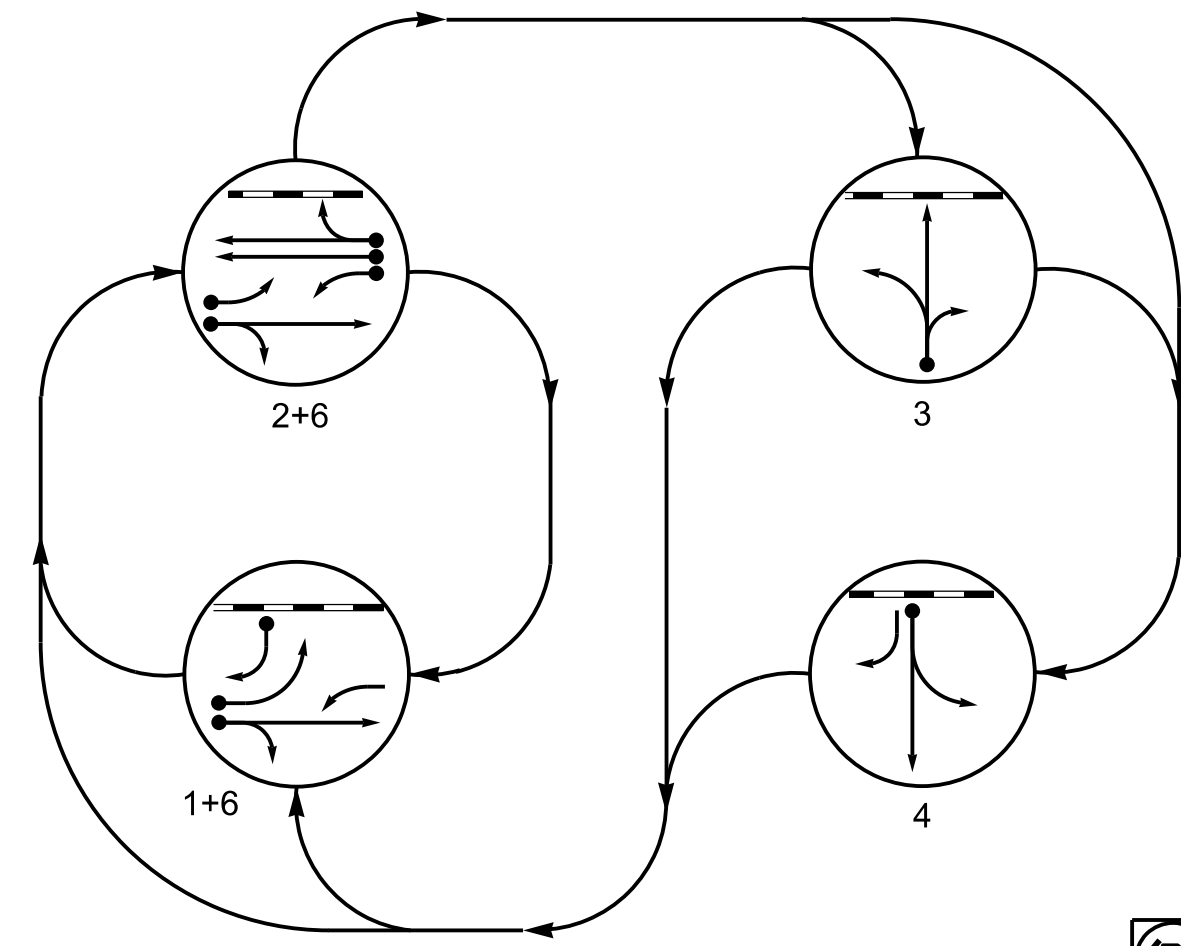


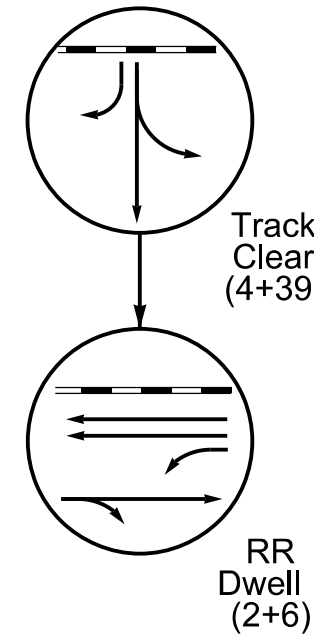
PHASING DIAGRAM



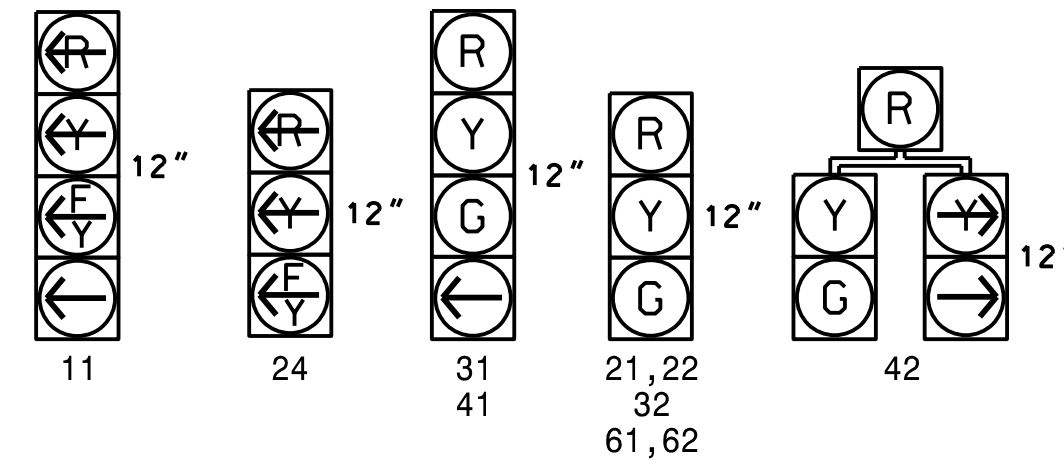
PHASING DIAGRAM DETECTION LEGEND

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

RAIL PREEMPT PHASES
(High Priority)



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



SIGNAL FACE	PHASE									
	1+6	2+6	3	4	TRAIL	FLASHER	FLASH	FLASH	FLASH	FLASH
11	—	—	—	—	—	—	—	—	—	—
21,22	R	G	R	R	R	R	G	R		
24	F	F	—	—	—	—	—	—	—	—
31	R	R	G	R	R	R	R	R		
32	R	R	G	R	R	R	R	R		
41	R	R	R	G	G	R	R			
42	R	R	R	G	G	R	R			
61,62	G	G	R	R	R	G	R			
Sign A	OFF	OFF	OFF	OFF	ON	ON	*			

* See Note 7

MAXTIME DETECTOR INSTALLATION CHART											
DETECTOR						PROGRAMMING					
ZONE	SIZE (FT)	DISTANCE FROM STOPBAR (FT)	TURNS	NEW LOOP	CALL PHASE	DELAY TIME	EXTEND TIME	EXTEND	INITIAL	CALL	NEW CARD
1A*	6X40	0	*	*	1	15.0	-	X	-	X	*
1B*	6X40	0	*	*	1	15.0	-	X	-	X	*
2A*	6X6	200	*	*	2	-	-	X	X	X	*
2B*	6X6	200	*	*	2	-	-	X	X	X	*
2C*	6X40	0	*	*	2	3.0	-	X	-	X	*
3A*	15X6	0	*	*	3	10.0	-	X	-	X	*
4A*	6X40	0	*	*	4	3.0	-	X	-	X	*
6A*	6X6	300	*	*	6	-	-	X	X	X	*

* Video Detection Zone

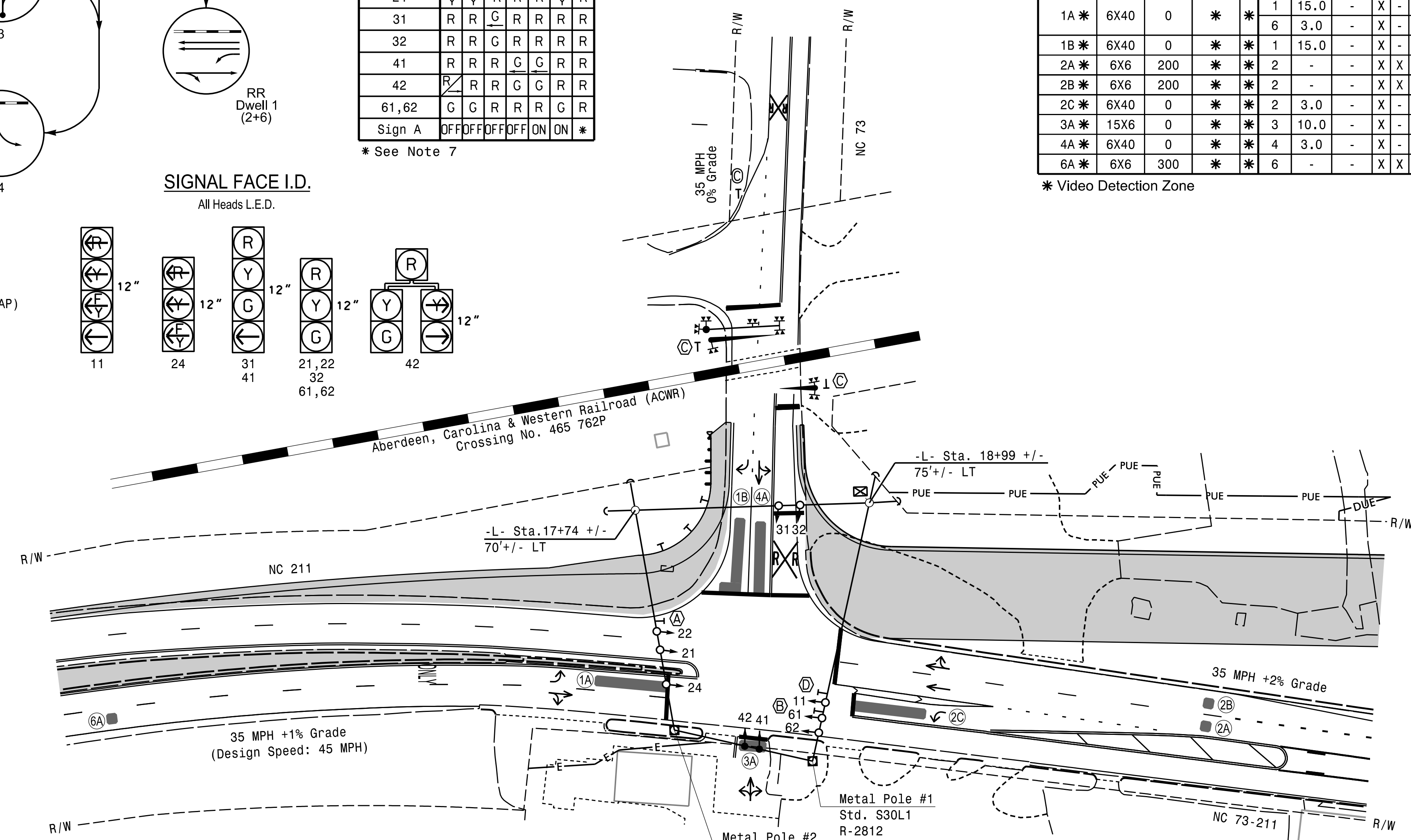
4 Phase Fully Actuated With Railroad Preemption (Isolated)

NOTES

- Refer to "Roadway Standard Drawings NCDOT" dated January 2018 and "Standard Specifications for Roads and Structures" dated January 2018.
- This location contains railroad preemption phasing. Do not program signal for late night phasing operation. Phase 1 may be lagged.
- The order of phase 3 and phase 4 may be reversed.
- Set all detector units to presence mode.
- Locate new cabinet so as not to obstruct sight distance of vehicles turning right on red.
- Ensure flashing operation does not alter operation of blankout signs.
- Program phase 40 to run concurrently with all phases during normal operation. Phase 39 must be incompatible with Phase 40 and included as a track clear phase.
- This intersection uses video detection. Install detectors according to the manufacturer's instructions to achieve the desired detection.

LEGEND

- | | | | |
|--|---|--|---|
| | PROPOSED Traffic Signal Head | | EXISTING Traffic Signal Head |
| | PROPOSED Modified Signal Head | | EXISTING Modified Signal Head |
| | PROPOSED Pedestrian Signal Head With Push Button & Sign | | EXISTING Pedestrian Signal Head |
| | PROPOSED Signal Pole with Guy | | EXISTING Signal Pole with Guy |
| | PROPOSED Signal Pole with Sidewalk Guy | | EXISTING Signal Pole with Sidewalk Guy |
| | PROPOSED Inductive Loop Detector | | EXISTING Inductive Loop Detector |
| | PROPOSED Controller & Cabinet | | EXISTING Controller & Cabinet |
| | PROPOSED Junction Box | | EXISTING Junction Box |
| | PROPOSED 2-in Underground Conduit | | EXISTING 2-in Underground Conduit |
| | PROPOSED Right of Way | | EXISTING Right of Way |
| | PROPOSED Permanent Utility Easement | | EXISTING Permanent Utility Easement |
| | PROPOSED Temporary Construction Easement | | EXISTING Temporary Construction Easement |
| | PROPOSED Permanent Drainage Easement | | EXISTING Permanent Drainage Easement |
| | PROPOSED Temporary Drainage Easement | | EXISTING Temporary Drainage Easement |
| | PROPOSED Permanent Drainage/Utility Easement | | EXISTING Permanent Drainage/Utility Easement |
| | PROPOSED Directional Arrow | | EXISTING Directional Arrow |
| | PROPOSED Railroad Cantilever | | EXISTING Railroad Cantilever |
| | PROPOSED Railroad Gate and Flasher | | EXISTING Railroad Gate and Flasher |
| | PROPOSED Railroad Tracks | | EXISTING Railroad Tracks |
| | PROPOSED Guardrail | | EXISTING Guardrail |
| | PROPOSED Construction Zone | | EXISTING Construction Zone |
| | PROPOSED Non-Intrusive Detection Zone | | EXISTING Non-Intrusive Detection Zone |
| | PROPOSED Metal Strain Pole | | EXISTING Metal Strain Pole |
| | PROPOSED "NO RIGHT TURN - TRAIN" LED Blankout Sign | | EXISTING "NO RIGHT TURN - TRAIN" LED Blankout Sign |
| | PROPOSED Left Arrow "ONLY" Sign (R3-5L) | | EXISTING Left Arrow "ONLY" Sign (R3-5L) |
| | PROPOSED "DO NOT STOP ON TRACKS" Sign (R8-8) | | EXISTING "DO NOT STOP ON TRACKS" Sign (R8-8) |
| | PROPOSED "U-TURN YIELD TO RIGHT TURN" Sign (R10-16) | | EXISTING "U-TURN YIELD TO RIGHT TURN" Sign (R10-16) |



MAXTIME TIMING CHART								
FEATURE	PHASE						39	40
	1	2	3	4	6			
Walk *	-	-	-	-	-	-	-	
Ped Clear *	-	-	-	-	-	-	-	
Min Green *	7	10	7	7	12			
Passage *	2.0	5.0	2.0	2.0	6.0			
Max I *	20	60	15	30	60			
Yellow Change	3.0	4.4	3.8	3.8	4.4	3.8	4.4	
Red Clear	2.4	1.7	1.3	1.6	1.7	1.6	2.4	
Added Initial *	-	1.5	-	-	2.5			
Maximum Initial *	-	24	-	-	34			
Time Before Reduction *	-	15	-	-	15			
Time To Reduce *	-	34	-	-	34			
Minimum Gap	-	3.0	-	-	3.0			
Advance Walk	-	-	-	-	-			
Non Lock Detector	X	-	X	X	-			
Vehicle Recall	-	MIN RECALL	-	-	MIN RECALL		MIN RECALL	
Dual Entry	-	-	-	-	-			

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

MAXTIME PREEMPTION CHART	
FUNCTION	PRE 1
Type	RAIL ROAD
Exit Phases	4
Delay	0
Max Presence	0
Enter Min Green	1
Enter Walk	0
Enter Ped Clear	0
Enter Yellow Change	4.4*
Enter Red Clear	2.4*
Track Green	27
Track Yellow Change	3.8
Track Red Clear	1.6
Dwell Green	0
Exit Min Green	255*
Exit Yellow Change	25.5*
Exit Red Clear	25.5*
Call Extend Time	1.0
Exit Type	EXIT PHASES
Ped Clear Through Yellow	-
Require All Red Entry	-

* Directs controller to use default phase timing.

This signal was designed for advanced preemption

Signal Upgrade
Temporary Design 1 (TMP Phase I)

MOTT MACDONALD
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MOTT MACDONALD I & E, LLC
930 Main Campus Drive
Suite 200
RALEIGH, NC 27606
License No. F-0669

NC 211/NC 73-211
at
NC 73 (South Intersection)

Division 8 Moore County West End

PLAN DATE: June 2024 REVIEWED BY: R. Mullinax

PREPARED BY: LD Stouchko REVIEWED BY:

REVISIONS

NO.	INIT.	DATE

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

SEAL

LOUIE D. STOUCHKO
Professional Engineer
No. 034437
State of North Carolina

Signature: *Lori B. Stouchko*
Date: _____

SIG. INVENTORY NO. 08-1103T1