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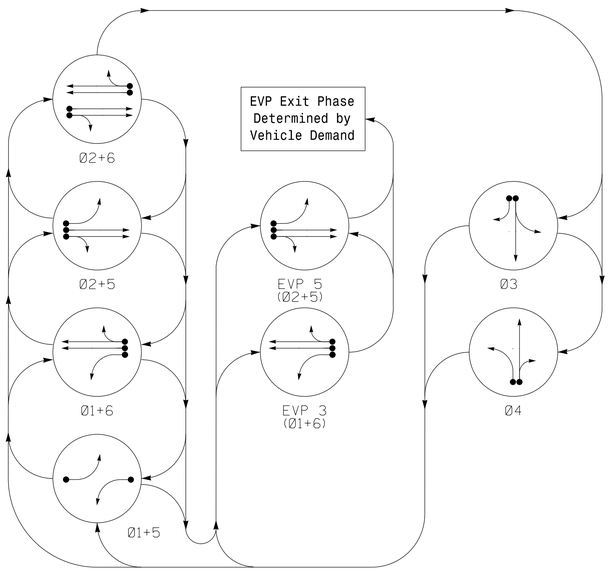
| PROJECT REFERENCE NO. | SHEET NO. |
|---|---|
| U-3330 | Sig. 4.2 |

# 6 Phase W/ EV Preempt
# Fully Actuated
# Rocky Mount Signal System

## PHASING DIAGRAM




PHASING DIAGRAM DETECTION LEGEND

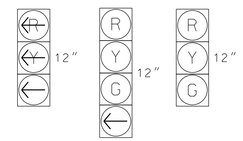
- DETECTED MOVEMENT
- UNDETECTED MOVEMENT (OVERLAP)
- UNSIGNALIZED MOVEMENT
- PEDESTRIAN MOVEMENT

## TABLE OF OPERATION

| SIGNAL FACE | PHASE Ø1+5 | Ø1+6 | Ø2+5 | Ø2+6 | Ø3 | Ø4 | EVP 3 | EVP 5 | FLASH |
|---|---|---|---|---|---|---|---|---|---|
| 11 | ← | ← | ~~R~~ | ~~R~~ | ~~R~~ | ~~R~~ | ← | ~~R~~ | ~~R~~ |
| 21, 22 | R | R | G | G | R | R | R | G | Y |
| 31 | R | R | R | R | G ← | R | R | R | R |
| 32 | R | R | R | R | G | R | R | R | R |
| 41 | R | R | R | R | R | G ← | R | R | R |
| 42 | R | R | R | R | R | G | R | R | R |
| 51 | ← | ~~R~~ | ← | ~~R~~ | ~~R~~ | ~~R~~ | ~~R~~ | ← | ~~R~~ |
| 61, 62 | R | G | R | G | R | R | G | R | Y |

## SIGNAL FACE I.D.

All Heads L.E.D.




11
51

31
41

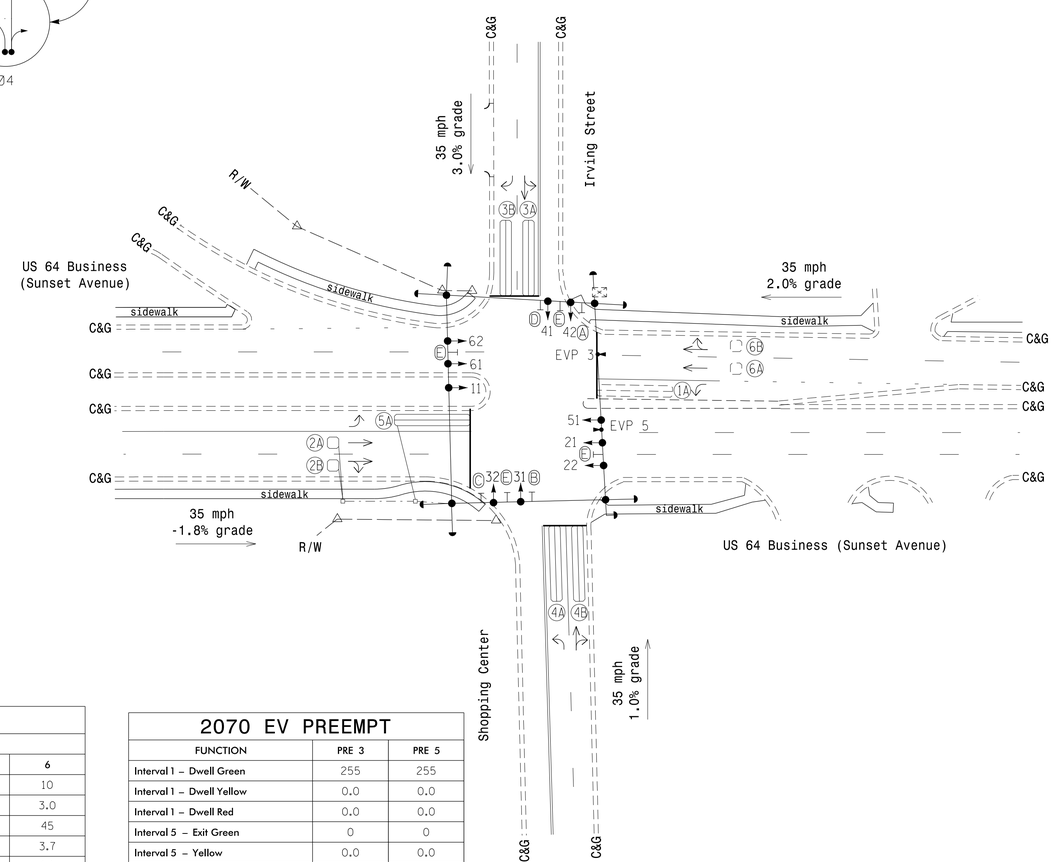
21,22
32
42
61,62

## OASIS 2070 LOOP & DETECTOR INSTALLATION CHART

| INDUCTIVE LOOPS | | | | | DETECTOR PROGRAMMING | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| LOOP | SIZE (FT) | DISTANCE FROM STOPBAR (FT) | TURNS | NEW LOOP | PHASE | CALLING | EXTENSION | FULL TIME DELAY | STRETCH TIME | DELAY TIME | SYSTEM LOOP | NEW CARD |
| 1A | 6x40 | 0 | 2-4-2 | - | 1 | Y | Y | - | - | - | - | - |
| 2A,2B | 6x6 | 70 | 4 | Y | 2 | Y | Y | - | - | - | - | - |
| 3A | 6x40 | +5 | 2-4-2 | Y | 3 | Y | Y | - | - | 3 | - | - |
| 3B | 6x40 | +5 | 2-4-2 | Y | 3 | Y | Y | - | - | 15 | - | - |
| 4A | 6x40 | +5 | 2-4-2 | Y | 4 | Y | Y | - | - | 3 | - | - |
| 4B | 6x40 | +5 | 2-4-2 | Y | 4 | Y | Y | - | - | 10 | - | - |
| 5A | 6x40 | 0 | 2-4-2 | Y | 5 | Y | Y | - | - | - | - | - |
| 6A,6B | 6x6 | 70 | 3 | - | 6 | Y | Y | - | - | - | - | - |

## NOTES

1. Refer to "Roadway Standard Drawings NCDOT" dated January 2012 and "Standard Specifications for Roads and Structures" dated January 2012.
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 61 and 62 as shown.
6. Set all detector units to presence mode.
7. This intersection features an optical preemption system. Shown locations of optical detectors are conceptual only.
8. Maximum times shown in timing chart are for free-run operation only. Coordinated signal system timing values supersede these values.




## LEGEND

| PROPOSED | | EXISTING |
|---|---|---|
| | Traffic Signal Head | |
| | Modified Signal Head | N/A |
| | Sign | |
| | Pedestrian Signal Head With Push Button & Sign | |
| | Signal Pole with Guy | |
| | Signal Pole with Sidewalk Guy | |
| | Inductive Loop Detector | |
| | Controller & Cabinet | |
| | Junction Box | |
| | 2-in Underground Conduit | |
| N/A | Right of Way | |
| | Directional Arrow | |
| | Emergency Vehicle Detector | |
| Ⓐ | Combined Through and Right Arrow Sign (R3-6R) | Ⓐ |
| Ⓑ | Combined Through and Left Arrow Sign (R3-6L) | Ⓑ |
| Ⓒ | Right Arrow "ONLY" Sign (R3-5R) | Ⓒ |
| Ⓓ | Left Arrow "ONLY" Sign (R3-5L) | Ⓓ |
| Ⓔ | Street Name Sign | Ⓔ |

## OASIS 2070 TIMING CHART

| FEATURE | PHASE 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|---|
| Min Green 1 * | 7 | 10 | 7 | 7 | 7 | 10 |
| Extension 1 * | 2.0 | 3.0 | 2.0 | 2.0 | 2.0 | 3.0 |
| Max Green 1 * | 10 | 45 | 25 | 25 | 10 | 45 |
| Yellow Clearance | 3.0 | 4.0 | 3.7 | 3.8 | 3.0 | 3.7 |
| Red Clearance | 2.4 | 1.2 | 2.0 | 2.3 | 2.4 | 1.1 |
| Red Revert | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 |
| Walk 1 * | - | - | - | - | - | - |
| Don't Walk 1 | - | - | - | - | - | - |
| Seconds Per Actuation * | - | - | - | - | - | - |
| Max Variable Initial * | - | - | - | - | - | - |
| Time Before Reduction * | - | - | - | - | - | - |
| Time To Reduce * | - | - | - | - | - | - |
| Minimum Gap | - | - | - | - | - | - |
| Recall Mode | - | MIN RECALL | - | - | - | MIN RECALL |
| Vehicle Call Memory | - | YELLOW | - | - | - | YELLOW |
| 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.

## 2070 EV PREEMPT

| FUNCTION | PRE 3 | PRE 5 |
|---|---|---|
| Interval 1 – Dwell Green | 255 | 255 |
| Interval 1 – Dwell Yellow | 0.0 | 0.0 |
| Interval 1 – Dwell Red | 0.0 | 0.0 |
| Interval 5 – Exit Green | 0 | 0 |
| Interval 5 – Yellow | 0.0 | 0.0 |
| Interval 5 – Red | 0.0 | 0.0 |
| Exit Phase(s) | - | - |
| Priority | MED | MED |
| Delay Time | 0.0 | 0.0 |
| Min Green Before Pre | 1 | 1 |
| Ped Clear Before Pre | 0 | 0 |
| Yellow Clear Before Pre | 0.0 | 0.0 |
| Red Clear Before Pre | 0.0 | 0.0 |
| Dwell Min Time | 10 | 10 |
| Enable Backup Protection | N | N |
| Ped Clear Through Yellow | N | N |
| Omit Overlaps | - | - |
| Preempt Extend** | 5 | 5 |

* Time defaults to time used for phase during normal operation
** Program Timing on Optical Detection Unit

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

Signal Upgrade - Final Design (Area 1 TMP Phase III & Final)

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

ATKINS 1616 EAST MILLBROOK ROAD, SUITE 160 RALEIGH, NORTH CAROLINA 27609 (919) 876-6888 NCBEES #F-0326

US 64 Business (Sunset Avenue) at Irving Street

Division 04 Nash County Rocky Mount

PLAN DATE: November 2016 REVIEWED BY: MB Toth

PREPARED BY: AM Encarnacion REVIEWED BY:

SCALE 0 40 1"=40'

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

SEAL: NORTH CAROLINA PROFESSIONAL SEAL 025892 ENGINEER MELISSA B. TOTH

DocuSigned by: Melissa B. Toth 1/30/2017
SIGNATURE DATE

SIG. INVENTORY NO. 04-0666

30-JAN-2017 17:07
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