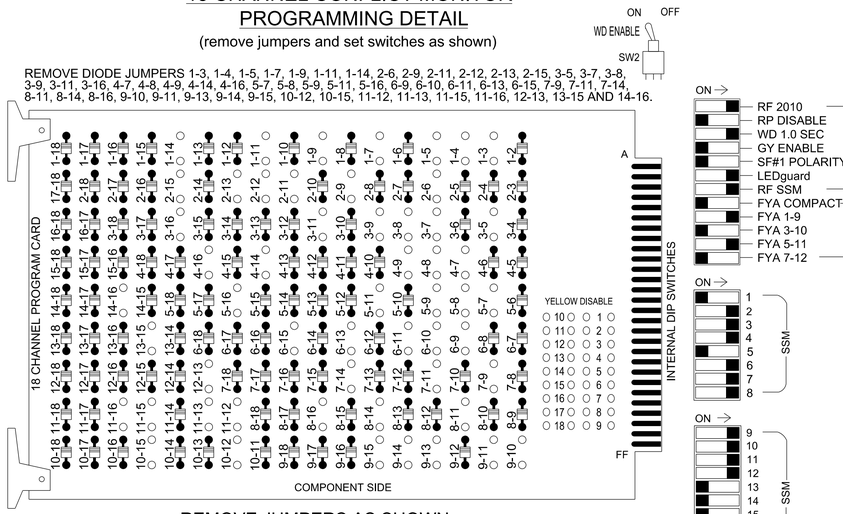
SIG. INVENTORY NO. 06-1407

Docusign Envelope ID: 68D05315-339F-8877-826C-A54DFA71DCDF

PROJECT REFERENCE NO.	SHEET NO.
U-3422B	Sig-2.7

18 CHANNEL CONFLICT MONITOR PROGRAMMING DETAIL

(remove jumpers and set switches as shown)



REMOVE JUMPERS AS SHOWN

NOTES:

1. Card is provided with all diode jumpers in place. Removal of any jumper allows its channels to run concurrently.
2. Ensure jumpers SEL2-SEL5 and SEL9 are present on the monitor board.
3. Ensure that the Red Enable is active at all times during normal operation.
4. Connect serial cable from conflict monitor to comm. port 1 of 2070 controller. Ensure conflict monitor communicates with 2070.

NOTES

1. To prevent "flash-conflict" problems, insert red flash program blocks for all vehicle load switches in the output file. The installer shall verify that signal heads flash in accordance with the signal plan.
2. Restore controller factory defaults before programming per this electrical detail.
3. Program controller to start up in phase 2 Green No Walk and phase 6 Green No Walk.
4. If this signal will be managed by an ATMS software, enable controller and detector logging for all detectors used at this location.
5. The cabinet and controller are part of the Camden Road Closed Loop Signal System.

EQUIPMENT INFORMATION

Controller.....2070LX
Cabinet.....332 w/ Aux
Software.....Q-Free MAXTIME
Cabinet Mount.....Base
Output File Positions.....18 With Aux. Output File
Load Switches Used.....S1,S2,S3,S4,S5,S6,S7,S8,S9,S10,S11, S12,AUX S1,AUX S2,AUX S4,AUX S5
Phases Used.....1, 2, 2PED, 3, 4, 4PED,5, 6, 6PED,7,8,8PED
Overlap "1".....*
Overlap "2".....*
Overlap "3".....*
Overlap "4".....*
Overlap "5".....NOT USED
Overlap "6".....NOT USED
Overlap "7".....*
Overlap "8".....*
*See overlap programming detail on sheet 2.

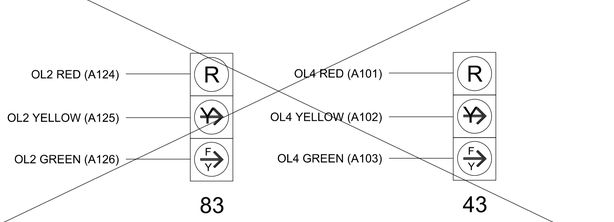
SIGNAL HEAD HOOK-UP CHART

LOAD SWITCH NO.	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	S11	S12	AUX S1	AUX S2	AUX S3	AUX S4	AUX S5	AUX S6
CMU CHANNEL NO.	1	2	13	3	4	14	5	6	15	7	8	16	9	10	17	11	12	18
PHASE	** OL7	2	2 PED	3	4	4 PED	** OL8	6	6 PED	7	8	8 PED	OL1	OL2	SPARE	OL3	OL4	SPARE
SIGNAL HEAD NO.	★ 64,65 66	21,22	P21, P22	31	41,42	P41, P42	23★	61,62 63	P61, P62	71,72 73	81,82, 83	P81, P82	★ 64,65 66	11,12	82	NU	23★	51,52	NU
RED		128			101			134			107		A121				A114		
YELLOW	*	129			102		*	135			108								
GREEN		130			103			136			109								
RED ARROW				116						122				A124				A101	
YELLOW ARROW				117						123			A122	A125	A125		A115	A102	
FLASHING YELLOW ARROW													A123				A116		
GREEN ARROW	127			118			133			124				A126	A126			A103	
✋			113			104			119			110							
🚶			115			106			121			112							

NU = Not Used
* Denotes install load resistor. See load resistor installation detail this sheet.
★See pictorial of head wiring in detail this sheet.
** Load switch S1 and S7 have been reassigned. See programming detail on sheet 2.

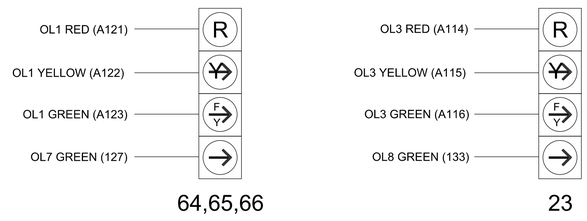
FYA SIGNAL WIRING REMOVAL DETAIL

(wire signal heads as shown)



FYA SIGNAL WIRING DETAIL

(wire signal heads as shown)



INPUT FILE POSITION LAYOUT

(front view)

		1	2	3	4	5	6	7	8	9	10	11	12	13	14
FILE "I"	U	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	Ø 2 PED DC ISOLATOR	Ø 6 PED DC ISOLATOR	FS DC ISOLATOR
	L												Ø 4 PED DC ISOLATOR	Ø 8 PED DC ISOLATOR	ST DC ISOLATOR
FILE "J"	U	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY
	L														

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

FS = FLASH SENSE
ST = STOP TIME

INPUT FILE CONNECTION & PROGRAMMING CHART

LOOP NO.	LOOP TERMINAL	INPUT FILE POS.	PIN NO.	INPUT POINT	DETECTOR NO.	CALL PHASE	DELAY TIME	EXTEND TIME	EXTEND	ADDED INITIAL	CALL	DELAY DURING GREEN
1A	-	-	-	*	33	1			X		X	
1B	-	-	-	*	49	1	15.0		X		X	
2A	-	-	-	*	38	2			X		X	
3A	-	-	-	*	34	3			X		X	
4A	-	-	-	*	44	4	10.0		X		X	
4B	-	-	-	*	45	4	10.0		X		X	
5A	-	-	-	*	35	5			X		X	
6A	-	-	-	*	54	6			X		X	
7A	-	-	-	*	36	7			X		X	
7B	-	-	-	*	52	7			X		X	
7C	-	-	-	*	53	7			X		X	
8A	-	-	-	*	60	8			X		X	
PED PUSH BUTTONS												
P21,P22	TB8-4,6	I12U	67	33	2	PED 2						
P41,P42	TB8-5,6	I12L	69	35	4	PED 4						
P61,P62	TB8-7,9	I13U	68	34	6	PED 6						
P81,P82	TB8-8,9	I13L	70	36	8	PED 8						

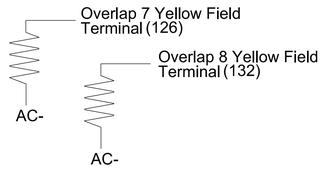
* For Input Point numbers, see SDLC Non-Intrusive Detection Chart detail on sheet 2.

INPUT FILE POSITION LEGEND: J2L
FILE J
SLOT 2
LOWER

LOAD RESISTOR INSTALLATION DETAIL

(install resistors as shown)

ACCEPTABLE VALUES	
Value (ohms)	Wattage
1.5K - 1.9K	25W (min)
2.0K - 3.0K	10W (min)



SPECIAL DETECTOR NOTE

Install a multizone microwave detection system for vehicle detection. Perform installation according to the manufacturer's directions and NCDOT engineer approved mounting locations to accomplish the detection schemes shown on the Signal Design Plans.

THIS PLAN SUPERSEDES THE PLAN SEALED ON 12/22/2023

THIS ELECTRICAL DETAIL IS FOR THE SIGNAL DESIGN: 06-1407
DESIGNED: Sep 2026
SEALED: 09/11/2026
REVISED: N/A

Plans Prepared By:
DRMP
DRMP, Inc.
8210 University Executive Park Dr, Suite 220
Charlotte, NC 28262
NC License No. F-1524 (704) 549-4260

Electrical Detail - Sheet 1 of 2
Final Design

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

ELECTRICAL AND PROGRAMMING DETAILS FOR:

Prepared for:
Transportation Mobility and Safety Division
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
Traffic Engineering Branch
Signals Management Section
750 N.Greenfield Pkwy,Garner,NC 27529

SR 1003 (Camden Road)
at
SR 1112 (Rockfish Road) / Applegate Road

Division 6 Cumberland County Hope Mills

PLAN DATE: September 2026 REVIEWED BY: BN Groome
PREPARED BY: DS Griffith DRMP PROJ. NO: 24941 (040)

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 052936 ENGINEER BRITTANY N GROOME
Signed by: Brittany Groome
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09/11/2026
SIGNATURE DATE
SIG. INVENTORY NO. 06-1407

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PROJECT REFERENCE NO.	SHEET NO.
U-3422B	Sig-2.8

OUTPUT CHANNEL CONFIGURATION

Front Panel
Main Menu >Controller >More>Channels>Channels Config

Web Interface
Home >Controller >Advanced IO>Channels>Channels Configuration

Channel Configuration

NOTICE OVERLAP 7 ASSIGNED TO CHANNEL 1 →

NOTICE OVERLAP 8 ASSIGNED TO CHANNEL 5 →

Channel	Control Type	Control Source	Flash Yellow	Flash Red	Flash Alt	MMU Channel
1	Overlap	7		X	X	1
2	Phase Vehicle	2		X		2
3	Phase Vehicle	3		X	X	3
4	Phase Vehicle	4		X		4
5	Overlap	8		X		5
6	Phase Vehicle	6		X	X	6
7	Phase Vehicle	7		X		7
8	Phase Vehicle	8		X	X	8
9	Overlap	1		X	X	9
10	Overlap	2		X	X	10
11	Overlap	3		X		11
12	Overlap	4		X		12
13	Phase Ped	2				13
14	Phase Ped	4				14
15	Phase Ped	6				15
16	Phase Ped	8				16
17	Overlap	5		X	X	17
18	Overlap	6		X		18

OVERLAP PROGRAMMING

Front Panel
Main Menu >Controller >Overlap >Overlap Parameters/Overlap Timings

Web Interface
Home >Controller >Overlap Configuration >Overlaps

Overlap Plan 1

Overlap	1	2	3	4	7	8
Type	FYA 4-Section	Normal	FYA 4-Section	Normal	Normal	Normal
Included Phases	6	1	2	5	7	3
Modifier Phases	7	-	3	-	-	-
Modifier Overlap	-	-	-	-	-	-
Trail Green	0	0	0	0	0	0
Trail Yellow	0.0	0.0	0.0	0.0	0.0	0.0
Trail Red	0.0	0.0	0.0	0.0	0.0	0.0
FYA PED Delay	7.0	0.0	7.0	0.0	0.0	0.0

← NOTICE PED DELAY

SPECIAL DETECTION IO MODULE PROGRAMMING

The Enhanced Out of Pavement Detection requires adjustments to the IO Modules in use. Follow the programming instructions below to ensure desired operation.

Front Panel
Main Menu >Controller >More >Advanced IO >IO Modules

Web Interface
Home >Controller >Advanced IO >Cabinet Configuration >IO Modules

IO Module 1

IO Module	Type	Fault Response
1	Caltrans 332	Default
2	TS2 DR3 BIU	Default
3	TS2 DR4 BIU	Default
4	TS2 MMU	Default

Advanced Cabinet Options

☑ Disable TS2 Cabinet Alarms

SDLC NON-INTRUSIVE DETECTION CHART

	Detector Rack #3		Detector Rack #4	
Input Point	Det # (Index)	Detector Zone	Det # (Index)	Detector Zone
1	33	1A	49	1B
2	34	3A	50	NU
3	35	5A	51	NU
4	36	7A	52	7B
5	37	NU	53	7C
6	38	2A	54	6A
7	39	NU	55	NU
8	40	NU	56	NU
9	41	NU	57	NU
10	42	NU	58	NU
11	43	NU	59	NU
12	44	4A	60	8A
13	45	4B	61	NU
14	46	NU	62	NU
15	47	NU	63	NU
16	48	NU	64	NU

NU = Not Used

COUNTDOWN PEDESTRIAN SIGNAL OPERATION

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

MAXTIME STARTUP AND SOFTWARE FLASH PROGRAMMING DETAIL

Front Panel
Main Menu>Controller>Unit

Web Interface
Home>Controller>Unit

Start Up Parameters

Startup Clearance Hold
6

Unit Flash Parameters

All Red Flash Exit Time
6

THIS PLAN SUPERSEDES THE PLAN SEALED ON 12/22/2023

THIS ELECTRICAL DETAIL IS FOR
THE SIGNAL DESIGN: 06-1407
DESIGNED: Sep 2026
SEALED: 09/11/2026
REVISED: N/A

Electrical Detail - Sheet 2 of 2
Final Design

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

Plans Prepared By:

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ELECTRICAL AND PROGRAMMING DETAILS FOR:

SR 1003 (Camden Road)
at
SR 1112 (Rockfish Road) / Applegate Road

Division 6 Cumberland County Hope Mills

Prepared for: NC Department of Transportation, Mobility and Safety Division, Traffic Engineering Branch, Signals Management Section

750 N.Greenfield Pkwy,Garner,NC 27529

PLAN DATE: September 2026	REVIEWED BY: BN Groome
PREPARED BY: DS Griffith	DRMP PROJ. NO: 24941 (040)

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 052936 ENGINEER BRITTANY N GROOME

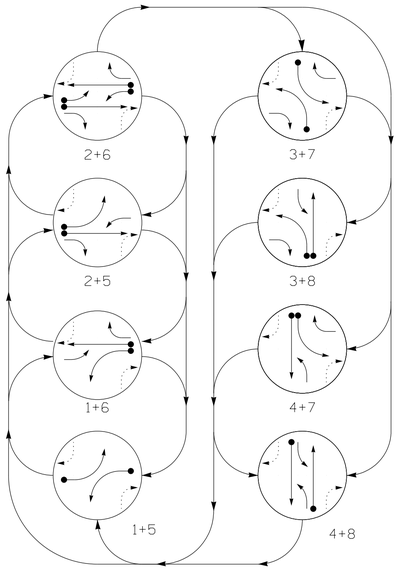
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SIG. INVENTORY NO. 06-1407

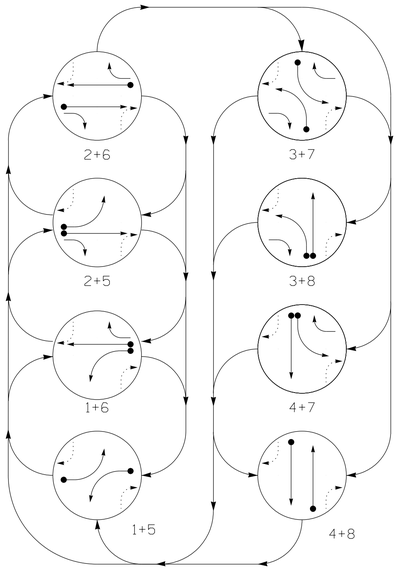
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PROJECT REFERENCE NO.	SHEET NO.
U-3422B	Sig-3.0

DEFAULT PHASING DIAGRAM



ALTERNATE PHASING DIAGRAM



DEFAULT PHASING TABLE OF OPERATION

SIGNAL FACE	PHASE 1+5	1+6	2+5	2+6	3+7	3+8	4+7	4+8	FLASH
11	←R	←R	←FY	←FY	←R	←R	←R	←R	←R
21	R	R	G	G	R	R	R	R	R
22	R	R	G	G	R/→R	R/→R	R	R	R
31,32	←R	←R	←R	←R	←	←	←FY	←FY	←R
41,42	R	R	R	R	R	R	G	G	R
51	←FY	←R	←FY	←R	←R	←R	←R	←R	←R
61	R	G	R	G	R	R	R	R	R
62	R	G	R	G	R/→R	R/→R	R	R	R
71,72	←R	←R	←R	←R	←FY	←FY	←R	←R	←R
81,82	R	R	R	R	R	G	R	G	R

ALTERNATE PHASING TABLE OF OPERATION

SIGNAL FACE	PHASE 1+5	1+6	2+5	2+6	3+7	3+8	4+7	4+8	FLASH
11	←	←	←R	←R	←R	←R	←R	←R	←R
21	R	R	G	G	R	R	R	R	R
22	R	R	G	G	R/→R	R/→R	R	R	R
31,32	←R	←R	←R	←R	←	←R	←R	←R	←R
41,42	R	R	R	R	R	R	G	G	R
51	←	←R	←	←R	←R	←R	←R	←R	←R
61	R	G	R	G	R	R	R	R	R
62	R	G	R	G	R/→R	R/→R	R	R	R
71,72	←R	←R	←R	←R	←	←R	←R	←R	←R
81,82	R	R	R	R	R	G	R	G	R

MAXTIME DETECTOR INSTALLATION CHART

DETECTOR ZONE	SIZE (FT)	DISTANCE FROM STOPBAR (FT)	TURNS	NEW LOOP	PROGRAMMING CALL PHASE	DELAY TIME	EXTEND TIME	EXTEND	ADDED INITIAL	CALL	DELAY DURING GREEN	NEW CARD
1A	6X40	0	**	X	1	15.0*	-	X	-	X	-	**
				X	6#	3.0	-	X	-	X	-	**
2A	@	@	**	X	2	-	-	X	-	X	-	**
3A	6X40	0	**	X	3	15.0*	-	X	-	X	-	**
				X	8#	3.0	-	X	-	X	-	**
4A	6X40	0	**	X	4	-	-	X	-	X	-	**
5A	6X40	0	**	X	5	15.0*	-	X	-	X	-	**
				X	2#	3.0	-	X	-	X	-	**
6A	@	@	**	X	6	-	-	X	-	X	-	**
7A	6X40	0	**	X	7	15.0*	-	X	-	X	-	**
				X	4#	3.0	-	X	-	X	-	**
8A	6X40	0	**	X	8	-	-	X	-	X	-	**

** Microwave Detection Zone

@ Size and distance vary. See Microwave Detection chart for more details.

* Disable Delay During Alternate Phasing Operation.

Disable Phase Call For Loop During Alternate Phasing Operation.

8 Phase Fully Actuated D06-28_Hope Mills

NOTES

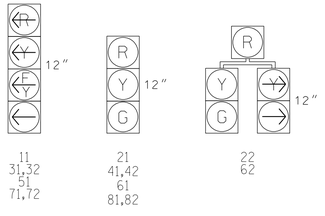
1. Refer to "Roadway Standard Drawings NCDOT" dated January 2024 and "Standard Specifications for Roads and Structures" dated January 2024.
2. Do not program signal for late night flashing operation unless otherwise directed by the Engineer.
3. Phase 1 and/or phase 5 may be lagged.
4. Phase 3 and/or phase 7 may be lagged.
5. Set all detector units to presence mode.
6. The Division Traffic Engineer will determine the hours of use for each phasing plan.
7. This intersection uses multi-zone microwave detection. Install detectors according to the manufacturer's instructions to achieve the desired detection.
8. Maximum times shown in timing chart are for free-run operation only. Coordinated signal system timing values supersede these values.

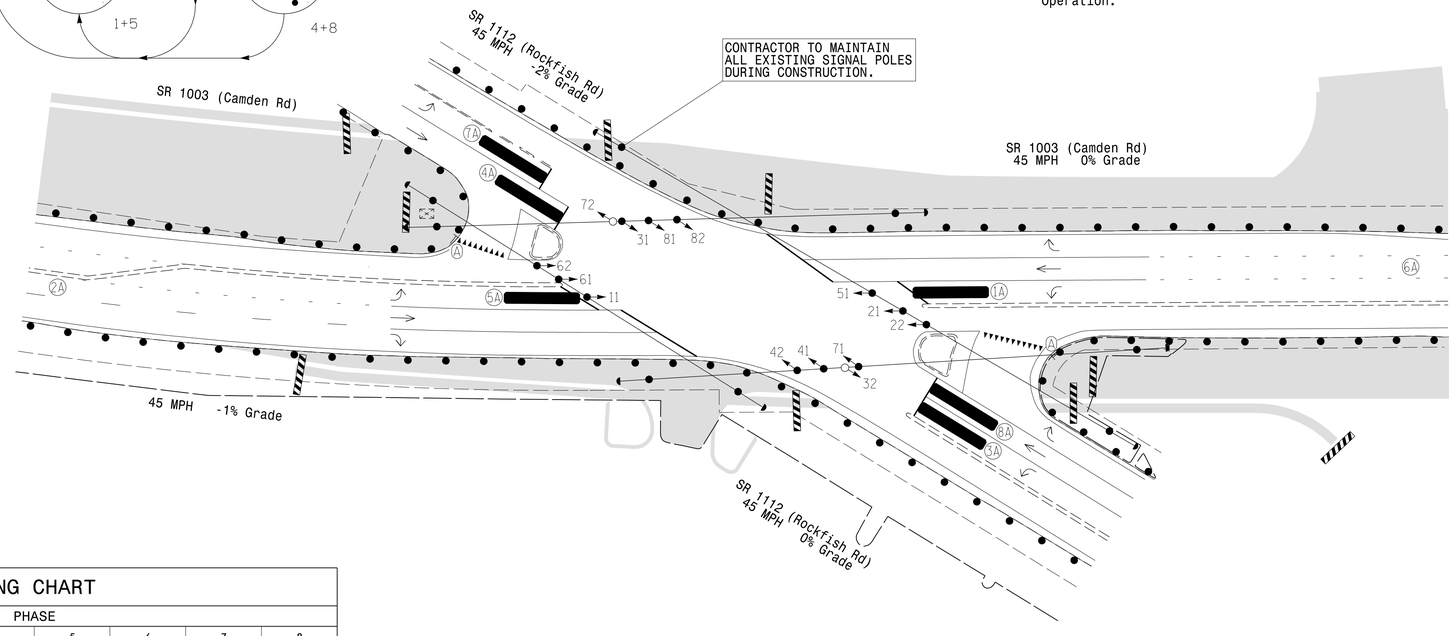
PHASING DIAGRAM DETECTION LEGEND

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

SIGNAL FACE I.D.

All Heads L.E.D.





MAXTIME TIMING CHART

FEATURE	PHASE 1	2	3	4	5	6	7	8
Walk *	–	–	–	–	–	–	–	–
Ped Clear	–	–	–	–	–	–	–	–
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 *	20	75	20	30	20	75	20	30
Yellow Change	3.0	4.6	3.0	4.7	3.0	4.6	3.0	4.7
Red Clear	2.1	1.8	4.4	2.9	1.9	1.8	4.4	2.9
Added Initial *	–	–	–	–	–	–	–	–
Maximum Initial *	–	–	–	–	–	–	–	–
Time Before Reduction *	–	–	–	–	–	–	–	–
Time To Reduce *	–	–	–	–	–	–	–	–
Minimum Gap	–	–	–	–	–	–	–	–
Advance Walk	–	–	–	–	–	–	–	–
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.

Microwave Detection

FUNCTION	2A Sensor 1			6A Sensor 2		
Channel	1			1		
Phase	2			6		
Direction of Travel	EB			WB		
Type	Priority			Priority		
Level	1	2	QUEUE	1	2	QUEUE
Discovery Zone (ft)	>= 750	< 750	-	>= 750	< 750	-
Range (ft)	900-100	600-100	150-100	900-100	600-100	150-100
Enable Speed	Y	Y	Y	Y	Y	Y
Speed Range (mph)	35-100	35-100	1-35	35-100	35-100	1-35
Enable Estimated Time of Arrival	Y	Y	N	Y	Y	N
Estimated Time of Arrival (sec)	2.5-10.0	2.5-6.5	-	2.5-10.0	2.5-6.5	-

THIS PLAN SUPERSEDES THE PLAN SEALED ON 12/22/2023

LEGEND

PROPOSED		EXISTING
○→	Traffic Signal Head	●→
◐→	Modified Signal Head	N/A
⊣	Sign	⊣
▽	Pedestrian Signal Head	■
○	Signal Pole with Guy	●
○	Signal Pole with Sidewalk Guy	●
▭	Inductive Loop Detector	▭
⊠	Controller & Cabinet	⊠
□	Junction Box	■
----------	2-in Underground Conduit	----------
N/A	Right of Way	
→	Directional Arrow	→
▬	Non-Intrusive Detection Zone	▬
▭	Construction Zone	N/A
●●●	Construction Zone Drums	N/A
▨	Type III Barricade	N/A
▼▼▼▼▼▼	Yield Pavement Marking	N/A
Ⓐ	"YIELD" Sign (R1-2)	Ⓐ

Signal Upgrade
Temporary Design 1 - (TMP Phase I)

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

Plans Prepared By:

DRMP

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8210 University Executive Park Dr, Suite 220
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NC License No. F-1524 (704) 549-4260

Prepared for:
Transportation Mobility and Safety Division
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
Signal Design Section
750 N.Greenfield Pkwy,Garner,NC 27529

SR 1003 (Camden Road)
at
SR 1112 (Rockfish Road)

Division 6 Cumberland County Hope Mills

PLAN DATE: September 2026 REVIEWED BY: BN Groome
PREPARED BY: DS Griffith DRMP PROJ. NO.: 24941 (040)

REVISIONS	INIT.	DATE

SCALE 0 40 1"=40'

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 052936 ENGINEER BRITTANY N GROOME

Signed by: Brittany Groome
1E0934061094484...
09/11/2026
SIGNATURE DATE

SIG. INVENTORY NO. 06-0470TI

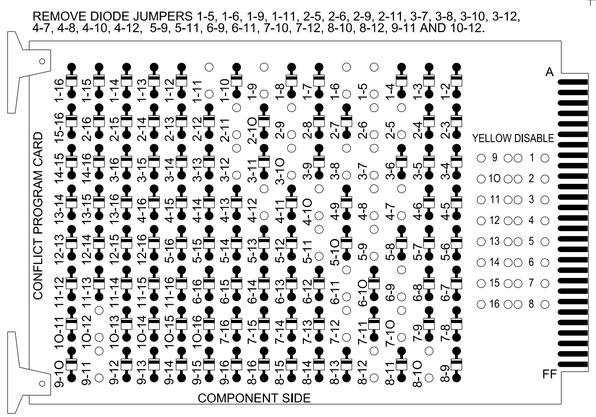
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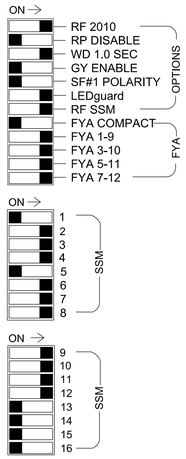
16 CHANNEL CONFLICT MONITOR PROGRAMMING DETAIL

(remove jumpers and set switches as shown)



REMOVE DIODE JUMPERS 1-5, 1-6, 1-9, 1-11, 2-5, 2-6, 2-9, 2-11, 3-7, 3-8, 3-10, 3-12, 4-7, 4-8, 4-10, 4-12, 5-9, 5-11, 6-9, 6-11, 7-10, 7-12, 8-10, 8-12, 9-11 AND 10-12.





REMOVE JUMPERS AS SHOWN

■ = DENOTES POSITION OF SWITCH

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

NOTES

1. To prevent "flash-conflict" problems, insert red flash program blocks for all vehicle load switches in the output file. The installer shall verify that signal heads flash in accordance with the signal plan.
2. Ensure that Red Enable is active at all times during normal operation. To prevent Red Failures on all unused monitor channels, tie unused red monitor inputs 1, 5, 13, 14, 15 & 16 to load switch AC+ per the cabinet manufacturer's instructions.
2. Program phases 4 and 8 for Dual Entry
3. Program controller to start up in phase 2 Green No Walk and phase 6 Green No Walk.
4. If this signal will be managed by an ATMS software, enable controller and detector logging for all detectors used at this location.
5. The cabinet and controller are part of the Camden Road Closed Loop Signal System.

EQUIPMENT INFORMATION

Controller.....2070LX
Cabinet.....332 w/ Aux
Software.....Q-Free MAXTIME
Cabinet Mount.....Base
Output File Positions.....18 With Aux. Output File
Load Switches Used.....S1, S2, S3, S4, S5, S6, S7, S8, S9, S10, S12, S13
Phases Used.....1, 2, 3, 4, 5, 6, 7, 8
Overlap "1".....*
Overlap "2".....*
Overlap "3".....*
Overlap "4".....*

*See overlap programming below on sheet 2.

PROJECT REFERENCE NO.	SHEET NO.
U-3422B	Sig-3.1

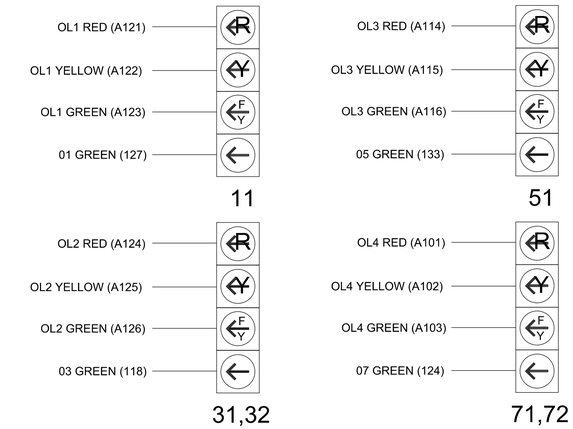
SIGNAL HEAD HOOK-UP CHART

LOAD SWITCH NO.	S1	S2	S2P	S3		S4	S4P	S5	S6	S6P	S7		S8	S8P	S9	S10	S11	S12	S13	S14
PHASE	1	2	2 PED	3		4	4 PED	5	6	6 PED	7		8	8 PED	OL1	OL2	SPARE	OL3	OL4	SPARE
SIGNAL HEAD NO.	11★	21,22	NU	22	31,32★	41,42	NU	51★	61,62	NU	62	71,72★	81,82	NU	11★	31,32★	NU	51★	71,72★	NU
RED		128		*		101			134		*		107							
YELLOW	*	129				102		*	135				108							
GREEN		130				103			136				109							
RED ARROW															A121	A124		A114	A101	
YELLOW ARROW				117							123				A122	A125		A115	A102	
FLASHING YELLOW ARROW															A123	A126		A116	A103	
GREEN ARROW	127			118	118			133			124	124								

NU = Not Used
*Denotes install load resistor. See load resistor installation detail this sheet.
★See pictorial of head wiring in detail this sheet.

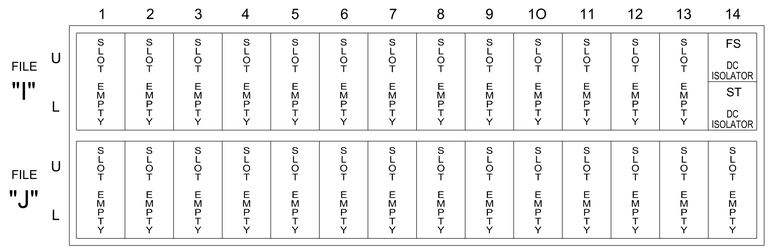
FYA SIGNAL WIRING DETAIL

(wire signal heads as shown)



INPUT FILE POSITION LAYOUT

(front view)



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

FS = FLASH SENSE
ST = STOP TIME

INPUT FILE CONNECTION & PROGRAMMING CHART

LOOP NO.	LOOP TERMINAL	INPUT FILE POS.	PIN NO.	INPUT POINT	DETECTOR NO.	CALL PHASE	DELAY TIME	EXTEND TIME	EXTEND	ADDED INITIAL	CALL	DELAY DURING GREEN
1A	-	-	-	*	33 ★	1	15.0		X		X	
					- 125 ★	6	3.0		X		X	
2A	-	-	-	*	38	2			X		X	
3A	-	-	-	*	34 ★	3	15.0		X		X	
					- 126 ★	8	3.0		X		X	
4A	-	-	-	*	44	4			X		X	
5A	-	-	-	*	35 ★	5	15.0		X		X	
					- 127 ★	2	3.0		X		X	
6A	-	-	-	*	54	6			X		X	
7A	-	-	-	*	36 ★	7	15.0		X		X	
					- 128 ★	4	3.0		X		X	
8A	-	-	-	*	60	8			X		X	

* For Input Point numbers, see SDLC Non-Intrusive Detection Chart detail on sheet 3.

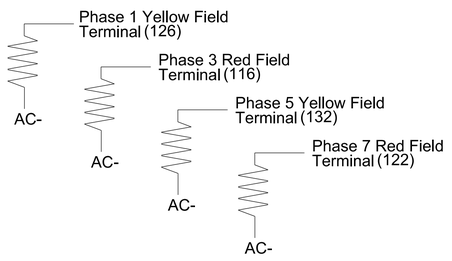
★ For the detectors to work as shown on the signal design plan, see the Vehicle Detector Setup Programming Detail for Alternate Phasing on sheet 2 and 3.

INPUT FILE POSITION LEGEND: J2L
FILE J
SLOT 2
LOWER

LOAD RESISTOR INSTALLATION DETAIL

(install resistors as shown)

ACCEPTABLE VALUES	
Value (ohms)	Wattage
1.5K - 1.9K	25W (min)
2.0K - 3.0K	10W (min)



SPECIAL DETECTOR NOTE

Install a multizone microwave detection system for vehicle detection. Perform installation according to the manufacturer's directions and NCDOT engineer approved mounting locations to accomplish the detection schemes shown on the Signal Design Plans.

Plans Prepared By:
DRMP
DRMP, Inc.
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Charlotte, NC 28262
NC License No. F-1524 (704) 549-4260

THIS PLAN SUPERSEDES THE PLAN SEALED ON 12/22/2023

THIS ELECTRICAL DETAIL IS FOR THE SIGNAL DESIGN: 06-0470T1
DESIGNED: Sep 2026
SEALED: 09/11/2026
REVISED: N/A

Electrical Detail - Sheet 1 of 3
Temporary Design 1 (TMP Phase I)

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

ELECTRICAL AND PROGRAMMING DETAILS FOR:

Prepared for:
Transportation Mobility and Safety Division
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
Traffic Engineering Branch
Signals Management Section
750 N.Greenfield Pkwy,Garner,NC 27529

SR 1003 (Camden Road)
at
SR 1112 (Rockfish Road)

Division 6 Cumberland County Hope Mills

PLAN DATE:	September 2026	REVIEWED BY:	BN Groome
PREPARED BY:	DS Griffith	DRMP PROJ. NO.:	24941

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 052936 ENGINEER BRITTANY N GROOME

Signed by: Brittany Groome 1E00040E1004464...
09/11/2026
SIGNATURE DATE

SIG. INVENTORY NO. 06-0470TI

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PROJECT REFERENCE NO.	SHEET NO.
U-3422B	Sig-3.2

MAXTIME ALTERNATE PHASING ACTIVATION DETAIL

To run alternate phasing, select a Pattern that is programmed to run Overlap Plan 2 and Detector Plan 2.
A Pattern can be selected through the scheduler or manually by changing the Operational Mode.

PHASING	OVERLAP PLAN	VEH DET PLAN
ACTIVE PLAN REQUIRED TO RUN DEFAULT PHASING	1	1
ACTIVE PLAN REQUIRED TO RUN ALTERNATE PHASING	2	2

ALTERNATE PHASING CHANGE SUMMARY

THE FOLLOWING IS A SUMMARY OF WHAT TAKES PLACE WHEN OVERLAP PLAN 2 AND VEHICLE DETECTOR PLAN 2 ACTIVATE TO CALL THE "ALTERNATE PHASING":

OVERLAP PLAN 2: Modifies overlap included phases for heads 11, 31, 32, 51, 71 and 72 to run protected turns only.

VEH DET PLAN 2: Disables phase 6 call on loop 1A and reduces delay time for phase 1 call on loop 1A to 0 seconds.

Disables phase 8 call on loop 3A and reduces delay time for phase 3 call on loop 3A to 0 seconds.

Disables phase 2 call on loop 5A and reduces delay time for phase 5 call on loop 5A to 0 seconds.

Disables phase 4 call on loop 7A and reduces delay time for phase 7 call on loop 7A to 0 seconds.

OUTPUT CHANNEL CONFIGURATION

Front Panel
Main Menu >Controller >More>Channels>Channels Config

Web Interface
Home >Controller >Advanced IO>Channels>Channel Configuration

Channel Configuration

Channel	Control Type	Control Source	Flash Yellow	Flash Red	Flash Alt	MMU Channel
1	Phase Vehicle	1		X	X	1
2	Phase Vehicle	2		X		2
3	Phase Vehicle	3		X	X	3
4	Phase Vehicle	4		X		4
5	Phase Vehicle	5		X		5
6	Phase Vehicle	6		X	X	6
7	Phase Vehicle	7		X		7
8	Phase Vehicle	8		X	X	8
9	Overlap	1		X	X	9
10	Overlap	2		X	X	10
11	Overlap	3		X		11
12	Overlap	4		X		12
13	Phase Ped	2				13
14	Phase Ped	4				14
15	Phase Ped	6				15
16	Phase Ped	8				16
17	Overlap	5		X	X	17
18	Overlap	6		X		18

MAXTIME OVERLAP PROGRAMMING DETAIL FOR DEFAULT PHASING

Front Panel
Main Menu >Controller >Overlap >Overlap Parameters/Overlap Timings

Web Interface
Home >Controller >Overlap Configuration >Overlaps

Overlap Plan 1

Overlap	1	2	3	4
Type	FYA 4 - Section	FYA 4 - Section	FYA 4 - Section	FYA 4 - Section
Included Phases	2	4	6	8
Modifier Phases	1	3	5	7
Trail Green	0	0	0	0
Trail Yellow	0.0	0.0	0.0	0.0
Trail Red	0.0	0.0	0.0	0.0

MAXTIME OVERLAP PROGRAMMING DETAIL FOR ALTERNATE PHASING

Front Panel
Main Menu >Controller >Overlap >Overlap Parameters/Overlap Timings

Web Interface
Home >Controller >Overlap Configuration >Overlaps

In the table view of the web interface, right click on "Overlap" in the top left corner of the table. Copy the entire contents of Overlap Plan 1. Paste Overlap Plan 1 into Overlap Plan 2. Modify Overlap Plan 2 as shown below and save changes.

Overlap Plan 2

Overlap	1	2	3	4
Type	FYA 4 - Section	FYA 4 - Section	FYA 4 - Section	FYA 4 - Section
Included Phases	-	-	-	-
Modifier Phases	1	3	5	7
Trail Green	0	0	0	0
Trail Yellow	0.0	0.0	0.0	0.0
Trail Red	0.0	0.0	0.0	0.0

MAXTIME STARTUP AND SOFTWARE FLASH PROGRAMMING DETAIL

Front Panel
Main Menu >Controller >Unit

Web Interface
Home >Controller >Unit

Modify parameters as shown below and save changes.

Start Up Parameters

StartUp Clearance Hold
6

Unit Flash Parameters

All Red Flash Exit Time
6

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MAXTIME DETECTOR PROGRAMMING DETAIL FOR ALTERNATE PHASING ZONES 1A, 3A, 5A & 7A

Front Panel
Main Menu >Controller >Detector >Veh Det Plans

Web Interface
Home >Controller >Detector Configuration >Vehicle Detectors

In the table view of web interface right click on "Detector" in the top left corner of the table. Copy the entire contents of Detector Plan 1. Paste Detector Plan 1 into Detector Plan 2. Modify Detector Plan 2 as shown below and save changes.

Plan 2

1A

Detector	Call Phase	Delay
33	1	-
125	0	-

3A

Detector	Call Phase	Delay
34	3	-
126	0	-

5A

Detector	Call Phase	Delay
35	5	-
127	0	-

7A

Detector	Call Phase	Delay
36	7	-
128	0	-

FLASHER CIRCUIT MODIFICATION DETAIL

IN ORDER TO INSURE THAT SIGNALS FLASH CONCURRENTLY ON THE SAME APPROACH, MAKE THE FOLLOWING FLASHER CIRCUIT CHANGES:

1. ON REAR OF PDA - REMOVE WIRE FROM TERM. T2-4 AND TERMINATE ON T2-2.
2. ON REAR OF PDA - REMOVE WIRE FROM TERM. T2-5 AND TERMINATE ON T2-3.
3. REMOVE FLASHER UNIT 2.

THE CHANGES LISTED ABOVE TIES ALL PHASES AND OVERLAPS TO FLASHER UNIT 1.

THIS PLAN SUPERSEDES THE PLAN SEALED ON 12/22/2023

THIS ELECTRICAL DETAIL IS FOR THE SIGNAL DESIGN: 06-0470T1
DESIGNED: Sep 2026
SEALED: 09/11/2026
REVISED: N/A

Electrical Detail - Sheet 2 of 3
Temporary Design 1 (TMP Phase I)

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

ELECTRICAL AND PROGRAMMING DETAILS FOR:

SR 1003 (Camden Road)
at
SR 1112 (Rockfish Road)

Division 6 Cumberland County Hope Mills

PLAN DATE: September 2026 REVIEWED BY: BN Groome
PREPARED BY: DS Griffith DRMP PROJ. NO.: 24941

REVISIONS	INIT.	DATE

Prepared for:
NC Department of Transportation Mobility and Safety Division Traffic Engineering Branch Signals Management Section
750 N.Greenfield Pkwy,Garner,NC 27529

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 052936 ENGINEER BRITTANY N GROOME

Signed by: Brittany Groome E0E0340E1044484...
09/11/2026
SIGNATURE DATE

SIG. INVENTORY NO. 06-0470TI

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LOGIC PROCESSOR PROGRAMMING

Front Panel
Main Menu >Controller >More >User Programs >Definition

Web Interface
Home >Controller >User Programs Configuration >User Programs Definition

Program 1

Statement	Result	Index	Operation	Parameter A	Index	Parameter B	Index	Delay	Ext
1	Veh Detector Call	125	Is Module A input B ON	Number	2	Number	1	0.0	0.0
2	Veh Detector Call	126	Is Module A input B ON	Number	2	Number	2	0.0	0.0
2	Veh Detector Call	127	Is Module A input B ON	Number	2	Number	3	0.0	0.0
2	Veh Detector Call	128	Is Module A input B ON	Number	2	Number	4	0.0	0.0

LOGIC STATEMENT DESCRIPTION

Statement 1 Description: Mirrors vehicle detector 33 to vehicle detector 125

Statement 2 Description: Mirrors vehicle detector 34 to vehicle detector 126

Statement 3 Description: Mirrors vehicle detector 35 to vehicle detector 127

Statement 4 Description: Mirrors vehicle detector 36 to vehicle detector 128

SDLC NON-INTRUSIVE DETECTION CHART

	Detector Rack #3		Detector Rack #4	
Input Point	Det # (Index)	Detector Zone	Det # (Index)	Detector Zone
1	33	1A	49	NU
2	34	3A	50	NU
3	35	5A	51	NU
4	36	7A	52	NU
5	37	NU	53	NU
6	38	2A	54	6A
7	39	NU	55	NU
8	40	NU	56	NU
9	41	NU	57	NU
10	42	NU	58	NU
11	43	NU	59	NU
12	44	4A	60	8A
13	45	NU	61	NU
14	46	NU	62	NU
15	47	NU	63	NU
16	48	NU	64	NU

NU = Not Used

SPECIAL DETECTION IO MODULE PROGRAMMING

The Enhanced Out of Pavement Detection requires adjustments to the IO Modules in use. Follow the programming instructions below to ensure desired operation.

Front Panel
Main Menu >Controller >More >Advanced IO >IO Modules

Web Interface
Home >Controller >Advanced IO >Cabinet Configuration >IO Modules

IO Module 1

IO Module	Type	Fault Response
1	Caltrans 332	Default
2	TS2 DR3 BIU	Default
3	TS2 DR4 BIU	Default
4	TS2 MMU	Default

Advanced Cabinet Options

☑ Disable TS2 Cabinet Alarms

THIS PLAN SUPERSEDES THE PLAN SEALED ON 12/22/2023

THIS ELECTRICAL DETAIL IS FOR THE SIGNAL DESIGN: 06-0470T1
DESIGNED: Sep 2026
SEALED: 09/11/2026
REVISED: N/A

Electrical Detail - Sheet 3 of 3
Temporary Design 1 (TMP Phase I)

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

ELECTRICAL AND PROGRAMMING DETAILS FOR:

SR 1003 (Camden Road)
at
SR 1112 (Rockfish Road)

Division 6 Cumberland County Hope Mills

PLAN DATE:	September 2026	REVIEWED BY:	BN Groome
PREPARED BY:	DS Griffith	DRMP PROJ. NO.:	24941

REVISIONS	INIT.	DATE

Prepared for:
NC Transportation Mobility and Safety Division
NC DEPARTMENT OF TRANSPORTATION
Traffic Engineering & Signals Management Section
750 N.Greenfield Pkwy,Garner,NC 27529

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 052936 ENGINEER BRITTANY N GROOME

Signed by: Brittany Groome 1E09340E1044484...
09/11/2026
SIGNATURE DATE

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PROJECT REFERENCE NO.	SHEET NO.
U-3422B	Sig-4.0

PHASING DIAGRAM

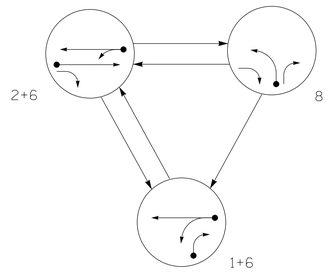
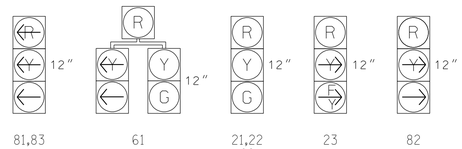


TABLE OF OPERATION

SIGNAL FACE	PHASE 1+6	PHASE 2+6	PHASE 8	FLASH
21, 22	R	G	R	R
23	R	F.Y.	F.Y.	R
61	G	G	R	R
62	G	G	R	R
81,83	~~R~~	~~R~~	~~R~~	~~R~~
82	→	R	→	R

SIGNAL FACE I.D.

All Heads L.E.D.



MAXTIME DETECTOR INSTALLATION CHART

DETECTOR					PROGRAMMING							
ZONES	SIZE (FT)	DISTANCE FROM STOPBAR (FT)	TURNS	NEW LOOP	CALL PHASE	DELAY TIME	EXTEND TIME	EXTEND	ADDED INITIAL	CALL	DELAY DURING GREEN	NEW CARD
1A	6X15	50	**	X	1	15.0	-	X	-	X	-	**
1B	6X40	0	**	X	1	15.0	-	X	-	X	-	**
2A	@	@	**	X	2	-	-	X	-	X	-	**
6A	@	@	**	X	6	-	-	X	-	X	-	**
8A	6X40	0	**	X	8	-	-	X	-	X	-	**

** Microwave Detection Zone

@ Size and distance vary. See Microwave Detection chart for more details.

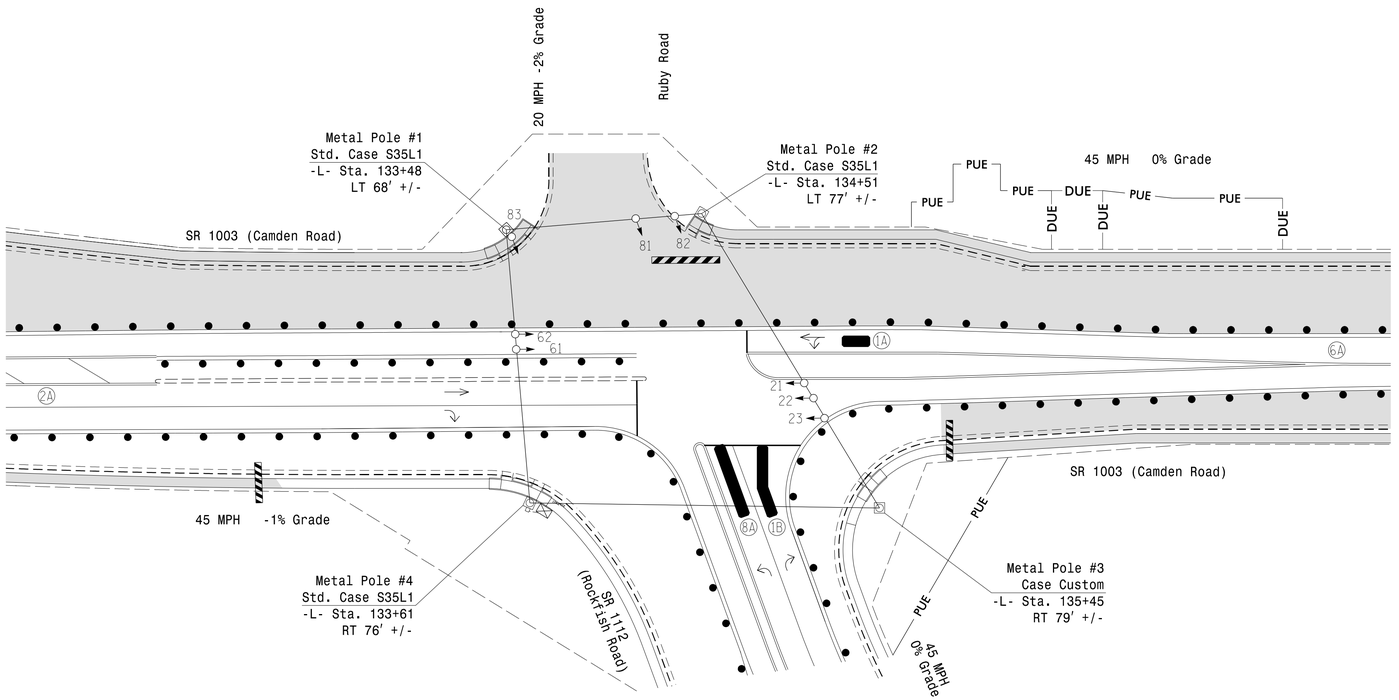
3 Phase
Fully Actuated
Camden Road CLS

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 may be lagged.
4. Set all detector units to presence mode.
5. Locate new cabinet so as not to obstruct sight distance of vehicles turning right on red.
6. This intersection uses multi-zone microwave detection. Install detectors according to the manufacturer's instructions to achieve the desired detection.
7. See traffic control plans for stop line locations.
8. Maximum times shown in timing chart are for free-run operation only. Coordinated signal system timing values supersede these values.
9. Install Department supplied cell modem inside the cabinet. Contact the Division 6 Traffic Engineer at 910-364-0606 to request the cell modem. Allow 8 weeks lead time before anticipated deployment.
10. Install new ethernet edge switch inside the cabinet.

PHASING DIAGRAM DETECTION LEGEND

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



LEGEND

PROPOSED		EXISTING
○→	Traffic Signal Head	●→
◐→	Modified Signal Head	N/A
⊣	Sign	⊣
▼	Pedestrian Signal Head With Push Button & Sign	■
○	Signal Pole with Guy	●
○	Signal Pole with Sidewalk Guy	●
◎	Metal Strain Pole	◘
▭	Inductive Loop Detector	▭
⊠	Controller & Cabinet	⊠
□	Junction Box	■
·-·-·	2-in Underground Conduit	·-·-·
N/A	Right of Way	- - - -
→	Directional Arrow	→
▬	Non-Intrusive Detection Zone	▬
▭	Construction Zone	N/A
●●	Construction Zone Drums	N/A
▨	Type III Barricade	N/A
PUE	Proposed Utility Easement	N/A
DUE	Drainage Utility Easement	N/A

MAXTIME TIMING CHART

FEATURE	PHASE 1	PHASE 2	PHASE 6	PHASE 8
Walk *	–	–	–	–
Ped Clear	–	–	–	–
Min Green*	7	12	12	7
Passage *	2.0	2.0	2.0	2.0
Max 1 *	15	90	90	20
Yellow Change	3.0	4.6	4.6	3.0
Red Clear	2.1	1.0	1.0	2.4
Added Initial *	–	–	–	–
Maximum Initial *	–	–	–	–
Time Before Reduction *	–	–	–	–
Time To Reduce *	–	–	–	–
Minimum Gap	–	–	–	–
Advance Walk	–	–	–	–
Non Lock Detector	X	–	–	X
Vehicle Recall	–	MIN RECALL	MIN RECALL	–
Dual Entry	–	–	–	–

* 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.

Microwave Detection

	2A			6A		
FUNCTION	Sensor 1			Sensor 2		
Channel	1			1		
Phase	2			6		
Direction of Travel	EB			WB		
Type	Priority			Priority		
Level	1	2	QUEUE	1	2	QUEUE
Discovery Zone (ft)	>= 750	< 750	-	>= 750	< 750	-
Range (ft)	900-100	600-100	150-100	900-100	600-100	150-100
Enable Speed	Y	Y	Y	Y	Y	Y
Speed Range (mph)	35-100	35-100	1-35	35-100	35-100	1-35
Enable Estimated Time of Arrival	Y	Y	N	Y	Y	N
Estimated Time of Arrival (sec)	2.5-10.0	2.5-6.5	-	2.5-10.0	2.5-6.5	-

THIS PLAN SUPERSEDES THE PLAN SEALED ON 12/22/2023

Plans Prepared By:

DRMP

DRMP, Inc.
8210 University Executive Park Dr, Suite 220
Charlotte, NC 28262
NC License No. F-1524 (704) 549-4260

New Installation
Temporary Design 1 - (TMP Phase II)

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

Prepared for:
Transportation Mobility and Safety Division
Signal Design Section

750 N.Greenfield Pkwy,Garner,NC 27529

SR 1003 (Camden Road)
at
SR 1112 (Rockfish Road)/
Ruby Road

Division 6 Cumberland County Hope Mills

PLAN DATE: September 2026 REVIEWED BY: BN Groome
PREPARED BY: DS Griffith DRMP PROJ. NO.: 24941 (040)

REVISIONS	INIT.	DATE

SCALE 0 40 1"=40'

SEAL
NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 052936 BRITTANY N GROOME

Signed by: Brittany Groome 1E0B0A0E1D6A4AB...
09/11/2026
SIGNATURE DATE

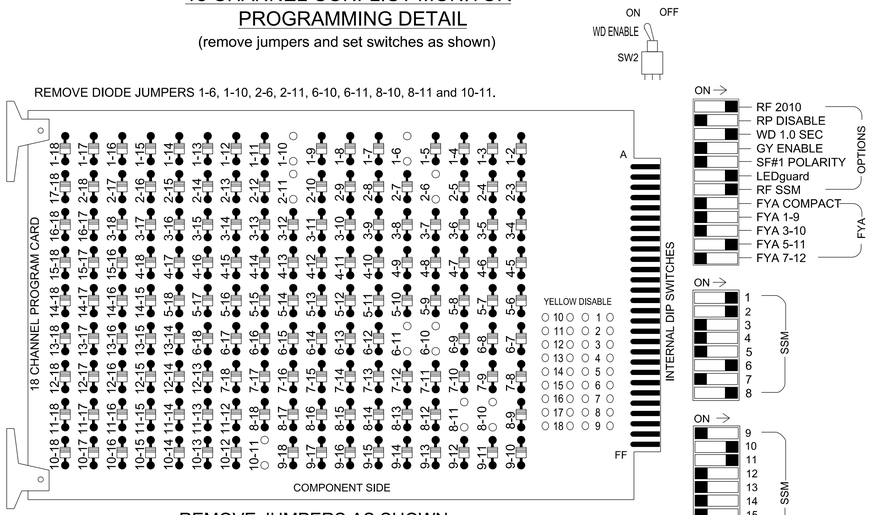
SIG. INVENTORY NO. 06-1412TI

Docusign Envelope ID: 68D05315-339F-8877-826C-A54DFA71DCDF

PROJECT REFERENCE NO.	SHEET NO.
U-3422B	Sig-4.1

18 CHANNEL CONFLICT MONITOR PROGRAMMING DETAIL

(remove jumpers and set switches as shown)



REMOVE JUMPERS AS SHOWN

NOTES:

1. Card is provided with all diode jumpers in place. Removal of any jumper allows its channels to run concurrently.
2. Ensure jumpers SEL2-SEL5 and SEL9 are present on the monitor board.
3. Ensure that the Red Enable is active at all times during normal operation.
4. Connect serial cable from conflict monitor to comm. port 1 of 2070 controller. Ensure conflict monitor communicates with 2070.

NOTES

1. To prevent "flash-conflict" problems, insert red flash program blocks for all vehicle load switches in the output file. The installer shall verify that signal heads flash in accordance with the signal plan.
2. Program controller to start up in phase 2 Green No Walk and phase 6 Green No Walk.
3. If this signal will be managed by an ATMS software, enable controller and detector logging for all detectors used at this location.
4. The cabinet and controller are part of the Camden Road Closed Loop System.

EQUIPMENT INFORMATION

Controller.....2070LX
Cabinet.....332 w/ Aux
Software.....Q-Free MAXTIME
Cabinet Mount.....Base
Output File Positions.....18 With Aux. Output File
Load Switches Used.....S1, S2, S8, S11, AUX S2, AUX S4
Phases Used.....1, 2, 6, 8
Overlap "1".....NOT USED
Overlap "2".....*
Overlap "3".....*
Overlap "4".....NOT USED

*See overlap programming detail on sheet 2.

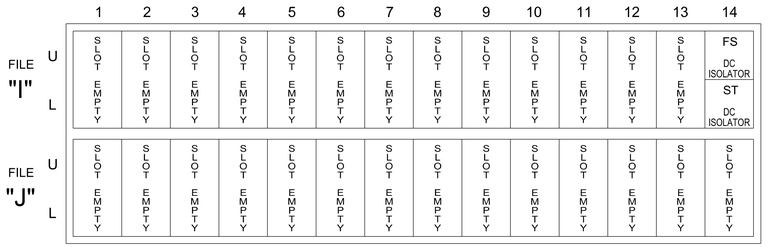
SIGNAL HEAD HOOK-UP CHART

LOAD SWITCH NO.	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	S11	S12	AUX S1	AUX S2	AUX S3	AUX S4	AUX S5	AUX S6
CMU CHANNEL NO.	1	2	13	3	4	14	5	6	15	7	8	16	9	10	17	11	12	18
PHASE	1	2	2 PED	3	4	4 PED	5	6	6 PED	7	8	8 PED	OL1	OL2	SPARE	OL3	OL4	SPARE
SIGNAL HEAD NO.	61	21,22	NU	NU	NU	NU	NU	61,62	NU	NU	81,83	NU	NU	82	NU	23 ★	NU	NU
RED	★	128						134						A124		A114		
YELLOW		129						135										
GREEN		130						136										
RED ARROW											107							
YELLOW ARROW	126										108			A125		A115		
FLASHING YELLOW ARROW																A116		
GREEN ARROW	127										109			A126				

NU = Not Used
★ Denotes install load resistor. See load resistor installation detail this sheet.
★ See pictorial of head wiring in detail this sheet.

INPUT FILE POSITION LAYOUT

(front view)



INPUT FILE CONNECTION & PROGRAMMING CHART

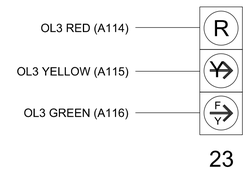
LOOP NO.	LOOP TERMINAL	INPUT FILE POS.	PIN NO.	INPUT POINT	DETECTOR NO.	CALL PHASE	DELAY TIME	EXTEND TIME	EXTEND	ADDED INITIAL	CALL	DELAY DURING GREEN
1A	-	-	-	*	33	1	15.0		X		X	
1B	-	-	-	*	49	1	15.0		X		X	
2A	-	-	-	*	38	2			X		X	
6A	-	-	-	*	54	6			X		X	
8A	-	-	-	*	60	8			X		X	

* For Input Point numbers, see SDLC Non-Intrusive Detection Chart detail on sheet 2.

INPUT FILE POSITION LEGEND: J2L
FILE J
SLOT 2
LOWER

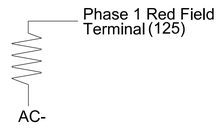
FYA SIGNAL WIRING DETAIL

(wire signal heads as shown)



LOAD RESISTOR INSTALLATION DETAIL

(install resistor as shown)



ACCEPTABLE VALUES	
Value (ohms)	Wattage
1.5K - 1.9K	25W (min)
2.0K - 3.0K	10W (min)

SPECIAL DETECTOR NOTE

Install a multizone microwave detection system for vehicle detection. Perform installation according to the manufacturer's directions and NCDOT engineer approved mounting locations to accomplish the detection schemes shown on the Signal Design Plans.

THIS PLAN SUPERSEDES THE PLAN SEALED ON 12/22/2023

THIS ELECTRICAL DETAIL IS FOR THE SIGNAL DESIGN: 06-1412T1
DESIGNED: Sep 2026
SEALED: 09/11/2026
REVISED: N/A

Electrical Detail - Sheet 1 of 2
Temporary Design 1 - (TMP Phase II)

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

ELECTRICAL AND PROGRAMMING DETAILS FOR:

SR 1003 (Camden Road)
at
SR 1112 (Rockfish Road)/
Ruby Road

Division 6 Cumberland County Hope Mills

PLAN DATE: September 2026 REVIEWED BY: BN Groome
PREPARED BY: DS Griffith DRMP PROJ. NO.: 24941

REVISIONS	INIT.	DATE

Prepared for: Transportation Mobility and Safety Division, NORTH CAROLINA DEPARTMENT OF TRANSPORTATION, Traffic Engineering Branch, Traffic & Signals Management Section
750 N.Greenfield Pkwy,Garner,NC 27529

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 052936 ENGINEER BRITTANY N GROOME

Signed by: Brittany Groome 1E00040E1004484...
09/11/2026
SIGNATURE DATE

SIG. INVENTORY NO. 06-1412T1

Plans Prepared By:

DRMP
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8210 University Executive Park Dr, Suite 220
Charlotte, NC 28262
NC License No. F-1524 (704) 549-4260

Docusign Envelope ID: 68D05315-339F-8877-826C-A54DFA71DCDF

PROJECT REFERENCE NO.	SHEET NO.
U-3422B	Sig-4.2

OUTPUT CHANNEL CONFIGURATION

Front Panel
Main Menu >Controller >More>Channels>Channels Config

Web Interface
Home >Controller >Advanced IO>Channels>Channel Configuration

Channel Configuration

Channel	Control Type	Control Source	Flash Yellow	Flash Red	Flash Alt	MMU Channel
1	Phase Vehicle	1		X	X	1
2	Phase Vehicle	2		X		2
3	Phase Vehicle	3		X	X	3
4	Phase Vehicle	4		X		4
5	Phase Vehicle	5		X		5
6	Phase Vehicle	6		X	X	6
7	Phase Vehicle	7		X		7
8	Phase Vehicle	8		X	X	8
9	Overlap	1		X	X	9
10	Overlap	2		X	X	10
11	Overlap	3		X		11
12	Overlap	4		X		12
13	Phase Ped	2				13
14	Phase Ped	4				14
15	Phase Ped	6				15
16	Phase Ped	8				16
17	Overlap	5		X	X	17
18	Overlap	6		X		18

FLASHER CIRCUIT MODIFICATION DETAIL

IN ORDER TO INSURE THAT SIGNALS FLASH CONCURRENTLY ON THE SAME APPROACH, MAKE THE FOLLOWING FLASHER CIRCUIT CHANGES:

1. ON REAR OF PDA - REMOVE WIRE FROM TERM. T2-4 AND TERMINATE ON T2-2.
2. ON REAR OF PDA - REMOVE WIRE FROM TERM. T2-5 AND TERMINATE ON T2-3.
3. REMOVE FLASHER UNIT 2.

THE CHANGES LISTED ABOVE TIES ALL PHASES AND OVERLAPS TO FLASHER UNIT 1.

OVERLAP PROGRAMMING

Front Panel
Main Menu >Controller >Overlap >Overlap Parameters/Overlap Timings

Web Interface
Home >Controller >Overlap Configuration >Overlaps

Overlap Plan 1

Overlap	2	3
Type	Normal	FYA 4 - Section
Included Phases	1,8	2,8
Modifier Phases	-	-
Modifier Overlap	-	-
Trail Green	0	0
Trail Yellow	0.0	0.0
Trail Red	0.0	0.0

SDLC NON-INTRUSIVE DETECTION CHART

	Detector Rack #3		Detector Rack #4	
Input Point	Det # (Index)	Detector Zone	Det # (Index)	Detector Zone
1	33	1A	49	1B
2	34	NU	50	NU
3	35	NU	51	NU
4	36	NU	52	NU
5	37	NU	53	NU
6	38	2A	54	6A
7	39	NU	55	NU
8	40	NU	56	NU
9	41	NU	57	NU
10	42	NU	58	NU
11	43	NU	59	NU
12	44	NU	60	8A
13	45	NU	61	NU
14	46	NU	62	NU
15	47	NU	63	NU
16	48	NU	64	NU

NU = Not Used

THIS PLAN SUPERSEDES THE PLAN SEALED ON 12/22/2023

THIS ELECTRICAL DETAIL IS FOR
THE SIGNAL DESIGN: 06-1412T1
DESIGNED: Sep 2026
SEALED: 09/11/2026
REVISED: N/A

Plans Prepared By:
DRMP
DRMP, Inc.
8210 University Executive Park Dr, Suite 220
Charlotte, NC 28262
NC License No. F-1524 (704) 549-4260

MAXTIME STARTUP AND SOFTWARE FLASH PROGRAMMING DETAIL

Front Panel
Main Menu >Controller >Unit

Web Interface
Home >Controller >Unit

Modify parameters as shown below and save changes.

Start Up Parameters

StartUp Clearance Hold
6

Unit Flash Parameters

All Red Flash Exit Time
6

SPECIAL DETECTION IO MODULE PROGRAMMING

The Enhanced Out of Pavement Detection requires adjustments to the IO Modules in use. Follow the programming instructions below to ensure desired operation.

Front Panel
Main Menu >Controller >More >Advanced IO >IO Modules

Web Interface
Home >Controller >Advanced IO >Cabinet Configuration >IO Modules

IO Module 1

IO Module	Type	Fault Response
1	Caltrans 332	Default
2	TS2 DR3 BIU	Default
3	TS2 DR4 BIU	Default
4	TS2 MMU	Default

Advanced Cabinet Options

☑ Disable TS2 Cabinet Alarms

Electrical Detail - Sheet 2 of 2
Temporary Design 1 - (TMP Phase II)

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

ELECTRICAL AND PROGRAMMING DETAILS FOR:

Prepared for: NC Department of Transportation Mobility and Safety Division Traffic Engineering Branch & Signals Management Section
750 N.Greenfield Pkwy,Garner,NC 27529

SR 1003 (Camden Road)
at
SR 1112 (Rockfish Road)/
Ruby Road

Division 6 Cumberland County Hope Mills

PLAN DATE: September 2026 REVIEWED BY: BN Groome
PREPARED BY: DS Griffith DRMP PROJ. NO.: 20191 (040)

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 052936 ENGINEER BRITTANY N. GROOME

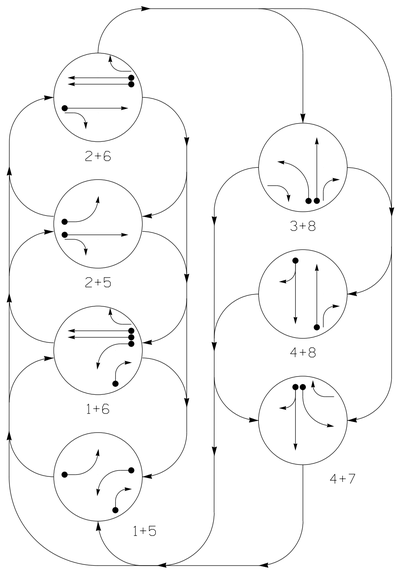
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09/11/2026
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SIG. INVENTORY NO. 06-1412T1

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PROJECT REFERENCE NO.	SHEET NO.
U-3422B	Sig-4.3

PHASING DIAGRAM



PHASING DIAGRAM DETECTION LEGEND

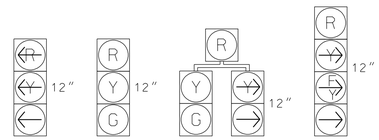
- DETECTED MOVEMENT
- UNDETECTED MOVEMENT (OVERLAP)
- UNSIGNALIZED MOVEMENT
- PEDESTRIAN MOVEMENT

TABLE OF OPERATION

SIGNAL FACE	PHASE 1+5	1+6	2+5	2+6	3+8	4+7	4+8	FLASH
11,12	↚	↚	R	R	R	R	R	R
21,22,24	R	R	G	G	R	R	R	R
23	R	R	F	F	→	R	R	R
31	R	R	R	R	↚	R	R	R
41,42	R	R	R	R	R	G	G	R
51,52	↚	R	↚	R	R	R	R	R
61	R	G	R	G	R	R	R	R
62	R	G	R	G	R	R	R	R
71	R	R	R	R	↚	R	R	R
81	R	R	R	R	G	R	G	R
82	R	R	R	R	G	R	G	R

SIGNAL FACE I.D.

All Heads L.E.D.



MAXTIME DETECTOR INSTALLATION CHART

DETECTOR ZONE	SIZE (FT)	DISTANCE FROM STOPBAR (FT)	TURNS	NEW LOOP	PROGRAMMING CALL PHASE	DELAY TIME	EXTEND TIME	EXTEND	ADDED INITIAL	CALL	DELAY DURING GREEN	NEW CARD
1A	6X40	0	**	X	1	3.0	-	X	-	X	-	**
1B	6X40	0	**	X	1	15.0	-	X	-	X	-	**
2A	@	@	**	X	2	-	-	X	-	X	-	**
3A	6X40	0	**	X	3	-	-	X	-	X	-	**
4A	6X40	0	**	X	4	-	-	X	-	X	-	**
5A	6X40	0	**	X	5	3.0	-	X	-	X	-	**
5B	6X40	0	**	X	5	15.0	-	X	-	X	-	**
6A	@	@	**	X	6	-	-	X	-	X	-	**
7A	6X40	0	**	X	7	-	-	X	-	X	-	**
8A	6X40	0	**	X	8	-	-	X	-	X	-	**

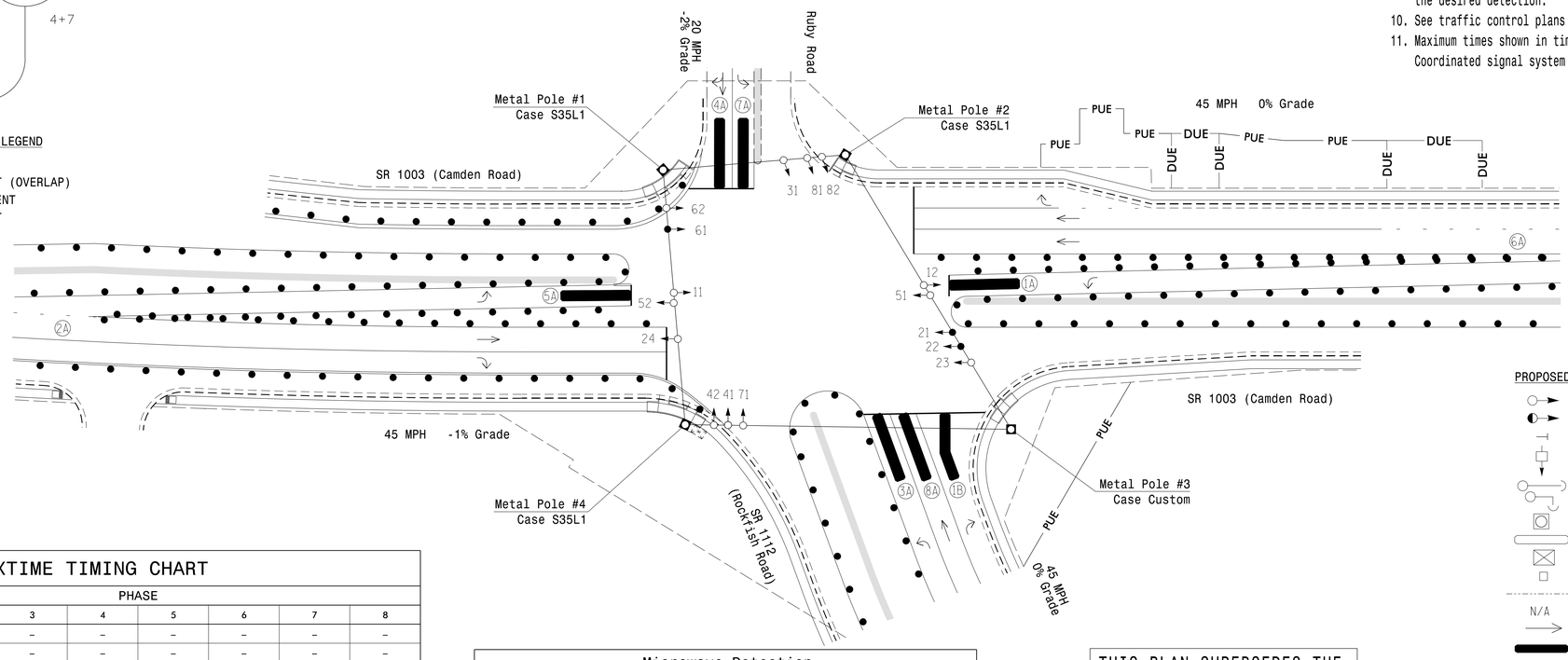
** Microwave Detection Zone

@ Size and distance vary. See Microwave Detection chart for more details.

7 Phase
Fully Actuated
Camden Road CLS

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 phase 5 may be lagged.
4. The order of phase 3 and phase 7 may be reversed, but phase 3 and phase 7 shall not operate simultaneously.
5. Remove existing signal head numbered 83.
6. Relabel existing signal head numbered 62 to 61.
7. Reposition existing signal heads numbered 21, 22 and 61.
8. Set all detector units to presence mode.
9. This intersection uses multi-zone microwave detection. Install detector according to the manufacturer's instructions to achieve the desired detection.
10. See traffic control plans for stop line locations.
11. Maximum times shown in timing chart are for free-run operation only. Coordinated signal system timing values supersede these values.



LEGEND

PROPOSED		EXISTING
○→	Traffic Signal Head	●→
◐→	Modified Signal Head	N/A
⊣	Sign	⊣
▭↓	Pedestrian Signal Head With Push Button & Sign	■↓
○	Signal Pole with Guy	●
○	Signal Pole with Sidewalk Guy	●
◯	Metal Strain Pole	■
▭	Inductive Loop Detector	▭
⊠	Controller & Cabinet	⊠
□	Junction Box	■
----	2-in Underground Conduit	-·-·-
N/A	Right of Way	———
→	Directional Arrow	→
▬	Non-Intrusive Detection Zone	▬
▒	Construction Zone	N/A
●●	Construction Zone Drums	N/A
PUE	Proposed Utility Easement	N/A
DUE	Drainage Utility Easement	N/A

MAXTIME TIMING CHART

FEATURE	PHASE 1	2	3	4	5	6	7	8
Walk *	–	–	–	–	–	–	–	–
Ped Clear	–	–	–	–	–	–	–	–
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	20	15	90	15	20
Yellow Change	3.0	4.6	3.0	4.5	3.0	4.6	3.0	4.5
Red Clear	3.6	2.2	3.9	3.3	3.3	2.2	3.7	3.3
Added Initial *	–	–	–	–	–	–	–	–
Maximum Initial *	–	–	–	–	–	–	–	–
Time Before Reduction *	–	–	–	–	–	–	–	–
Time To Reduce *	–	–	–	–	–	–	–	–
Minimum Gap	–	–	–	–	–	–	–	–
Advance Walk	–	–	–	–	–	–	–	–
Non Lock Detector	X	–	X	X	X	–	X	X
Vehicle Recall	–	MIN RECALL	–	–	–	MIN RECALL	–	–
Dual Entry	–	–	–	–	–	–	–	–

* 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.

Microwave Detection

FUNCTION	2A Sensor 1			6A Sensor 2		
Channel	1			1		
Phase	2			6		
Direction of Travel	EB			WB		
Type	Priority			Priority		
Level	1	2	QUEUE	1	2	QUEUE
Discovery Zone (ft)	>= 750	< 750	-	>= 750	< 750	-
Range (ft)	900-100	600-100	150-100	900-100	600-100	150-100
Enable Speed	Y	Y	Y	Y	Y	Y
Speed Range (mph)	35-100	35-100	1-35	35-100	35-100	1-35
Enable Estimated Time of Arrival	Y	Y	N	Y	Y	N
Estimated Time of Arrival (sec)	2.5-10.0	2.5-6.5	-	2.5-10.0	2.5-6.5	-

THIS PLAN SUPERSEDES THE PLAN SEALED ON 12/22/2023

Plans Prepared By:

DRMP

DRMP, Inc.
8210 University Executive Park Dr, Suite 220
Charlotte, NC 28262
NC License No. F-1524 (704) 549-4260

Signal Upgrade
Temporary Design 2 - (TMP Phase III)

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

Prepared for:
Transportation Mobility and Safety
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
Signal Design Section
750 N.Greenfield Pkwy,Garner,NC 27529

SR 1003 (Camden Road)
at
SR 1112 (Rockfish Road)

Division 6 Cumberland County Hope Mills

PLAN DATE: September 2026 REVIEWED BY: BN Groome
PREPARED BY: DS Griffith DRMP PROJ. NO.: 24941 (040)

REVISIONS	INIT.	DATE

SCALE 0 40 1"=40'

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 052936 ENGINEER BRITTANY N GROOME
Signed by: Brittany Groome
1E093A0E1094484...
09/11/2026
SIGNATURE DATE

SIG. INVENTORY NO. 06-1412T2

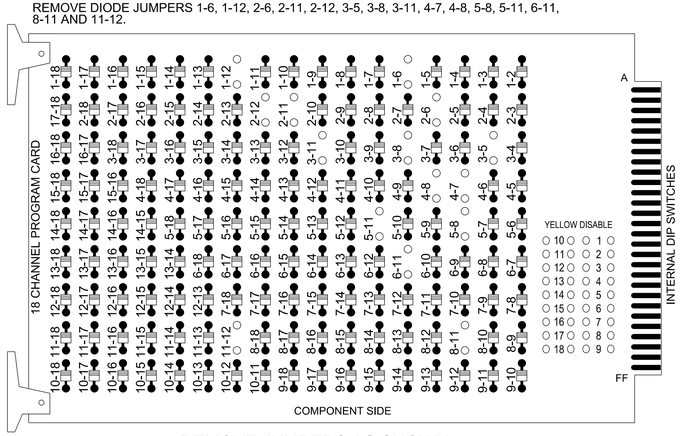
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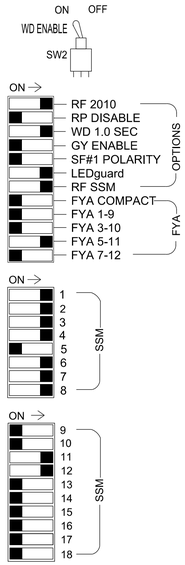
PROJECT REFERENCE NO.	SHEET NO.
U-3422B	Sig-4.4

18 CHANNEL CONFLICT MONITOR PROGRAMMING DETAIL

(remove jumpers and set switches as shown)

REMOVE DIODE JUMPERS 1-6, 1-12, 2-6, 2-11, 2-12, 3-5, 3-8, 3-11, 4-7, 4-8, 5-8, 5-11, 6-11, 8-11 AND 11-12.





REMOVE JUMPERS AS SHOWN

NOTES:

1. Card is provided with all diode jumpers in place. Removal of any jumper allows its channels to run concurrently.
2. Ensure jumpers SEL2-SEL5 and SEL9 are present on the monitor board.
3. Ensure that the Red Enable is active at all times during normal operation.
4. Connect serial cable from conflict monitor to comm. port 1 of 2070 controller. Ensure conflict monitor communicates with 2070.

NOTES

1. To prevent "flash-conflict" problems, insert red flash program blocks for all vehicle load switches in the output file. The installer shall verify that signal heads flash in accordance with the signal plan.
2. Program controller to start up in phase 2 Green No Walk and phase 6 Green No Walk.
3. If this signal will be managed by an ATMS software, enable controller and detector logging for all detectors used at this location.
4. The cabinet and controller are part of the Camden Road Closed Loop Signal.

EQUIPMENT INFORMATION

Controller.....2070LX
Cabinet.....332 w/ Aux
Software.....Q-Free MAXTIME
Cabinet Mount.....Base
Output File Positions.....18 With Aux. Output File
Load Switches Used.....S1, S2, S4, S5, S7, S8, S10, S11, AUX S4,AUX S5
Phases Used.....1, 2, 3, 4, 5, 6, 7, 8
Overlap "1".....NOT USED
Overlap "2".....NOT USED
Overlap "3".....*
Overlap "4".....*
Overlap "5".....NOT USED
Overlap "6".....NOT USED
Overlap "7".....NOT USED
Overlap "8".....*

*See overlap programming detail on sheet 2.

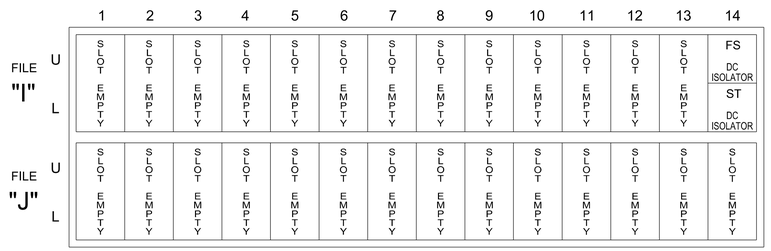
SIGNAL HEAD HOOK-UP CHART

LOAD SWITCH NO.	S1		S2	S3	S4	S5	S6	S7	S8	S9	S10		S11	S12	AUX S1	AUX S2	AUX S3	AUX S4	AUX S5	AUX S6
CMU CHANNEL NO.	1		2	13	3	4	14	5	6	15	7		8	16	9	10	17	11	12	18
PHASE	1		2	2 PED	3	4	4 PED	OL8	6	6 PED	7		8	8 PED	OL1	OL2	SPARE	OL3	OL4	SPARE
SIGNAL HEAD NO.	11,12	82	21,22, 24	NU	31,32	41,42	NU	23 ★	61,62	NU	62	71	81,82	NU	NU	NU	NU	23 ★	51,52	NU
RED			128			101			134				107					A114		
YELLOW			129			102		★	135				108							
GREEN			130			103			136				109							
RED ARROW	125				116							122							A101	
YELLOW ARROW	126	126			117						123	123						A115	A102	
FLASHING YELLOW ARROW																		A116		
GREEN ARROW	127	127			118			133			124	124							A103	

NU = Not Used
★ See pictorial of head wiring in detail this sheet.
★ Denotes install load resistor. See load resistor installation detail this sheet.
★★ Load switch S7 must be reassigned. See programming detail on sheet 2.

INPUT FILE POSITION LAYOUT

(front view)



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

FS = FLASH SENSE
ST = STOP TIME

INPUT FILE CONNECTION & PROGRAMMING CHART

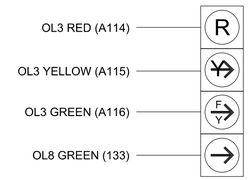
LOOP NO.	LOOP TERMINAL	INPUT FILE POS.	PIN NO.	INPUT POINT	DETECTOR NO.	CALL PHASE	DELAY TIME	EXTEND TIME	EXTEND	ADDED INITIAL	CALL	DELAY DURING GREEN
1A	-	-	-	*	33	1	3.0		X		X	
1B	-	-	-	*	49	1	15.0		X		X	
2A	-	-	-	*	38	2			X		X	
3A	-	-	-	*	34	3			X		X	
4A	-	-	-	*	44	4			X		X	
5A	-	-	-	*	35	5	3.0		X		X	
5B	-	-	-	*	51	5	15.0		X		X	
6A	-	-	-	*	54	6			X		X	
7A	-	-	-	*	36	7			X		X	
8A	-	-	-	*	60	8			X		X	

* For Input Point numbers, see SDLC Non-Intrusive Detection Chart detail on sheet 2.

INPUT FILE POSITION LEGEND: J2L
FILE J
SLOT 2
LOWER

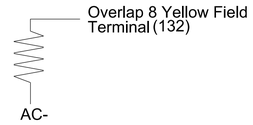
FYA SIGNAL WIRING DETAIL

(wire signal heads as shown)



LOAD RESISTOR INSTALLATION DETAIL

(install resistor as shown)



ACCEPTABLE VALUES	
Value (ohms)	Wattage
1.5K - 1.9K	25W (min)
2.0K - 3.0K	10W (min)

THIS PLAN SUPERSEDES THE PLAN SEALED ON 12/22/2023

THIS ELECTRICAL DETAIL IS FOR THE SIGNAL DESIGN: 06-1412T2
DESIGNED: Sep 2026
SEALED: 09/11/2026
REVISED: N/A

Plans Prepared By:

DRMP
DRMP, Inc.
8210 University Executive Park Dr, Suite 220
Charlotte, NC 28262
NC License No. F-1524 (704) 549-4260

Electrical Detail - Sheet 1 of 2
Temporary Design 2 - (TMP III)

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

ELECTRICAL AND PROGRAMMING DETAILS FOR:

Prepared for:
NC Department of Transportation Mobility and Safety Division Traffic Engineering Branch & Signals Management Section

750 N.Greenfield Pkwy,Garner,NC 27529

SR 1003 (Camden Road)
at
SR 1112 (Rockfish Road)

Division 6 Cumberland County Hope Mills

PLAN DATE: September 2026 REVIEWED BY: BN Groome
PREPARED BY: DS Griffith DRMP PROJ. NO.: 20191 (040)

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 052936 ENGINEER BRITTANY N. GROOME

Signed by: Brittany Groome 1E09340E1094464...
09/11/2026
SIGNATURE DATE

SIG. INVENTORY NO. 06-1412T2

Docusign Envelope ID: 68D05315-339F-8877-826C-A54DFA71DCDF

PROJECT REFERENCE NO.	SHEET NO.
U-3422B	Sig-4.5

OUTPUT CHANNEL CONFIGURATION

Front Panel
Main Menu >Controller >More>Channels>Channels Config

Web Interface
Home >Controller >Advanced IO>Channels>Channel Configuration

Channel Configuration

NOTICE OL8 ASSIGNED TO CHANNEL 5 →

Channel	Control Type	Control Source	Flash Yellow	Flash Red	Flash Alt	MMU Channel
1	Phase Vehicle	1		X	X	1
2	Phase Vehicle	2		X		2
3	Phase Vehicle	3		X	X	3
4	Phase Vehicle	4		X		4
5	Overlap	8		X		5
6	Phase Vehicle	6		X	X	6
7	Phase Vehicle	7		X		7
8	Phase Vehicle	8		X	X	8
9	Overlap	1		X	X	9
10	Overlap	2		X	X	10
11	Overlap	3		X		11
12	Overlap	4		X		12
13	Phase Ped	2				13
14	Phase Ped	4				14
15	Phase Ped	6				15
16	Phase Ped	8				16
17	Overlap	5		X	X	17
18	Overlap	6		X		18

SPECIAL DETECTOR NOTE

Install a multizone microwave detection system for vehicle detection. Perform installation according to the manufacturer's directions and NCDOT engineer approved mounting locations to accomplish the detection schemes shown on the Signal Design Plans.

FLASHER CIRCUIT MODIFICATION DETAIL

IN ORDER TO INSURE THAT SIGNALS FLASH CONCURRENTLY ON THE SAME APPROACH, MAKE THE FOLLOWING FLASHER CIRCUIT CHANGES:

1. ON REAR OF PDA - REMOVE WIRE FROM TERM. T2-4 AND TERMINATE ON T2-2.
2. ON REAR OF PDA - REMOVE WIRE FROM TERM. T2-5 AND TERMINATE ON T2-3.
3. REMOVE FLASHER UNIT 2.

THE CHANGES LISTED ABOVE TIES ALL PHASES AND OVERLAPS TO FLASHER UNIT 1.

REMOVE

SDLC NON-INTRUSIVE DETECTION CHART

Input Point	Detector Rack #3		Detector Rack #4	
	Det # (Index)	Detector Zone	Det # (Index)	Detector Zone
1	33	1A	49	1B
2	34	3A	50	NU
3	35	5A	51	5B
4	36	7A	52	NU
5	37	NU	53	NU
6	38	2A	54	6A
7	39	NU	55	NU
8	40	NU	56	NU
9	41	NU	57	NU
10	42	NU	58	NU
11	43	NU	59	NU
12	44	4A	60	8A
13	45	NU	61	NU
14	46	NU	62	NU
15	47	NU	63	NU
16	48	NU	64	NU

NU = Not Used

SPECIAL DETECTION IO MODULE PROGRAMMING

The Enhanced Out of Pavement Detection requires adjustments to the IO Modules in use. Follow the programming instructions below to ensure desired operation.

Front Panel
Main Menu >Controller >More >Advanced IO >IO Modules

Web Interface
Home >Controller >Advanced IO >Cabinet Configuration >IO Modules

IO Module 1

IO Module	Type	Fault Response
1	Caltrans 332	Default
2	TS2 DR3 BIU	Default
3	TS2 DR4 BIU	Default
4	TS2 MMU	Default

Advanced Cabinet Options

☑ Disable TS2 Cabinet Alarms

COMPATIBILITY

Front Panel
Main Menu >Controller >Sequence & Phs Config>No Served Phase Plans

Web Interface
Home >Controller >Phase Configuration>No Served Phase Plans

Sequence 1

Phase	No Serve Phase
1	
2	
3	7
4	
5	
6	
7	
8	

Plans Prepared By:

DRMP

DRMP, Inc.
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Charlotte, NC 28262
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SEQUENCE DETAIL

Front Panel
Main Menu >Controller >Sequence & Phs Config>Sequences

Web Interface
Home >Controller >Sequence

Sequence 1

Ring	Sequence Data
1	1,2,a,3,4,b
2	5,6,a,8,7,b

OVERLAP PROGRAMMING

Front Panel
Main Menu >Controller >Overlap >Overlap Parameters/Overlap Timings

Web Interface
Home >Controller >Overlap Configuration >Overlaps

Overlap Plan 1

Overlap	3	4	8
Type	FYA 4 - Section	Normal	Normal
Included Phases	2	5	3
Modifier Phases	3	-	-
Modifier Overlap	-	-	-
Trail Green	0	0	0
Trail Yellow	0.0	0.0	0.0
Trail Red	0.0	0.0	0.0

THIS PLAN SUPERSEDES THE PLAN SEALED ON 12/22/2023

THIS ELECTRICAL DETAIL IS FOR THE SIGNAL DESIGN: 06-1412T2
DESIGNED: Sep 2026
SEALED: 09/11/2026
REVISED: N/A

Electrical Detail - Sheet 2 of 2
Temporary Design 2 - (TMP III)

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

ELECTRICAL AND PROGRAMMING DETAILS FOR:

Prepared for:

750 N.Greenfield Pkwy,Garner,NC 27529

SR 1003 (Camden Road)
at
SR 1112 (Rockfish Road)

Division 6 Cumberland County Hope Mills

PLAN DATE:	September 2026	REVIEWED BY:	BN Groome
PREPARED BY:	DS Griffith	DRMP PROJ. NO.:	20191 (040)

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 052936 ENGINEER
BRITTANY N GROOME

Signed by: Brittany Groome 1E0E0A0E1E0A4A4...
09/11/2026
SIGNATURE DATE

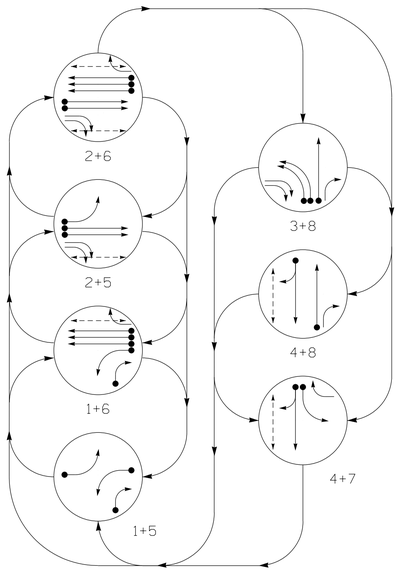
SIG. INVENTORY NO. 06-1412T2

Docusign Envelope ID: 68D05315-339F-8877-826C-A54DFA71DCDF

PROJECT REFERENCE NO.	SHEET NO.
U-3422B	Sig-4.6

7 Phase Fully Actuated Camden Road CLS

PHASING DIAGRAM



PHASING DIAGRAM DETECTION LEGEND

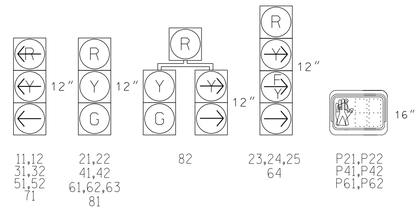
- DETECTED MOVEMENT
- UNDETECTED MOVEMENT (OVERLAP)
- UNSIGNALIZED MOVEMENT
- PEDESTRIAN MOVEMENT

TABLE OF OPERATION

SIGNAL FACE	PHASE 1+5	1+6	2+5	2+6	3+8	4+7	4+8	FLASH
11,12	←R	←R	↱R	↱R	↱R	↱R	↱R	↱R
21,22	R	R	G	G	R	R	R	R
23,24,25	R	R	F↱Y	F↱Y	→R	R	R	R
31,32	←R	←R	↱R	↱R	←R	↱R	↱R	↱R
41,42	R	R	R	R	G	G	R	
51,52	←R	↱R	←R	↱R	↱R	↱R	↱R	↱R
61,62,63	R	G	R	G	R	R	R	R
64	R	F↱Y	R	F↱Y	→R	R	R	R
71	←R	←R	↱R	↱R	←R	←R	↱R	↱R
81	R	R	R	R	G	R	G	R
82	R/→R	R/→R	R	R	G	R	G	R
P21,P22	DW	DW	W	W	DW	DW	DW	DRK
P41,P42	DW	DW	DW	DW	DW	W	W	DRK
P61,P62	DW	W	DW	W	DW	DW	DW	DRK

SIGNAL FACE I.D.

All Heads L.E.D.



MAXTIME DETECTOR INSTALLATION CHART

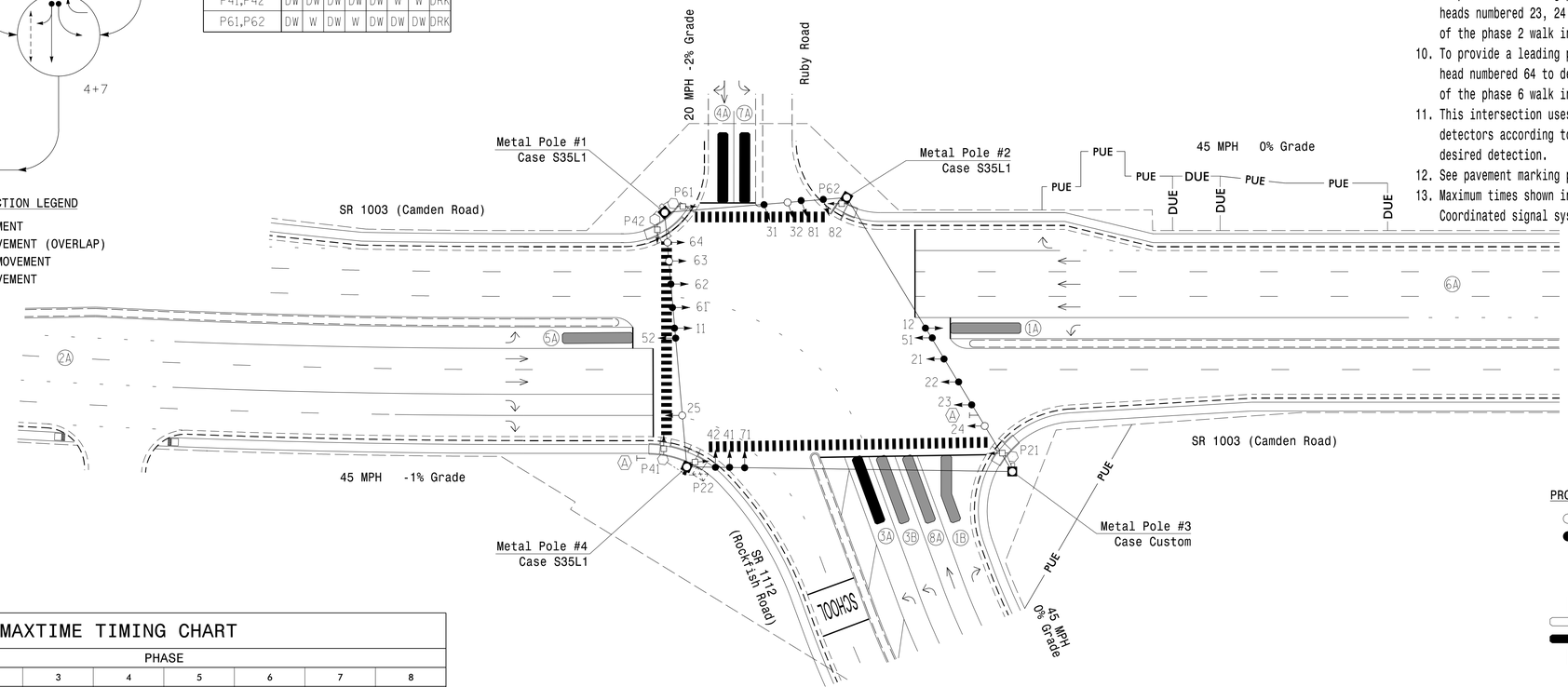
DETECTOR ZONE	SIZE (FT)	DISTANCE FROM STOPBAR (FT)	TURNS	NEW LOOP	PROGRAMMING CALL PHASE	DELAY TIME	EXTEND TIME	EXTEND	ADDED INITIAL	CALL	DELAY DURING GREEN	NEW CARD
1A	6X40	0	**	-	1	-	-	X	-	X	-	**
1B	6X40	0	**	-	1	15.0	-	X	-	X	-	**
2A	@	@	**	X	2	-	-	X	-	X	-	**
3A	6X40	0	**	X	3	-	-	X	-	X	-	**
3B	6X40	0	**	-	3	-	-	X	-	X	-	**
4A	6X40	0	**	X	4	10.0	-	X	-	X	-	**
5A	6X40	0	**	-	5	-	-	X	-	X	-	**
6A	@	@	**	X	6	-	-	X	-	X	-	**
7A	6X40	0	**	X	7	-	-	X	-	X	-	**
8A	6X40	0	**	-	8	-	-	X	-	X	-	**

** Microwave Detection Zone

@ Size and distance vary. See Microwave Detection chart for more details.

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 phase 5 may be lagged.
4. The order of phase 3 and phase 7 may be reversed, but phase 3 and phase 7 shall not operate simultaneously.
5. Reposition existing signal heads 11, 21, 22, 31, 52, 61 & 62 as shown on plans.
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. To provide a leading pedestrian interval on phase 2, program FYA heads numbered 23, 24 and 25 to delay for 7 seconds after the start of the phase 2 walk interval. See Electrical Details for programming.
10. To provide a leading pedestrian interval on phase 6, program FYA head numbered 64 to delay for 7 seconds after the start of the phase 6 walk interval. See Electrical Details for programming.
11. This intersection uses multi-zone microwave detection. Install detectors according to the manufacturer's instructions to achieve desired detection.
12. See pavement marking plans for stop line and crosswalk locations.
13. Maximum times shown in timing chart are for free-run operation only. Coordinated signal system timing values supersede these values.



MAXTIME TIMING CHART

FEATURE	PHASE 1	2	3	4	5	6	7	8
Walk *	–	14	–	13	–	14	–	–
Ped Clear	–	44	–	31	–	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	45	15	90	15	45
Yellow Change	3.0	4.6	3.0	4.5	3.0	4.6	3.0	4.5
Red Clear	3.4	2.2	4.2	3.9	3.3	2.2	3.6	3.9
Added Initial *	–	–	–	–	–	–	–	–
Maximum Initial *	–	–	–	–	–	–	–	–
Time Before Reduction *	–	–	–	–	–	–	–	–
Time To Reduce *	–	–	–	–	–	–	–	–
Minimum Gap	–	–	–	–	–	–	–	–
Advance Walk	–	**	–	6	–	***	–	–
Non Lock Detector	X	–	X	X	X	–	X	X
Vehicle Recall	–	MIN RECALL	–	–	–	MIN RECALL	–	–
Dual Entry	–	–	–	–	–	–	–	–

* 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.
** See note #9.
*** See note #10.

Microwave Detection

	2A			6A		
FUNCTION	Sensor 1			Sensor 2		
Channel	1			1		
Phase	2			6		
Direction of Travel	EB			WB		
Type	Priority			Priority		
Level	1	2	QUEUE	1	2	QUEUE
Discovery Zone (ft)	>= 750	< 750	-	>= 750	< 750	-
Range (ft)	900-100	600-100	150-100	900-100	600-100	150-100
Enable Speed	Y	Y	Y	Y	Y	Y
Speed Range (mph)	35-100	35-100	1-35	35-100	35-100	1-35
Enable Estimated Time of Arrival	Y	Y	N	Y	Y	N
Estimated Time of Arrival (sec)	2.5-10.0	2.5-6.5	-	2.5-10.0	2.5-6.5	-

THIS PLAN SUPERSEDES THE PLAN SEALED ON 12/22/2023

LEGEND

PROPOSED		EXISTING
○→	Traffic Signal Head	●→
◐→	Modified Signal Head	N/A
⊣	Sign	⊣
⊡↓	Pedestrian Signal Head With Push Button & Sign	■↓
◎	Metal Strain Pole	■
▭	Inductive Loop Detector	▭
▬	Non-Intrusive Detection Zone	▬
⊠	Controller & Cabinet	⊠
□	Junction Box	■
----------	2-in Underground Conduit	----------
N/A	Right of Way	- - - - -
→	Directional Arrow	→
⬡	Type II Signal Pedestal	⬢
PUE	Proposed Utility Easement	N/A
DUE	Drainage Utility Easement	N/A
Ⓐ	Turning Vehicles Yield to Pedestrian Sign (R10-15)	Ⓐ

Signal Upgrade
Final Design

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

Prepared for: Transportation Mobility and Safety Division, North Carolina Department of Transportation, Signal Design Section
750 N.Greenfield Pkwy,Garner,NC 27529

SR 1003 (Camden Road) at SR 1112 (Rockfish Road)/ Ruby Road

Division 6 Cumberland County Hope Mills

PLAN DATE: September 2026 REVIEWED BY: BN Groome
PREPARED BY: DS Griffith DRMP PROJ. NO.: 24941 (040)

REVISIONS	INIT.	DATE

SCALE 0 40 1"=40'

SEAL 052936 NORTH CAROLINA PROFESSIONAL ENGINEER BRITTANY N GROOME

Signed by: Brittany Groome 1E0B0A0E1D6A4AA...
09/11/2026
SIGNATURE DATE

SIG. INVENTORY NO. 06-1412

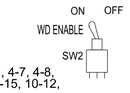
Plans Prepared By:
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DRMP, Inc.
8210 University Executive Park Dr, Suite 220
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NC License No. F-1524 (704) 549-4260

Docusign Envelope ID: 68D05315-339F-8877-826C-A54DFA71DCDF

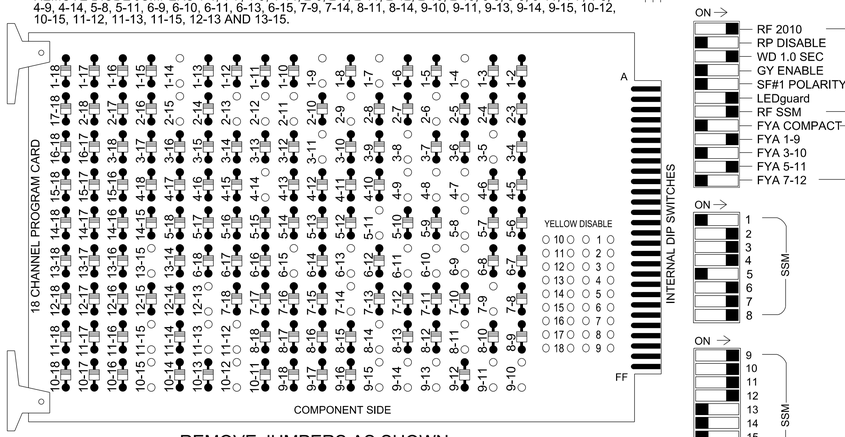
PROJECT REFERENCE NO.	SHEET NO.
U-3422B	Sig-4.7

18 CHANNEL CONFLICT MONITOR PROGRAMMING DETAIL

(remove jumpers and set switches as shown)



REMOVE DIODE JUMPERS 1-4, 1-7, 1-9, 1-14, 2-6, 2-9, 2-11, 2-12, 2-13, 2-15, 3-5, 3-8, 3-11, 4-7, 4-8, 4-9, 4-14, 5-8, 5-11, 6-9, 6-10, 6-11, 6-13, 6-15, 7-9, 7-14, 8-11, 8-14, 9-10, 9-11, 9-13, 9-14, 9-15, 10-12, 10-15, 11-12, 11-13, 11-15, 12-13 AND 13-15.



■ = DENOTES POSITION OF SWITCH

REMOVE JUMPERS AS SHOWN

NOTES:

1. Card is provided with all diode jumpers in place. Removal of any jumper allows its channels to run concurrently.
2. Ensure jumpers SEL2-SEL5 and SEL9 are present on the monitor board.
3. Ensure that the Red Enable is active at all times during normal operation.
4. Connect serial cable from conflict monitor to comm. port 1 of 2070 controller. Ensure conflict monitor communicates with 2070.

NOTES

1. To prevent "flash-conflict" problems, insert red flash program blocks for all vehicle load switches in the output file. The installer shall verify that signal heads flash in accordance with the signal plan.
2. Program controller to start up in phase 2 Green Walk and phase 6 Green Walk.
3. If this signal will be managed by an ATMS software, enable controller and detector logging for all detectors used at this location.
4. The cabinet and controller are part of the Camden Road Closed Loop Signal System.

EQUIPMENT INFORMATION

Controller.....2070LX
Cabinet.....332 w/ Aux
Software.....Q-Free MAXTIME
Cabinet Mount.....Base
Output File Positions.....18 With Aux. Output File
Load Switches Used.....S1, S2, S3, S4, S5, S6, S7, S8, S9, S10, S11, AUX S1, AUX S2, AUX S4, AUX S5
Phases Used.....1,2,2 PED,3, 4, 4PED, 5, 6, 6PED, 7, 8
Overlap "1".....*
Overlap "2".....*
Overlap "3".....*
Overlap "4".....*
Overlap "5".....NOT USED
Overlap "6".....NOT USED
Overlap "7".....*
Overlap "8".....*

*See overlap programming detail on sheet 2.

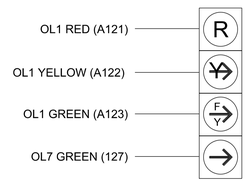
SIGNAL HEAD HOOK-UP CHART

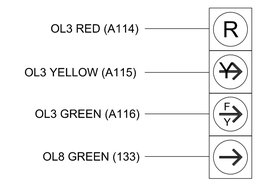
LOAD SWITCH NO.	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	S11	S12	AUX S1	AUX S2		AUX S3	AUX S4	AUX S5	AUX S6
CMU CHANNEL NO.	1	2	13	3	4	14	5	6	15	7	8	16	9	10		17	11	12	18
PHASE	** OL7	2	2 PED	3	4	4 PED	OL8	6	6 PED	7	8	8 PED	OL1	OL2		SPARE	OL3	OL4	SPARE
SIGNAL HEAD NO.	64 ★	21,22	P21, P22	31,32	41,42	P41, P42	23,24 ★ 25	61,62	P61, P62	71	81,82	NU	64 ★	11,12	82	NU	23,24 ★ 25	51,52	NU
RED		128			101			134			107		A121				A114		
YELLOW	*	129			102		*	135			108								
GREEN		130			103			136			109								
RED ARROW				116						122				A124				A101	
YELLOW ARROW				117						123			A122	A125	A125		A115	A102	
FLASHING YELLOW ARROW													A123				A116		
GREEN ARROW	127			118			133			124				A126	A126			A103	
✋			113			104			119										
🚶			115			106			121										

NU = Not Used
★ See pictorial of head wiring in detail this sheet.
* Denotes install load resistor. See load resistor installation detail this sheet.
** Load switch S1 has been reassigned. See programming detail on sheet 2.

FYA SIGNAL WIRING DETAIL

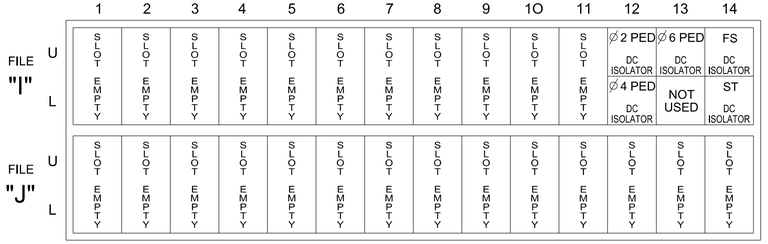
(wire signal heads as shown)





INPUT FILE POSITION LAYOUT

(front view)



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

FS = FLASH SENSE
ST = STOP TIME

INPUT FILE CONNECTION & PROGRAMMING CHART

LOOP NO.	LOOP TERMINAL	INPUT FILE POS.	PIN NO.	INPUT POINT	DETECTOR NO.	CALL PHASE	DELAY TIME	EXTEND TIME	EXTEND	ADDED INITIAL	CALL	DELAY DURING GREEN
1A	-	-	-	★	33	1			X		X	
1B	-	-	-	★	49	1	15.0		X		X	
2A	-	-	-	★	38	2			X		X	
3A	-	-	-	★	34	3			X		X	
3B	-	-	-	★	50	3			X		X	
4A	-	-	-	★	44	4	10.0		X		X	
5A	-	-	-	★	35	5			X		X	
6A	-	-	-	★	54	6			X		X	
7A	-	-	-	★	36	7			X		X	
8A	-	-	-	★	60	8			X		X	
PED PUSH BUTTONS												
P21,P22	TB8-4,6	I12U	67	33	2	PED 2						
P41,P42	TB8-5,6	I12L	69	35	4	PED 4						
P61,P62	TB8-7,9	I13U	68	34	6	PED 6						

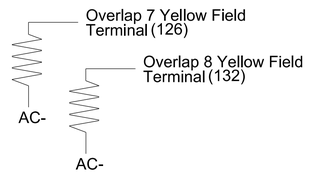
★ For Input Point numbers, see SDLC Non-Intrusive Detection Chart detail on sheet 2.

INPUT FILE POSITION LEGEND: J2L
FILE J
SLOT 2
LOWER

LOAD RESISTOR INSTALLATION DETAIL

(install resistors as shown)

ACCEPTABLE VALUES	
Value (ohms)	Wattage
1.5K - 1.9K	25W (min)
2.0K - 3.0K	10W (min)



SPECIAL DETECTOR NOTE

Install a multizone microwave detection system for vehicle detection. Perform installation according to the manufacturer's directions and NCDOT engineer approved mounting locations to accomplish the detection schemes shown on the Signal Design Plans.

THIS PLAN SUPERSEDES THE PLAN SEALED ON 12/22/2023

THIS ELECTRICAL DETAIL IS FOR
THE SIGNAL DESIGN: 06-1412
DESIGNED: Sep 2026
SEALED: 09/11/2026
REVISED: N/A

Electrical Detail - Sheet 1 of 2
Final Design

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

ELECTRICAL AND PROGRAMMING DETAILS FOR:

SR 1003 (Camden Road)
at
SR 1112 (Rockfish Road)

Division 6 Cumberland County Hope Mills

PLAN DATE: September 2026 REVIEWED BY: BN Groome
PREPARED BY: DS Griffith DRMP PROJ. NO.: 24941

REVISIONS	INIT.	DATE

Prepared for:
NC Transportation Mobility and Safety Division
NC DEPARTMENT OF TRANSPORTATION
Traffic Engineering Branch
Signals Management Section
750 N.Greenfield Pkwy,Garner,NC 27529

Plans Prepared By:
DRMP
DRMP, Inc.
8210 University Executive Park Dr, Suite 220
Charlotte, NC 28262
NC License No. F-1524 (704) 549-4260

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 052936 ENGINEER BRITTANY N GROOME
Signed by: Brittany Groome 1E09340E1054484...
09/11/2026
SIGNATURE DATE
SIG. INVENTORY NO. 06-1412

Docusign Envelope ID: 68D05315-339F-8877-826C-A54DFA71DCDF

PROJECT REFERENCE NO.	SHEET NO.
U-3422B	Sig-4.8

OUTPUT CHANNEL CONFIGURATION

Front Panel
Main Menu >Controller >More>Channels>Channels Config

Web Interface
Home >Controller >Advanced IO>Channels>Channel Configuration

Channel Configuration

NOTICE OVERLAP 7 ASSIGNED TO CHANNEL 1 →
NOTICE OVERLAP 8 ASSIGNED TO CHANNEL 5 →

Channel	Control Type	Control Source	Flash Yellow	Flash Red	Flash Alt	MMU Channel
1	Overlap	7		X	X	1
2	Phase Vehicle	2		X		2
3	Phase Vehicle	3		X	X	3
4	Phase Vehicle	4		X		4
5	Overlap	8		X		5
6	Phase Vehicle	6		X	X	6
7	Phase Vehicle	7		X		7
8	Phase Vehicle	8		X	X	8
9	Overlap	1		X	X	9
10	Overlap	2		X	X	10
11	Overlap	3		X		11
12	Overlap	4		X		12
13	Phase Ped	2				13
14	Phase Ped	4				14
15	Phase Ped	6				15
16	Phase Ped	8				16
17	Overlap	5		X	X	17
18	Overlap	6		X		18

MAXTIME STARTUP AND SOFTWARE FLASH PROGRAMMING DETAIL

Front Panel
Main Menu >Controller >Unit

Web Interface
Home >Controller >Unit

Modify parameters as shown below and save changes.

Start Up Parameters

StartUp Clearance Hold
6

Unit Flash Parameters

All Red Flash Exit Time
6

SEQUENCE DETAIL

Front Panel
Main Menu >Controller >Sequence & Phs Config>Sequences

Web Interface
Home >Controller >Sequence

Sequence 1

Ring	Sequence Data
1	1,2,a,3,4,b
2	5,6,a,8,7,b

OVERLAP PROGRAMMING

Front Panel
Main Menu >Controller >Overlap >Overlap Parameters/Overlap Timings

Web Interface
Home >Controller >Overlap Configuration >Overlaps

Overlap Plan 1

Overlap	1	2	3	4	7	8
Type	FYA 4-Section	Normal	FYA 4-Section	Normal	Normal	Normal
Included Phases	6	1	2	5	7	3
Modifier Phases	7		3		-	-
Modifier Overlap	-	-	-	-	-	-
Trail Green	0	0	0	0	0	0
Trail Yellow	0.0	0.0	0.0	0.0	0.0	0.0
Trail Red	0.0	0.0	0.0	0.0	0.0	0.0
FYA PED Delay	7.0	0.0	7.0	0.0	0.0	0.0

← NOTICE PED DELAY

COMPATIBILITY

Front Panel
Main Menu >Controller >Sequence & Phs Config>No Served Phase Plans

Web Interface
Home >Controller >Phase Configuration>No Served Phase Plans

Sequence 1

Phase	No Serve Phase
1	
2	
3	7
4	
5	
6	
7	
8	

COUNTDOWN PEDESTRIAN SIGNAL OPERATION

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

THIS PLAN SUPERSEDES THE PLAN SEALED ON 12/22/2023

THIS ELECTRICAL DETAIL IS FOR
THE SIGNAL DESIGN: 06-1412
DESIGNED: Sep 2026
SEALED: 09/11/2026
REVISED: N/A

Plans Prepared By:

DRMP
DRMP, Inc.
8210 University Executive Park Dr, Suite 220
Charlotte, NC 28262
NC License No. F-1524 (704) 549-4260

SDLC NON-INTRUSIVE DETECTION CHART

	Detector Rack #3		Detector Rack #4	
Input Point	Det # (Index)	Detector Zone	Det # (Index)	Detector Zone
1	33	1A	49	1B
2	34	3A	50	3B
3	35	5A	51	NU
4	36	7A	52	NU
5	37	NU	53	NU
6	38	2A	54	6A
7	39	NU	55	NU
8	40	NU	56	NU
9	41	NU	57	NU
10	42	NU	58	NU
11	43	NU	59	NU
12	44	4A	60	8A
13	45	NU	61	NU
14	46	NU	62	NU
15	47	NU	63	NU
16	48	NU	64	NU

NU = Not Used

SPECIAL DETECTION IO MODULE PROGRAMMING

The Enhanced Out of Pavement Detection requires adjustments to the IO Modules in use. Follow the programming instructions below to ensure desired operation.

Front Panel
Main Menu >Controller >More >Advanced IO >IO Modules

Web Interface
Home >Controller >Advanced IO >Cabinet Configuration >IO Modules

IO Module 1

IO Module	Type	Fault Response
1	Caltrans 332	Default
2	TS2 DR3 BIU	Default
3	TS2 DR4 BIU	Default
4	TS2 MMU	Default

Advanced Cabinet Options

☑ Disable TS2 Cabinet Alarms

Electrical Detail - Sheet 2 of 2
Final Design

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

ELECTRICAL AND PROGRAMMING DETAILS FOR:

Prepared for: NC Transportation Mobility and Safety Division, Department of Transportation, Traffic Engineering Branch, Signals Management Section
750 N.Greenfield Pkwy,Garner,NC 27529

SR 1003 (Camden Road)
at
SR 1112 (Rockfish Road)

Division 6 Cumberland County Hope Mills

PLAN DATE: September 2026 REVIEWED BY: BN Groome
PREPARED BY: DS Griffith DRMP PROJ. NO.: 20191 (040)

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 052936 ENGINEER BRITTANY N GROOME

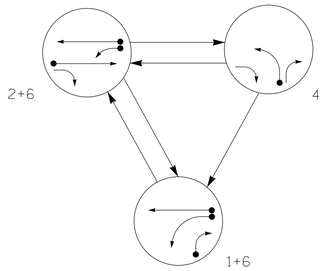
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09/11/2026
SIGNATURE DATE

SIG. INVENTORY NO. 06-1412

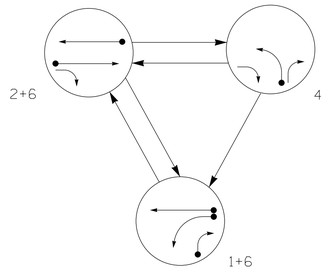
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PROJECT REFERENCE NO.	SHEET NO.
U-3422B	Sig-5.0

DEFAULT PHASING DIAGRAM



ALTERNATE PHASING DIAGRAM



DEFAULT PHASING TABLE OF OPERATION

SIGNAL FACE	PHASE 1+6	PHASE 2+6	PHASE 4	FLASH
11	←	←FY	←R	←R
21,22	R	G	R	R
23	R	←FY	←FY	R
41,43	←R	←R	←	←R
42	→	R	→	R
61,62	G	G	R	R

ALTERNATE PHASING TABLE OF OPERATION

SIGNAL FACE	PHASE 1+6	PHASE 2+6	PHASE 4	FLASH
11	←	←R	←R	←R
21,22	R	G	R	R
23	R	←FY	←FY	R
41,43	←R	←R	←	←R
42	→	R	→	R
61,62	G	G	R	R

MAXTIME DETECTOR INSTALLATION CHART

DETECTOR					PROGRAMMING						
ZONE	SIZE (FT)	DISTANCE FROM STOPBAR (FT)	TURNS	NEW LOOP	CALL PHASE	DELAY TIME	EXTEND TIME	EXTEND	ADDED INITIAL	CALL	DELAY DURING GREEN	NEW CARD
1A	6X40	0	**	X	1	15.0*	-	X	-	X	-	**
					6#	3.0	-	X	-	X	-	**
1B	6X40	0	**	X	1	15.0	-	X	-	X	-	**
2A	@	@	**	X	2	-	-	X	-	X	-	**
4A	6X40	0	**	X	4	10.0	-	X	-	X	-	**
6A	@	@	**	X	6	-	-	X	-	X	-	**

** Microwave Detection Zone

@ Size and distance vary. See Microwave Detection chart for more details.

* Reduce delay to 3.0 seconds during alternate phasing operation.

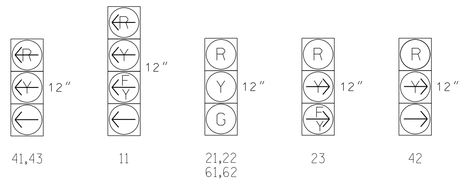
\# Disable phase call during Alternate Phasing Operation.

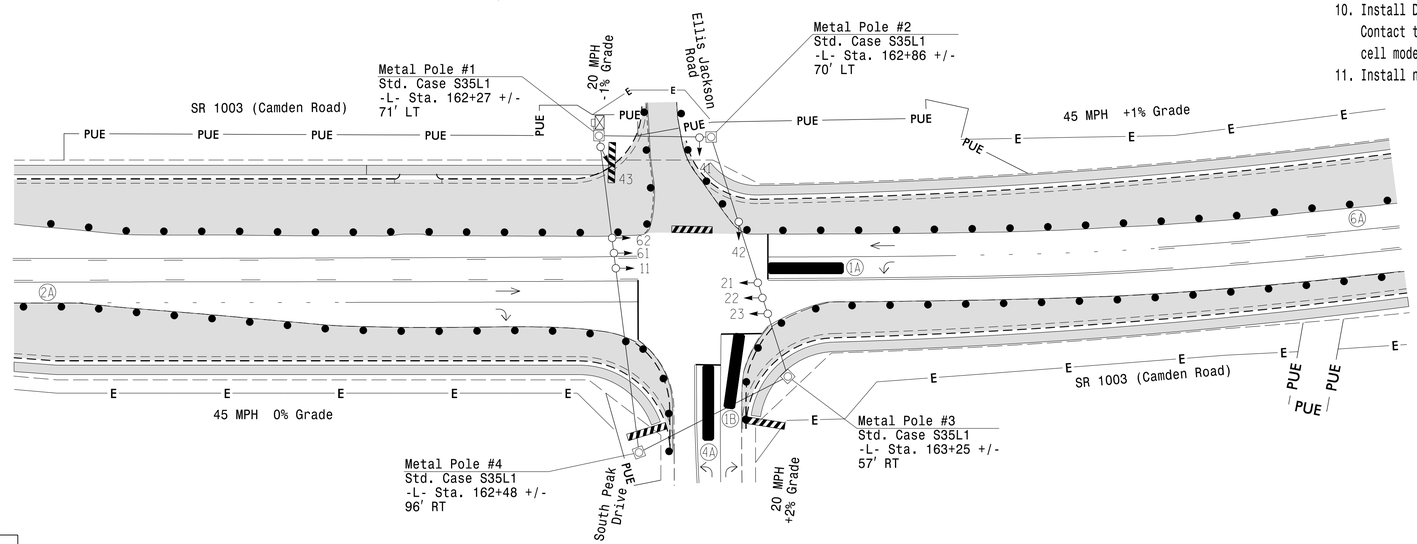
PHASING DIAGRAM DETECTION LEGEND

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

SIGNAL FACE I.D.

All Heads L.E.D.





3 Phase
Fully Actuated
Camden Road CLS

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 may be lagged.
4. Set all detector units to presence mode.
5. Locate new cabinet so as not to obstruct sight distance of vehicles turning right on red.
6. Pavement markings are existing.
7. The Division Traffic Engineer will determine the hours of use for each phasing plan.
8. This intersection uses multi-zone microwave detection. Install detectors according to the manufacturer's instructions to achieve desired detection.
9. Maximum times shown in timing chart are for free-run operation only. Coordinated signal system timing values supersede these values.
10. Install Department supplied cell modem inside the cabinet. Contact the Division 6 Traffic Engineer at 910-364-0606 to request the cell modem. Allow 8 weeks lead time before anticipated deployment.
11. Install new ethernet edge switch inside the cabinet.

LEGEND

PROPOSED		EXISTING
○→	Traffic Signal Head	●→
◐→	Modified Signal Head	N/A
⊣	Sign	⊣
□↓	Pedestrian Signal Head With Push Button & Sign	■↓
○	Signal Pole with Guy	●
○~	Signal Pole with Sidewalk Guy	●~
◎	Metal Strain Pole	■
▭	Inductive Loop Detector	▭
⊠	Controller & Cabinet	⊠
□	Junction Box	■
▭	Over-sized Junction Box	■
-----	2-in Underground Conduit	-----
N/A	Right of Way	-----
→	Directional Arrow	→
▬	Non-Intrusive Detection Zone	▬
▭	Construction Zone	N/A
●-●	Construction Zone Drums	N/A
▨	Type III Barricade	N/A
PUE	Permanent Utility Easement	N/A
E	Construction Easement	N/A

MAXTIME TIMING CHART

FEATURE	PHASE 1	PHASE 2	PHASE 4	PHASE 6
Walk *	–	–	–	–
Ped Clear	–	–	–	–
Min Green *	7	12	7	12
Passage *	2.0	2.0	2.0	2.0
Max 1 *	15	90	20	90
Yellow Change	3.0	4.5	3.0	4.5
Red Clear	1.9	1.0	2.3	1.0
Added Initial *	–	–	–	–
Maximum Initial *	–	–	–	–
Time Before Reduction *	–	–	–	–
Time To Reduce *	–	–	–	–
Minimum Gap	–	–	–	–
Advance Walk	–	–	–	–
Non Lock Detector	X	–	X	–
Vehicle Recall	–	MIN RECALL	–	MIN RECALL
Dual Entry	–	–	–	–

* 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.

Microwave Detection

	2A			6A		
FUNCTION	Sensor 1			Sensor 2		
Channel	1			1		
Phase	2			6		
Direction of Travel	EB			WB		
Type	Priority			Priority		
Level	1	2	QUEUE	1	2	QUEUE
Discovery Zone (ft)	>= 50	< 750	-	>= 50	< 750	-
Range (ft)	900-100	600-100	150-100	900-100	600-100	150-100
Enable Speed	Y	Y	Y	Y	Y	Y
Speed Range (mph)	35-100	35-100	1-35	35-100	35-100	1-35
Enable Estimated Time of Arrival	Y	Y	N	Y	Y	N
Estimated Time of Arrival (sec)	2.5-10.0	2.5-6.5	-	2.5-10.0	2.5-6.5	-

THIS PLAN SUPERSEDES THE PLAN SEALED ON 12/22/2023

Plans Prepared By:

DRMP

DRMP, Inc.
8210 University Executive Park Dr, Suite 220
Charlotte, NC 28262
NC License No. F-1524 (704) 549-4260

Signal Upgrade
Temporary Design 1 - (TMP Phase I)

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

Prepared for:
Transportation Mobility and Safety Division
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
Signal Design Section
750 N.Greenfield Pkwy,Garner,NC 27529

SR 1003 (Camden Road)
at
South Peak Drive

Division 6 Cumberland County Hope Mills

PLAN DATE: September 2026 REVIEWED BY: BN Groome
PREPARED BY: DS Griffith DRMP PROJ. NO.: 24941

SCALE 0 40 1"=40'

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 052936 ENGINEER BRITTANY N GROOME

Signed by: Brittany Groome
1E09340E1004484...
09/11/2026
SIGNATURE DATE

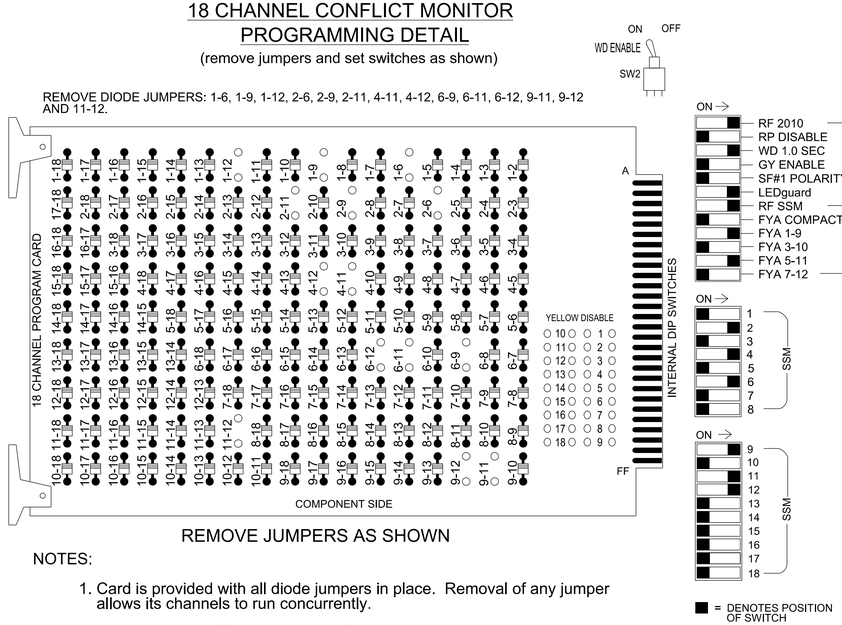
SIG. INVENTORY NO. 06-I309TI

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PROJECT REFERENCE NO.	SHEET NO.
U-3422B	Sig-5.1

18 CHANNEL CONFLICT MONITOR PROGRAMMING DETAIL

(remove jumpers and set switches as shown)



REMOVE JUMPERS AS SHOWN

NOTES:

1. Card is provided with all diode jumpers in place. Removal of any jumper allows its channels to run concurrently.
2. Ensure jumpers SEL2-SEL5 and SEL9 are present on the monitor board.
3. Ensure that the Red Enable is active at all times during normal operation.
4. Connect serial cable from conflict monitor to comm. port 1 of 2070 controller. Ensure conflict monitor communicates with 2070.

NOTES

1. To prevent "flash-conflict" problems, insert red flash program blocks for all vehicle load switches in the output file. The installer shall verify that signal heads flash in accordance with the signal plan.
2. Program controller to start up in phase 2 Green No Walk and phase 6 Green No Walk.
3. If this signal will be managed by an ATMS software, enable controller and detector logging for all detectors used at this location.
4. The cabinet and controller are part of the Camden Road Closed Loop Signal System.

EQUIPMENT INFORMATION

Controller.....2070LX
Cabinet.....332 w/ Aux
Software.....Q-Free MAXTIME
Cabinet Mount.....Base
Output File Positions.....18 With Aux. Output File
Load Switches Used.....S1, S2, S5, S8
AUX S1, AUX S4, AUX S5
Phases Used.....1, 2, 4, 6
Overlap "1".....*
Overlap "2".....NOT USED
Overlap "3".....*
Overlap "4".....*

*See overlap programming detail on sheet 2.

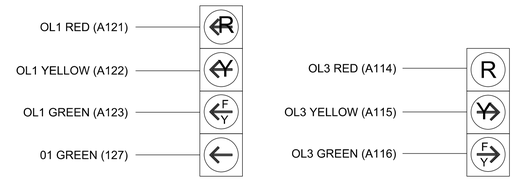
SIGNAL HEAD HOOK-UP CHART

LOAD SWITCH NO.	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	S11	S12	AUX S1	AUX S2	AUX S3	AUX S4	AUX S5	AUX S6
CMU CHANNEL NO.	1	2	13	3	4	14	5	6	15	7	8	16	9	10	17	11	12	18
PHASE	1	2	2 PED	3	4	4 PED	5	6	6 PED	7	8	8 PED	OL1	OL2	SPARE	OL3	OL4	SPARE
SIGNAL HEAD NO.	11 ★	21,22	NU	NU	41,43	NU	NU	61,62	NU	NU	NU	NU	11 ★	NU	NU	23 ★	42	NU
RED		128						134								A114	A101	
YELLOW	*	129						135										
GREEN		130						136										
RED ARROW					101								A121					
YELLOW ARROW					102								A122			A115	A102	
FLASHING YELLOW ARROW													A123			A116		
GREEN ARROW	127				103												A103	

NU = Not Used
* Denotes install load resistor. See load resistor installation detail this sheet.
★ See pictorial of head wiring in detail this sheet.

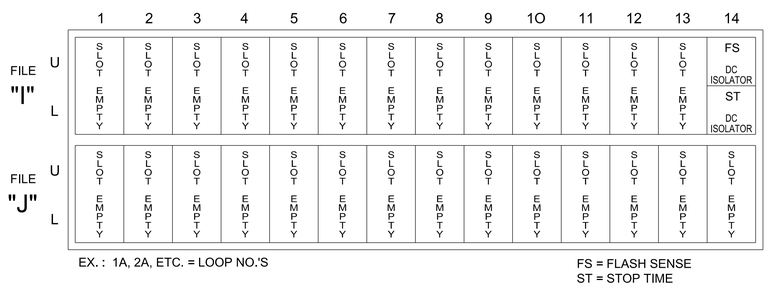
FYA SIGNAL WIRING DETAIL

(wire signal heads as shown)



INPUT FILE POSITION LAYOUT

(front view)



INPUT FILE CONNECTION & PROGRAMMING CHART

LOOP NO.	LOOP TERMINAL	INPUT FILE POS.	PIN NO.	INPUT POINT	DETECTOR NO.	CALL PHASE	DELAY TIME	EXTEND TIME	EXTEND	ADDED INITIAL	CALL	DELAY DURING GREEN
1A	-	-	-	*	33 ★	1	15.0		X		X	
				-	125 ★	6	3.0		X		X	
1B	-	-	-	*	49	1	15.0		X		X	
2A	-	-	-	*	38	2			X		X	
4A	-	-	-	*	44	4	10.0		X		X	
6A	-	-	-	*	54	6			X		X	

* For Input Point numbers, see SDLC Non-Intrusive Detection Chart on sheet 2.
★ For the detectors to work as shown on the signal design plan, see the Vehicle Detector Setup Programming Detail for Alternate Phasing on sheet 2.

INPUT FILE POSITION LEGEND: J2L
FILE J
SLOT 2
LOWER

FLASHER CIRCUIT MODIFICATION DETAIL

IN ORDER TO INSURE THAT SIGNALS FLASH CONCURRENTLY ON THE SAME APPROACH, MAKE THE FOLLOWING FLASHER CIRCUIT CHANGES:

1. ON REAR OF PDA - REMOVE WIRE FROM TERM. T2-4 AND TERMINATE ON T2-2.
2. ON REAR OF PDA - REMOVE WIRE FROM TERM. T2-5 AND TERMINATE ON T2-3.
3. REMOVE FLASHER UNIT 2.

THE CHANGES LISTED ABOVE TIES ALL PHASES AND OVERLAPS TO FLASHER UNIT 1.

LOAD RESISTOR INSTALLATION DETAIL

(install resistors as shown)

ACCEPTABLE VALUES	
Value (ohms)	Wattage
1.5K - 1.9K	25W (min)
2.0K - 3.0K	10W (min)



SPECIAL DETECTOR NOTE

Install a multizone microwave detection zone for approaches for vehicle detection. Perform installation according to manufacturer's directions and NCDOT engineer -approved mounting locations to accomplish the detection schemes shown on the Signal Design Plans.

LOGIC PROCESSOR PROGRAMMING

Front Panel
Main Menu >Controller >More >User Programs >Definition

Web Interface
Home >Controller >User Programs Configuration >User Programs Definition

Program 1

Statement	Result	Index	Operation	Parameter A	Index	Parameter B	Index	Delay	Ext
1	Veh Detector Call	125	Is Module A input B ON	Number	2	Number	1	0.0	0.0

LOGIC STATEMENT DESCRIPTION

Statement 1 Description: Mirrors vehicle detector 33 to vehicle detector 125

Plans Prepared By:
DRMP
DRMP, Inc.
8210 University Executive Park Dr, Suite 220
Charlotte, NC 28262
NC License No. F-1524 (704) 549-4260

THIS PLAN SUPERSEDES THE PLAN SEALED ON 12/22/2023

THIS ELECTRICAL DETAIL IS FOR
THE SIGNAL DESIGN: 06-1309T1
DESIGNED: Sep 2026
SEALED: 09/11/2026
REVISED: N/A

Electrical Detail - Sheet 1 of 2
Temporary Design 1 - (TMP Phase I)

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

ELECTRICAL AND PROGRAMMING DETAILS FOR:

Prepared for:
NC Transportation Mobility and Safety Division
NCDOT - DEPARTMENT OF TRANSPORTATION
Traffic Engineering Branch
Traffic Signals Management Section

750 N.Greenfield Pkwy,Garner,NC 27529

SR 1003 (Camden Road)
at
South Peak Drive

Division 6 Cumberland County Hope Mills

PLAN DATE:	September 2026	REVIEWED BY:	BN Groome
PREPARED BY:	DS Griffith	DRMP PROJ. NO.:	24941

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 052936 ENGINEER BRITTANY N GROOME

Signed by: Brittany Groome 1E0934DE1594484...
09/11/2026
SIGNATURE DATE

SIG. INVENTORY NO. 06-1309TI

Docusign Envelope ID: 68D05315-339F-8877-826C-A54DFA71DCDF

PROJECT REFERENCE NO.	SHEET NO.
U-3422B	Sig-5.2

MAXTIME ALTERNATE PHASING ACTIVATION DETAIL

To run alternate phasing, select a Pattern that is programmed to run Overlap Plan 2 and Detector Plan 2.
A Pattern can be selected through the scheduler or manually by changing the Operational Mode.

PHASING	OVERLAP PLAN	VEH DET PLAN
ACTIVE PLAN REQUIRED TO RUN DEFAULT PHASING	1	1
ACTIVE PLAN REQUIRED TO RUN ALTERNATE PHASING	2	2

ALTERNATE PHASING CHANGE SUMMARY

THE FOLLOWING IS A SUMMARY OF WHAT TAKES PLACE WHEN OVERLAP 2 AND VEHICLE DETECTOR PLAN 2 ACTIVATE TO CALL THE "ALTERNATE PHASING":

OVERLAP PLAN 2: Modifies overlap included phases for head 11 to run protected turns only.

VEH DET PLAN 2: Reduces delay time for phase 1 call on loop 1A to 3 seconds.

MAXTIME DETECTOR PROGRAMMING DETAIL FOR ALTERNATE PHASING LOOP 1A

Front Panel
Main Menu >Controller >Detector >Veh Det Plans

Web Interface
Home >Controller >Detector Configuration >Vehicle Detectors

In the table view of web interface right click on "Detector" in the top left corner of the table. Copy the entire contents of Detector Plan 1. Paste Detector Plan 1 into Detector Plan 2. Modify Detector Plan 2 as shown below and save changes.

Plan 2

1A

Detector	Call Phase	Delay
33	1	3.0
125	0	0.0

SPECIAL DETECTION IO MODULE PROGRAMMING

The Enhanced Out of Pavement Detection requires adjustments to the IO Modules in use. Follow the programming instructions below to ensure desired operation.

Front Panel
Main Menu >Controller >More >Advanced IO >IO Modules

Web Interface
Home >Controller >Advanced IO >Cabinet Configuration >IO Modules

IO Module 1

IO Module	Type	Fault Response
1	Caltrans 332	Default
2	TS2 DR3 BIU	Default
3	TS2 DR4 BIU	Default
4	TS2 MMU	Default

Advanced Cabinet Options

☑ Disable TS2 Cabinet Alarms

SDLC NON-INTRUSIVE DETECTION CHART

Input Point	Detector Rack #3 Det # (Index)	Detector Rack #3 Detector Zone	Detector Rack #4 Det # (Index)	Detector Rack #4 Detector Zone
1	33	1A	49	1B
2	34	NU	50	NU
3	35	NU	51	NU
4	36	NU	52	NU
5	37	NU	53	NU
6	38	2A	54	6A
7	39	NU	55	NU
8	40	NU	56	NU
9	41	NU	57	NU
10	42	NU	58	NU
11	43	NU	59	NU
12	44	4A	60	NU
13	45	NU	61	NU
14	46	NU	62	NU
15	47	NU	63	NU
16	48	NU	64	NU

NU = Not Used

MAXTIME ALTERNATE PHASING PATTERN PROGRAMMING DETAIL

Front Panel
Main Menu >Controller >Coordination >Patterns

Web Interface
Home >Controller >Coordination >Patterns

Pattern Parameters

Pattern	Veh Det Plan	Overlap Plan
*	2	2

* The Pattern number(s) are to be determined by the Division Traffic Engineer.

MAXTIME OVERLAP PROGRAMMING DETAIL FOR ALTERNATE PHASING

Front Panel
Main Menu >Controller >Overlap >Overlap Parameters/Overlap Timings

Web Interface
Home >Controller >Overlap Configuration >Overlaps

In the table view of the web interface, right click on "Overlap" in the top left corner of the table. Copy the entire contents of Overlap Plan 1. Paste Overlap Plan 1 into Overlap Plan 2. Modify Overlap Plan 2 as shown below and save changes.

Overlap Plan 2

Overlap	1	3	4
Type	FYA 4 - Section	FYA 4 - Section	Normal
Included Phases	-	2,4	1,4
Modifier Phases	1	-	-
Modifier Overlap	-	-	-
Trail Green	0	0	0
Trail Yellow	0.0	0.0	0.0
Trail Red	0.0	0.0	0.0

← NOTICE INCLUDED PHASE

MAXTIME STARTUP AND SOFTWARE FLASH PROGRAMMING DETAIL

Front Panel
Main Menu >Controller >Unit

Web Interface
Home >Controller >Unit

Modify parameters as shown below and save changes.

Start Up Parameters

StartUp Clearance Hold
6

Unit Flash Parameters

All Red Flash Exit Time
6

MAXTIME OVERLAP PROGRAMMING DETAIL FOR DEFAULT PHASING

Front Panel
Main Menu >Controller >Overlap >Overlap Parameters/Overlap Timings

Web Interface
Home >Controller >Overlap Configuration >Overlaps

Overlap Plan 1

Overlap	1	3	4
Type	FYA 4 - Section	FYA 4 - Section	Normal
Included Phases	2	2,4	1,4
Modifier Phases	1	-	-
Modifier Overlap	-	-	-
Trail Green	0	0	0
Trail Yellow	0.0	0.0	0.0
Trail Red	0.0	0.0	0.0

OUTPUT CHANNEL CONFIGURATION

Front Panel
Main Menu >Controller >More>Channels>Channels Config

Web Interface
Home >Controller >Advanced IO>Channels>Channel Configuration

Channel Configuration

Channel	Control Type	Control Source	Flash Yellow	Flash Red	Flash Alt	MMU Channel
1	Phase Vehicle	1		X	X	1
2	Phase Vehicle	2		X		2
3	Phase Vehicle	3		X	X	3
4	Phase Vehicle	4		X		4
5	Phase Vehicle	5		X		5
6	Phase Vehicle	6		X	X	6
7	Phase Vehicle	7		X		7
8	Phase Vehicle	8		X	X	8
9	Overlap	1		X	X	9
10	Overlap	2		X	X	10
11	Overlap	3		X		11
12	Overlap	4		X		12
13	Phase Ped	2				13
14	Phase Ped	4				14
15	Phase Ped	6				15
16	Phase Ped	8				16
17	Overlap	5		X	X	17
18	Overlap	6		X		18

THIS PLAN SUPERSEDES THE PLAN SEALED ON 12/22/2023

THIS ELECTRICAL DETAIL IS FOR THE SIGNAL DESIGN: 06-1309T1
DESIGNED: Sep 2026
SEALED: 09/11/2026
REVISED: N/A

Electrical Detail - Sheet 2 of 2
Temporary Design 1 - (TMP Phase I)

Plans Prepared By:
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DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

ELECTRICAL AND PROGRAMMING DETAILS FOR:

Prepared for:
Transportation Mobility and Safety Division
NC DEPARTMENT OF TRANSPORTATION
Traffic Engineering Branch
Signals Management Section
750 N.Greenfield Pkwy,Garner,NC 27529

SR 1003 (Camden Road)
at
South Peak Drive

Division 6 Cumberland County Hope Mills

PLAN DATE: September 2026 REVIEWED BY: BN Groome
PREPARED BY: DS Griffith DRMP PROJ. NO.: 24941

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 052936 ENGINEER BRITTANY N GROOME

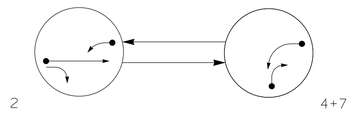
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09/11/2026
SIGNATURE DATE

SIG. INVENTORY NO. 06-1309T1

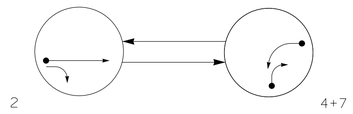
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PROJECT REFERENCE NO.	SHEET NO.
U-3422B	Sig-5.3

DEFAULT PHASING DIAGRAM



ALTERNATE PHASING DIAGRAM



PHASING DIAGRAM DETECTION LEGEND

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

DEFAULT PHASING TABLE OF OPERATION

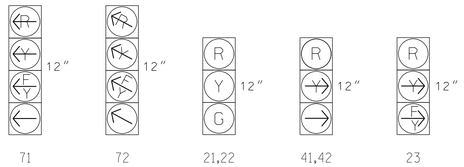
SIGNAL FACE	PHASE 2	PHASE 4+7	PHASE FLASH
21,22	G	R	R
23	Y	R	R
41,42	R	→	R
71	Y	←	R
72	Y	↘	R

ALTERNATE PHASING TABLE OF OPERATION

SIGNAL FACE	PHASE 2	PHASE 4+7	PHASE FLASH
21,22	G	R	R
23	Y	R	R
41,42	R	→	R
71	R	←	R
72	R	↘	R

SIGNAL FACE I.D.

All Heads L.E.D.



MAXTIME DETECTOR INSTALLATION CHART

DETECTOR					PROGRAMMING						
ZONE	SIZE (FT)	DISTANCE FROM STOPBAR (FT)	TURNS	NEW LOOP	CALL PHASE	DELAY TIME	EXTEND TIME	EXTEND	ADDED INITIAL	CALL	NEW CARD
2A	@	@	**	X	2	-	-	X	-	X	-	**
4A	6X40	0	**	X	4	15.0	-	X	-	X	-	**
7A	6X40	0	**	X	7	15.0*	-	X	-	X	-	**

** Microwave Detection Zone

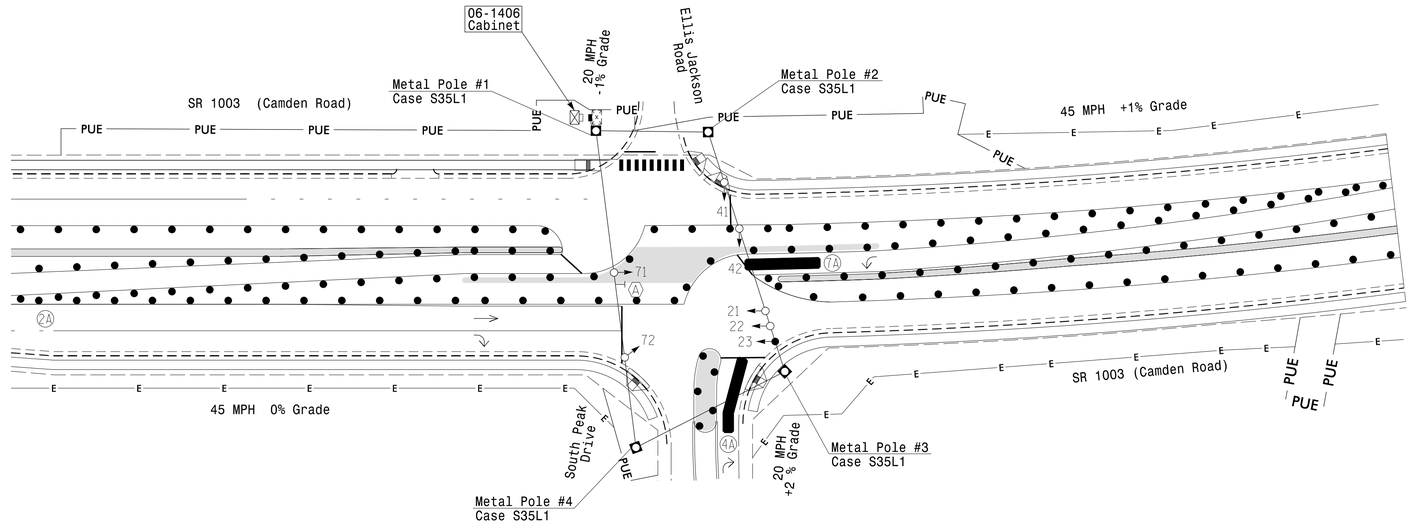
@ Size and distance vary. See Microwave Detection chart for more details.

* Disable Delay During Alternate Phasing Operation.

2 Phase
Fully Actuated
Camden Road CLS

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. Reposition existing signal head numbered 23.
4. Set all detector units to presence mode.
5. The Division Traffic Engineer will determine the hours of use for each phasing plan.
6. This intersection uses multi-zone microwave detection. Install detectors according to the manufacturer's instructions to achieve desired detection.
7. Maximum times shown in timing chart are for free-run operation only. Coordinated signal system timing values supersede these values.
8. See traffic control plans for stop line locations.



LEGEND

PROPOSED		EXISTING
○→	Traffic Signal Head	●→
◐→	Modified Signal Head	N/A
⊣	Sign	⊣
▭↓	Pedestrian Signal Head With Push Button & Sign	■↓
○	Signal Pole with Guy	●
○	Signal Pole with Sidewalk Guy	●
◎	Metal Strain Pole	■
▭	Inductive Loop Detector	▭
⊠	Controller & Cabinet	⊠
□	Junction Box	■
▭	Over-sized Junction Box	■
----	2-in Underground Conduit	----
N/A	Right of Way	----
→	Directional Arrow	→
▬	Non-Intrusive Detection Zone	▬
▭	Construction Zone	N/A
●--●	Construction Zone Drums	N/A
PUE	Easement Permenant Utility	N/A
E	Construction Easement	N/A
Ⓐ	"U-Turn Yield to Right Turn" Sign (R10-16)	Ⓐ

MAXTIME TIMING CHART

FEATURE	PHASE 2	PHASE 4	PHASE 7
Walk *	–	–	–
Ped Clear	–	–	–
Min Green *	12	7	7
Passage *	2.0	2.0	2.0
Max 1 *	90	20	15
Yellow Change	4.5	3.0	3.0
Red Clear	1.1	1.9	1.9
Added Initial *	–	–	–
Maximum Initial *	–	–	–
Time Before Reduction *	–	–	–
Time To Reduce *	–	–	–
Minimum Gap	–	–	–
Advance Walk	–	–	–
Non Lock Detector	–	–	–
Vehicle Recall	MIN RECALL	–	–
Dual Entry	–	X	X

* 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.

Microwave Detection

	2A		
FUNCTION	Sensor 1		
Channel	1		
Phase	2		
Direction of Travel	EB		
Type	Priority		
Level	1	2	QUEUE
Discovery Zone (ft)	>= 50	< 750	-
Range (ft)	900-100	600-100	150-100
Enable Speed	Y	Y	Y
Speed Range (mph)	35-100	35-100	1-35
Enable Estimated Time of Arrival	Y	Y	N
Estimated Time of Arrival (sec)	2.5-10.0	2.5-6.5	-

THIS PLAN SUPERSEDES THE PLAN SEALED ON 12/22/2023

Plans Prepared By:

DRMP

DRMP, Inc.
8210 University Executive Park Dr, Suite 220
Charlotte, NC 28262
NC License No. F-1524 (704) 549-4260

Signal Upgrade
Temporary Design 2 - (TMP Phase III)

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

Prepared for:
Transportation Mobility and Safety Division
Signal Design Section
750 N.Greenfield Pkwy,Garner,NC 27529

SR 1003 (Camden Road) EB
at
South Peak Drive

Division 6 Cumberland County Hope Mills

PLAN DATE: September 2026 REVIEWED BY: BN Groome
PREPARED BY: DS Griffith DRMP PROJ. NO.: 24941

SCALE 0 40 1"=40'

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 052936 ENGINEER BRITTANY N GROOME

Signed by: Brittany Groome
E0393A0E1D4A4BA...
09/11/2026
SIGNATURE DATE

SIG. INVENTORY NO. 06-I309T2

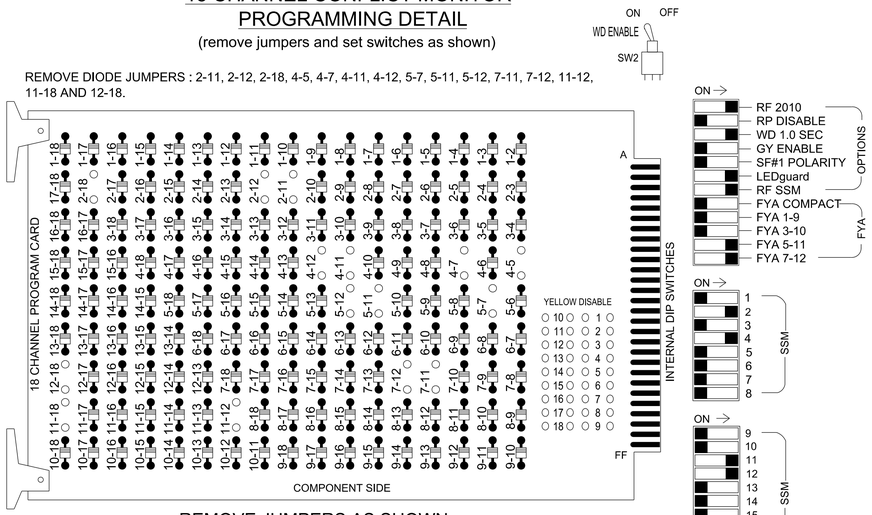
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PROJECT REFERENCE NO.	SHEET NO.
U-3422B	Sig-5.4

18 CHANNEL CONFLICT MONITOR PROGRAMMING DETAIL

(remove jumpers and set switches as shown)

REMOVE DIODE JUMPERS : 2-11, 2-12, 2-18, 4-5, 4-7, 4-11, 4-12, 5-7, 5-11, 5-12, 7-11, 7-12, 11-12, 11-18 AND 12-18.



REMOVE JUMPERS AS SHOWN

NOTES:

1. Card is provided with all diode jumpers in place. Removal of any jumper allows its channels to run concurrently.
2. Ensure jumpers SEL2-SEL5 and SEL9 are present on the monitor board.
3. Ensure that the Red Enable is active at all times during normal operation.
4. Connect serial cable from conflict monitor to comm. port 1 of 2070 controller. Ensure conflict monitor communicates with 2070.

NOTES

1. To prevent "flash-conflict" problems, insert red flash program blocks for all vehicle load switches in the output file. The installer shall verify that signal heads flash in accordance with the signal plan.
2. Restore controller factory defaults before programming per this electrical detail.
2. Program phases 4 and 7 for Dual Entry.
3. Program controller to start up in phase 2 Green No Walk and phase 6 Phase Not On.
4. If this signal will be managed by an ATMS software, enable controller and detector logging for all detectors used at this location.
5. The cabinet and controller are part of the Camden Road Closed Loop Signal System.

EQUIPMENT INFORMATION

Controller.....2070LX
Cabinet.....332 w/ Aux
Software.....Q-Free MAXTIME
Cabinet Mount.....Base
Output File Positions.....18 With Aux. Output File
Load Switches Used.....S2, S5, S7, S10, AUX S4, AUX S5, AUX S6
Phases Used.....2, 4, 7
Overlap "1".....NOT USED
Overlap "2".....NOT USED
Overlap "3".....*
Overlap "4".....*
Overlap "5".....NOT USED
Overlap "6".....*
Overlap "7".....*

*See overlap programming detail on sheet 2.

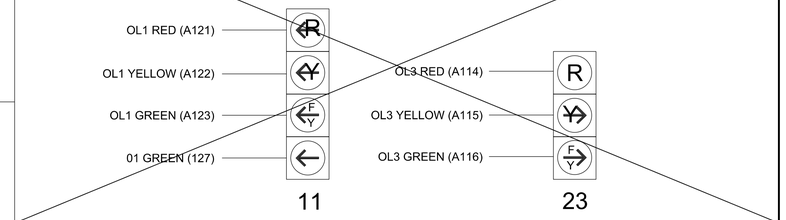
SIGNAL HEAD HOOK-UP CHART

LOAD SWITCH NO.	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	S11	S12	AUX S1	AUX S2	AUX S3	AUX S4	AUX S5	AUX S6
CMU CHANNEL NO.	1	2	13	3	4	14	5 **	6	15	7	8	16	9	10	17	11	12	18
PHASE	1	2	2 PED	3	4	4 PED	OL7	6	6 PED	7	8	8 PED	OL1	OL2	SPARE	OL3	OL4	OL6
SIGNAL HEAD NO.	NU	21,22	NU	NU	41,42	NU	72★	NU	NU	71★	NU	NU	NU	NU	NU	72★	71★	23★
RED		128			101													A104
YELLOW		129					*			*								
GREEN		130																
RED ARROW																A114	A101	
YELLOW ARROW					102											A115	A102	A105
FLASHING YELLOW ARROW																A116	A103	A106
GREEN ARROW					103		133			124								

NU = Not Used
★ See pictorial of head wiring in detail this sheet.
* Denotes install load resistor. See load resistor installation detail this sheet.
** Channel has been reassigned to Overlap 7. See detail on sheet 2 for reassignment programming

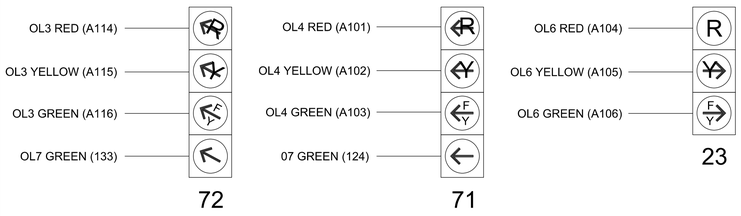
FYA SIGNAL WIRING REMOVAL DETAIL

(wire signal heads as shown)



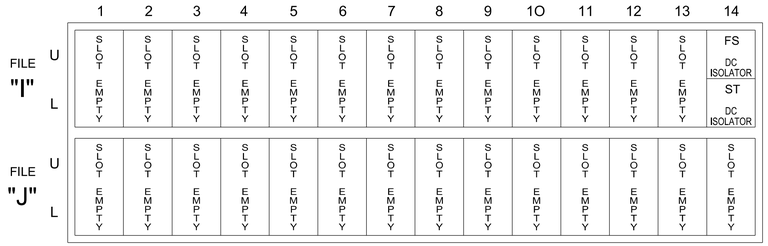
FYA SIGNAL WIRING DETAIL

(wire signal heads as shown)



INPUT FILE POSITION LAYOUT

(front view)



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

FS = FLASH SENSE
ST = STOP TIME

INPUT FILE CONNECTION & PROGRAMMING CHART

LOOP NO.	LOOP TERMINAL	INPUT FILE POS.	PIN NO.	INPUT POINT	DETECTOR NO.	CALL PHASE	DELAY TIME	EXTEND TIME	EXTEND	ADDED INITIAL	CALL	DELAY DURING GREEN
2A	-	-	-	*	38	2			X		X	
4A	-	-	-	*	44	4	15.0		X		X	
7A	-	-	-	*	36 ★	7	15.0		X		X	

* For Input Point numbers, see SDLC Non-Intrusive Detection Chart on sheet 2.
★ For the detectors to work as shown on the signal design plan, see the Vehicle Detector Setup Programming Detail for Alternate Phasing on sheet 2.

INPUT FILE POSITION LEGEND: J2L
FILE J
SLOT 2
LOWER

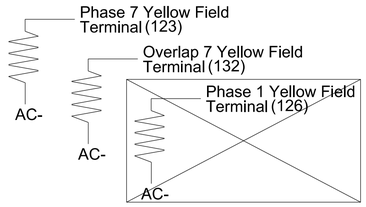
SPECIAL DETECTOR NOTE

Install a multizone microwave detection zone for approaches for vehicle detection. Perform installation according to manufacturer's directions and NCDOT engineer -approved mounting locations to accomplish the detection schemes shown on the Signal Design Plans.

LOAD RESISTOR INSTALLATION DETAIL

(install resistors as shown)

ACCEPTABLE VALUES	
Value (ohms)	Wattage
1.5K - 1.9K	25W (min)
2.0K - 3.0K	10W (min)



MAXTIME STARTUP AND SOFTWARE FLASH PROGRAMMING DETAIL

Front Panel
Main Menu >Controller >Unit

Web Interface
Home >Controller >Unit

Modify parameters as shown below and save changes.

Start Up Parameters

StartUp Clearance Hold
6

Unit Flash Parameters

All Red Flash Exit Time
6

Plans Prepared By:
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8210 University Executive Park Dr, Suite 220
Charlotte, NC 28262
NC License No. F-1524 (704) 549-4260

THIS PLAN SUPERSEDES THE PLAN SEALED ON 12/22/2023

THIS ELECTRICAL DETAIL IS FOR THE SIGNAL DESIGN: 06-1309T2
DESIGNED: Sep 2026
SEALED: 09/11/2026
REVISED: N/A

Electrical Detail - Sheet 1 of 2
Temporary Design 2 - (TMP Phase III)

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

ELECTRICAL AND PROGRAMMING DETAILS FOR:

Prepared for:
Transportation Mobility and Safety Division
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
Traffic Engineering Branch
Signals Management Section
750 N.Greenfield Pkwy,Garner,NC 27529

SR 1003 (Camden Road) EB
at
South Peak Drive

Division 6 Cumberland County Hope Mills

PLAN DATE: September 2026 REVIEWED BY: BN Groome
PREPARED BY: DS Griffith DRMP PROJ. NO.: 24941

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 052936 ENGINEER
BRITTANY N GROOME
Signed by: Brittany Groome 1E09340E1094484...
09/11/2026
SIGNATURE DATE
SIG. INVENTORY NO. 06-1309T2

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PROJECT REFERENCE NO.	SHEET NO.
U-3422B	Sig-5.5

MAXTIME ALTERNATE PHASING ACTIVATION DETAIL

To run alternate phasing, select a Pattern that is programmed to run Overlap Plan 2 and Detector Plan 2.
A Pattern can be selected through the scheduler or manually by changing the Operational Mode.

PHASING	OVERLAP PLAN	VEH DET PLAN
ACTIVE PLAN REQUIRED TO RUN DEFAULT PHASING	1	1
ACTIVE PLAN REQUIRED TO RUN ALTERNATE PHASING	2	2

ALTERNATE PHASING CHANGE SUMMARY

THE FOLLOWING IS A SUMMARY OF WHAT TAKES PLACE WHEN OVERLAP 2 AND VEHICLE DETECTOR PLAN 2 ACTIVATE TO CALL THE "ALTERNATE PHASING":

OVERLAP PLAN 2: Modifies overlap included phases for heads 71 and 72 to run protected turns only.

VEH DET PLAN 2: Reduces delay time for phase 7 call on loop 7A to 0 seconds.

SPECIAL DETECTION IO MODULE PROGRAMMING

The Enhanced Out of Pavement Detection requires adjustments to the IO Moduels in use. Follow the programming instructions below to ensure desired operation.

Front Panel
Main Menu >Controller >More >Advanced IO >IO Modules

Web Interface
Home >Controller >Advanced IO >Cabinet Configuration >IO Modules

IO Module	Type	Fault Response
1	Caltrans 332	Default
2	TS2 DR3 BIU	Default
3	TS2 MMU	Default

Advanced Cabinet Options

☑ Disable TS2 Cabinet Alarms

MAXTIME DETECTOR PROGRAMMING DETAIL FOR ALTERNATE PHASING LOOP 7A

Front Panel
Main Menu >Controller >Detector >Veh Det Plans

Web Interface
Home >Controller >Detector Configuration >Vehicle Detectors

In the table view of web interface right click on "Detector" in the top left corner of the table. Copy the entire contents of Detector Plan 1. Paste Detector Plan 1 into Detector Plan 2. Modify Detector Plan 2 as shown below and save changes.

Plan 2

	Detector	Call Phase	Delay
7A	36	7	0.0

FLASHER CIRCUIT MODIFICATION DETAIL

IN ORDER TO INSURE THAT SIGNALS FLASH CONCURRENTLY ON THE SAME APPROACH, MAKE THE FOLLOWING FLASHER CIRCUIT CHANGES:

1. ON REAR OF PDA - REMOVE WIRE FROM TERM. T2-4 AND TERMINATE ON T2-2.
2. ON REAR OF PDA - REMOVE WIRE FROM TERM. T2-5 AND TERMINATE ON T2-3.
3. REMOVE FLASHER UNIT 2.

THE CHANGES LISTED ABOVE TIES ALL PHASES AND OVERLAPS TO FLASHER UNIT 1.

REMOVE

SDLC NON-INTRUSIVE DETECTION CHART

Input Point	DETECTOR RACK #3 DET # (Index)	Detector Zone
1	33	NU
2	34	NU
3	35	NU
4	36	7A
5	37	NU
6	38	2A
7	39	NU
8	40	NU
9	41	NU
10	42	NU
11	43	NU
12	44	4A
13	45	NU
14	46	NU
15	47	NU
16	48	NU

NU = Not Used

MAXTIME ALTERNATE PHASING PATTERN PROGRAMMING DETAIL

Front Panel
Main Menu >Controller >Coordination >Patterns

Web Interface
Home >Controller >Coordination >Patterns

Pattern Parameters

Pattern	Veh Det Plan	Overlap Plan
*	2	2

*The Pattern number(s) are to be determined by the Division Traffic Engineer.

MAXTIME OVERLAP PROGRAMMING DETAIL FOR ALTERNATE PHASING

Front Panel
Main Menu >Controller >Overlap >Overlap Parameters/Overlap Timings

Web Interface
Home >Controller >Overlap Configuration >Overlaps

In the table view of the web interface, right click on "Overlap" in the top left corner of the table. Copy the entire contents of Overlap Plan 1. Paste Overlap Plan 1 into Overlap Plan 2. Modify Overlap Plan 2 as shown below and save changes.

Overlap Plan 2

Overlap	3	4	6	7
Type	FYA 4 - Section	FYA 4 - Section	FYA 4 - Section	Normal
Included Phases	-	-	2	7
Modifier Phases	7	7	-	-
Modifier Overlap	-	-	-	-
Trail Green	0	0	0	0
Trail Yellow	0.0	0.0	0.0	0.0
Trail Red	0.0	0.0	0.0	0.0

← NOTICE INCLUDED PHASE

MAXTIME OVERLAP PROGRAMMING DETAIL FOR DEFAULT PHASING

Front Panel
Main Menu >Controller >Overlap >Overlap Parameters/Overlap Timings

Web Interface
Home >Controller >Overlap Configuration >Overlaps

Overlap Plan 1

Overlap	3	4	6	7
Type	FYA 4 - Section	FYA 4 - Section	FYA 4 - Section	Normal
Included Phases	2	2	2	7
Modifier Phases	7	7	-	-
Modifier Overlap	-	-	-	-
Trail Green	0	0	0	0
Trail Yellow	0.0	0.0	0.0	0.0
Trail Red	0.0	0.0	0.0	0.0

NOTICE OVERLAP 7 ASSIGNED TO CHANNEL 5 →

OUTPUT CHANNEL CONFIGURATION

Front Panel
Main Menu >Controller >More>Channels>Channels Config

Web Interface
Home >Controller >Advanced IO>Channels>Channel Configuration

Channel Configuration

Channel	Control Type	Control Source	Flash Yellow	Flash Red	Flash Alt	MMU Channel
1	Phase Vehicle	1		X	X	1
2	Phase Vehicle	2		X		2
3	Phase Vehicle	3		X	X	3
4	Phase Vehicle	4		X		4
5	Overlap	7		X		5
6	Phase Vehicle	6		X	X	6
7	Phase Vehicle	7		X		7
8	Phase Vehicle	8		X	X	8
9	Overlap	1		X	X	9
10	Overlap	2		X	X	10
11	Overlap	3		X		11
12	Overlap	4		X		12
13	Phase Ped	2				13
14	Phase Ped	4				14
15	Phase Ped	6				15
16	Phase Ped	8				16
17	Overlap	5		X	X	17
18	Overlap	6		X		18

THIS PLAN SUPERSEDES THE PLAN SEALED ON 12/22/2023

THIS ELECTRICAL DETAIL IS FOR
THE SIGNAL DESIGN: 06-1309T2
DESIGNED: Sep 2026
SEALED: 09/11/2026
REVISED: N/A

Electrical Detail - Sheet 2 of 2
Temporary Design 2 - (TMP Phase III)

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

ELECTRICAL AND PROGRAMMING DETAILS FOR:

Prepared for: NC Transportation Mobility and Safety Division Traffic Engineering Branch

750 N.Greenfield Pkwy,Garner,NC 27529

SR 1003 (Camden Road) EB
at
South Peak Drive

Division 6 Cumberland County Hope Mills

PLAN DATE: September 2026 REVIEWED BY: BN Groome
PREPARED BY: DS Griffith DRMP PROJ. NO.: 24941

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 052936 ENGINEER BRITTANY N GROOME

Signed by: Brittany Groome 1E09340E1D94484...
09/11/2026
SIGNATURE DATE

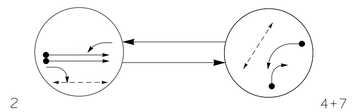
SIG. INVENTORY NO. 06-1309T2

Plans Prepared By:
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Docusign Envelope ID: 68D05315-339F-8877-826C-A54DFA71DCDF

PROJECT REFERENCE NO.	SHEET NO.
U-3422B	Sig-5.6

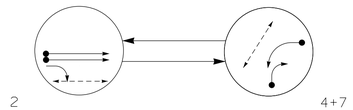
DEFAULT PHASING DIAGRAM



DEFAULT PHASING TABLE OF OPERATION

SIGNAL FACE	PHASE 2	PHASE 4+7	FLASH
21,22	G	R	R
23	F	R	R
41,42	R	→	R
71	F	←	R
72	↖	↘	R
P21,P22	W	DW	DRK
P41,P42	DW	W	DRK

ALTERNATE PHASING DIAGRAM



PHASING DIAGRAM DETECTION LEGEND

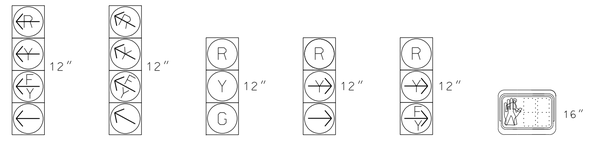
- DETECTED MOVEMENT
- UNDETECTED MOVEMENT (OVERLAP)
- UNSIGNALIZED MOVEMENT
- PEDESTRIAN MOVEMENT

ALTERNATE PHASING TABLE OF OPERATION

SIGNAL FACE	PHASE 2	PHASE 4+7	FLASH
21,22	G	R	R
23	F	R	R
41,42	R	→	R
71	R	←	R
72	↖	↘	R
P21,P22	W	DW	DRK
P41,P42	DW	W	DRK

SIGNAL FACE I.D.

All Heads L.E.D.



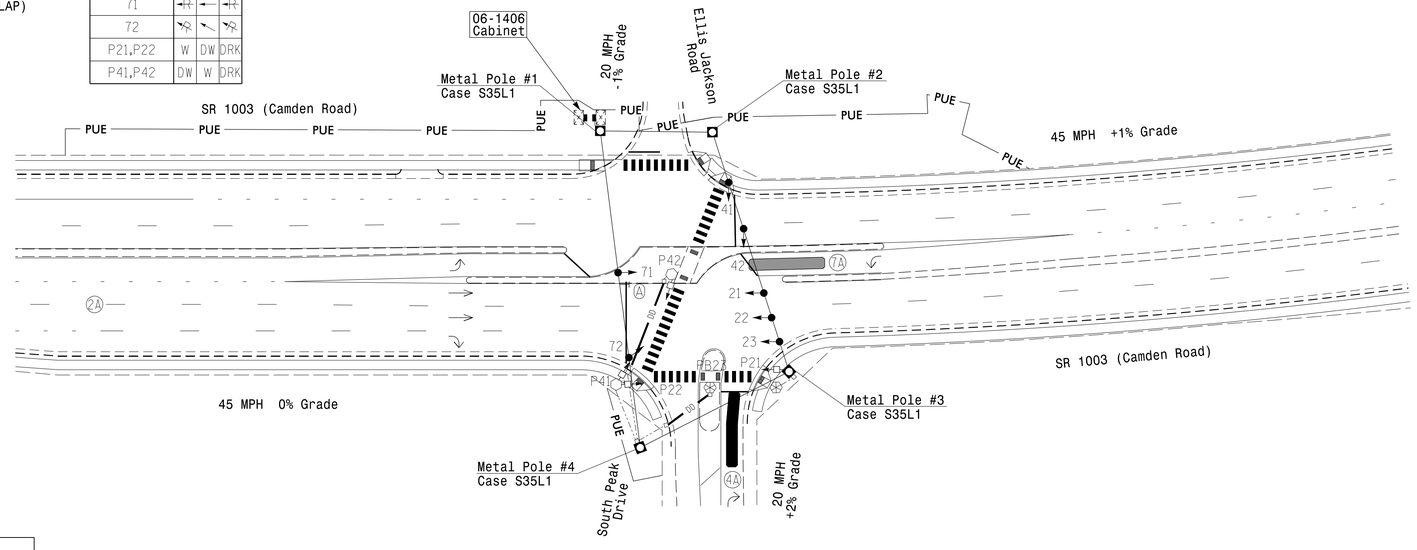
MAXTIME DETECTOR INSTALLATION CHART

DETECTOR					PROGRAMMING						
ZONE	SIZE (FT)	DISTANCE FROM STOPBAR (FT)	TURNS	NEW LOOP	CALL PHASE	DELAY TIME	EXTEND TIME	EXTEND	ADDED INITIAL	CALL	DELAY DURING GREEN	NEW CARD
2A	@	@	**	X	2	-	-	X	-	X	-	**
4A	6X40	0	**	X	4	15.0	-	X	-	X	-	**
7A	6X40	0	**	-	7	15.0*	-	X	-	X	-	**

** Microwave Detection Zone

@ Size and distance vary. See Microwave Detection chart for more details.

* Disable Delay During Alternate Phasing Operation.



LEGEND

PROPOSED		EXISTING
	Traffic Signal Head	
	Modified Signal Head	N/A
	Sign	
	Pedestrian Signal Head With Push Button & Sign	
	Signal Pole with Guy	
	Signal Pole with Sidewalk Guy	
	Metal Strain Pole	
	Inductive Loop Detector	
	Controller & Cabinet	
	Junction Box	
	Over-sized Junction Box	
	2-in Underground Conduit	
DD	Directional Drill	N/A
N/A	Right of Way	
	Directional Arrow	
	Type I Pushbutton Post	
	Type II Signal Pedestal	
PUE	Permanent Utility Easement	N/A
	Non-Intrusive Detection Zone	
A	"U-Turn Yield to Right Turn" Sign (R10-16)	A

2 Phase
Fully Actuated
Camden Road CLS

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. Set all detector units to presence mode.
4. Reposition existing signal heads numbered 21 and 22.
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. To provide a leading pedestrian interval on phase 2, program FYA heads numbered 23,71, and 72 to delay for 7 seconds after the start of the phase 2 walk interval. See Electrical Details for programming.
8. The Division Traffic Engineer will determine the hours of use for each phasing plan.
9. This intersection uses multi-zone microwave detection. Install detectors according to the manufacturer's instructions to achieve desired detection.
10. See pavement marking plans for stop line and crosswalk locations.
11. Maximum times shown in timing chart are for free-run operation only. Coordinated signal system timing values supersede these values.

MAXTIME TIMING CHART

FEATURE	PHASE 2	PHASE 4	PHASE 7
Walk *	14	7	–
Ped Clear	14	13	–
Min Green *	12	7	7
Passage *	2.0	2.0	2.0
Max 1 *	90	40	40
Yellow Change	4.5	3.0	3.0
Red Clear	1.1	2.3	2.3
Added Initial *	–	–	–
Maximum Initial *	–	–	–
Time Before Reduction *	–	–	–
Time To Reduce *	–	–	–
Minimum Gap	–	–	–
Advance Walk	**	–	–
Non Lock Detector	–	–	–
Vehicle Recall	MIN RECALL	–	–
Dual Entry	–	X	X

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

** See note #8

Microwave Detection

	2A		
FUNCTION	Sensor 1		
Channel	1		
Phase	2		
Direction of Travel	EB		
Type	Priority		
Level	1	2	QUEUE
Discovery Zone (ft)	>= 50	< 750	-
Range (ft)	900-100	600-100	150-100
Enable Speed	Y	Y	Y
Speed Range (mph)	35-100	35-100	1-35
Enable Estimated Time of Arrival	Y	Y	N
Estimated Time of Arrival (sec)	2.5-10.0	2.5-6.5	-

THIS PLAN SUPERSEDES THE PLAN SEALED ON 12/22/2023

Plans Prepared By:

DRMP

DRMP, Inc.
8210 University Executive Park Dr, Suite 220
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NC License No. F-1524 (704) 549-4260

Signal Upgrade - Final Design

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

Prepared for:
Transportation Mobility and Safety Division
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
Signal Design Section
750 N.Greenfield Pkwy,Garner,NC 27529

SR 1003 (Camden Road) EB
at
South Peak Drive

Division 6 Cumberland County Hope Mills

PLAN DATE: September 2026 REVIEWED BY: BN Groome
PREPARED BY: DS Griffith DRMP PROJ. NO.: 24941

REVISIONS	INIT.	DATE

SCALE 0 40 1"=40'

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 052936 ENGINEER BRITTANY N GROOME
Signed by: Brittany Groome
1E09340E1D94484...
09/11/2026
SIGNATURE DATE

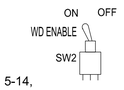
SIG. INVENTORY NO. 06-1309

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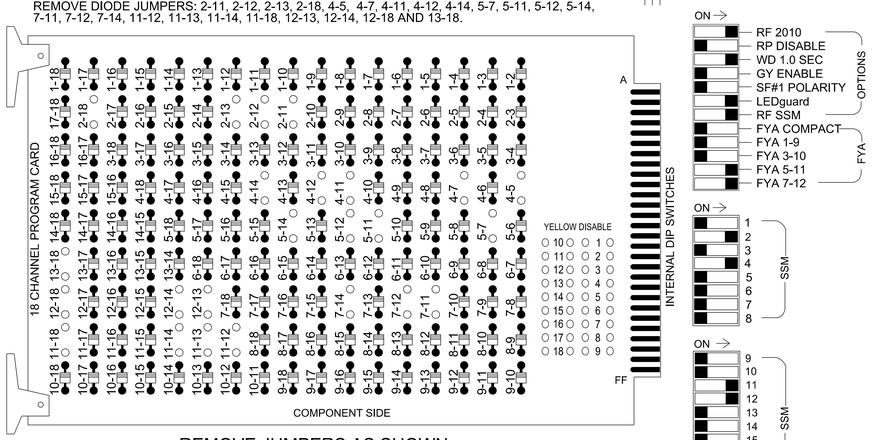
PROJECT REFERENCE NO.	SHEET NO.
U-3422B	Sig-5.7

18 CHANNEL CONFLICT MONITOR PROGRAMMING DETAIL

(remove jumpers and set switches as shown)



REMOVE DIODE JUMPERS: 2-11, 2-12, 2-13, 2-18, 4-5, 4-7, 4-11, 4-12, 4-14, 5-7, 5-11, 5-12, 5-14, 7-11, 7-12, 7-14, 11-12, 11-13, 11-14, 11-18, 12-13, 12-14, 12-18 AND 13-18.



■ = DENOTES POSITION OF SWITCH

REMOVE JUMPERS AS SHOWN

NOTES:

1. Card is provided with all diode jumpers in place. Removal of any jumper allows its channels to run concurrently.
2. Ensure jumpers SEL2-SEL5 and SEL9 are present on the monitor board.
3. Ensure that the Red Enable is active at all times during normal operation.
4. Connect serial cable from conflict monitor to comm. port 1 of 2070 controller. Ensure conflict monitor communicates with 2070.

NOTES

1. To prevent "flash-conflict" problems, insert red flash program blocks for all vehicle load switches in the output file. The installer shall verify that signal heads flash in accordance with the signal plan.
2. Program phases 4 and 7 for Dual Entry.
3. Program controller to start up in phase 2 Green No Walk and phase 6 Phase Not On.
4. If this signal will be managed by an ATMS software, enable controller and detector logging for all detectors used at this location.
5. The cabinet and controller are part of the Camden Road Closed Loop Signal System.

EQUIPMENT INFORMATION

Controller.....2070LX
Cabinet.....332 w/ Aux
Software.....Q-Free MAXTIME
Cabinet Mount.....Base
Output File Positions.....18 With Aux. Output File
Load Switches Used.....S2, S3, S5, S6, S7, S10, AUX S4, AUX S5, AUX S6
Phases Used.....2, 2 PED, 4, 4 PED, 7
Overlap "1".....NOT USED
Overlap "2".....NOT USED
Overlap "3".....*
Overlap "4".....*
Overlap "5".....NOT USED
Overlap "6".....*
Overlap "7".....*

*See overlap programming detail on sheet 2.

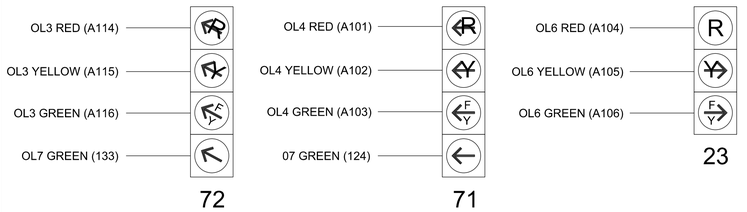
SIGNAL HEAD HOOK-UP CHART

LOAD SWITCH NO.	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	S11	S12	AUX S1	AUX S2	AUX S3	AUX S4	AUX S5	AUX S6
CMU CHANNEL NO.	1	2	13	3	4	14	** 5	6	15	7	8	16	9	10	17	11	12	18
PHASE	1	2	2 PED	3	4	4 PED	OL7	6	6 PED	7	8	8 PED	OL1	OL2	SPARE	OL3	OL4	OL6
SIGNAL HEAD NO.	NU	21,22	P21, P22	NU	41,42	P41, P42	72★	NU	NU	71★	NU	NU	NU	NU	NU	72★	71★	23★
RED		128			101													A104
YELLOW		129					*			*								
GREEN		130																
RED ARROW																A114	A101	
YELLOW ARROW					102											A115	A102	A105
FLASHING YELLOW ARROW																A116	A103	A106
GREEN ARROW					103		133			124								
✋			113			104												
🚶			115			106												

NU = Not Used
★ See pictorial of head wiring in detail this sheet.
* Denotes install load resistor. See load resistor installation detail this sheet.
** Channel has been reassigned to Overlap 7. See detail on sheet 2 for reassignment programming

FYA SIGNAL WIRING DETAIL

(wire signal heads as shown)



INPUT FILE POSITION LAYOUT

(front view)

		1	2	3	4	5	6	7	8	9	1O	11	12	13	14
FILE "I"	U	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	∅ 2 PED DC ISOLATOR	SLOT EMPTY	FS DC ISOLATOR
	L												∅ 4 PED DC ISOLATOR		ST DC ISOLATOR
FILE "J"	U	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY
	L														

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

FS = FLASH SENSE
ST = STOP TIME

INPUT FILE CONNECTION & PROGRAMMING CHART

LOOP NO.	LOOP TERMINAL	INPUT FILE POS.	PIN NO.	INPUT POINT	DETECTOR NO.	CALL PHASE	DELAY TIME	EXTEND TIME	EXTEND	ADDED INITIAL	CALL	DELAY DURING GREEN
2A	-	-	-	*	38	2			X		X	
4A	-	-	-	*	44	4	15,0		X		X	
7A	-	-	-	*	36 ★	7	15,0		X		X	
PED PUSH BUTTONS												
P21,P22, PB23	TB8-4,6	I12U	67	33	2	PED 2						
P41,P42	TB8-5,6	I12L	69	35	4	PED 4						

NOTE:
INSTALL DC ISOLATOR IN INPUT FILE SLOT I12.

★ For Input Point numbers, see SDLC Non-Intrusive Detection Chart on sheet 2.
★ For the detectors to work as shown on the signal design plan, see the Vehicle Detector Setup Programming Detail for Alternate Phasing on sheet 2.

INPUT FILE POSITION LEGEND: J2L
J2L: FILE J, SLOT 2, LOWER

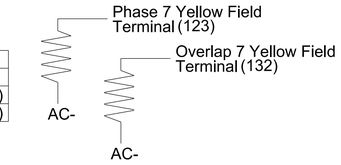
SPECIAL DETECTOR NOTE

Install a multizone microwave detection zone for approaches for vehicle detection. Perform installation according to manufacturer's directions and NCDOT engineer -approved mounting locations to accomplish the detection schemes shown on the Signal Design Plans.

LOAD RESISTOR INSTALLATION DETAIL

(install resistors as shown)

ACCEPTABLE VALUES	
Value (ohms)	Wattage
1.5K - 1.9K	25W (min)
2.0K - 3.0K	10W (min)



MAXTIME STARTUP AND SOFTWARE FLASH PROGRAMMING DETAIL

Front Panel
Main Menu >Controller >Unit

Web Interface
Home >Controller >Unit

Modify parameters as shown below and save changes.

Start Up Parameters

StartUp Clearance Hold
6

Unit Flash Parameters

All Red Flash Exit Time
6

COUNTDOWN PEDESTRIAN SIGNAL OPERATION

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

Plans Prepared By:

DRMP

DRMP, Inc.
8210 University Executive Park Dr, Suite 220
Charlotte, NC 28262
NC License No. F-1524 (704) 549-4260

THIS PLAN SUPERSEDES THE PLAN SEALED ON 12/22/2023

THIS ELECTRICAL DETAIL IS FOR THE SIGNAL DESIGN: 06-1309
DESIGNED: Sep 2026
SEALED: 09/11/2026
REVISED: N/A

Electrical Detail - Sheet 1 of 2
Final Design

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

ELECTRICAL AND PROGRAMMING DETAILS FOR:

SR 1003 (Camden Road) EB
at
South Peak Drive

Division 6 Cumberland County Hope Mills

PLAN DATE: September 2026 REVIEWED BY: BN Groome
PREPARED BY: DS Griffith DRMP PROJ. NO.: 24941

REVISIONS	INIT.	DATE

Prepared for:
North Carolina Department of Transportation Traffic Engineering Branch Signals Management Section
750 N.Greenfield Pkwy,Garner,NC 27529

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 052936 ENGINEER BRITTANY N GROOME

Signed by: Brittany Groome 1E09340E1D44464...
09/11/2026
SIGNATURE DATE

SIG. INVENTORY NO. 06-1309

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MAXTIME ALTERNATE PHASING ACTIVATION DETAIL

To run alternate phasing, select a Pattern that is programmed to run Overlap Plan 2 and Detector Plan 2.
A Pattern can be selected through the scheduler or manually by changing the Operational Mode.

PHASING	OVERLAP PLAN	VEH DET PLAN
ACTIVE PLAN REQUIRED TO RUN DEFAULT PHASING	1	1
ACTIVE PLAN REQUIRED TO RUN ALTERNATE PHASING	2	2

ALTERNATE PHASING CHANGE SUMMARY

THE FOLLOWING IS A SUMMARY OF WHAT TAKES PLACE WHEN OVERLAP 2 AND VEHICLE DETECTOR PLAN 2 ACTIVATE TO CALL THE "ALTERNATE PHASING":

OVERLAP PLAN 2: Modifies overlap included phases for heads 71 and 72 to run protected turns only.

VEH DET PLAN 2: Reduces delay time for phase 7 call on loop 7A to 0 seconds.

MAXTIME DETECTOR PROGRAMMING DETAIL FOR ALTERNATE PHASING LOOP 7A

Front Panel
Main Menu >Controller >Detector >Veh Det Plans

Web Interface
Home >Controller >Detector Configuration >Vehicle Detectors

In the table view of web interface right click on "Detector" in the top left corner of the table. Copy the entire contents of Detector Plan 1. Paste Detector Plan 1 into Detector Plan 2. Modify Detector Plan 2 as shown below and save changes.

Plan 2

	Detector	Call Phase	Delay
7A	36	7	0.0

MAXTIME OVERLAP PROGRAMMING DETAIL FOR DEFAULT PHASING

Front Panel
Main Menu >Controller >Overlap >Overlap Parameters/Overlap Timings

Web Interface
Home >Controller >Overlap Configuration >Overlaps

Overlap Plan 1

Overlap	3	4	6	7	
Type	FYA 4 - Section	FYA 4 - Section	FYA 4 - Section	Normal	
Included Phases	2	2	2	7	
Modifier Phases	7	7	-	-	
Modifier Overlap	-	-	-	-	
Trail Green	0	0	0	0	
Trail Yellow	0.0	0.0	0.0	0.0	
Trail Red	0.0	0.0	0.0	0.0	
FYA Ped Delay	7.0	7.0	7.0	0.0	← NOTICE PED DELAY

SDLC NON-INTRUSIVE DETECTION CHART

	DETECTOR RACK #3	
Input Point	DET # (Index)	Detector Zone
1	33	NU
2	34	NU
3	35	NU
4	36	7A
5	37	NU
6	38	2A
7	39	NU
8	40	NU
9	41	NU
10	42	NU
11	43	NU
12	44	4A
13	45	NU
14	46	NU
15	47	NU
16	48	NU

NU = Not Used

MAXTIME OVERLAP PROGRAMMING DETAIL FOR ALTERNATE PHASING

Front Panel
Main Menu >Controller >Overlap >Overlap Parameters/Overlap Timings

Web Interface
Home >Controller >Overlap Configuration >Overlaps

In the table view of the web interface, right click on "Overlap" in the top left corner of the table. Copy the entire contents of Overlap Plan 1. Paste Overlap Plan 1 into Overlap Plan 2. Modify Overlap Plan 2 as shown below and save changes.

Overlap Plan 2

Overlap	3	4	6	7	
Type	FYA 4 - Section	FYA 4 - Section	FYA 4 - Section	Normal	
Included Phases	-	-	2	7	← NOTICE INCLUDED PHASE
Modifier Phases	7	7	-	-	
Modifier Overlap	-	-	-	-	
Trail Green	0	0	0	0	
Trail Yellow	0.0	0.0	0.0	0.0	
Trail Red	0.0	0.0	0.0	0.0	
FYA Ped Delay	0.0	0.0	7.0	0.0	← NOTICE PED DELAY

NOTICE OVERLAP 7 ASSIGNED TO CHANNEL 5 →

SPECIAL DETECTION IO MODULE PROGRAMMING

The Enhanced Out of Pavement Detection requires adjustments to the IO Moduels in use. Follow the programming instructions below to ensure desired operation.

Front Panel
Main Menu >Controller >More >Advanced IO >IO Modules

Web Interface
Home >Controller >Advanced IO >Cabinet Configuration >IO Modules

IO Module	Type	Fault Response
1	Caltrans 332	Default
2	TS2 DR3 BIU	Default
3	TS2 MMU	Default

Advanced Cabinet Options

☑ Disable TS2 Cabinet Alarms

MAXTIME ALTERNATE PHASING PATTERN PROGRAMMING DETAIL

Front Panel
Main Menu >Controller >Coordination >Patterns

Web Interface
Home >Controller >Coordination >Patterns

Pattern Parameters

Pattern	Veh Det Plan	Overlap Plan
*	2	2

* The Pattern number(s) are to be determined by the Division Traffic Engineer.

OUTPUT CHANNEL CONFIGURATION

Front Panel
Main Menu >Controller >More>Channels>Channels Config

Web Interface
Home >Controller >Advanced IO>Channels>Channel Configuration

Channel Configuration

Channel	Control Type	Control Source	Flash Yellow	Flash Red	Flash Alt	MMU Channel
1	Phase Vehicle	1		X	X	1
2	Phase Vehicle	2		X		2
3	Phase Vehicle	3		X	X	3
4	Phase Vehicle	4		X		4
5	Overlap	7		X		5
6	Phase Vehicle	6		X	X	6
7	Phase Vehicle	7		X		7
8	Phase Vehicle	8		X	X	8
9	Overlap	1		X	X	9
10	Overlap	2		X	X	10
11	Overlap	3		X		11
12	Overlap	4		X		12
13	Phase Ped	2				13
14	Phase Ped	4				14
15	Phase Ped	6				15
16	Phase Ped	8				16
17	Overlap	5		X	X	17
18	Overlap	6		X		18

PROJECT REFERENCE NO.	SHEET NO.
U-3422B	Sig-5.8

THIS PLAN SUPERSEDES THE PLAN SEALED ON 12/22/2023

THIS ELECTRICAL DETAIL IS FOR THE SIGNAL DESIGN: 06-1309
DESIGNED: Sep 2026
SEALED: 09/11/2026
REVISED: N/A

Electrical Detail - Sheet 2 of 2
Final Design

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

ELECTRICAL AND PROGRAMMING DETAILS FOR:

SR 1003 (Camden Road) EB
at
South Peak Drive

Division 6 Cumberland County Hope Mills

PLAN DATE: September 2026 REVIEWED BY: BN Groome
PREPARED BY: DS Griffith DRMP PROJ. NO.: 24941

REVISIONS	INIT.	DATE

Prepared for: NC Department of Transportation, Mobility and Safety Division, Traffic Engineering Branch, Signals Management Section
750 N.Greenfield Pkwy,Garner,NC 27529

Plans Prepared By:
DRMP, Inc.
8210 University Executive Park Dr, Suite 220
Charlotte, NC 28262
NC License No. F-1524 (704) 549-4260

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 052936 ENGINEER BRITTANY N GROOME

Signed by: Brittany Groome 1E09340E1044484...
09/11/2026
SIGNATURE DATE

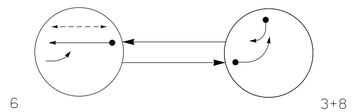
SIG. INVENTORY NO. 06-1309

Docusign Envelope ID: 68D05315-339F-8877-826C-A54DFA71DCDF

PROJECT REFERENCE NO.	SHEET NO.
U-3422B	Sig-6.0

2 Phase Fully Actuated Camden Road CLS

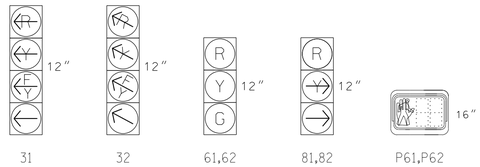
DEFAULT PHASING DIAGRAM



DEFAULT PHASING TABLE OF OPERATION			
SIGNAL FACE	PHASE 6	PHASE 3+8	FLASH
31	F Y	←	← R
32	Y	↘	↘ R
61,62	G	R	R
81,82	R	→	R
P61,P62	W	DW	DRK

SIGNAL FACE I.D.

All Heads L.E.D.



MAXTIME DETECTOR INSTALLATION CHART

DETECTOR						PROGRAMMING					
ZONE	SIZE (FT)	DISTANCE FROM STOPBAR (FT)	TURNS	NEW LOOP	CALL PHASE	DELAY TIME	EXTEND TIME	EXTEND ADDED INITIAL	CALL	DELAY DURING GREEN	NEW CARD
3A	6X40	0	**	X	3	15.0*	-	X	-	X	-	**
6A	@	@	**	X	6	-	-	X	-	X	-	**
8A	6X40	0	**	X	8	15.0	-	X	-	X	-	**

** Microwave Detection Zone

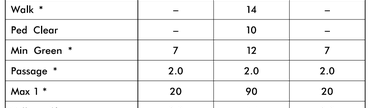
@ Size and distance vary. See Microwave Detection chart for more details.

* Disable Delay During Alternate Phasing Operation.

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. Set all detector units to presence mode
4. Locate new cabinet so as not to obstruct sight distance of vehicles turning right on red.
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. The Division Traffic Engineer will determine the hours of use for each phasing plan.
8. This intersection uses multi-zone microwave detection. Install detectors according to the manufacturer's instructions to achieve desired detection.
9. See traffic control plans for stop line locations.
10. Maximum times shown in timing chart are for free-run operation only. Coordinated signal system timing values supersede these values.
11. Install new ethernet edge switch inside the new cabinet. Connect to SIN 06-1309 via ethernet cable as shown.

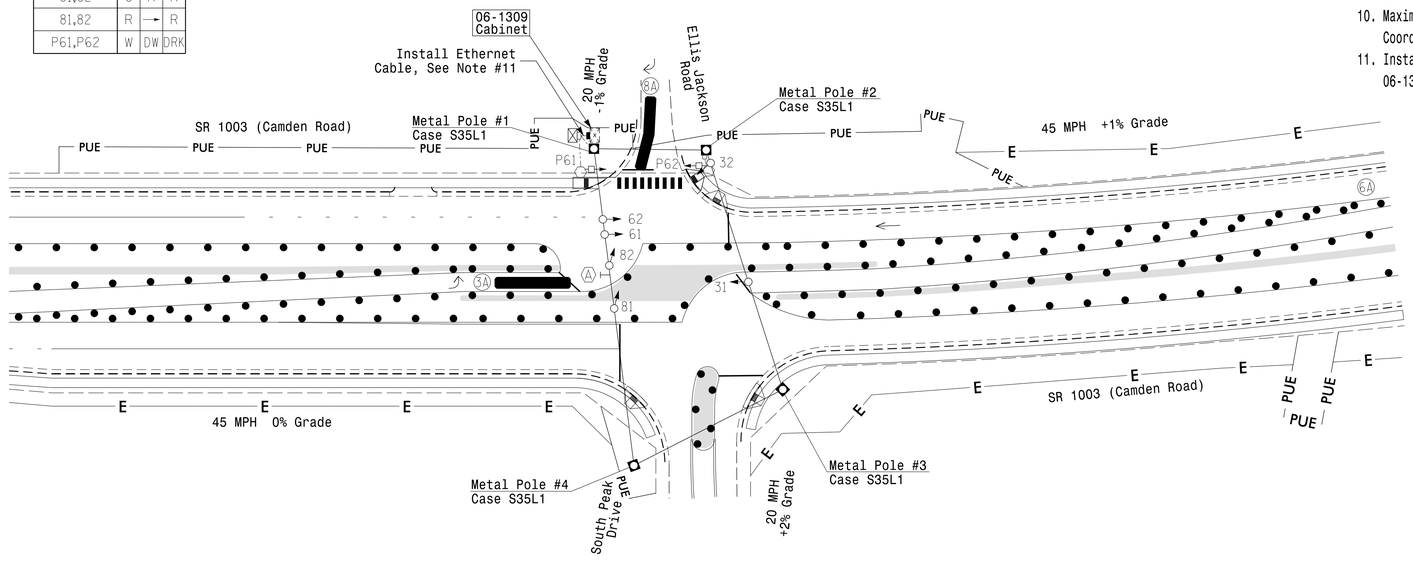
ALTERNATE PHASING DIAGRAM



PHASING DIAGRAM DETECTION LEGEND

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

ALTERNATE PHASING TABLE OF OPERATION			
SIGNAL FACE	PHASE 6	PHASE 3+8	FLASH
31	R	←	← R
32	Y	↘	↘ R
61,62	G	R	R
81,82	R	→	R
P61,P62	W	DW	DRK



LEGEND

PROPOSED		EXISTING
○→	Traffic Signal Head	●→
◐→	Modified Signal Head	N/A
⊣	Sign	⊣
▯↓	Pedestrian Signal Head With Push Button & Sign	■↓
○	Signal Pole with Guy	●
○	Signal Pole with Sidewalk Guy	●
◯	Metal Strain Pole	■
▭	Inductive Loop Detector	▭
⊠	Controller & Cabinet	⊠
□	Junction Box	■
▭	Over-sized Junction Box	■
----	2-in Underground Conduit	----
N/A	Right of Way	----
→	Directional Arrow	→
⬡	Type II Signal Pedestal	⬢
PUE	Permanent Utility Easement	N/A
E	Construction Easement	N/A
▭	Construction Zone	N/A
●●	Construction Zone Drums	N/A
▬	Non-Intrusive Detection Zone	▬
Ⓐ	"U-TURN YIELD TO RIGHT TURN" Sign (R10-16)	Ⓐ

MAXTIME TIMING CHART

FEATURE	PHASE 3	PHASE 6	PHASE 8
Walk *	–	14	–
Ped Clear	–	10	–
Min Green *	7	12	7
Passage *	2.0	2.0	2.0
Max 1 *	20	90	20
Yellow Change	3.0	4.4	3.0
Red Clear	2.4	1.3	2.4
Added Initial *	–	–	–
Maximum Initial *	–	–	–
Time Before Reduction *	–	–	–
Time To Reduce *	–	–	–
Minimum Gap	–	–	–
Advance Walk	–	7	–
Non Lock Detector	–	–	–
Vehicle Recall	–	MIN RECALL	–
Dual Entry	X	–	X

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

Microwave Detection			
	6A		
FUNCTION	Sensor 1		
Channel	1		
Phase	6		
Direction of Travel	WB		
Type	Priority		
Level	1	2	QUEUE
Discovery Zone (ft)	>= 50	< 750	-
Range (ft)	900-100	600-100	150-100
Enable Speed	Y	Y	Y
Speed Range (mph)	35-100	35-100	1-35
Enable Estimated Time of Arrival	Y	Y	N
Estimated Time of Arrival (sec)	2.5-10.0	2.5-6.5	-

THIS PLAN SUPERSEDES THE PLAN SEALED ON 12/22/2023

New Installation
Temporary Design 1 - (TMP Phase III)

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

Plans Prepared By:

DRMP

DRMP, Inc.
8210 University Executive Park Dr, Suite 220
Charlotte, NC 28262
NC License No. F-1524 (704) 549-4260

Prepared for:

Transportation Mobility and Safety Division
NC DEPARTMENT OF TRANSPORTATION
Signal Design Section
750 N.Greenfield Pkwy,Garner,NC 27529

SR 1003 (Camden Road) WB at Ellis Jackson Road

Division 6 Cumberland County Hope Mills

PLAN DATE:	September 2026	REVIEWED BY:	BN Groome
PREPARED BY:	DS Griffith	DRMP PROJ. NO.:	24941

SCALE 0 40 1"=40'

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 052936 ENGINEER BRITTANY N GROOME

Signed by: Brittany Groome 1E093406E0944B4...

09/11/2026
SIGNATURE DATE

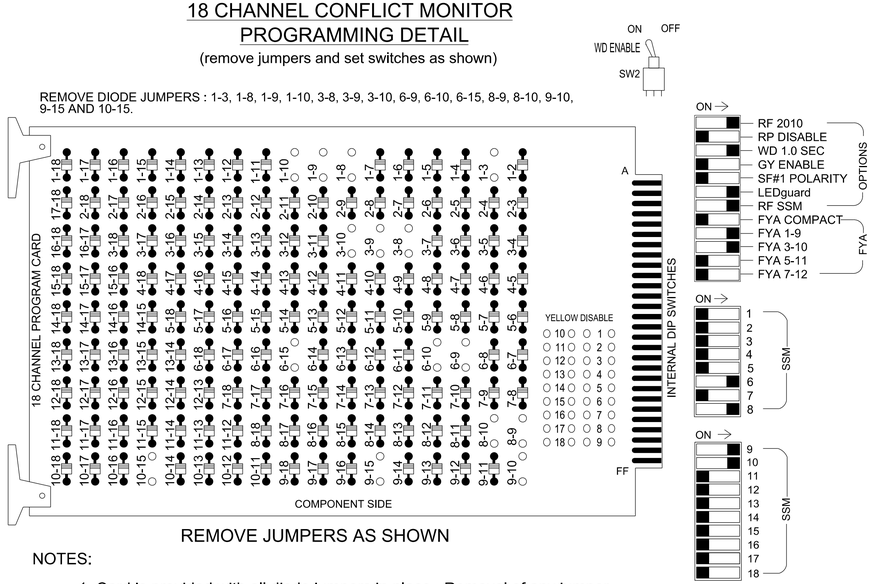
SIG. INVENTORY NO. 06-1406TI

Docusign Envelope ID: 68D05315-339F-8877-826C-A54DFA71DCDF

PROJECT REFERENCE NO.	SHEET NO.
U-3422B	Sig-6.1

18 CHANNEL CONFLICT MONITOR PROGRAMMING DETAIL

(remove jumpers and set switches as shown)



REMOVE JUMPERS AS SHOWN

NOTES:

1. Card is provided with all diode jumpers in place. Removal of any jumper allows its channels to run concurrently.
2. Ensure jumpers SEL2-SEL5 and SEL9 are present on the monitor board.
3. Ensure that the Red Enable is active at all times during normal operation.
4. Connect serial cable from conflict monitor to comm. port 1 of 2070 controller. Ensure conflict monitor communicates with 2070.

NOTES

1. To prevent "flash-conflict" problems, insert red flash program blocks for all vehicle load switches in the output file. The installer shall verify that signal heads flash in accordance with the signal plan.
2. Program phases 3 and 8 for Dual Entry.
3. Program controller to start up in phase 6 Green No Walk and phase 2 Phase Not On.
4. If this signal will be managed by an ATMS software, enable controller and detector logging for all detectors used at this location.
5. The cabinet and controller are part of the Camden Road Closed Loop Signal System.

EQUIPMENT INFORMATION

Controller.....2070LX
Cabinet.....332 w/ Aux
Software.....Q-Free MAXTIME
Cabinet Mount.....Base
Output File Positions.....18 With Aux. Output File
Load Switches Used.....S1, S4, S8, S9, S11, AUX S1, AUX S2
Phases Used.....3, 6, 6 PED, 8
Overlap "1".....*
Overlap "2".....*
Overlap "3".....NOT USED
Overlap "4".....NOT USED
Overlap "7".....*

*See overlap programming detail on sheet 2.

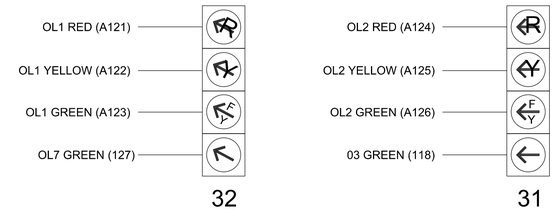
SIGNAL HEAD HOOK-UP CHART

LOAD SWITCH NO.	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	S11	S12	AUX S1	AUX S2	AUX S3	AUX S4	AUX S5	AUX S6
CMU CHANNEL NO.	** 1	2	13	3	4	14	5	6	15	7	8	16	9	10	17	11	12	18
PHASE	OL7	2	2 PED	3	4	4 PED	5	6	6 PED	7	8	8 PED	OL1	OL2	SPARE	OL3	OL4	SPARE
SIGNAL HEAD NO.	32★	NU	NU	31★	NU	NU	NU	61,62	P61, P62	NU	81,82	NU	32★	31★	NU	NU	NU	NU
RED								134			107							
YELLOW	*			*				135										
GREEN								136										
RED ARROW													A121	A124				
YELLOW ARROW											108		A122	A125				
FLASHING YELLOW ARROW													A123	A126				
GREEN ARROW	127			118							109							
✋									119									
🚶									121									

NU = Not Used
★ See pictorial of head wiring in detail this sheet.
* Denotes install load resistor. See load resistor installation detail this sheet.
** Channel has been reassigned to Overlap 7. See detail on sheet 2 for reassignment programming

FYA SIGNAL WIRING DETAIL

(wire signal heads as shown)



INPUT FILE POSITION LAYOUT

(front view)

		1	2	3	4	5	6	7	8	9	10	11	12	13	14
FILE "I"	U	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	∅6 PED DC ISOLATOR	FS DC ISOLATOR
	L													NOT USED	ST DC ISOLATOR
FILE "J"	U	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY
	L														

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

FS = FLASH SENSE
ST = STOP TIME

INPUT FILE CONNECTION & PROGRAMMING CHART

LOOP NO.	LOOP TERMINAL	INPUT FILE POS.	PIN NO.	INPUT POINT	DETECTOR NO.	CALL PHASE	DELAY TIME	EXTEND TIME	EXTEND	ADDED INITIAL	CALL	DELAY DURING GREEN
3A	-	-	-	*	34 ★	3	15.0		X		X	
6A	-	-	-	*	54	6			X		X	
8A	-	-	-	*	60	8	15.0		X		X	
PED PUSH BUTTONS												
P61,P62	TB8-7,9	I13U	68	34	6	PED 6						

NOTE:
INSTALL DC ISOLATORS IN INPUT FILE SLOT I13.

* For Input Point numbers, see SDLC Non-Intrusive Detection Chart on sheet 2.
★ For the detectors to work as shown on the signal design plan, see the Vehicle Detector Setup Programming Detail for Alternate Phasing on sheet 2.

INPUT FILE POSITION LEGEND: J2L
FILE J
SLOT 2
LOWER

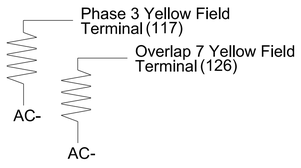
COUNTDOWN PEDESTRIAN SIGNAL OPERATION

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

LOAD RESISTOR INSTALLATION DETAIL

(install resistors as shown)

ACCEPTABLE VALUES	
Value (ohms)	Wattage
1.5K - 1.9K	25W (min)
2.0K - 3.0K	10W (min)



SPECIAL DETECTOR NOTE

Install a multizone microwave detection zone for approaches for vehicle detection. Perform installation according to manufacturer's directions and NCDOT engineer -approved mounting locations to accomplish the detection schemes shown on the Signal Design Plans.

Plans Prepared By:

DRMP

DRMP, Inc.
8210 University Executive Park Dr, Suite 220
Charlotte, NC 28262
NC License No. F-1524 (704) 549-4260

THIS PLAN SUPERSEDES THE PLAN SEALED ON 12/22/2023

THIS ELECTRICAL DETAIL IS FOR THE SIGNAL DESIGN: 06-1406T1
DESIGNED: Sep 2026
SEALED: 09/11/2026
REVISED: N/A

Electrical Detail - Sheet 1 of 2
Temporary Design 1 - (TMP Phase III)

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

ELECTRICAL AND PROGRAMMING DETAILS FOR:

Prepared for:

750 N.Greenfield Pkwy,Garner,NC 27529

SR 1003 (Camden Road) WB
at
Ellis Jackson Road

Division 6 Cumberland County Hope Mills

PLAN DATE: September 2026 REVIEWED BY: BN Groome
PREPARED BY: DS Griffith DRMP PROJ. NO.: 24941

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 052936 ENGINEER BRITTANY N. GROOME

Signed by: Brittany Groome
1E09340E1D44464...
09/11/2026
SIGNATURE DATE

SIG. INVENTORY NO. 06-1406T1

Docusign Envelope ID: 68D05315-339F-8877-826C-A54DFA71DCDF

PROJECT REFERENCE NO.	SHEET NO.
U-3422B	Sig-6.2

MAXTIME ALTERNATE PHASING ACTIVATION DETAIL

To run alternate phasing, select a Pattern that is programmed to run Overlap Plan 2 and Detector Plan 2.
A Pattern can be selected through the scheduler or manually by changing the Operational Mode.

PHASING	OVERLAP PLAN	VEH DET PLAN
ACTIVE PLAN REQUIRED TO RUN DEFAULT PHASING	1	1
ACTIVE PLAN REQUIRED TO RUN ALTERNATE PHASING	2	2

ALTERNATE PHASING CHANGE SUMMARY

THE FOLLOWING IS A SUMMARY OF WHAT TAKES PLACE WHEN OVERLAP 2 AND VEHICLE DETECTOR PLAN 2 ACTIVATE TO CALL THE "ALTERNATE PHASING":

OVERLAP PLAN 2: Modifies overlap included phases for heads 31 and 32 to run protected turns only.

VEH DET PLAN 2: Reduces delay time for phase 3 call on loop 3A to 0 seconds.

MAXTIME STARTUP AND SOFTWARE FLASH PROGRAMMING DETAIL

Front Panel
Main Menu >Controller >Unit

Web Interface
Home >Controller >Unit

Modify parameters as shown below and save changes.

Start Up Parameters

StartUp Clearance Hold
6

Unit Flash Parameters

All Red Flash Exit Time
6

MAXTIME DETECTOR PROGRAMMING DETAIL FOR ALTERNATE PHASING LOOP 3A

Front Panel
Main Menu >Controller >Detector >Veh Det Plans

Web Interface
Home >Controller >Detector Configuration >Vehicle Detectors

In the table view of web interface right click on "Detector" in the top left corner of the table. Copy the entire contents of Detector Plan 1. Paste Detector Plan 1 into Detector Plan 2. Modify Detector Plan 2 as shown below and save changes.

Plan 2

	Detector	Call Phase	Delay
3A	34	3	0.0

MAXTIME OVERLAP PROGRAMMING DETAIL FOR DEFAULT PHASING

Front Panel
Main Menu >Controller >Overlap >Overlap Parameters/Overlap Timings

Web Interface
Home >Controller >Overlap Configuration >Overlaps

Overlap Plan 1

Overlap	1	2	7
Type	FYA 4-Section	FYA 4-Section	Normal
Included Phases	6	6	3
Modifier Phases	3	3	-
Modifier Overlap	-	-	-
Trail Green	0	0	0
Trail Yellow	0.0	0.0	0.0
Trail Red	0.0	0.0	0.0
FYA Ped Delay	7.0	7.0	0.0

← NOTICE PED DELAY

NOTICE OVERLAP 7 ASSIGNED TO CHANNEL 1 →

SPECIAL DETECTION IO MODULE PROGRAMMING

The Enhanced Out of Pavement Detection requires adjustments to the IO Modules in use. Follow the programming instructions below to ensure desired operation.

Front Panel
Main Menu >Controller >More >Advanced IO >IO Modules

Web Interface
Home >Controller >Advanced IO >Cabinet Configuration >IO Modules

IO Module 1

IO Module	Type	Fault Response
1	Caltrans 332	Default
2	TS2 DR3 BIU	Default
3	TS2 DR4 BIU	Default
4	TS2 MMU	Default

Advanced Cabinet Options

☑ Disable TS2 Cabinet Alarms

OUTPUT CHANNEL CONFIGURATION

Front Panel
Main Menu >Controller >More>Channels>Channels Config

Web Interface
Home >Controller >Advanced IO>Channels>Channel Configuration

Channel Configuration

Channel	Control Type	Control Source	Flash Yellow	Flash Red	Flash Alt	MMU Channel
1	Overlap	7		X	X	1
2	Phase Vehicle	2		X		2
3	Phase Vehicle	3		X	X	3
4	Phase Vehicle	4		X		4
5	Phase Vehicle	5		X		5
6	Phase Vehicle	6		X	X	6
7	Phase Vehicle	7		X		7
8	Phase Vehicle	8		X	X	8
9	Overlap	1		X	X	9
10	Overlap	2		X	X	10
11	Overlap	3		X		11
12	Overlap	4		X		12
13	Phase Ped	2				13
14	Phase Ped	4				14
15	Phase Ped	6				15
16	Phase Ped	8				16
17	Overlap	5		X	X	17
18	Overlap	6		X		18

MAXTIME OVERLAP PROGRAMMING DETAIL FOR ALTERNATE PHASING

Front Panel
Main Menu >Controller >Overlap >Overlap Parameters/Overlap Timings

Web Interface
Home >Controller >Overlap Configuration >Overlaps

In the table view of the web interface, right click on "Overlap" in the top left corner of the table. Copy the entire contents of Overlap Plan 1. Paste Overlap Plan 1 into Overlap Plan 2. Modify Overlap Plan 2 as shown below and save changes.

Overlap Plan 2

Overlap	1	2	7
Type	FYA 4-Section	FYA 4-Section	Normal
Included Phases	-	-	3
Modifier Phases	3	3	-
Modifier Overlap	-	-	-
Trail Green	0	0	0
Trail Yellow	0.0	0.0	0.0
Trail Red	0.0	0.0	0.0
FYA Ped Delay	0.0	0.0	0.0

← NOTICE INCLUDED PHASE

SDLC NON-INTRUSIVE DETECTION CHART

	Detector Rack #3		Detector Rack #4	
Input Point	Det # (Index)	Detector Zone	Det # (Index)	Detector Zone
1	33	NU	49	NU
2	34	3A	50	NU
3	35	NU	51	NU
4	36	NU	52	NU
5	37	NU	53	NU
6	38	NU	54	6A
7	39	NU	55	NU
8	40	NU	56	NU
9	41	NU	57	NU
10	42	NU	58	NU
11	43	NU	59	NU
12	44	NU	60	8A
13	45	NU	61	NU
14	46	NU	62	NU
15	47	NU	63	NU
16	48	NU	64	NU

NU = Not Used

MAXTIME ALTERNATE PHASING PATTERN PROGRAMMING DETAIL

Front Panel
Main Menu >Controller >Coordination >Patterns

Web Interface
Home >Controller >Coordination >Patterns

Pattern Parameters

Pattern	Veh Det Plan	Overlap Plan
*	2	2

* The Pattern number(s) are to be determined by the Division Traffic Engineer.

Plans Prepared By:

DRMP
DRMP, Inc.
8210 University Executive Park Dr, Suite 220
Charlotte, NC 28262
NC License No. F-1524 (704) 549-4260

THIS PLAN SUPERSEDES THE PLAN SEALED ON 12/22/2023

THIS ELECTRICAL DETAIL IS FOR THE SIGNAL DESIGN: 06-1406T1
DESIGNED: Sep 2026
SEALED: 09/11/2026
REVISED: N/A

Electrical Detail - Sheet 2 of 2
Temporary Design 1 - (TMP Phase III)

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

ELECTRICAL AND PROGRAMMING DETAILS FOR:

Prepared for:
NC Transportation Mobility and Safety Division
NC DEPARTMENT OF TRANSPORTATION
ITS & Signals Management Section
750 N.Greenfield Pkwy,Garner,NC 27529

SR 1003 (Camden Road) WB
at
Ellis Jackson Road

Division 6 Cumberland County Hope Mills

PLAN DATE: September 2026 REVIEWED BY: BN Groome
PREPARED BY: DS Griffith DRMP PROJ. NO.: 24941

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 052936 ENGINEER BRITTANY N GROOME

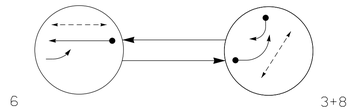
Signed by: Brittany Groome 1E0930A0E1B4484...
09/11/2026
SIGNATURE DATE

SIG. INVENTORY NO. 06-1406T1

Docusign Envelope ID: 68D05315-339F-8877-826C-A54DFA71DCDF

PROJECT REFERENCE NO.	SHEET NO.
U-3422B	Sig-6.3

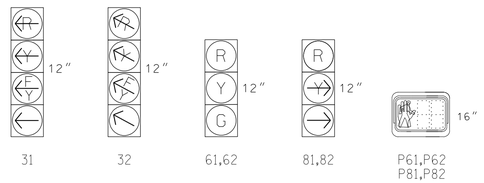
DEFAULT PHASING DIAGRAM



DEFAULT PHASING TABLE OF OPERATION			
SIGNAL FACE	PHASE 6	PHASE 3+8	PHASE FLASH
31	F Y ←	←	← R
32	Y ↖	↖	↖ R
61,62	G	R	R
81,82	R	→	R
P61,P62	W	DW	DRK
P81,P82	DW	W	DRK

SIGNAL FACE I.D.

All Heads L.E.D.



MAXTIME DETECTOR INSTALLATION CHART

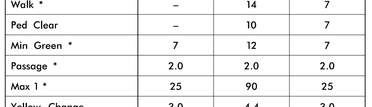
DETECTOR						PROGRAMMING						
ZONE	SIZE (FT)	DISTANCE FROM STOPBAR (FT)	TURNS	NEW LOOP	CALL PHASE	DELAY TIME	EXTEND TIME	EXTEND ADDED INITIAL	CALL	DELAY DURING GREEN	NEW CARD
3A	6X40	0	**	-	3	15.0*	-	X	-	X	-	**
6A	@	@	**	X	6	-	-	X	-	X	-	**
8A	6X40	0	**	-	8	15.0	-	X	-	X	-	**

** Microwave Detection Zone

@ Size and distance vary. See Microwave Detection chart for more details.

* Disable Delay During Alternate Phasing Operation.

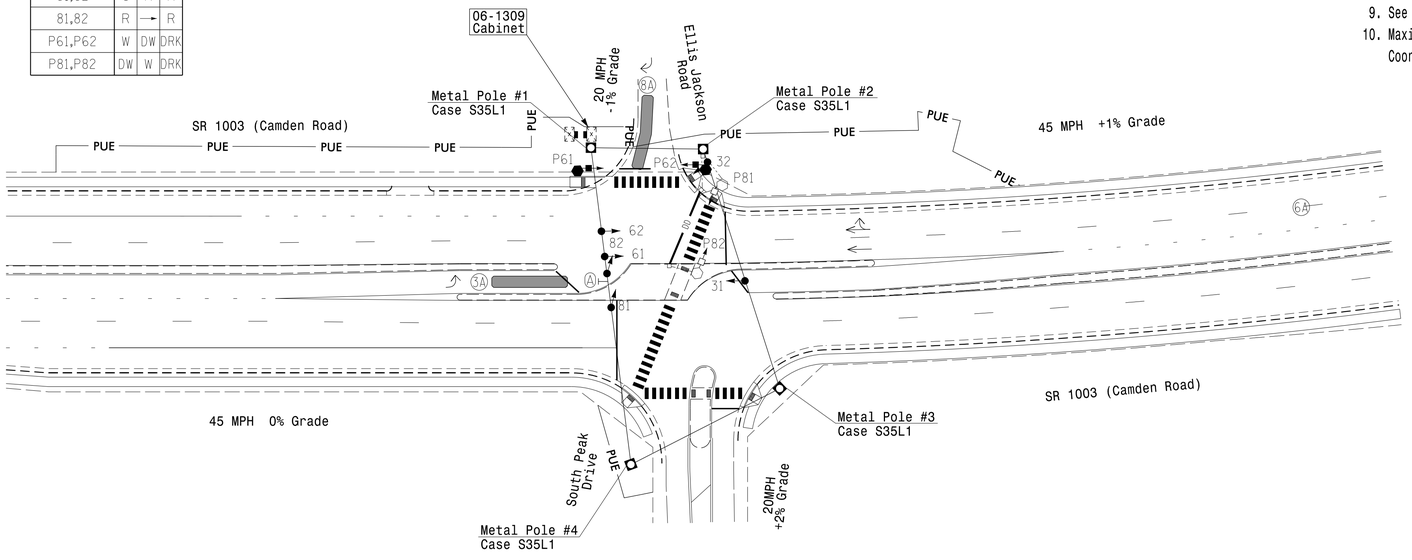
ALTERNATE PHASING DIAGRAM



PHASING DIAGRAM DETECTION LEGEND

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

ALTERNATE PHASING TABLE OF OPERATION			
SIGNAL FACE	PHASE 6	PHASE 3+8	PHASE FLASH
31	← R	←	← R
32	↖ Y	↖	↖ R
61,62	G	R	R
81,82	R	→	R
P61,P62	W	DW	DRK
P81,P82	DW	W	DRK



2 Phase Fully Actuated Camden Road CLS

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. Reposition existing signal heads 61, 62 and 82.
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. The Division Traffic Engineer will determine the hours of use for each phasing plan.
8. This intersection uses multi-zone microwave detection. Install detectors according to the manufacturer's instructions to achieve desired detection.
9. See pavement marking plan for stop line locations.
10. Maximum times shown in timing chart are for free-run operation only. Coordinated signal system timing values supersede these values.

LEGEND

PROPOSED		EXISTING
○→	Traffic Signal Head	●→
◐→	Modified Signal Head	N/A
⊣	Sign	⊣
□	Pedestrian Signal Head With Push Button & Sign	■
○	Signal Pole with Guy	●
○	Signal Pole with Sidewalk Guy	●
▣	Metal Strain Pole	■
▭	Inductive Loop Detector	▭
⊠	Controller & Cabinet	⊠
□	Junction Box	■
----------	2-in Underground Conduit	----------
N/A	Right of Way	----------
→	Directional Arrow	→
⬡	Type II Signal Pedestal	⬢
▬	Non-Intrusive Detection Zone	▬
PUE	Permanent Utility Easement	N/A
DD	Directional Drill	N/A
Ⓐ	"U-Turn Yield to Right Turn" Sign (R10-16)	Ⓐ

MAXTIME TIMING CHART

FEATURE	PHASE 3	PHASE 6	PHASE 8
Walk *	–	14	7
Ped Clear	–	10	7
Min Green *	7	12	7
Passage *	2.0	2.0	2.0
Max 1 *	25	90	25
Yellow Change	3.0	4.4	3.0
Red Clear	2.4	1.3	2.4
Added Initial *	–	–	–
Maximum Initial *	–	–	–
Time Before Reduction *	–	–	–
Time To Reduce *	–	–	–
Minimum Gap	–	–	–
Advance Walk	–	7	–
Non Lock Detector	–	–	–
Vehicle Recall	–	MIN RECALL	–
Dual Entry	X	–	X

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

Microwave Detection

	6A		
FUNCTION	Sensor 1		
Channel	1		
Phase	6		
Direction of Travel	WB		
Type	Priority		
Level	1	2	QUEUE
Discovery Zone (ft)	>= 750	< 750	-
Range (ft)	900-100	600-100	150-100
Enable Speed	Y	Y	Y
Speed Range (mph)	35-100	35-100	1-35
Enable Estimated Time of Arrival	Y	Y	N
Estimated Time of Arrival (sec)	2.5-10.0	2.5-6.5	-

THIS PLAN SUPERSEDES THE PLAN SEALED ON 12/22/2023

New Installation - Final Design

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

Plans Prepared By:

DRMP

DRMP, Inc.
8210 University Executive Park Dr, Suite 220
Charlotte, NC 28262
NC License No. F-1524 (704) 549-4260

Prepared for:

Transportation Mobility and Safety Division
Signal Design Section
750 N.Greenfield Pkwy,Garner,NC 27529

SR 1003 (Camden Road) WB at Ellis Jackson Road

Division 6 Cumberland County Hope Mills

PLAN DATE: September 2026 REVIEWED BY: BN Groome

PREPARED BY: DS Griffith DRMP PROJ. NO.: 24941

REVISIONS	INIT.	DATE

SCALE 0 40 1"=40'

SEAL
NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 052936 BRITTANY N GROOME

Signed by: Brittany Groome 1E093A0E1004484...

09/11/2026
SIGNATURE DATE

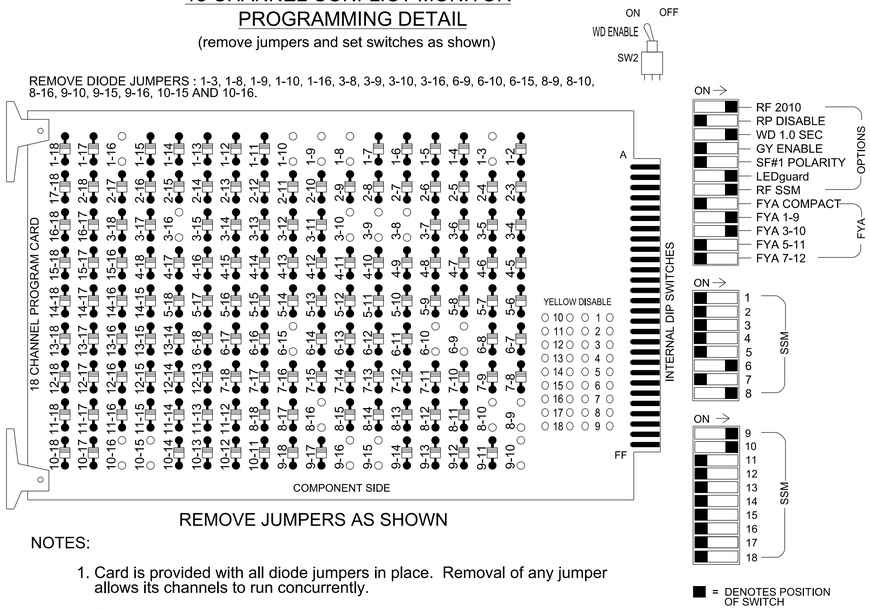
SIG. INVENTORY NO. 06-1406

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PROJECT REFERENCE NO.	SHEET NO.
U-3422B	Sig-6.4

18 CHANNEL CONFLICT MONITOR PROGRAMMING DETAIL

(remove jumpers and set switches as shown)



REMOVE JUMPERS AS SHOWN

NOTES:

1. Card is provided with all diode jumpers in place. Removal of any jumper allows its channels to run concurrently.
2. Ensure jumpers SEL2-SEL5 and SEL9 are present on the monitor board.
3. Ensure that the Red Enable is active at all times during normal operation.
4. Connect serial cable from conflict monitor to comm. port 1 of 2070 controller. Ensure conflict monitor communicates with 2070.

NOTES

1. To prevent "flash-conflict" problems, insert red flash program blocks for all vehicle load switches in the output file. The installer shall verify that signal heads flash in accordance with the signal plan.
2. Program phase 3 and phase 8 for Dual Entry.
3. Program controller to start up in phase 6 Green No Walk and phase 2 Phase Not On.
4. If this signal will be managed by an ATMS software, enable controller and detector logging for all detectors used at this location.
5. The cabinet and controller are part of the Camden Road Closed Loop Signal System.

EQUIPMENT INFORMATION

Controller.....2070LX
Cabinet.....332 w/ Aux
Software.....Q-Free MAXTIME
Cabinet Mount.....Base
Output File Positions.....18 With Aux. Output File
Load Switches Used.....S1, S4, S8, S9, S11, S12, AUX S1, AUX S2
Phases Used.....3, 6, 6 PED, 8, 8 PED
Overlap "1".....*
Overlap "2".....*
Overlap "3".....NOT USED
Overlap "4".....NOT USED
Overlap "7".....*

*See overlap programming detail on sheet 2.

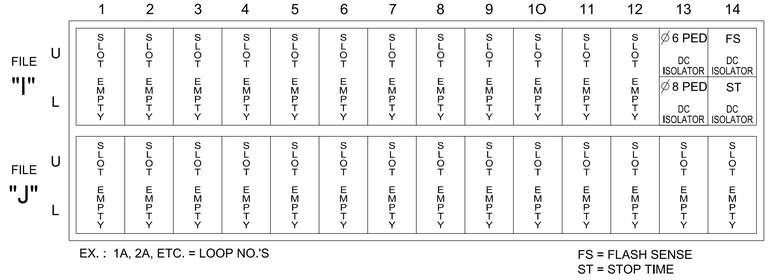
SIGNAL HEAD HOOK-UP CHART

LOAD SWITCH NO.	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	S11	S12	AUX S1	AUX S2	AUX S3	AUX S4	AUX S5	AUX S6
CMU CHANNEL NO.	** 1	2	13	3	4	14	5	6	15	7	8	16	9	10	17	11	12	18
PHASE	OL7	2	2 PED	3	4	4 PED	5	6	6 PED	7	8	8 PED	OL1	OL2	SPARE	OL3	OL4	OL6
SIGNAL HEAD NO.	32 ★	NU	NU	31 ★	NU	NU	NU	61,62	P61, P62	NU	81,82	P81, P82	32 ★	31 ★	NU	NU	NU	NU
RED								134			107							
YELLOW	*			*				135										
GREEN								136										
RED ARROW													A121	A124				
YELLOW ARROW											108		A122	A125				
FLASHING YELLOW ARROW													A123	A126				
GREEN ARROW	127			118							109							
✋									119			110						
🚶									121			112						

NU = Not Used
★ See pictorial of head wiring in detail this sheet.
* Denotes install load resistor. See load resistor installation detail this sheet.
** Channel has been reassigned to Overlap 7. See detail on sheet 2 for reassignment programming

INPUT FILE POSITION LAYOUT

(front view)



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

FS = FLASH SENSE
ST = STOP TIME

INPUT FILE CONNECTION & PROGRAMMING CHART

LOOP NO.	LOOP TERMINAL	INPUT FILE POS.	PIN NO.	INPUT POINT	DETECTOR NO.	CALL PHASE	DELAY TIME	EXTEND TIME	EXTEND	ADDED INITIAL	CALL	DELAY DURING GREEN
3A	-	-	-	*	34	3	15.0		X		X	
6A	-	-	-	*	54 ★	6			X		X	
8A	-	-	-	*	60	8	15.0		X		X	
PED PUSH BUTTONS												
P61,P62	TB8-7,9	I13U	68	34	6	PED 6						
P81,P82	TB8-8,9	I13L	70	36	8	PED 8						

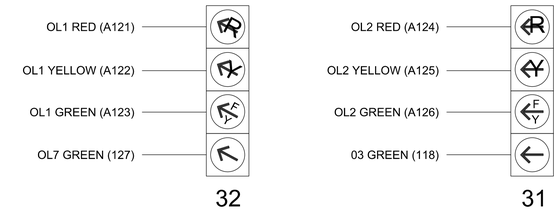
NOTE:
INSTALL DC ISOLATOR
IN INPUT FILE SLOT I13.

* For Input Point numbers, see SDLC Non-Intrusive Detection Chart on sheet 2.
★ For the detectors to work as shown on the signal design plan, see the Vehicle Detector Setup Programming Detail for Alternate Phasing on sheet 2.

INPUT FILE POSITION LEGEND: J2L
FILE J
SLOT 2
LOWER

FYA SIGNAL WIRING DETAIL

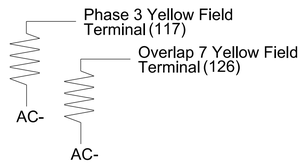
(wire signal heads as shown)



LOAD RESISTOR INSTALLATION DETAIL

(install resistors as shown)

ACCEPTABLE VALUES	
Value (ohms)	Wattage
1.5K - 1.9K	25W (min)
2.0K - 3.0K	10W (min)



SPECIAL DETECTOR NOTE

Install a multizone microwave detection zone for approaches for vehicle detection. Perform installation according to manufacturer's directions and NCDOT engineer -approved mounting locations to accomplish the detection schemes shown on the Signal Design Plans.

COUNTDOWN PEDESTRIAN SIGNAL OPERATION

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

Plans Prepared By:

DRMP

DRMP, Inc.
8210 University Executive Park Dr, Suite 220
Charlotte, NC 28262
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THIS PLAN SUPERSEDES THE PLAN SEALED ON 12/22/2023

THIS ELECTRICAL DETAIL IS FOR THE SIGNAL DESIGN: 06-1406
DESIGNED: Sep 2026
SEALED: 09/11/2026
REVISED: N/A

Electrical Detail - Sheet 1 of 2
Final Design

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

ELECTRICAL AND PROGRAMMING DETAILS FOR:

SR 1003 (Camden Road) WB
at
Ellis Jackson Road

Division 6 Cumberland County Hope Mills

PLAN DATE: September 2026 REVIEWED BY: BN Groome
PREPARED BY: DS Griffith DRMP PROJ. NO.: 24941

REVISIONS	INIT.	DATE

Prepared for:
NC Transportation Mobility and Safety Division
NC DEPARTMENT OF TRANSPORTATION
Traffic Engineering Branch
Signals Management Section

750 N.Greenfield Pkwy,Garner,NC 27529

SEAL
NORTH CAROLINA
PROFESSIONAL
SEAL 052936
ENGINEER
BRITTANY N. GROOME

Signed by: Brittany Groome
1E09340E1094484...
09/11/2026
SIGNATURE DATE

SIG. INVENTORY NO. 06-1406

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PROJECT REFERENCE NO.	SHEET NO.
U-3422B	Sig-6.5

MAXTIME ALTERNATE PHASING ACTIVATION DETAIL

To run alternate phasing, select a Pattern that is programmed to run Overlap Plan 2 and Detector Plan 2.
A Pattern can be selected through the scheduler or manually by changing the Operational Mode.

PHASING	OVERLAP PLAN	VEH DET PLAN
ACTIVE PLAN REQUIRED TO RUN DEFAULT PHASING	1	1
ACTIVE PLAN REQUIRED TO RUN ALTERNATE PHASING	2	2

ALTERNATE PHASING CHANGE SUMMARY

THE FOLLOWING IS A SUMMARY OF WHAT TAKES PLACE WHEN OVERLAP 2 AND VEHICLE DETECTOR PLAN 2 ACTIVATE TO CALL THE "ALTERNATE PHASING":

OVERLAP PLAN 2: Modifies overlap included phases for heads 31 and 32 to run protected turns only.

VEH DET PLAN 2: Reduces delay time for phase 3 call on loop 3A to 0 seconds.

MAXTIME STARTUP AND SOFTWARE FLASH PROGRAMMING DETAIL

Front Panel
Main Menu >Controller >Unit

Web Interface
Home >Controller >Unit

Modify parameters as shown below and save changes.

Start Up Parameters	Unit Flash Parameters
StartUp Clearance Hold	All Red Flash Exit Time
6	6

MAXTIME OVERLAP PROGRAMMING DETAIL FOR ALTERNATE PHASING

Front Panel
Main Menu >Controller >Overlap >Overlap Parameters/Overlap Timings

Web Interface
Home >Controller >Overlap Configuration >Overlaps

In the table view of the web interface, right click on "Overlap" in the top left corner of the table. Copy the entire contents of Overlap Plan 1. Paste Overlap Plan 1 into Overlap Plan 2. Modify Overlap Plan 2 as shown below and save changes.

Overlap Plan 2

Overlap	1	2	7
Type	FYA 4-Section	FYA 4-Section	Normal
Included Phases	-	-	3
Modifier Phases	3	3	-
Modifier Overlap	-	-	-
Trail Green	0	0	0
Trail Yellow	0.0	0.0	0.0
Trail Red	0.0	0.0	0.0
FYA Ped Delay	0.0	0.0	0.0

← NOTICE INCLUDED PHASE

SDLC NON-INTRUSIVE DETECTION CHART

	Detector Rack #3		Detector Rack #4	
Input Point	Det # (Index)	Detector Zone	Det # (Index)	Detector Zone
1	33	NU	49	NU
2	34	3A	50	NU
3	35	NU	51	NU
4	36	NU	52	NU
5	37	NU	53	NU
6	38	NU	54	6A
7	39	NU	55	NU
8	40	NU	56	NU
9	41	NU	57	NU
10	42	NU	58	NU
11	43	NU	59	NU
12	44	NU	60	8A
13	45	NU	61	NU
14	46	NU	62	NU
15	47	NU	63	NU
16	48	NU	64	NU

NU = Not Used

MAXTIME DETECTOR PROGRAMMING DETAIL FOR ALTERNATE PHASING LOOP 3A

Front Panel
Main Menu >Controller >Detector >Veh Det Plans

Web Interface
Home >Controller >Detector Configuration >Vehicle Detectors

In the table view of web interface right click on "Detector" in the top left corner of the table. Copy the entire contents of Detector Plan 1. Paste Detector Plan 1 into Detector Plan 2. Modify Detector Plan 2 as shown below and save changes.

Plan 2

Detector	Call Phase	Delay
34	3	0.0

3A

MAXTIME OVERLAP PROGRAMMING DETAIL FOR DEFAULT PHASING

Front Panel
Main Menu >Controller >Overlap >Overlap Parameters/Overlap Timings

Web Interface
Home >Controller >Overlap Configuration >Overlaps

Overlap Plan 1

Overlap	1	2	7
Type	FYA 4-Section	FYA 4-Section	Normal
Included Phases	6	6	3
Modifier Phases	3	3	-
Modifier Overlap	-	-	-
Trail Green	0	0	0
Trail Yellow	0.0	0.0	0.0
Trail Red	0.0	0.0	0.0
FYA Ped Delay	7.0	7.0	0.0

← NOTICE PED DELAY

NOTICE OVERLAP 7 ASSIGNED TO CHANNEL 1 →

MAXTIME ALTERNATE PHASING PATTERN PROGRAMMING DETAIL

Front Panel
Main Menu >Controller >Coordination >Patterns

Web Interface
Home >Controller >Coordination >Patterns

Pattern Parameters

Pattern	Veh Det Plan	Overlap Plan
*	2	2

* The Pattern number(s) are to be determined by the Division Traffic Engineer.

Plans Prepared By:

DRMP
DRMP, Inc.
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Charlotte, NC 28262
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SPECIAL DETECTION IO MODULE PROGRAMMING

The Enhanced Out of Pavement Detection requires adjustments to the IO Modules in use. Follow the programming instructions below to ensure desired operation.

Front Panel
Main Menu >Controller >More >Advanced IO >IO Modules

Web Interface
Home >Controller >Advanced IO >Cabinet Configuration >IO Modules

IO Module 1

IO Module	Type	Fault Response
1	Caltrans 332	Default
2	TS2 DR3 BIU	Default
3	TS2 DR4 BIU	Default
4	TS2 MMU	Default

Advanced Cabinet Options

☑ Disable TS2 Cabinet Alarms

OUTPUT CHANNEL CONFIGURATION

Front Panel
Main Menu >Controller >More>Channels>Channels Config

Web Interface
Home >Controller >Advanced IO>Channels>Channel Configuration

Channel Configuration

Channel	Control Type	Control Source	Flash Yellow	Flash Red	Flash Alt	MMU Channel
1	Overlap	7		X	X	1
2	Phase Vehicle	2		X		2
3	Phase Vehicle	3		X	X	3
4	Phase Vehicle	4		X		4
5	Phase Vehicle	5		X		5
6	Phase Vehicle	6		X	X	6
7	Phase Vehicle	7		X		7
8	Phase Vehicle	8		X	X	8
9	Overlap	1		X	X	9
10	Overlap	2		X	X	10
11	Overlap	3		X		11
12	Overlap	4		X		12
13	Phase Ped	2				13
14	Phase Ped	4				14
15	Phase Ped	6				15
16	Phase Ped	8				16
17	Overlap	5		X	X	17
18	Overlap	6		X		18

THIS PLAN SUPERSEDES THE PLAN SEALED ON 12/22/2023

THIS ELECTRICAL DETAIL IS FOR
THE SIGNAL DESIGN: 06-1406
DESIGNED: Sep 2026
SEALED: 09/11/2026
REVISED: N/A

Electrical Detail - Sheet 2 of 2
Final Design

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

ELECTRICAL AND PROGRAMMING DETAILS FOR:

Prepared for:
NC Department of Transportation Mobility and Safety Division Traffic Engineering Branch Signals Management Section

750 N.Greenfield Pkwy,Garner,NC 27529

SR 1003 (Camden Road) WB
at
Ellis Jackson Road

Division 6 Cumberland County Hope Mills

PLAN DATE: September 2026 REVIEWED BY: BN Groome
PREPARED BY: DS Griffith DRMP PROJ. NO.: 24941

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 052936 ENGINEER BRITTANY N GROOME

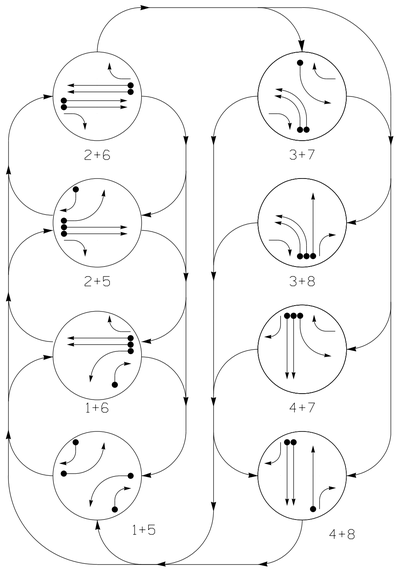
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PROJECT REFERENCE NO.	SHEET NO.
U-3422B	Sig-7.0

PHASING DIAGRAM



PHASING DIAGRAM DETECTION LEGEND

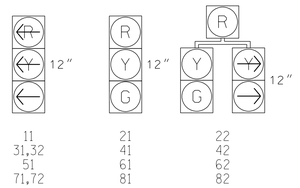
- DETECTED MOVEMENT
- UNDETECTED MOVEMENT (OVERLAP)
- UNSIGNALIZED MOVEMENT
- PEDESTRIAN MOVEMENT

TABLE OF OPERATION

SIGNAL FACE	PHASE 1+5	1+6	2+5	2+6	3+7	3+8	4+7	4+8	FLASH
11	←	←	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~
21	R	R	G	G	R	R	R	R	R
22	R	R	G	G	R/→	R/→	R	R	R
31,32	~~R~~	~~R~~	~~R~~	~~R~~	←	←	~~R~~	~~R~~	~~R~~
41	R	R	R	R	R	R	G	G	R
42	R/→	R	R/→	R	R	R	G	G	R
51	←	~~R~~	←	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~
61	R	G	R	G	R	R	R	R	R
62	R	G	R	G	R/→	R	R/→	R	R
71,72	~~R~~	~~R~~	~~R~~	~~R~~	←	←	~~R~~	~~R~~	~~R~~
81	R	R	R	R	R	G	R	G	R
82	R/→	R/→	R	R	R	G	R	G	R

SIGNAL FACE I.D.

All Heads L.E.D.

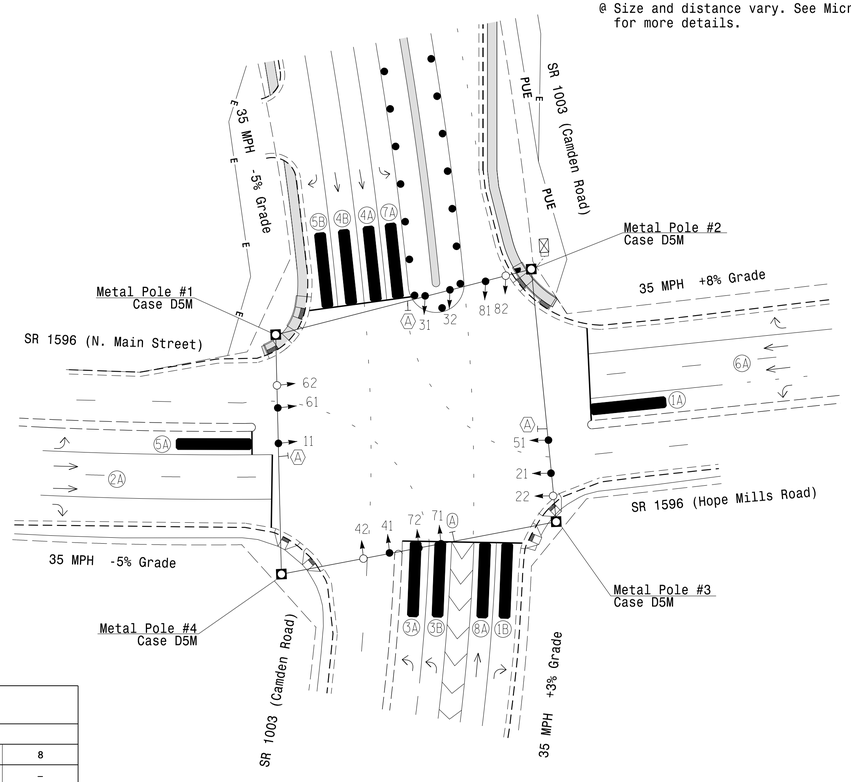


MAXTIME DETECTOR INSTALLATION CHART

DETECTOR					PROGRAMMING							
ZONE	SIZE (FT)	DISTANCE FROM STOPBAR (FT)	TURNS	NEW LOOP	CALL PHASE	DELAY TIME	EXTEND TIME	EXTEND ADDED INITIAL	CALL DELAY DURING GREEN	NEW CARD		
1A	6X40	0	**	X	1	-	-	X	-	X	-	**
1B	6X40	0	**	X	1	15.0	-	X	-	X	-	**
2A	@	@	**	X	2	-	-	X	-	X	-	**
3A	6X40	0	**	X	3	-	-	X	-	X	-	**
3B	6X40	0	**	X	3	-	-	X	-	X	-	**
4A	6X40	0	**	X	4	-	-	X	-	X	-	**
4B	6X40	0	**	X	4	-	-	X	-	X	-	**
5A	6X40	0	**	X	5	-	-	X	-	X	-	**
5B	6X40	0	**	X	5	15.0	-	X	-	X	-	**
6A	@	@	**	X	6	-	-	X	-	X	-	**
7A	6X40	0	**	X	7	-	-	X	-	X	-	**
8A	6X40	0	**	X	8	-	-	X	-	X	-	**

** Microwave Detection Zone

@ Size and distance vary. See Microwave Detection chart for more details.



MAXTIME TIMING CHART

FEATURE	PHASE 1	2	3	4	5	6	7	8
Walk *	–	–	–	–	–	–	–	–
Ped Clear	–	–	–	–	–	–	–	–
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	20	15	90	15	20
Yellow Change	3.0	4.2	3.0	4.2	3.1	4.2	3.1	4.2
Red Clear	3.7	2.9	3.3	2.4	3.8	2.9	3.3	2.4
Added Initial *	–	–	–	–	–	–	–	–
Maximum Initial *	–	–	–	–	–	–	–	–
Time Before Reduction *	–	–	–	–	–	–	–	–
Time To Reduce *	–	–	–	–	–	–	–	–
Minimum Gap	–	–	–	–	–	–	–	–
Advance Walk	–	–	–	–	–	–	–	–
Non Lock Detector	X	–	X	X	X	–	X	X
Vehicle Recall	–	MIN RECALL	–	–	–	MIN RECALL	–	–
Dual Entry	–	–	–	–	–	–	–	–

* 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.

Microwave Detection

	2A			6A		
FUNCTION	Sensor 1			Sensor 2		
Channel	1			1		
Phase	2			6		
Direction of Travel	NB			SB		
Type	Priority			Priority		
Level	1	2	QUEUE	1	2	QUEUE
Discovery Zone (ft)	>= 50	< 750	-	>= 50	< 750	-
Range (ft)	900-100	600-100	150-100	900-100	600-100	150-100
Enable Speed	Y	Y	Y	Y	Y	Y
Speed Range (mph)	35-100	35-100	1-35	35-100	35-100	1-35
Enable Estimated Time of Arrival	Y	Y	N	Y	Y	N
Estimated Time of Arrival (sec)	2.5-10.0	2.5-6.5	-	2.5-10.0	2.5-6.5	-

8 Phase
Fully Actuated
D06-03_Hope Mills

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 phase 5 may be lagged.
4. Phase 3 and/or phase 7 may be lagged.
5. Reposition existing signal heads numbered 21,41,61 and 81.
6. Set all detector units to presence mode.
7. Locate new cabinet so as not to obstruct sight distance of vehicles turning right on red.
8. See traffic control plans for stop line locations.
9. This intersection uses multi-zone microwave detection. Install detectors according to the manufacturer's instructions to achieve desired detection.
10. Disconnect and bag existing head 71.
11. Maximum times shown in timing chart are for free-run operation only. Coordinated signal system timing values supersede these values.
12. Install Department supplied cell modem inside the cabinet. Contact the Division 6 Traffic Engineer at 910-364-0606 to request the cell modem. Allow 8 weeks lead time before anticipated deployment.
13. Install new ethernet edge switch inside the cabinet.

LEGEND

PROPOSED		EXISTING
	Traffic Signal Head	
	Modified Signal Head	N/A
	Sign	
	Pedestrian Signal Head With Push Button & Sign	
	Signal Pole with Guy	
	Signal Pole with Sidewalk Guy	
	Metal Strain Pole	
	Inductive Loop Detector	
	Controller & Cabinet	
	Junction Box	
	2-in Underground Conduit	
N/A	Right of Way	
	Directional Arrow	
PUE	Proposed Utility Easement	N/A
	Non-Intrusive Detection Zone	
	Construction Zone	N/A
	Construction Zone Drums	N/A
N/A	Construction Easement	E
	Type III Barricade	N/A
(A)	"U-TURN YIELD TO RIGHT TURN" Sign (R10-16)	(A)

THIS PLAN SUPERSEDES THE PLAN SEALED ON 12/22/2023

Plans Prepared By:

DRMP

DRMP, Inc.
8210 University Executive Park Dr, Suite 220
Charlotte, NC 28262
NC License No. P-1524 (704) 549-4260

Signal Upgrade
Temporary Design 1 - (TMP Phase II)

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

Prepared for:
Transportation Mobility and Safety Division
Signal Design Section
750 N.Greenfield Pkwy,Garner,NC 27529

SR 1003 (Camden Road)
at
SR 1596(N. Main St./Hope Mills Rd.)

Division 6 Cumberland County Hope Mills

PLAN DATE:	October 2026	REVIEWED BY:	BN Groome
PREPARED BY:	DS Griffith	DRMP PROJ. NO.:	24941

REVISIONS	INIT.	DATE

SCALE 0 40 1"=40'

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 052936 ENGINEER BRITTANY N GROOME

Signed by: Brittany Groome 1E09340E1084484...
10/09/2026
SIGNATURE DATE

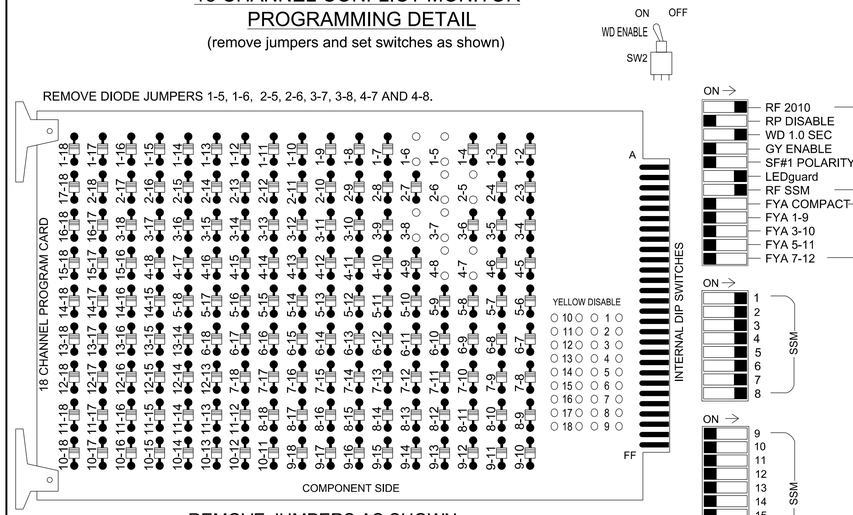
SIG. INVENTORY NO. 06-0357TI

Docusign Envelope ID: 71197EC2-917D-8BA7-83C4-FCEA6E6D6C21

PROJECT REFERENCE NO.	SHEET NO.
U-3422B	Sig-7.1

18 CHANNEL CONFLICT MONITOR PROGRAMMING DETAIL

(remove jumpers and set switches as shown)



REMOVE JUMPERS AS SHOWN

NOTES:

1. Card is provided with all diode jumpers in place. Removal of any jumper allows its channels to run concurrently.
2. Ensure jumpers SEL2-SEL5 and SEL9 are present on the monitor board.
3. Ensure that the Red Enable is active at all times during normal operation.
4. Connect serial cable from conflict monitor to comm. port 1 of 2070 controller. Ensure conflict monitor communicates with 2070.

NOTES

1. To prevent "flash-conflict" problems, insert red flash program blocks for all vehicle load switches in the output file. The installer shall verify that signal heads flash in accordance with the signal plan.
2. Program controller to start up in phase 2 Green No Walk and Phase 6 Green No Walk.
3. If this signal will be managed by an ATMS software, enable controller and detector logging for all detectors used at this location.
4. The cabinet and controller are part of the Camden Road Closed Loop Signal System.

EQUIPMENT INFORMATION

Controller.....2070LX
Cabinet.....332 w/ Aux
Software.....Q-Free MAXTIME
Cabinet Mount.....Base
Output File Positions.....18 With Aux. Output File
Load Switches Used.....S1, S2, S4, S5, S7, S8, S10, S11
Phases Used.....1, 2, 3, 4, 5, 6, 7, 8
Overlap "1".....NOT USED
Overlap "2".....NOT USED
Overlap "3".....NOT USED
Overlap "4".....NOT USED

*See overlap programming detail on this sheet.

SIGNAL HEAD HOOK-UP CHART

LOAD SWITCH NO.	S1		S2	S3	S4		S5	S6	S7		S8	S9	S10		S11	S12	AUX S1	AUX S2	AUX S3	AUX S4	AUX S5	AUX S6
CMU CHANNEL NO.	1		2	13	3		4	14	5		6	15	7		8	16	9	10	17	11	12	18
PHASE	1		2	2 PED	3		4	4 PED	5		6	6 PED	7		8	8 PED	OL1	OL2	SPARE	OL3	OL4	SPARE
SIGNAL HEAD NO.	11	82	21,22	NU	22	31,32	41,42	NU	42	51	61,62	NU	62	72*	81,82	NU	NU	NU	NU	NU	NU	NU
RED			128				101				134				107							
YELLOW			129				102				135				108							
GREEN			130				103				136				109							
RED ARROW	125				116				131				122									
YELLOW ARROW	126	126			117	117			132	132			123	123								
FLASHING YELLOW ARROW																						
GREEN ARROW	127	127			118	118			133	133			124	124								

NU = Not Used
* Disconnect head 71

MAXTIME STARTUP AND SOFTWARE FLASH PROGRAMMING DETAIL

Front Panel
Main Menu >Controller >Unit

Web Interface
Home >Controller >Unit

Modify parameters as shown below and save changes.

Start Up Parameters

StartUp Clearance Hold
6

Unit Flash Parameters

All Red Flash Exit Time
6

INPUT FILE POSITION LAYOUT

(front view)

		1	2	3	4	5	6	7	8	9	1O	11	12	13	14
FILE "I"	U	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	FS DC ISOLATOR
	L														ST DC ISOLATOR
FILE "J"	U	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY
	L														

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

FS = FLASH SENSE
ST = STOP TIME

INPUT FILE CONNECTION & PROGRAMMING CHART

LOOP NO.	LOOP TERMINAL	INPUT FILE POS.	PIN NO.	INPUT POINT	DETECTOR NO.	CALL PHASE	DELAY TIME	EXTEND TIME	EXTEND	ADDED INITIAL	CALL	DELAY DURING GREEN
1A	-	-	-	*	33	1			X		X	
1B	-	-	-	*	49	1	15.0		X		X	
2A	-	-	-	*	38	2			X		X	
3A	-	-	-	*	34	3			X		X	
3B	-	-	-	*	50	3			X		X	
4A	-	-	-	*	44	4			X		X	
4B	-	-	-	*	45	4			X		X	
5A	-	-	-	*	35	5			X		X	
5B	-	-	-	*	51	5	15.0		X		X	
6A	-	-	-	*	54	6			X		X	
7A	-	-	-	*	36	7			X		X	
8A	-	-	-	*	60	8			X		X	

* For Input Point numbers, see SDLC Non-Intrusive Detection Chart detail on sheet 2.

INPUT FILE POSITION LEGEND: J2L
FILE J
SLOT 2
LOWER

SPECIAL DETECTOR NOTE

Install a multizone microwave detection system for vehicle detection. Perform installation according to the manufacturer's directions and NCDOT engineer approved mounting locations to accomplish the detection schemes shown on the Signal Design Plans.

THIS PLAN SUPERSEDES THE PLAN SEALED ON 12/22/2023

THIS ELECTRICAL DETAIL IS FOR
THE SIGNAL DESIGN: 06-0357T1
DESIGNED: Oct 2026
SEALED: 10/9/2026
REVISED: N/A

Electrical Detail - Sheet 1 of 2
Temporary Design 1 - (TMP Phase II)

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

Plans Prepared By:
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8210 University Executive Park Dr, Suite 220
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ELECTRICAL AND PROGRAMMING DETAILS FOR:

Prepared for:
NC Transportation Mobility and Safety Division
Traffic Engineering Branch
NC DEPARTMENT OF TRANSPORTATION
Traffic Signals Management Section
750 N.Greenfield Pkwy,Garner,NC 27529

SR 1003 (Camden Road)
at
SR 1596(N. Main St./Hope Mills Rd.)
Division 6 Cumberland County Hope Mills

PLAN DATE:	October 2026	REVIEWED BY:	BN Groome
PREPARED BY:	DS Griffith	DRMP PROJ. NO.:	24941

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 052936 ENGINEER BRITTANY N GROOME
Signed by: Brittany Groome 1E09340E1004484...
10/09/2026
SIGNATURE DATE
SIG. INVENTORY NO. 06-0357T1

Docusign Envelope ID: 71197EC2-917D-8BA7-83C4-FCEA6E6D6C21

OUTPUT CHANNEL CONFIGURATION

Front Panel
Main Menu >Controller >More>Channels>Channels Config

Web Interface
Home >Controller >Advanced IO>Channels>Channel Configuration

Channel Configuration

Channel	Control Type	Control Source	Flash Yellow	Flash Red	Flash Alt	MMU Channel
1	Phase Vehicle	1		X	X	1
2	Phase Vehicle	2		X		2
3	Phase Vehicle	3		X	X	3
4	Phase Vehicle	4		X		4
5	Phase Vehicle	5		X		5
6	Phase Vehicle	6		X	X	6
7	Phase Vehicle	7		X		7
8	Phase Vehicle	8		X	X	8
9	Overlap	1		X	X	9
10	Overlap	2		X	X	10
11	Overlap	3		X		11
12	Overlap	4		X		12
13	Phase Ped	2				13
14	Phase Ped	4				14
15	Phase Ped	6				15
16	Phase Ped	8				16
17	Overlap	5		X	X	17
18	Overlap	6		X		18

SPECIAL DETECTION IO MODULE PROGRAMMING

The Enhanced Out of Pavement Detection requires adjustments to the IO Modules in use. Follow the programming instructions below to ensure desired operation.

Front Panel
Main Menu >Controller >More >Advanced IO >IO Modules

Web Interface
Home >Controller >Advanced IO >Cabinet Configuration >IO Modules

IO Module 1

IO Module	Type	Fault Response
1	Caltrans 332	Default
2	TS2 DR3 BIU	Default
3	TS2 DR4 BIU	Default
4	TS2 MMU	Default

Advanced Cabinet Options

☑ Disable TS2 Cabinet Alarms

SDLC NON-INTRUSIVE DETECTION CHART

	Detector Rack #3		Detector Rack #4	
Input Point	Det # (Index)	Detector Zone	Det # (Index)	Detector Zone
1	33	1A	49	1B
2	34	3A	50	3B
3	35	5A	51	5B
4	36	7A	52	NU
5	37	NU	53	NU
6	38	2A	54	6A
7	39	NU	55	NU
8	40	NU	56	NU
9	41	NU	57	NU
10	42	NU	58	NU
11	43	NU	59	NU
12	44	4A	60	8A
13	45	4B	61	NU
14	46	NU	62	NU
15	47	NU	63	NU
16	48	NU	64	NU

NU = Not Used

THIS PLAN SUPERSEDES THE PLAN SEALED ON 12/22/2023

THIS ELECTRICAL DETAIL IS FOR THE SIGNAL DESIGN: 06-0357T1
DESIGNED: Oct 2026
SEALED: 10/9/2026
REVISED: N/A

Electrical Detail - Sheet 2 of 2
Temporary Design 1 - (TMP Phase II)

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

Plans Prepared By:

DRMP
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8210 University Executive Park Dr, Suite 220
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ELECTRICAL AND PROGRAMMING DETAILS FOR:

Prepared for:

NC Transportation Mobility and Safety Division
Traffic Engineering Branch
Traffic Management Unit
Traffic Signals Management Section
NC DEPARTMENT OF TRANSPORTATION

750 N.Greenfield Pkwy,Garner,NC 27529

SR 1003 (Camden Road)
at
SR 1596(N. Main St./Hope Mills Rd.)

Division 6 Cumberland County Hope Mills

PLAN DATE:	October 2026	REVIEWED BY:	BN Groome
PREPARED BY:	DS Griffith	DRMP PROJ. NO.:	24941

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 052936 ENGINEER BRITTANY N GROOME

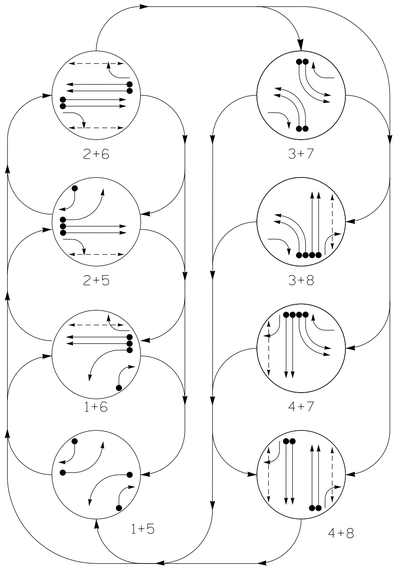
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SIG. INVENTORY NO. 06-0357T1

Docusign Envelope ID: 71197EC2-917D-8BA7-83C4-FCEA6E6D6C21

PROJECT REFERENCE NO.	SHEET NO.
U-3422B	Sig-7.3

PHASING DIAGRAM



PHASING DIAGRAM DETECTION LEGEND

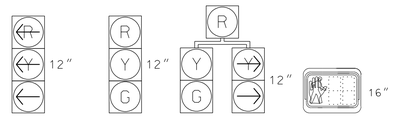
- DETECTED MOVEMENT
- UNDETECTED MOVEMENT (OVERLAP)
- UNSIGNALIZED MOVEMENT
- PEDESTRIAN MOVEMENT

TABLE OF OPERATION

SIGNAL FACE	PHASE 1+5	1+6	2+5	2+6	3+7	3+8	4+7	4+8	FLASH
11	←	←	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~
21	R	R	G	G	R	R	R	R	R
22	R	R	G	G	R/→	R/↑	R	R	R
31,32	~~R~~	~~R~~	~~R~~	~~R~~	←	←	~~R~~	~~R~~	~~R~~
41	R	R	R	R	R	R	G	G	R
42	R/↑	R	R/↑	R	R	R	G	G	R
51	←	~~R~~	←	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~
61	R	G	R	G	R	R	R	R	R
62	R	G	R	G	R/→	R	R/→	R	R
71,72	~~R~~	~~R~~	~~R~~	~~R~~	←	~~R~~	←	~~R~~	~~R~~
81	R	R	R	R	R	G	R	G	R
82	R/↑	R/→	R	R	R	G	R	G	R
P21,P22	DW	DW	W	W	DW	DW	DW	DW	DRK
P41,P42	DW	DW	DW	DW	DW	DW	W	W	DRK
P61,P62	DW	W	DW	W	DW	DW	DW	DW	DRK
P81,P82	DW	DW	DW	DW	DW	W	DW	W	DRK

SIGNAL FACE I.D.

All Heads L.E.D.



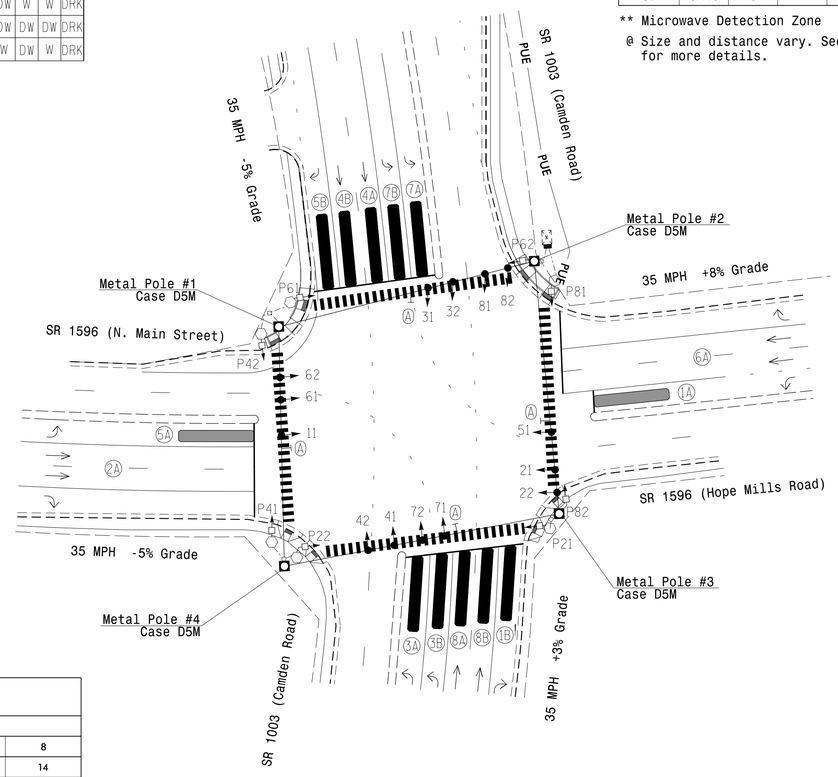
11	21	22	P21,P22
31,32	41	42	P41,P42
51	61	62	P61,P62
71,72	81	82	P81,P82

MAXTIME DETECTOR INSTALLATION CHART

DETECTOR ZONE	SIZE (FT)	DISTANCE FROM STOPBAR (FT)	TURNS	NEW LOOP	PROGRAMMING CALL PHASE	DELAY TIME	EXTEND TIME	EXTEND ADDED INITIAL	CALL DELAY DURING GREEN	NEW CARD
1A	6X40	0	**	-	1	-	-	X -	X -	**
1B	6X40	0	**	X	1	15.0	-	X -	X -	**
2A	@	@	**	X	2	-	-	X -	X -	**
3A	6X40	0	**	X	3	-	-	X -	X -	**
3B	6X40	0	**	X	3	-	-	X -	X -	**
4A	6X40	0	**	X	4	-	-	X -	X -	**
4B	6X40	0	**	X	4	-	-	X -	X -	**
5A	6X40	0	**	-	5	-	-	X -	X -	**
5B	6X40	0	**	X	5	15.0	-	X -	X -	**
6A	@	@	**	X	6	-	-	X -	X -	**
7A	6X40	0	**	X	7	-	-	X -	X -	**
7B	6X40	0	**	X	7	-	-	X -	X -	**
8A	6X40	0	**	X	8	-	-	X -	X -	**
8B	6X40	0	**	X	8	-	-	X -	X -	**

** Microwave Detection Zone

@ Size and distance vary. See Microwave Detection chart for more details.



8 Phase
Fully Actuated
D06-03_Hope Mills

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 phase 5 may be lagged.
4. Phase 3 and/or phase 7 may be lagged.
5. Set all detector units to presence mode.
6. Reposition existing signal heads numbered 81 and 82.
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. See pavement marking plan for stop line and crosswalk locations.
10. Reconnect existing head 71.
11. Maximum times shown in timing chart are for free-run operation only. Coordinated signal system timing values supersede these values.

MAXTIME TIMING CHART

FEATURE	PHASE 1	2	3	4	5	6	7	8
Walk *	–	14	–	14	–	14	–	14
Ped Clear	–	29	–	25	–	30	–	27
Min Green *	7	12	7	7	7	12	7	7
Passage *	2.0	3.0	2.0	2.0	2.0	3.0	2.0	2.0
Max 1 *	15	90	15	45	15	90	15	45
Yellow Change	3.0	4.2	3.0	4.2	3.1	4.2	3.1	4.2
Red Clear	3.8	3.1	3.7	2.8	3.8	3.1	3.5	2.8
Added Initial *	–	–	–	–	–	–	–	–
Maximum Initial *	–	–	–	–	–	–	–	–
Time Before Reduction *	–	–	–	–	–	–	–	–
Time To Reduce *	–	–	–	–	–	–	–	–
Minimum Gap	–	–	–	–	–	–	–	–
Advance Walk	–	7	–	7	–	7	–	7
Non Lock Detector	X	–	X	X	X	–	X	X
Vehicle Recall	–	MIN RECALL	–	–	–	MIN RECALL	–	–
Dual Entry	–	–	–	–	–	–	–	–

* 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.

Microwave Detection

FUNCTION	2A Sensor 1			6A Sensor 2		
Channel	1			1		
Phase	2			6		
Direction of Travel	NB			SB		
Type	Priority			Priority		
Level	1	2	QUEUE	1	2	QUEUE
Discovery Zone (ft)	>= 50	< 750	-	>= 50	< 750	-
Range (ft)	900-100	600-100	150-100	900-100	600-100	150-100
Enable Speed	Y	Y	Y	Y	Y	Y
Speed Range (mph)	35-100	35-100	1-35	35-100	35-100	1-35
Enable Estimated Time of Arrival	Y	Y	N	Y	Y	N
Estimated Time of Arrival (sec)	2.5-10.0	2.5-6.5	-	2.5-10.0	2.5-6.5	-

THIS PLAN SUPERSEDES THE PLAN SEALED ON 12/22/2023

LEGEND

PROPOSED		EXISTING
○→	Traffic Signal Head	●→
◐→	Modified Signal Head	N/A
⊣	Sign	⊣
▭↓	Pedestrian Signal Head With Push Button & Sign	■↓
○	Signal Pole with Guy	●
○	Signal Pole with Sidewalk Guy	●
▣	Metal Strain Pole	■
▭	Inductive Loop Detector	▭
⊠	Controller & Cabinet	⊠
□	Junction Box	■
----------	2-in Underground Conduit	----------
▬▬	Non-Intrusive Detection Zone	▬▬
N/A	Right of Way	----------
→	Directional Arrow	→
PUE	Proposed Utility Easement	N/A
⬡	Type II Signal Pedestal	⬢
Ⓐ	"U-TURN YIELD TO RIGHT TURN" Sign (R10-16)	Ⓐ

Signal Upgrade - Final Design

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

Plans Prepared By:

DRMP

DRMP, Inc.
8210 University Executive Park Dr, Suite 220
Charlotte, NC 28262
NC License No. F-1524 (704) 549-4260

Prepared for:
Transportation Mobility and Safety Division
Signal Design Section
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
750 N.Greenfield Pkwy,Garner,NC 27529

SR 1003 (Camden Road)
at
SR 1596(N. Main St./Hope Mills Rd.)

Division 6 Cumberland County Hope Mills

PLAN DATE:	October 2026	REVIEWED BY:	BN Groome
PREPARED BY:	DS Griffith	DRMP PROJ. NO.:	24941

SCALE 0 40 1"=40'

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 052936 ENGINEER BRITTANY N GROOME

Signed by: Brittany Groome 1E0B9A9E15B4484...
10/09/2026
SIGNATURE DATE

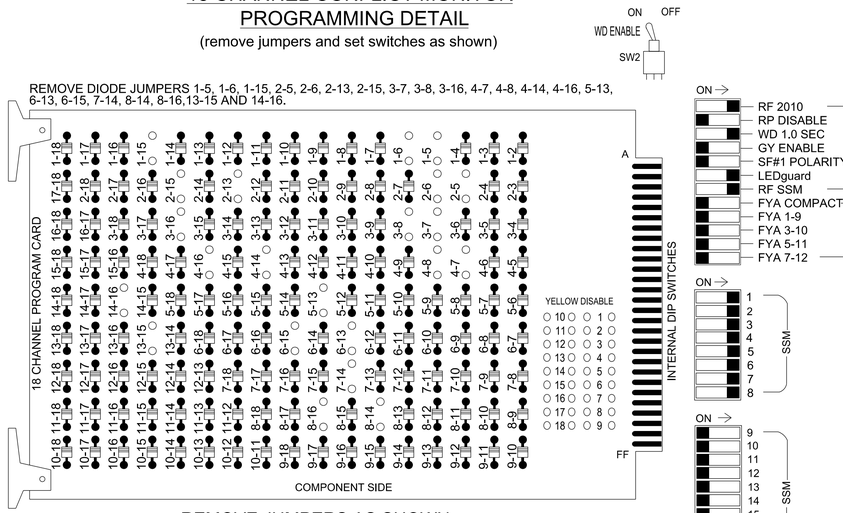
SIG. INVENTORY NO. 06-0357

Docusign Envelope ID: 71197EC2-917D-8BA7-83C4-FCEA6E6D6C21

PROJECT REFERENCE NO.	SHEET NO.
U-3422B	Sig-7.4

18 CHANNEL CONFLICT MONITOR PROGRAMMING DETAIL

(remove jumpers and set switches as shown)



REMOVE JUMPERS AS SHOWN

NOTES:

1. Card is provided with all diode jumpers in place. Removal of any jumper allows its channels to run concurrently.
2. Ensure jumpers SEL2-SEL5 and SEL9 are present on the monitor board.
3. Ensure that the Red Enable is active at all times during normal operation.
4. Connect serial cable from conflict monitor to comm. port 1 of 2070 controller. Ensure conflict monitor communicates with 2070.

NOTES

1. To prevent "flash-conflict" problems, insert red flash program blocks for all vehicle load switches in the output file. The installer shall verify that signal heads flash in accordance with the signal plan.
2. Program controller to start up in phase 2 Green Walk and phase 6 Green Walk.
3. If this signal will be managed by an ATMS software, enable controller and detedtor logging for all detectors used at this location.
4. The cabinet and controller are part of the Camden Road Closed Loop Signal System.

EQUIPMENT INFORMATION

Controller.....2070LX
Cabinet.....332 w/ Aux
Software.....Q-Free MAXTIME
Cabinet Mount.....Base
Output File Positions.....18 With Aux. Output File
Load Switches Used.....S1,S2,S3,S4,S5,S6,S7,S8,S9, S10,S11,S12
Phases Used.....1, 2, 2PED, 3, 4, 4PED, 5, 6, 6PED, 7, 8, 8PED
Overlaps.....NONE

SIGNAL HEAD HOOK-UP CHART

LOAD SWITCH NO.	S1		S2	S3	S4		S5	S6	S7		S8	S9	S10		S11	S12	AUX S1	AUX S2	AUX S3	AUX S4	AUX S5	AUX S6
CMU CHANNEL NO.	1		2	13	3		4	14	5		6	15	7		8	16	9	10	17	11	12	18
PHASE	1		2	2 PED	3		4	4 PED	5		6	6 PED	7		8	8 PED	OL1	OL2	SPARE	OL3	OL4	SPARE
SIGNAL HEAD NO.	11	82	21,22	P21, P22	22	31,32	41,42	P41, P42	42	51	61,62	P61, P62	62	71,72	81,82	P81, P82	NU	NU	NU	NU	NU	NU
RED			128				101				134				107							
YELLOW			129				102				135				108							
GREEN			130				103				136				109							
RED ARROW	125					116				131				122								
YELLOW ARROW	126	126			117	117			132	132			123	123								
FLASHING YELLOW ARROW																						
GREEN ARROW	127	127			118	118			133	133			124	124								
✋				113				104				119				110						
🚶				115				106				121				112						

NU = Not Used

INPUT FILE POSITION LAYOUT

(front view)

		1	2	3	4	5	6	7	8	9	10	11	12	13	14
FILE "I"	U	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	∅ 2 PED DC ISOLATOR	∅ 6 PED DC ISOLATOR	FS DC ISOLATOR
	L												∅ 4 PED DC ISOLATOR	∅ 8 PED DC ISOLATOR	ST DC ISOLATOR
FILE "J"	U	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY
	L														

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

FS = FLASH SENSE
ST = STOP TIME

INPUT FILE CONNECTION & PROGRAMMING CHART

LOOP NO.	LOOP TERMINAL	INPUT FILE POS.	PIN NO.	INPUT POINT	DETECTOR NO.	CALL PHASE	DELAY TIME	EXTEND TIME	EXTEND	ADDED INITIAL	CALL	DELAY DURING GREEN
1A	-	-	-	*	33	1			X		X	
1B	-	-	-	*	49	1	15.0		X		X	
2A	-	-	-	*	38	2			X		X	
3A	-	-	-	*	34	3			X		X	
3B	-	-	-	*	50	3			X		X	
4A	-	-	-	*	44	4			X		X	
4B	-	-	-	*	45	4			X		X	
5A	-	-	-	*	35	5			X		X	
5B	-	-	-	*	51	5	15.0		X		X	
6A	-	-	-	*	54	6			X		X	
7A	-	-	-	*	36	7			X		X	
7B	-	-	-	*	52	7			X		X	
8A	-	-	-	*	60	8			X		X	
8B	-	-	-	*	61	8			X		X	
PED PUSH BUTTONS												
P21,P22	TB8-4,6	I12U	67	33	2	PED 2						
P41,P42	TB8-5,6	I12L	69	35	4	PED 4						
P61,P62	TB8-7,9	I13U	68	34	6	PED 6						
P81,P82	TB8-8,9	I13L	70	36	8	PED 8						

NOTE:
INSTALL DC ISOLATORS IN INPUT FILE SLOTS I12 AND I13.

* For Input Point numbers, see SDLC Non-Intrusive Detection Chart detail on sheet 2.

INPUT FILE POSITION LEGEND: J2L
FILE J
SLOT 2
LOWER

MAXTIME STARTUP AND SOFTWARE FLASH PROGRAMMING DETAIL

Front Panel
Main Menu >Controller >Unit

Web Interface
Home >Controller >Unit

Modify parameters as shown below and save changes.

Start Up Parameters

StartUp Clearance Hold
6

Unit Flash Parameters

All Red Flash Exit Time
6

SPECIAL DETECTOR NOTE

Install a multizone microwave detection system for vehicle detection. Perform installation according to the manufacturer's directions and NCDOT engineer approved mounting locations to accomplish the detection schemes shown on the Signal Design Plans.

COUNTDOWN PEDESTRIAN SIGNAL OPERATION

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

Plans Prepared By:

DRMP

DRMP, Inc.
8210 University Executive Park Dr, Suite 220
Charlotte, NC 28262
NC License No. F-1524 (704) 549-4260

THIS PLAN SUPERSEDES THE PLAN SEALED ON 12/22/2023

THIS ELECTRICAL DETAIL IS FOR
THE SIGNAL DESIGN: 06-0357
DESIGNED: Oct 2026
SEALED: 10/9/2026
REVISED: N/A

Electrical Detail - Sheet 1 of 2
Final Design

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

ELECTRICAL AND PROGRAMMING DETAILS FOR:

Prepared for:

Transportation Mobility and Safety Division
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
Traffic Engineering Branch
Signals Management Section

750 N.Greenfield Pkwy,Garner,NC 27529

SR 1003 (Camden Road)
at
SR 1596(N. Main St./Hope Mills Rd.)

Division 6 Cumberland County Hope Mills

PLAN DATE:	October 2026	REVIEWED BY:	BN Groome
PREPARED BY:	DS Griffith	DRMP PROJ. NO.:	24941

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 052936 ENGINEER
BRITTANY N GROOME

Signed by: Brittany Groome
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SIGNATURE
10/09/2026
DATE

SIG. INVENTORY NO. 06-0357

Docusign Envelope ID: 71197EC2-917D-8BA7-83C4-FCEA6E6D6C21

PROJECT REFERENCE NO.	SHEET NO.
U-3422B	Sig-7.5

OUTPUT CHANNEL CONFIGURATION

Front Panel
Main Menu >Controller >More>Channels>Channels Config

Web Interface
Home >Controller >Advanced IO>Channels>Channel Configuration

Channel Configuration

Channel	Control Type	Control Source	Flash Yellow	Flash Red	Flash Alt	MMU Channel
1	Phase Vehicle	1		X	X	1
2	Phase Vehicle	2		X		2
3	Phase Vehicle	3		X	X	3
4	Phase Vehicle	4		X		4
5	Phase Vehicle	5		X		5
6	Phase Vehicle	6		X	X	6
7	Phase Vehicle	7		X		7
8	Phase Vehicle	8		X	X	8
9	Overlap	1		X	X	9
10	Overlap	2		X	X	10
11	Overlap	3		X		11
12	Overlap	4		X		12
13	Phase Ped	2				13
14	Phase Ped	4				14
15	Phase Ped	6				15
16	Phase Ped	8				16
17	Overlap	5		X	X	17
18	Overlap	6		X		18

SPECIAL DETECTION IO MODULE PROGRAMMING

The Enhanced Out of Pavement Detection requires adjustments to the IO Modules in use. Follow the programming instructions below to ensure desired operation.

Front Panel
Main Menu >Controller >More >Advanced IO >IO Modules

Web Interface
Home >Controller >Advanced IO >Cabinet Configuration >IO Modules

IO Module 1

IO Module	Type	Fault Response
1	Caltrans 332	Default
2	TS2 DR3 BIU	Default
3	TS2 DR4 BIU	Default
4	TS2 MMU	Default

Advanced Cabinet Options

☑ Disable TS2 Cabinet Alarms

SDLC NON-INTRUSIVE DETECTION CHART

	Detector Rack #3		Detector Rack #4	
Input Point	Det # (Index)	Detector Zone	Det # (Index)	Detector Zone
1	33	1A	49	1B
2	34	3A	50	3B
3	35	5A	51	5B
4	36	7A	52	7B
5	37	NU	53	NU
6	38	2A	54	6A
7	39	NU	55	NU
8	40	NU	56	NU
9	41	NU	57	NU
10	42	NU	58	NU
11	43	NU	59	NU
12	44	4A	60	8A
13	45	4B	61	8B
14	46	NU	62	NU
15	47	NU	63	NU
16	48	NU	64	NU

NU = Not Used

THIS PLAN SUPERSEDES THE PLAN SEALED ON 12/22/2023

THIS ELECTRICAL DETAIL IS FOR THE SIGNAL DESIGN: 06-0357
DESIGNED: Oct 2026
SEALED: 10/9/2026
REVISED: N/A

Electrical Detail - Sheet 2 of 2
Final Design

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ELECTRICAL AND PROGRAMMING DETAILS FOR:

Prepared for:
Traffic Engineering Branch, Mobility and Safety Division, NCDOT, Traffic Signals Management Section
750 N.Greenfield Pkwy,Garner,NC 27529

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at
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Division 6 Cumberland County Hope Mills

PLAN DATE:	October 2026	REVIEWED BY:	BN Groome
PREPARED BY:	DS Griffith	DRMP PROJ. NO.:	24941

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 052936 ENGINEER BRITTANY N GROOME

Signed by: Brittany Groome
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SIGNATURE 10/09/2026 DATE

SIG. INVENTORY NO. 06-0357

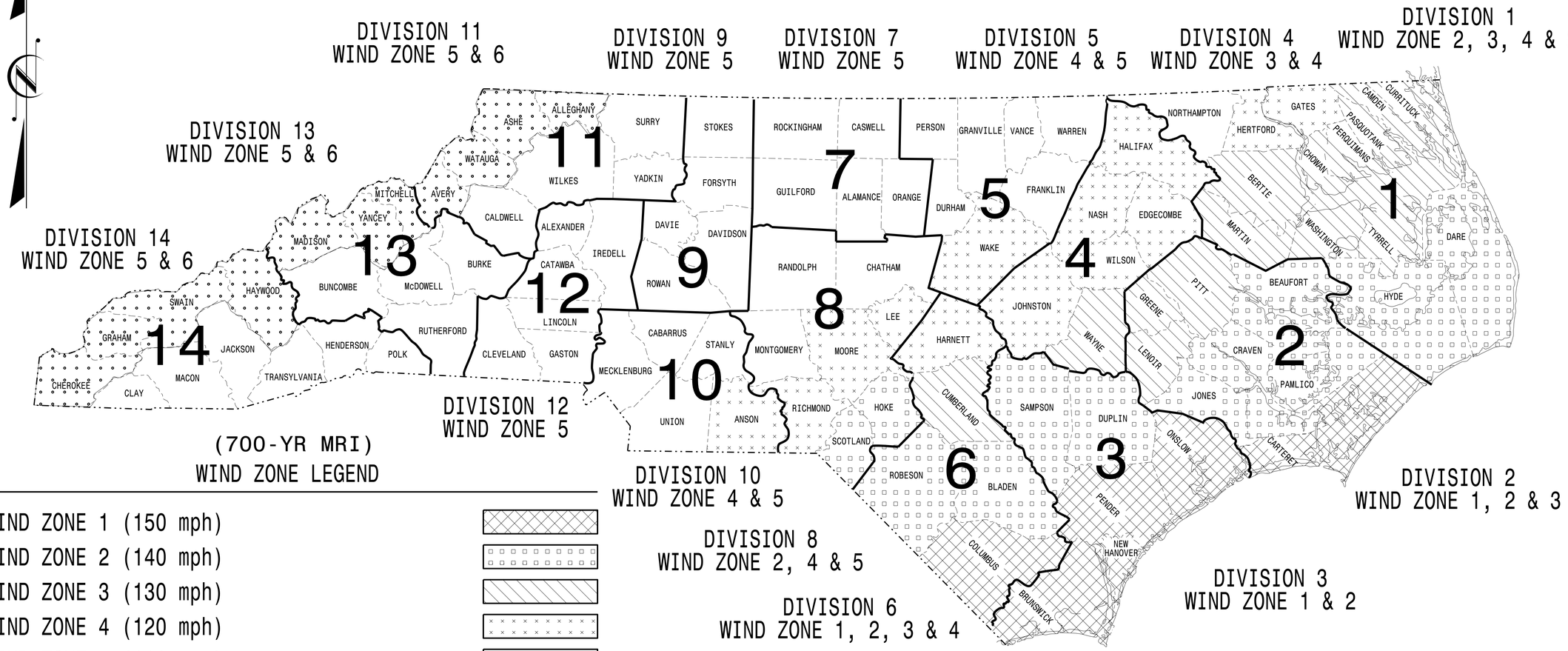
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PROJECT I.D.NO.	SHEET NO.
U-3422B	Sig.M1A

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

STANDARD DRAWINGS FOR ALL METAL POLES (LRFD)

NCDOT METAL POLE STANDARDS



(700-YR MRI)
WIND ZONE LEGEND

WIND ZONE 1 (150 mph)	
WIND ZONE 2 (140 mph)	
WIND ZONE 3 (130 mph)	
WIND ZONE 4 (120 mph)	
WIND ZONE 5 (110 mph)	
WIND ZONE 6 (135 mph) Special Wind Zone	

https://connect.ncdot.gov/resources/safety/Pages/ITS-Design-Resources.aspx

Prepared in the Offices of:

Transportation Mobility and Safety Division
Signal Design Section
750 N.Greenfield Pkwy.
Garner, NC 27529

Designed in conformance with the latest 2020 Interim to the 1st Edition 2015

AASHTO LRFD

Standard Specifications for Highway Signs, Luminaires, and Traffic Signals

INDEX OF PLANS

DRAWING NUMBER	DESCRIPTION
Sig. M 1A	Statewide Wind Zone Map (700–yr MRI)
Sig. M 1B	Statewide Wind Zone Map (10–yr MRI)
Sig. M 2	Typical Fabrication Details–All Metal Poles
Sig. M 3	Typical Fabrication Details–Strain Poles
Sig. M 4	Typical Fabrication Details–Mast Arm Poles
Sig. M 5	Typical Fabrication Details–Mast Arm Connection
Sig. M 6	Typical Fabrication Details–Strain Pole Attachments
Sig. M 7	Construction Details–Foundations
Sig. M 8	Standard Strain Pole Foundation–All Soil Conditions

NCDOT CONTACTS:

MOBILITY AND SAFETY DIVISION – TRANSPORTATION SYSTEMS MANAGEMENT AND OPERATIONS UNIT

D.Y. ISHAK – STATE SIGNALS ENGINEER

K. DURIGON, P.E. – ITS AND SIGNALS STRUCTURAL ENGINEER

B. WALKER, P.E. – ITS AND SIGNALS STRUCTURAL ENGINEER

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 036626 ENGINEER KEVIN C. DURIGON

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Kevin Durigon
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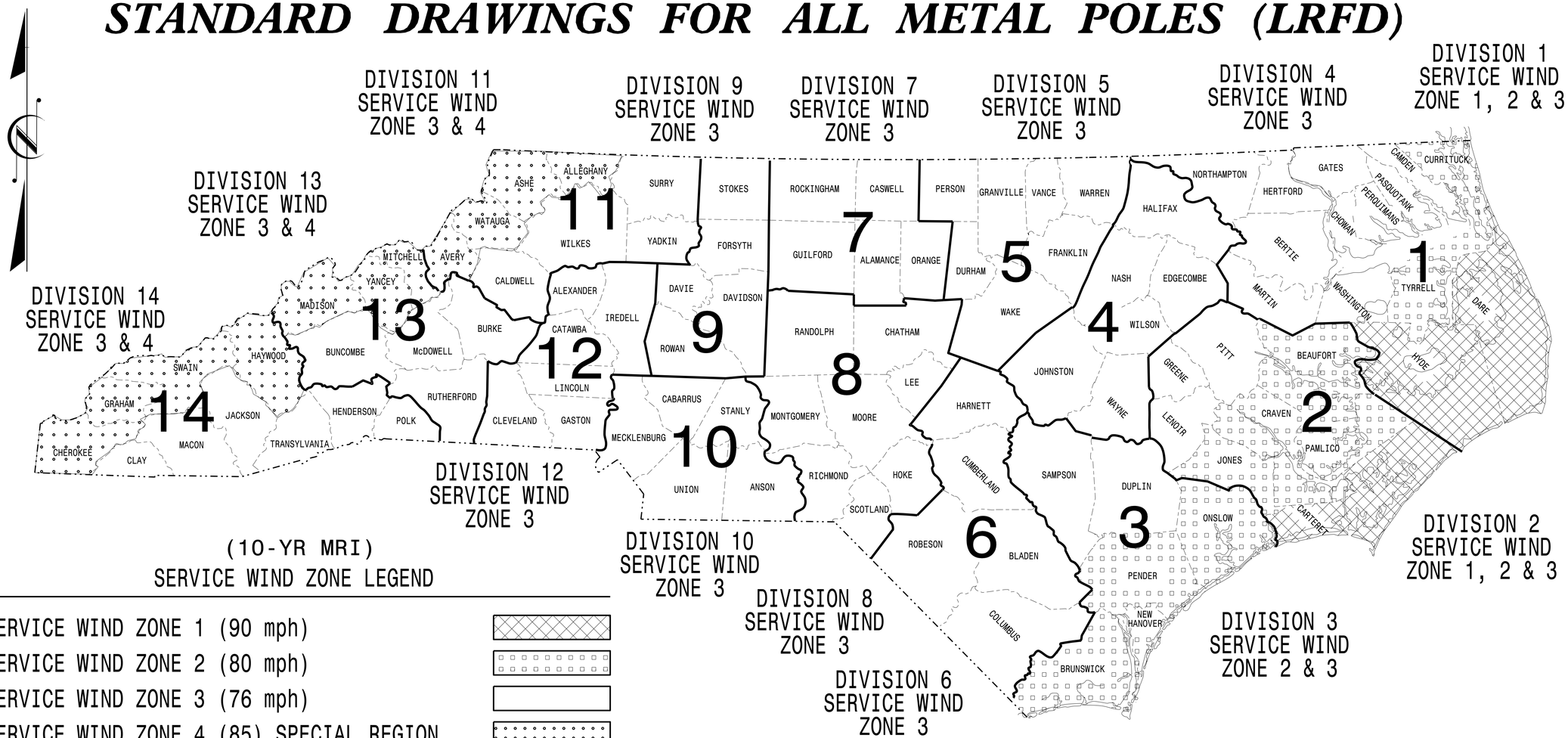
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PROJECT I.D.NO.	SHEET NO.
U-3422B	Sig.M1B

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

STANDARD DRAWINGS FOR ALL METAL POLES (LRFD)

NCDOT METAL POLE STANDARDS



(10-YR MRI)
SERVICE WIND ZONE LEGEND

SERVICE WIND ZONE 1 (90 mph)	
SERVICE WIND ZONE 2 (80 mph)	
SERVICE WIND ZONE 3 (76 mph)	
SERVICE WIND ZONE 4 (85) SPECIAL REGION	

https://connect.ncdot.gov/resources/safety/Pages/ITS-Design-Resources.aspx

Prepared in the Offices of:

Transportation Mobility and Safety Division
Signal Design Section
750 N.Greenfield Pkwy.
Garner, NC 27529

Designed in conformance with the latest 2020 Interim to the 1st Edition 2015

AASHTO LRFD

Standard Specifications for Highway Signs, Luminaires, and Traffic Signals

INDEX OF PLANS

DRAWING NUMBER	*DESCRIPTION*
Sig. M 1A	*Statewide Wind Zone Map (700–yr MRI)*
Sig. M 1B	*Statewide Wind Zone Map (10–yr MRI)*
Sig. M 2	*Typical Fabrication Details–All Metal Poles*
Sig. M 3	*Typical Fabrication Details–Strain Poles*
Sig. M 4	*Typical Fabrication Details–Mast Arm Poles*
Sig. M 5	*Typical Fabrication Details–Mast Arm Connection*
Sig. M 6	*Typical Fabrication Details–Strain Pole Attachments*
Sig. M 7	*Construction Details–Foundations*
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NCDOT CONTACTS:

MOBILITY AND SAFETY DIVISION – TRANSPORTATION SYSTEMS MANAGEMENT AND OPERATIONS UNIT

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B. WALKER, P.E. – ITS AND SIGNALS STRUCTURAL ENGINEER

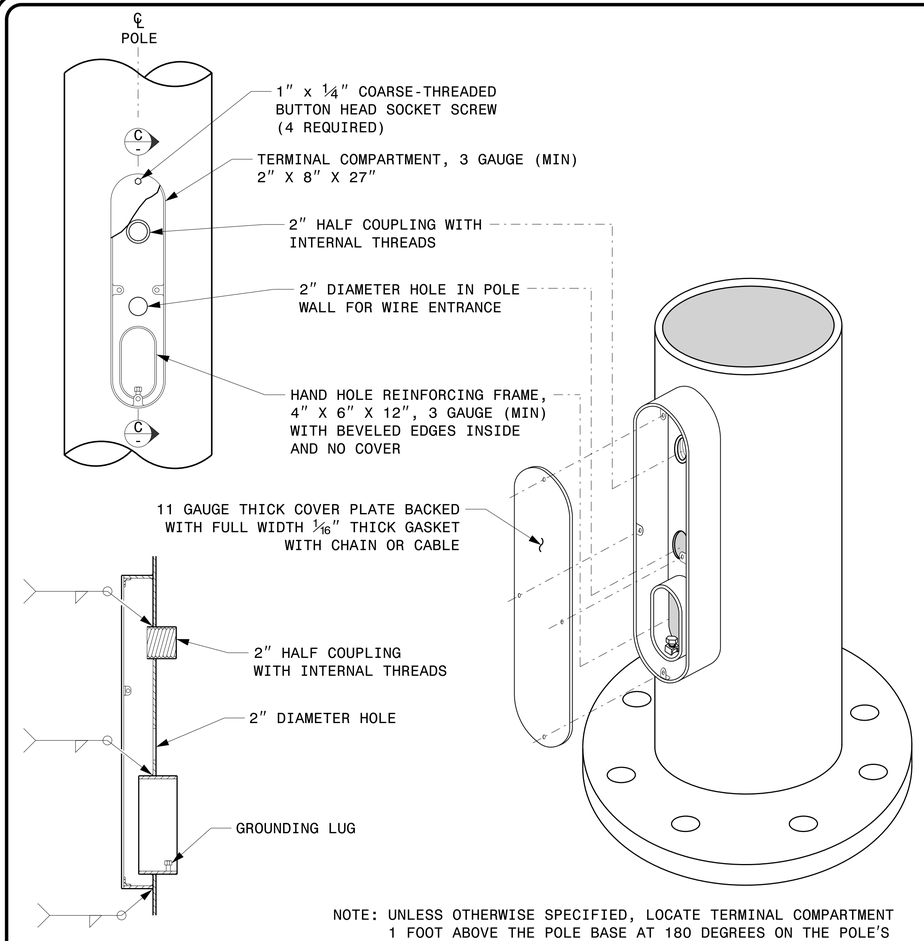
SEAL

NORTH CAROLINA PROFESSIONAL SEAL 036626 ENGINEER KEVIN C. DURIGON

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kcdurigon

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SECTION C-C

NOTE: UNLESS OTHERWISE SPECIFIED, LOCATE TERMINAL COMPARTMENT 1 FOOT ABOVE THE POLE BASE AT 180 DEGREES ON THE POLE'S RADIAL INDEX.

TERMINAL COMPARTMENT DETAIL

MFG _____ MFG. DATE: MM/YY
SHAFT D/T/L/Y ----/----/----/----
ARM-A D/T/L/Y ----/----/----/----
----/----/----/----
ARM-B D/T/L/Y ----/----/----/----
----/----/----/----
A.B. DIA./B.C./L/Y ----/----/----/----
NCDOT SIG. INV. NO. _ _ _ _ _ _ _ _
NCDOT POLE NO. _ _ _ _ _ _ _ _

SHAFT I.D. TAG
(PROVIDE ON SHAFT OF STRAIN POLES
AND MAST ARM POLE SHAFT)

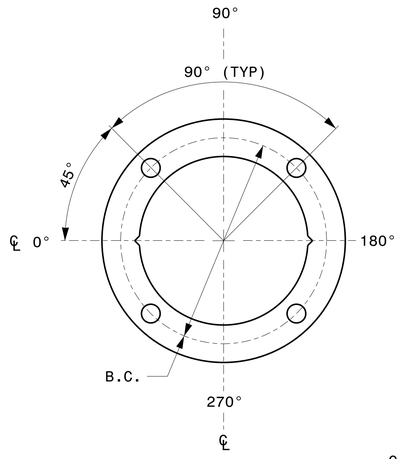
MFG _____ MFG. DATE: MM/YY
SECTION D/T/L/Y ----/----/----/----
NCDOT SIG. INV. NO. _ _ _ _ _ _ _ _
NCDOT POLE NO. _ _ _ _ _ _ _ _

ARM I.D. TAG
(PROVIDE ON EACH SECTION OF
A MULTI-SECTION MAST ARM)

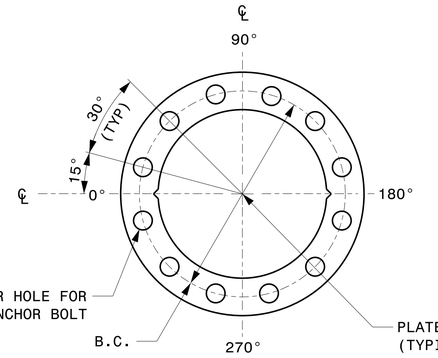
NOTES:

1. D = DIAMETER, T = THICKNESS, L = LENGTH, Y = YIELD STRENGTH
2. A.B. = ANCHOR BOLT
3. B.C. = BOLT CIRCLE OF ANCHOR BOLTS
4. IF STANDARD DESIGN, INCLUDE CASE NUMBER IN ADDITION TO POLE NUMBER ON "NCDOT POLE NO." LINE.
5. SIGNAL INV. NUMBER AND POLE I.D. NUMBER. SEE DRAWING M3 AND M4 FOR MOUNTING POSITIONS OF I.D. TAGS.

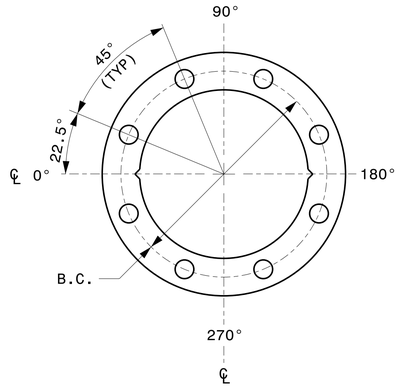
IDENTIFICATION TAG DETAILS



4 BOLT PATTERN



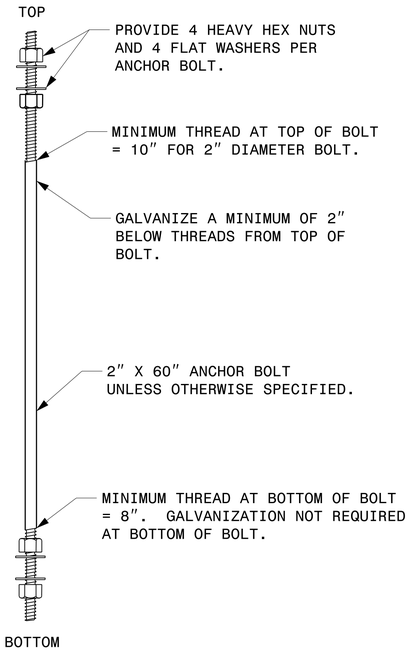
12 BOLT PATTERN



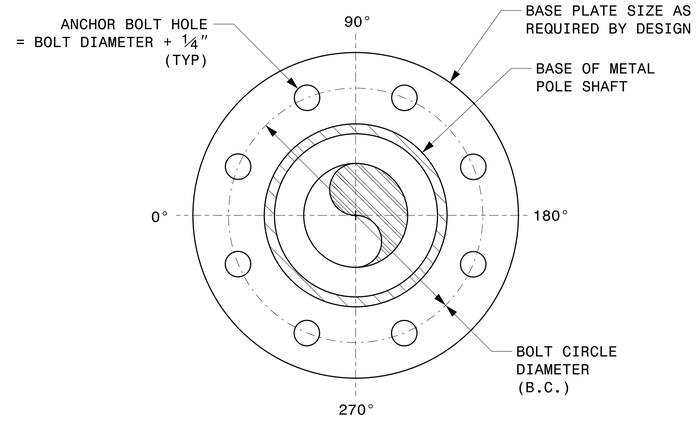
8 BOLT PATTERN

CONSTRUCT TEMPLATES AND PLATES FROM ¼″ (MIN) THICK STEEL. GALVANIZING IS NOT REQUIRED.

BASE PLATE TEMPLATE AND ANCHOR BOLT LOCK PLATE DETAILS



ANCHOR BOLT DETAIL



NOTE: BASE PLATE MAY BE CIRCULAR, OCTAGONAL, SQUARE OR RECTANGULAR IN SHAPE.

TYPICAL BASE PLATE DETAIL

PROJECT I.D. NO.	SHEET NO.
U-3422B	Sig.M2

Fabrication Details – All Metal Poles

Prepared In the Offices of:
Transportation Mobility and Safety Division
Signal Design Section
750 N.Greenfield Pkwy.Garner,NC 27529

SCALE 0 NA NONE

Typical Fabrication Details
For
All Metal Poles

PLAN DATE: SEPTEMBER 2023 DESIGNED BY: C.F.ANDREWS
PREPARED BY: K.C. DURIGON REVIEWED BY: D.C. SARKAR

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 036626 ENGINEER KEVIN C. DURIGON

DocuSigned by:
Kevin Durigon
SIGNATURE
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09/21/2023
DATE

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kcdurigon

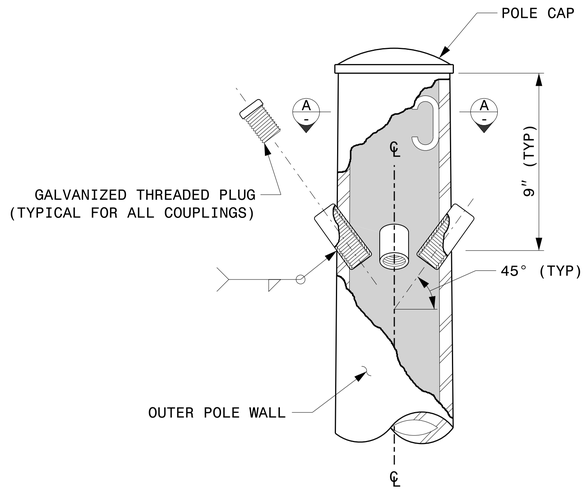
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PROJECT I.D. NO.	SHEET NO.
U-3422B	Sig.M3

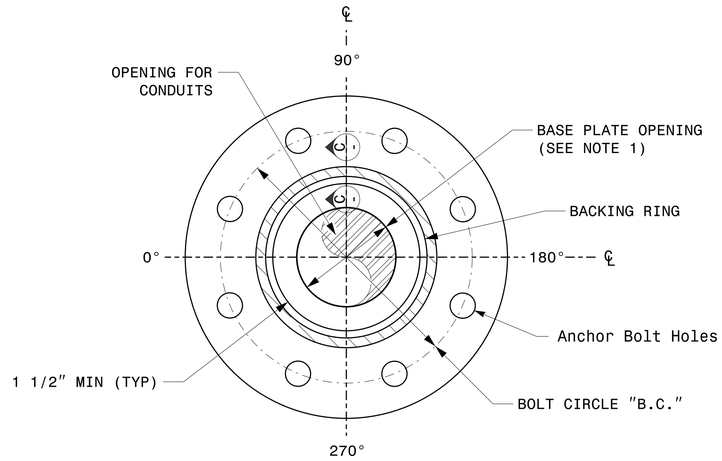
Fabrication Details — Strain Poles

NOTE:

1. OPENING IN POLE BASE PLATE SHALL BE EQUAL TO POLE BASE INSIDE DIAMETER MINUS 3½" BUT SHALL NOT BE LESS THAN 8½".

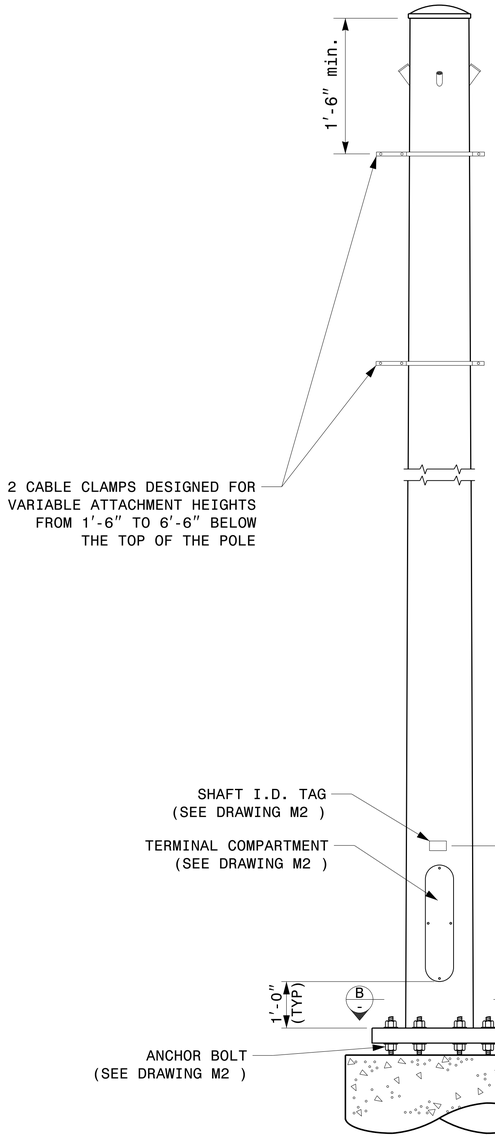


CABLE ENTRANCES AT TOP OF POLE

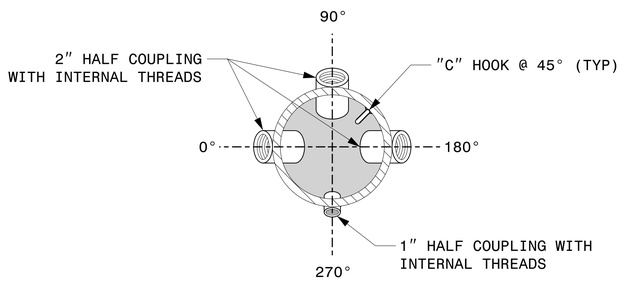


SECTION B-B

POLE BASE PLATE DETAILS
(8 AND 12 BOLT PATTERN)

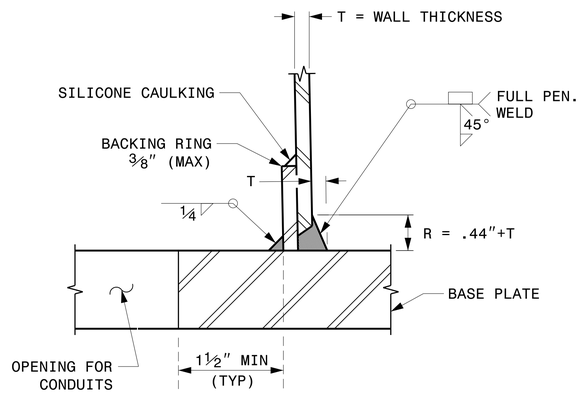


MONOTUBE STRAIN POLE



SECTION A-A

RADIAL ORIENTATION OF FACTORY INSTALLED ACCESSORIES AT TOP OF POLE



SECTION C-C

(POLE ATTACHMENT TO BASE PLATE)

FULL-PENETRATION GROOVE WELD DETAIL

Prepared In the Offices of:
Transportation Mobility and Safety Division
Signal Design Section
750 N.Greenfield Pkwy,Garner,NC 27529

SCALE
0 NA
NONE

Typical Fabrication Details
For
Strain Poles

PLAN DATE:	SEPTEMBER 2023	DESIGNED BY:	K.C. DURIGON
PREPARED BY:	K.C. DURIGON	REVIEWED BY:	D.C. SARKAR

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA
PROFESSIONAL
SEAL
036626
ENGINEER
KEVIN C. DURIGON

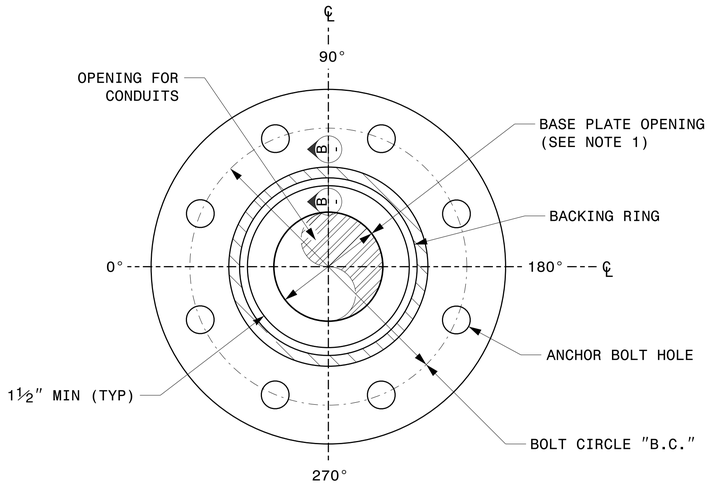
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Kevin Durigon
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DATE

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kcdurigon

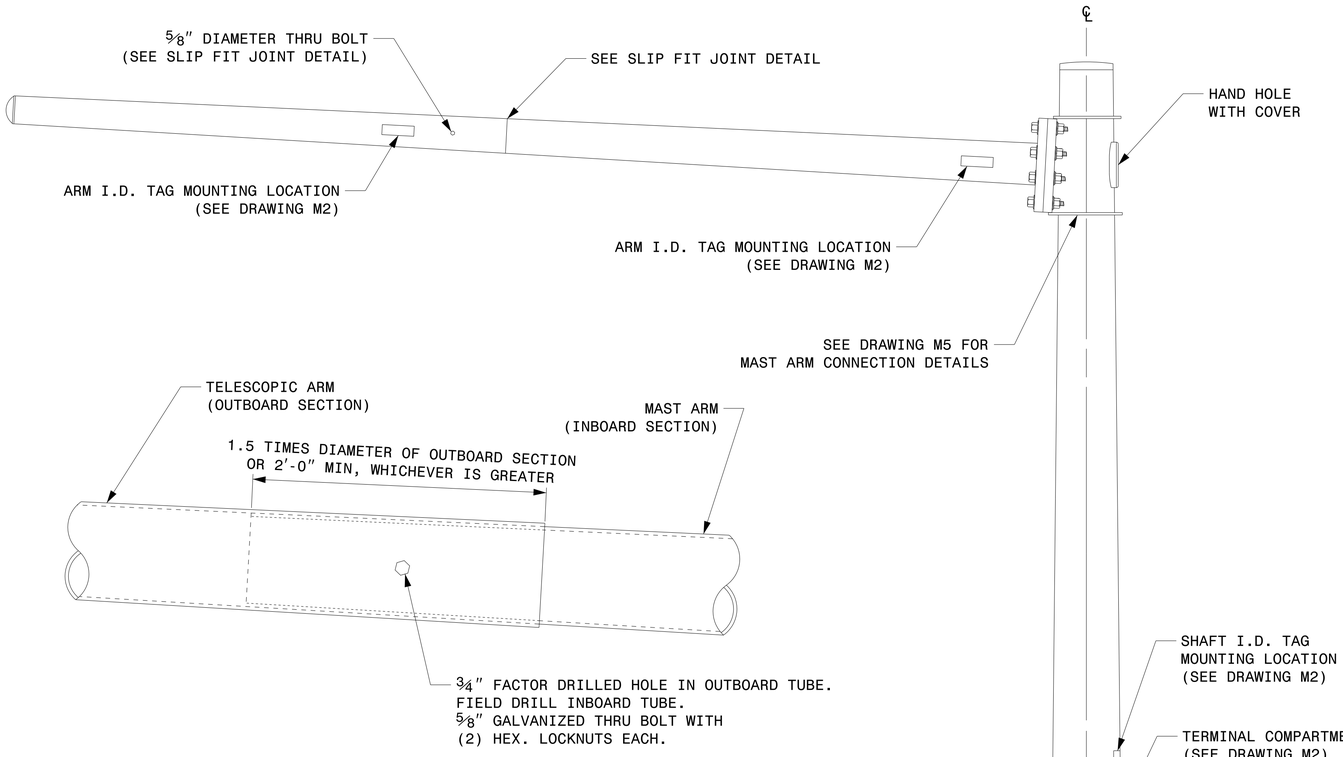
PROJECT I.D. NO.	SHEET NO.
	Sig.M4

NOTE:

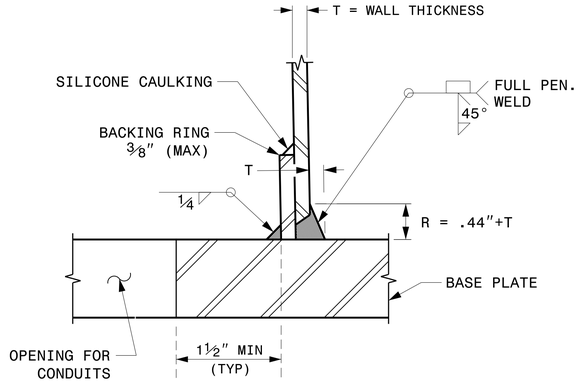
1. OPENING IN POLE BASE PLATE SHALL BE EQUAL TO POLE BASE INSIDE DIAMETER MINUS 3½" BUT SHALL NOT BE LESS THAN 8½".



SECTION A-A
POLE BASE PLATE DETAILS

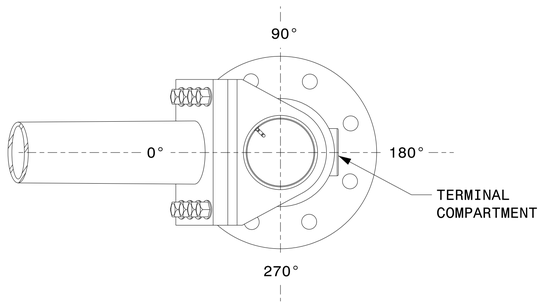


SLIP FIT JOINT DETAIL FOR MAST ARM



SECTION B-B
(POLE ATTACHMENT TO BASE PLATE)

FULL-PENETRATION GROOVE WELD DETAIL



MAST ARM RADIAL ORIENTATION

MAST ARM POLE

Fabrication Details – Mast Arm Poles

Prepared in the Offices of:
Transportation Mobility and Safety Division
Signal Design Section
750 N.Greenfield Pkwy.Garner,NC 27529

SCALE 0 NA NONE

Typical Fabrication Details For Mast Arm Poles

PLAN DATE: SEPTEMBER 2023 DESIGNED BY: K.C. DURIGON
PREPARED BY: K.C. DURIGON REVIEWED BY: D.C. SARKAR

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 036626 ENGINEER KEVIN C. DURIGON

DocuSigned by:
Kevin Durigon
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09/21/2023
DATE

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kcdurigon