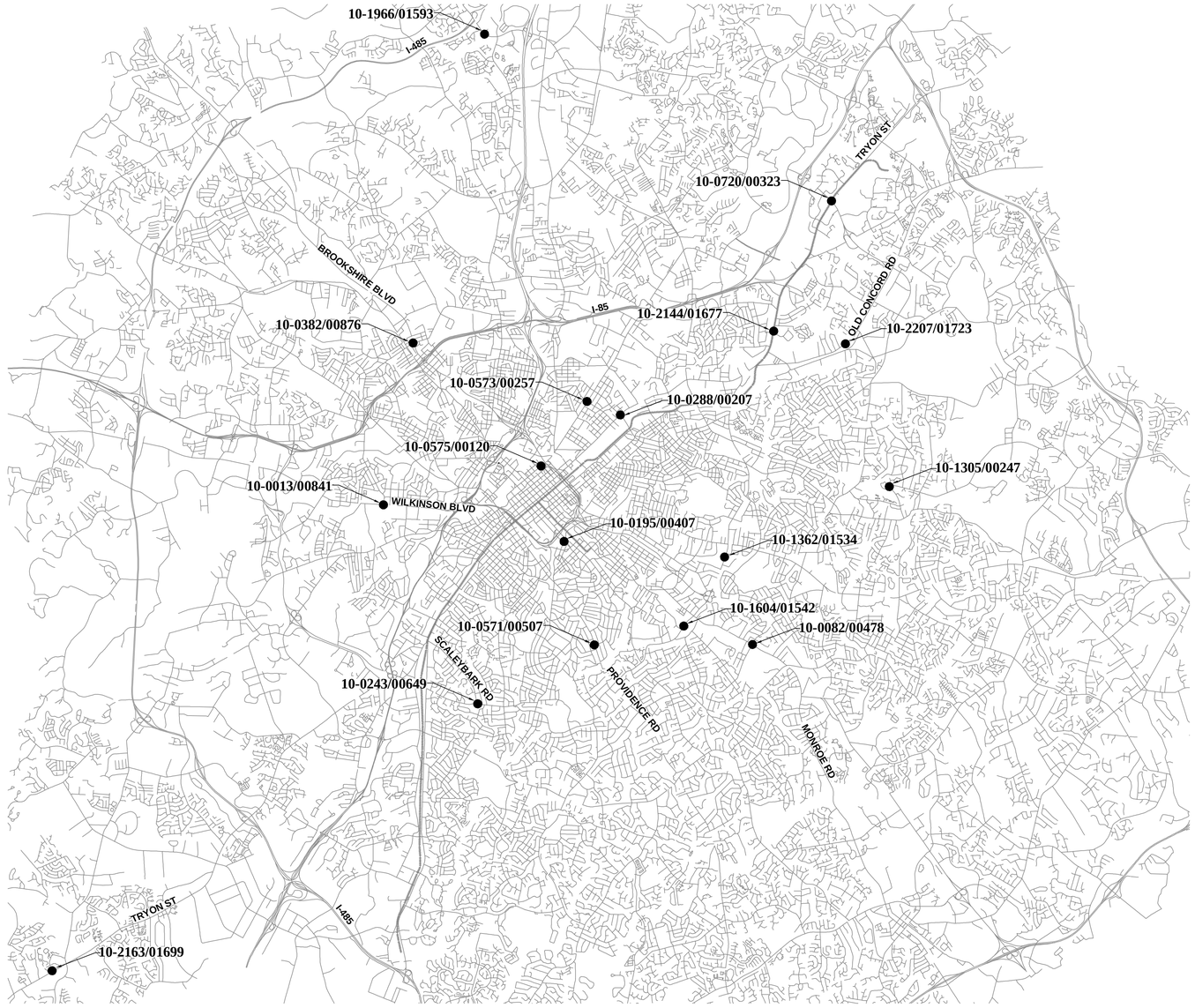
Docusign Envelope ID: 7F55CF1A-5B4A-85C0-8015-C44C98A7EBB2

SIGNAL PLANS OF
HS-2410L

INDEX OF PLANS

REFERENCE #	LOCATION/DESCRIPTION
10-1305/00247	E.W.T HARRIS BLVD AT ROBINSON CHURCH RD
10-0243/00649	WOODLAWN RD AT SCALEYBARK RD
10-2163/01699	NC 49 (TRYON ST) AT STEELCROFT PKWY
10-1966/01593	W. W.T HARRIS BLVD AT NORTHCREST DWY
10-0571/00507	COLVILLE RD AT PROVIDENCE RD
10-0720/00323	E.W.T HARRIS BLVD AT TRYON ST
10-2144/01677	US 29 (TRYON ST) AT ARROWHEAD DR
10-2207/01723	OLD CONCORD RD AT GRIER RD
10-0288/00207	TRYON ST AT 30TH ST/MATHESON AVE
10-0573/00257	GRAHAM ST AT 28TH ST/MORETZ AVE
10-0195/00407	3RD ST AT KINGS ST
10-0082/00478	MONROE RD AT SHARON AMITY RD
10-1604/01542	WENDOVER RD AT HOME DEPOT DWY
10-0013/00841	US 29-74 (WILKINSON BLVD) AT ASHLEY RD
10-1362/01534	EASTWAY DR AT EASTWAY CROSSING DR
10-0575/00120	WEST 10TH ST AT NORTH GRAHAM ST
10-0382/00876	BROOKSHIRE BLVD AT HOSKINS RD



VICINITY MAP (NTS)

PLANS PREPARED BY:

Kimley»Horn
421 FAYETTEVILLE STREET, SUITE 600
RALEIGH, NORTH CAROLINA, 27601
PHONE: 919-677-2000

PROJECT TEAM

DESIGNER:	MH HARVEY, EI
PROJECT MANAGER:	MC BURKE, PE

PE SEAL

NORTH CAROLINA PROFESSIONAL SEAL 058683 ENGINEER MOLLY C. BURKE

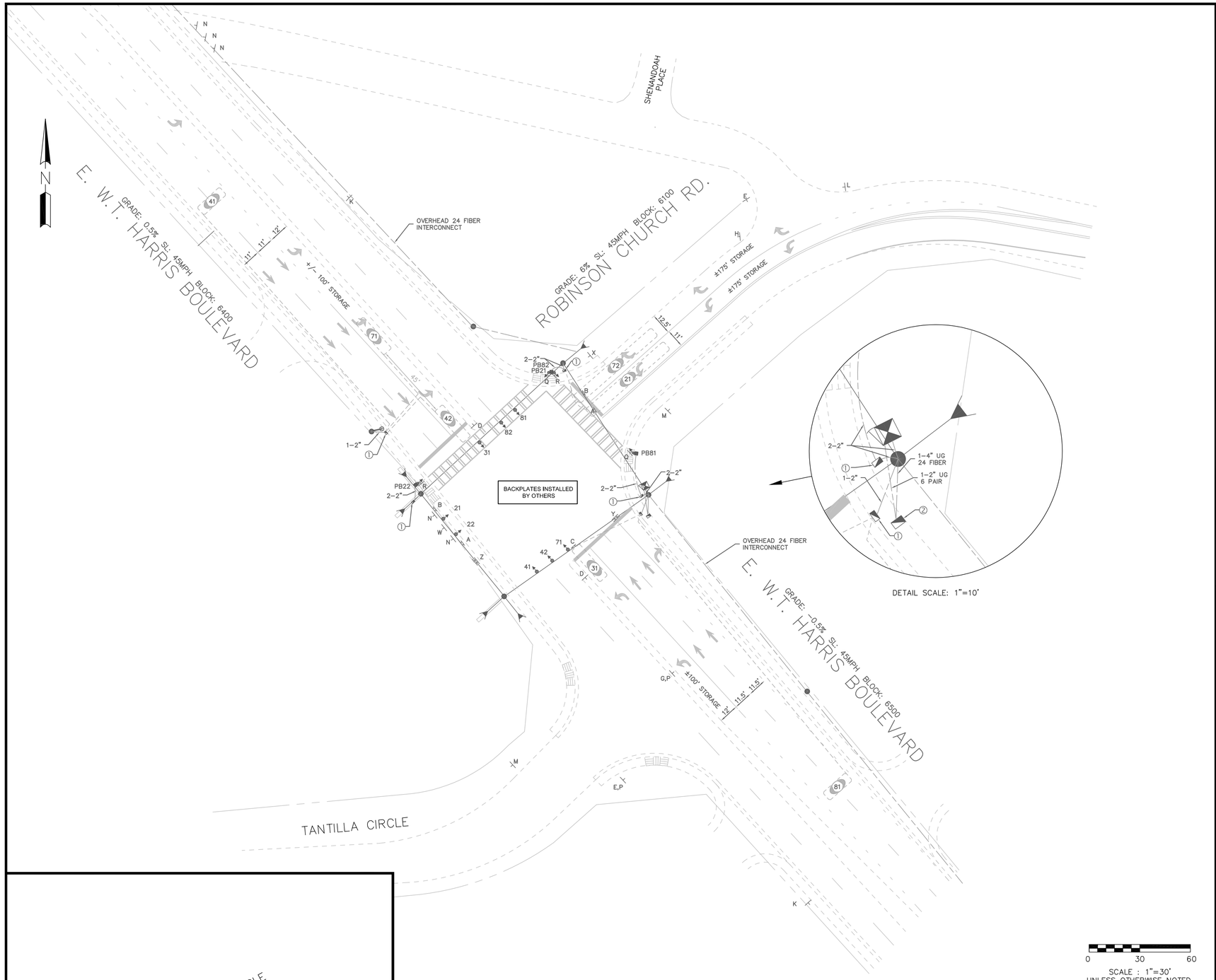
DocuSigned by: Molly Burke 954EF86CD4C647E...

6/26/2026

CHARLOTTE. TRANSPORTATION

Friday, June 26, 2026 11:53:35 AM

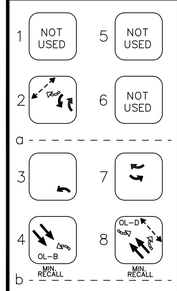
Docusign Envelope ID: 6C7332A02-71D6-8C2E-834F-3D13BFF22D21



SIGNAL PHASING

Ring Configuration 1,2,3,4,5b 5,6,7,8,b

CONTROLLER TYPE: 2070 EOS



SIGNAL SEQUENCE

RING 1	PHASE 1		PHASE 2		PHASE 3		PHASE 4		
SIGNAL ID NUMBER	R/W	OTH	R/W	OTH	R/W	OTH	R/W	OTH	FLASH
21,22			G	Y					R
81A			▶	▷					– –
41,42							G	Y	R
31					◀	◁			◁
PB21,PB22			W FDW	DW					DARK

RING 2	PHASE 5		PHASE 6		PHASE 7		PHASE 8		
SIGNAL ID NUMBER	R/W	OTH	R/W	OTH	R/W	OTH	R/W	OTH	FLASH
21A					▶	▷			– –
71					◀	◁			◁
81,82							G	Y	R
PB81,PB82							W FDW	DW	DARK

OVERLAP–PHASE

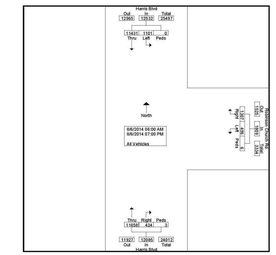
OVERLAP – PHASE	OL-A/–+–		OL-B/3+4 FYA		OL-C/–+–		OL-D/7+8 FYA		
SIGNAL ID NUMBER	R/W	OTH	R/W	OTH	R/W	OTH	R/W	OTH	FLASH
31A			✳	◁					◁
71A							✳	◁	◁

◁ RED ARROW ◁ YELLOW ARROW
◀ GREEN ARROW ✳ FLASHING YELLOW ARROW

CLEARANCE INTERVALS

Phase	1	2	3	4	5	6	7	8
% Grade		6.0%	-0.5%	0.5%			0.5%	-0.5%
Distance		115	70	90			95	90
Approach Speed (mph)		30	20	45			30	45
Yellow		**3.2**	**3.0**	**4.5**			**3.5**	**4.5**
All Red		**2.7**	**2.4**	**1.4**			**2.2**	**1.4**
Total Clearance		5.9	5.4	5.9			5.7	5.9

TRAFFIC VOLUMES



DETECTOR INFORMATION

DETECTOR NUMBER	AMP. NO.	SIZE / ZONE	ø	AMP TYPE	DELAY DURATION ø	COMMENTS:
21	1	6x60	2	N		@SB
72	2	6x60	7	D	7	@SB
42	3	6x25	4	N		@SB
41	4	6x18	4	N		200' FROM SB
31	5	6x25	3	D	3	@SB, 60 SEC.
81	6	6x18	8	N		200' FROM SB
71	7	6x25	7	D	7	45' FROM LOOP # 42

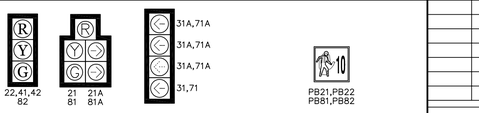
NOTE:
ALL STOPBAR LOOPS EXTEND 5' BEYOND THE STOPBAR UNLESS OTHERWISE NOTED.
ALL LOOPS RECEIVE THREE TURNS.

PULLBOX ID

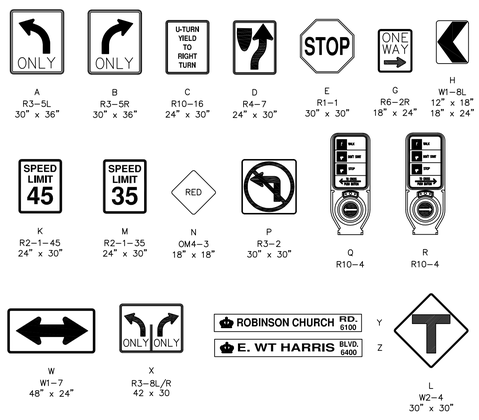
	SIZE:	PULLBOX TYPE:
①	13"x24"x12"	LOOP
②	17"x30"x24"	FIBER OPTIC
③	24"x36"x24"	CONTROLLER / FIBER
④	30"x48"x36"	CONTROLLER
⑤	24"x24"x12"	CONTROLLER
⑥	36"x36"x12"	CONTROLLER

NOTE:
PULLBOX MATERIAL MUST MEET OR EXCEED THE 1998 CDOT TRAFFIC SIGNAL SPECIFICATIONS.

SIGNAL HEAD ID



SIGN ID



LEGEND

PROPOSED	DESCRIPTION	EXISTING
	CONTROL BOX	
	PULL BOX	
	STEEL POLE	
	MAST ARM	
	PED PEDESTAL	
	UTILITY POLE	
	ANCHOR	
	SIDEWALK ANCHOR	
	SIGNAL HEAD	
	VIDEO CAMERA	
	OPTICOM	
	OBSERVATION CAM	
	DETECTOR	
	CONDUIT	
	INTERCONNECT	
	EDGE OF PVMT.	
	CURB & GUTTER	
	TUBULAR MARKER	
	GROUND SIGN	
	OVERHEAD SIGN	
	DOUBLE YELLOW	
	STOP BAR	
	WHITE SKIP	
	WHITE MINI	
	PAVEMENT ARROW	
	PROPERTY LINE	
	ROW	

PLAN NOTES

1. ALL PAVEMENT MARKING DIMENSIONS ARE APPROXIMATE.
2. SIGNAL WILL BE INSTALLED IN ACCORDANCE WITH THE LATEST NCDOT STANDARDS SPECIFICATIONS AND CDOT TRAFFIC SIGNAL SPECIAL PROVISIONS.
3. PED SIGNALS WITH PUSHBUTTONS WILL BE LABELED "PB" (FOR EXAMPLE PB21, PB22)
4. COUNTDOWN PEDESTRIAN SIGNALS SHOULD COUNT DOWN FLASHING DON'T WALK ONLY.
5. FYAs 31,74 WILL INITIALLY OPERATE PROTECTED–PERMITTED 24/7.

NORTH CAROLINA PROFESSIONAL SEAL 058683 ENGINEER MOLLY C. BURKE

DocuSigned by: Molly Burke 954EF8C04C847E... 7/20/2026

SIGNATURE DATE

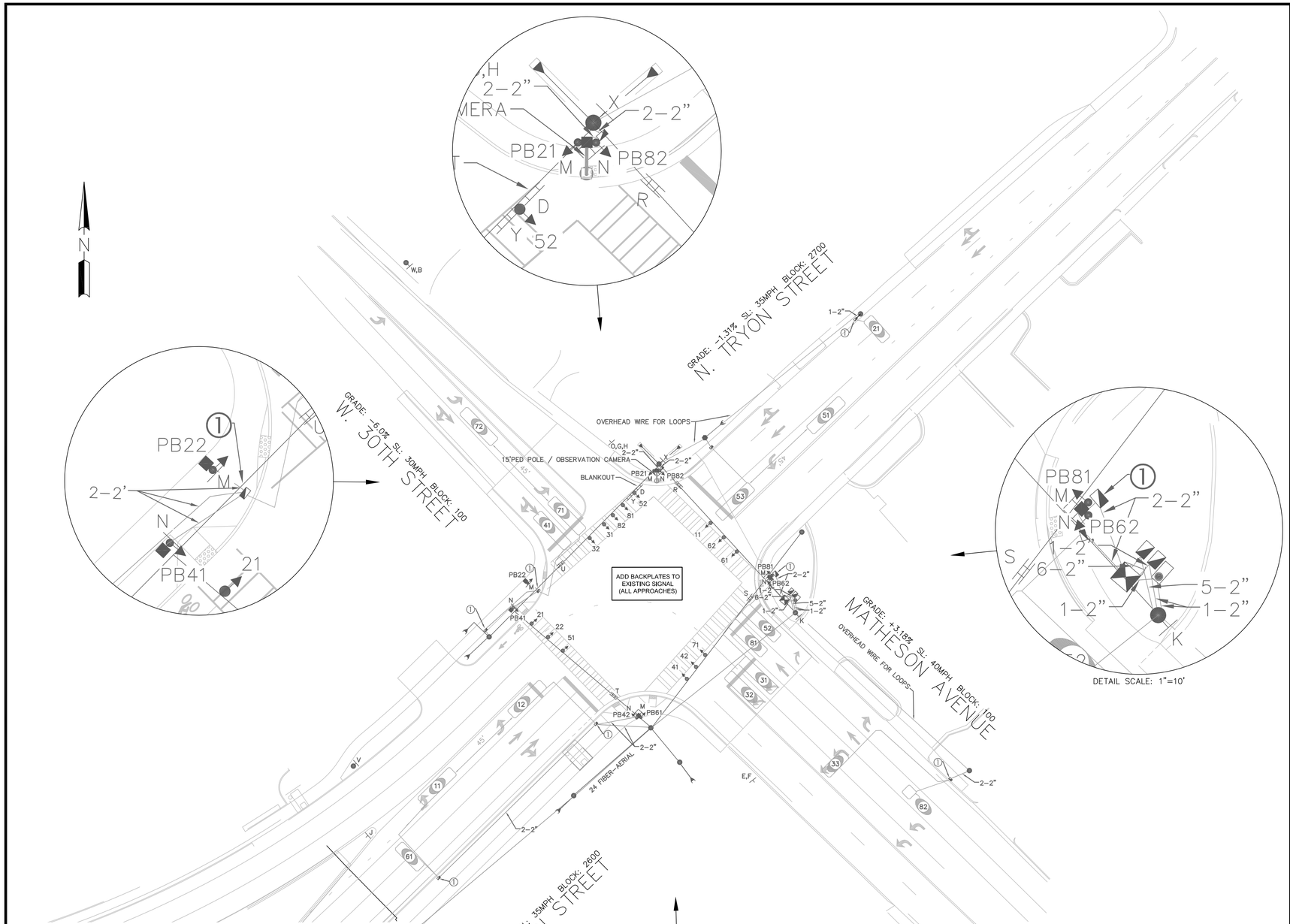
#	BY:	DATE:	REVISION:
1	RDC	8/91	UPDATE
2	RDC	3/92	LT LANE LOOP
3	RDC	7/92	RECORD PLAN
4	NS	4/10	RECORD PLAN–JT
5	RA	9/12	LOOPS 41,42,71,81,82
6	KC	5/15	FYA, PEDS, ROTATE PLAN TO NORTH
7	DP	10/16	PEDS APS–RECORD PLAN
8	EG	04/19	RECORD PLAN
9	MCB	6/19/26	RECORD PLAN – BACKPLATES

CITY OF CHARLOTTE
DEPARTMENT OF TRANSPORTATION
600 E. 4TH ST. CHARLOTTE, NC 28202 704 336–4119 FAX: 704 336–4400

E. W.T. HARRIS BOULEVARD AND ROBINSON CHURCH RD.

DESIGNED BY: RDC | DATE: 2/90 | APPROVED BY: BG | NCDOT# 10–1305 | HANSEN: 11910 | SIGNAL ID: 00247

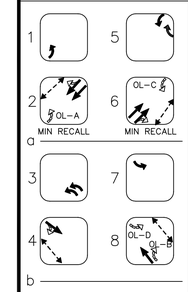
Docusign Envelope ID: 593DBDB9-E669-89E6-82D0-A8104C997587



SIGNAL PHASING

Ring Configuration 1,2,a,3,4,b / 5,6,c,7,8,d

CONTROLLER TYPE: EOS 2070



SIGNAL SEQUENCE

RING 1	PHASE 1		PHASE 2		PHASE 3		PHASE 4		FLASH
SIGNAL ID NUMBER	R/W	OTH	R/W	OTH	R/W	OTH	R/W	OTH	
11	◀	◁							◁
21,22			G	Y					R
31,32					◀	◁			◁
41,42							G	Y	R
PB21,PB22			W FDW	DW					DARK
PB41,PB42							W FDW	DW	DARK
RING 2	PHASE 5		PHASE 6		PHASE 7		PHASE 8		FLASH
SIGNAL ID NUMBER	R/W	OTH	R/W	OTH	R/W	OTH	R/W	OTH	
51	◀	◁							◁
52	▶	▷							R
61,62			G	Y					R
81,82							G	Y	R
71					◀	◁			◁
PB61,PB62			W FDW	DW					DARK
PB81,PB82							W FDW	DW	DARK

OVERLAP–PHASE

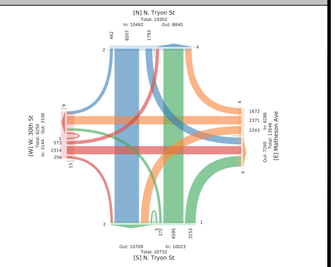
OVERLAP – PHASE	OL–A/1+2 LT–FYA		OL–B/ 5+8 RT–FYA		OL–C/ 5+6 LT–FYA		OL–D/ 7+8 LT–FYA		FLASH
SIGNAL ID NUMBER	R/W	OTH	R/W	OTH	R/W	OTH	R/W	OTH	
11a	✳	◁							◁
52a			✳	▷					R
51a					✳	◁			◁
71a							✳	◁	◁

◁ RED ARROW ◁ YELLOW ARROW
◀ GREEN ARROW ✳ FLASHING YELLOW ARROW

CLEARANCE INTERVALS

Phase	1	2	3	4	5	6	7	8
% Grade	1.3%	-1.3%	3.2%	-6.0%	-1.3%	1.3%	-6.0%	3.2%
Distance	100	115	115	95	85	110	80	85
Approach Speed (mph)	20	35	20	30	20	35	20	40
Yellow	**3.0**	**3.9**	**3.0**	**3.9**	**3.0**	**3.9**	**3.1**	**3.9**
All Red	**3.3**	**2.3**	**3.5**	**2.2**	**2.9**	**2.3**	**2.8**	**2.2**
Total Clearance	6.3	6.2	6.5	6.1	5.9	6.2	5.9	6.1

TRAFFIC VOLUMES



PULLBOX ID

	SIZE:	PULLBOX TYPE:
①	13"x24"x12"	LOOP
②	17"x30"x24"	FIBER OPTIC
③	24"x36"x24"	CONTROLLER / FIBER
④	30"x48"x36"	CONTROLLER
⑤	24"x24"x12"	CONTROLLER
⑥	36"x36"x12"	CONTROLLER

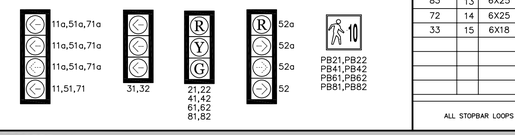
NOTE:
PULLBOX MATERIAL MUST MEET OR EXCEED THE LATEST CDOT TRAFFIC SIGNAL SPECIFICATIONS.

DETECTOR INFORMATION

DETECTOR NUMBER	AMP. NO.	SIZE / ZONE	ø	AMP TYPE	DELAY DISABLE ø	COMMENTS:
11	1	6X25	1,2	D	1,2	65' FROM STOPBAR
21	2	6X25	2	N		130' FROM STOPBAR
53	3	6X25	5,6	D	5,6	STOPBAR
31	4	6X25	3	N		STOPBAR
32	5	6X25	3	N		STOPBAR
41	6	6X25	4	N		STOPBAR
71	7	6X25	7	N		STOPBAR, CROSS-SWITCH TO PHASE 8
51	8	6X25	5,6	D	5,6	65' FROM STOPBAR
12	9	6X25	1,2	D	1,2	STOPBAR
61	10	6X16	6	N		130' FROM STOPBAR
52	11	6X25	5	D	5	STOPBAR
82	12	6X6	8	N		STOPBAR
83	13	6X25	8	N		130' FROM STOPBAR
72	14	6X25	7	N		65' FROM STOPBAR, CROSS-SWITCH TO PHASE 8
33	15	6X18	3	N		70' FROM STOPBAR

NOTE:
ALL STOPBAR LOOPS EXTEND 5' BEYOND THE STOPBAR UNLESS OTHERWISE NOTED.
ALL LOOPS RECEIVE THREE TURNS.

SIGNAL HEAD ID



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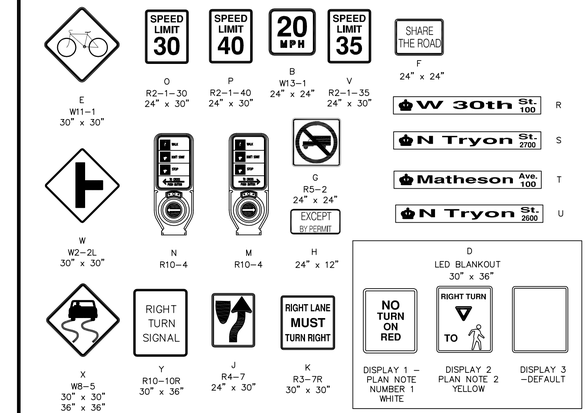
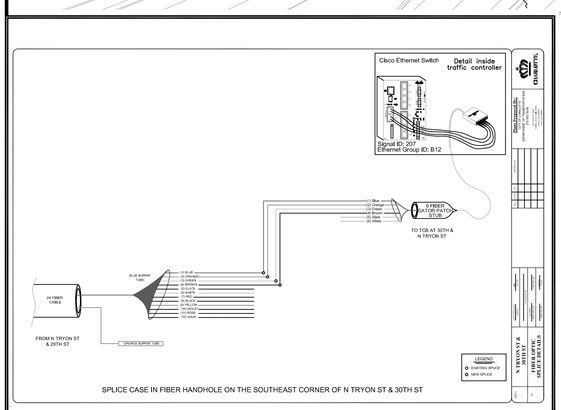


LEGEND

PROPOSED	DESCRIPTION	EXISTING
	CONTROL BOX	
	PULL BOX	
	STEEL POLE	
	MAST ARM	
	PED PEDESTAL	
	UTILITY POLE	
	ANCHOR	
	SIDEWALK ANCHOR	
	SIGNAL HEAD	
	VIDEO CAMERA	
	OPTICOM	
	OBSERVATION CAM	
	DETECTOR	
	CONDUIT	
	INTERCONNECT	
	EDGE OF PVMT.	
	CURB & GUTTER	
	TUBULAR MARKER	
	GROUND SIGN	
	OVERHEAD SIGN	
	DOUBLE YELLOW	
	STOP BAR	
	WHITE SKIP	
	WHITE MINI	
	PAVEMENT ARROW	
	PROPERTY LINE	
	ROW	

PLAN NOTES

1. ALL PAVEMENT MARKING DIMENSIONS ARE APPROXIMATE.
2. SIGNAL WILL BE INSTALLED IN ACCORDANCE WITH THE LATEST NCDOT STANDARDS SPECIFICATIONS AND CDOT TRAFFIC SIGNAL SPECIAL PROVISIONS.
3. PED SIGNALS WITH PUSHBUTTONS WILL BE LABELED "PB" (FOR EXAMPLE PB21, PB22)
4. COUNTDOWN PEDESTRIAN SIGNALS SHOULD COUNT DOWN. FLASHING DON'T WALK ONLY.
5. FYAS 11, 51 AND 71 WILL INITALLY OPERATE PROTECTED–PERMITTED 24/7.
6. DISPLAY 1 OF SIGN D IS ACTIVATED BY PB81,82.
7. DISPLAY 2 OF SIGN D IS ACTIVATED AT THE END OF THE PHASE 8 LEADING PEDESTRIAN INTERVAL. DISPLAY 2 OVERRIDEES DISPLAY 1 IF BOTH DISPLAYS ARE ACTIVE.
8. BOTH DISPLAYS DEACTIVATE AT THE END OF FDW.
9. OVERLAPS B AND D SHALL SIMULTANEOUSLY CLEAR TO RED.



SEAL 058683
NORTH CAROLINA PROFESSIONAL ENGINEER MOLLY C. BURKE

DocuSigned by: Molly Burke 6/19/2026
SIGNATURE DATE

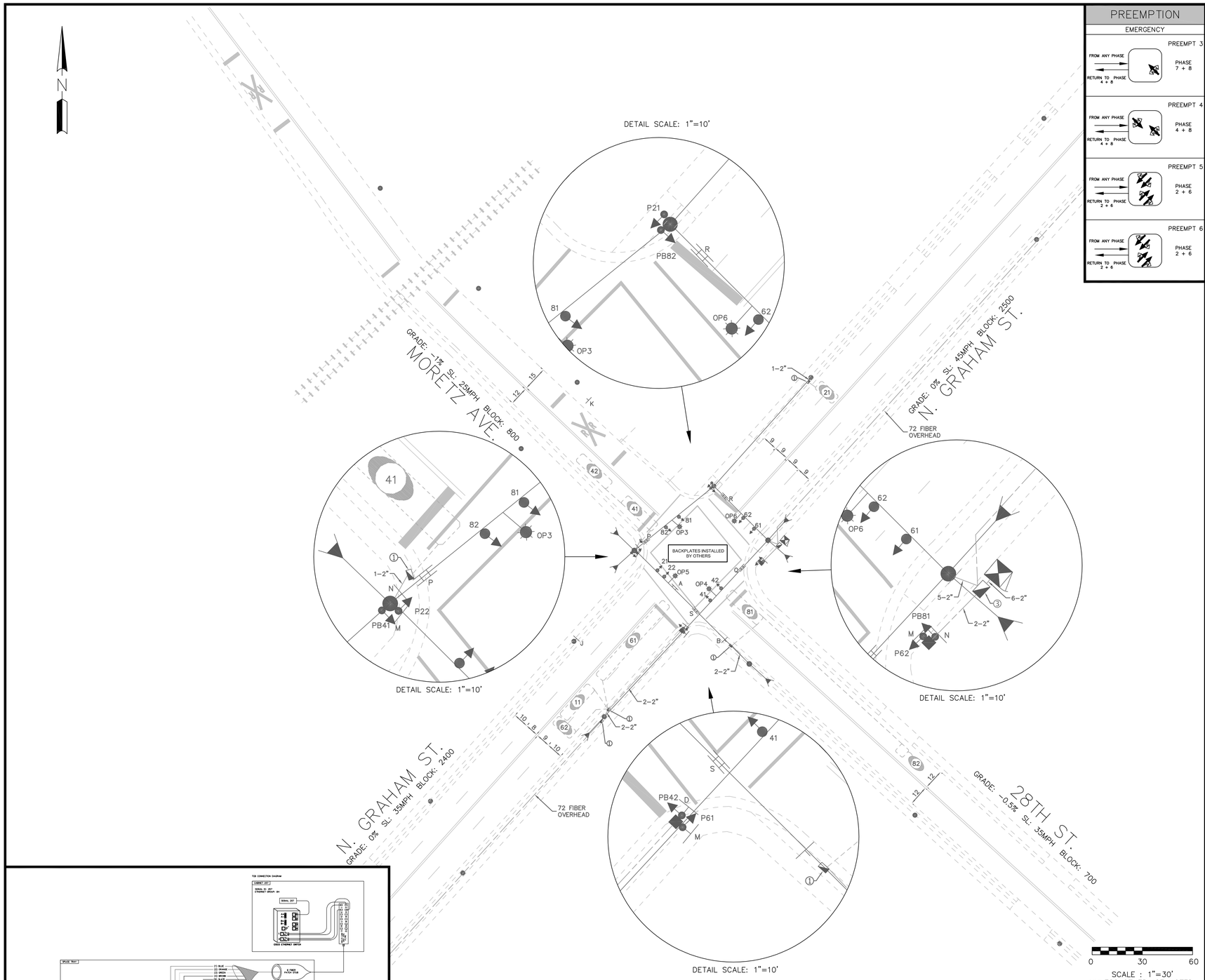
#	BY:	DATE:	REVISION:
1	JRR	09/18/2020	PLAN REVISIONS
2	PLB	12/21/2020	PLAN REVISIONS
3	PLB	07/12/2021	RECORD PLAN
4	MCB	06/19/2026	RECORD PLAN – ADD BACKPLATES

CITY OF CHARLOTTE
DEPARTMENT OF TRANSPORTATION
600 E. 4TH ST. CHARLOTTE, NC 28202 704 336–4119 FAX: 704 336–4400

NORTH TRYON STREET AND W. 30TH STREET/MATHESON AVE.

DESIGNED BY: MKC | DATE: 9–30–14 | APPROVED BY: BAH | NCDOT# 10–0288 | HANSEN: 09791 | SIGNAL ID: 00207

Docusign Envelope ID: 6C732A02-71D6-8C2E-834F-3D13BFF22D21



PREEMPTION

EMERGENCY

PREEMPT 3 — FROM ANY PHASE → RETURN TO PHASE 4 + 8 — PHASE 7 + 8

PREEMPT 4 — FROM ANY PHASE → RETURN TO PHASE 4 + 8 — PHASE 4 + 8

PREEMPT 5 — FROM ANY PHASE → RETURN TO PHASE 2 + 6 — PHASE 2 + 6

PREEMPT 6 — FROM ANY PHASE → RETURN TO PHASE 2 + 6 — PHASE 2 + 6

SIGNAL PHASING

Ring Configuration 1,2,a,3,4,b / 5,6,0,7,8,b

CONTROLLER TYPE:
ENTER CONTROLLER TYPE HERE

1 — 5 NOT USED
2 — 6 PED RECALL / PED RECALL
a
3 — 7 NOT USED / NOT USED
4 — 8
b

SIGNAL SEQUENCE

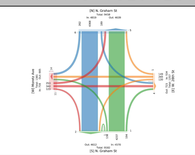
RING 1	PHASE 1		PHASE 2		PHASE 3		PHASE 4		FLASH
SIGNAL ID NUMBER	R/W	OTH	R/W	OTH	R/W	OTH	R/W	OTH	
62a	◀	◁							
21,22			G	Y					R
41,42							G	Y	R
P21–P22			W FDW	DW					DARK
PB41–PB42							W FDW	DW	DARK

RING 2	PHASE 5		PHASE 6		PHASE 7		PHASE 8		FLASH
SIGNAL ID NUMBER	R/W	OTH	R/W	OTH	R/W	OTH	R/W	OTH	
61,62			G	Y					R
81,82							G	Y	R
P61–P62			W FDW	DW					DARK
PB81–PB82							W FDW	DW	DARK

CLEARANCE INTERVALS

Phase	1	2	3	4	5	6	7	8
% Grade	0.0%	0.0%		-1.0%		0.0%		-0.5%
Distance	55	55		60		60		60
Approach Speed (mph)	25	45		35		35		35
Yellow	**3.2**	**4.5**		**3.9**		**3.8**		**3.9**
All Red	**1.5**	**1.0**		**1.2**		**1.2**		**1.2**
Total Clearance	4.7	5.5		5.1		5.0		5.1

TRAFFIC VOLUMES


28th St. Graham St
Int. Type: Int. Type:
Int. Type: Int. Type:
Int. Type: Int. Type:

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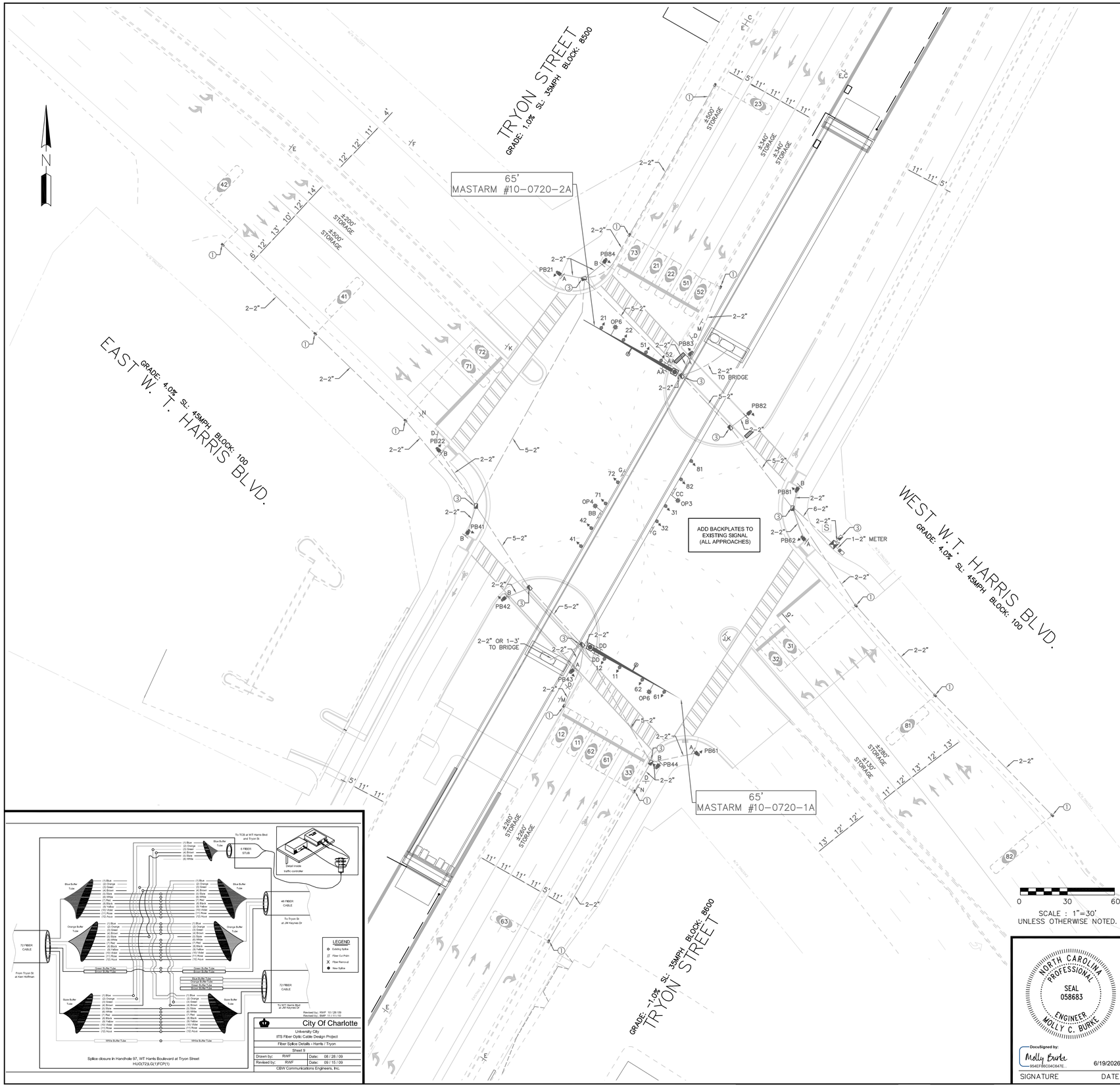


City Of Charlotte
University City
ITS Fiber Optic Cable Design Project
Fiber Splice Details - Harris / Tryon
Sheet 9

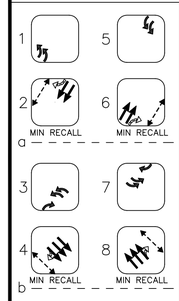
Drawn by:	RWF	Date:	08 / 28 / 09
Revised by:	RWF	Date:	09 / 15 / 09

CBW Communications Engineers, Inc.

SIGNAL PHASING

Ring Configuration 1,2,o,12,3,4,c 6,5,b,7,8,c

CONTROLLER TYPE: 2070 EOS



SIGNAL SEQUENCE

RING 1	PHASE 1		PHASE 2		PHASE 3		PHASE 4		FLASH
SIGNAL ID NUMBER	R/W	OTH	R/W	OTH	R/W	OTH	R/W	OTH	
11,12	◀	◁							◁
21,22			G	Y					R
31,32					◀	◁			◁
61a					▶	▷			–
41,42							G	Y	R
PB21–PB22			W FDW	DW					DARK
PB41–PB44							W FDW	DW	DARK

RING 2	PHASE 5		PHASE 6		PHASE 7		PHASE 8		FLASH
SIGNAL ID NUMBER	R/W	OTH	R/W	OTH	R/W	OTH	R/W	OTH	
51,52	◀	◁							◁
61,62			G	Y					R
71,72					◀	◁			◁
21a					▶	▷			–
81,82							G	Y	R
PB61–PB62			W FDW	DW					DARK
PB81–PB84							W FDW	DW	DARK

OVERLAP–PHASE

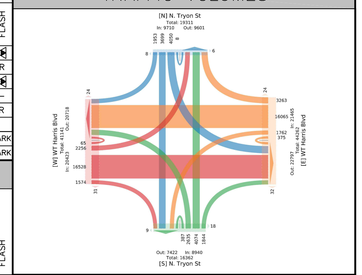
OVERLAP – PHASE	OL–A/–+–		OL–B/–+–		OL–C/–+–		OL–D/–+–		FLASH
SIGNAL ID NUMBER	R/W	OTH	R/W	OTH	R/W	OTH	R/W	OTH	
––	––	––	––	––	––	––	––	––	––
––	––	––	––	––	––	––	––	––	––
––	––	––	––	––	––	––	––	––	––
––	––	––	––	––	––	––	––	––	––

◁ RED ARROW ◁ YELLOW ARROW
◀ GREEN ARROW ✱ FLASHING YELLOW ARROW

CLEARANCE INTERVALS

Phase	1	2	3	4	5	6	7	8
% Grade	-1.0%	1.0%	4.0%	4.0%	1.0%	-1.0%	4.0%	4.0%
Distance	280	225	220	250	290	210	220	245
Approach Speed (mph)	25	35	30	45	25	35	30	45
Yellow	**3.2**	**3.8**	**3.3**	**4.2**	**3.1**	**3.9**	**3.3**	**4.2**
All Red	**5.4**	**3.7**	**4.0**	**3.4**	**5.5**	**3.6**	**4.0**	**3.4**
Total Clearance	8.6	7.5	7.3	7.6	8.6	7.5	7.3	7.6

TRAFFIC VOLUMES



DETECTOR INFORMATION

DETECTOR NUMBER	AMP-NO.	SIZE / ZONE	ø	AMP TYPE	DELAY DISABLE ø	COMMENTS:
11,12	1	6'x25'	1	N		STOPBAR
21,22	2	6'x25'	2	N		STOPBAR
23	3	6'x18'	2	N		130' FROM STOPBAR
51,52	4	6'x25'	5	N		STOPBAR
61,62	5	6'x25'	6	N		STOPBAR
63	6	6'x18'	6	N		130' FROM STOPBAR
71,72	7	6'x25'	7	N		STOPBAR
41	8	6'x30'	7	N		95' FROM STOPBAR
42	9	6'x25'	7	N		200' FROM STOPBAR
73	10	6'x25'	7	D	7	STOPBAR 15 sec. delay
81	11	6'x32'	8	N		95' FROM STOPBAR
82	12	6'x28'	8	N		200' FROM STOPBAR
31,32	13	6'x25'	3	N		STOPBAR
33	14	6'x25'	3	D	3	STOPBAR 15 sec. delay

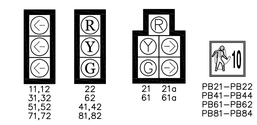
NOTE:
ALL STOPBAR LOOPS EXTEND 5' BEYOND THE STOPBAR UNLESS OTHERWISE NOTED.
ALL LOOPS RECEIVE THREE TURNS.

PULLBOX ID

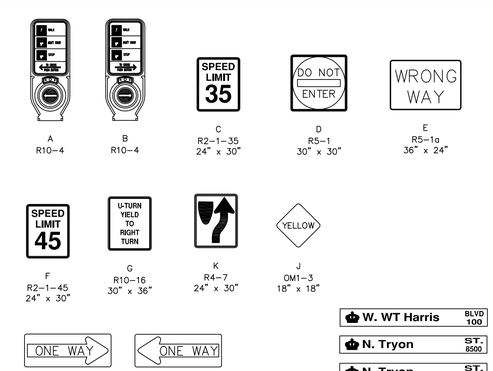
	SIZE:	PULLBOX TYPE:
①	13"x24"x12"	LOOP
②	17"x30"x24"	FIBER OPTIC
③	24"x36"x24"	CONTROLLER / FIBER
④	30"x48"x36"	CONTROLLER
⑤	24"x24"x12"	CONTROLLER
⑥	36"x36"x12"	CONTROLLER

NOTE:
PULLBOX MATERIAL MUST MEET OR EXCEED THE LATEST CDOT TRAFFIC SIGNAL SPECIFICATIONS.

SIGNAL HEAD ID



SIGN ID



LEGEND

PROPOSED	DESCRIPTION	EXISTING
	CONTROL BOX	
	PULL BOX	
	STEEL POLE	
	MAST ARM	
	PED PEDESTAL	
	UTILITY POLE	
	ANCHOR	
	SIDEWALK ANCHOR	
	SIGNAL HEAD	
	VIDEO CAMERA	
	OPTICOM	
	OBSERVATION CAM	
	DETECTOR	
	CONDUIT	
	INTERCONNECT	
	EDGE OF PVMT.	
	CURB & GUTTER	
	TUBULAR MARKER	
	GROUND SIGN	
	OVERHEAD SIGN	
	DOUBLE YELLOW	
	STOP BAR	
	WHITE SKIP	
	WHITE MINI	
	PAVEMENT ARROW	
	PROPERTY LINE	
	ROW	

PLAN NOTES

1. ALL PAVEMENT MARKING DIMENSIONS ARE APPROXIMATE.
2. SIGNAL WILL BE INSTALLED IN ACCORDANCE WITH THE LATEST NCDOT STANDARDS SPECIFICATIONS AND CDOT TRAFFIC SIGNAL SPECIAL PROVISIONS.
3. PED SIGNALS WITH PUSHBUTTONS WILL BE LABELED "PB" (PB21, PB22)
4. COUNTDOWN PEDESTRIAN SIGNALS SHOULD COUNT DOWN FLASHING DON'T WALK ONLY.
5. PHASES 1 AND 5 SHALL NEVER RUN CONCURRENT.

NORTH CAROLINA PROFESSIONAL SEAL 058683 ENGINEER MOLLY C. BURKE

DocuSigned by: Molly Burke 934EF8CD4C9A7E...
6/19/2026
SIGNATURE DATE

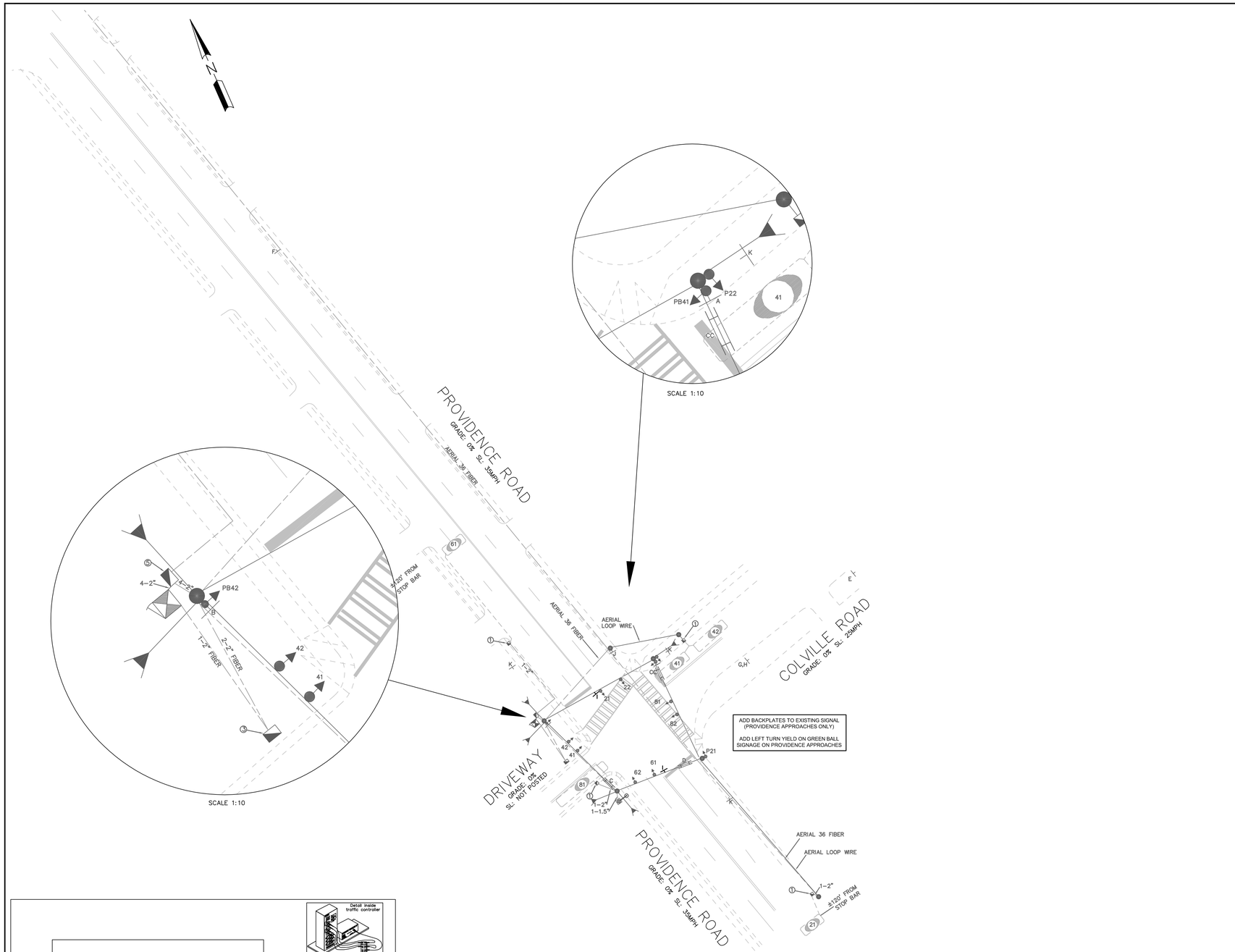
#	BY:	DATE:	REVISION:
1	AV	5/18/2015	BLUE LINE EXTENSION PROJECT
2	TS	11/20/2015	REVISED SIGNAL PLAN
3	AW	7/2018	RECORD PLAN
4	AW	06/12/2019	PHASE REVISION/RECORD PLAN
5	MCB	6/19/26	RECORD PLAN – ADD BACKPLATES

CITY OF CHARLOTTE
DEPARTMENT OF TRANSPORTATION
600 E. 4TH ST. CHARLOTTE, NC 28202 704 336–4119 FAX: 704 336–4400

TRYON STREET AND E. W.T. HARRIS BOULEVARD

DESIGNED BY: AEV | DATE: 4/2000 | APPROVED BY: STS | NCDOT# 10–0720 | HANSEN: 05704 | SIGNAL ID: 00323

Docusign Envelope ID: 606F7514-0444-8FF1-81E4-E4D9BE96D01C



SIGNAL PHASING

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

CONTROLLER TYPE: 2070 EOS

1 NOT USED

5 NOT USED

2 PED RECALL

6 MIN RECALL

a

3 NOT USED

7 NOT USED

4

8

SIGNAL SEQUENCE

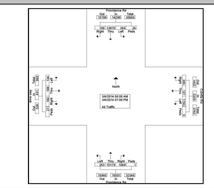
RING 1	PHASE 1		PHASE 2		PHASE 3		PHASE 4		
SIGNAL ID NUMBER	R/W	OTH	R/W	OTH	R/W	OTH	R/W	OTH	FLASH
21,22			G	Y					R
41,42							G	Y	R
P21,P22			W FDW	DW					DARK
PB41,PB42							W FDW	DW	DARK

RING 2	PHASE 5		PHASE 6		PHASE 7		PHASE 8		
SIGNAL ID NUMBER	R/W	OTH	R/W	OTH	R/W	OTH	R/W	OTH	FLASH
61,62			G	Y					R
81,82							G	Y	R

CLEARANCE INTERVALS

Phase	1	2	3	4	5	6	7	8
% Grade		0.0%		0.0%		0.0%		0.0%
Distance		66		70		60		70
Approach Speed (mph)		35		35		35		25
Yellow		**3.8**		**3.2**		**3.8**		**3.2**
All Red		**1.3**		**2.2**		**1.6**		**2.2**
Total Clearance		5.1		5.4		5.4		5.4

TRAFFIC VOLUMES



OVERLAP—PHASE

OVERLAP – PHASE	OL-A/-+-	OL-B/-+-	OL-C/-+-	OL-D/-+-					
SIGNAL ID NUMBER	R/W	OTH	R/W	OTH	R/W	OTH	R/W	OTH	FLASH

◁ RED ARROW ◁ YELLOW ARROW

◀ GREEN ARROW ◁ FLASHING YELLOW ARROW

DETECTOR CONNECTION

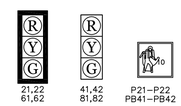
DETECTOR NUMBER	AMP. NO.	SIZE / ZONE	ø	AMP TYPE	DELAY DISABLE ø	COMMENTS:
21	1	6X15	2	N	--	130' FROM STOPBAR
61	2	6X15	6	N	--	130' FROM STOPBAR
41,42	3	6X25	4	D	4	@ STOPBAR
81	4	6X40	8	D	8	@ STOPBAR

PULLBOX ID

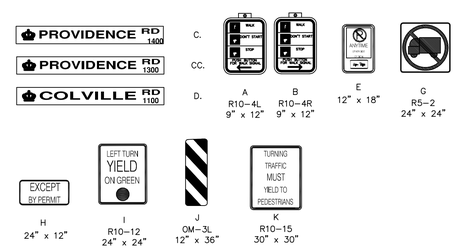
	SIZE:	PULLBOX TYPE:
1	13"x24"x12"	LOOP
2	17"x30"x24"	FIBER OPTIC
3	24"x36"x24"	CONTROLLER / FIBER
4	30"x48"x36"	CONTROLLER
5	24"x24"x12"	CONTROLLER
6	36"x36"x12"	CONTROLLER

NOTE:
PULLBOX MATERIAL MUST MEET OR EXCEED THE LATEST CDOT TRAFFIC SIGNAL SPECIFICATIONS.

SIGNAL HEAD ID



SIGN ID

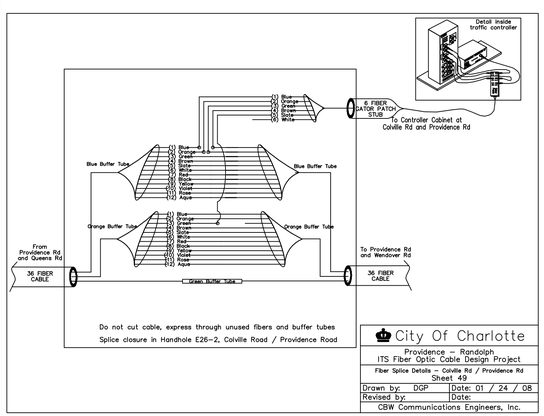


LEGEND

PROPOSED	DESCRIPTION	EXISTING
	CONTROL BOX	
	PULL BOX	
	STEEL POLE	
	MAST ARM	
	PED PEDESTAL	
	UTILITY POLE	
	ANCHOR	
	SIDEWALK ANCHOR	
	SIGNAL HEAD	
	OVERHEAD SIGN	
	GROUND SIGN	
	PAVEMENT ARROW	
	STOP BAR	
	DETECTOR	
	EDGE OF PVMT.	
	CURB & GUTTER	
	ROW	
	CONDUIT	
	VIDEO CAMERA	
	OPTICOM	
	INTERCONNECT	
	ACC PED	
	TUBULAR MARKER	
	DOUBLE YELLOW	
	WHITE SKIP	
	WHITE MINI	
	PROPERTY LINE	
2-2"	TEXT	2-2"

PLAN NOTES

1. ALL PAVEMENT MARKING DIMENSIONS ARE APPROXIMATE.
2. SIGNAL WILL BE INSTALLED IN ACCORDANCE WITH THE LATEST NCDOT STANDARDS SPECIFICATIONS AND CDOT TRAFFIC SIGNAL SPECIAL PROVISIONS.
3. ALL LONG LOOPS EXTEND 5' BEYOND THE STOP BAR UNLESS OTHERWISE NOTED AND RECEIVE 3 TURNS.
4. PED SIGNALS WITH PUSHBUTTONS WILL ARE LABELED "PB" (PB41, PB42)



City Of Charlotte

Providence – Randolph
ITS Fiber Optic Cable Design Project

Fiber Splice Details – Colville Rd / Providence Rd
Sheet 49

Drawn by: DGP | Date: 01 / 24 / 08
Revised by: | Date:
CBW Communications Engineers, Inc.

0 30 60
SCALE : 1"=30'
UNLESS OTHERWISE NOTED.

NORTH CAROLINA PROFESSIONAL SEAL 058683 ENGINEER MOLLY C. BURKE

DocuSigned by: Molly Burke 954EF8BC004C647E...
SIGNATURE 6/19/2026 DATE

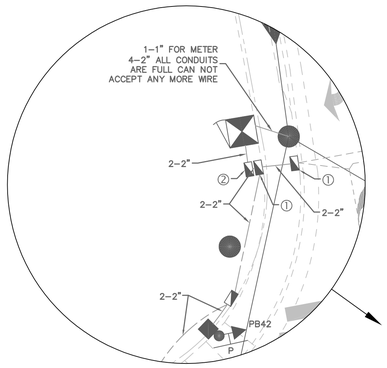
#	BY:	DATE:	REVISION:
1	SH	09/09	AS-BUILT
2	MCB	6/19/26	RECORD PLAN – ADD BACKPLATES

CITY OF CHARLOTTE
DEPARTMENT OF TRANSPORTATION
600 E. 4TH ST. CHARLOTTE, NC 28202 704 336-4119 FAX: 704 336-4400

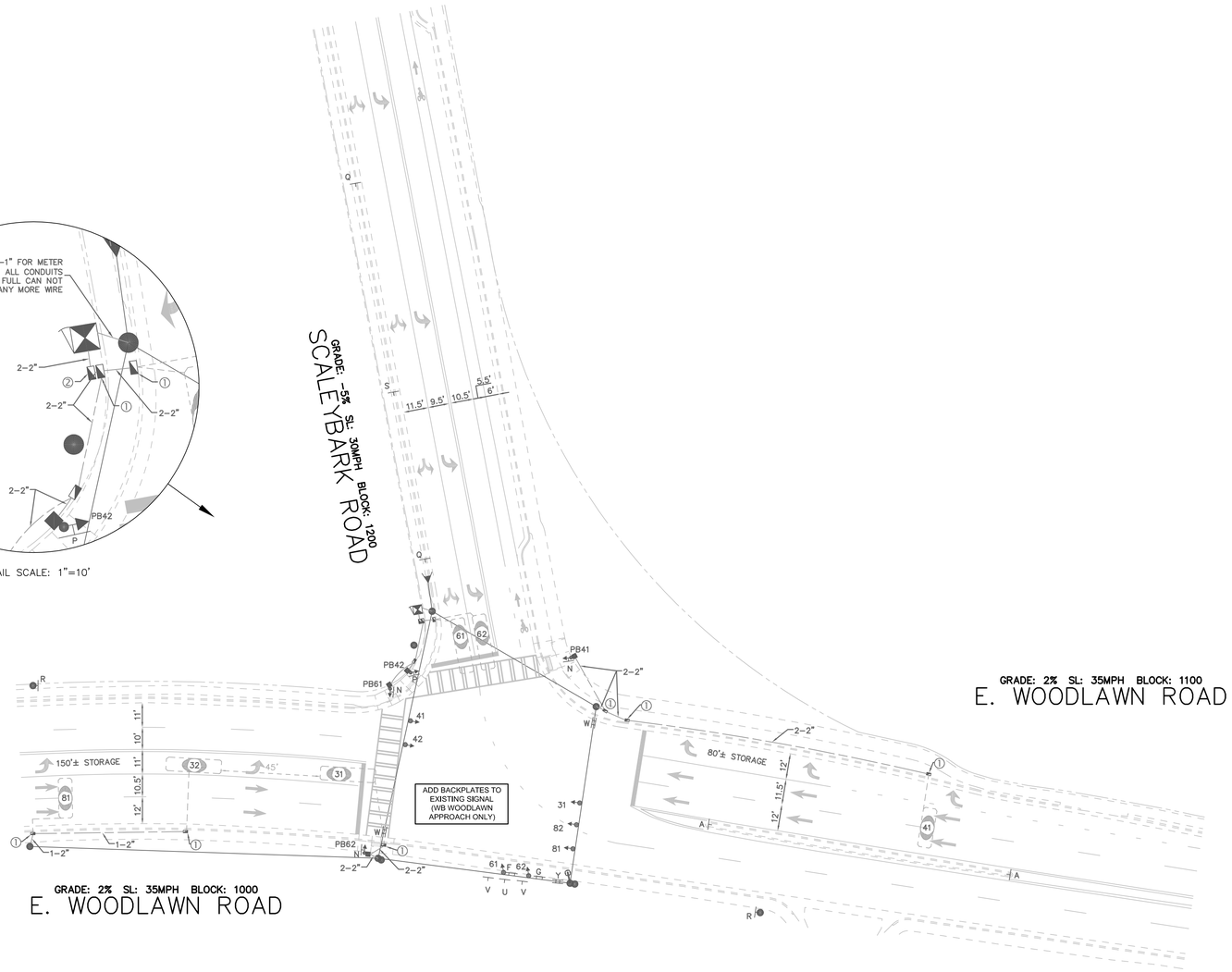
COLVILLE ROAD AND PROVIDENCE ROAD

DESIGNED BY: VBW | DATE: 09/99 | APPROVED BY: BT | NCDOT# 10-0571 | HANSEN: 16554 | SIGNAL ID: 00507

Docusign Envelope ID: 606F7514-0444-8FF1-81E4-E4D9BE96D01C



DETAIL SCALE: 1"=10'

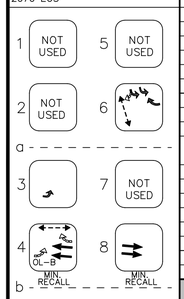


SPLICE DETAIL
NOT AVAILABLE

SIGNAL PHASING

Ring Configuration

CONTROLLER TYPE:
2070 EOS



SIGNAL SEQUENCE

RING 1	PHASE 1		PHASE 2		PHASE 3		PHASE 4		FLASH
SIGNAL ID NUMBER	R/W	OTH	R/W	OTH	R/W	OTH	R/W	OTH	
41,42							G	Y	R
31					◀	◁			
PB41,PB42							W FDW	DW	DARK

RING 2	PHASE 5		PHASE 6		PHASE 7		PHASE 8		FLASH
SIGNAL ID NUMBER	R/W	OTH	R/W	OTH	R/W	OTH	R/W	OTH	
61			G◀	Y					R
62			◀	◁					R
81,82							G	Y	R
41a			▶	▷					– –
PB61,PB62			W FDW	DW					DARK

OVERLAP-PHASE

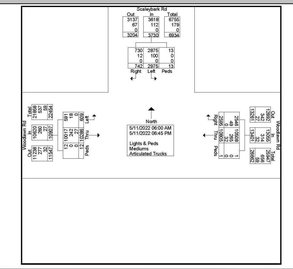
OVERLAP - PHASE	OL-A/-+-		OL-B/3+4 LT FYA		OL-C/-+-		OL-D/-+-		FLASH
SIGNAL ID NUMBER	R/W	OTH	R/W	OTH	R/W	OTH	R/W	OTH	
31a			✳	◁					

CLEARANCE INTERVALS

CLEARANCE INTERVALS

Phase	1	2	3	4	5	6	7	8
% Grade			2.0%	2.0%		-5.0%		2.0%
Distance			102	116		87		94
Approach Speed (mph)			20	35		20		35
Yellow			**3.0**	**3.7**		**3.1**		**3.7**
All Red			**3.3**	**2.3**		**3.0**		**2.3**
Total Clearance			6.3	6.0		6.1		6.0

TRAFFIC VOLUMES



DETECTOR INFORMATION

DETECTOR NUMBER	AMP-NO.	SIZE / ZONE	ø	AMP-TYPE	DELAY DISABLE ø	COMMENTS:
41	1	6X18	4	N		130' FROM STOPBAR
32	2	6X25	3,4	D	3,4	45' FROM LOOP 31
61,62	3	6X25	6	N	—	@ STOPBAR
81	4	6X18	8	N	—	130' FROM STOPBAR
31	5	6X25	3,4	D	3,4	@ STOPBAR

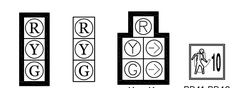
NOTE:
ALL STOPBAR LOOPS EXTEND 5' BEYONDT THE STOPBAR UNLESS OTHERWISE NOTED.
ALL LOOPS RECEIVE THREE TURNS.

PULLBOX ID

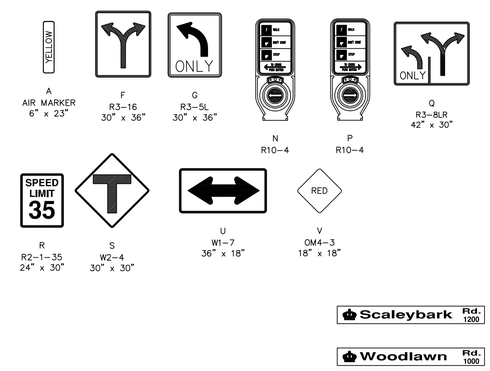
	SIZE:	PULLBOX TYPE:
1	13"x24"x12"	LOOP
2	17"x30"x24"	FIBER OPTIC
3	24"x36"x24"	CONTROLLER / FIBER
4	30"x48"x36"	CONTROLLER
5	24"x24"x12"	CONTROLLER
6	36"x36"x12"	CONTROLLER

NOTE:
PULLBOX MATERIAL MUST MEET OR EXCEED THE LATEST CDOT TRAFFIC SIGNAL SPECIFICATIONS.

SIGNAL HEAD ID



SIGN ID



LEGEND

PROPOSED	DESCRIPTION	EXISTING
	CONTROL BOX	
	PULL BOX	
	STEEL POLE	
	MAST ARM	
	PED PEDESTAL	
	UTILITY POLE	
	ANCHOR	
	SIDEWALK ANCHOR	
	SIGNAL HEAD	
	VIDEO CAMERA	
	OPTICOM	
	OBSERVATION CAM	
	DETECTOR	
	CONDUIT	
	INTERCONNECT	
	EDGE OF PVMT.	
	CURB & GUTTER	
	TUBULAR MARKER	
	GROUND SIGN	
	OVERHEAD SIGN	
	DOUBLE YELLOW	
	STOP BAR	
	WHITE SKIP	
	WHITE MINI	
	PAVEMENT ARROW	
	PROPERTY LINE	
	ROW	

PLAN NOTES

1. ALL PAVEMENT MARKING DIMENSIONS ARE APPROXIMATE.
2. SIGNAL WILL BE INSTALLED IN ACCORDANCE WITH THE LATEST NCDOT STANDARDS SPECIFICATIONS AND CDOT TRAFFIC SIGNAL SPECIAL PROVISIONS.
3. PED SIGNALS WITH PUSHBUTTONS WILL BE LABELED "PB" (FOR EXAMPLE PB21, PB22)
4. COUNTDOWN PEDESTRIAN SIGNALS SHOULD COUNT DOWN FLASHING DON'T WALK ONLY.
5. FYA 31 WILL INITIALLY OPERATE "PROTECTED - PERMITTED" 24/7

0 30 60
SCALE : 1"=30'
UNLESS OTHERWISE NOTED.

NORTH CAROLINA PROFESSIONAL SEAL 058683 ENGINEER MOLLY C. BURKE

DocuSigned by: Molly Burke
954EF86C04C647E...
6/19/2026
SIGNATURE DATE

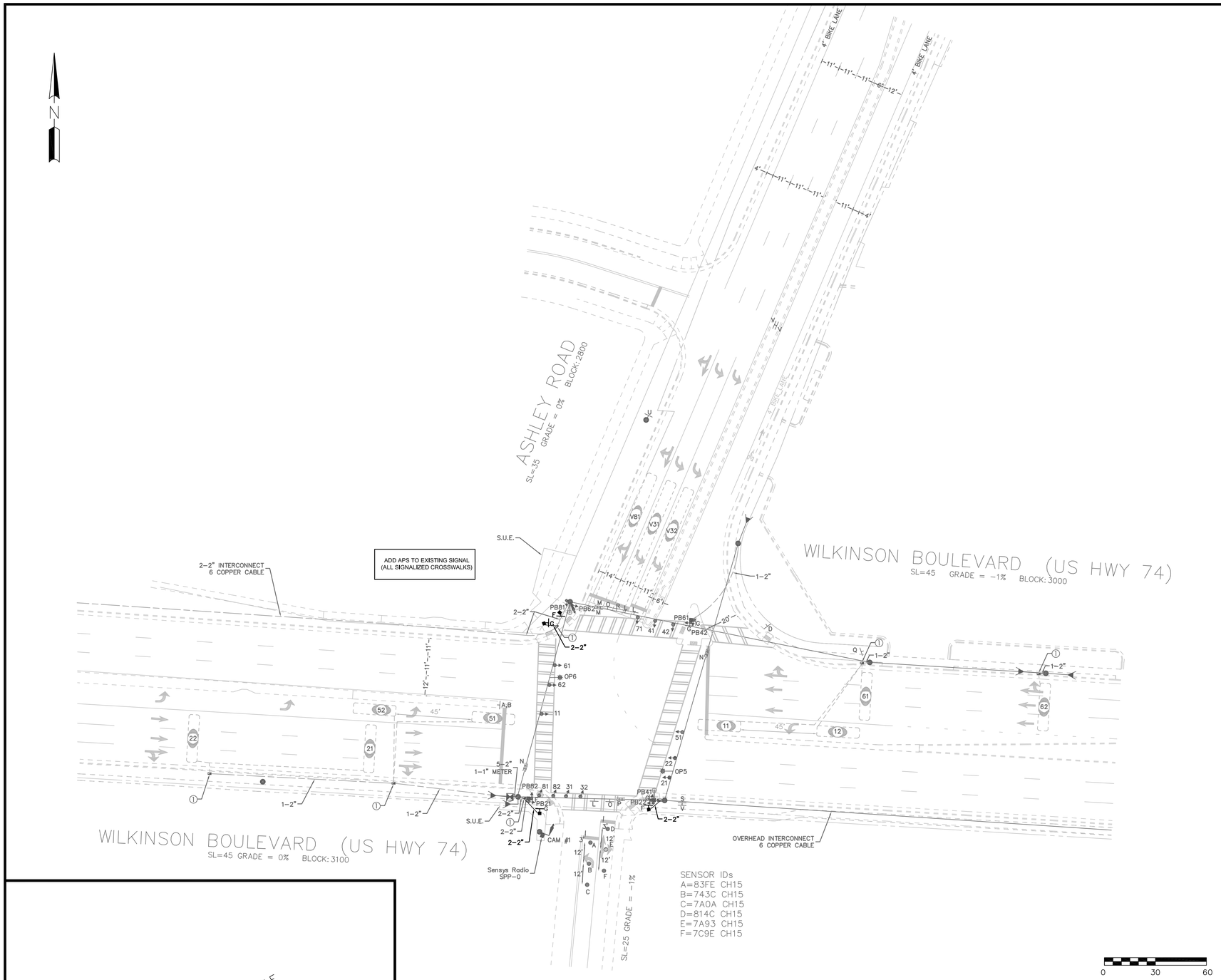
#	BY:	DATE:	REVISION:
1	GTJ	11/93	AS-BUILT
2	CWA	11/97	LOOP REVISIONS
3	RA	10/07	LOOP #41
4	BJG	5/12/10	RECORD PLAN - TGS
5	KB	6/10	RECUT LOOPS 31,41,81,82
6	BG	2/12	ADD PEDS AND FYA
7	BG	5/13	RECORD PLAN
8	KC	1/15	RE-DESIGN, APS
9	STS	2/16/17	RECORD PLAN - STS
10	MCB	6/19/26	RECORD PLAN - ADD BACKPLATES

CITY OF CHARLOTTE
DEPARTMENT OF TRANSPORTATION
600 E. 4TH ST. CHARLOTTE, NC 28202 704 336-4119 FAX: 704 336-4400

E. WOODLAWN ROAD AND SCALEYBARK ROAD

DESIGNED BY: AEV | DATE: 11/91 | APPROVED BY: BAH | NCDOT# 10-0243 | HANSEN: 18166 | SIGNAL ID: 00649

Docusign Envelope ID: EE61FB20-1723-845D-836D-F555B7775BD6

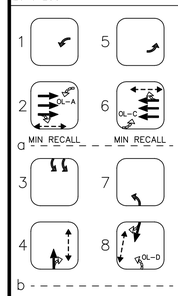


SPLICE DETAIL NOT APPLICABLE

SIGNAL PHASING

Ring Configuration 1,2,3,4,5,6 / 5,6,7,8

CONTROLLER TYPE: 2070 EOS



PULLBOX ID

	SIZE:	PULLBOX TYPE:
1	13"x24"x12"	LOOP
2	17"x30"x24"	FIBER OPTIC
3	24"x36"x24"	CONTROLLER / FIBER
4	30"x48"x36"	CONTROLLER
5	24"x24"x12"	CONTROLLER
6	36"x36"x12"	CONTROLLER

NOTE:
PULLBOX MATERIAL MUST MEET OR EXCEED THE LATEST CDOT TRAFFIC SIGNAL SPECIFICATIONS.

SIGNAL SEQUENCE

RING 1	PHASE 1		PHASE 2		PHASE 3		PHASE 4		
SIGNAL ID NUMBER	R/W	OTH	R/W	OTH	R/W	OTH	R/W	OTH	FLASH
11	◀	◁							✱
21,22			G	Y					R
31,32					◀	◁			✱
41,42							G	Y	R
PB21,PB22			W FDW	DW					DARK
PB41,PB42							W FDW	DW	DARK
RING 2	PHASE 5		PHASE 6		PHASE 7		PHASE 8		
SIGNAL ID NUMBER	R/W	OTH	R/W	OTH	R/W	OTH	R/W	OTH	FLASH
51	◀	◁							✱
61,62			G	Y					R
71					◀	◁			✱
81,82							G	Y	R
PB61,PB62			W FDW	DW					DARK
PB81,PB82							W FDW	DW	DARK

OVERLAP-PHASE

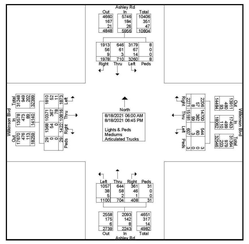
OVERLAP - PHASE	OL-A/1+2 LT-FYA		OL-B/-+-		OL-C/5+6 LT-FYA		OL-D/7+8 LT-FYA		
SIGNAL ID NUMBER	R/W	OTH	R/W	OTH	R/W	OTH	R/W	OTH	FLASH
11a	✳	◁							✱
51a					✳	◁			✱
71a							✳	◁	✱

◁ RED ARROW ◁ YELLOW ARROW
◀ GREEN ARROW ✳ FLASHING YELLOW ARROW

CLEARANCE INTERVALS

Phase	1	2	3	4	5	6	7	8
% Grade	-1.0%	0.0%	0.0%	-1.0%	0.0%	-1.0%	-1.0%	0.0%
Distance	85	85	95	115	100	90	85	115
Approach Speed (mph)	30	45	25	25	30	45	25	35
Yellow	**3.2**	**4.5**	**3.2**	**3.2**	**3.2**	**4.6**	**3.2**	**3.9**
All Red	**2.4**	**1.3**	**2.6**	**3.1**	**2.9**	**1.3**	**2.6**	**2.4**
Total Clearance	5.6	5.8	5.8	6.3	6.1	5.9	5.8	6.3

TRAFFIC VOLUMES

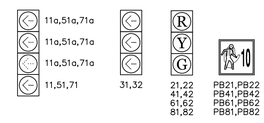


DETECTOR INFORMATION

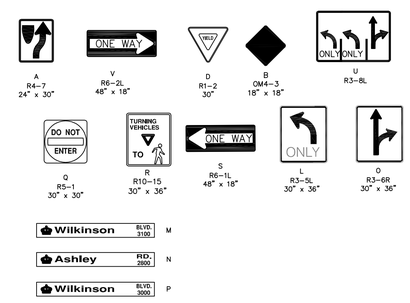
DETECTOR NUMBER	AMP. NO.	SIZE / ZONE	ø	AMP-TYPE	DELAY DISABLE ø	COMMENTS:
11,12	1	6'X25'	1	D	1	STOPBAR & 65' FROM STOPBAR
21,22	2	6'X27'	2	N		95' & 200' FROM STOPBAR
51	3	6'X25'	5	D	5	STOPBAR
52	4	6'X25'	5	D	5	65' FROM STOPBAR
61,62	5	6'X27'	6	N		95' & 200' FROM STOPBAR
V81	8	SB-40	5	A		(CAM#1),THRU/RIGHT
V31,V32	9	SB-60	8	A		(CAM#1), LEFT/LEFT
71		SENSYS	7	N		LT, SENSYS PUCKS A,B,C
41		SENSYS	4	N		THRU/RT, SENSYS PUCKS D,E,F

NOTE:
ALL STOPBAR LOOPS EXTEND 5' BEYOND THE STOPBAR UNLESS OTHERWISE NOTED.
ALL LOOPS RECEIVE THREE TURNS.

SIGNAL HEAD ID



SIGN ID



LEGEND

PROPOSED	DESCRIPTION	EXISTING
	CONTROL BOX	
	PULL BOX	
	STEEL POLE	
	MAST ARM	
	PED PEDESTAL	
	UTILITY POLE	
	ANCHOR	
	SIDEWALK ANCHOR	
	SIGNAL HEAD	
	VIDEO CAMERA	
	OPTICOM	
	OBSERVATION CAM	
	DETECTOR	
	CONDUIT	
	INTERCONNECT	
	EDGE OF PVMT.	
	CURB & GUTTER	
	TUBULAR MARKER	
	GROUND SIGN	
	OVERHEAD SIGN	
	DOUBLE YELLOW	
	STOP BAR	
	WHITE SKIP	
	WHITE MINI	
	PAVEMENT ARROW	
	PROPERTY LINE	
	ROW	

PLAN NOTES

1. ALL PAVEMENT MARKING DIMENSIONS ARE APPROXIMATE.
2. SIGNAL WILL BE INSTALLED IN ACCORDANCE WITH THE LATEST NCDOT STANDARDS SPECIFICATIONS AND CDOT TRAFFIC SIGNAL SPECIAL PROVISIONS.
3. PED SIGNALS WITH PUSHBUTTONS WILL BE LABELED "PB" (FOR EXAMPLE PB21, PB22)
4. COUNTDOWN PEDESTRIAN SIGNALS SHOULD COUNT DOWN FLASHING DON'T WALK ONLY.
5. PH 1,5, AND 7 WILL OPERATE PROTECTED/PERMITTED FROM 9 P.M. - 6 A.M. 7 DAYS A WEEK, PROTECTED ONLY ALL OTHER TIMES.

NORTH CAROLINA PROFESSIONAL SEAL 058683 ENGINEER MOLLY C. BURKE

DocuSigned by: Molly Burke 954EF86C04C64TE...
6/23/2026
SIGNATURE DATE

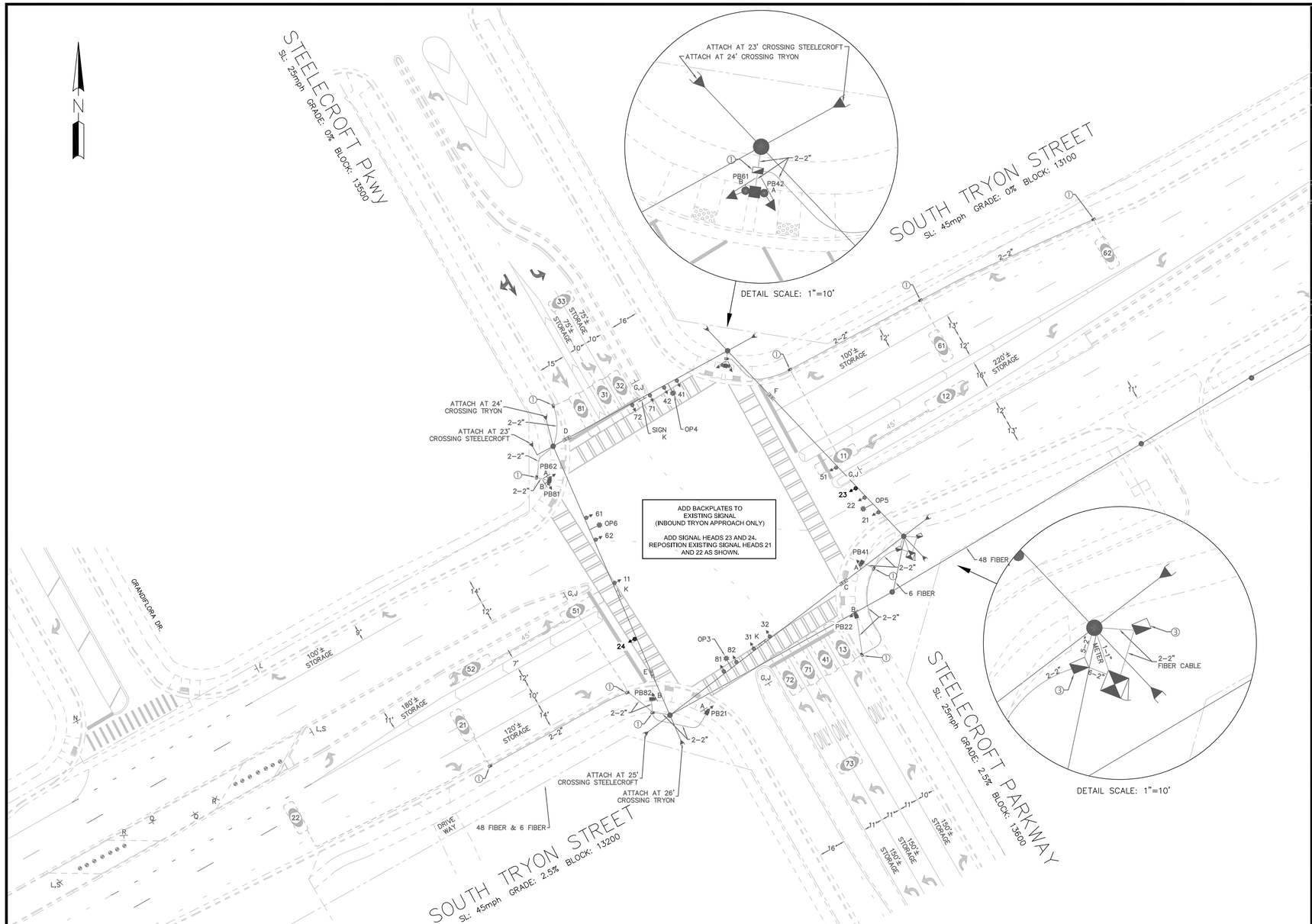
#	BY:	DATE:	REVISION:
1	DAM	3/94	AS-BUILT
2	JST	7/02	LOOPS 11,12
3	NS	1/03	ADD OPTICOMS
4	O	11/03	REMOVE PHASE 5 RT OVERLAPS
5	NS	9/06	RECORD PLAN - TGS
6	RA	2/08	REPLACE CMS D/W VIDEO DET. WITH LOOPS 13 & 71
7	RA	12/09	LOOP 51
8	BJG	3/11	ADD FYA'S BOTH WILKINSON APPROACHES
9	TGS	3/3/2014	RECORD PLAN - TGS
10	NS	5/15	REMOVE SPLIT PHASE, ADD FYA #71 CHANGE LANE CONFIGURATION ON ASHLEY AND DRIVEWAY, ADD PUCKS ON DRIVEWAY. PEDS 71 AND 72 BECOME 41,42
11	MCB	6/19/2026	ADDITION OF APS AND LPI

CITY OF CHARLOTTE
DEPARTMENT OF TRANSPORTATION
600 E. 4TH ST. CHARLOTTE, NC 28202 704 336-4119 FAX: 704 336-4400

WILKINSON BOULEVARD AND ASHLEY ROAD

DESIGNED BY: AEV | DATE: 8/92 | APPROVED BY: JRR | NCDOT# 10-1447 | HANSEN: 12542 | SIGNAL ID: 00841

Docusign Envelope ID: 606F7514-0444-8FF1-81E4-E4D9BE96D01C



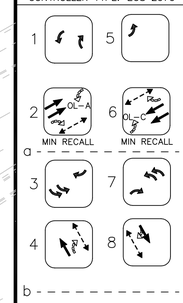
SPLICE DETAIL NOT AVAILABLE

SCALE : 1"=30'
UNLESS OTHERWISE NOTED.

SIGNAL PHASING

Ring Configuration 1,2,o,3,4,b, 5,6,o,7,8,b

CONTROLLER TYPE: EOS 2070



SIGNAL SEQUENCE

RING 1	PHASE 1		PHASE 2		PHASE 3		PHASE 4		FLASH
SIGNAL ID NUMBER	R/W	OTH	R/W	OTH	R/W	OTH	R/W	OTH	
11	◀	◁							◁
21,22,23,24			G	Y					R
31,32					◀	◁			◁
41,42							G	Y	R
41a	▶	▷							– –
61a					▶	▷			– –
PB21, PB22			W FDW	DW					DARK
PB41, PB42							W FDW	DW	DARK
RING 2	PHASE 5		PHASE 6		PHASE 7		PHASE 8		FLASH
SIGNAL ID NUMBER	R/W	OTH	R/W	OTH	R/W	OTH	R/W	OTH	
51	◀	◁							◁
61,62			G	Y					R
71,72					◀	◁			◁
81,82							G	Y	R
21a					▶	▷			– –
PB61, PB62			W FDW	DW					DARK
PB81, PB82							W FDW	DW	DARK

OVERLAP–PHASE

OVERLAP – PHASE	OL–A/1+2		OL–B/		OL–C/5+6		OL–D/		FLASH
	LT–FYA				LT–FYA				
SIGNAL ID NUMBER	R/W	OTH	R/W	OTH	R/W	OTH	R/W	OTH	
11a	✳	◁							◁
51a					✳	◁			◁

◁ RED ARROW ◁ YELLOW ARROW
◀ GREEN ARROW ✳ FLASHING YELLOW ARROW

PULLBOX ID

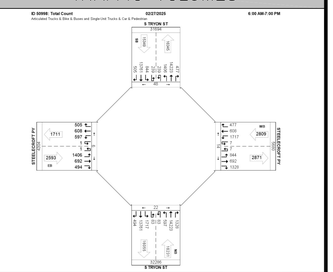
	SIZE:	PULLBOX TYPE:
1	13"x24"x12"	LOOP
2	17"x30"x24"	FIBER OPTIC
3	24"x36"x24"	CONTROLLER / FIBER
4	30"x48"x36"	CONTROLLER
5	24"x24"x12"	CONTROLLER
6	36"x36"x12"	CONTROLLER

NOTE:
PULLBOX MATERIAL MUST MEET OR EXCEED THE LATEST CDOT TRAFFIC SIGNAL SPECIFICATIONS.

CLEARANCE INTERVALS

Phase	1	2	3	4	5	6	7	8
% Grade	0.0%	2.5%	0.0%	2.5%	2.5%	0.0%	2.5%	0.0%
Distance	130	130	145	160	130	130	145	160
Approach Speed (mph)	30	45	25	25	30	45	25	25
Yellow	**3.5**	**4.5**	**3.2**	**3.1**	**3.4**	**4.5**	**3.1**	**3.2**
All Red	**3.0**	**3.0**	**3.5**	**3.7**	**3.0**	**3.0**	**3.5**	**3.7**
Total Clearance	6.5	7.5	6.7	6.8	6.4	7.5	6.6	6.9

TRAFFIC VOLUMES

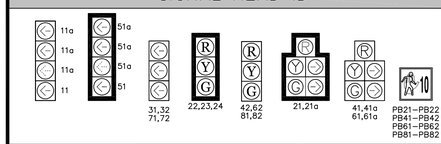


DETECTOR INFORMATION

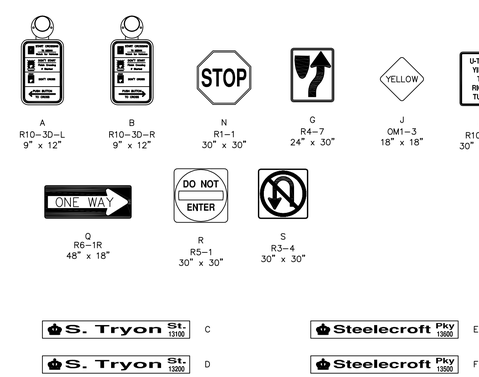
DETECTOR NUMBER	AMP. NO.	SIZE / ZONE	ø	AMP TYPE	DELAY DISABLE ø	COMMENTS:
12	1	6'x25'	1,2	D	1,2	65' FROM LOOP 11 (LEFT TURN)
21,22	2	6'x18'	2	N		95' AND 200' FROM STOPBAR
51	3	6'x25'	5,6	N		STOPBAR LOOP (LEFT TURN)
31,32	4	6'x25'	3	N		STOPBAR LOOPS (LEFT TURN)
33	5	6'x18'	3	N		65' FROM LOOP 31,32 (LEFT TURN)
41	6	6'x25'	4	N		STOPBAR LOOP (THRU)
13	7	6'x25'	1	D	1	STOPBAR LOOP (RIGHT TURN)
52	8	6'x25'	5,6	D	5,6	65' FROM LOOP 51 (LEFT TURN)
61,62	9	6'x18'	6	N		95' AND 200' FROM STOPBAR
11	10	6'x25'	1,2	N		STOPBAR LOOP (LEFT TURN)
71,72	11	6'x25'	7	N		STOPBAR LOOPS (LEFT TURN)
73	12	6'x18'	7	N		65' FROM LOOP 71,72 (LEFT TURN)
81	13	6'x25'	8	N		STOPBAR LOOP (THRU)
	14					
	15					
	16					
	17					
	18					
	19					

NOTE:
ALL STOPBAR LOOPS EXTEND 5' BEYOND THE STOPBAR UNLESS OTHERWSE NOTED.
ALL LOOPS RECEIVE THREE TURNS.

SIGNAL HEAD ID



SIGN ID



LEGEND

PROPOSED	DESCRIPTION	EXISTING
	CONTROL BOX	
	PULL BOX	
	STEEL POLE	
	MAST ARM	
	PED PEDESTAL	
	UTILITY POLE	
	ANCHOR	
	SIDEWALK ANCHOR	
	SIGNAL HEAD	
	VIDEO CAMERA	
	OPTICOM	
	OBSERVATION CAM	
	DETECTOR	
	CONDUIT	
	INTERCONNECT	
	EDGE OF PVMT.	
	CURB & GUTTER	
	TUBULAR MARKER	
	GROUND SIGN	
	OVERHEAD SIGN	
	DOUBLE YELLOW	
	STOP BAR	
	WHITE SKIP	
	WHITE MINI	
	PAVEMENT ARROW	
	PROPERTY LINE	
	ROW	

PLAN NOTES

1. ALL PAVEMENT MARKING DIMENSIONS ARE APPROXIMATE.
2. SIGNAL WILL BE INSTALLED IN ACCORDANCE WITH THE LATEST NCDOT STANDARD SPECIFICATIONS AND CDOT TRAFFIC SIGNAL SPECIAL PROVISIONS.
3. PED SIGNALS WITH PUSHBUTTONS WILL BE LABELED "PB" (FOR EXAMPLE PB21, PB22)
4. COUNTDOWN PEDESTRIAN SIGNALS SHOULD COUNT DOWN FLASHING DON'T WALK ONLY.
5. FYAs 11 & 51 WILL INITIALLY OPERATE PROTECTED – PERMITTED 24/7.

NORTH CAROLINA PROFESSIONAL SEAL 058683 ENGINEER MOLLY C. BURKE

DocuSigned by: Molly Burke
9B4EF8BC0AC64TE...
6/19/2026
SIGNATURE DATE

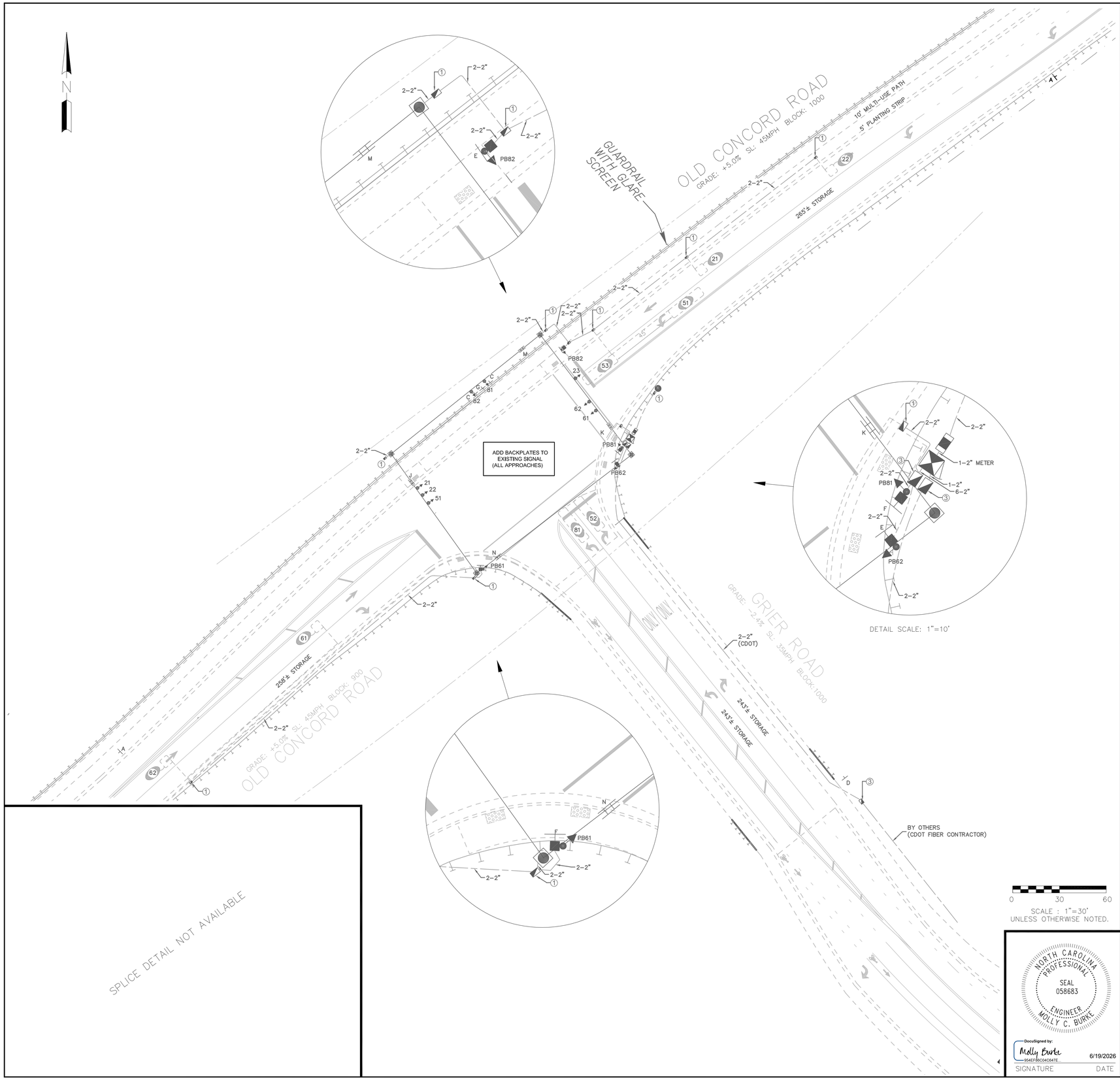
#	BY:	DATE:	REVISION:
1	TGS	11/4/2014	ADD OPTICOMS, LOOPS 33,73, ADDITION OF CAMERA AND V1
2	TGS	4/22/2015	RECORD PLAN – TGS
3	TGS	11/4/2016	ADDED SPLICE DETAIL AND TRAFFIC COUNTS TO RECORD PLAN – TGS
4	MB	02/17	LOUVERS ON SIGNALS 131,132 GREEN ONLY, AND RECORD PLAN
5	PLB	01/26	REMOVE QUEUE CUTTER FOR FIRE STATION
6	MCB	6/19/26	RECORD PLAN – ADD BACKPLATES

CITY OF CHARLOTTE
DEPARTMENT OF TRANSPORTATION
600 E. 4TH ST. CHARLOTTE, NC 28202 704 336–4119 FAX: 704 336–4400

YORK ROAD (NC 49) TRYON STREET AND STEELECROFT PARKWAY

DESIGNED BY: TGS | DATE: 3/2026 | APPROVED BY: GJ | NCDOT# 10–2163 | HANSEN: 50998 | SIGNAL ID: 01699

Docusign Envelope ID: 593DBDB9-E669-89E6-82D0-A8104C997587



0 30 60
SCALE : 1"=30'
UNLESS OTHERWISE NOTED.

SIGNAL PHASING

Ring Configuration 1,2,0,3,4,b 5,6,0,7,8,b

CONTROLLER TYPE: 2070 EOS

1 NOT USED
2 MIN RECALL
3 NOT USED
4 NOT USED
5
6 OL-C MIN RECALL
7 NOT USED
8

a
b

SIGNAL SEQUENCE

RING 1	PHASE 1		PHASE 2		PHASE 3		PHASE 4		FLASH
SIGNAL ID NUMBER	R/W	OTH	R/W	OTH	R/W	OTH	R/W	OTH	
21,22,23			G	Y					R

RING 2	PHASE 5		PHASE 6		PHASE 7		PHASE 8		FLASH
SIGNAL ID NUMBER	R/W	OTH	R/W	OTH	R/W	OTH	R/W	OTH	
51	◀	◁							◁◀
81a	▶	▷							▷
61,62			G	Y					R
81,82							G	Y	R
PB61–PB62			W FDW	DW					DARK
PB81–PB82							W FDW	DW	DARK

OVERLAP–PHASE

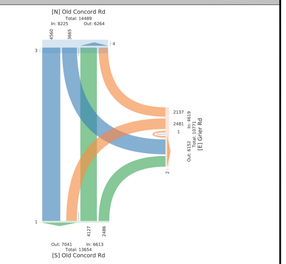
OVERLAP – PHASE	OL-A/		OL-B/		OL-C/5+6 LT FYA		OL-D/		FLASH
SIGNAL ID NUMBER	R/W	OTH	R/W	OTH	R/W	OTH	R/W	OTH	
51a					✳	◁			◁◀

◁◀ RED ARROW ◁ YELLOW ARROW
◀ GREEN ARROW ✳ FLASHING YELLOW ARROW

CLEARANCE INTERVALS

Phase	1	2	3	4	5	6	7	8
% Grade		5.0%			5.0%	5.0%		-2.4%
Distance		130			95	130		95
Approach Speed (mph)		45			25	45		35
Yellow		**4.1**			**3.3**	**4.1**		**4.0**
All Red		**2.3**			**2.6**	**2.3**		**1.9**
Total Clearance		6.4			5.9	6.4		5.9

TRAFFIC VOLUMES



DETECTOR INFORMATION

DETECTOR NUMBER	AMP-NO.	SIZE / ZONE	Ø	AMP-TYPE	DELAY DISABLE Ø	COMMENTS:
21	1	6'x6'	2	N		THRU–95' FROM STOPBAR
22	2	6'x6'	2	N		THRU–200' FROM STOPBAR
53	3	6'x25'	5,6	D	5,6	THRU–STOPBAR
51	4	6'x25'	5,6	D	5,6	LEFT–65' FROM STOPBAR
52	5	6'x25'	5	N	5	RT–STOPBAR
61	6	6'x6'	6	N		THRU–95' FROM STOPBAR
62	7	6'x6'	6	N		THRU–200' FROM STOPBAR
81	8	6'x25'	8	D	8	LEFT–STOPBAR

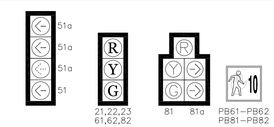
NOTE:
ALL STOPBAR LOOPS EXTEND 5' BEYOND THE STOPBAR UNLESS OTHERWISE NOTED.
ALL LOOPS RECEIVE THREE TURNS.

PULLBOX ID

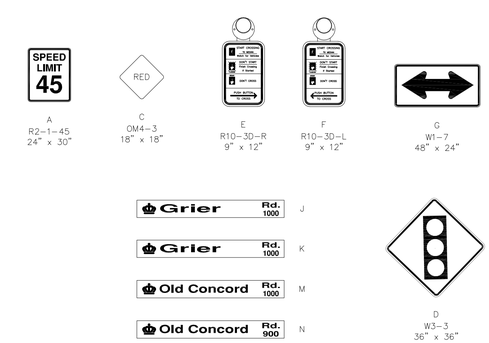
	SIZE:	PULLBOX TYPE:
1	13"x24"x12"	LOOP
2	17"x30"x24"	FIBER OPTIC
3	24"x36"x24"	CONTROLLER / FIBER
4	30"x48"x36"	CONTROLLER
5	24"x24"x12"	CONTROLLER
6	36"x36"x12"	CONTROLLER

NOTE:
PULLBOX MATERIAL MUST MEET OR EXCEED THE LATEST CDOT TRAFFIC SIGNAL SPECIFICATIONS.

SIGNAL HEAD ID



SIGN ID



LEGEND

PROPOSED	DESCRIPTION	EXISTING
	CONTROL BOX	
	METER PEDESTAL	
	PULL BOX	
	STEEL POLE	
	MAST ARM	
	PED PEDESTAL	
	UTILITY POLE	
	ANCHOR	
	SIGNAL HEAD	
	VIDEO CAMERA	
	OPTICOM	
	OBSERVATION CAM	
	DETECTOR	
	CONDUIT	
	INTERCONNECT	
	EDGE OF PVMT.	
	CURB & GUTTER	
	TUBULAR MARKER	
	GROUND SIGN	
	OVERHEAD SIGN	
	DOUBLE YELLOW	
	STOP BAR	
	WHITE SKIP	
	WHITE MINI	
	PAVEMENT ARROW	
	PROPERTY LINE	
	ROW	

PLAN NOTES

1. ALL PAVEMENT MARKING DIMENSIONS ARE APPROXIMATE.
2. SIGNAL WILL BE INSTALLED IN ACCORDANCE WITH THE LATEST NCDOT STANDARD SPECIFICATIONS AND CDOT TRAFFIC SIGNAL SPECIAL PROVISIONS.
3. PED SIGNALS WITH PUSHBUTTONS WILL BE LABELED "PB" (FOR EXAMPLE PB21, PB22)
4. COUNTDOWN PEDESTRIAN SIGNALS SHOULD COUNT DOWN FLASHING DON'T WALK ONLY.
5. FYA 51 WILL INITIALLY OPERATE PROTECTED–PERMITTED 24/7.

NORTH CAROLINA PROFESSIONAL SEAL 058683 ENGINEER MOLLY C. BURKE

DocuSigned by: Molly Burke —5EAEF8CC4C6A7E...
6/19/2026
SIGNATURE DATE

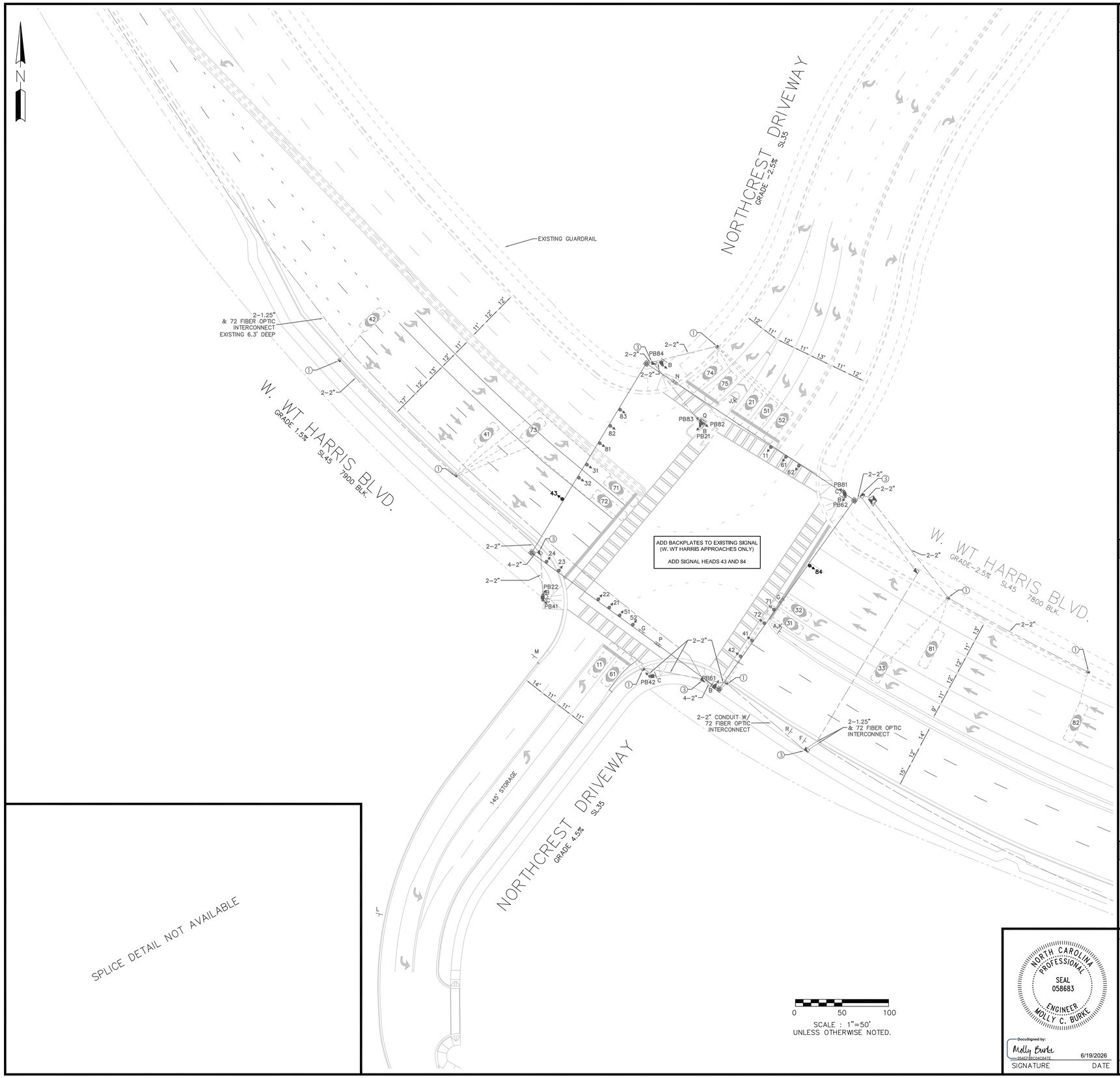
#	BY:	DATE:	REVISION:
1	AEV	05/03/2019	RECORD PLAN
2	MCB	06/19/2026	RECORD PLAN – ADD BACKPLATES

CITY OF CHARLOTTE
DEPARTMENT OF TRANSPORTATION
600 E. 4TH ST. CHARLOTTE, NC 28202 704 336–4119 FAX: 704 336–4400

OLD CONCORD ROAD AND GRIER ROAD

DESIGNED BY: AVE | DATE: 7–9–15 | APPROVED BY: JRR | NCDOT# 10–2207 | HANSEN: NA | SIGNAL ID: 01723

Docusign Envelope ID: 606F7514-0444-8FF1-81E4-E4D9BE96D01C

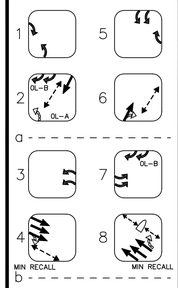


SPLICE DETAIL NOT AVAILABLE

SIGNAL PHASING

Ring Configuration 1,2,0,3,4,b 5,6,0,7,8,b

CONTROLLER TYPE: 2070 EOS



SIGNAL SEQUENCE

RING 1	PHASE 1		PHASE 2		PHASE 3		PHASE 4		
SIGNAL ID NUMBER	R/W	OTH	R/W	OTH	R/W	OTH	R/W	OTH	FLASH
11	◀	◁							✱
21,22			G	Y					R
31,32					◀	◁			✱
41,42,43							G	Y	R
PB21,PB22			W FDW	DW					DARK
PB41,PB42							W FDW	DW	DARK
RING 2	PHASE 5		PHASE 6		PHASE 7		PHASE 8		FLASH
SIGNAL ID NUMBER	R/W	OTH	R/W	OTH	R/W	OTH	R/W	OTH	
51,52	◀	◁							✱
83a	▶	▷							— —
61,62			G	Y					R
71,72					◀	◁			✱
81,82,83,84							G	Y	R
PB61,PB62			W FDW	DW					DARK
PB81-PB84							W FDW	DW	DARK

OVERLAP-PHASE

OVERLAP - PHASE	OL-A/1+2 LTFYA		OL-B/2+7 NORMAL		OL-C/-+-		OL-D/-+-		FLASH
SIGNAL ID NUMBER	R/W	OTH	R/W	OTH	R/W	OTH	R/W	OTH	
11a	✱	◁							✱
23,24			▶	▷					R

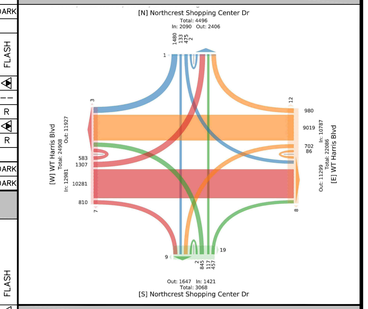
◀ RED ARROW ◁ YELLOW ARROW

◀ GREEN ARROW ✱ FLASHING YELLOW ARROW

CLEARANCE INTERVALS

Phase	1	2	3	4	5	6	7	8
% Grade	4.5%	-2.5%	-2.5%	1.5%	-2.5%	4.5%	1.5%	-2.5%
Distance	115	155	135	110	160	160	135	100
Approach Speed (mph)	25	35	30	45	25	35	30	45
Yellow	**3.0**	**4.0**	**3.7**	**4.4**	**3.3**	**4.0**	**3.4**	**4.7**
All Red	**3.1**	**3.1**	**3.1**	**1.7**	**3.7**	**3.1**	**3.1**	**1.6**
Total Clearance	6.1	7.1	6.8	6.1	7.0	7.1	6.5	6.3

TRAFFIC VOLUMES



PULLBOX ID

	SIZE:	PULLBOX TYPE:
①	13"x24"x12"	LOOP
②	17"x30"x24"	FIBER OPTIC
③	24"x36"x24"	CONTROLLER / FIBER
④	30"x48"x36"	CONTROLLER
⑤	24"x24"x12"	CONTROLLER
⑥	36"x36"x12"	CONTROLLER

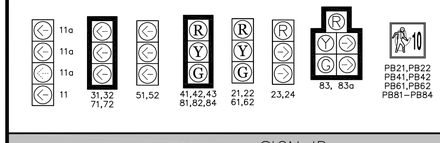
NOTE:
PULLBOX MATERIAL MUST MEET OR EXCEED THE LATEST CDOT TRAFFIC SIGNAL SPECIFICATIONS.

DETECTOR INFORMATION

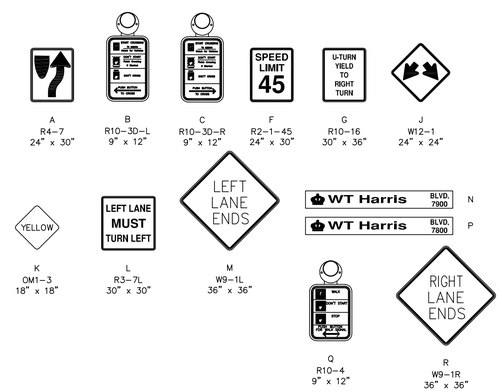
DETECTOR NUMBER	AMP. NO.	SIZE / ZONE	ø	AMP. TYPE	DELAY DISABLE ø	COMMENTS:
41,42	1	6x18	4	N		95', 200' FROM SB (THRU)
51,52	2	6x25	5	N		@SB (LT)
81,82	3	6x25	8	N		95', 200' FROM SB (THRU)
74,75	4	6x25	7	D	7	@SB (LT)
71,72	5	6x25	7	N		@SB (LT)
11	6	6x25	1	N		@SB (LT)
21	7	6x25	2	N		@SB (THRU)
31,32	8	6x25	3	N		@SB (LT)
61	9	6x25	6	N		@SB (THRU,RT)
33	10	6x14	3	N		75' FROM SB (LT)
73	11	6x17	7	N		75' FROM SB (LT)

NOTE:
ALL STOPBAR LOOPS EXTEND 5' BEYOND THE STOPBAR UNLESS OTHERWISE NOTED.
ALL LOOPS RECEIVE THREE TURNS.

SIGNAL HEAD ID



SIGN ID



LEGEND

PROPOSED	DESCRIPTION	EXISTING
	CONTROL BOX	
	PULL BOX	
	STEEL POLE	
	MAST ARM	
	PED PEDESTAL	
	UTILITY POLE	
	ANCHOR	
	SIDEWALK ANCHOR	
	SIGNAL HEAD	
	VIDEO CAMERA	
	OPTICOM	
	OBSERVATION CAM	
	DETECTOR	
	CONDUIT	
	INTERCONNECT	
	EDGE OF PVMT.	
	CURB & GUTTER	
	TUBULAR MARKER	
	GROUND SIGN	
	OVERHEAD SIGN	
	DOUBLE YELLOW	
	STOP BAR	
	WHITE SKIP	
	WHITE MINI	
	PAVEMENT ARROW	
	PROPERTY LINE	
	ROW	

PLAN NOTES

1. ALL PAVEMENT MARKING DIMENSIONS ARE APPROXIMATE.
2. SIGNAL WILL BE INSTALLED IN ACCORDANCE WITH THE LATEST NCDOT STANDARDS SPECIFICATIONS AND CDOT TRAFFIC SIGNAL SPECIAL PROVISIONS.
3. PED SIGNALS WITH PUSHBUTTONS WILL BE LABELED "PB" (PB21, PB22).
4. COUNTDOWN PEDESTRIAN SIGNALS SHOULD COUNT DOWN FLASHING DON'T WALK ONLY.
5. FYA 11 WILL INITIALLY OPERATE PROTECTED ONLY FROM 6am-12am MONDAY-FRIDAY AND FROM 9am-10am SATURDAY AND SUNDAY AND PROT/PERM ALL OTHER TIMES.

NORTH CAROLINA PROFESSIONAL SEAL 058683 ENGINEER MOLLY C. BURKE

DocuSigned by: Molly Burke
9B4EF8BC0AC64TE
SIGNATURE 6/19/2026 DATE

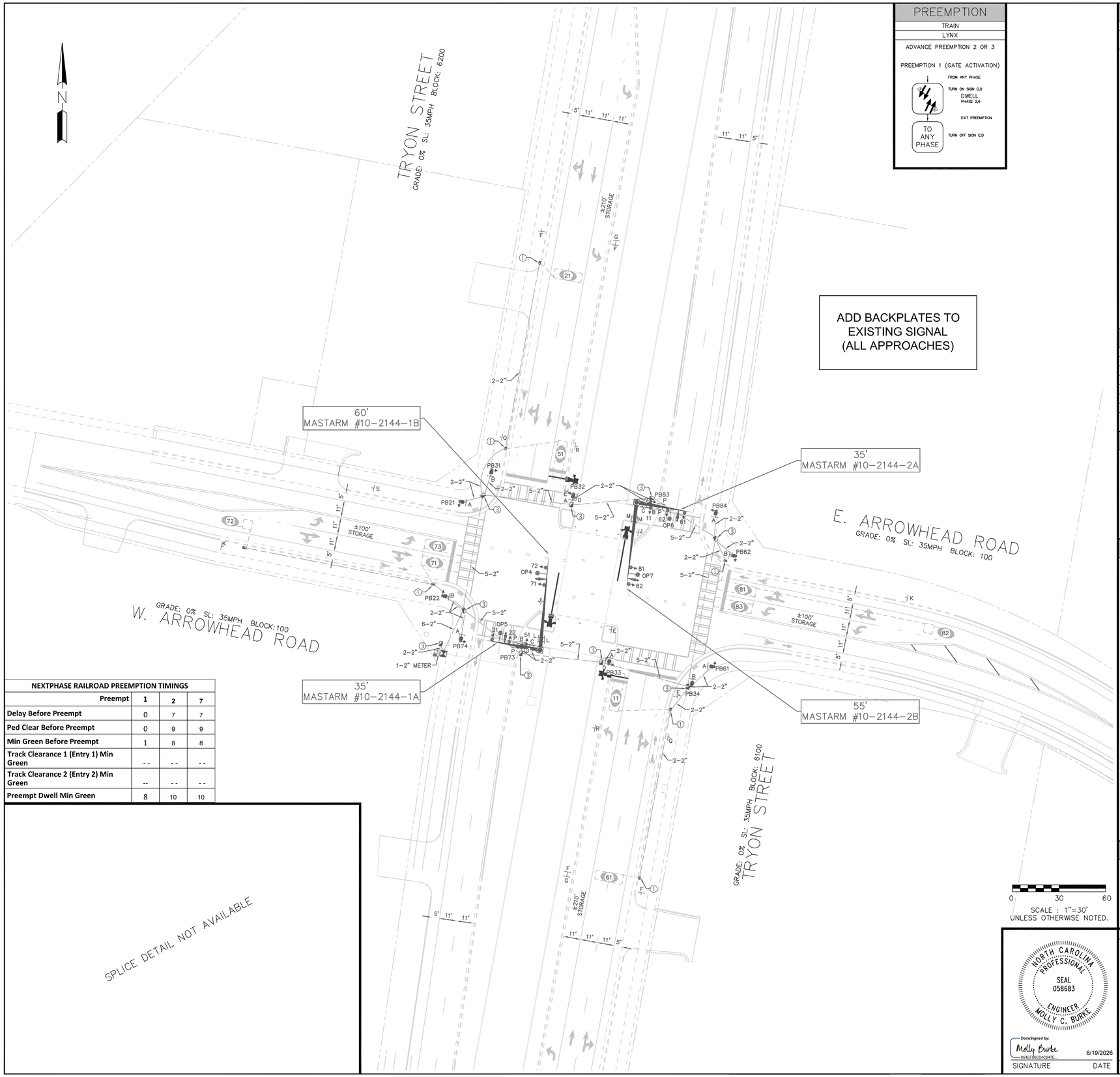
#	BY:	DATE:	REVISION:
1	NS	9/12	4th LEG Ø6
2	AEV	07/07/17	CHANGE RED ARROWS TO RED BALLS ON DUAL RIGHTS. SIGNALS 23 AND 24.
3	MCB	6/19/26	RECORD PLAN - ADD BACKPLATES AND SIGNAL HEADS 43 AND 84.

CITY OF CHARLOTTE
DEPARTMENT OF TRANSPORTATION
600 E. 4TH ST. CHARLOTTE, NC 28202 704 336-4119 FAX: 704 336-4400

NORTHCREST DRIVEWAY AND W. WT HARRIS BLVD.

DESIGNED BY: DES | DATE: DATE | APPROVED BY: APR | NCDOT# 10-1966 | HANSEN: 51243 | SIGNAL ID: 01593

Docusign Envelope ID: 593DBDB9-E669-89E6-82D0-A8104C997587



PREEMPTION

TRAIN
LYNX

ADVANCE PREEMPTION 2 OR 3

PREEMPTION 1 (GATE ACTIVATION)

FROM ANY PHASE

TURN ON SIGN C,D

DWELL PHASE 2,6

EXIT PREEMPTION

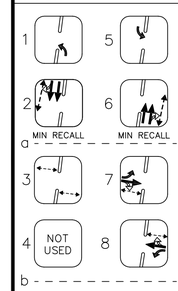
TO ANY PHASE

TURN OFF SIGN C,D

SIGNAL PHASING

Ring Configuration 2,1,n,3,4,b 5,6,n,7,8,b

CONTROLLER TYPE: 2070 EOS



SIGNAL SEQUENCE

RING 1	PHASE 1		PHASE 2		PHASE 3		PHASE 4		FLASH
SIGNAL ID NUMBER	R/W	OTH	R/W	OTH	R/W	OTH	R/W	OTH	
11	◀	◁							◁
21,22			G	Y					R
PB21–PB22			W FDW	DW					DARK
PB31–PB34					W FDW	DW			DARK
RING 2	PHASE 5		PHASE 6		PHASE 7		PHASE 8		FLASH
SIGNAL ID NUMBER	R/W	OTH	R/W	OTH	R/W	OTH	R/W	OTH	
51	◀	◁							◁
71					G	Y			R
72					G◀	Y			R
81							G	Y	R
82							G◀	Y	R
61,62	G	Y							R
PB61–PB62			W FDW	DW					DARK
PB73–PB74					W FDW	DW			DARK
PB83–PB84							W FDW	DW	DARK

OVERLAP–PHASE

OVERLAP – PHASE	OL–A/–+–	OL–B/–+–	OL–C/–+–	OL–D/–+–	FLASH
SIGNAL ID NUMBER	R/W OTH	R/W OTH	R/W OTH	R/W OTH	

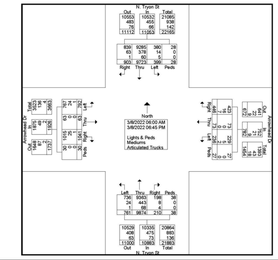
◁ RED ARROW ◁ YELLOW ARROW

◀ GREEN ARROW FLASHING YELLOW ARROW

CLEARANCE INTERVALS

Phase	1	2	3	4	5	6	7	8
% Grade	0.0%	0.0%			0.0%	0.0%	0.0%	0.0%
Distance	150	95			150	95	160	160
Approach Speed (mph)	25	35			25	35	35	35
Yellow	**3.2**	**3.8**			**3.2**	**3.8**	**3.8**	**3.8**
All Red	**3.7**	**2.0**			**3.7**	**2.0**	**3.2**	**3.1**
Total Clearance	6.9	5.8			6.9	5.8	7.0	6.9

TRAFFIC VOLUMES



DETECTOR INFORMATION

DETECTOR NUMBER	AMP-NO.	SIZE / ZONE	ø	AMP-TYPE	DELAY DISABLE ø	COMMENTS:
11	1	6'x25'	1	N		STOPBAR
21	2	6'x18'	2	N		130' FROM STOPBAR
51	3	6'x25'	5	N		STOPBAR
61	4	6'x18'	6	N		130' FROM STOPBAR
71	5	6'x25'	7	N		STOPBAR
72	6	6'x6'	7	N		130' FROM STOPBAR
73	7	6'x25'	7	N		STOPBAR
81	8	6'x25'	8	N		STOPBAR
82	9	6'x6'	8	N		130' FROM STOPBAR
83	10	6'x25'	8	N		STOPBAR

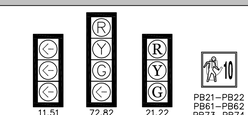
NOTE:
ALL STOPBAR LOOPS EXTEND 5' BEYOND THE STOPBAR UNLESS OTHERWISE NOTED.
ALL LOOPS RECEIVE THREE TURNS.

PULLBOX ID

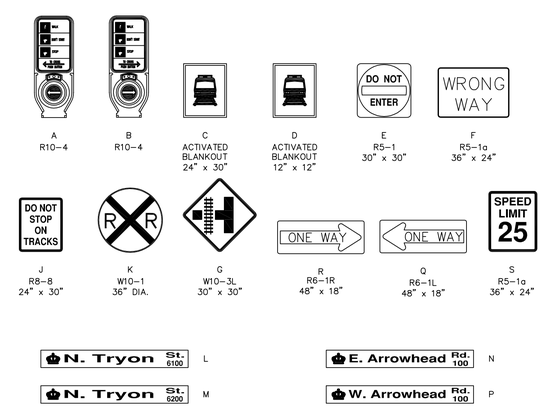
	SIZE:	PULLBOX TYPE:
1	13"x24"x12"	LOOP
2	17"x30"x24"	FIBER OPTIC
3	24"x36"x24"	CONTROLLER / FIBER
4	30"x48"x36"	CONTROLLER
5	24"x24"x12"	CONTROLLER
6	36"x36"x12"	CONTROLLER

NOTE:
PULLBOX MATERIAL MUST MEET OR EXCEED THE LATEST CDOT TRAFFIC SIGNAL SPECIFICATIONS.

SIGNAL HEAD ID



SIGN ID



LEGEND

PROPOSED	DESCRIPTION	EXISTING
	CONTROL BOX	
	PULL BOX	
	STEEL POLE	
	MAST ARM	
	PED PEDESTAL	
	UTILITY POLE	
	ANCHOR	
	SIDEWALK ANCHOR	
	SIGNAL HEAD	
	VIDEO CAMERA	
	OPTICOM	
	OBSERVATION CAM	
	DETECTOR	
	CONDUIT	
	INTERCONNECT	
	EDGE OF PVMT.	
	CURB & GUTTER	
	TUBULAR MARKER	
	GROUND SIGN	
	OVERHEAD SIGN	
	DOUBLE YELLOW	
	STOP BAR	
	WHITE SKIP	
	WHITE MINI	
	PAVEMENT ARROW	
	PROPERTY LINE	
	ROW	

PLAN NOTES

1. ALL PAVEMENT MARKING DIMENSIONS ARE APPROXIMATE.
2. SIGNAL WILL BE INSTALLED IN ACCORDANCE WITH THE LATEST NCDOT STANDARD SPECIFICATIONS AND CDOT TRAFFIC SIGNAL SPECIAL PROVISIONS.
3. PED SIGNALS WITH PUSHBUTTONS WILL BE LABELED "PB" (PB21, PB22)
4. COUNTDOWN PEDESTRIAN SIGNALS SHOULD COUNT DOWN FLASHING DON'T WALK ONLY.
5. PHASES 1 AND 5 SHALL NEVER RUN CONCURRENTLY.

NEXTPHASE RAILROAD PREEMPTION TIMINGS

Preempt	1	2	7
Delay Before Preempt	0	7	7
Ped Clear Before Preempt	0	9	9
Min Green Before Preempt	1	8	8
Track Clearance 1 (Entry 1) Min Green	- -	- -	- -
Track Clearance 2 (Entry 2) Min Green	--	- -	- -
Preempt Dwell Min Green	8	10	10

SPLICE DETAIL NOT AVAILABLE

NORTH CAROLINA PROFESSIONAL SEAL 058683 ENGINEER MOLLY C. BURKE

DocuSigned by: Molly Burke 954EF86C04C647E...

SIGNATURE 6/19/2026 DATE

#	BY:	DATE:	REVISION:
1	AV	5/18/2015	CONDUIT ONLY PLANS
5	TS	11/20/2015	REVISED SIGNAL PLAN
6	GS	8/1/2017	REVISED SIGNAL PLAN (PHASING)
7	AW	6/25/2018	RECORD PLAN
8	AW	06/12/2019	PHASE REVISIONS/RECORD PLAN
9	MCB	06/19/2026	RECORD PLAN – ADD BACKPLATES

CITY OF CHARLOTTE
DEPARTMENT OF TRANSPORTATION
600 E. 4TH ST. CHARLOTTE, NC 28202 704 336–4119 FAX: 704 336–4400

TRYON STREET AND ARROWHEAD ROAD

DESIGNED BY: AV | DATE: 6/15/15 | APPROVED BY: JR | NCDOT# 10–2144 | HANSEN: 7770 | SIGNAL ID: 01677

Docusign Envelope ID: EE61FB20-1723-845D-836D-F555B7775BD6

INDEX OF SHEETS

Cover Sheet
Signal Plan SIG1
Signal Plan Details SIG2
Splice Detail SIG3
Signal Wiring Diagram SIG4
Low Voltage Wiring Diagram SIG5

TOTAL SHEETS 6

REVISIONS

NO.	DATE	BY	REVISION DESCRIPTION
1	8-10	AEV	REDRAW, NEW BORDER, STATE RECORD PLAN
2	9-15	AEV	FYA'S ON NORTH GRAHM REVISE SIGNAL HEADS ON CHARTS
3	5-17	JP	ADD PED'S FOR PHASE 6
4	8-19	JP	RECORD PLAN
5	6-26	MCB	RECORD PLAN - ADD NEW PED SIGNAL HEADS, PEDESTALS, PUSHBUTTONS, AND JUMP BOXES

CHARLOTTE.
TRANSPORTATION

Signal Plans of
West 10th Street and North Graham Street

CDOT Signal ID 00120
NCDOT Signal ID 10-0575

VICINITY MAP (NTS)

LEGEND

PROPOSED	DESCRIPTION	EXISTING
	CONTROL BOX	
	METER PEDESTAL	
	PULL BOX	
	STEEL POLE	
	MAST ARM	
	PED PEDESTAL	
	UTILITY POLE	
	ANCHOR	
	SIGNAL HEAD	
	VIDEO CAMERA	
	OPTICOM	
	OBSERVATION CAM	
	DETECTOR	
	CONDUIT	
	INTERCONNECT	
	EDGE OF PVMT.	
	CURB & GUTTER	
	TUBULAR MARKER	
	GROUND SIGN	
	OVERHEAD SIGN	
	DOUBLE YELLOW	
	STOP BAR	
	WHITE SKIP	
	WHITE MINI	
	PAVEMENT ARROW	
	PROPERTY LINE	
	ROW	

PULLBOX ID

	SIZE	PULLBOX TYPE
1	13"x24"x12"	LOOP
2	17"x30"x24"	FIBER OPTIC
3	24"x36"x30"	CONTROLLER / FIBER
4	30"x48"x36"	CONTROLLER
5	24"x24"x12"	CONTROLLER
6	36"x36"x12"	CONTROLLER

NOTE:
PULLBOX MATERIAL MUST MEET OR EXCEED THE 1998 CDOT TRAFFIC SIGNAL SPECIFICATIONS.

PLANS PREPARED BY:

Kimley»Horn
421 FAYETTEVILLE STREET, SUITE 600
RALEIGH, NORTH CAROLINA, 27601
PHONE: 919-677-2000

PLAN NOTES

1. ALL PAVEMENT MARKING DIMENSIONS ARE APPROXIMATE.
2. SIGNAL SHALL BE INSTALLED IN ACCORDANCE WITH THE LATEST NCDOT STANDARD SPECIFICATIONS AND CDOT TRAFFIC SIGNAL SPECIAL PROVISIONS.
3. PED SIGNALS WITH PUSHBUTTONS WILL BE LABELED "PB" (FOR EXAMPLE PB21, PB22).
4. COUNTDOWN PEDESTRIAN SIGNALS SHALL COUNT DOWN FLASHING DON'T WALK ONLY.
5. FYA'S 11 AND 51 WILL INITALLY OPERATE PROTECTED-PERMITTED 24/7.
6. EXISTING FIBER HANDHOLE TO BE REPLACED BY ITS PLANS. ITS PLANS TO BE SUBMITTED AS PART OF A SUBSEQUENT SUBMITTAL PACKAGE WITH ROADWAY PLANS.

PE SEAL

NORTH CAROLINA PROFESSIONAL SEAL 058683 ENGINEER MOLLY C. BURKE

DocuSigned by:
Molly Burke
954EF86C04C647E...
6/23/2026

PROJECT TEAM

DESIGNER:	MH HARVEY, EI
PROJECT MANAGER:	MC BURKE, PE
TIMING ENGINEER	SHAWN DOWDELL, PE

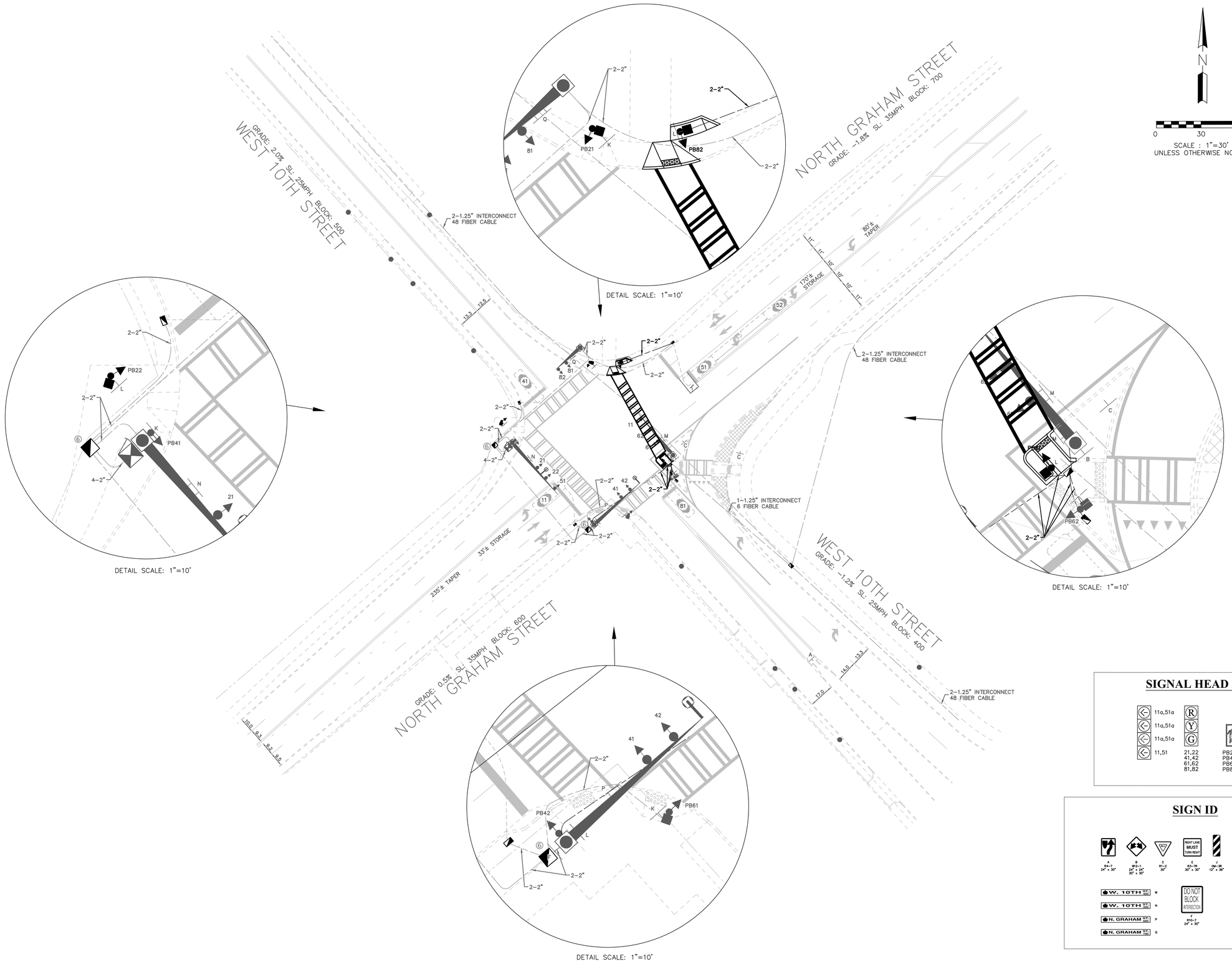
CHARLOTTE.
TRANSPORTATION

Signal ID 00120/NCDOT Signal ID 10-0575

West 10th Street at North Graham Street

Tuesday, June 23, 2026 12:07:27 PM

Docusign Envelope ID: EE61FB20-1723-845D-836D-F555B7775BD6



SIGNAL HEAD ID

11a,51a	R		PB21,PB22
11a,51a	Y		PB41,PB42
11a,51a	G		PB61,PB62
11,51	21,22	10	PB81,PB82
	41,42		
	61,62		
	81,82		

SIGN ID

A R4-7 24" x 30"	B W3-1 24" x 24" 30" x 30"	C R1-2 30"	E R3-7R 30" x 30"	J OM-3R 12" x 36"	K R10-3e(L)	L R10-3e(R)

W. 10TH BLVD	M	DO NOT BLOCK INTERSECTION	
W. 10TH BLVD	N		
N. GRAHAM BLVD	P	F R10-7 24" x 30"	
N. GRAHAM BLVD	Q		

CHARLOTTE. TRANSPORTATION

Plans Prepared By:

Kimley»Horn
421 FAYETTEVILLE STREET, SUITE 600
RALEIGH, NORTH CAROLINA, 27601
PHONE:919-677-2000

NO.	DATE	BY	REVISION DESCRIPTION
1	8-10	AEV	REDRAW, NEW BORDER, STATE RECORD PLAN
2	9-15	AEV	FYAS ON NORTH GRAHM REVISE SIGNAL HEADS ON CHARTS
3	5-17	JP	ADD PEDS FOR PHASE 6
4	8-19	JP	RECORD PLAN
5	6-26	MGB	RECORD PLAN - ADD NEW PEDSIGNAL HEADS, FYAS, PESHBUTTONS, AND LAMP BOXES

NORTH CAROLINA PROFESSIONAL SEAL 058683 ENGINEER MOLLY C. BURKE

DocuSigned by:
Molly Burke
954EF86C04C647E...
6/23/2026

EED REVIEWED BY	MHH PREPARED BY
06-2026 DATE	
00120 SIGNAL NO.	10-0575 NCDOT ID NO.

WEST 10TH STREET AT NORTH GRAHAM STREET

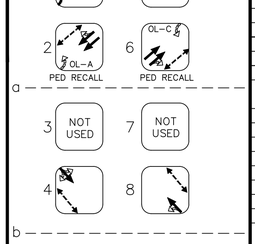
SIGNAL PLAN

SHEET SIG2 OF SIG5

Docusign Envelope ID: EE61FB20-1723-845D-836D-F555B7775BD6

SIGNAL PHASING

Ring Configuration 2070 EOS — 1,2,a,3,4,b / 5,6,a,7,8,b



SIGNAL SEQUENCE

RING 1	PHASE 1		PHASE 2		PHASE 3		PHASE 4		
SIGNAL ID NUMBER	R/W	OTH	R/W	OTH	R/W	OTH	R/W	OTH	FLASH
11	◀	◁							◁◀
21,22			G	Y					R
41,42							G	Y	R
PB21,PB22			W FDW	DW					DARK
PB41,PB42							W FDW	DW	DARK

RING 2	PHASE 5		PHASE 6		PHASE 7		PHASE 8		
SIGNAL ID NUMBER	R/W	OTH	R/W	OTH	R/W	OTH	R/W	OTH	FLASH
51	◀	◁							◁◀
61,62			G	Y					R
81,82							G	Y	R
PB61,PB62			W FDW	DW					DARK
PB81,PB82							W FDW	DW	DARK

◁◀ RED ARROW ◁ YELLOW ARROW
◀ GREEN ARROW ✳ FLASHING YELLOW ARROW

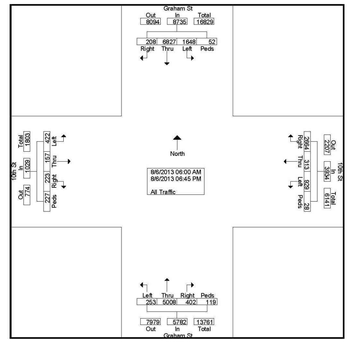
OVERLAP PHASE

OVERLAP – PHASE	OL-A/1+2 LT/FYA		OL-B/		OL-C/5+6 LT/FYA		OL-D/		
SIGNAL ID NUMBER	R/W	OTH	R/W	OTH	R/W	OTH	R/W	OTH	FLASH
11a	✳	◁							◁◀
51a					✳	◁			◁◀

OVERLAP – PHASE	OL-E/		OL-F/		OL-G/		OL-H/		
SIGNAL ID NUMBER	R/W	OTH	R/W	OTH	R/W	OTH	R/W	OTH	FLASH

◁◀ RED ARROW ◁ YELLOW ARROW
◀ GREEN ARROW ✳ FLASHING YELLOW ARROW

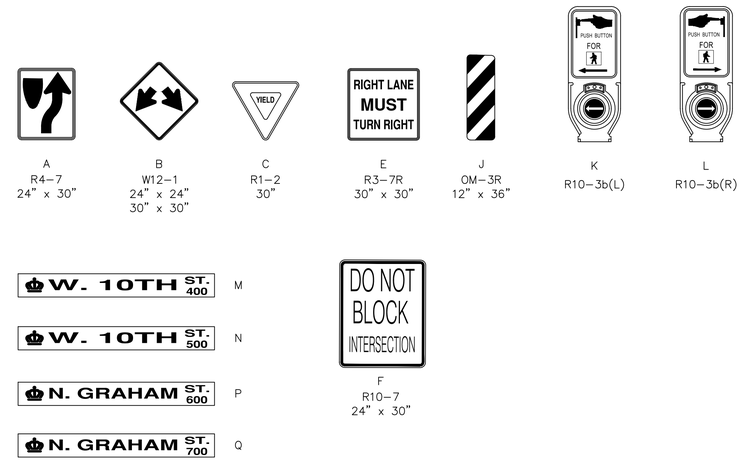
TURNING MOVEMENT COUNT



CLEARANCE INTERVALS

Phase	1	2	3	4	5	6	7	8
% Grade	0.5%	-1.8%		2.0%	-1.8%	0.5%		-1.2%
Distance	70	100		95	95	70		75
Approach Speed (mph)	25	35		25	25	35		25
Yellow	**3.2**	**4.0**		**3.1**	**3.3**	**4.0**		**3.2**
All Red	**2.0**	**2.6**		**2.6**	**2.6**	**2.6**		**2.1**
Total Clearance	5.2	6.6		5.7	5.9	6.6		5.3

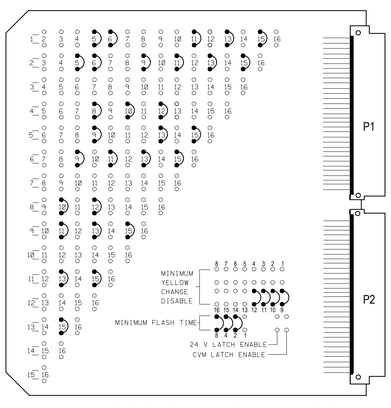
SIGN ID



MALFUNCTION MANAGEMENT UNIT / CONFLICT MONITOR

PROGRAMMING DETAIL

(program card and tables as shown)



MMU PROGRAMMING CARD

FIELD CHECK ENABLE DUAL IND ENABLE RED FAIL ENABLE	
CHANNEL NUMBER	ENABLE/ DISABLE
1	ENABLE
2	ENABLE
3	DISABLE
4	ENABLE
5	ENABLE
6	ENABLE
7	DISABLE
8	ENABLE
9	ENABLE
10	ENABLE
11	ENABLE
12	ENABLE
13	ENABLE
14	DISABLE
15	ENABLE
16	DISABLE

UNIT OPTIONS	
OPTION	SETTING
RECURRENT PULSE	ON
WALK DISABLE	OFF
LOG CVM FAULTS	ON
EXTERN WATCHDOG	OFF
24V-2=12VDC	OFF
PGM CARD MEMORY	ON
LEDguard	ON
FORCE TYPE 16	OFF
TYPE12-SDLC	OFF
VM 3x/Day Latch	ON

FLASHING YELLOW ARROW	
CONFIG MODE	B
ENABLE CHANNEL PAIR, FYA	
CH 1-13	ON
CH 3-14	OFF
CH 5-15	ON
CH 7-16	OFF
RED/YEL INPUT ENABLE	
CH 1	OFF
CH 3	OFF
CH 5	OFF
CH 7	OFF
FLASH RATE FAULT	ON
FYA TRAP DETECT	ON

MMU PROGRAMMING NOTE

ECONOLITE EOS-2070 SPECIAL MMU PROGRAMMING

(program controller as shown)

1. From Main Menu select 1. CONFIGURATION
2. From CONFIGURATION Submenu select 1. CABINET
3. From PORT 1 (SDLC) Submenu select 4. MONITOR PROGRAMMING

CAUTION!

Set intersection to Flash before attempting to enter or change any MMU programming data.

This programming and that of the MMU programming card must match exactly. If they do not, the intersection will be placed into Flash.

```
MMU PROGRAM [     MANUAL]

     CH  6 5 4 3 2 1 0 9 8 7 6 5 4 3 2
      1  . X . X . X . . . . X X . . .
      2  . X . X . X . X . . X X . . .
      3  . . . . . . . . . . . . . .
      4  . . . . X . X . X . . . .
      5  . X . X . . . X . . .
      6  . X . X . X . X . .
      7  . . . . . . . . .
      8  . . . . X . X .
      9  . X . X . X .
     10  . . . . . .
     11  . X . X .
     12  . . . .
     13  . X .
     14  . .
     15  .
```

END PROGRAMMING

SIGNAL HEAD ID

DETECTOR RACK SETUP

INSERT DETECTOR CARDS IN RACK ACCORDING TO THE DETAIL SHOWN BELOW.
PARTICULAR DETECTOR CHANNELS WILL CALL PHASES INDICATED.

DET BIU #1	CH3 L3 Ø5 51 / CH4 L4 Ø5 52	CH1 L1 Ø1 11 / CH2 L2 Ø4 41	SLOT EMPTY	CH5 L5 Ø8 81 / CH6 L6 NOT USED	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	DET BIU #2

Plans Prepared By:
Kimley»Horn
421 FAYETTEVILLE STREET, SUITE 600
RALEIGH, NORTH CAROLINA, 27601
PHONE:919-677-2000

CHARLOTTE. TRANSPORTATION

NO.	DATE	BY	REVISION DESCRIPTION
1	8-10	AEV	REDRAW, NEW BORDER, STATE RECORD PLAN
2	9-15	AEV	FYAS ON NORTH GRAHM REVISE SIGNAL HEADS ON CHARTS
3	5-17	JP	ADD PEDS FOR PHASE 6
4	8-19	JP	RECORD PLAN

NORTH CAROLINA PROFESSIONAL SEAL 058683 ENGINEER MOLLY C. BURKE

DocuSigned by: Molly Burke 6/23/2026

EED	MHH	06-2026
REVIEWED BY	PREPARED BY	DATE

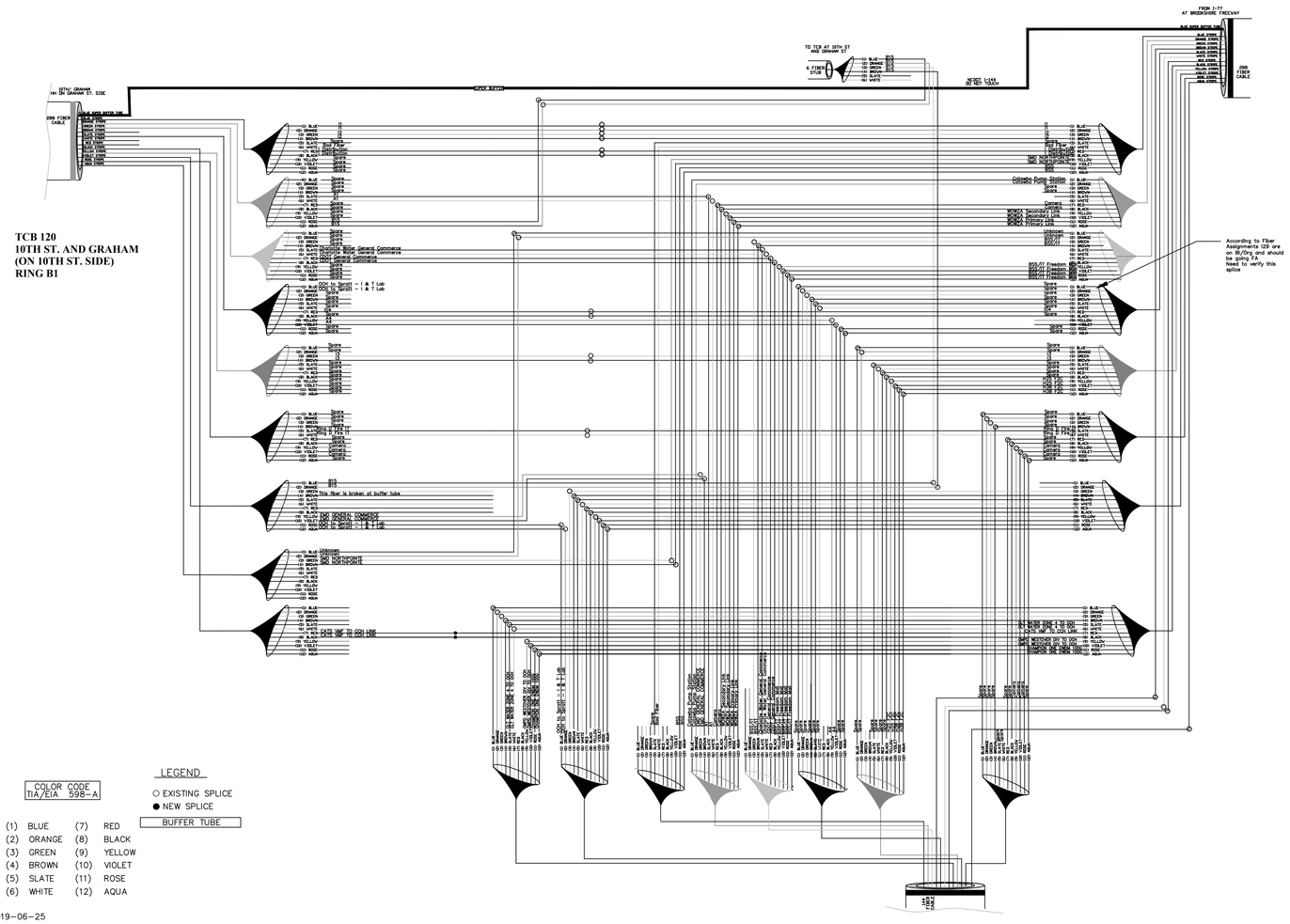
00120	10-0575	
SIGNAL NO.	NCDOT I.D. NO.	

WEST 10TH STREET AT NORTH GRAHAM STREET

SIGNAL DETAIL

SHEET SIG3 OF SIG5

Docusign Envelope ID: EE61FB20-1723-845D-836D-F555B7775BD6



Plans Prepared By:

Kimley»Horn
421 FAYETTEVILLE STREET, SUITE 600
RALEIGH, NORTH CAROLINA, 27601
PHONE:919-677-2000

CHARLOTTE. TRANSPORTATION

NO.	DATE	BY	REVISION DESCRIPTION
1	8-10	AEV	REDRAW, NEW BORDER, STATE RECORD PLAN
2	9-15	AEV	FYA'S ON NORTH GRAHM REVISE SIGNAL HEADS ON CHARTS
3	5-17	JP	ADD PEDS FOR PHASE 6
4	8-19	JP	RECORD PLAN

NORTH CAROLINA PROFESSIONAL SEAL 058683 ENGINEER MOLLY C. BURKE

DocuSigned by:
Molly Burke
964EF8CC04C647E...
6/23/2026

ND
PREPARED BY

06-2026
DATE

00120
SIGNAL NO.

10-0575
NCDOT ID NO.

WEST 10TH STREET AT NORTH GRAHAM STREET

SPLICING DETAIL

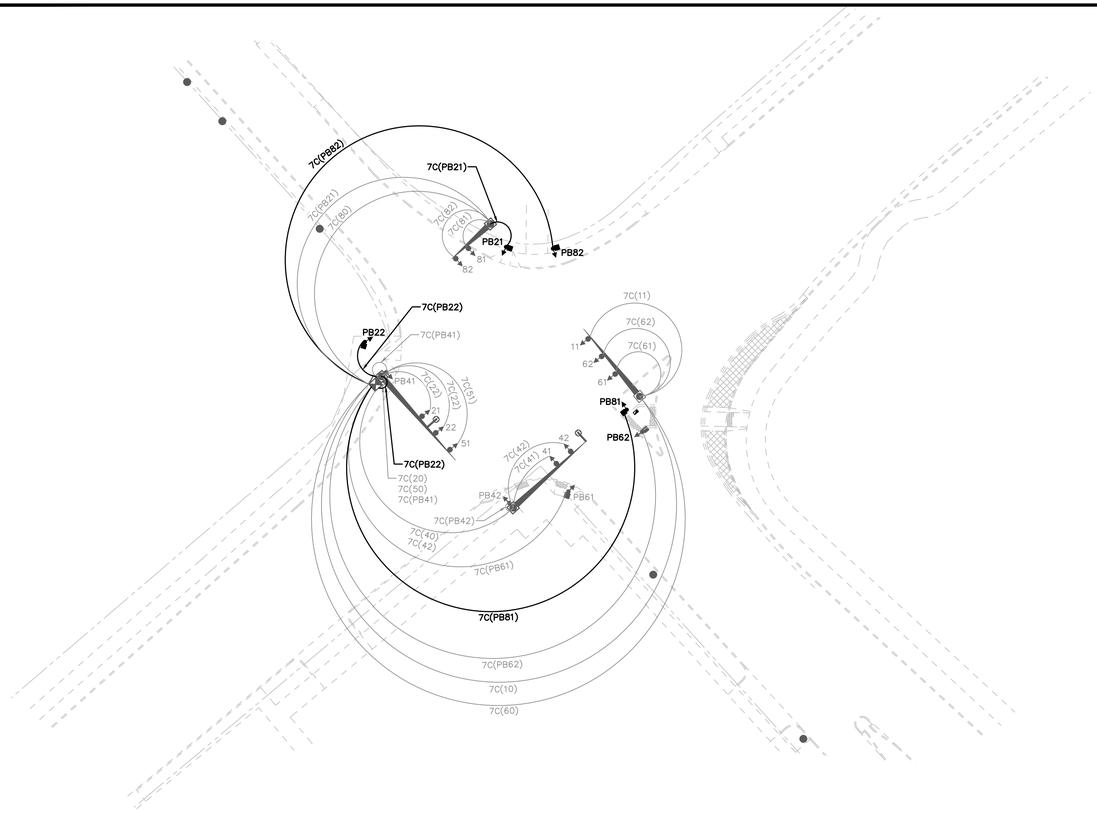
SHEET SIG4 OF SIG5

Docusign Envelope ID: EE61FB20-1723-845D-836D-F555B7775BD6

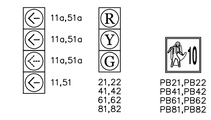
SIGNAL HEAD WIRING

CHANNEL			1	2			3	4				5	6			7		8		9		10		11		12			13	14		15	16
PHASE			1	2			3	4				5	6			7		8		2 PED		4 PED		6 PED		8 PED			OL-A	OL-B		OL-C	OL-D
SIGNAL HEAD NO.			11		21	22	NU		41	42		51		61	62	NU		81	82	PB21	PB22	PB41	PB42	PB61	PB62	PB81	PB82		11a	NU		51a	NU
METAL POLE CABLE NO.		10		20				40			50		60				80											10			50		
RED	Wire			20R	21R	22R		40R	41R	42R			60R	61R	62R		80R	81R	82R														
	Terminal			LS2-R	(20R)	(20R)		LS4-R	(40R)	(40R)			LS6-R	(60R)	(60R)		LS8-R	(80R)	(80R)														
YELLOW	Wire			20Y	21Y	22Y		40Y	41Y	42Y			60Y	61Y	62Y		80Y	81Y	82Y														
	Terminal			LS2-Y	(20Y)	(20Y)		LS4-Y	(40Y)	(40Y)			LS6-Y	(60Y)	(60Y)		LS8-Y	(80Y)	(80Y)														
GREEN	Wire			20G	21G	22G		40G	41G	42G			60G	61G	62G		80G	81G	82G														
	Terminal			LS2-G	(20G)	(20G)		LS4-G	(40G)	(40G)			LS6-G	(60G)	(60G)		LS8-G	(80G)	(80G)														
RED ARROW	Wire																											10RS	11RS		50RS	51RS	
	Terminal																											LS13-R	(10RS)		LS15-R	(50RS)	
YELLOW ARROW	Wire	*									*																	10YS	11YS		50YS	51YS	
	Terminal																											LS13-Y	(10YS)		LS15-Y	(50YS)	
FLASHING YELLOW	Wire																											10Y	11Y		50Y	50Y	
	Terminal																											LS13-G	(10Y)		(50Y)	LS15-G	
GREEN ARROW	Wire	10G	11G								50G	51G																					
	Terminal	LS1-G	(10G)								LS5-G	(50G)																					
DON'T WALK	Wire																			P21R	P22R	P41R	P42R	P61R	P62R	P81R	P82R						
	Terminal																			LS9-R	LS9-R	LS10-R	LS10-R	LS11-R	LS11-R	LS12-R	LS12-R						
WALK	Wire																			P21G	P22G	P41G	P42G	P61G	P62G	P81G	P82G						
	Terminal																			LS9-G	LS9-G	LS10-G	LS10-G	LS11-G	LS11-G	LS12-G	LS12-G						

LSX* = TERMINAL IN LOAD BAY * = INSTALL LOAD RESISTOR TO TERMINAL, NOT WIRE



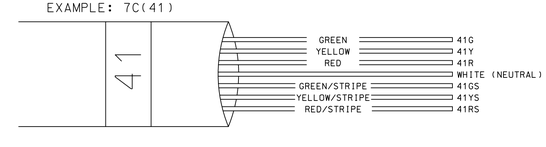
SIGNAL HEAD ID



SIGNAL WIRE NAMING CONVENTION:
CABLES:
xC(nn) x = #of conductors in cable, nn = cable number

WIRES:
nnA nn = cable number, A = conductor in cable

EXAMPLE: 7C(41)



CHARLOTTE. TRANSPORTATION

Plans Prepared By:
Kimley»Horn
421 FAYETTEVILLE STREET, SUITE 600
RALEIGH, NORTH CAROLINA, 27601
PHONE:919-677-2000

NO.	DATE	BY	REVISION DESCRIPTION
1	8-10	AEV	REDRAW, NEW BORDER, STATE RECORD PLAN
2	9-15	AEV	FYAS ON NORTH GRAHM REVISE SIGNAL HEADS ON CHARTS
3	5-17	JP	ADD PEDS FOR PHASE 6
4	8-19	JP	RECORD PLAN

NORTH CAROLINA PROFESSIONAL SEAL 058683 ENGINEER MOLLY C. BURKE

DocuSigned by: Molly Burke 954EF8C04C647E... 6/23/2026

EED REVIEWED BY | ND PREPARED BY | 06-2026 DATE

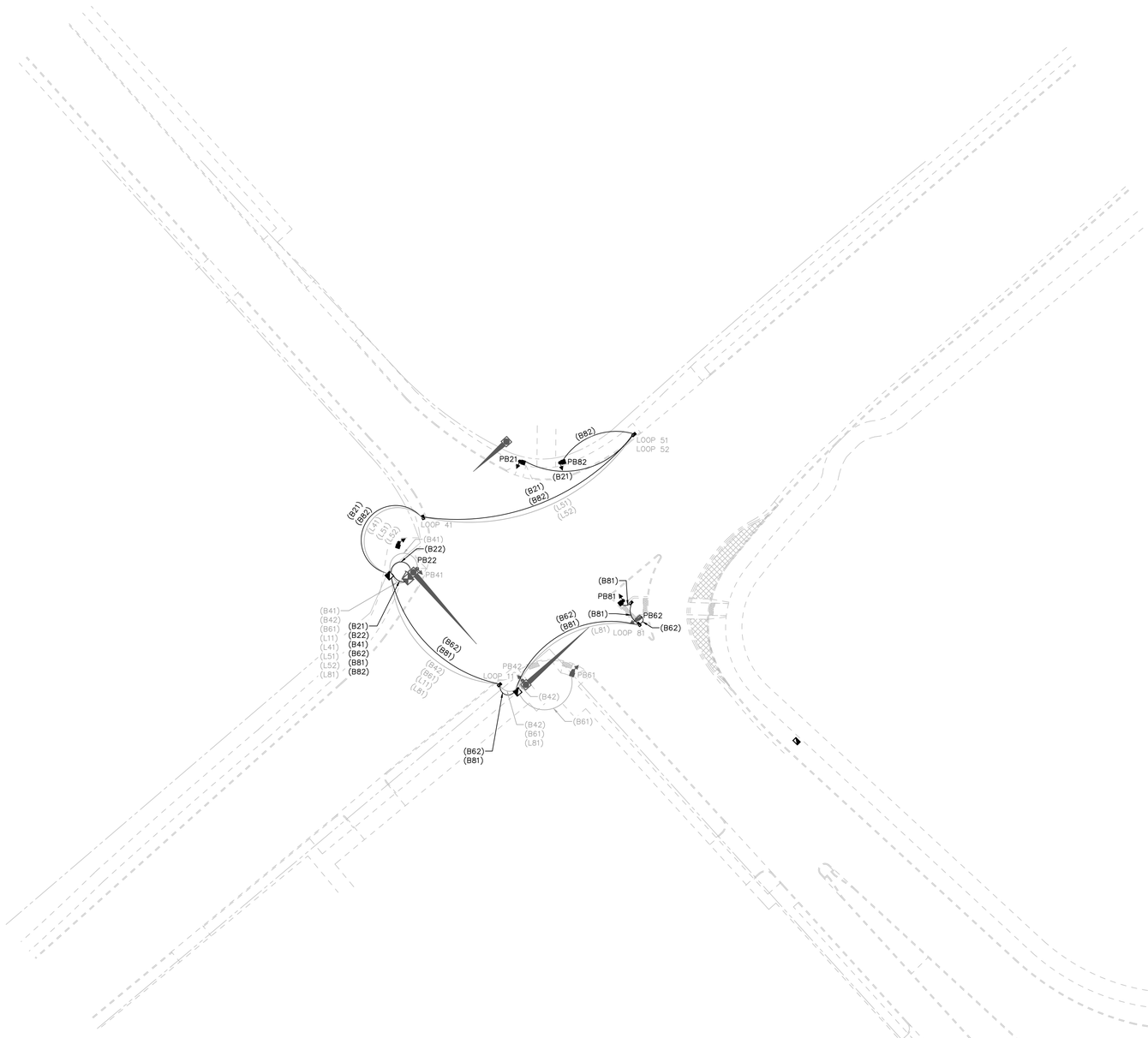
00120 SIGNAL NO. | 10-0575 NCDOT ID NO.

WEST 10TH STREET AT NORTH GRAHAM STREET

SIGNAL WIRING DIAGRAM

SHEET SIG5 OF SIG5

Docusign Envelope ID: EE61FB20-1723-845D-836D-F555B7775BD6



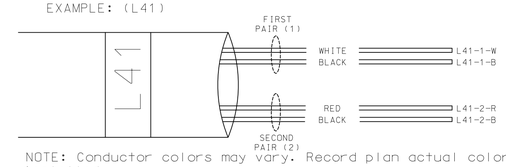
LOOP WIRING

Loop Number	Wire	Terminal	Controller Detector Number	Phase	Timing		Size	Comments
					Feature	Time		
11	L11-1-W	LT1-1	1	1	-	-	6'X25'	@STOP BAR
	L11-1-B	LT1-2						
41	L41-1-W	LT1-3	2	4	-	-	6'X25'	@STOP BAR
	L41-1-B	LT1-4						
51	L51-1-W	LT1-5	3	5	-	-	6'X25'	@STOP BAR
	L51-1-B	LT1-6						
52	L52-1-W	LT1-7	4	5	-	-	6'X25'	65' FROM STOP BAR
	L52-1-B	LT1-8						
81	L83-1-W	LT1-9	5	8	-	-	6'X25'	@STOP BAR
	L83-1-B	LT1-10						

LOW-VOLTAGE WIRE NAMING CONVENTION:
CABLES:
(Ann) A = Loops(L)/Pushbutton(B) nn = cable number

WIRES:
Ann-C-D A = Loops(L)/Pushbutton(B), nn = cable number,
C = pair number, D = conductor in pair

EXAMPLE: (L41)



NOTE: Conductor colors may vary. Record plan actual colors installed.

NOTE:
ALL LEAD-IN WIRE SHOULD BE TWO PAIR CABLE

CHARLOTTE. TRANSPORTATION

Plans Prepared By:
Kimley»Horn
421 FAYETTEVILLE STREET, SUITE 600
RALEIGH, NORTH CAROLINA, 27601
PHONE:919-677-2000

NO.	DATE	BY	REVISION DESCRIPTION
1	8-10	AEV	REDRAW NEW BORDER. STATE RECORD PLAN
2	9-15	AEV	FYAS ON NORTH GRAHM REVISE SIGNAL HEADS ON CHARTS
3	5-17	JP	ADD PEDS FOR PHASE 6
4	8-19	JP	RECORD PLAN

NORTH CAROLINA PROFESSIONAL SEAL 058683 ENGINEER MOLLY C. BURKE

DocuSigned by:
Molly Burke
954EF86C04C847E...
6/23/2026

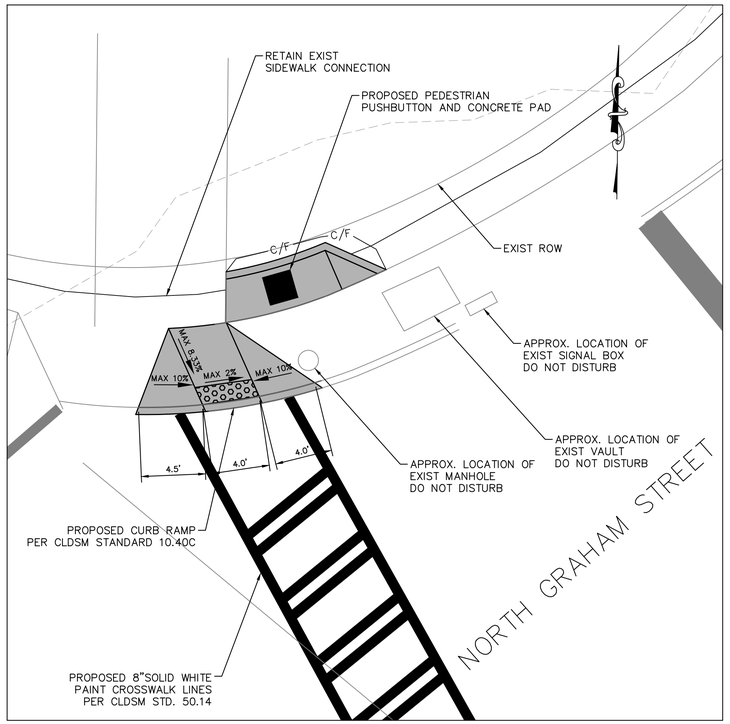
EED	ND	06-2026
REVIEWED BY	PREPARED BY	DATE
00120	10-0575	
SIGNAL NO.	NCDOT ID NO.	

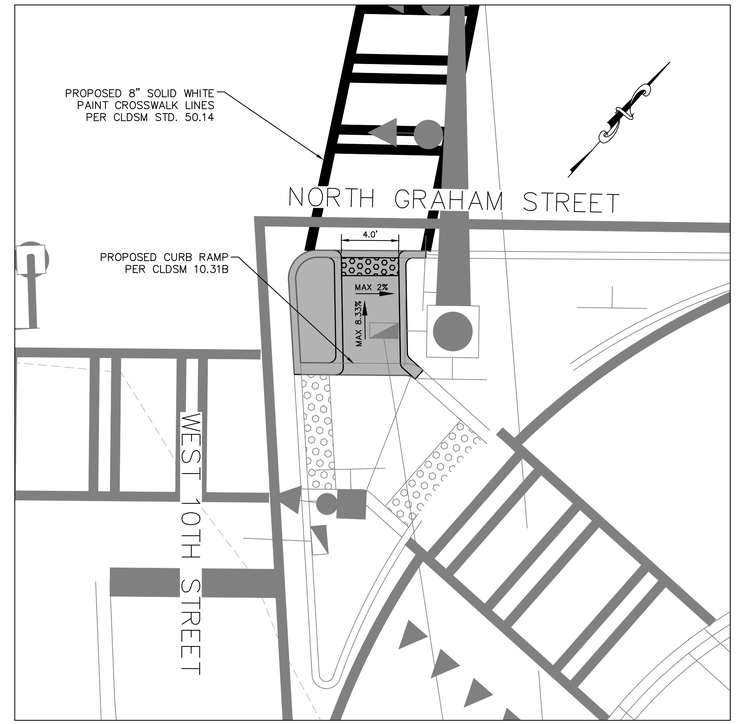
WEST 10TH STREET AT NORTH GRAHAM STREET

LOW VOLTAGE DIAGRAM

SHEET SIG6 OF SIG5

Docusign Envelope ID: A10CC9E0-ED21-84E4-8225-AF02C7ED2E91





NOTE: SURVEY WAS NOT OBTAINED AS PART OF THIS PROJECT. SLOPES SHOWN ARE MAXIMUM ALLOWABLE SLOPES PER ADA STANDARDS.

CHARLOTTE. TRANSPORTATION

Plans Prepared By:

Kimley»Horn
421 FAYETTEVILLE STREET, SUITE 600
RALEIGH, NORTH CAROLINA, 27601
PHONE: 919-677-2000

NO.	DATE	BY	REVISION DESCRIPTION

NORTH CAROLINA PROFESSIONAL SEAL 058683 ENGINEER MOLLY C. BURKE

DocuSigned by: Molly Burke 954EF86C04C647E... 6/19/2026

1" = 5' SCALE	EAR PREPARED BY	04-2026 DATE
00120 SIGNAL NO.	10-0082 NCDOT ID NO.	

WEST 10TH STREET AT NORTH GRAHAM STREET

CURB RAMP DETAILS

SHEET 1 OF 1

Docusign Envelope ID: EE61FB20-1723-845D-836D-F555B7775BD6

INDEX OF SHEETS

Cover Sheet
Signal Plan SIG1
Signal Plan Details SIG2
Splice Details..... SIG3
Signal Wiring Diagram..... SIG4
Low Voltage Wiring Diagram SIG5

TOTAL SHEETS 5

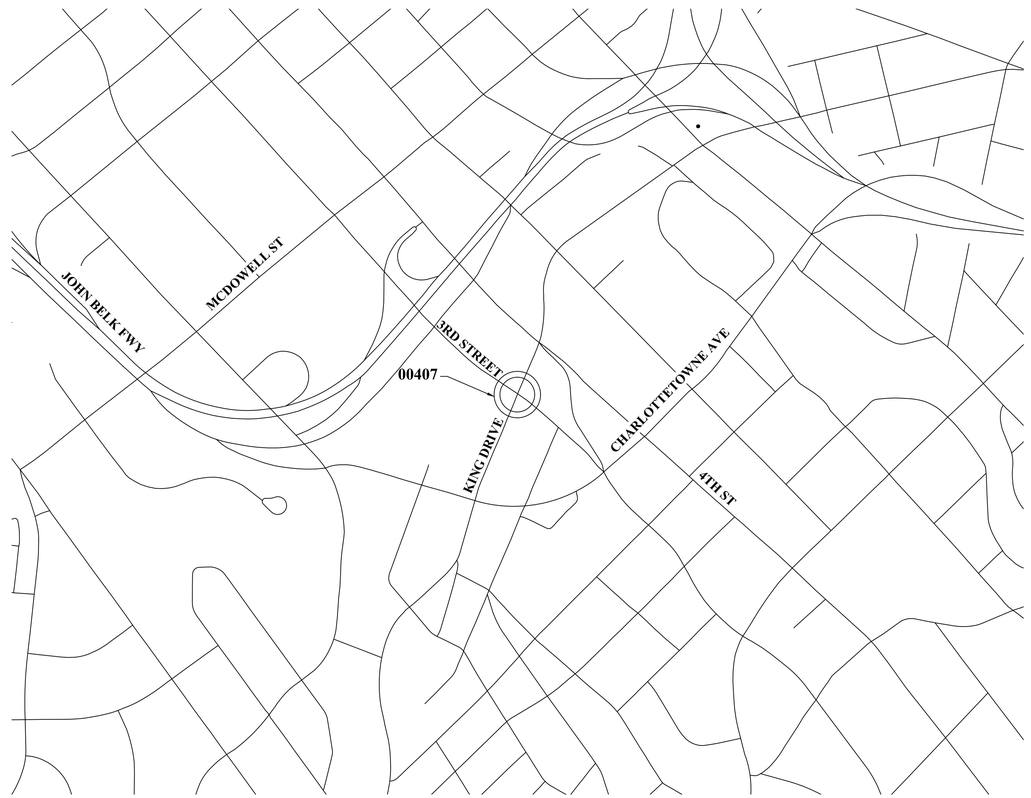
REVISIONS

NO.	DATE	BY	REVISION DESCRIPTION
1	KC	10/97	REVISED POLE LOCATIONS
2	SH	06/11	RECORD PLAN
3	BG	12/14	ADD FYA TO KINGS DRIVE
4	NS	12/14	SPLIT PH 2 INTO PH 4 AND PH 8 CHANGED PH 2 (OUTBOUND) TO PH 6 ADDED COUNTDOWN PEDS REBUILT SE CORNER
5	BLA	5/17	TRAFFIC MANAGEMENT CAMERA

CHARLOTTE.
TRANSPORTATION

Signal Plans of
Kings Drive and 3rd Street

CDOT Signal ID 00407
NCDOT Signal ID 10-0195



VICINITY MAP (NTS)

LEGEND

PROPOSED	DESCRIPTION	EXISTING
	CONTROL BOX	
	METER PEDESTAL	
	PULL BOX	
	STEEL POLE	
	MAST ARM	
	PED PEDESTAL	
	UTILITY POLE	
	ANCHOR	
	SIGNAL HEAD	
	VIDEO CAMERA	
	OPTICOM	
	OBSERVATION CAM	
	DETECTOR	
	CONDUIT	
	INTERCONNECT	
	EDGE OF PVMT.	
	CURB & GUTTER	
	TUBULAR MARKER	
	GROUND SIGN	
	OVERHEAD SIGN	
	DOUBLE YELLOW	
	STOP BAR	
	WHITE SKIP	
	WHITE MINI	
	PAVEMENT ARROW	
	PROPERTY LINE	
	ROW	

PULLBOX ID

	SIZE	PULLBOX TYPE
1	13"x24"x12"	LOOP
2	17"x30"x24"	FIBER OPTIC
3	24"x36"x30"	CONTROLLER / FIBER
4	30"x48"x36"	CONTROLLER
5	24"x24"x12"	CONTROLLER
6	36"x36"x12"	CONTROLLER

NOTE:
PULLBOX MATERIAL MUST MEET OR EXCEED THE 1998 CDOT TRAFFIC SIGNAL SPECIFICATIONS.

PLANS PREPARED BY:

Kimley»Horn
421 FAYETTEVILLE STREET, SUITE 600
RALEIGH, NORTH CAROLINA, 27601
PHONE: 919-677-2000

PLAN NOTES

1. ALL PAVEMENT MARKING DIMENSIONS ARE APPROXIMATE.
2. SIGNAL SHALL BE INSTALLED IN ACCORDANCE WITH THE LATEST NCDOT STANDARD SPECIFICATIONS AND CDOT TRAFFIC SIGNAL SPECIAL PROVISIONS.
3. PED SIGNALS WITH PUSHBUTTONS WILL BE LABELED "PB" (FOR EXAMPLE PB21, PB22).
4. COUNTDOWN PEDESTRIAN SIGNALS SHALL COUNT DOWN FLASHING DON'T WALK ONLY.
5. FYA 71 WILL INITALLY OPERATE PROTECTED-PERMITTED 24.7.
6. FYA 11 WILL OPERATE PERMITTED-ONLY 24/7.

PE SEAL

NORTH CAROLINA PROFESSIONAL SEAL 058683 ENGINEER MOLLY C. BURKE

DocuSigned by:
Molly Burke
95401B6C04C647E...
6/23/2026

PROJECT TEAM

DESIGNER:	MH HARVEY, EI
PROJECT MANAGER:	MC BURKE, PE
TIMING ENGINEER	SHAWN DOWDELL, PE

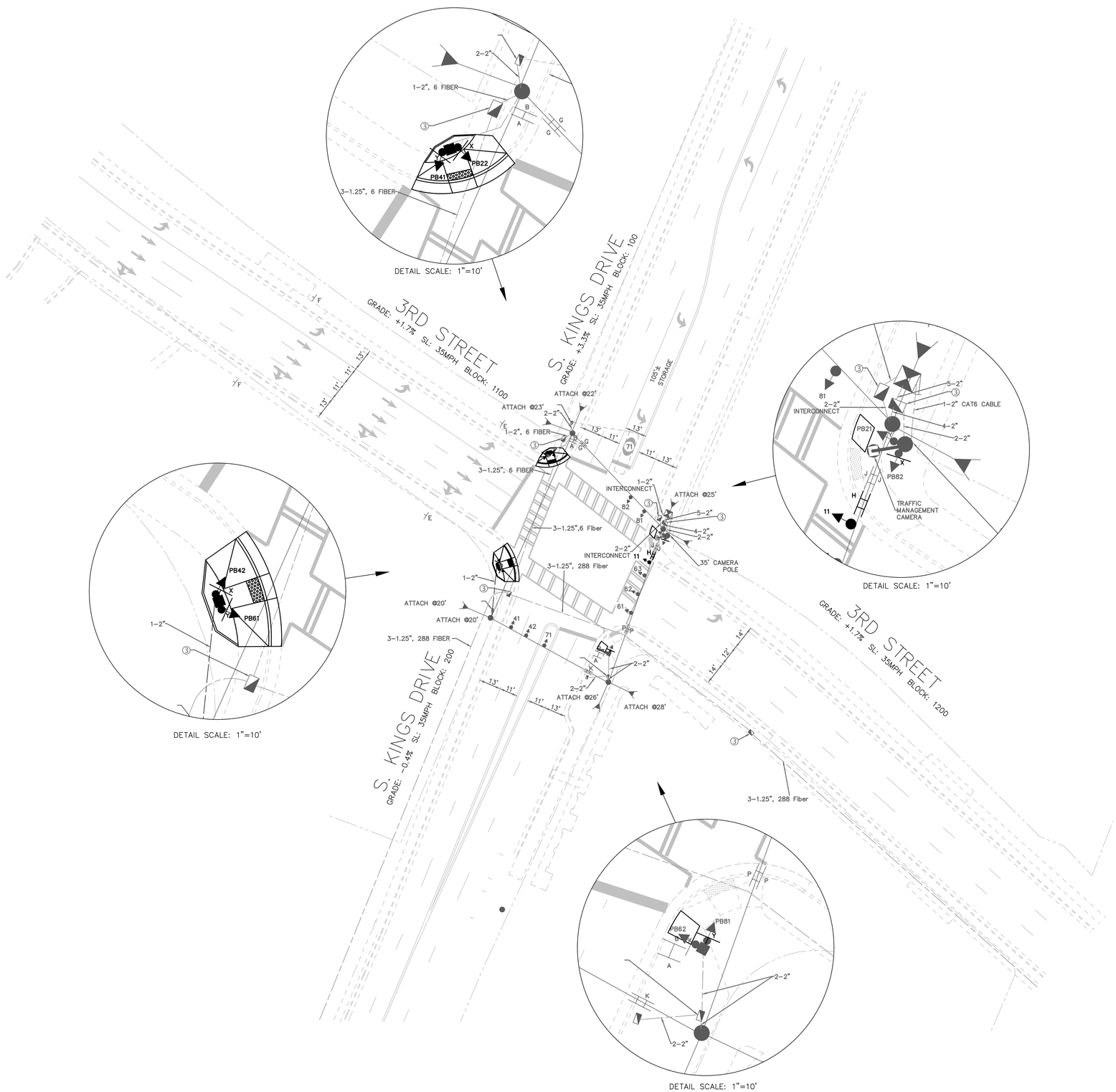
CHARLOTTE.
TRANSPORTATION

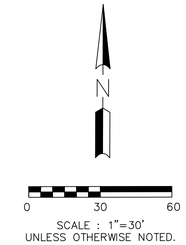
Signal ID 00407/ NCDOT Signal ID 10-0195

Kings Drive at 3rd Street

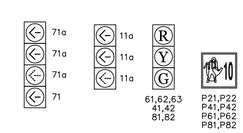
Tuesday, June 23, 2026 9:07:55 AM

Docusign Envelope ID: EE61FB20-1723-845D-836D-F555B7775BD6

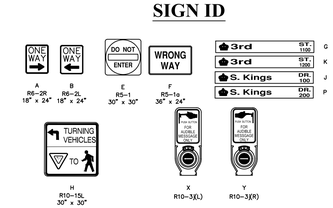




SIGNAL HEAD ID



SIGN ID



CHARLOTTE. TRANSPORTATION

Plans Prepared By:

Kimley»Horn
421 FAYETTEVILLE STREET, SUITE 600
RALEIGH, NORTH CAROLINA, 27601
PHONE:919-677-2000

NO.	DATE	BY	REVISION DESCRIPTION
1	06-11	SH	RECORD PLAN
2	12-14	BG	ADD FYA TO KINGS DRIVE
3	12-14	NS	SPLIT PH 4 IN TO PH 4 AND 5 CHANGED PH 2 OUTBOUND TO PH 6 ADDED COLUMBIA PLAN
4	05-17	BLA	TRAFFIC MANAGEMENT CAMERA

NORTH CAROLINA PROFESSIONAL SEAL 058683 ENGINEER MOLLY C. BURKE

DocuSigned by:
Molly Burke
954EF86C04C647E...
6/23/2026

EED REVIEWED BY	MHH PREPARED BY	06-2026 DATE
00407 SIGNAL NO.	10-0195 NCDOT ID NO.	

KINGS DRIVE AT 3RD STREET

SIGNAL PLAN

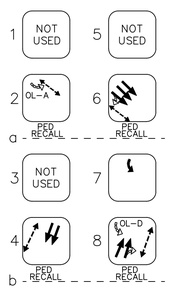
SHEET SIG1 OF SIG5

Docusign Envelope ID: EE61FB20-1723-845D-836D-F555B7775BD6

SIGNAL PHASING

Ring Configuration 1,2,0,3,4,b / 5,6,0,7,8,b

COBALT EOS



SIGNAL SEQUENCE

RING 1	PHASE 1		PHASE 2		PHASE 3		PHASE 4		
SIGNAL ID NUMBER	R/W	OTH	R/W	OTH	R/W	OTH	R/W	OTH	FLASH
41,42							G	Y	R
PB21,PB22			W FDW	DW					DARK
PB41,PB42							W FDW	DW	DARK

RING 2	PHASE 5		PHASE 6		PHASE 7		PHASE 8		
SIGNAL ID NUMBER	R/W	OTH	R/W	OTH	R/W	OTH	R/W	OTH	FLASH
61,62,63			G	Y					R
81,82							G	Y	R
71					◀	◁			◁*
PB61,PB62			W FDW	DW					DARK
PB81,PB82							W FDW	DW	DARK

◁* RED ARROW ◁ YELLOW ARROW
◀ GREEN ARROW ✳ FLASHING YELLOW ARROW

OVERLAP PHASE

OVERLAP – PHASE	OL-A/2 NORMAL		OL-B/		OL-C/		OL-D/7+8 FYA/LT		
SIGNAL ID NUMBER	R/W	OTH	R/W	OTH	R/W	OTH	R/W	OTH	FLASH
11a	✳	◁							◁*
71a							✳	◁	◁*

OVERLAP – PHASE	OL-E/		OL-F/		OL-G/		OL-H/		
SIGNAL ID NUMBER	R/W	OTH	R/W	OTH	R/W	OTH	R/W	OTH	FLASH

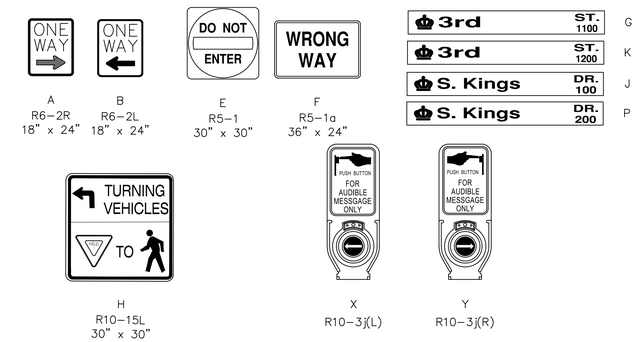
◁* RED ARROW ◁ YELLOW ARROW
◀ GREEN ARROW ✳ FLASHING YELLOW ARROW

TURNING MOVEMENT COUNT

CLEARANCE INTERVALS

Phase	1	2	3	4	5	6	7	8
% Grade				3.3%		1.7%	3.3%	-0.4%
Distance				65		85	60	65
Approach Speed (mph)				35		35	25	35
Yellow				**3.9**		**3.7**	**3.0**	**3.9**
All Red				**1.3**		**1.7**	**1.7**	**1.3**
Total Clearance				5.2		5.4	4.7	5.2

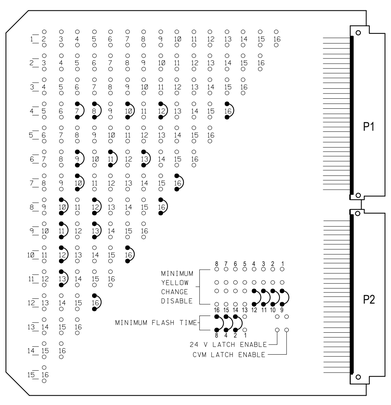
SIGN ID



MALFUNCTION MANAGEMENT UNIT / CONFLICT MONITOR

PROGRAMMING DETAIL

(program card and tables as shown)



MMU PROGRAMMING CARD

FIELD CHECK ENABLE DUAL IND ENABLE RED FAIL ENABLE	
CHANNEL NUMBER	ENABLE/ DISABLE
1	DISABLE
2	DISABLE
3	DISABLE
4	ENABLE
5	DISABLE
6	ENABLE
7	ENABLE
8	ENABLE
9	ENABLE
10	ENABLE
11	ENABLE
12	ENABLE
13	ENABLE
14	ENABLE
15	DISABLE
16	ENABLE

UNIT OPTIONS	
OPTION	SETTING
RECURRENT PULSE	ON
WALK DISABLE	OFF
LOG CVM FAULTS	ON
EXTERN WATCHDOG	OFF
24V-2=12VDC	OFF
PGM CARD MEMORY	ON
LEDguard	ON
FORCE TYPE 16	OFF
TYPE12-SDLC	OFF
VM 3x/Day Latch	ON

FLASHING YELLOW ARROW	
CONFIG MODE	G
ENABLE CHANNEL PAIR, FYA	
CH 1-13	ON
CH 3-14	OFF
CH 5-15	OFF
CH 7-16	ON
RED/YEL INPUT ENABLE	
CH 1	OFF
CH 3	OFF
CH 5	OFF
CH 7	OFF
FLASH RATE FAULT	ON
FYA TRAP DETECT	ON

MMU PROGRAMMING NOTE

ECONOLITE EOS-2070 SPECIAL MMU PROGRAMMING

(program controller as shown)

1. From Main Menu select 1. CONFIGURATION
2. From CONFIGURATION Submenu select 1. CABINET
3. From PORT 1 (SDLC) Submenu select 4. MONITOR PROGRAMMING

CAUTION!

Set intersection to Flash before attempting to enter or change any MMU programming data.

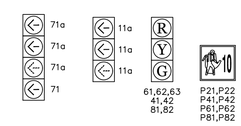
This programming and that of the MMU programming card must match exactly. If they do not, the intersection will be placed into Flash.

```
MMU PROGRAM [     MANUAL]

     CH  6 5 4 3 2 1 0 9 8 7 6 5 4 3 2
      1  . . . . . . . . . . . . . . .
      2  . . . . . . . . . . . . . .
      3  . . . . . . . . . . . . .
      4  X . . . X . X . X X . .
      5  . . . . . . . . . . .
      6  . . . X . X . X . .
      7  X . . . . . X . .
      8  X . . . . . X .
      9  . . . X . X .
     10  X . . . X .
     11  . . X X .
     12  X . . .
     13  . . X
     14  . .
     15  .

END PROGRAMMING
```

SIGNAL HEAD ID



DETECTOR RACK SETUP

INSERT DETECTOR CARDS IN RACK ACCORDING TO THE DETAIL SHOWN BELOW.
PARTICULAR DETECTOR CHANNELS WILL CALL PHASES INDICATED.

DET BIU #1	SLOT EMPTY	CH1 L1 ø7 71 / CH2 L2 NOT USED	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	DET BIU #2

CHARLOTTE. TRANSPORTATION

Plans Prepared By:

Kimley»Horn
421 FAYETTEVILLE STREET, SUITE 600
RALEIGH, NORTH CAROLINA, 27601
PHONE:919-677-2000

NO.	DATE	BY	REVISION DESCRIPTION
1	06-11	SH	RECORD PLAN
2	12-14	BG	ADD FYA TO KINGS DRIVE
3	12-14	NS	SPLIT PH 4 IN TO PH 4 AND 8; CHANGED PH 2 OUTBOUND TO PH 6 ADDED COLAX DRIVE PLAN
4	05-17	BLA	TRAFFIC MANAGEMENT CAMERA

NORTH CAROLINA PROFESSIONAL SEAL 058683 ENGINEER MOLLY C. BURKE

DocuSigned by: Molly Burke 954EF8BC04C647E... 6/23/2026

EED	MHH	06-2026
REVIEWED BY	PREPARED BY	DATE

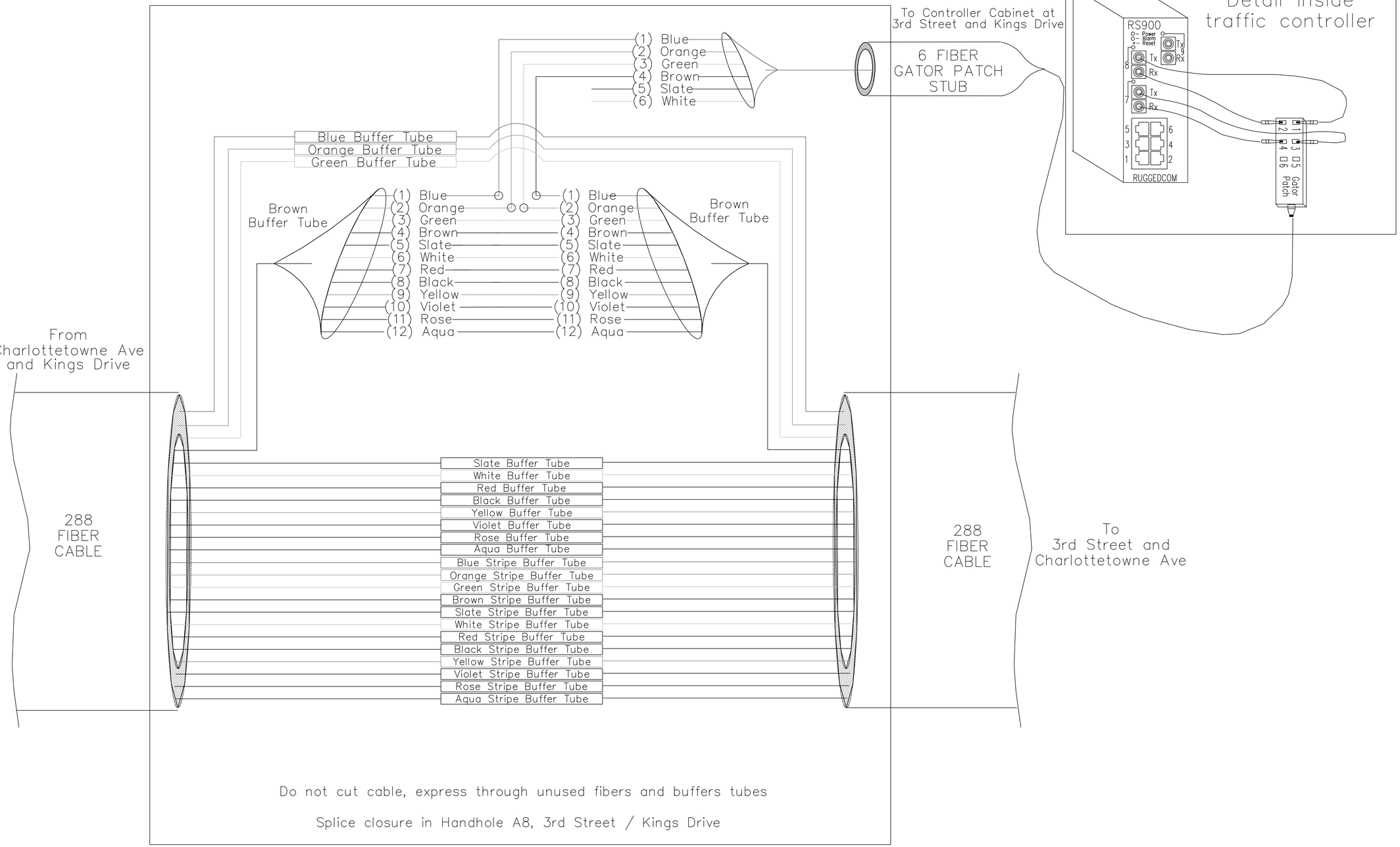
00407	10-0195	
SIGNAL NO.	NCDOT ID NO.	

KINGS DRIVE AT 3RD STREET

SIGNAL DETAIL

SHEET SIG2 OF SIG5

Docusign Envelope ID: EE61FB20-1723-845D-836D-F555B7775BD6



CHARLOTTE. TRANSPORTATION

Plans Prepared By:

Kimley»Horn
421 FAYETTEVILLE STREET, SUITE 600
RALEIGH, NORTH CAROLINA, 27601
PHONE: 919-677-2000

NO.	DATE	BY	REVISION DESCRIPTION
1	06-11	SH	RECORD PLAN
2	12-14	BG	ADD FYA TO KINGS DRIVE
3	12-14	NS	SPLIT PH 4 IN TO PH 4 AND 5 CHANGED PH 2 OUTBOUND TO PH 6 ADDED COAX TO DRY PLUG
4	05-17	BLA	TRAFFIC MANAGEMENT CAMERA

NORTH CAROLINA PROFESSIONAL SEAL 058683 ENGINEER MOLLY C. BURKE

DocuSigned by:
Molly Burke
—95AEFBC04C5AFE...
6/23/2026

EED
REVIEWED BY

MHH
PREPARED BY

06-2026
DATE

00407
SIGNAL NO.

10-0195
NCDOT ID NO.

KINGS DRIVE AT 3RD STREET

SPLICING DETAIL

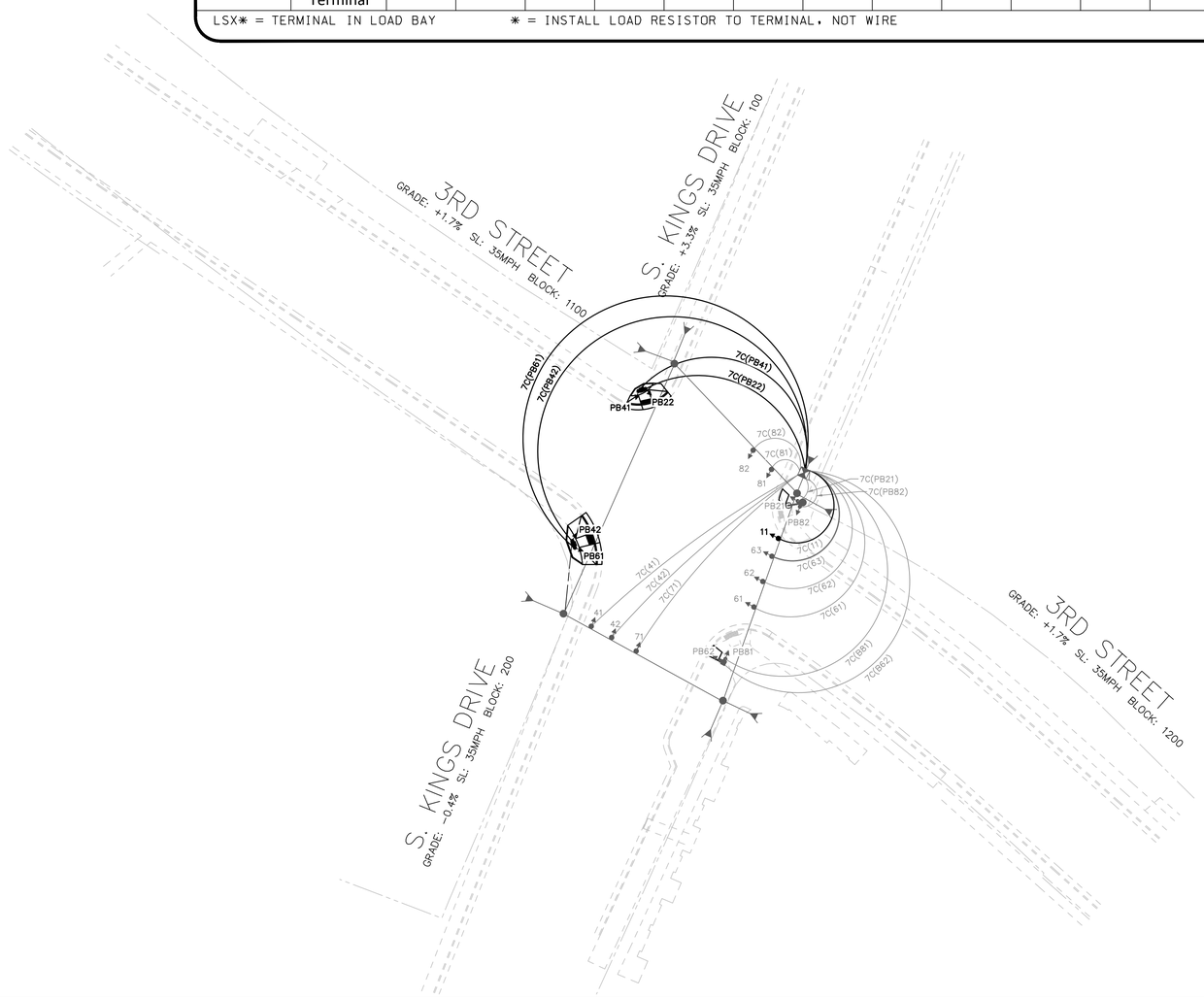
SHEET SIG3 OF SIG5

Docusign Envelope ID: EE61FB20-1723-845D-836D-F555B7775BD6

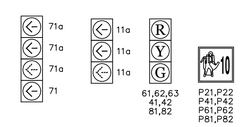
SIGNAL HEAD WIRING

CHANNEL		1	2	3	4		5	6			7	8		9		10		11		12		13	14	15	16
PHASE		1	2	3	4		5	6			7	8		2 PED		4 PED		6 PED		8 PED		OL-A	OL-B	OL-C	OL-D
SIGNAL HEAD NO.		NU	NU	NU	41	42	NU	61	62	63	71	81	82	PB21	PB22	PB41	PB42	PB61	PB62	PB81	PB82	11a	NU	NU	71a
RED	Wire				41R	42R		61R	62R	63R		81R	82R												
	Terminal				LS4-R	LS4-R		LS6-R	LS6-R	LS6-R		LS8-R	LS8-R												
YELLOW	Wire				41Y	42Y		61Y	62Y	63Y		81Y	82Y												
	Terminal				LS4-Y	LS4-Y		LS6-Y	LS6-Y	LS6-Y	*	LS8-Y	LS8-Y												
GREEN	Wire				41G	42G		61G	62G	63G		81G	82G												
	Terminal				LS4-G	LS4-G		LS6-G	LS6-G	LS6-G		LS8-G	LS8-G												
RED ARROW	Wire																					11RS			71RS
	Terminal																					LS13-R			LS16-R
YELLOW ARROW	Wire																					11YS			71YS
	Terminal																					LS13-Y			LS16-Y
FLASHING YELLOW	Wire																					11GS			71GS
	Terminal																					LS13-GS			LS16-GS
GREEN ARROW	Wire										71G														
	Terminal										LS7-G														
DON'T WALK	Wire													P21R	P22R	P41R	P42R	P61R	P62R	P81R	P82R				
	Terminal													LS9-R	LS9-R	LS10-R	LS10-R	LS11-R	LS11-R	LS12-R	LS12-R				
WALK	Wire													P21G	P22G	P41G	P42G	P61G	P62G	P81G	P82G				
	Terminal													LS9-G	LS9-G	LS10-G	LS10-G	LS11-G	LS11-G	LS12-G	LS12-G				

LSX* = TERMINAL IN LOAD BAY * = INSTALL LOAD RESISTOR TO TERMINAL, NOT WIRE



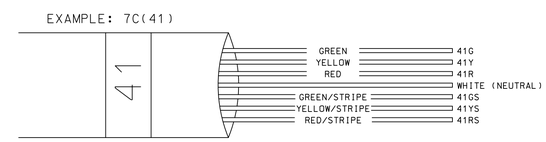
SIGNAL HEAD ID



SIGNAL WIRE NAMING CONVENTION:
CABLES:
xC(nn) x = #of conductors in cable, nn = cable number

WIRES:
nnA nn = cable number, A = conductor in cable

EXAMPLE: 7C(41)



CHARLOTTE. TRANSPORTATION

Plans Prepared By:
Kimley»Horn
421 FAYETTEVILLE STREET, SUITE 600
RALEIGH, NORTH CAROLINA, 27601
PHONE: 919-677-2000

NO.	DATE	BY	REVISION DESCRIPTION
1	06-11	SH	RECORD PLAN
2	12-14	BG	ADD FYA TO KINGS DRIVE
3	12-14	NS	SPLIT PH 4 IN TO PH 4 AND 8 CHANGED PH 2 OUTBOUND TO PH 6 ADDED COUNTDOWN TIMER
4	05-17	BLA	TRAFFIC MANAGEMENT CAMERA

NORTH CAROLINA PROFESSIONAL SEAL 058683 ENGINEER MOLLY C. BURKE

DocuSigned by:
Molly Burke
954EF80CAC64TE...
6/23/2026

EED	MHH	06-2026
REVIEWED BY	PREPARED BY	DATE

00407	10-0195	
SIGNAL NO.	NCDOT ID NO.	

KINGS DRIVE AT 3RD STREET

SIGNAL WIRING DIAGRAM

SHEET SIG4 OF SIG5

Docusign Envelope ID: EE61FB20-1723-845D-836D-F555B7775BD6

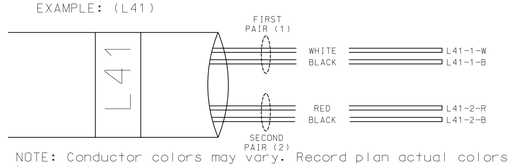
LOOP WIRING

Loop Number	Wire	Terminal	Controller Detector Number	Phase	Timing		Size	Comments
					Feature	Time		
71	L71-1-W	LT1-1	1	7,8	DELAY	3	6'X25'	@STOP BAR
	L71-1-B	LT1-2						

LOW-VOLTAGE WIRE NAMING CONVENTION:
CABLES:
(Ann) A = Loops(L)/Pushbutton(B) nn = cable number

WIRES:
Ann-C-D A = Loops(L)/Pushbutton(B), nn = cable number,
C = pair number, D = conductor in pair

EXAMPLE: (L41)



NOTE: Conductor colors may vary. Record plan actual colors installed.

NOTE:
ALL LEAD-IN WIRE SHOULD BE TWO PAIR CABLE

CHARLOTTE. TRANSPORTATION

Plans Prepared By:
Kimley»Horn
421 FAYETTEVILLE STREET, SUITE 600
RALEIGH, NORTH CAROLINA, 27601
PHONE:919-677-2000

NO.	DATE	BY	REVISION DESCRIPTION
1	06-11	SH	RECORD PLAN
2	12-14	BG	ADD FYA TO KINGS DRIVE
3	12-14	NS	SPLIT PH 4 IN TO PH 4 AND 8 CHANGED PH 2 OUTBOUND TO PH 6 ADDED COUNTDOWN TIME
4	05-17	BLA	TRAFFIC MANAGEMENT CAMERA

NORTH CAROLINA PROFESSIONAL SEAL 058683 ENGINEER MOLLY C. BURKE

DocuSigned by:
Molly Burke
954EF86C04C647E...
6/23/2026

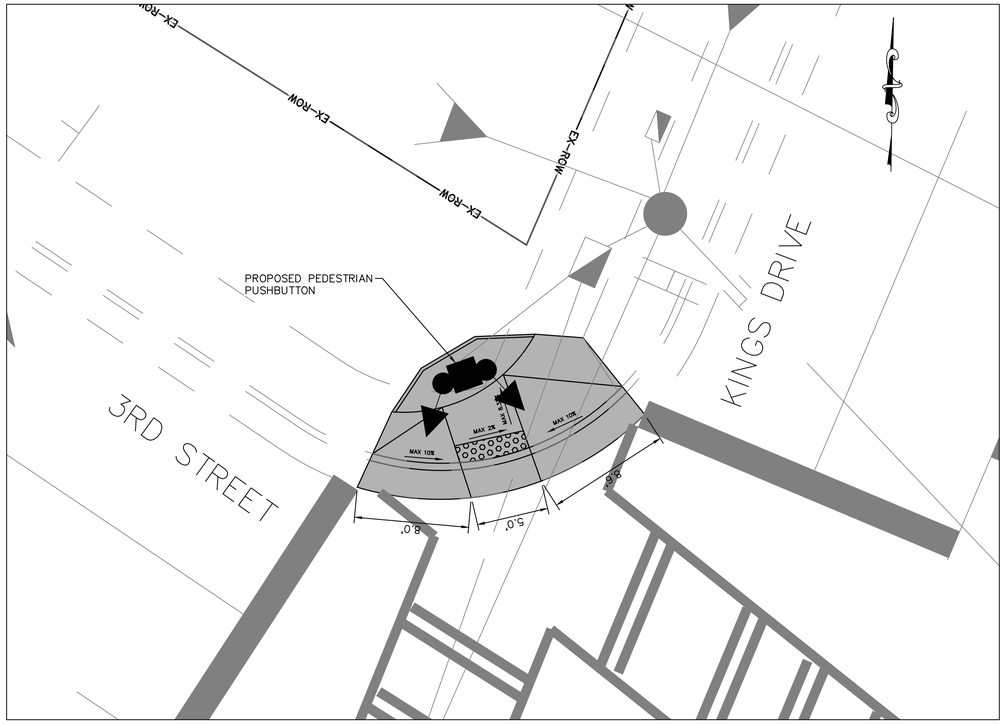
EED REVIEWED BY	MHH PREPARED BY
06-2026 DATE	
00407 SIGNAL NO.	10-0195 NCDOT ID NO.

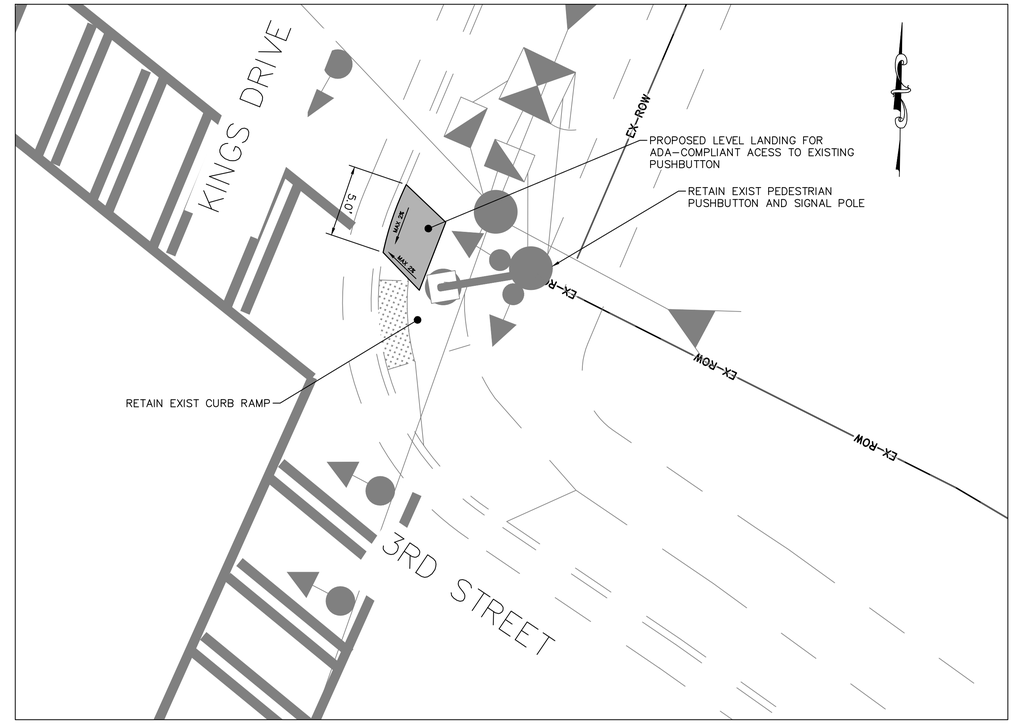
KINGS DRIVE AT 3RD STREET

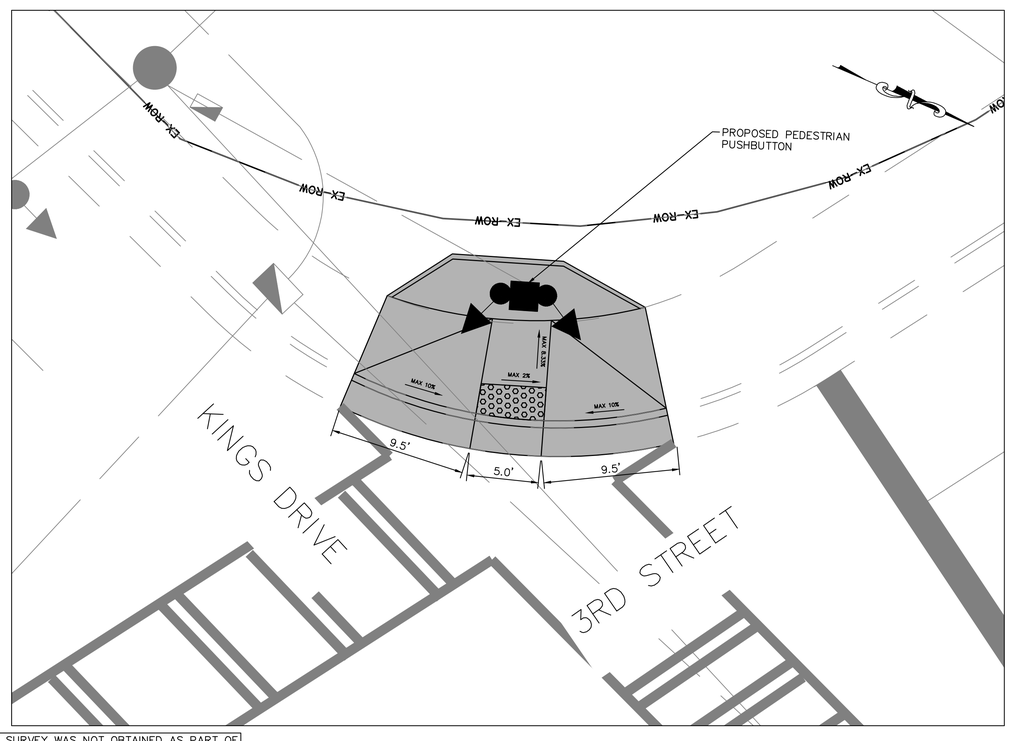
LOW VOLTAGE DIAGRAM

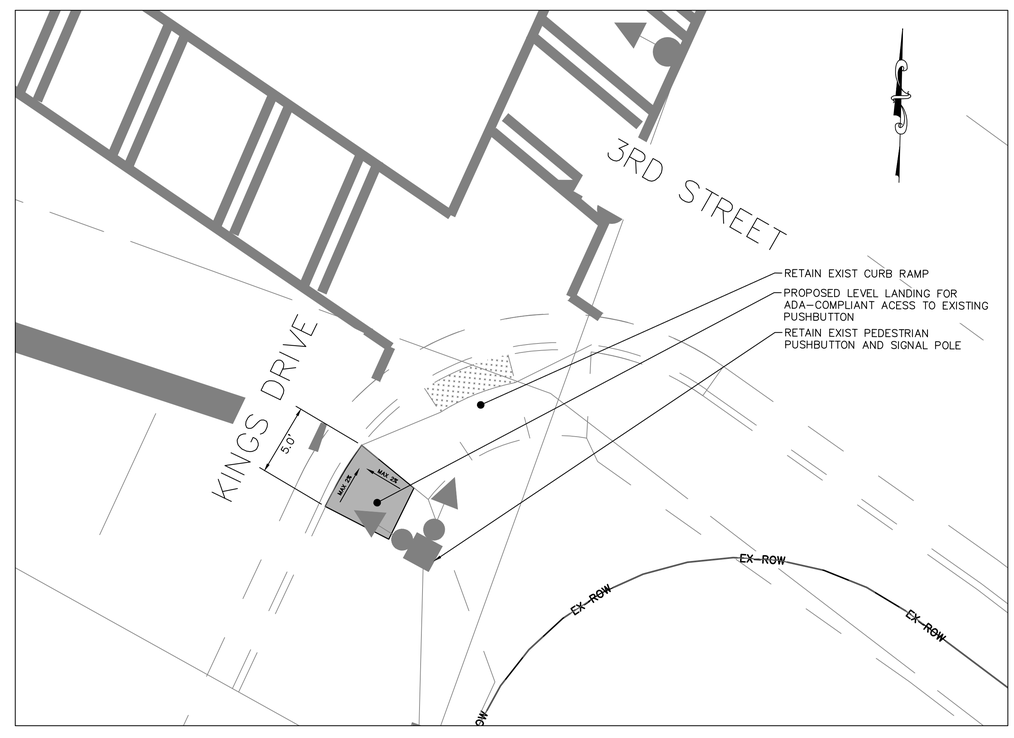
SHEET SIG5 OF SIG5

Docusign Envelope ID: D23A98CD-6651-8D29-82E0-065667EA0D69









NOTE: SURVEY WAS NOT OBTAINED AS PART OF THIS PROJECT. SLOPES SHOWN ARE MAXIMUM ALLOWABLE SLOPES PER ADA STANDARDS.

CHARLOTTE. TRANSPORTATION

Plans Prepared By:

NO.	DATE	BY	REVISION DESCRIPTION

NORTH CAROLINA PROFESSIONAL SEAL 058683 ENGINEER MOLLY C. BURKE

DocuSigned by: Molly Burke 6/19/2026
95AEFB0CA0C64TE...

1" = 5' SCALE	EAR PREPARED BY	06-2026 DATE
00407 SIGNAL NO.	10-0082 NCDOT ID NO.	

3RD STREET AT KINGS DRIVE

CURB RAMP DETAILS

SHEET 1 OF 1

Docusign Envelope ID: EE61FB20-1723-845D-836D-F555B7775BD6

INDEX OF SHEETS

Cover Sheet
Signal Plan SIG1
Signal Details SIG2
Signal Wiring Diagram SIG3
Low Voltage Wiring Diagram SIG4

TOTAL SHEETS 5

REVISIONS

NO.	DATE	BY	REVISION DESCRIPTION
1	RA	4/06	LOOP #23
2	RA	4/09	LOOP #31,62
3	NS	3/10	RECORD PLAN-JT
4	RA	2/13	LOOPS# 11,33,61,62,63
5	KB	5/13	LOOPS# 21,22,51,75

CHARLOTTE.
TRANSPORTATION

Signal Plans of
Monroe Road
and N Sharon Amity Road

CDOT Signal ID 00478
NCDOT Signal ID 10-0082

VICINITY MAP (NTS)

LEGEND

PROPOSED	DESCRIPTION	EXISTING
	CONTROL BOX	
	METER PEDESTAL	
	PULL BOX	
	STEEL POLE	
	MAST ARM	
	PED PEDESTAL	
	UTILITY POLE	
	ANCHOR	
	SIGNAL HEAD	
	VIDEO CAMERA	
	OPTICOM	
	OBSERVATION CAM	
	DETECTOR	
	CONDUIT	
	INTERCONNECT	
	EDGE OF PVMT.	
	CURB & GUTTER	
	TUBULAR MARKER	
	GROUND SIGN	
	OVERHEAD SIGN	
	DOUBLE YELLOW	
	STOP BAR	
	WHITE SKIP	
	WHITE MINI	
	PAVEMENT ARROW	
	PROPERTY LINE	
	ROW	

PULLBOX ID

	SIZE	PULLBOX TYPE
1	13"x24"x12"	LOOP
2	17"x30"x24"	FIBER OPTIC
3	24"x36"x30"	CONTROLLER / FIBER
4	30"x48"x36"	CONTROLLER
5	24"x24"x12"	CONTROLLER
6	36"x36"x12"	CONTROLLER

NOTE:
PULLBOX MATERIAL MUST MEET OR EXCEED THE 1998 CDOT TRAFFIC SIGNAL SPECIFICATIONS.

PLANS PREPARED BY:

Kimley»Horn
421 FAYETTEVILLE STREET, SUITE 600
RALEIGH, NORTH CAROLINA, 27601
PHONE: 919-677-2000

PLAN NOTES

1. ALL PAVEMENT MARKING DIMENSIONS ARE APPROXIMATE.
2. SIGNAL SHALL BE INSTALLED IN ACCORDANCE WITH THE LATEST NCDOT STANDARD SPECIFICATIONS AND CDOT TRAFFIC SIGNAL SPECIAL PROVISIONS.
3. PED SIGNALS WITH PUSHBUTTONS WILL BE LABELED "PB" (FOR EXAMPLE PB21, PB22).
4. COUNTDOWN PEDESTRIAN SIGNALS SHALL COUNT DOWN FLASHING DON'T WALK ONLY.

PE SEAL

NORTH CAROLINA PROFESSIONAL SEAL 058683 ENGINEER MOLLY C. BURKE

DocuSigned by:
Molly Burke
954EF88C04C647E...
6/23/2026

PROJECT TEAM

DESIGNER:	MH HARVEY, EI
PROJECT MANAGER:	MC BURKE PE
TIMING ENGINEER	SALEEM BARAKZAI

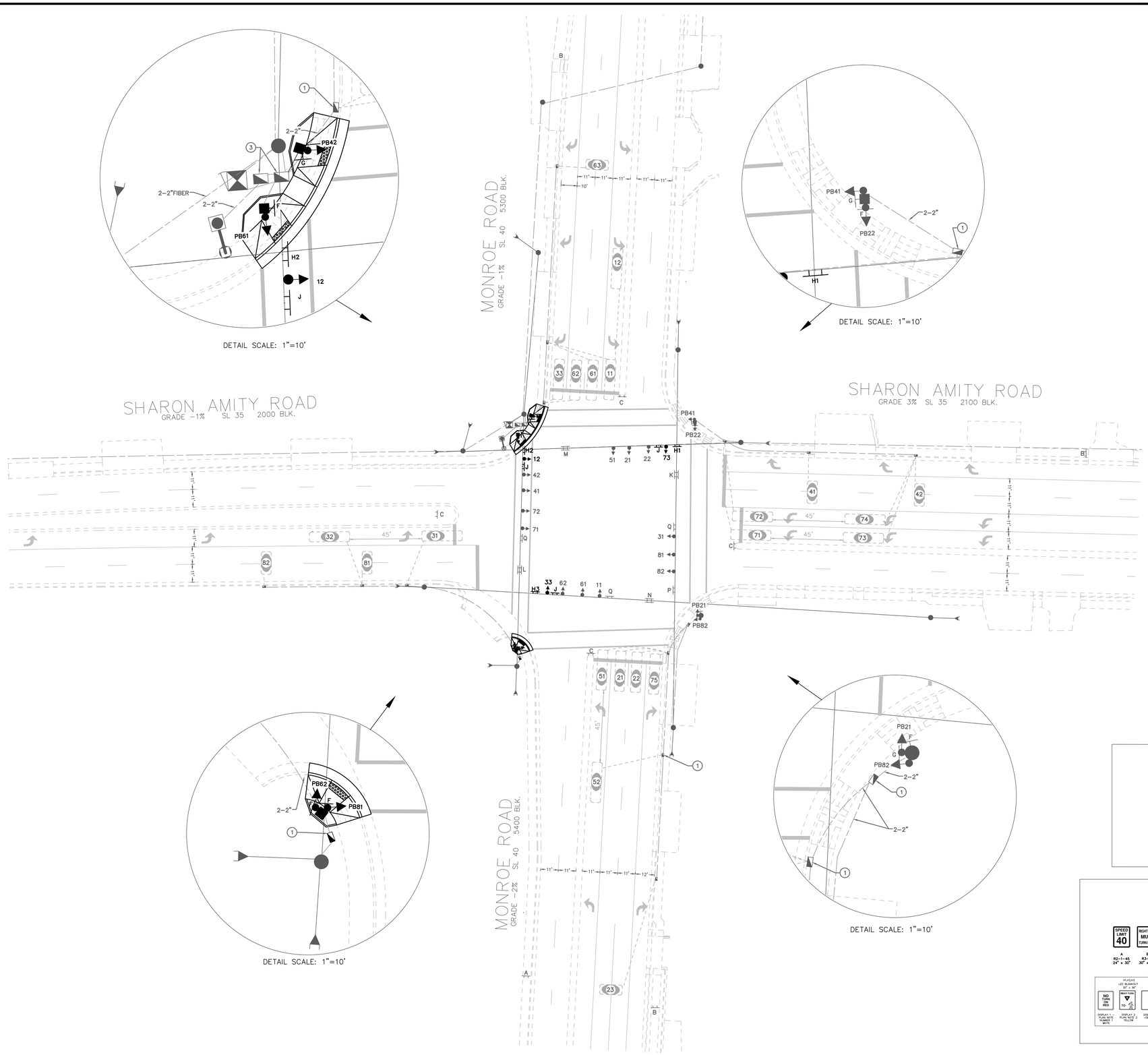
CHARLOTTE.
TRANSPORTATION

Signal ID 00478/ NCDOT 10-0082

Monroe Road at N Sharon Amity Road

Tuesday, June 23, 2026 11:36:58 AM

Docusign Envelope ID: EE61FB20-1723-845D-836D-F555B7775BD6



SIGNAL HEAD ID

11, 31, 51, 71,72	21,22, 41,42, 61,62, 81,82	PB21,PB22, PB41,PB42, PB61,PB62, PB81,PB82	12a,33a,73a; 12a,33a,73a; 12a,33a,73a; 12,33,73

SIGN ID

A R2-1-45 24" x 30"	B R3-7R 30" x 30"	C R7-7 24" x 30"	D R1-1 30" x 30"	E R3-5R 30" x 36"	F R10-3e(L)	G R10-3e(R)
H MUTCD LED BLANKOUT 30" x 36"	I NO TURN ON RED	J DISPLAY 1 - PLANS NOTE 2 WHITE	K DISPLAY 2 PLANS NOTE 2 YELLOW	L DISPLAY 3 DEFAULT	M MONROE FED. 2080	N MONROE FED. 2080
O N SHARON AMITY FED. 2080	P N SHARON AMITY FED. 2080	Q R10-11a 24" x 30"	R R10-16 24" x 30"	S R10-15 30" x 30"		

Plans Prepared By:

Kimley»Horn
421 FAYETTEVILLE STREET, SUITE 600
RALEIGH, NORTH CAROLINA, 27601
PHONE:919-677-2000

CHARLOTTE. TRANSPORTATION

NO.	DATE	BY	REVISION DESCRIPTION
1	4/06	RA	LOOP #23
2	4/09	RA	LOOP #51,62
3	3/10	NS	RECORD PLAN-JT
4	2/13	RA	LOOPS# 11,33,61,62,63
5	5/13	KB	LOOPS# 21,22,51,75

NORTH CAROLINA PROFESSIONAL SEAL 058683 ENGINEER MOLLY C. BURKE

DocuSigned by: Molly Burke 954EF86C04C647E... 6/23/2026

EED REVIEWED BY	MHH PREPARED BY	06-2026 DATE
00478 SIGNAL NO.	10-0082 NCDOT ID NO.	

MONROE ROAD AT N SHARON AMITY ROAD

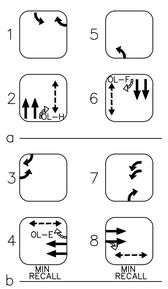
SIGNAL PLAN

SHEET SIG1 OF SIG4

Docusign Envelope ID: EE61FB20-1723-845D-836D-F555B7775BD6

SIGNAL PHASING

Ring Configuration COBALT EOS 1,2,a,3,4,b 5,6,a,7,8,b



SIGNAL SEQUENCE

RING 1	PHASE 1		PHASE 2		PHASE 3		PHASE 4		
SIGNAL ID NUMBER	R/W	OTH	R/W	OTH	R/W	OTH	R/W	OTH	FLASH
11	◀	◁							◁̇
21,22			G	Y					R
31					◀	◁			◁̇
41,42							G	Y	R
12	▶	▷							R
33					▶	▷			R
PB21,PB22			W FDW	DW					DARK
PB41,PB42							W FDW	DW	DARK
RING 2	PHASE 5		PHASE 6		PHASE 7		PHASE 8		
SIGNAL ID NUMBER	R/W	OTH	R/W	OTH	R/W	OTH	R/W	OTH	FLASH
51	◀	◁							◁̇
61,62			G	Y					R
71,72					◀	◁			◁̇
81,82							G	Y	R
73					▶	▷			R
PB61,PB62			W FDW	DW					DARK
PB81,PB62							W FDW	DW	DARK

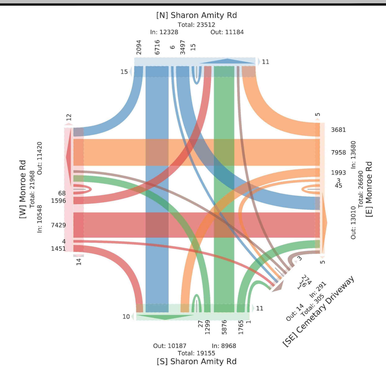
◁̇ RED ARROW ◁ YELLOW ARROW
◀ GREEN ARROW ✳ FLASHING YELLOW ARROW

OVERLAP PHASE

OVERLAP – PHASE	OL-A/		OL-B/		OL-C/		OL-D/		
SIGNAL ID NUMBER	R/W	OTH	R/W	OTH	R/W	OTH	R/W	OTH	FLASH
OVERLAP – PHASE	OL-E/1+4 FYA/RT		OL-F/3+6 FYA/RT		OL-G/		OL-H/2+7 FYA/RT		
SIGNAL ID NUMBER	R/W	OTH	R/W	OTH	R/W	OTH	R/W	OTH	FLASH
12a	✳	▷							R
33a			✳	▷					R
73a							✳	▷	R

◁̇ RED ARROW ◁ YELLOW ARROW
◀ GREEN ARROW ✳ FLASHING YELLOW ARROW

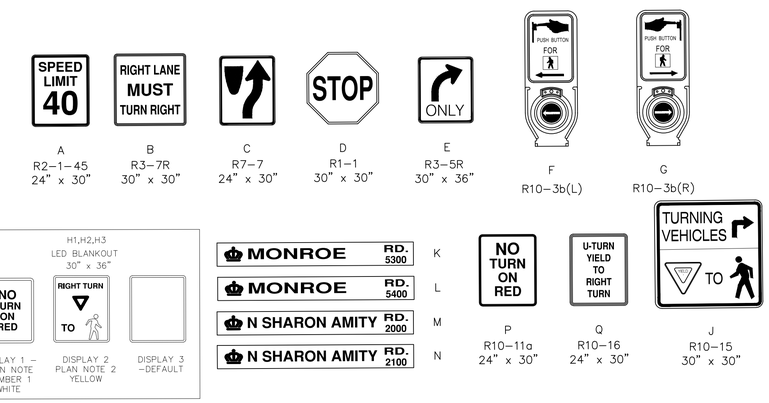
TURNING MOVEMENT COUNT



CLEARANCE INTERVALS

Phase	1	2	3	4	5	6	7	8
% Grade	-1.0%	-2.0%	-1.0%	3.0%	-2.0%	-1.0%	3.0%	-1.0%
Distance	115	145	130	120	110	150	130	135
Approach Speed (mph)	30	40	25	35	30	40	25	35
Yellow	**3.6**	**4.3**	**3.2**	**3.7**	**3.6**	**4.2**	**3.1**	**3.9**
All Red	**2.7**	**2.5**	**3.3**	**2.4**	**2.5**	**2.6**	**3.3**	**2.7**
Total Clearance	6.3	6.8	6.5	6.1	6.1	6.8	6.4	6.6

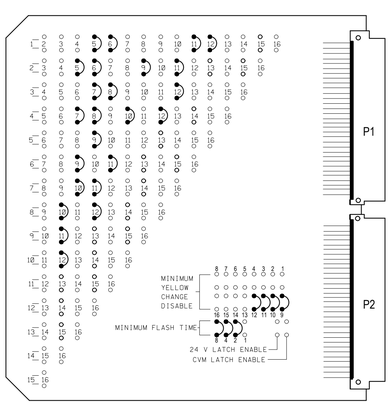
SIGN ID



MALFUNCTION MANAGEMENT UNIT / CONFLICT MONITOR

PROGRAMMING DETAIL

(program card and tables as shown)



MMU PROGRAMMING CARD

FIELD CHECK ENABLE DUAL IND ENABLE RED FAIL ENABLE	
CHANNEL NUMBER	ENABLE/ DISABLE
1	ENABLE
2	ENABLE
3	ENABLE
4	ENABLE
5	ENABLE
6	ENABLE
7	ENABLE
8	ENABLE
9	ENABLE
10	ENABLE
11	ENABLE
12	ENABLE
13	DISABLE
14	DISABLE
15	DISABLE
16	DISABLE

UNIT OPTIONS	
OPTION	SETTING
RECURRENT PULSE	ON
WALK DISABLE	OFF
LOG CVM FAULTS	ON
EXTERN WATCHDOG	OFF
24V-2=12VDC	OFF
PGM CARD MEMORY	ON
LEDguard	ON
FORCE TYPE 16	OFF
TYPE12-SDLC	OFF
VM 3x/Day Latch	ON

FLASHING YELLOW ARROW	
CONFIG MODE	B
ENABLE CHANNEL PAIR, FYA	
CH 1-13	OFF
CH 3-14	OFF
CH 5-15	OFF
CH 7-16	OFF
RED/YEL INPUT ENABLE	
CH 1	OFF
CH 3	OFF
CH 5	OFF
CH 7	OFF
FLASH RATE FAULT	ON
FYA TRAP DETECT	ON

MMU PROGRAMMING NOTE

ECONOLITE EOS-2070 SPECIAL MMU PROGRAMMING

(program controller as shown)

1. From Main Menu select 1. CONFIGURATION
2. From CONFIGURATION Submenu select 1. CABINET
3. From PORT 1 (SDLC) Submenu select 4. MONITOR PROGRAMMING

CAUTION!

Set intersection to Flash before attempting to enter or change any MMU programming data.

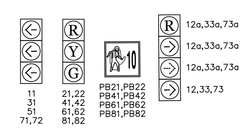
This programming and that of the MMU programming card must match exactly. If they do not, the intersection will be placed into Flash.

```
MMU PROGRAM [     MANUAL]

     CH  6 5 4 3 2 1 0 9 8 7 6 5 4 3 2
      1  . . . . X X . . . . X X . . .
      2  . . . . . X . X . . X X . .
      3  . . . . X . . . X X . . .
      4  . . . . X . X . X X . .
      5  . . . . . . . X . . .
      6  . . . . . X . X . .
      7  . . . . . X X . .
      8  . . . . X . X .
      9  . . . . . X .
     10  . . . . X .
     11  . . . . .
     12  . . . .
     13  . . .
     14  . .
     15  .

END PROGRAMMING
```

SIGNAL HEAD ID



DETECTOR RACK SETUP

INSERT DETECTOR CARDS IN RACK ACCORDING TO THE DETAIL SHOWN BELOW.
PARTICULAR DETECTOR CHANNELS WILL CALL PHASES INDICATED.

DET BIU #1	CH3 L3 Ø2 21,22	CH1 L1 Ø1 11	CH3 L3 Ø3 33	CH1 L5 Ø3 31	CH3 L11 Ø6 61,62	CH1 L9 Ø5 51	CH3 L15 Ø7 75	CH1 L13 Ø7 71,72	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	DET BIU #2
	CH4 L4 Ø2 23	CH2 L2 Ø1 12	CH4 L8 Ø4 41,42	CH2 L6 Ø3 32	CH4 L12 Ø6 63	CH2 L10 Ø5 52	CH4 L16 Ø7 73,74	CH2 L14 Ø8 81,82									

BLANK OUT SIGN NOTES

1. DISPLAY 1 OF H1,H2,H3:PB21,22 ACTIVATES H1. PB41,42 ACTIVATES H2,H3. PB61,62 ACTIVATES H3,PB81,82 ACTIVATES H1.
2. DISPLAY 2 OF H1,H2,H3 IS ACTIVATED AT THE END OF THE LEADING PEDESTRIAN INTERVAL: H1 FOR PHASE 2, H2 FOR PHASE 4, H3 FOR PHASE 6. DISPLAY 2 OVERRIDES DISPLAY 1 IF BOTH DISPLAYS ARE ACTIVE ON THE SAME SIGN.
3. BOTH DISPLAYS DEACTIVATE AT THE END OF FDW.

CHARLOTTE. TRANSPORTATION

Plans Prepared By:
Kimley»Horn
421 FAYETTEVILLE STREET, SUITE 600
RALEIGH, NORTH CAROLINA, 27601
PHONE:919-677-2000

NO.	DATE	BY	REVISION DESCRIPTION
1	4/06	RA	LOOP #23
2	4/08	RA	LOOP #51,62
3	3/10	NS	RECORD PLAN-JT
4	2/13	RA	LOOPS# 11,33,61,62,63
5	5/13	KB	LOOPS# 21,22,51,75

NORTH CAROLINA PROFESSIONAL SEAL 058683 ENGINEER HOLLY C. BURKE

DocuSigned by: Holly Burke — 9AAEF8C04C6AFB... 6/23/2026

EED	MHH	06-2026
REVIEWED BY	PREPARED BY	DATE
00478	10-0082	
SIGNAL NO.	NCDOT ID NO.	

MONROE ROAD AT SHARON AMITY ROAD

SIGNAL DETAIL

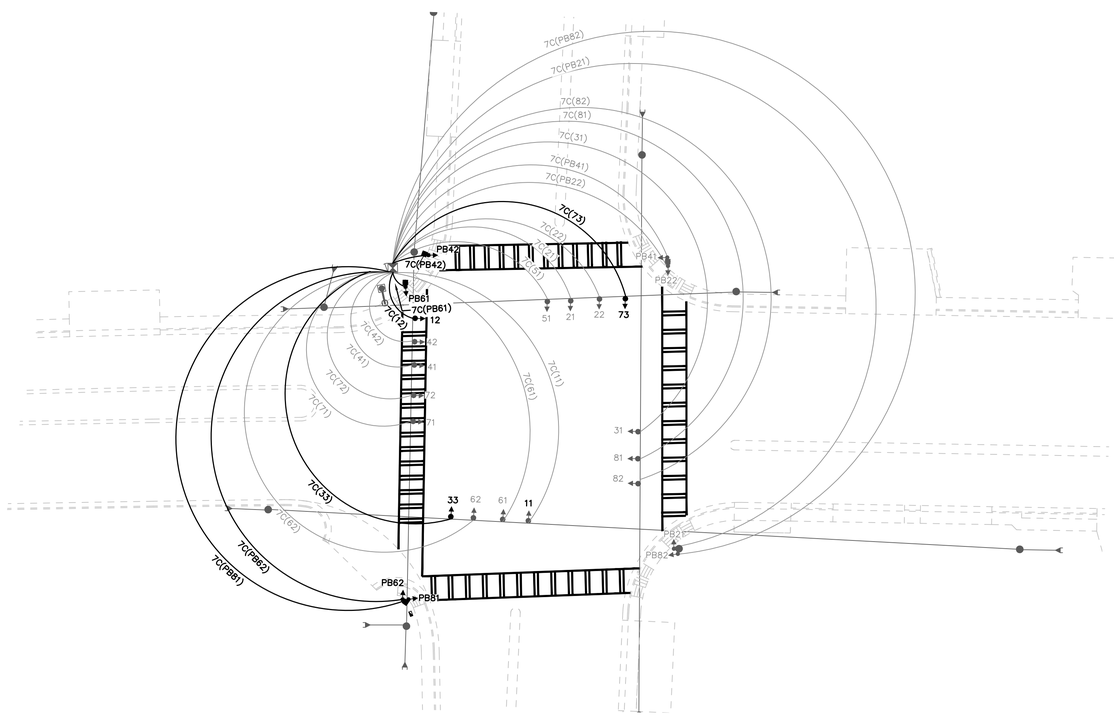
SHEET SIG2 OF SIG4

Docusign Envelope ID: EE61FB20-1723-845D-836D-F555B7775BD6

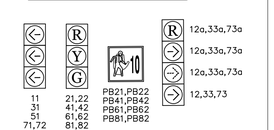
SIGNAL HEAD WIRING

CHANNEL		1		2		3		4		5	6		7			8		9			10			11		12			13	14	15	16
PHASE		1		2		3		4		5	6		7			8		2 PED			4 PED			6 PED		8 PED			OL-A	OL-B	OL-C	OL-D
SIGNAL HEAD NO.		11	12	21	22	31	33	41	42	51	61	62	71	72	73	81	82	PB21	PB22	12a	PB41	PB42	33a	PB61	PB62	PB81	PB82	73a	LED Sign H1	LED Sign H2	LED Sign H3	NU
RED	Wire		12RS	21R	22R			41R	42R		61R	62R				81R	82R						33RS					73RS				
	Terminal		LS1-R	LS2-R	LS2-R			LS4-R	LS4-R		LS6-R	LS6-R				LS8-R	LS8-R						LS10-R					LS12-R				
YELLOW	Wire			21Y	22Y			41Y	42Y		61Y	62Y				81Y	82Y												NTOR	NTOR	NTOR	
	Terminal			LS2-Y	LS2-Y			LS4-Y	LS4-Y		LS6-Y	LS6-Y				LS8-Y	LS8-Y												LS13-Y	LS14-Y	LS15-Y	
GREEN	Wire			21G	22G			41G	42G		61G	62G				81G	82G												YTP	YTP	YTP	
	Terminal			LS2-G	LS2-G			LS4-G	LS4-G		LS6-G	LS6-G				LS8-G	LS8-G												LS13-G	LS14-G	LS15-G	
RED ARROW	Wire	11RS				31RS				51RS			71RS	72RS																		
	Terminal	LS1-R				LS3-R				LS5-R			LS7-R	LS7-R																		
YELLOW ARROW	Wire	11YS	12Y			31YS	33Y			51YS			71YS	72YS	73Y																	
	Terminal	LS1-Y	LS1-Y			LS3-Y	LS3-Y			LS5-Y			LS7-Y	LS7-Y	LS7-Y																	
FLASHING YELLOW	Wire																			12YS			33YS					73YS				
	Terminal																			LS9-G			LS10-G					LS12-G				
GREEN ARROW	Wire	11G	12G			31G	33G			51G			71G	72G	73G																	
	Terminal	LS1-G	LS1-G			LS3-G	LS3-G			LS5-G			LS7-G	LS7-G	LS7-G																	
DON'T WALK	Wire																	P21R	P22R		P41R	P42R		P61R	P62R	P81R	P82R					
	Terminal																	LS9-R	LS9-R		LS10-R	LS10-R		LS11-R	LS11-R	LS12-R	LS12-R					
WALK	Wire																	P21G	P22G		P41G	P42G		P61G	P62G	P81G	P82G					
	Terminal																	LS9-G	LS9-G		LS10-G	LS10-G		LS11-G	LS11-G	LS12-G	LS12-G					

LSX✱ = TERMINAL IN LOAD BAY ✱ = INSTALL LOAD RESISTOR TO TERMINAL, NOT WIRE



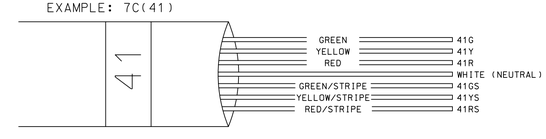
SIGNAL HEAD ID



SIGNAL WIRE NAMING CONVENTION:
CABLES:
xC(nn) x = #of conductors in cable, nn = cable number

WIRES:
nnA nn = cable number, A = conductor in cable

EXAMPLE: 7C(41)



CHARLOTTE. TRANSPORTATION

Plans Prepared By:
Kimley»Horn
421 FAYETTEVILLE STREET, SUITE 600
RALEIGH, NORTH CAROLINA, 27601
PHONE: 919-677-2000

NO.	DATE	BY	REVISION DESCRIPTION
1	4/06	RA	LOOP #23
2	4/09	RA	LOOP #51,62
3	3/10	NS	RECORD PLAN-JT
4	2/13	RA	LOOPS# 11,33,61,62,63
5	5/13	KB	LOOPS# 21,22,51,75

NORTH CAROLINA PROFESSIONAL SEAL 058683 ENGINEER MOLLY C. BURKE

DocuSigned by: Molly Burke 954EF8C04C6478E... 6/23/2026

EED	MHH	06-2026
REVIEWED BY	PREPARED BY	DATE

00475	10-0082	
SIGNAL NO.	NCDOT ID NO.	

MONROE ROAD AT SHARON AMITY ROAD

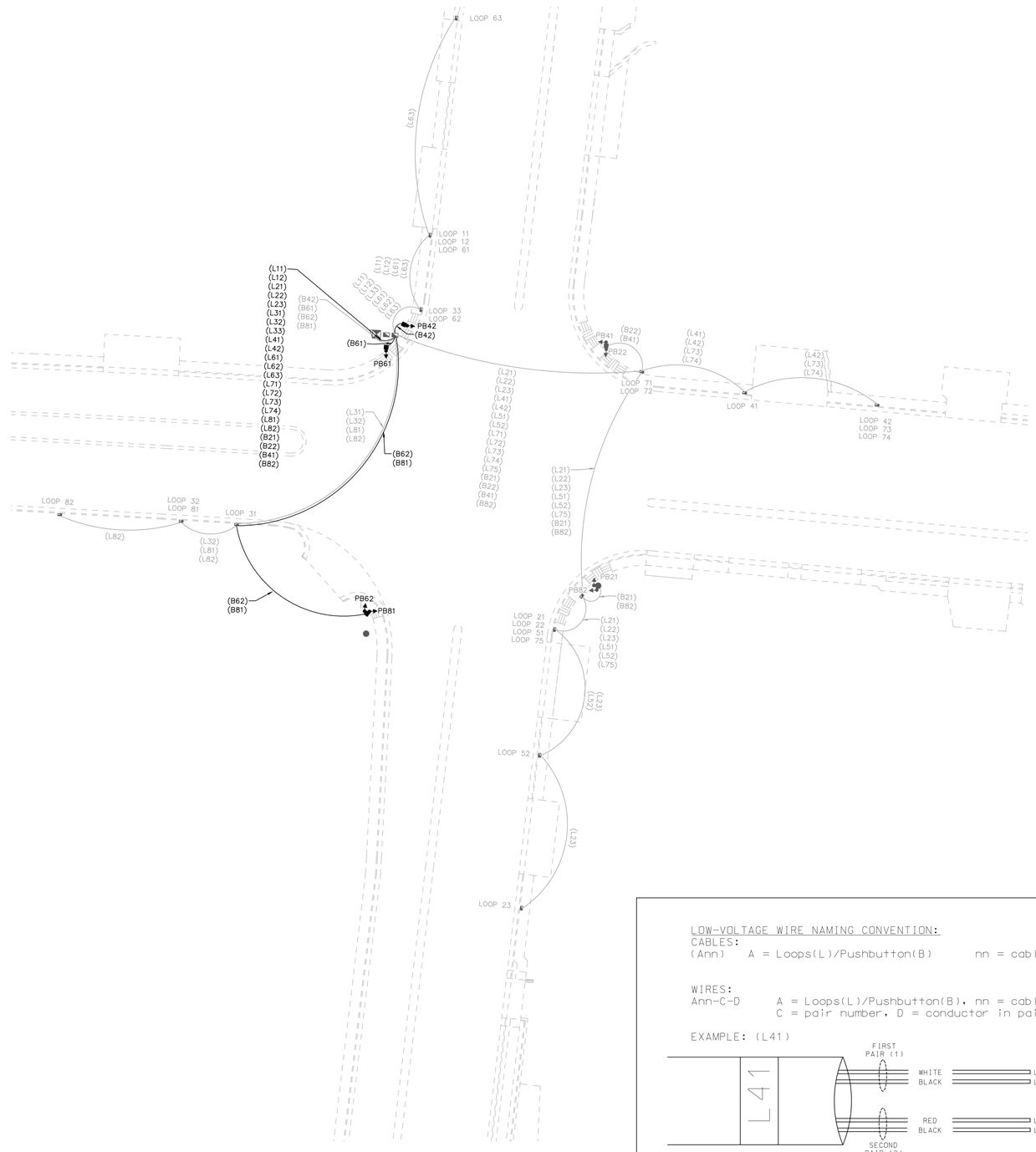
SIGNAL WIRING DIAGRAM

SHEET SIG3 OF SIG4

Docusign Envelope ID: EE61FB20-1723-845D-836D-F555B7775BD6

LOOP WIRING

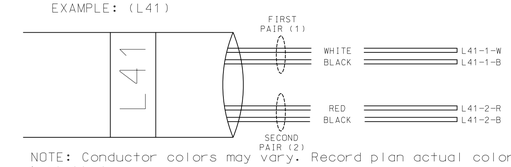
Loop Number	Wire	Terminal	Controller Detector Number	Phase	Timing		Size	Comments
					Feature	Time		
11	L11-1-W	LT1-1	1	1			6'X25'	@STOP BAR
	L11-1-B	LT1-2						
12	L12-1-W	LT1-3	2	1			6'X25'	45' FROM LOOP #11
	L12-1-B	LT1-4						
21,22	L21-2-R	LT1-5	3	2			6'X25'	@STOP BAR
	L21-2-B	LT1-6						
23	L23-1-W	LT1-7	4	2			6'X25'	200' FROM STOP BAR
	L23-1-B	LT1-8						
31	L31-1-W	LT1-9	5	3			6'X25'	@STOP BAR
	L31-1-B	LT1-10						
32	L32-1-W	LT1-11	6	3			6'X25'	45' FROM LOOP #31
	L32-1-B	LT1-12						
33	L33-1-W	LT1-13	7	3	DELAY	3	6'X25'	@STOP BAR
	L33-1-B	LT1-14						
41,42	L41-2-R	LT1-15	8	4			6'X25'	50', 120' FROM STOP BAR
	L41-2-B	LT1-16						
51	L51-1-W	LT2-1	9	5			6'X25'	@STOP BAR
	L51-1-B	LT2-2						
52	L52-1-W	LT2-3	10	5			6'X25'	45' FROM LOOP #51
	L52-1-B	LT2-4						
61,62	L61-2-R	LT2-5	11	6			6'X25'	@STOP BAR
	L61-2-B	LT2-6						
63	L63-1-W	LT2-7	12	6			6'X25'	135' FROM STOP BAR
	L63-1-B	LT2-8						
71,72	L71-2-R	LT2-9	13	7			6'X25'	@STOP BAR
	L71-2-B	LT2-10						
81,82	L81-2-R	LT2-11	14	8			6'X25'	65', 130' FROM STOP BAR
	L81-2-B	LT2-12						
75	L75-1-W	LT2-13	15	7	DELAY	7	6'X25'	@STOP BAR
	L75-1-B	LT2-14						
73,74	L73-2-R	LT2-15	16	7			6'X25'	45' FROM LOOPS #71,72
	L73-2-B	LT2-16						



LOW-VOLTAGE WIRE NAMING CONVENTION:
CABLES:
(Ann) A = Loops(L)/Pushbutton(B) nn = cable number

WIRES:
Ann-C-D A = Loops(L)/Pushbutton(B), nn = cable number,
C = pair number, D = conductor in pair

EXAMPLE: (L41)



NOTE: Conductor colors may vary. Record plan actual colors installed.

NOTE:
ALL LEAD-IN WIRE SHOULD BE TWO PAIR CABLE

CHARLOTTE. TRANSPORTATION

Plans Prepared By:
Kimley»Horn
421 FAYETTEVILLE STREET, SUITE 600
RALEIGH, NORTH CAROLINA, 27601
PHONE:919-677-2000

NO.	DATE	BY	REVISION DESCRIPTION
1	4/06	RA	LOOP #23
2	4/09	RA	LOOP #71,72
3	3/10	NS	RECORD PLAN-JT
4	2/13	RA	LOOPS# 11,33,61,62,63
5	5/13	KB	LOOPS# 21,22,51,75

NORTH CAROLINA PROFESSIONAL SEAL 058683 ENGINEER MOLLY C. BURKE

DocuSigned by:
Molly Burke
954EF8CC04C647E...
6/23/2026

EED	MHH	06-2026
REVIEWED BY	PREPARED BY	DATE

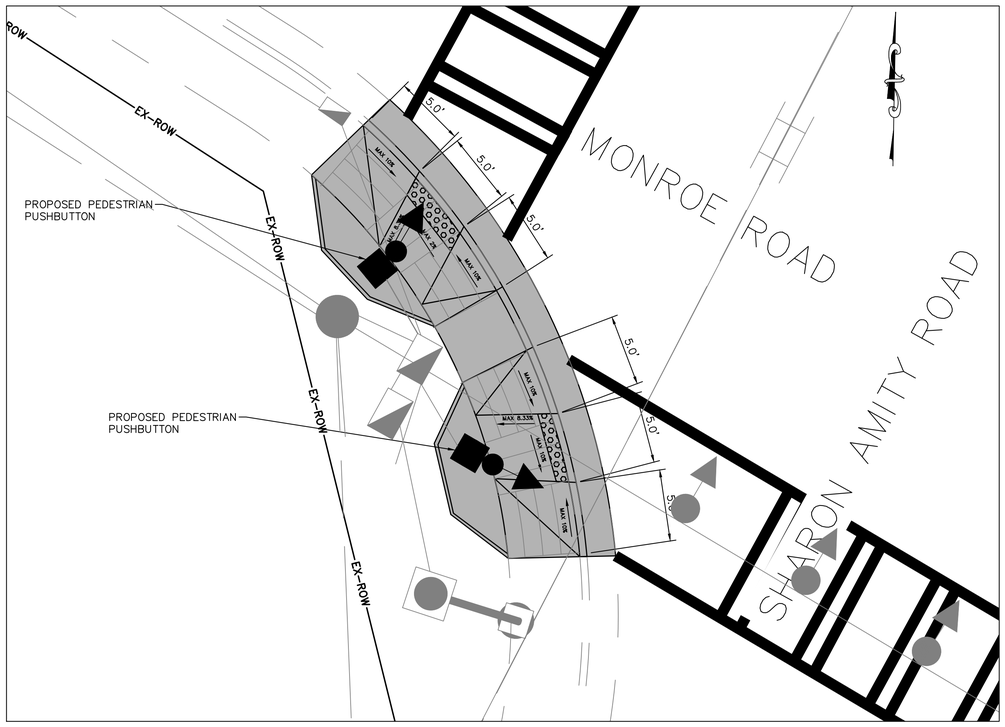
00478	10-0082	
SIGNAL NO.	NCDOT ID NO.	

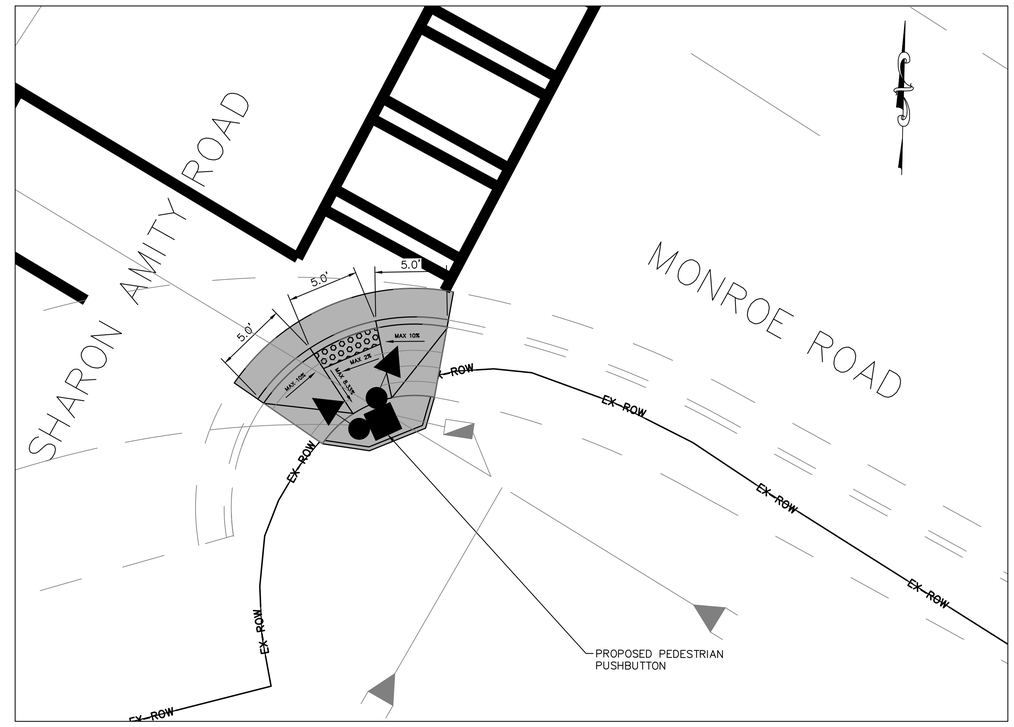
MONROE ROAD AT SHARON AMITY ROAD

LOW VOLTAGE DIAGRAM

SHEET SIG4 OF SIG4

Docusign Envelope ID: D23A98CD-6651-8D29-82E0-065667EA0D69





NOTE: SURVEY WAS NOT OBTAINED AS PART OF THIS PROJECT. SLOPES SHOWN ARE MAXIMUM ALLOWABLE SLOPES PER ADA STANDARDS.

CHARLOTTE. TRANSPORTATION

Plans Prepared By:

Kimley»Horn
421 FAYETTEVILLE STREET, SUITE 600
RALEIGH, NORTH CAROLINA, 27601
PHONE: 919-677-2000

NO.	DATE	BY	REVISION DESCRIPTION

NORTH CAROLINA PROFESSIONAL SEAL 058683 ENGINEER MOLLY C. BURKE

DocuSigned by:
Molly Burke 6/19/2026
954EF86C04C647E...

1" = 5'	SCALE
EAR	PREPARED BY
06-2026	DATE
00478	SIGNAL NO.
10-0082	NCDOT ID NO.

MONROE RD AT SHARON AMITY RD

CURB RAMP DETAILS

SHEET 1 OF 1

Docusign Envelope ID: EE61FB20-1723-845D-836D-F555B7775BD6

INDEX OF SHEETS

Cover Sheet
Signal Plan SIG1
Signal Details SIG2
Signal Wiring Diagram SIG3
Low Voltage Wiring Diagram SIG4

TOTAL SHEETS 4

REVISIONS

NO.	DATE	BY	REVISION DESCRIPTION
1	1/04	MKC	VIDEO DETECTION
2	10/08	RA	REPLACE PHASE 1,3,4,5,8 VIDEO DETECTION WITH LOOPS
3	06/11	PM	RECORD PLAN
4	06/26	MCB	RECORD PLAN - ADD NEW SIGNAL HEADS, PEDESTALS, PUSHBUTTONS AND SIGNAGE

CHARLOTTE.
TRANSPORTATION

Signal Plans of
Brookshire Boulevard and Hoskins Road

CDOT Signal ID 00876
NCDOT Signal ID 10-0382

VICINITY MAP (NTS)

LEGEND

PROPOSED	DESCRIPTION	EXISTING
	CONTROL BOX	
	METER PEDESTAL	
	PULL BOX	
	STEEL POLE	
	MAST ARM	
	PED PEDESTAL	
	UTILITY POLE	
	ANCHOR	
	SIGNAL HEAD	
	VIDEO CAMERA	
	OPTICOM	
	OBSERVATION CAM	
	DETECTOR	
	CONDUIT	
	INTERCONNECT	
	EDGE OF PVMT.	
	CURB & GUTTER	
	TUBULAR MARKER	
	GROUND SIGN	
	OVERHEAD SIGN	
	DOUBLE YELLOW	
	STOP BAR	
	WHITE SKIP	
	WHITE MINI	
	PAVEMENT ARROW	
	PROPERTY LINE	
	ROW	

PULLBOX ID

	SIZE	PULLBOX TYPE
1	13"x24"x12"	LOOP
2	17"x30"x24"	FIBER OPTIC
3	24"x36"x30"	CONTROLLER / FIBER
4	30"x48"x36"	CONTROLLER
5	24"x24"x12"	CONTROLLER
6	36"x36"x12"	CONTROLLER

NOTE:
PULLBOX MATERIAL MUST MEET OR EXCEED THE 1998 CDOT TRAFFIC SIGNAL SPECIFICATIONS.

PLANS PREPARED BY:

Kimley»Horn
421 FAYETTEVILLE STREET, SUITE 600
RALEIGH, NORTH CAROLINA, 27601
PHONE: 919-677-2000

PLAN NOTES

1. ALL PAVEMENT MARKING DIMENSIONS ARE APPROXIMATE.
2. SIGNAL SHALL BE INSTALLED IN ACCORDANCE WITH THE LATEST NCDOT STANDARD SPECIFICATIONS AND CDOT TRAFFIC SIGNAL SPECIAL PROVISIONS.
3. PED SIGNALS WITH PUSHBUTTONS WILL BE LABELED "PB" (FOR EXAMPLE PB21, PB22).
4. COUNTDOWN PEDESTRIAN SIGNALS SHALL COUNT DOWN FLASHING DON'T WALK ONLY.
5. FYA 31 AND 71 WILL INITIALLY OPERATE PROTECTED-PERMITTED 24/7.
6. RELABEL LOOP 42 AS 71.
7. RELABEL LOOP 84 AS 32.
8. OVERLAPS B+E SHALL SIMULTANEOUSLY CLEAR RED.

PE SEAL

NORTH CAROLINA PROFESSIONAL SEAL 058683 ENGINEER MOLLY C. BURKE

DocuSigned by:
Molly Burke
954EF86C0AC647E...
6/23/2026

PROJECT TEAM

DESIGNER:	MH HARVEY, EI
PROJECT MANAGER:	MC BURKE, PE
TIMING ENGINEER	TERRY GORTNEY, PE

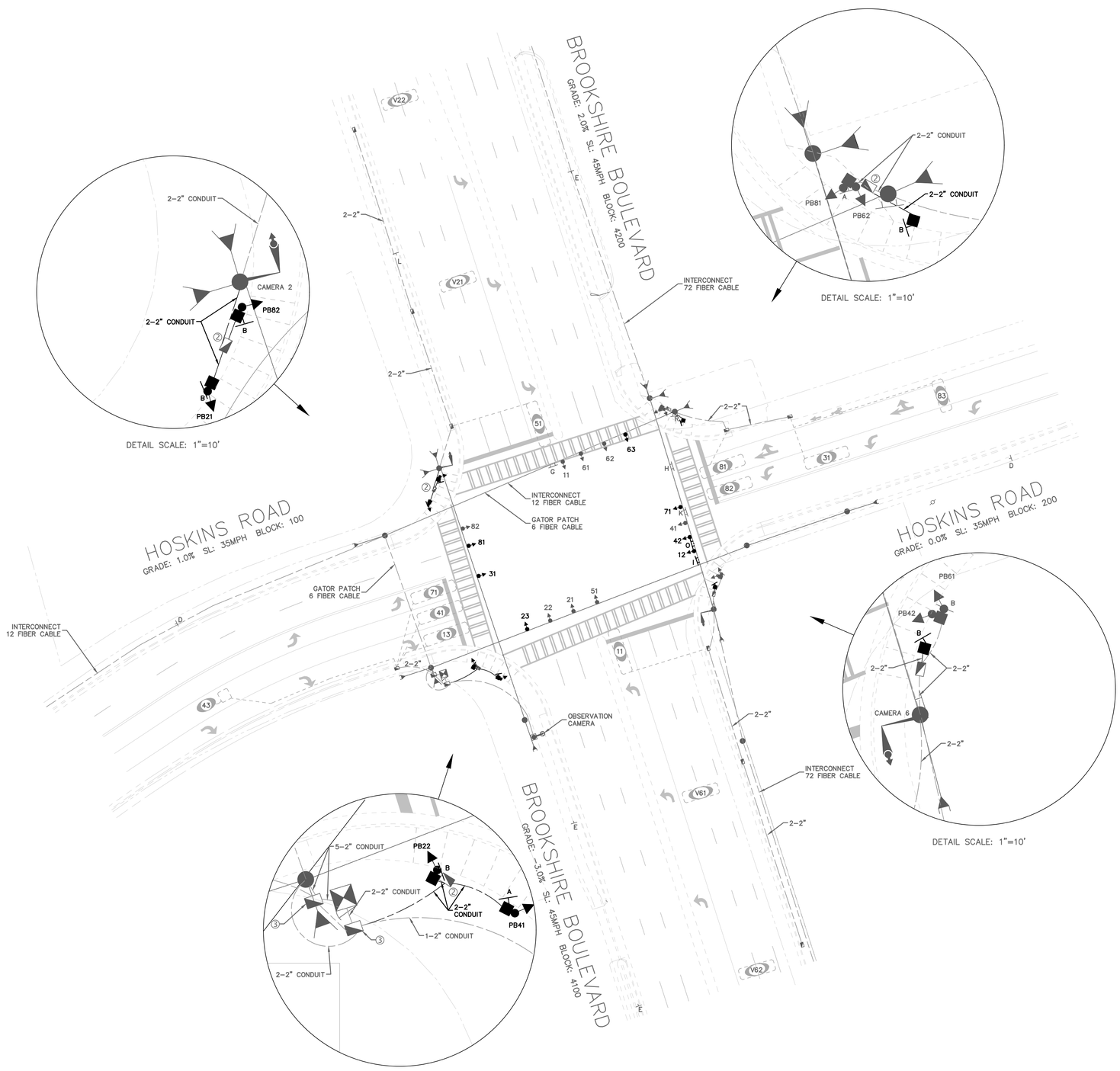
CHARLOTTE.
TRANSPORTATION

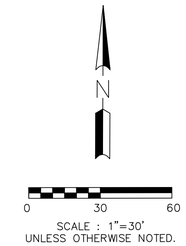
Signal ID 00876/ NCDOT 10-0382

Brookshire Boulevard and Hoskins Road

Tuesday, June 23, 2026 11:44:08 AM

Docusign Envelope ID: EE61FB20-1723-845D-836D-F555B7775BD6





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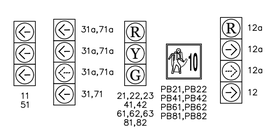

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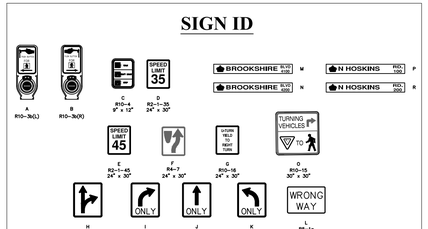


Plans Prepared By:

Kimley»Horn
421 FAYETTEVILLE STREET, SUITE 600
RALEIGH, NORTH CAROLINA, 27601
PHONE:919-677-2000

CHARLOTTE. TRANSPORTATION

NO.	DATE	BY	REVISION DESCRIPTION
1	01/04	MKC	VIDEO DETECTION
2	10/08	RA	REPLACE PHASE 1,3,4,5,8 VIDEO DETECTION WITH LOOPS
3	06/11	PM	RECORD PLAN
4	06/26	MCB	RECORD PLAN – ADD NEW SIGNAL HEADS, PEDESTALS, PUSHBUTTONS AND SIGNAGE

NORTH CAROLINA PROFESSIONAL SEAL 058683 ENGINEER MOLLY C. BURKE

DocuSigned by: Molly Burke 954EF8BCA0C64TE... 6/23/2026

EED	MHH	06-2026
REVIEWED BY	PREPARED BY	DATE

00876	10-0382
SIGNAL NO.	NCDOT ID NO.

BROOKSHIRE BOULEVARD AT HOSKINS ROAD

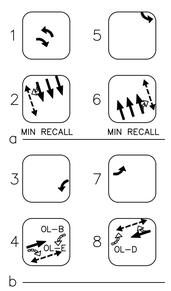
SIGNAL PLAN

SHEET **SIG1** OF **SIG4**

Docusign Envelope ID: EE61FB20-1723-845D-836D-F555B7775BD6

SIGNAL PHASING

Ring Configuration 1,2,a,3,4,b
2070 EOS 5,6,a,7,8,b



SIGNAL SEQUENCE

RING 1	PHASE 1		PHASE 2		PHASE 3		PHASE 4		
SIGNAL ID NUMBER	R/W	OTH	R/W	OTH	R/W	OTH	R/W	OTH	FLASH
11	◀	◁							◁◀
12	▶	▷							R
21,22,23			G	Y					R
31					◀	◁			◁◀
41,42							G	Y	R
PB21,PB22			W FDW	DW					DARK
PB41,PB42							W FDW	DW	DARK

RING 2	PHASE 5		PHASE 6		PHASE 7		PHASE 8		
SIGNAL ID NUMBER	R/W	OTH	R/W	OTH	R/W	OTH	R/W	OTH	FLASH
51	◀	◁							◁◀
61,62,63			G	Y					R
71					◀	◁			◁◀
81,82							G	Y	R
PB61,PB62			W FDW	DW					DARK
PB81,PB82							W FDW	DW	DARK

◁◀ RED ARROW ◁ YELLOW ARROW
◀ GREEN ARROW ✳ FLASHING YELLOW ARROW

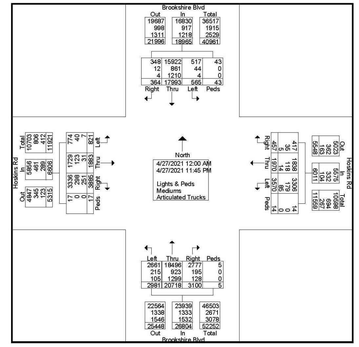
OVERLAP PHASE

OVERLAP – PHASE	OL-A/		OL-B/3+4 L1/FYA		OL-C/		OL-D/7+8 L1/FYA		
SIGNAL ID NUMBER	R/W	OTH	R/W	OTH	R/W	OTH	R/W	OTH	FLASH
31a			✳	◁					◁◀
71a							✳	◁	◁◀

OVERLAP – PHASE	OL-E/1+4 RT/FYA		OL-F/		OL-G/		OL-H/		
SIGNAL ID NUMBER	R/W	OTH	R/W	OTH	R/W	OTH	R/W	OTH	FLASH
12a	✳	▷							R

◁◀ RED ARROW ◁ YELLOW ARROW
◀ GREEN ARROW ✳ FLASHING YELLOW ARROW

TURNING MOVEMENT COUNT

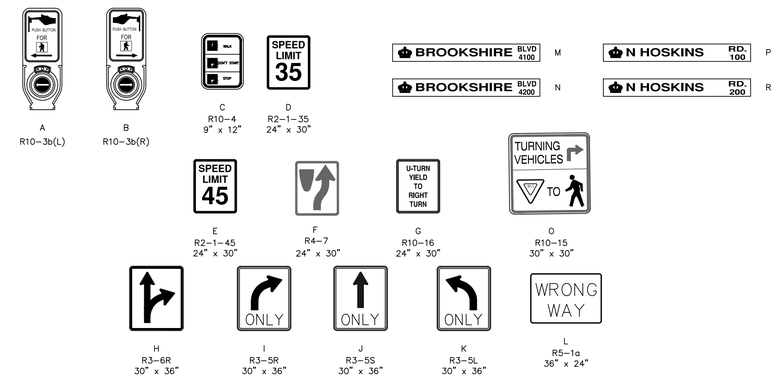


CLEARANCE INTERVALS

CLEARANCE INTERVALS

Phase	1	2	3	4	5	6	7	8
% Grade	-3.0%	2.0%	0.0%	1.0%	2.0%	-3.0%	1.0%	0.0%
Distance	100	105	95	140	100	105	100	140
Approach Speed (mph)	25	45	25	35	25	45	25	35
Yellow	**3.3**	**4.8**	**3.2**	**3.8**	**3.1**	**4.8**	**3.1**	**3.8**
All Red	**2.8**	**1.6**	**2.6**	**2.8**	**2.8**	**1.6**	**2.8**	**2.8**
Total Clearance	6.1	6.4	5.8	6.6	5.9	6.4	5.9	6.6

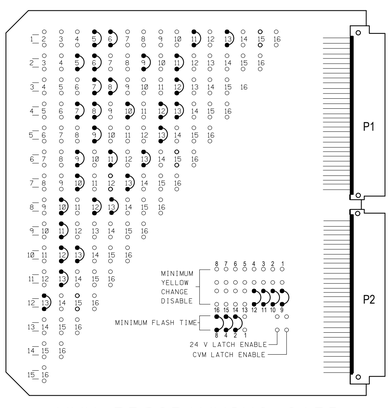
SIGN ID



MALFUNCTION MANAGEMENT UNIT / CONFLICT MONITOR

PROGRAMMING DETAIL

(program card and tables as shown)



MMU PROGRAMMING CARD

FIELD CHECK ENABLE DUAL IND ENABLE RED FAIL ENABLE	
CHANNEL NUMBER	ENABLE/ DISABLE
1	ENABLE
2	ENABLE
3	ENABLE
4	ENABLE
5	ENABLE
6	ENABLE
7	ENABLE
8	ENABLE
9	ENABLE
10	ENABLE
11	ENABLE
12	ENABLE
13	ENABLE
14	DISABLE
15	DISABLE
16	DISABLE

UNIT OPTIONS	
OPTION	SETTING
RECURRENT PULSE	ON
WALK DISABLE	OFF
LOG CVM FAULTS	ON
EXTERN WATCHDOG	OFF
24V-2=12VDC	OFF
PGM CARD MEMORY	ON
LEDguard	ON
FORCE TYPE 16	OFF
TYPE12-SDLC	OFF
VM 3x/Day Latch	ON

FLASHING YELLOW ARROW	
CONFIG MODE	G
ENABLE CHANNEL PAIR, FYA	
CH 1-9	ON
CH 3-10	OFF
CH 5-11	OFF
CH 7-12	OFF
RED/YEL INPUT ENABLE	
CH 1	OFF
CH 3	OFF
CH 5	OFF
CH 7	OFF
FLASH RATE FAULT	ON
FYA TRAP DETECT	ON

MMU PROGRAMMING NOTE

ECONOLITE EOS-2070 SPECIAL MMU PROGRAMMING

(program controller as shown)

1. From Main Menu select 1. CONFIGURATION
2. From CONFIGURATION Submenu select 1. CABINET
3. From PORT 1 (SDLC) Submenu select 4. MONITOR PROGRAMMING

CAUTION!

Set intersection to Flash before attempting to enter or change any MMU programming data.

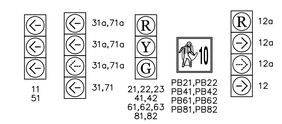
This programming and that of the MMU programming card must match exactly. If they do not, the intersection will be placed into Flash.

```
MMU PROGRAM [     MANUAL]

     CH  6 5 4 3 2 1 0 9 8 7 6 5 4 3 2
      1  . . . X . X . . . . X X . . .
      2  . . . . . X . X . . X X . .
      3  . . . . X . . . X X . . .
      4  . . . X X . X . X X . .
      5  . . . X . . . X . . .
      6  . . . X . X . X . .
      7  . . . X . . X . .
      8  . . . X X . X .
      9  . . . . . X .
     10  . . . X X .
     11  . . . X .
     12  . . . X
     13  . . .
     14  . .
     15  .

END PROGRAMMING
```

SIGNAL HEAD ID



DETECTOR RACK SETUP

INSERT DETECTOR CARDS IN RACK ACCORDING TO THE DETAIL SHOWN BELOW.
PARTICULAR DETECTOR CHANNELS WILL CALL PHASES INDICATED.

DET BIU #1	CH3 L3 Ø3 13	CH1 L1 Ø1 11	CH3 L7 Ø8 81	CH1 L5 Ø7 71	CH3 L11 NOT USED	CH1 L9 Ø8 83	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	DET BIU #2
	CH4 L4 Ø4 41	CH2 L2 Ø5 51	CH4 L8 Ø8 82,32	CH2 L6 Ø4 43	CH4 L12 NOT USED	CH2 L10 Ø3 31										

Plans Prepared By:

Kimley»Horn
421 FAYETTEVILLE STREET, SUITE 600
RALEIGH, NORTH CAROLINA, 27601
PHONE:919-677-2000

CHARLOTTE. TRANSPORTATION

NO.	DATE	BY	REVISION DESCRIPTION
1	01/04	MKC	VIDEO DETECTION
2	10/08	RA	REPLACE PHASE 1,3,4,5,8 VIDEO DETECTION WITH LOOPS
3	06/11	PM	RECORD PLAN

NORTH CAROLINA PROFESSIONAL SEAL 058683 ENGINEER MOLLY C. BURKE

DocuSigned by: Molly Burke — 95AEF8C04CDA7E... 6/23/2026

EED	MHH	06-2026
REVIEWED BY	PREPARED BY	DATE

00876	10-0382	
SIGNAL NO.	NCDOT ID NO.	

BROOKSHIRE BOULEVARD AT HOSKINS ROAD

SIGNAL DETAIL

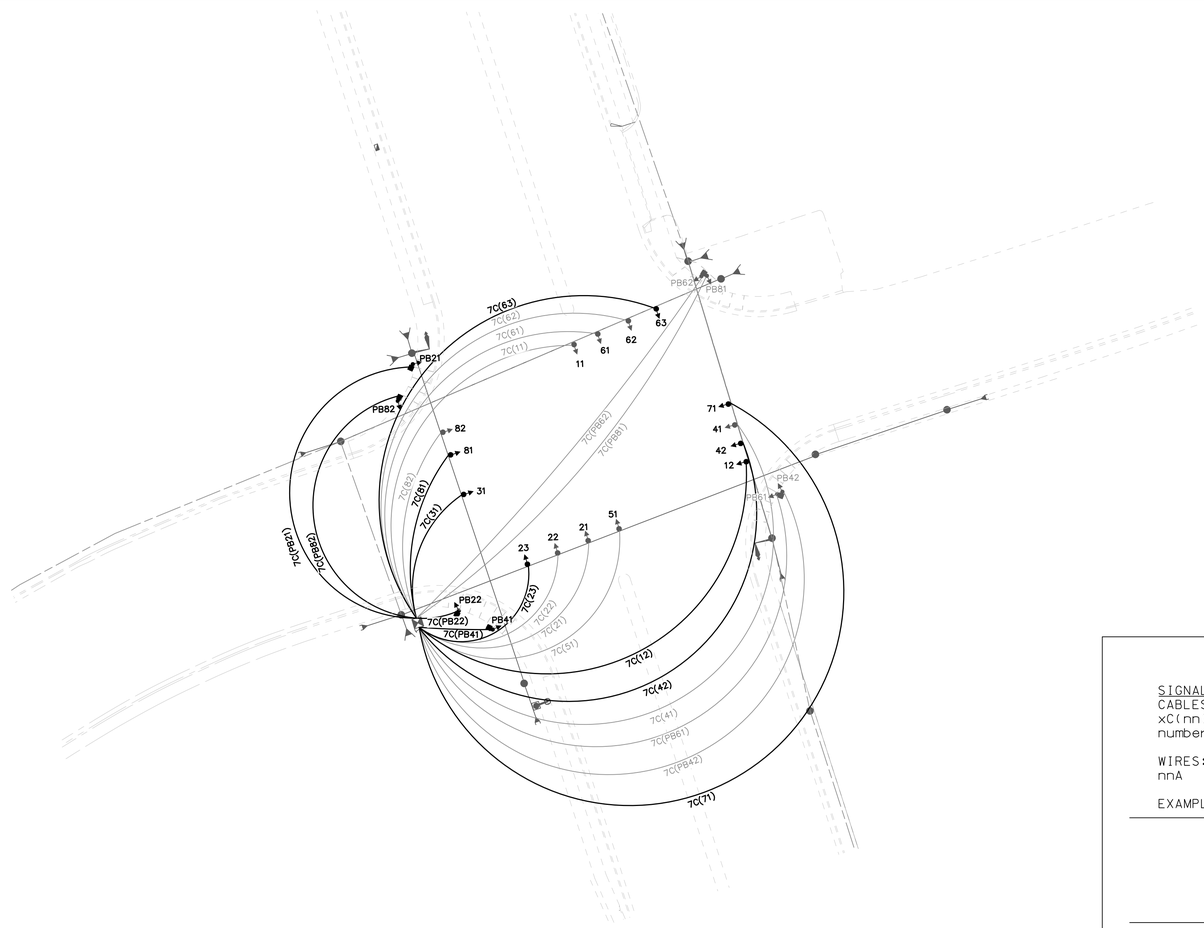
SHEET **SIG2** OF **SIG4**

Docusign Envelope ID: EE61FB20-1723-845D-836D-F555B7775BD6

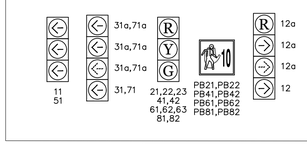
SIGNAL HEAD WIRING

CHANNEL		1		2			3	4		5	6		7	8		9		10			11		12			13	14	15	16
PHASE		1		2			3	4		5	6		7	8		2 PED		4 PED			6 PED		8 PED			OL-E	OL-F	OL-G	OL-H
SIGNAL HEAD NO.		11	12	21	22	23	31	41	42	51	61	62	71	81	82	PB21	PB22	PB41	PB42	31a	PB61	PB62	PB81	PB82	71a	12a	NU	NU	LED Sign
RED	Wire			21R	22R	23R		41R	42R		61RS	62R		81R	82R											12RS			
	Terminal			LS2-R	LS2-R	LS2-R		LS4-R	LS4-R		LS6-R	LS6-R		LS8-R	LS8-R											LS13-R			
YELLOW	Wire			21Y	22Y	23Y		41Y	42Y		61YS	62Y		81Y	82Y														NTOR
	Terminal			LS2-Y	LS2-Y	LS2-Y		LS4-Y	LS4-Y		LS6-Y	LS6-Y		LS8-Y	LS8-Y														LS16-Y
GREEN	Wire			21G	22G	23G		41G	42G		61G	62G		81G	82G														YTP
	Terminal			LS2-G	LS2-G	LS2-G		LS4-G	LS4-G		LS6-G	LS6-G		LS8-G	LS8-G														LS16-G
RED ARROW	Wire	11RS					31RS			51RS			71RS																
	Terminal	LS1-R					LS3-R			LS5-R			LS7-R																
YELLOW ARROW	Wire	11YS					31YS			51YS			71YS													12YS			
	Terminal	LS1-Y	*				LS3-Y			LS5-Y			LS7-Y													LS13-Y			
FLASHING YELLOW	Wire																			31Y					71Y	12GS			
	Terminal																			LS10-Y					LS12-Y	LS13-G			
GREEN ARROW	Wire	11G	12G				31G			51G			71G																
	Terminal	LS1-G	LS1-G				LS3-G			LS5-G			LS7-G																
DON'T WALK	Wire															P21R	P22R	P41R	P42R		P61R	P62R	P81R	P82R					
	Terminal															LS9-R	LS9-R	LS10-R	LS10-R		LS11-R	LS11-R	LS12-R	LS12-R					
WALK	Wire															P21G	P22G	P41G	P42G		P61G	P62G	P81G	P82G					
	Terminal															LS9-G	LS9-G	LS10-G	LS10-G		LS11-G	LS11-G	LS12-G	LS12-G					

LSX* = TERMINAL IN LOAD BAY * = INSTALL LOAD RESISTOR TO TERMINAL, NOT WIRE



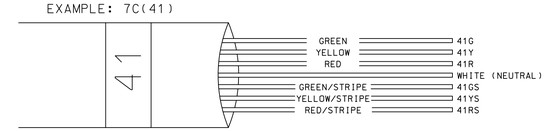
SIGNAL HEAD ID



SIGNAL WIRE NAMING CONVENTION:
CABLES:
xC(nn) x = #of conductors in cable, nn = cable number

WIRES:
nnA nn = cable number, A = conductor in cable

EXAMPLE: 7C(41)



CHARLOTTE. TRANSPORTATION

Plans Prepared By:
Kimley»Horn
421 FAYETTEVILLE STREET, SUITE 600
RALEIGH, NORTH CAROLINA, 27601
PHONE: 919-677-2000

NO.	DATE	BY	REVISION DESCRIPTION
1	01/04	MKC	VIDEO DETECTION
2	10/08	RA	REPLACE PHASE 1,3,4,5,8 VIDEO DETECTION WITH LOOPS
3	06/11	PM	RECORD PLAN

NORTH CAROLINA PROFESSIONAL SEAL 058683 ENGINEER MOLLY C. BURKE

DocuSigned by: Molly Burke 9D4EF8DC4C64AFE... 6/23/2026

EED REVIEWED BY	MHH PREPARED BY	06-2026 DATE
00876 SIGNAL NO.	10-0382 NCDOT ID NO.	

BROOKSHIRE BOULEVARD AT HOSKINS ROAD

SIGNAL WIRING DIAGRAM

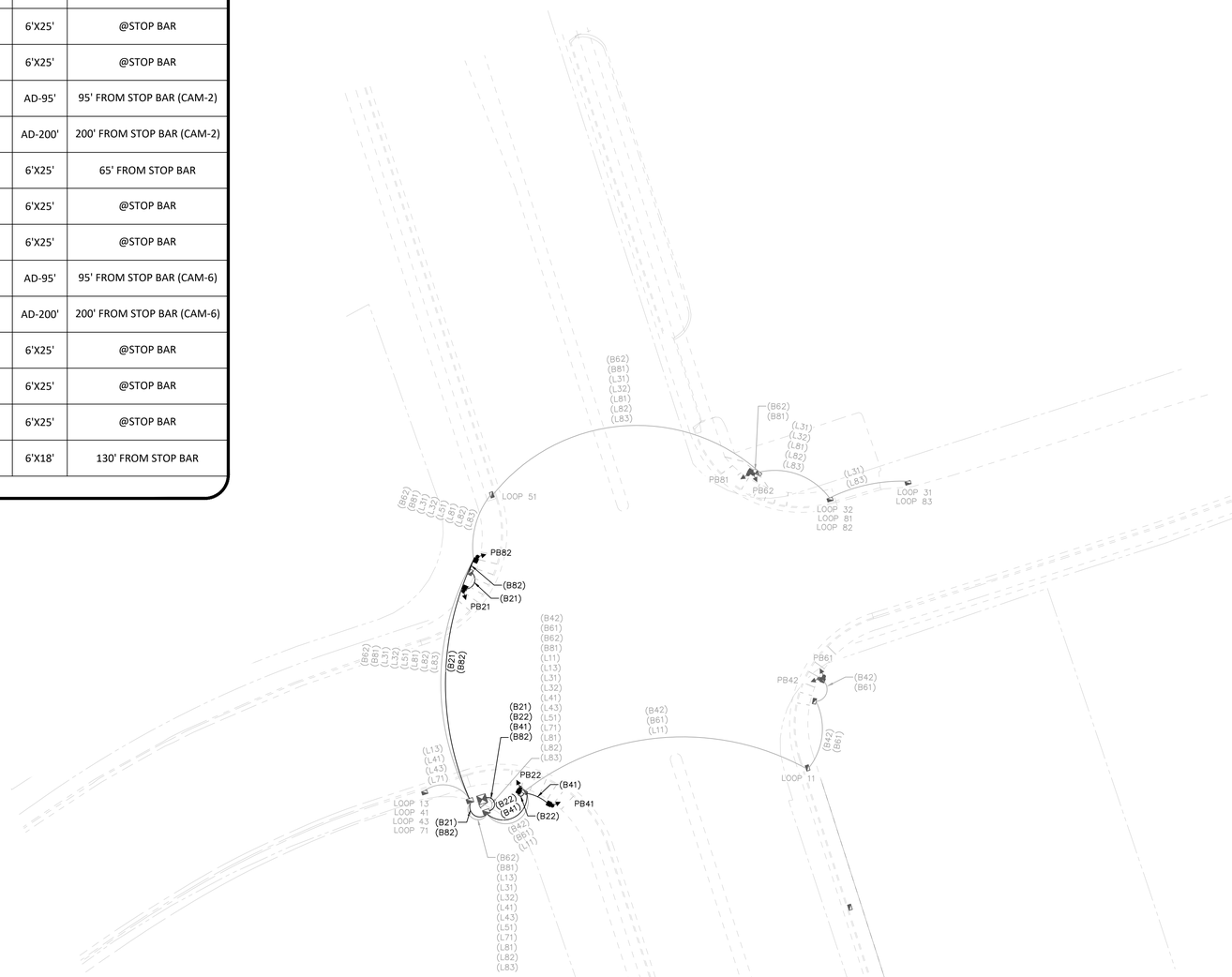
SHEET SIG3 OF SIG4

Docusign Envelope ID: EE61FB20-1723-845D-836D-F555B7775BD6

LOOP WIRING

Loop Number	Wire	Terminal	Controller Detector Number	Phase	Timing		Size	Comments
					Feature	Time		
11	L11-1-W	LT1-1	1	1	-	-	6'X25'	@STOP BAR
	L11-1-B	LT1-2						
13	L21-1-W	LT1-3	2	1	DELAY	3	6'X25'	@STOP BAR
	L21-1-B	LT1-4						
V21	*	*	3	2	-	-	AD-95'	95' FROM STOP BAR (CAM-2)
	*	*						
V22	*	*	4	2	-	-	AD-200'	200' FROM STOP BAR (CAM-2)
	*	*						
31	L31-1-W	LT1-5	5	3	DELAY	3	6'X25'	65' FROM STOP BAR
	L31-1-B	LT1-6						
32	L32-1-W	LT1-8	6	3,4	DELAY	3	6'X25'	@STOP BAR
	L32-1-B	LT1-9						
41	L41-1-W	LT1-10	6	4	-	-	6'X25'	@STOP BAR
	L41-1-B	LT1-11						
V61	*	*	8	6	-	-	AD-95'	95' FROM STOP BAR (CAM-6)
	*	*						
V62	*	*	9	6	-	-	AD-200'	200' FROM STOP BAR (CAM-6)
	*	*						
71	L71-1-W	LT1-12	10	7,8	DELAY	3	6'X25'	@STOP BAR
	L71-1-B	LT1-13						
81	L81-1-W	LT1-14	10	8	-	-	6'X25'	@STOP BAR
	L81-1-B	LT1-15						
82	L82-1-W	LT1-16	11	8	-	-	6'X25'	@STOP BAR
	L82-1-B	LT1-17						
83	L83-1-W	LT1-18	12	8	-	-	6'X18'	130' FROM STOP BAR
	L83-1-B	LT1-19						

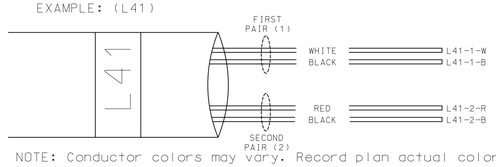
*VIDEO DETECTION



LOW-VOLTAGE WIRE NAMING CONVENTION:
CABLES:
(Ann) A = Loops(L)/Pushbutton(B) nn = cable number

WIRES:
Ann-C-D A = Loops(L)/Pushbutton(B), nn = cable number,
C = pair number, D = conductor in pair

EXAMPLE: (L41)



NOTE: Conductor colors may vary. Record plan actual colors installed.

NOTE:
ALL LEAD-IN WIRE SHOULD BE TWO PAIR CABLE

CHARLOTTE. TRANSPORTATION

Plans Prepared By:
Kimley»Horn
421 FAYETTEVILLE STREET, SUITE 600
RALEIGH, NORTH CAROLINA, 27601
PHONE:919-677-2000

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3	06/11	PM	RECORD PLAN

NORTH CAROLINA PROFESSIONAL SEAL 058683 ENGINEER MOLLY C. BURKE

DocuSigned by: Molly Burke 954EF86C04C647E... 6/23/2026

EED REVIEWED BY
MHH PREPARED BY
06-2026 DATE

00876 SIGNAL NO.
10-0382 NCDOT ID NO.

BROOKSHIRE BOULEVARD AT HOSKINS ROAD

LOW VOLTAGE DIAGRAM

SHEET SIG4 OF SIG4

Docusign Envelope ID: EE61FB20-1723-845D-836D-F555B7775BD6

INDEX OF SHEETS

Cover Sheet
Signal Plan SIG1
Signal Details SIG2
Signal Wiring Diagram SIG3
Low Voltage Wiring Diagram SIG4

TOTAL SHEETS 5

REVISIONS

NO.	DATE	BY	REVISION DESCRIPTION
1	VBW	11/94	RECORD PLAN
2	AV	5/96	S.B. PROT. PERM. L.T.
3	NS	1/98	RECORD PLAN-CWA
4	NS	9/04	PEDS-CROSSWALK
5	NS	6/05	RECORD PLAN
6	RA	1/07	LOOPS 31,71
7	RA	5/07	ALL LOOPS DUE TO MILLING
8	AEV	06/11	STATE RECORD PLAN-TLB
8	MCB	06/26	ADDITION OF BLANK OUT SIGNS AND SIGNAL HEADS

CHARLOTTE.
TRANSPORTATION

Signal Plans of
Eastway Drive and Eastway Crossing Driveway

CDOT Signal ID 01534
NCDOT Signal ID 10-1362

VICINITY MAP (NTS)

LEGEND

PROPOSED	DESCRIPTION	EXISTING
	CONTROL BOX	
	METER PEDESTAL	
	PULL BOX	
	STEEL POLE	
	MAST ARM	
	PED PEDESTAL	
	UTILITY POLE	
	ANCHOR	
	SIGNAL HEAD	
	VIDEO CAMERA	
	OPTICOM	
	OBSERVATION CAM	
	DETECTOR	
	CONDUIT	
	INTERCONNECT	
	EDGE OF PVMT.	
	CURB & GUTTER	
	TUBULAR MARKER	
	GROUND SIGN	
	OVERHEAD SIGN	
	DOUBLE YELLOW	
	STOP BAR	
	WHITE SKIP	
	WHITE MINI	
	PAVEMENT ARROW	
	PROPERTY LINE	
	ROW	

PULLBOX ID

	SIZE	PULLBOX TYPE
1	13"x24"x12"	LOOP
2	17"x30"x24"	FIBER OPTIC
3	24"x36"x30"	CONTROLLER / FIBER
4	30"x48"x36"	CONTROLLER
5	24"x24"x12"	CONTROLLER
6	36"x36"x12"	CONTROLLER

NOTE:
PULLBOX MATERIAL MUST MEET OR EXCEED THE 1998 CDOT TRAFFIC SIGNAL SPECIFICATIONS.

Signal ID 01534/ NCDOT 10-1362

Eastway Drive and Eastway Crossing Driveway

PLANS PREPARED BY:

Kimley»Horn
421 FAYETTEVILLE STREET, SUITE 600
RALEIGH, NORTH CAROLINA, 27601
PHONE: 919-677-2000

PLAN NOTES

1. ALL PAVEMENT MARKING DIMENSIONS ARE APPROXIMATE.
2. SIGNAL SHALL BE INSTALLED IN ACCORDANCE WITH THE LATEST NCDOT STANDARD SPECIFICATIONS AND CDOT TRAFFIC SIGNAL SPECIAL PROVISIONS.
3. PED SIGNALS WITH PUSHBUTTONS WILL BE LABELED "PB" (FOR EXAMPLE PB21, PB22).
4. COUNTDOWN PEDESTRIAN SIGNALS SHALL COUNT DOWN FLASHING DON'T WALK ONLY.
5. OVERLAP PAIRS B+E AND D+G SHALL SIMULTANEOUSLY CLEAR TO RED.

PE SEAL

NORTH CAROLINA PROFESSIONAL SEAL 058683 ENGINEER MOLLY C. BURKE

DocuSigned by: Molly Burke 954EF86C04C647E...

6/23/2026

PROJECT TEAM

DESIGNER:	MH HARVEY, EI
PROJECT MANAGER:	MC BURKE, PE
TIMING ENGINEER:	SALEEM BARAKZAI

CHARLOTTE.
TRANSPORTATION

Tuesday, June 23, 2026 12:21:00 PM

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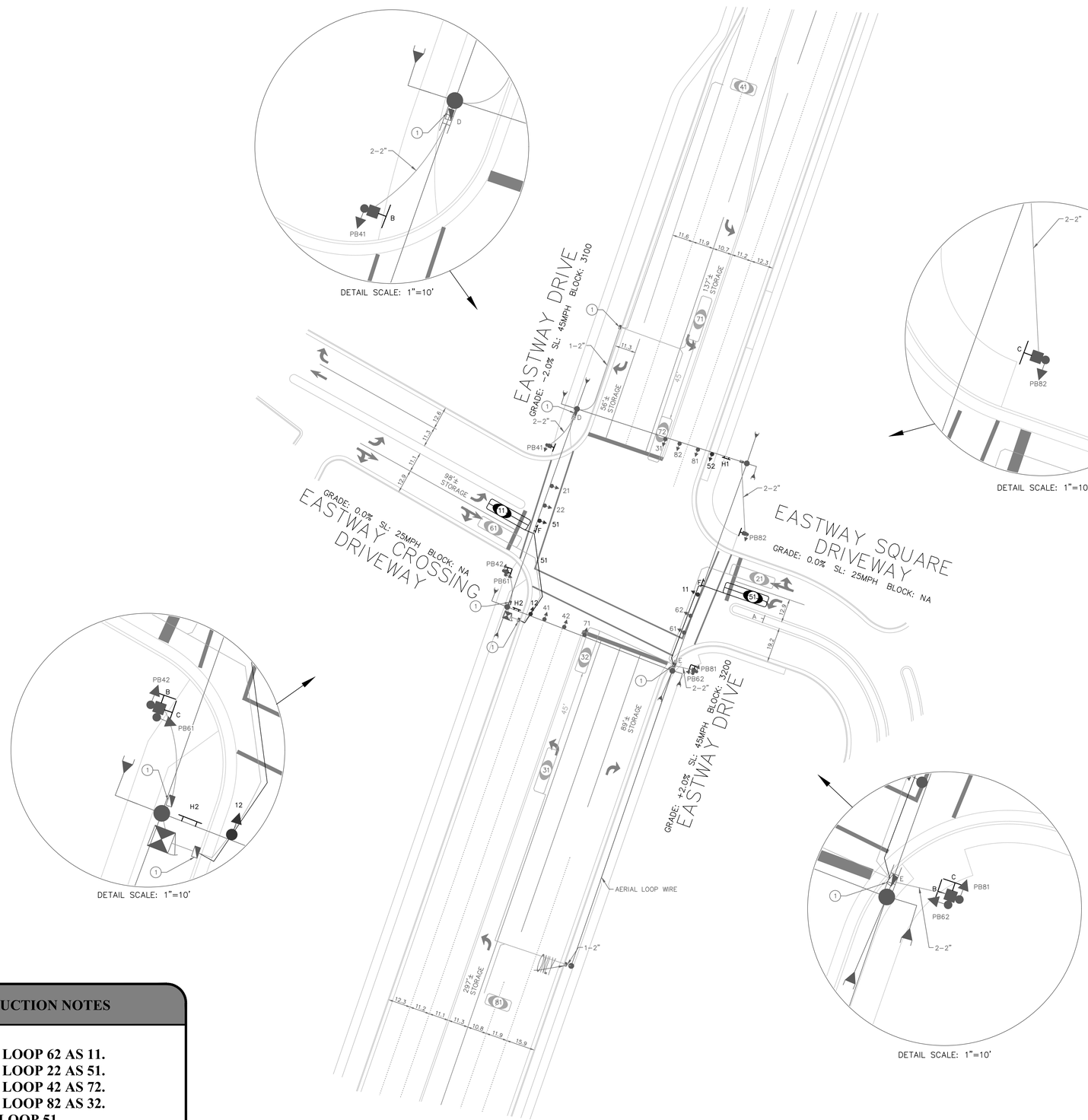


N

0 30 60

SCALE : 1"=30'
UNLESS OTHERWISE NOTED.

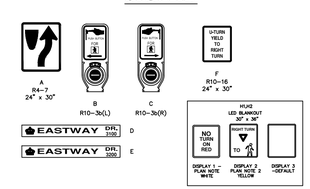
CONSTRUCTION NOTES

1. RELABEL LOOP 62 AS 11.
2. RELABEL LOOP 22 AS 51.
3. RELABEL LOOP 42 AS 72.
4. RELABEL LOOP 82 AS 32.
5. RE-WIRE LOOP 51.

SIGNAL HEAD ID

11a,31a,51a,71a	R Y G	12a,52a
11a,31a,51a,71a		12a,52a
11a,31a,51a,71a		12a,52a
11,31,51,71	21,22 41,42 61,62 81,82	PB41,PB42 PB61,PB62 PB81,PB82
	10	12,52

SIGN ID



Plans Prepared By:

Kimley»Horn
421 FAYETTEVILLE STREET, SUITE 600
RALEIGH, NORTH CAROLINA, 27601
PHONE:919-677-2000

CHARLOTTE. TRANSPORTATION

NO.	DATE	BY	REVISION DESCRIPTION
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2	5/96	AV	S.B. PROT. PERM. L.T.
3	1/98	NS	RECORD PLAN–CWA
4	9/04	NS	PEDS–CROSSWALK
5	6/05	NS	RECORD PLAN
6	1/07	RA	LOOPS 31,71
7	5/07	RA	ALL LOOPS DUE TO MILLING
8	06/11	AEV	STATE RECORD PLAN–TLB
9	06/26	MCB	ADDITION OF BLANK OUT SIGNS AND SIGNAL HEADS

NORTH CAROLINA PROFESSIONAL SEAL 058683 ENGINEER MOLLY C. BURKE

DocuSigned by:
Molly Burke
—954EF8C0A0E47E...
6/23/2026

EED REVIEWED BY	MHH PREPARED BY	06–2026 DATE
01534 SIGNAL NO.	10–1362 NCDOT ID NO.	

EASTWAY DRIVE AT EASTWAY CROSSING DRIVEWAY

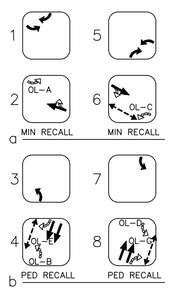
SIGNAL PLAN

SHEET SIG1 OF SIG4

Docusign Envelope ID: EE61FB20-1723-845D-836D-F555B7775BD6

SIGNAL PHASING

Ring Configuration 2070 EOS — 1,2,a,3,4,b — 5,6,a,7,8,b



SIGNAL SEQUENCE

RING 1	PHASE 1		PHASE 2		PHASE 3		PHASE 4		
SIGNAL ID NUMBER	R/W	OTH	R/W	OTH	R/W	OTH	R/W	OTH	FLASH
11	◀	◁							◀✱
21,22			G	Y					R
31					◀	◁			◀✱
41,42							G	Y	R
12	▶	▷							R
PB41,PB42							W FDW	DW	DARK

RING 2	PHASE 5		PHASE 6		PHASE 7		PHASE 8		
SIGNAL ID NUMBER	R/W	OTH	R/W	OTH	R/W	OTH	R/W	OTH	FLASH
51	◀	◁							◀✱
61,62			G	Y					R
71					◀	◁			◀✱
81,82							G	Y	R
52	▶	▷							R
PB61,PB62			W FDW	DW					DARK
PB81,PB82							W FDW	DW	DARK

◁✱ RED ARROW ◁ YELLOW ARROW
◀ GREEN ARROW ✱ FLASHING YELLOW ARROW

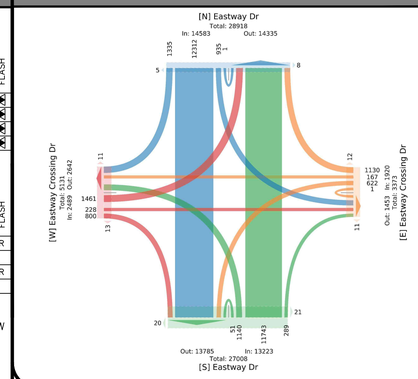
OVERLAP PHASE

OVERLAP – PHASE	OL-A/1+2 FYA/LT		OL-B/3+4 FYA/LT		OL-C/5+6 FYA/LT		OL-D/7+8 FYA/LT		
SIGNAL ID NUMBER	R/W	OTH	R/W	OTH	R/W	OTH	R/W	OTH	FLASH
11a	✱	◁							◀✱
31a			✱	◁					◀✱
51a					✱	◁			◀✱
71a							✱	◁	◀✱

OVERLAP – PHASE	OL-E/1+4 FYA/RT		OL-F/		OL-G/5+8 FYA/RT		OL-H/		
SIGNAL ID NUMBER	R/W	OTH	R/W	OTH	R/W	OTH	R/W	OTH	FLASH
12a	✱	▷							R
52a					✱	▷			R

◁✱ RED ARROW ◁ YELLOW ARROW
◀ GREEN ARROW ✱ FLASHING YELLOW ARROW

TURNING MOVEMENT COUNT



CLEARANCE INTERVALS

Phase	1	2	3	4	5	6	7	8
% Grade	0.0%	0.0%	2.0%	-2.0%	0.0%	0.0%	-2.0%	2.0%
Distance	70	105	75	85	80	110	90	70
Approach Speed (mph)	25	25	25	45	25	25	25	45
Yellow	**3.2**	**3.2**	**3.1**	**4.7**	**3.2**	**3.2**	**3.3**	**4.7**
All Red	**2.0**	**3.0**	**2.1**	**1.3**	**2.2**	**3.0**	**2.5**	**1.3**
Total Clearance	5.2	6.2	5.2	6.0	5.4	6.2	5.8	6.0

SIGN ID

A
R4-7
24" x 30"

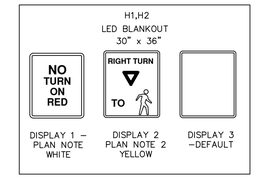
B
R10-3b(L)

C
R10-3b(R)

F
R10-16
24" x 30"

D

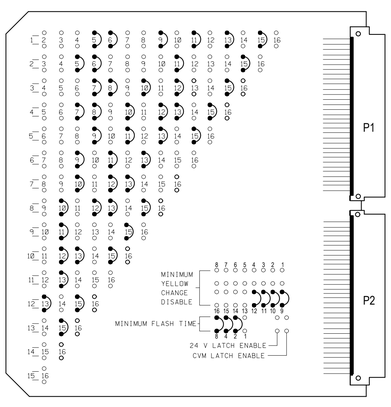
E



MALFUNCTION MANAGEMENT UNIT / CONFLICT MONITOR

PROGRAMMING DETAIL

(program card and tables as shown)



MMU PROGRAMMING CARD

FIELD CHECK ENABLE DUAL IND ENABLE RED FAIL ENABLE	
CHANNEL NUMBER	ENABLE/ DISABLE
1	ENABLE
2	ENABLE
3	ENABLE
4	ENABLE
5	ENABLE
6	ENABLE
7	ENABLE
8	ENABLE
9	ENABLE
10	ENABLE
11	ENABLE
12	ENABLE
13	ENABLE
14	ENABLE
15	ENABLE
16	ENABLE

UNIT OPTIONS	
OPTION	SETTING
RECURRENT PULSE	ON
WALK DISABLE	OFF
LOG CVM FAULTS	ON
EXTERN WATCHDOG	OFF
24V-2=12VDC	OFF
PGM CARD MEMORY	ON
LEDguard	ON
FORCE TYPE 16	OFF
TYPE12-SDLC	OFF
VM 3x/Day Latch	ON

FLASHING YELLOW ARROW	
CONFIG MODE	G
ENABLE CHANNEL PAIR, FYA	
CH 1-9	ON
CH 3-10	ON
CH 5-11	ON
CH 7-12	ON
RED/YEL INPUT ENABLE	
CH 1	OFF
CH 3	OFF
CH 5	OFF
CH 7	OFF
FLASH RATE FAULT	ON
FYA TRAP DETECT	ON

MMU PROGRAMMING NOTE

ECONOLITE EOS-2070 SPECIAL MMU PROGRAMMING

(program controller as shown)

1. From Main Menu select 1. CONFIGURATION
2. From CONFIGURATION Submenu select 1. CABINET
3. From PORT 1 (SDLC) Submenu select 4. MONITOR PROGRAMMING

CAUTION!

Set intersection to Flash before attempting to enter or change any MMU programming data.

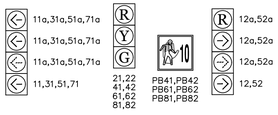
This programming and that of the MMU programming card must match exactly. If they do not, the intersection will be placed into Flash.

```
MMU PROGRAM [     MANUAL]

CH  6 5 4 3 2 1 0 9 8 7 6 5 4 3 2
 1  . X . X . X . X . . X X . . .
 2  . X . . . X . . . . X X . .
 3  . X . . X . X . X X . . .
 4  . X . X X . X . X X . .
 5  . X . X . X . X . . .
 6  . . . X . X . X . .
 7  . . . X X . X . .
 8  . X . X X . X .
 9  . X . . . X .
10  . X . X X .
11  . . . X .
12  . X . X
13  . X .
14  . .
15  .

END PROGRAMMING
```

SIGNAL HEAD ID



DETECTOR RACK SETUP

INSERT DETECTOR CARDS IN RACK ACCORDING TO THE DETAIL SHOWN BELOW.
PARTICULAR DETECTOR CHANNELS WILL CALL PHASES INDICATED.

DET BIU #1	CH3 L3 ø4 41	CH1 L1 ø2 21	CH3 L7 ø8 81	CH1 L5 ø6 61	SLOT EMPTY	CH1 L9 ø1 11	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	DET BIU #2
	CH4 L4 ø7 72	CH2 L2 ø3 31	CH4 L8 ø3 32	CH2 L6 ø7 71		CH2 L10 ø5 51										

BLANK OUT SIGN NOTES

1. DISPLAY 1 OF H1,H2:PB41,42 ACTIVATES H2. PB61,62 ACTIVATES H1. PB81,82 ACTIVATES H1.
2. DISPLAY 2 OF H1,H2 IS ACTIVATED AT THE END OF THE LEADING PEDESTRIAN INTERVAL: H2 FOR PHASE 4, H1 FOR PHASE 8. DISPLAY 2 OVERRIDES DISPLAY 1 IF BOTH DISPLAYS ARE ACTIVE ON THE SAME SIGN.
3. BOTH DISPLAYS DEACTIVATE AT THE END OF FDW.

CHARLOTTE. TRANSPORTATION

Plans Prepared By:

Kimley»Horn
421 FAYETTEVILLE STREET, SUITE 600
RALEIGH, NORTH CAROLINA, 27601
PHONE:919-677-2000

NO.	DATE	BY	REVISION DESCRIPTION
1	11/94	VBW	RECORD PLAN
2	5/96	AV	S.B. PROT. PERM. L.T.
3	1/98	NS	RECORD PLAN-CWA
4	9/04	NS	PEDS-CROSSWALK
5	6/05	NS	RECORD PLAN
6	1/07	RA	LOOPS 31,71
7	5/07	RA	ALL LOOPS DUE TO MILLING
8	06/11	AEV	
9	06/26	MCB	ADDITION OF BLANK OUT SIGNS AND SIGNAL HEADS

NORTH CAROLINA PROFESSIONAL SEAL 058683 ENGINEER MOLLY C. BURKE

DocuSigned by: Molly Burke 954EF8CC04C647E... 6/23/2026

EED	MHH	06-2026
REVIEWED BY	PREPARED BY	DATE
01534	10-1362	
SIGNAL NO.	NCDOT ID NO.	

EASTWAY DRIVE AT EASTWAY CROSSING DRIVEWAY

SIGNAL DETAIL

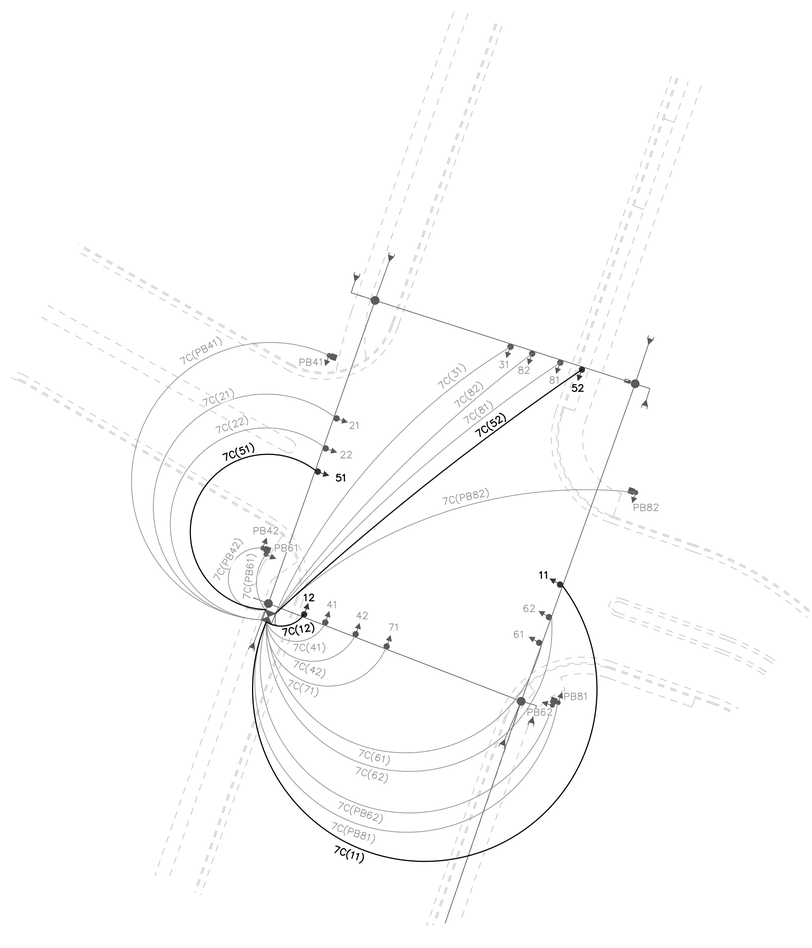
SHEET SIG2 OF SIG4

Docusign Envelope ID: EE61FB20-1723-845D-836D-F555B7775BD6

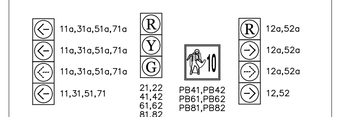
SIGNAL HEAD WIRING

CHANNEL		1		2		3	4		5		6		7	8		9	10			11			12			13	14	15	16
PHASE		1		2		3	4		5		6		7	8		2 PED	4 PED			6 PED			8 PED			OL-E	OL-F	OL-G	OL-H
SIGNAL HEAD NO.		11	12	21	22	31	41	42	51	52	61	62	71	81	82	11a	PB41	PB42	31a	PB61	PB62	51a	PB81	PB82	71a	12a	LED Sign H1	52a	LED Sign H2
RED	Wire			21R	22R		41R	42R			61R	62R		81R	82R											12RS		52RS	
	Terminal			LS2-R	LS2-R		LS4-R	LS4-R			LS6-R	LS6-R		LS8-R	LS8-R											LS13-R		LS15-R	
YELLOW	Wire			21Y	22Y		41Y	42Y			61Y	62Y		81Y	82Y												NTOR		NTOR
	Terminal		*	LS2-Y	LS2-Y		LS4-Y	LS4-Y		*	LS6-Y	LS6-Y		LS8-Y	LS8-Y												LS14-Y		LS16-Y
GREEN	Wire			21G	22G		41G	42G			61G	62G		81G	82G												YTP		YTP
	Terminal			LS2-G	LS2-G		LS4-G	LS4-G			LS6-G	LS6-G		LS8-G	LS8-G												LS14-G		LS16-G
RED ARROW	Wire	11RS				31RS			51RS				71RS																
	Terminal	LS1-R				LS3-R			LS5-R				LS7-R																
YELLOW ARROW	Wire	11YS				31YS			51YS				71YS													12YS		52YS	
	Terminal	LS1-Y				LS3-Y			LS5-Y				LS7-Y													LS13-Y		LS15-Y	
FLASHING YELLOW	Wire															11Y			31Y			51Y			71Y	12Y		52Y	
	Terminal															LS9-G			LS10-G			LS11-G			LS12-G	LS13-G		LS15-G	
GREEN ARROW	Wire	11G	12G			31G			51G	52G			71G																
	Terminal	LS1-G	LS1-G			LS3-G			LS5-G	LS5-G			LS7-G																
DON'T WALK	Wire																P41R	P42R		P61R	P62R		P81R	P82R					
	Terminal																LS10-R	LS10-R		LS11-R	LS11-R		LS12-R	LS12-R					
WALK	Wire																P41G	P42G		P61G	P62G		P81G	P82G					
	Terminal																LS10-G	LS10-G		LS11-G	LS11-G		LS12-G	LS12-G					

LSX✱ = TERMINAL IN LOAD BAY ✱ = INSTALL LOAD RESISTOR TO TERMINAL, NOT WIRE



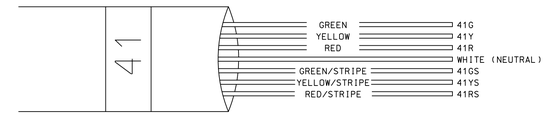
SIGNAL HEAD ID



SIGNAL WIRE NAMING CONVENTION:
CABLES:
xC(nn) x = #of conductors in cable, nn = cable number

WIRES:
nnA nn = cable number, A = conductor in cable

EXAMPLE: 7C(41)



CHARLOTTE. TRANSPORTATION

Plans Prepared By:
Kimley»Horn
421 FAYETTEVILLE STREET, SUITE 600
RALEIGH, NORTH CAROLINA, 27601
PHONE:919-677-2000

NO.	DATE	BY	REVISION DESCRIPTION
1	11/94	VBW	RECORD PLAN
2	5/96	AV	S.B. PROT. PERM. L.T.
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5	6/05	NS	RECORD PLAN
6	1/07	RA	LOOPS 1,7,8
7	5/07	RA	ALL LOOPS DUE TO MILLING
8	06/11	AEV	
9	06/26	MCB	ADDITION OF BLANK OUT SIGNS AND SIGNAL HEADS

NORTH CAROLINA PROFESSIONAL SEAL 058683 ENGINEER MOLLY C. BURKE

DocuSigned by:
Molly Burke
954EF86C04C647E...
6/23/2026

EED REVIEWED BY	ND PREPARED BY	06-2026 DATE
01534 SIGNAL NO.	10-1362 NCDOT ID NO.	

EASTWAY DRIVE AT EASTWAY CROSSING DRIVEWAY

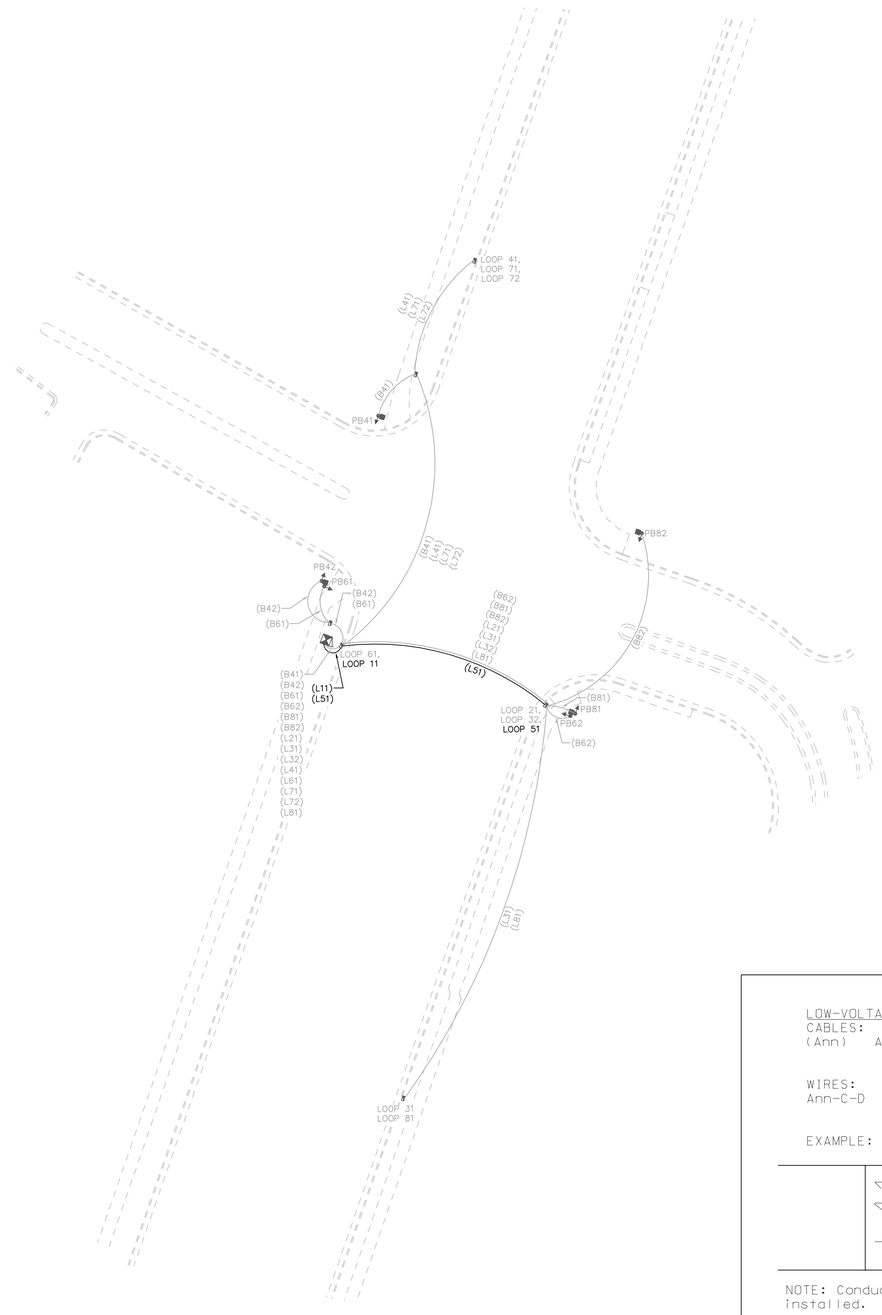
SIGNAL WIRING DIAGRAM

SHEET SIG3 OF SIG4

Docusign Envelope ID: EE61FB20-1723-845D-836D-F555B7775BD6

LOOP WIRING

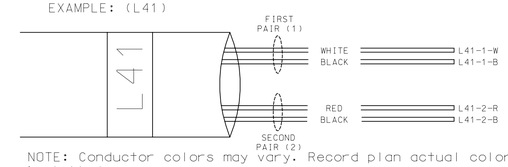
Loop Number	Wire	Terminal	Controller Detector Number	Phase	Timing		Size	Comments
					Feature	Time		
11	L11-1-W	LT1-1	1	1,2	DELAY	3	6'X25'	@STOP BAR
	L11-1-B	LT1-2						
21	L21-1-W	LT1-3	2	2	-	-	6'X25'	@STOP BAR
	L21-1-B	LT1-4						
31	L31-1W	LT1-5	3	3	DELAY	3	6'X25'	65' FROM STOP BAR
	L31-1B	LT1-6						
32	L32-1-W	LT1-7	4	3,4	DELAY	3	6'X25'	@STOP BAR
	L32-1-B	LT1-8						
41	L41-1-W	LT1-9	5	4	-	-	6'X15'	205' FROM STOP BAR
	L41-1-B	LT1-10						
51	L51-1-W	LT1-11	6	5,6	DELAY	3	6'X25'	@STOP BAR
	L51-1-B	LT1-12						
61	L61-1-W	LT1-13	7	6	-	-	6'X25'	@STOP BAR
	L61-1-B	LT1-14						
71	L71-1-W	LT1-15	8	7	DELAY	3	6'X25'	65' FROM STOP BAR
	L71-1-B	LT1-16						
72	L72-1-W	LT2-1	9	7,8	DELAY	3	6'X25'	@STOP BAR
	L72-1-B	LT2-2						
81	L81-1-W	LT2-3	10	8	-	-	6'X15'	205' FROM STOP BAR
	L81-1-B	LT2-4						



LOW-VOLTAGE WIRE NAMING CONVENTION:
CABLES:
(Ann) A = Loops(L)/Pushbutton(B) nn = cable number

WIRES:
Ann-C-D A = Loops(L)/Pushbutton(B), nn = cable number,
C = pair number, D = conductor in pair

EXAMPLE: (L41)



NOTE: Conductor colors may vary. Record plan actual colors installed.

NOTE:
ALL LEAD-IN WIRE SHOULD BE TWO PAIR CABLE

CHARLOTTE TRANSPORTATION

Plans Prepared By:
Kimley»Horn
421 FAYETTEVILLE STREET, SUITE 600
RALEIGH, NORTH CAROLINA, 27601
PHONE: 919-677-2000

NO.	DATE	BY	REVISION DESCRIPTION
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7	5/07	RA	ALL LOOPS DUE TO MILLING
8	06/11	AEV	
9	06/26	MCB	ADDITION OF BLANK OUT SIGNS AND SIGNAL HEADS

NORTH CAROLINA PROFESSIONAL SEAL 058683 ENGINEER MOLLY C. BURKE

DocuSigned by:
Molly Burke
954EF86C04C647E...
6/23/2026

EED	ND	06-2026
REVIEWED BY	PREPARED BY	DATE
01534	10-1362	
SIGNAL NO.	NCDOT ID NO.	

EASTWAY DRIVE AT EASTWAY CROSSING DRIVEWAY

LOW VOLTAGE DIAGRAM

SHEET SIG4 OF SIG4

Docusign Envelope ID: EE61FB20-1723-845D-836D-F555B7775BD6

INDEX OF SHEETS

Cover Sheet
Signal Plan SIG1
Signal Details SIG2
Signal Wiring Diagram.....SIG3
Low Voltage Wiring Diagram SIG4

TOTAL SHEETS 4

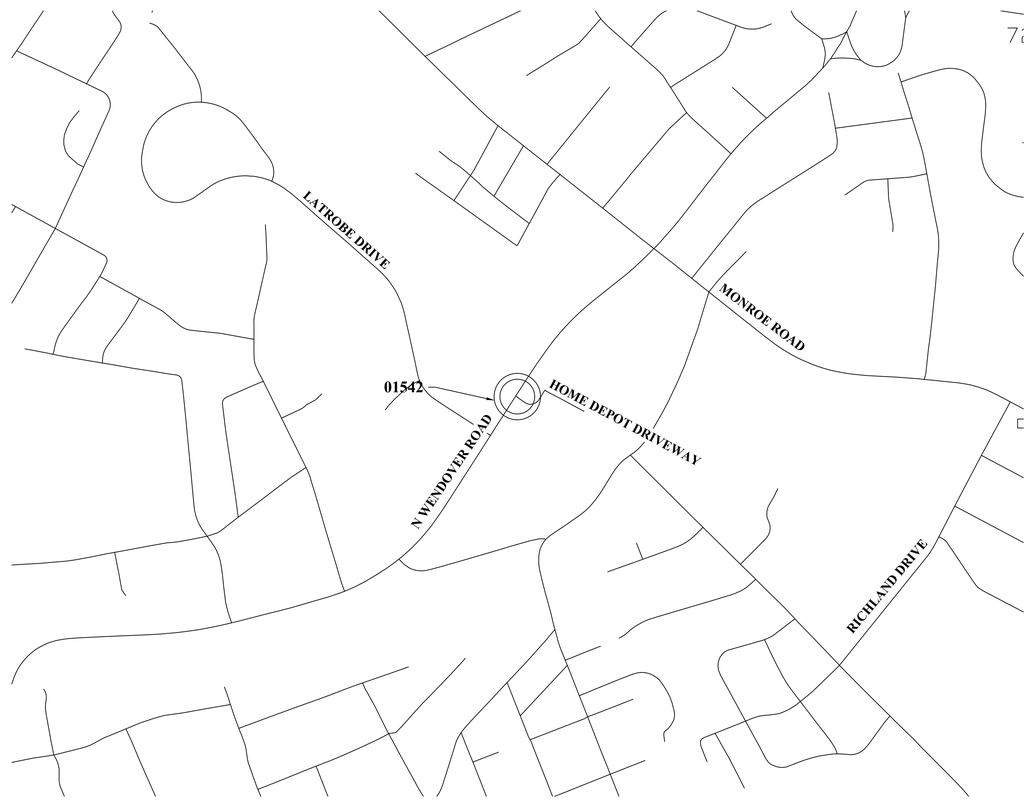
REVISIONS

NO.	DATE	BY	REVISION DESCRIPTION
1	12/96	VBW	AS BUILT-ANA
2	4/98	AV	ADD PROT/PERM L.T. PHASE TO S.B. WENDOVER
3	11/98	VW	AS BUILT
4	9/10	JT	RECORD PLAN (STS-6/30)
5	9/10	JT	ADD PEDS, FLASHING YELLOW ARROWS, AND LOOPS 41,81
6	2/13	RA	CORRECT LOOP SCHEME AND CHART LOOPS 42,71,31,82
7	06/26	MCB	RECORD PLAN - ADD NEW SIGNAL HEADS, PEDESTALS, AND PUSHBUTTONS

CHARLOTTE.
TRANSPORTATION

Signal Plans of
Wendover Road and Home Depot Driveway

CDOT Signal ID 01542
NCDOT Signal ID 10-1604



VICINITY MAP (NTS)

LEGEND

PROPOSED	DESCRIPTION	EXISTING
	CONTROL BOX	
	METER PEDESTAL	
	PULL BOX	
	STEEL POLE	
	MAST ARM	
	PED PEDESTAL	
	UTILITY POLE	
	ANCHOR	
	SIGNAL HEAD	
	VIDEO CAMERA	
	OPTICOM	
	OBSERVATION CAM	
	DETECTOR	
	CONDUIT	
	INTERCONNECT	
	EDGE OF PVMT.	
	CURB & GUTTER	
	TUBULAR MARKER	
	GROUND SIGN	
	OVERHEAD SIGN	
	DOUBLE YELLOW	
	STOP BAR	
	WHITE SKIP	
	WHITE MINI	
	PAVEMENT ARROW	
	PROPERTY LINE	
	ROW	

PULLBOX ID

	SIZE	PULLBOX TYPE
1	13"x24"x12"	LOOP
2	17"x30"x24"	FIBER OPTIC
3	24"x36"x30"	CONTROLLER / FIBER
4	30"x48"x36"	CONTROLLER
5	24"x24"x12"	CONTROLLER
6	36"x36"x12"	CONTROLLER

NOTE:
PULLBOX MATERIAL MUST MEET OR EXCEED THE 1998 CDOT TRAFFIC SIGNAL SPECIFICATIONS.

PLANS PREPARED BY:

Kimley»Horn
421 FAYETTEVILLE STREET, SUITE 600
RALEIGH, NORTH CAROLINA, 27601
PHONE: 919-677-2000

PLAN NOTES

1. ALL PAVEMENT MARKING DIMENSIONS ARE APPROXIMATE.
2. SIGNAL SHALL BE INSTALLED IN ACCORDANCE WITH THE LATEST NCDOT STANDARD SPECIFICATIONS AND CDOT TRAFFIC SIGNAL SPECIAL PROVISIONS.
3. PED SIGNALS WITH PUSHBUTTONS WILL BE LABELED "PB" (FOR EXAMPLE PB21, PB22).
4. COUNTDOWN PEDESTRIAN SIGNALS SHALL COUNT DOWN FLASHING DON'T WALK ONLY.
5. FYAS 31 AND 71 WILL INITIALLY OPERATE PROTECTED-PERMITTED 24/7.
6. DISPLAY 1 OF H1,H2: PB21,22 ACTIVATES H1, PB61,62 ACTIVATES H2.
7. DISPLAY 2 OF H1,H2 IS ACTIVATED AT THE END OF THE LEADING PEDESTRIAN INTERVAL:H1 FOR PHASE 2, H2 FOR PHASE 6. DISPLAY 2 OVERRIDES DISPLAY 1 IF BOTH DISPLAYS ARE ACTIVE ON THE SAME SIGN.
8. BOTH DISPLAYS DEACTIVATE AT THE END OF FDW.
9. PHASES 2 AND 6, AND OVERLAPS F AND H SHALL ALL SIMULTANEOUSLY CLEAR TO RED.

PE SEAL

NORTH CAROLINA PROFESSIONAL SEAL 058683 ENGINEER MOLLY C. BURKE

DocuSigned by:
Molly Burke
954EF8CD4C647E...

6/23/2026

PROJECT TEAM

DESIGNER:	MH HARVEY, EI
PROJECT MANAGER:	MC BURKE, PE
TIMING ENGINEER	CODY EDWARDS, PE

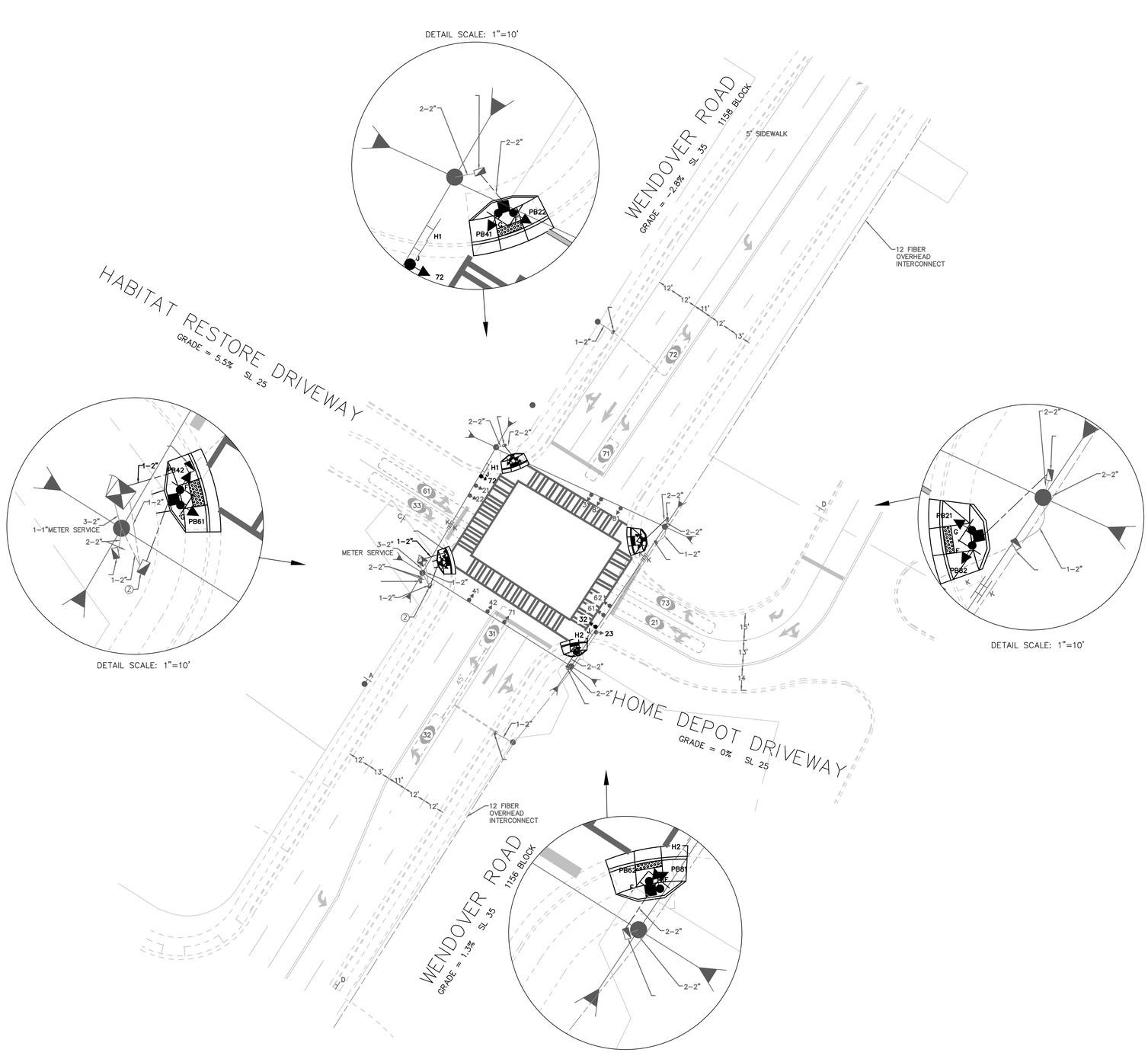
CHARLOTTE.
TRANSPORTATION

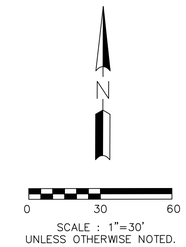
Signal ID 01542/ NCDOT Signal ID 10-1604

Wendover Road at Home Depot Driveway

Tuesday, June 23, 2026 11:32:42 AM

Docusign Envelope ID: EE61FB20-1723-845D-836D-F555B7775BD6





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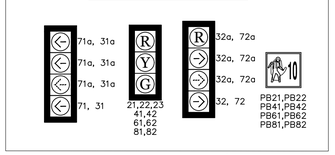

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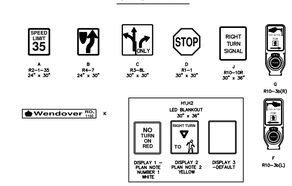


Plans Prepared By:

Kimley»Horn
421 FAYETTEVILLE STREET, SUITE 600
RALEIGH, NORTH CAROLINA, 27601
PHONE:919-677-2000

NO.	DATE BY	REVISION DESCRIPTION
1	WRR 12/2/96	AS BUILT-WENDOVER
2	AV 4/98	ADD PROT/PERM L.T. PHASE TO AS-BUILT
3	VW 11/98	AS-BUILT
4	JT 9/10	RECORD PLAN (SIS-6/30)
5	JT 9/10	ADD PEDS, FLASHING YELLOW ARROWS, AND LOOPS 41,81
6	RA 2/13	CORRECT LOOPS 21,61 AND CHART LOOPS 42,71,31,82
7	MCB 6/26	RECORD PLAN – ADD NEW SIGNAL HEADS, PEDESTALS, AND FLASHER TYPOS

NORTH CAROLINA PROFESSIONAL SEAL 058683 ENGINEER MOLLY C. BURKE

DocuSigned by:
Molly Burke
954EF80C04C64A7E...
6/23/2026

MHH
PREPARED BY

06-2026
DATE

01542
SIGNAL NO.

10-1604
NCDOT ID NO.

WENDOVER ROAD AT HOME DEPOT DRIVEWAY

SIGNAL PLAN

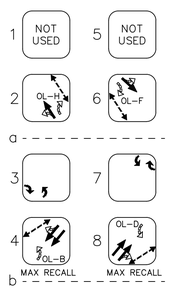
SHEET SIG1 OF SIG4

Docusign Envelope ID: EE61FB20-1723-845D-836D-F555B7775BD6

SIGNAL PHASING

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

2070 EOS



SIGNAL SEQUENCE

RING 1	PHASE 1		PHASE 2		PHASE 3		PHASE 4		
SIGNAL ID NUMBER	R/W	OTH	R/W	OTH	R/W	OTH	R/W	OTH	FLASH
21,22,23			G	Y					R
41,42							G	Y	R
31					◀	◁			◁̇
32					▶	▷			R
PB41,PB42							W FDW	DW	DARK
PB21,PB22			W FDW	DW					DARK
RING 2	PHASE 5		PHASE 6		PHASE 7		PHASE 8		
SIGNAL ID NUMBER	R/W	OTH	R/W	OTH	R/W	OTH	R/W	OTH	FLASH
61,62			G	Y					R
71					◀	◁			◁̇
72					▶	▷			R
81,82							G	Y	R
PB61,PB62			W FDW	DW					DARK
PB81,PB82							W FDW	DW	DARK

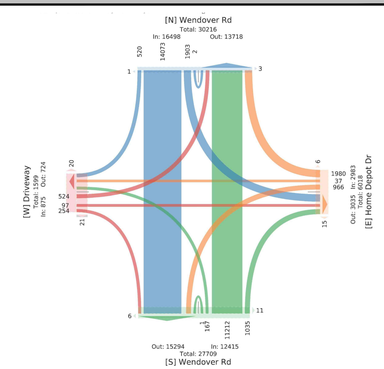
◁̇ RED ARROW ◁ YELLOW ARROW
◀ GREEN ARROW ✳ FLASHING YELLOW ARROW

OVERLAP PHASE

OVERLAP – PHASE	OL-A/-+-		OL-B/3+4 FYA/LT		OL-C/-+-		OL-D/7+8 FYA/LT		
SIGNAL ID NUMBER	R/W	OTH	R/W	OTH	R/W	OTH	R/W	OTH	FLASH
31a			◁	✳					◁̇
71a							◁	✳	◁̇
OVERLAP – PHASE	OL-E-/-+-		OL-F/3+6 FYA/RT		OL-G/-+-		OL-H/2+7 FYA/RT		
SIGNAL ID NUMBER	R/W	OTH	R/W	OTH	R/W	OTH	R/W	OTH	FLASH
32a			▷	✳					R
72a							▷	✳	R

◁̇ RED ARROW ◁ YELLOW ARROW
◀ GREEN ARROW ✳ FLASHING YELLOW ARROW

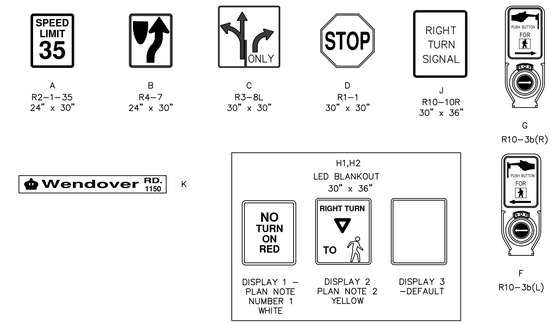
TURNING MOVEMENT COUNT



CLEARANCE INTERVALS

Phase	1	2	3	4	5	6	7	8
% Grade		0.0%	1.3%	-2.8%		5.5%	-2.8%	1.3%
Distance		80	60	80		80	65	80
Approach Speed (mph)		25	25	35		35	25	35
Yellow		**3.8**	**3.1**	**4.0**		**3.5**	**3.3**	**4.0**
All Red		**1.9**	**2.3**	**2.3**		**1.9**	**1.8**	**2.3**
Total Clearance		5.7	5.4	6.3		5.4	5.1	6.3

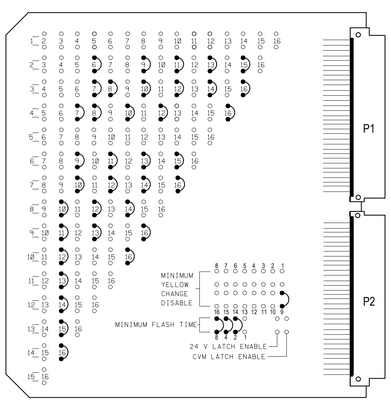
SIGN ID



MALFUNCTION MANAGEMENT UNIT / CONFLICT MONITOR

PROGRAMMING DETAIL

(program card and tables as shown)



MMU PROGRAMMING CARD

FIELD CHECK ENABLE DUAL IND ENABLE RED FAIL ENABLE	
CHANNEL NUMBER	ENABLE/ DISABLE
1	DISABLE
2	ENABLE
3	ENABLE
4	ENABLE
5	DISABLE
6	ENABLE
7	ENABLE
8	ENABLE
9	ENABLE
10	ENABLE
11	ENABLE
12	ENABLE
13	ENABLE
14	ENABLE
15	ENABLE
16	ENABLE

UNIT OPTIONS	
OPTION	SETTING
RECURRENT PULSE	ON
WALK DISABLE	OFF
LOG CVM FAULTS	ON
EXTERN WATCHDOG	OFF
24V-2=12VDC	OFF
PGM CARD MEMORY	ON
LEDguard	ON
FORCE TYPE 16	OFF
TYPE12-SDLC	OFF
VM 3x/Day Latch	ON

FLASHING YELLOW ARROW	
CONFIG MODE	G
ENABLE CHANNEL PAIR, FYA	
CH 1-13	OFF
CH 3-14	ON
CH 5-15	OFF
CH 7-16	ON
RED/YEL INPUT ENABLE	
CH 1	OFF
CH 3	OFF
CH 5	OFF
CH 7	OFF
FLASH RATE FAULT	ON
FYA TRAP DETECT	ON

MMU PROGRAMMING NOTE

ECONOLITE EOS-2070 SPECIAL MMU PROGRAMMING

(program controller as shown)

1. From Main Menu select 1. CONFIGURATION
2. From CONFIGURATION Submenu select 1. CABINET
3. From PORT 1 (SDLC) Submenu select 4. MONITOR PROGRAMMING

CAUTION!

Set intersection to Flash before attempting to enter or change any MMU programming data.

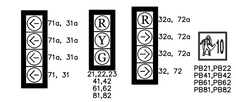
This programming and that of the MMU programming card must match exactly. If they do not, the intersection will be placed into Flash.

```
MMU PROGRAM [     MANUAL]

     CH  6 5 4 3 2 1 0 9 8 7 6 5 4 3 2
      1  . . . . . . . . . . . . . . .
      2  . X . X . X . X . . X . . .
      3  X . X . X . X . X X . . .
      4  X . . . X . X . X X . .
      5  . . . . . . . . . . .
      6  . X . X . X . X . .
      7  X . . . X . X . .
      8  . . X . X . X .
      9  X . . X . X .
     10  X . . . X .
     11  . . . X .
     12  . . X .
     13  . X .
     14  X .
     15  .
```

END PROGRAMMING

SIGNAL HEAD ID



DETECTOR RACK SETUP

INSERT DETECTOR CARDS IN RACK ACCORDING TO THE DETAIL SHOWN BELOW.
PARTICULAR DETECTOR CHANNELS WILL CALL PHASES INDICATED.

DET BIU #1	CH3 L3 Ø3 33	CH1 L1 Ø7 73	CH3 L3 Ø3 32	CH1 L1 Ø7 72	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	DET BIU #2
	CH4 L4 Ø7 71	CH2 L2 Ø2 21	CH4 L4 Ø6 61	CH2 L2 Ø3 31													

CHARLOTTE. TRANSPORTATION

Plans Prepared By:
Kimley»Horn
421 FAYETTEVILLE STREET, SUITE 600
RALEIGH, NORTH CAROLINA, 27601
PHONE:919-677-2000

NO.	DATE	BY	REVISION DESCRIPTION

NORTH CAROLINA PROFESSIONAL SEAL 058683 ENGINEER MOLLY C. BURKE

DocuSigned by: Molly Burke 954EF8C04C647E... 6/23/2026

MHH PREPARED BY
06-2026 DATE

0154 2 SIGNAL NO.
10-1604 NCDOT ID NO.

WENDOVER ROAD AT HOME DEPOT DRIVEWAY

SIGNAL DETAIL

SHEET SIG2 OF SIG4

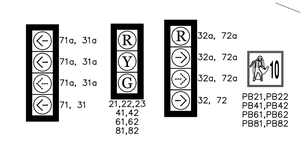
Docusign Envelope ID: EE61FB20-1723-845D-836D-F555B7775BD6

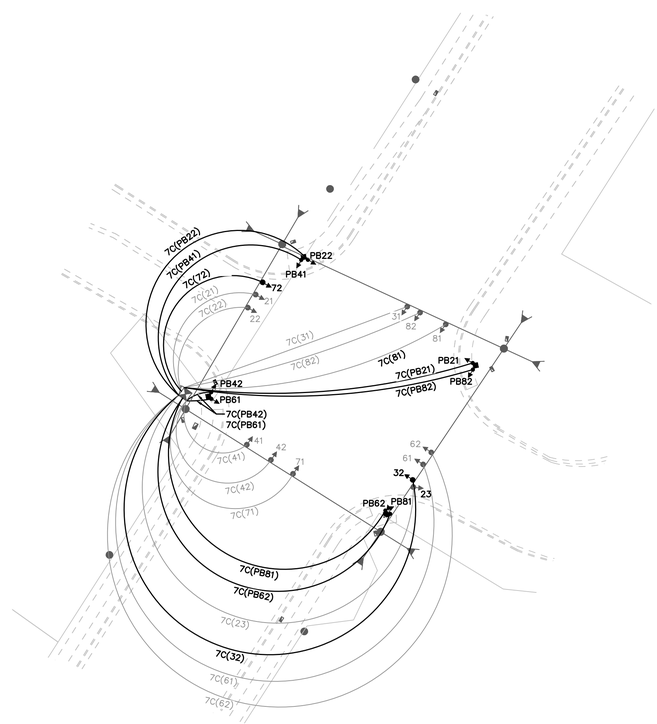
SIGNAL HEAD WIRING

CHANNEL		1	2			3		4		5	6		7		8		9		10			11		12			13	14	15	16
PHASE		1	2			3		4		5	6		7		8		2 PED		4 PED			6 PED		8 PED				OL-F		OL-H
SIGNAL HEAD NO.		NU	21	22	23	31	32	41	42	NU	61	62	71	72	81	82	PB21	PB22	PB41	PB42	31a	PB61	PB62	PB81	PB82	71a	LED Sign H1	32a	LED Sign H2	72a
RED	Wire		21R	22R	23R			41R	42R		61R	62R			81R	82R												32RS		72RS
	Terminal		LS2-R	LS2-R	LS2-R			LS4-R	LS4-R		LS6-R	LS6-R			LS8-R	LS8-R												LS14-R		LS16-R
YELLOW	Wire		21Y	22Y	23Y			41Y	42Y		61Y	62Y			81Y	82Y											NTOR		NTOR	
	Terminal		LS2-Y	LS2-Y	LS2-Y			LS4-Y	LS4-Y		LS6-Y	LS6-Y			LS8-Y	LS8-Y											LS13-Y		LS15-Y	
GREEN	Wire		21G	22G	23G			41G	42G		61G	62G			81G	82G											YTP		YTP	
	Terminal		LS2-G	LS2-G	LS2-G			LS4-G	LS4-G		LS6-G	LS6-G			LS8-G	LS8-G											LS13-G		LS15-G	
RED ARROW	Wire					31RS							71RS																	
	Terminal					LS3-R							LS7-R																	
YELLOW ARROW	Wire					31YS							71YS															32YS		72YS
	Terminal					LS3-Y							LS7-Y															LS14-Y		LS16-Y
FLASHING YELLOW	Wire																				31Y					71Y		32GS		72GS
	Terminal																				LS10-Y					LS12-Y		LS14-G		LS16-G
GREEN ARROW	Wire					31G	32G						71G	72G																
	Terminal					LS3-G	LS3-G						LS7-G	LS7-G																
DON'T WALK	Wire																P21R	P22R	P41R	P42R		P61R	P62R	P81R	P82R					
	Terminal																LS-9-R	LS-9-R	LS10-R	LS10-R		LS11-R	LS11-R	LS12-R	LS12-R					
WALK	Wire																P21G	P22G	P41G	P42G		P61G	P62G	P81G	P82G					
	Terminal																LS-9-G	LS-9-R	LS10-G	LS10-G		LS11-G	LS11-G	LS12-G	LS12-G					

LSX✱ = TERMINAL IN LOAD BAY ✱ = INSTALL LOAD RESISTOR TO TERMINAL, NOT WIRE

SIGNAL HEAD ID

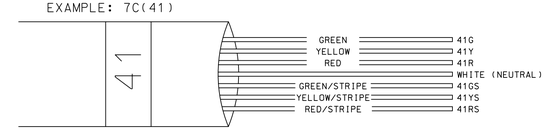




SIGNAL WIRE NAMING CONVENTION:
CABLES:
xC(nn) x = #of conductors in cable, nn = cable number

WIRES:
nnA nn = cable number, A = conductor in cable

EXAMPLE: 7C(41)



CHARLOTTE. TRANSPORTATION

Plans Prepared By:
Kimley»Horn
421 FAYETTEVILLE STREET, SUITE 600
RALEIGH, NORTH CAROLINA, 27601
PHONE: 919-677-2000

NO.	DATE	BY	REVISION DESCRIPTION

NORTH CAROLINA PROFESSIONAL SEAL 058683 ENGINEER MOLLY C. BURKE

DocuSigned by: Molly Burke
954EF86C04C847E...
6/23/2026

MHH
PREPARED BY

06-2026
DATE

01542
SIGNAL NO.

10-1604
NCDOT I.D. NO.

WENDOVER ROAD AT HOME DEPOT DRIVEWAY

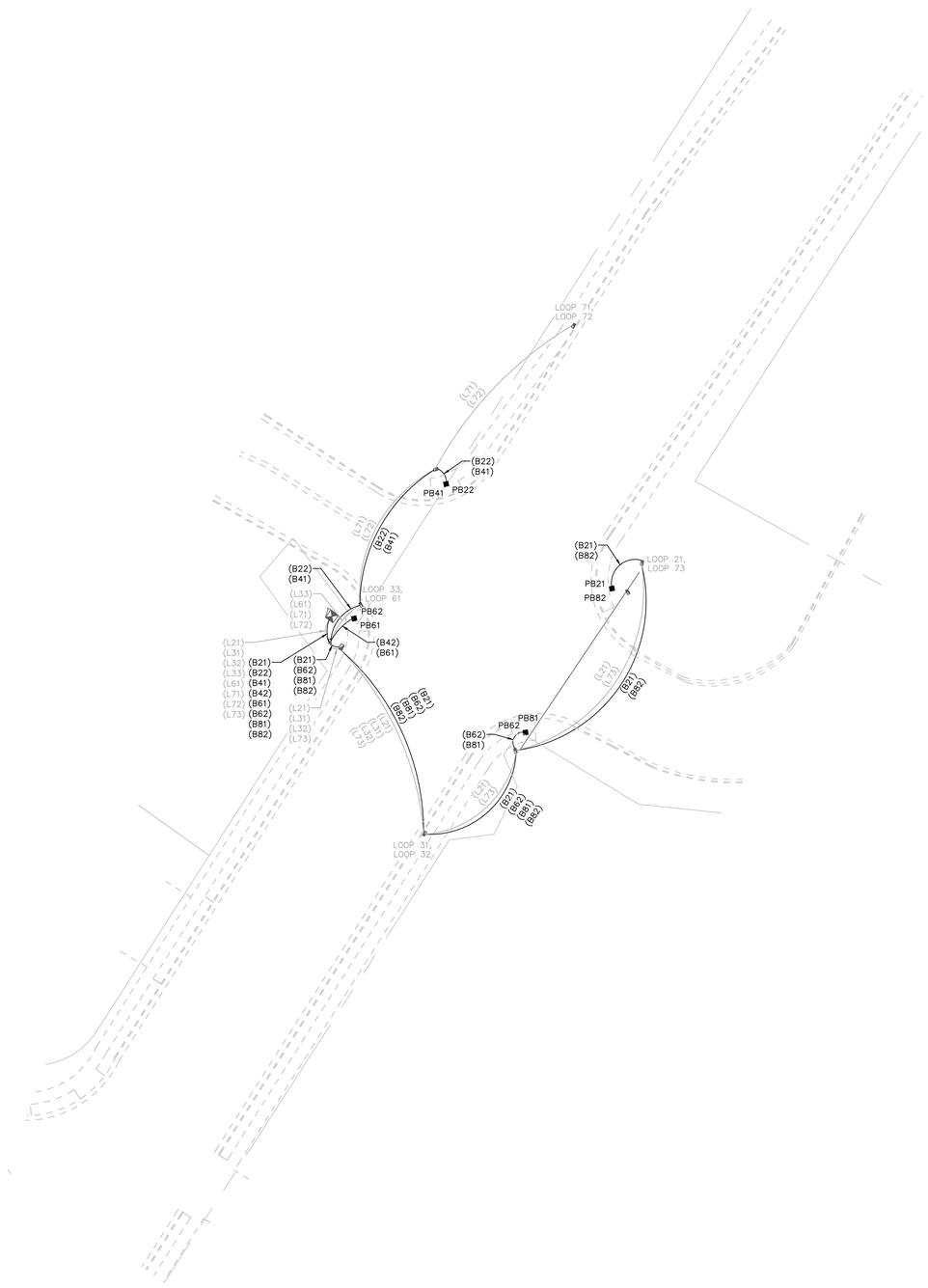
SIGNAL WIRING DIAGRAM

SHEET SIG3 OF SIG4

Docusign Envelope ID: EE61FB20-1723-845D-836D-F555B7775BD6

LOOP WIRING

Loop Number	Wire	Terminal	Controller Detector Number	Phase	Timing		Size	Comments
					Feature	Time		
21	L21-1-W	LT1-1	1	2	-	-	6'X60'	@STOP BAR
	L21-1-B	LT1-2						
31	L31-1-W	LT1-3	2	3	DELAY	3	6'X25'	@STOP BAR
	L31-1-B	LT1-4						
32	L32-1W	LT1-5	3	3	DELAY	3	6'X25'	65' FROM STOP BAR
	L32-1B	LT1-6						
33	L33-1-W	LT1-7	4	3	DELAY	3	6'X60'	@STOP BAR
	L33-1-B	LT1-8						
61	L61-1-W	LT1-9	5	6	-	-	6'X60'	@STOP BAR
	L61-1-B	LT1-10						
71	L71-1-W	LT1-11	6	7	DELAY	7	6'X25'	@STOP BAR
	L71-1-B	LT1-12						
72	L72-1-W	LT1-13	7	7	DELAY	7	6'X25'	65' FROM STOP BAR
	L72-1-B	LT1-14						
73	L73-1-W	LT1-15	8	7	DELAY	7	6'X60'	@ STOP BAR
	L73-1-B	LT1-16						



LOW-VOLTAGE WIRE NAMING CONVENTION:

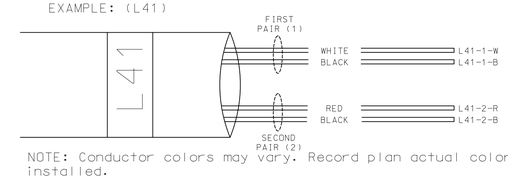
CABLES:

(Ann) A = Loops(L)/Pushbutton(B) nn = cable number

WIRES:

Ann-C-D A = Loops(L)/Pushbutton(B), nn = cable number,
C = pair number, D = conductor in pair

EXAMPLE: (L41)



NOTE: Conductor colors may vary. Record plan actual colors installed.

NOTE:
ALL LEAD-IN WIRE SHOULD BE TWO PAIR CABLE

CHARLOTTE. TRANSPORTATION

Plans Prepared By:

Kimley»Horn
421 FAYETTEVILLE STREET, SUITE 600
RALEIGH, NORTH CAROLINA, 27601
PHONE: 919-677-2000

NO.	DATE	BY	REVISION DESCRIPTION

NORTH CAROLINA PROFESSIONAL SEAL 058683 ENGINEER MOLLY C. BURKE

DocuSigned by:
Molly Burke
954EF86C04C847E...
6/23/2026

ND
PREPARED BY

06-2026
DATE

01542
SIGNAL NO.

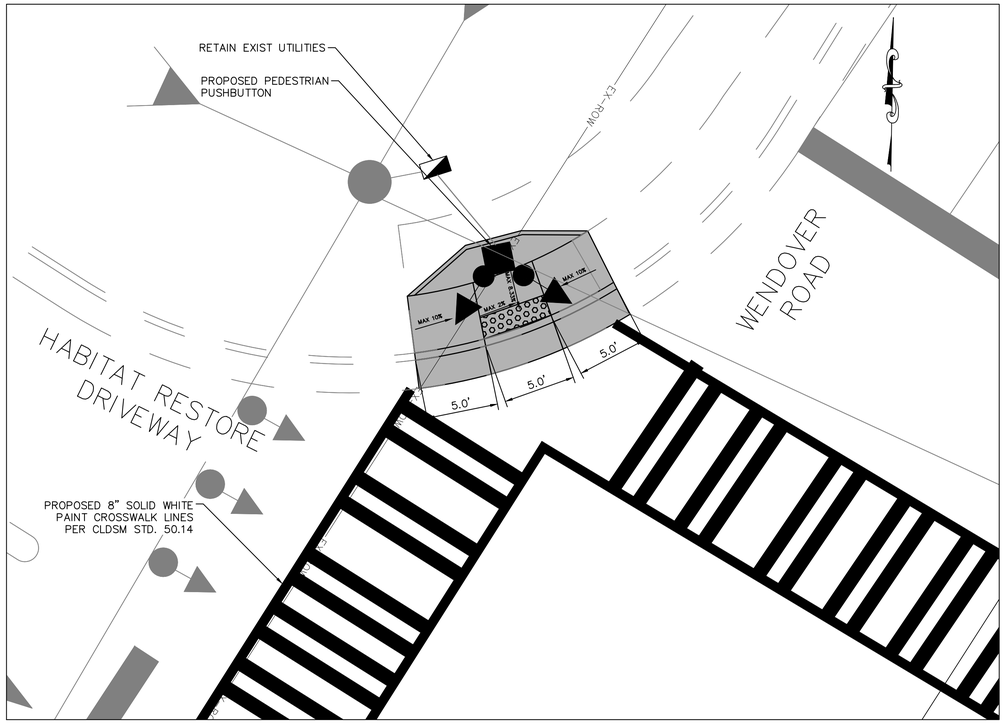
10-1604
NCDOT ID NO.

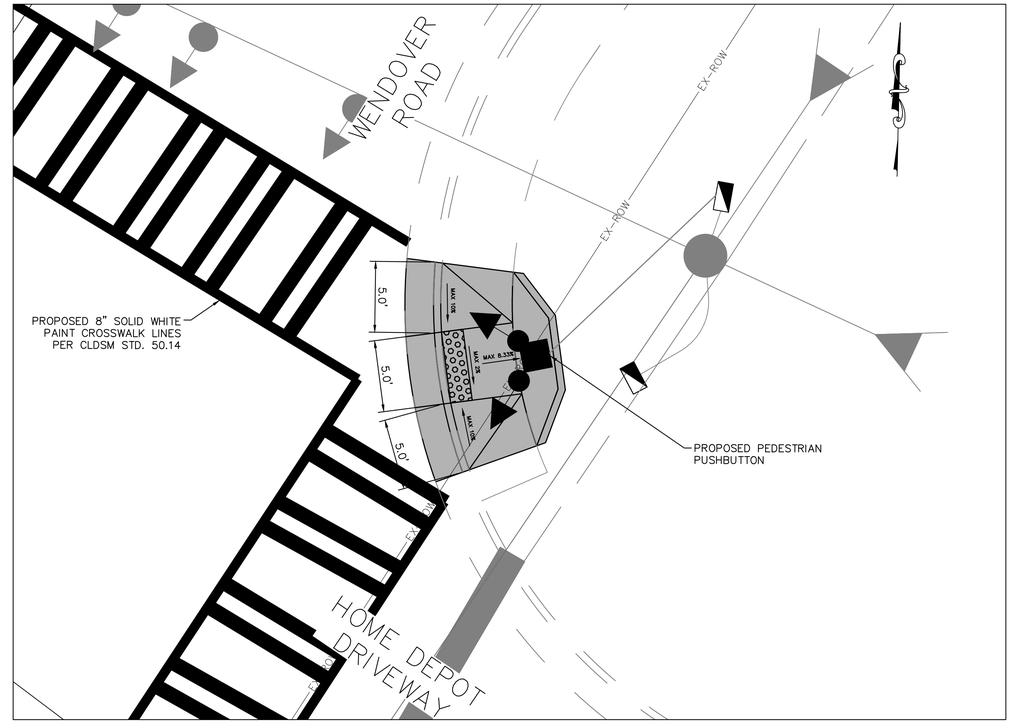
WENDOVER ROAD AT HOME DEPOT DRIVEWAY

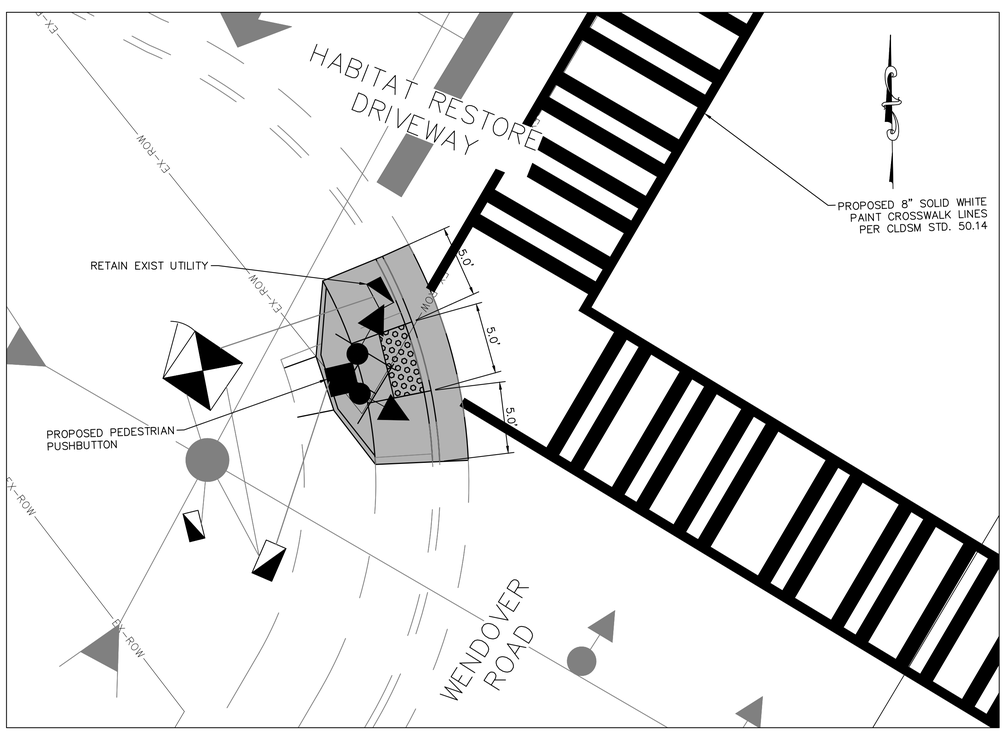
LOW VOLTAGE DIAGRAM

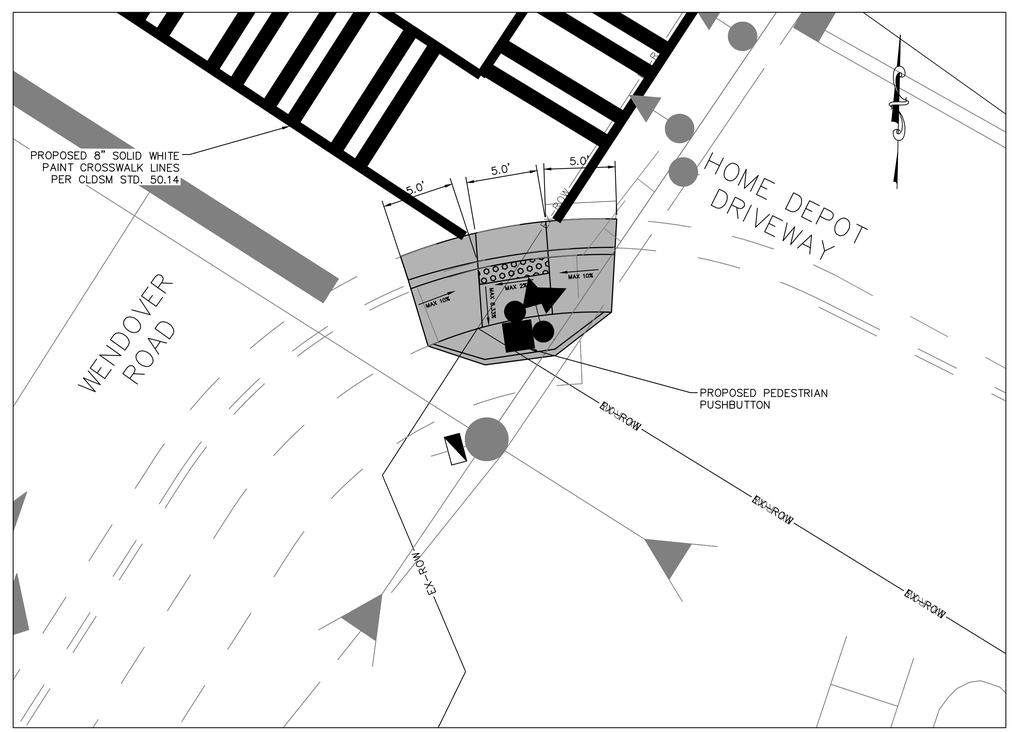
SHEET SIG4 OF SIG4

Docusign Envelope ID: D23A98CD-6651-8D29-82E0-065667EA0D69









NOTE: SURVEY WAS NOT OBTAINED AS PART OF THIS PROJECT. SLOPES SHOWN ARE MAXIMUM ALLOWABLE SLOPES PER ADA STANDARDS.

CHARLOTTE. TRANSPORTATION

Plans Prepared By:

Kimley»Horn
421 FAYETTEVILLE STREET, SUITE 600
RALEIGH, NORTH CAROLINA, 27601
PHONE: 919-677-2000

NO.	DATE	BY	REVISION DESCRIPTION

NORTH CAROLINA PROFESSIONAL SEAL 058683 ENGINEER MOLLY C. BURKE

DocuSigned by:
Molly Burke 6/19/2026
954EF85C04C847E...

1" = 5'	SCALE
EAR	PREPARED BY
06-2026	DATE
0542	SIGNAL NO.
10-0082	NCDOT ID NO.

WENDOVER DRIVE AT HOME DEPOT DRIVEWAY

CURB RAMP DETAILS

SHEET 1 OF 1