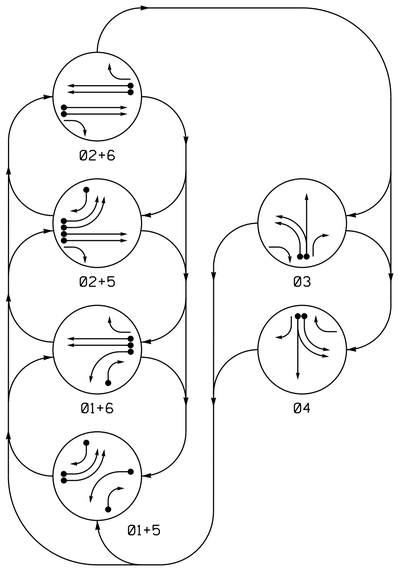
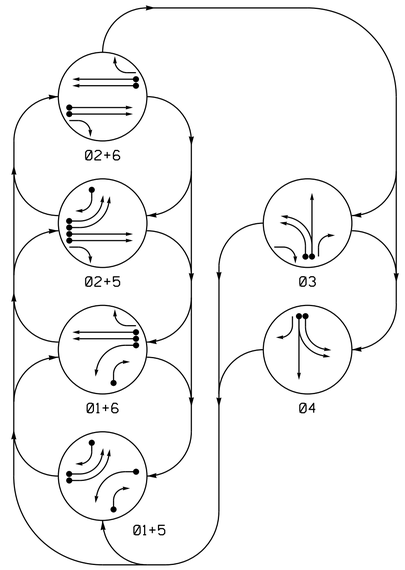
| PROJECT REFERENCE NO. | SHEET NO. |
|---|---|
| U-5826 | Sig 6.0 |

## DEFAULT PHASING DIAGRAM




## ALTERNATE PHASING DIAGRAM




PHASING DIAGRAM DETECTION LEGEND

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

## DEFAULT PHASING TABLE OF OPERATION

| SIGNAL FACE | PHASE 01+5 | 01+6 | 02+5 | 02+6 | 03 | 04 | FLASH |
|---|---|---|---|---|---|---|---|
| 11 | ↚ | ↚ | R̸ | R̸ | R̸ | R̸ | R̸ |
| 21 | R | R | G | G | R | R | Y |
| 22 | R | R | G | G | R/ | R | Y |
| 31 | R̸ | R̸ | R̸ | R̸ | ↚ | R̸ | R̸ |
| 32 | R | R | R | R | G | R | R |
| 33 | R/ | R/ | R | R | G | R | R |
| 41 | R̸ | R̸ | R̸ | R̸ | R̸ | ↚ | R̸ |
| 42 | R | R | R | R | R | G | R |
| 43 | R/ | R | R/ | R | R | G | R |
| 51, 52 | ↚ | R̸ | ↚ | R̸ | R̸ | R̸ | R̸ |
| 61, 62 | R | G | R | G | R | R | Y |
| 63 | R | → | R | → | R | F Y | Y̸ |
| SIGN A | OFF | OFF | OFF | OFF | OFF | OFF | OFF |

## SE-PAC 2070 LOOP & DETECTOR UNIT INSTALLATION CHART

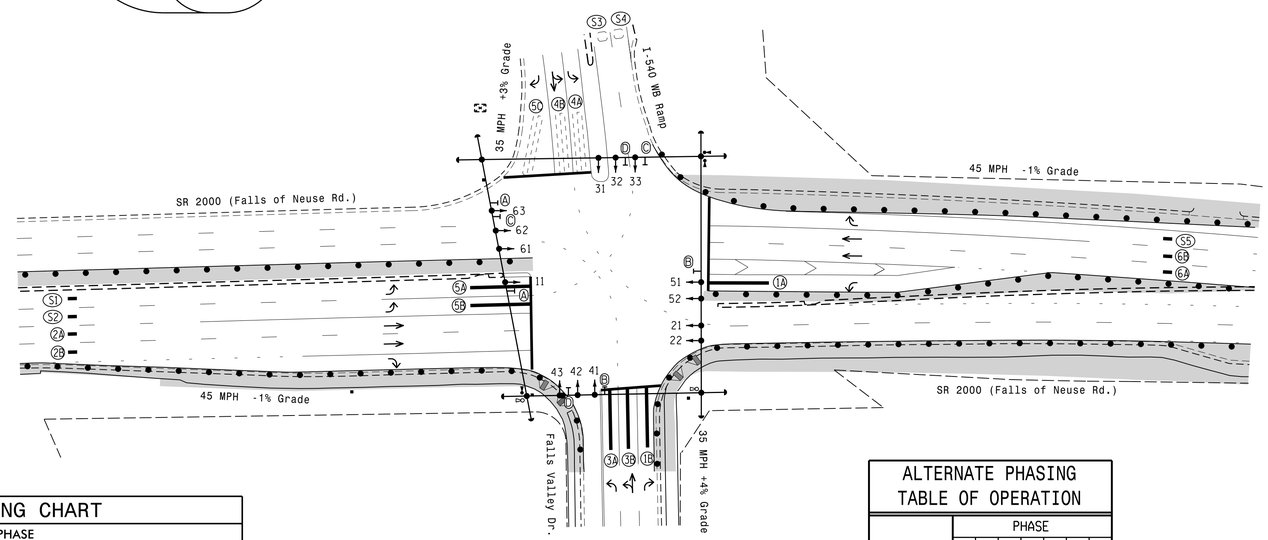
| INDUCTIVE LOOPS | | | | | | DETECTOR PROGRAMMING | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | TIMING | | OPERATION MODE | | | | | | | | | | STATUS | |
| LOOP / ZONE NO. | SIZE (ft) | TURNS | DIST. FROM STOPBAR (ft) | NEW | EXISTING | ASSIGNED PHASE | DELAY | EXTEND (STRETCH) | 0 VEHICLE | 1 PEDESTRIAN | 2 1 CALL | 3 STOP A | 4 STOP B | 5 PROTFER LEFT | 6 PROTFER THROUGH | 7 AND | SWITCH | SYSTEM LOOPS | NEW | EXISTING |
| 1A* | 6X40 | * | 0 | X | - | 1 | - SEC. | - SEC. | X | - | - | - | - | - | - | - | - | - | * | - |
| 1B* | 6X40 | * | 0 | X | - | 1 | 15 SEC. | - SEC. | X | - | - | - | - | - | - | - | - | - | * | - |
| 2A* | 6X6 | * | 300 | X | - | 2 | - SEC. | - SEC. | X | - | - | - | - | - | - | - | - | - | * | - |
| 2B* | 6X6 | * | 300 | X | - | 2 | - SEC. | - SEC. | X | - | - | - | - | - | - | - | - | - | * | - |
| 3A* | 6X40 | * | 0 | X | - | 3 | 3 SEC. | - SEC. | X | - | - | - | - | - | - | - | - | - | * | - |
| 3B* | 6X40 | * | 0 | X | - | 3 | - SEC. | - SEC. | X | - | - | - | - | - | - | - | - | - | * | - |
| 4A | 6X40 | 2-4-2 | 0 | - | X | 4 | - SEC. | - SEC. | X | - | - | - | - | - | - | - | - | - | - | X |
| 4B | 6X40 | 2-4-2 | 0 | - | X | 4 | - SEC. | - SEC. | X | - | - | - | - | - | - | - | - | - | - | X |
| 5A* | 6X40 | * | 0 | X | - | 5 | - SEC. | - SEC. | X | - | - | - | - | - | - | - | - | - | * | - |
| 5B* | 6X40 | * | 0 | X | - | 5 | - SEC. | - SEC. | X | - | - | - | - | - | - | - | - | - | * | - |
| 5C | 6X40 | 2-4-2 | 0 | - | X | 5 | 15 SEC. | - SEC. | X | - | - | - | - | - | - | - | - | - | - | X |
| 6A* | 6X6 | * | 300 | X | - | 6 | - SEC. | - SEC. | X | - | - | - | - | - | - | - | - | - | * | - |
| 6B* | 6X6 | * | 300 | X | - | 6 | - SEC. | - SEC. | X | - | - | - | - | - | - | - | - | - | * | - |
| S1* | 6X6 | * | 300 | - | X | - | - SEC. | - SEC. | X | - | - | - | - | - | - | - | - | X | - | * |
| S2* | 6X6 | * | 300 | - | X | - | - SEC. | - SEC. | X | - | - | - | - | - | - | - | - | X | - | * |
| S3 | 6X6 | 4 | +115# | - | X | - | - SEC. | - SEC. | X | - | - | - | - | - | - | - | - | X | - | X |
| S4 | 6X6 | 4 | +115# | - | X | - | - SEC. | - SEC. | X | - | - | - | - | - | - | - | - | X | - | X |
| S5* | 6X6 | * | 300 | X | - | - | - SEC. | - SEC. | X | - | - | - | - | - | - | - | - | X | * | - |

* Video Detection Zone.
\# Measured from Extended Tangent on End of Ramp

6 Phase
Fully Actuated
(Raleigh Signal System)

## NOTES

1. Refer to "Roadway Standard Drawings NCDOT" dated January 2018 and "Standard Specifications for Roads and Structures" dated January 2018.
2. Do not program signal for late night flashing operation unless otherwise directed by the Engineer.
3. Phase 1 and/or phase 5 may be lagged.
4. The order of phase 3 and phase 4 may be reversed.
5. Reposition existing signal heads numbered 11, 61, and 62.
6. Set all detector units to presence mode.
7. The Division (City) Traffic Engineer will determine the hours of use for each phasing plan.
8. During Alternate Phasing sign A will be on when phase 3, 4, or 5 is Green. It will also stay on when transitioning between these phases. It will not be on at any point in the Default Phasing.
9. Maximum times shown in timing chart are for free-run operation only. Coordinated signal system timing values supersede these values.
10. This intersection features a video detection system. Shown locations of detectors are conceptual only. Refer to the manufacturer's guidelines for optimal detector placement.



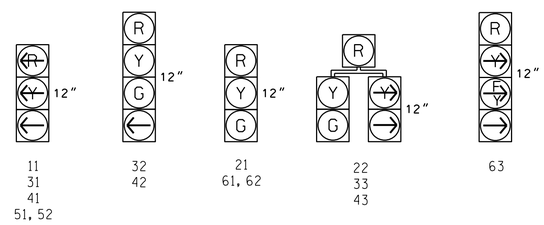

## SE-PAC 2070 TIMING CHART

| FEATURE | PHASE 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|---|
| Min Green * | 7 | 12 | 7 | 7 | 7 | 12 |
| Passage Gap * | 2.0 | 6.0 | 2.0 | 2.0 | 2.0 | 6.0 |
| Maximum Green * | 15 | 75 | 15 | 30 | 25 | 75 |
| Yellow Change | 3.0 | 4.6 | 3.6 | 3.7 | 3.0 | 4.6 |
| Red Clear | 3.2 | 1.3 | 2.9 | 2.9 | 3.1 | 1.9 |
| Walk * | - | - | - | - | - | - |
| Pedestrian Clear | - | - | - | - | - | - |
| Added Initial * | - | 1.5 | - | - | - | 1.5 |
| Maximum Initial * | - | 34 | - | - | - | 34 |
| Time Before Reduction * | - | 20 | - | - | - | 20 |
| Time To Reduce * | - | 40 | - | - | - | 40 |
| Minimum Gap | - | 3.0 | - | - | - | 3.0 |
| Recall Mode | - | MIN RECALL | - | - | - | MIN RECALL |
| Vehicle Call Memory | NON-LOCK | LOCK | NON-LOCK | NON-LOCK | NON-LOCK | LOCK |
| Dual Entry | - | - | - | - | - | - |
| Simultaneous Gap | ON | ON | ON | ON | ON | ON |

* 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 FACE I.D.

All Heads L.E.D.




## ALTERNATE PHASING TABLE OF OPERATION

| SIGNAL FACE | PHASE 01+5 | 01+6 | 02+5 | 02+6 | 03 | 04 | FLASH |
|---|---|---|---|---|---|---|---|
| 11 | ↚ | ↚ | R̸ | R̸ | R̸ | R̸ | R̸ |
| 21 | R | R | G | G | R | R | Y |
| 22 | R | R | G | G | R/ | R | Y |
| 31 | R̸ | R̸ | R̸ | R̸ | ↚ | R̸ | R̸ |
| 32 | R | R | R | R | G | R | R |
| 33 | R/ | R/ | R | R | G | R | R |
| 41 | R̸ | R̸ | R̸ | R̸ | R̸ | ↚ | R̸ |
| 42 | R | R | R | R | R | G | R |
| 43 | R/ | R | R/ | R | R | G | R |
| 51, 52 | ↚ | R̸ | ↚ | R̸ | R̸ | R̸ | R̸ |
| 61, 62 | R | G | R | G | R | R | Y |
| 63 | R | → | R | → | R | R | Y̸ |
| SIGN A | ON | OFF | ON | OFF | ON | ON | OFF |

## SIGNS

| PROPOSED | | EXISTING |
|---|---|---|
| A | "NO TURN ON RED" L.E.D. Blankout Sign | A |
| B | "U-TURN YIELD TO RIGHT TURN" Sign (R10-16) | B |
| C | Right Arrow "ONLY" Sign (R3-5R) | C |
| D | Combined Through and Left Arrow Sign (R3-6L) | D |

## LEGEND

| PROPOSED | | EXISTING |
|---|---|---|
| | Traffic Signal Head | |
| | Modified Signal Head | N/A |
| | Sign | |
| | Pedestrian Signal Head With Push Button & Sign | |
| | Signal Pole with Guy | |
| | Signal Pole with Sidewalk Guy | |
| | Inductive Loop Detector | |
| | Controller & Cabinet | |
| | Junction Box | |
| | 2-in Underground Conduit | |
| N/A | Right of Way | |
| | Directional Arrow | |
| N/A | Curb Ramp | |
| | Construction Zone Drums | |
| | Construction Zone | |
| | Out of Pavement Detector | |
| | Video Detection Zone | |

Signal Upgrade - Temporary Design 2 (TMP Phase II)

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

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

SR 2000 (Falls of Neuse Rd.)
at
I-540 WB Ramps and
Falls Valley Drive

Division 5 Wake County Raleigh

PLAN DATE: February 2022 REVIEWED BY:
PREPARED BY: J.A. Lohr REVIEWED BY:

SCALE 0 50 1"=50'

| REVISIONS | INIT. | DATE |
|---|---|---|
| | | |

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 026486 ENGINEER ROBERT J. ZIEMBA
DocuSigned by: Robert J. Ziemba 02/22/2022
DATE
SIG. INVENTORY NO. 05-2036T2

22-FEB-2022 16:37
kwest, SHOOTO(MPro)StorageNDivProjNDivisionO5NU5826NTrafficNSignalsNDesignNSignalsN05-2036N05203612_sig_dsn_20220222.dgn
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