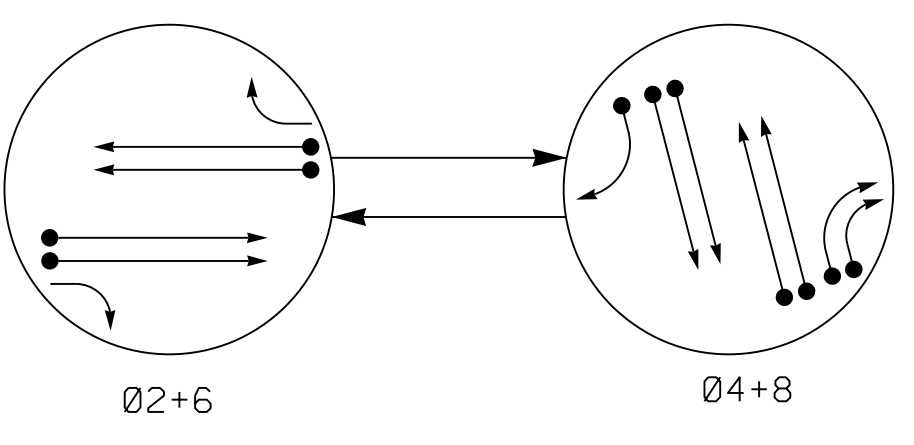


PHASING DIAGRAM



PHASING DIAGRAM DETECTION LEGEND

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

EV PREEMPT PHASES
(Medium Priority)

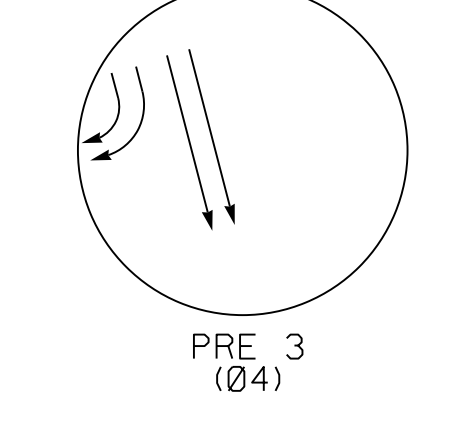
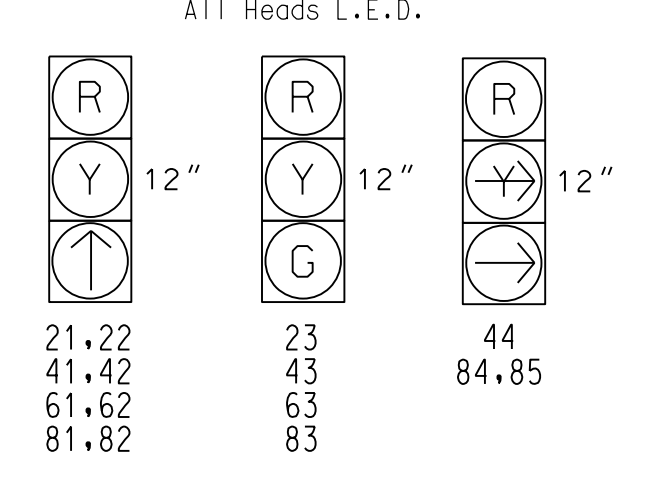


TABLE OF OPERATION

SIGNAL FACE	PHASE			
	02+6	04+8	PRE 3	FLASH
21,22	↑	R	R	Y
23	G	R	R	Y
41,42	R	↑	↑	R
43	R	G	G	R
44	R	→	→	R
61,62	↑	R	R	Y
63	G	R	R	Y
81,82	R	↑	R	R
83	R	G	R	R
84,85	R	→	R	R

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



ASC/3 DETECTOR INSTALLATION CHART

LOOP	SIZE (FT)	DISTANCE FROM STOPBAR (FT)	TURNS	NEW LOOP	PROGRAMMING							
					PHASE	CALLING	EXTEND TIME	DELAY TIME	USE ADDED INITIAL	TYPE	LOOP	NEW CARD
2A	6X6	300	*	X	2	Yes	-	-	-	N	-	*
2B	6X6	300	*	X	2	Yes	-	-	-	N	-	*
2C	6X40	0	*	X	2	Yes	2.0	5	-	G	-	*
2D	6X40	0	*	X	2	Yes	2.0	5	-	G	-	*
4A	6X40	0	*	X	4	Yes	-	-	-	N	-	*
4B	6X40	0	*	X	4	Yes	-	-	-	N	-	*
4C	6X40	0	*	X	4	Yes	-	-	-	N	-	*
6A	6X6	300	*	X	6	Yes	-	-	-	N	-	*
6B	6X6	300	*	X	6	Yes	-	-	-	N	-	*
6C	6X40	0	*	X	6	Yes	2.0	5	-	G	-	*
6D	6X40	0	*	X	6	Yes	2.0	5	-	G	-	*
8A	6X40	0	*	X	8	Yes	-	-	-	N	-	*
8B	6X40	0	*	X	8	Yes	-	-	-	N	-	*
8C	6X40	0	*	X	8	Yes	-	-	-	N	-	*
8D	6X40	0	*	X	8	Yes	-	-	-	N	-	*

* Video Detection Area

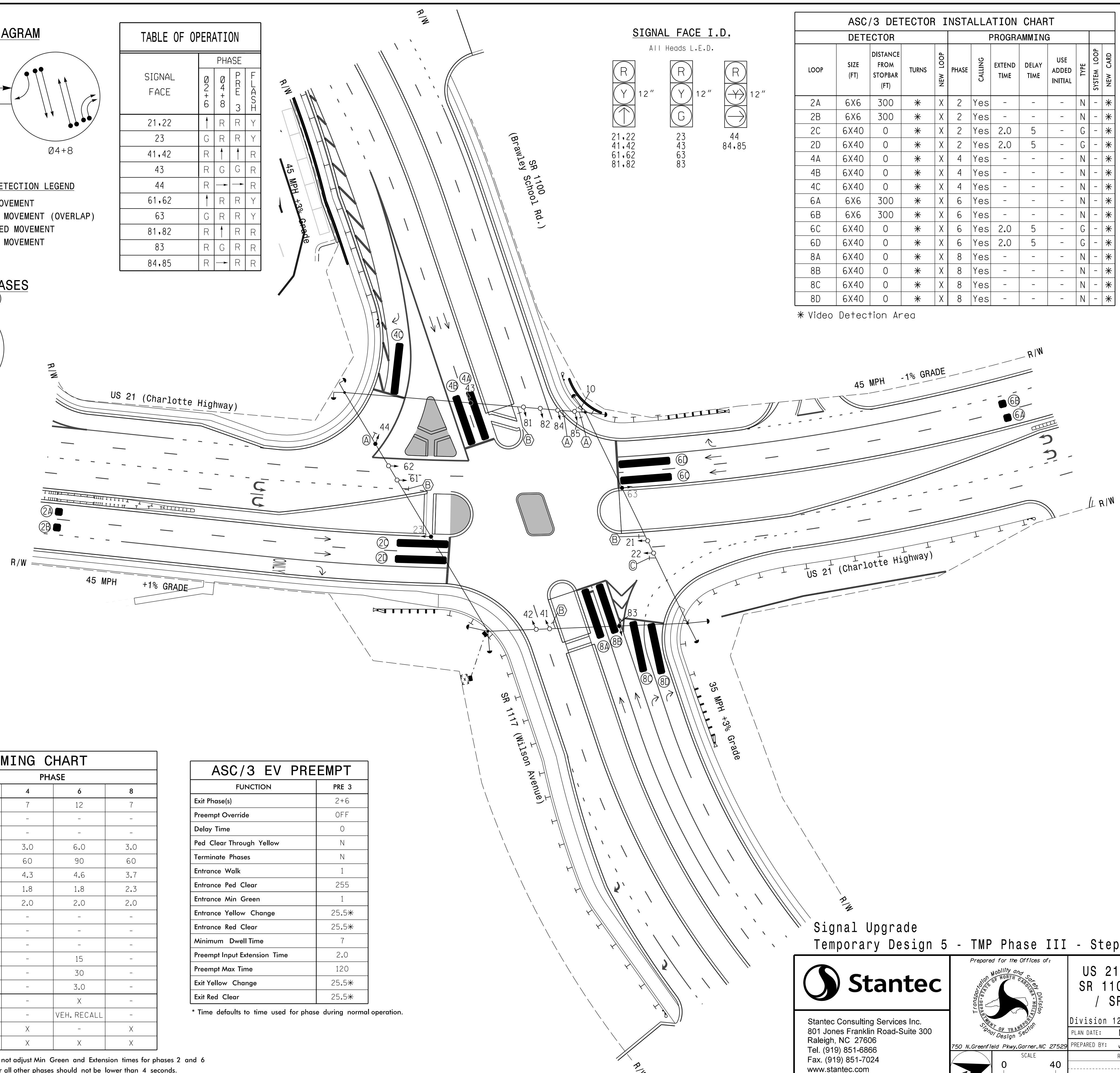
2 Phase Fully Actuated Isolated

NOTES

- Refer to "Roadway Standard Drawings NCDOT" dated January 2018 and "Standard Specifications for Roads and Structures" dated January 2018.
- Do not program signal for late night flashing operation unless otherwise directed by the Engineer.
- Set all detector units to presence mode.
- This intersection features a video detection system. Detectors should be placed to ensure the desired operation parameters are achieved.
- Optical detector 10 calls PRE 3.
- Reposition existing signal head 44.

LEGEND

PROPOSED	EXISTING
○ → Traffic Signal Head	● → N/A
○ → Modified Signal Head	○ → N/A
○ → Pedestrian Signal Head With Push Button & Sign	○ → N/A
○ → Signal Pole with Guy	○ → N/A
○ → Signal Pole with Sidewalk Guy	○ → N/A
□ → Inductive Loop Detector	□ → N/A
□ → Controller & Cabinet	□ → N/A
□ → Junction Box	□ → N/A
--- 2-in Underground Conduit	--- N/A
N/A Right of Way	--- N/A
→ Directional Arrow	→ N/A
▬ Video Detection Area	▬ N/A
▬ Construction Zone	▬ N/A
○ Optical EVP Detector	○ N/A
Ⓜ Oversized Junction Box	Ⓜ N/A
Ⓐ "NO TURN ON RED" Sign (R10-11)	Ⓐ N/A
Ⓑ No Left/U-Turn Sign (R3-18)	Ⓑ N/A
Ⓒ Right Arrow "ONLY" Sign (R3-5R)	Ⓒ N/A



ASC/3 TIMING CHART

FEATURE	PHASE			
	2	4	6	8
Min Green *	12	7	12	7
Walk *	-	-	-	-
Ped Clear	-	-	-	-
Veh. Extension *	6.0	3.0	6.0	3.0
Max 1 *	90	60	90	60
Yellow	4.4	4.3	4.6	3.7
Red Clear	1.9	1.8	1.8	2.3
Red Revert	2.0	2.0	2.0	2.0
Actuations B4 Add *	-	-	-	-
Seconds / Actuation *	-	-	-	-
Max Initial *	-	-	-	-
Time Before Reduction *	15	-	15	-
Time To Reduce *	30	-	30	-
Minimum Gap	3.0	-	3.0	-
Locking Detector	X	-	X	-
Recall Position	VEH, RECALL	-	VEH, RECALL	-
Dual Entry	-	X	-	X
Simultaneous Gap	X	X	X	X

ASC/3 EV PREEMPT

FUNCTION	PRE 3
Exit Phase(s)	2+6
Preempt Override	OFF
Delay Time	0
Ped Clear Through Yellow	N
Terminate Phases	N
Entrance Walk	1
Entrance Ped Clear	255
Entrance Min Green	1
Entrance Yellow Change	25.5*
Entrance Red Clear	25.5*
Minimum Dwell Time	7
Preempt Input Extension Time	2.0
Preempt Max Time	120
Exit Yellow Change	25.5*
Exit Red Clear	25.5*

* Time defaults to time used for phase during normal operation.

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

**Signal Upgrade
Temporary Design 5 - TMP Phase III - Step 2**

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Prepared for the Offices of:
Transportation Mobility and Safety Division
North Carolina Department of Transportation
Signal Design Section
750 N. Greenfield Pkwy, Garner, NC 27526

**US 21 (Charlotte Highway) at
SR 1100 (Brawley School Road)
/ SR 1117 (Wilson Avenue)**
Division 12 Iredell County Mooresville
PLAN DATE: May 2022 REVIEWED BY: E D Harris
PREPARED BY: J. Hambricht REVIEWED BY: R M Muncy

SEAL
NORTH CAROLINA
PROFESSIONAL
ENGINEER
SEAL
042678
DERRICK A. WALLER

DocuSigned by:
Derrick Waller
3/22/2023
DATE
SIG. INVENTORY NO. 12-136915

**DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED**

3/22/2023 10:11:11 AM C:\Users\jhambricht\Documents\Signal Design\Temporary Design\3833C.sig.dwg-12-136915.dwg User: daniel.lbr