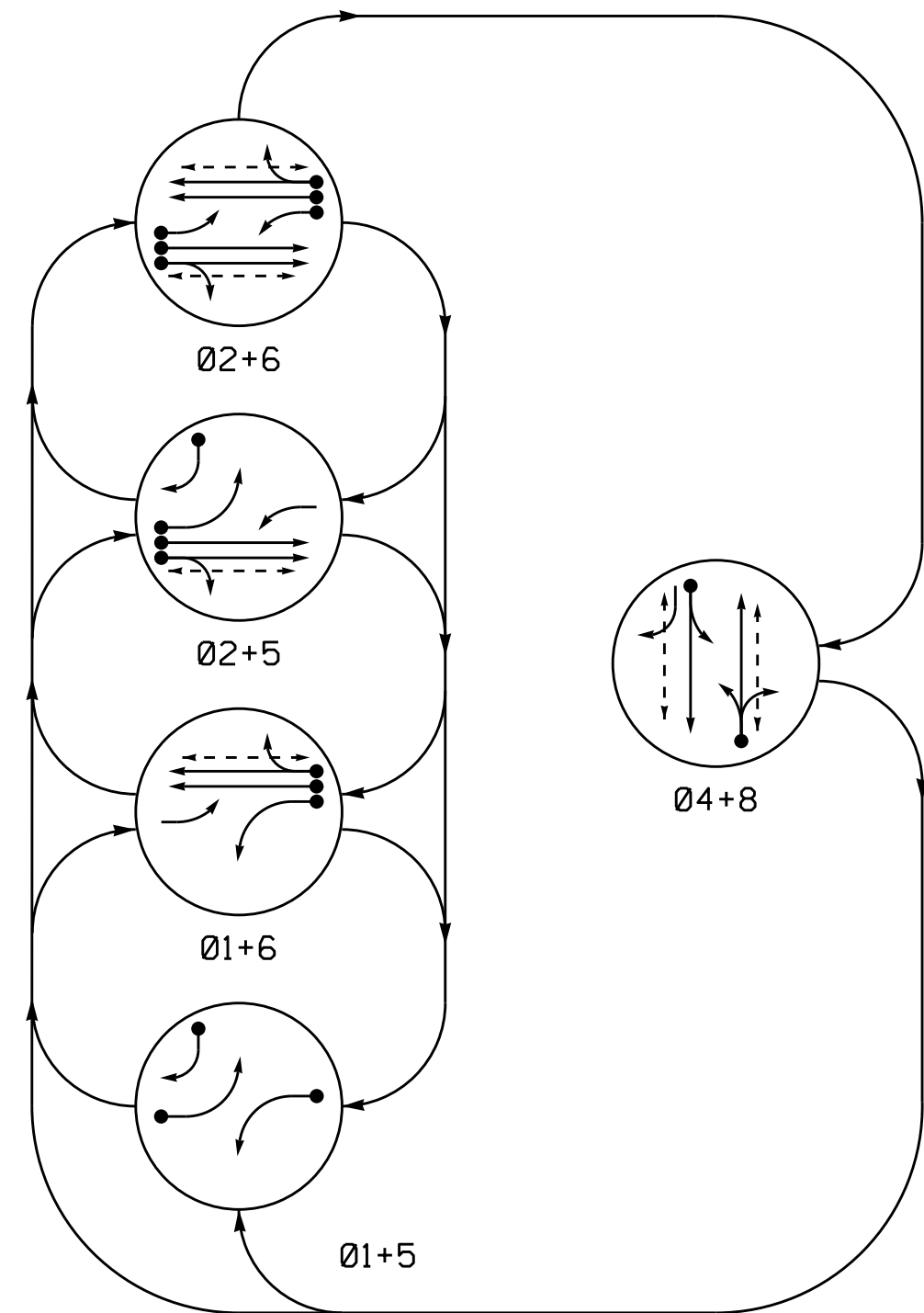


PHASING DIAGRAM

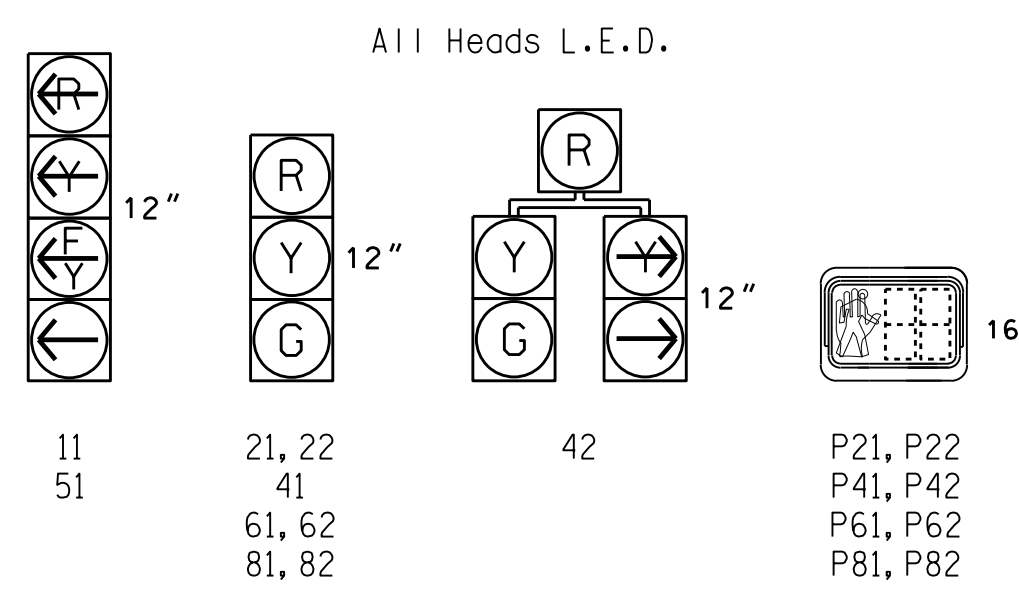


PHASING DIAGRAM DETECTION LEGEND

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

| SIGNAL FACE | PHASE |      |      |      |      |       |
|-------------|-------|------|------|------|------|-------|
|             | 01+5  | 01+6 | 02+5 | 02+6 | 04+8 | LOCAL |
| 11          | ←     | ←    | ←    | ←    | ←    | ←     |
| 21, 22      | R     | R    | G    | G    | R    | Y     |
| 41          | R     | R    | R    | R    | G    | R     |
| 42          | R     | R    | R    | R    | G    | R     |
| 51          | ←     | ←    | ←    | ←    | ←    | ←     |
| 61, 62      | R     | G    | R    | G    | R    | Y     |
| 81, 82      | R     | R    | R    | R    | G    | R     |
| P21, P22    | DW    | DW   | W    | W    | DW   | DRK   |
| P41, P42    | DW    | DW   | DW   | DW   | W    | DRK   |
| P61, P62    | DW    | W    | DW   | W    | DW   | DRK   |
| P81, P82    | DW    | DW   | DW   | DW   | W    | DRK   |

SIGNAL FACE I.D.



| LOOP | SIZE (FT) | INDUCTIVE LOOPS            |       | DETECTOR PROGRAMMING |       |         |           |                 |              |            |             |          |
|------|-----------|----------------------------|-------|----------------------|-------|---------|-----------|-----------------|--------------|------------|-------------|----------|
|      |           | 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         | -               | -            | 15         | -           | Y        |
| 2A   | 6X60      | 0                          | 2-4-2 | -                    | 2     | Y       | Y         | -               | -            | -          | -           | Y        |
| 2B   | 6X60      | 0                          | 2-4-2 | -                    | 2     | Y       | Y         | -               | -            | -          | -           | Y        |
| 4A   | 6X40      | 0                          | 2-4-2 | -                    | 4     | Y       | Y         | -               | -            | 3          | -           | Y        |
| 5A   | 6X40      | 0                          | 2-4-2 | -                    | 2     | Y       | Y         | -               | -            | 15         | -           | Y        |
| 5B   | 6X40      | 0                          | 2-4-2 | -                    | 5     | Y       | Y         | -               | -            | -          | -           | Y        |
| 6A   | 6X60      | 0                          | 2-4-2 | -                    | 6     | Y       | Y         | -               | -            | -          | -           | Y        |
| 6B   | 6X60      | 0                          | 2-4-2 | -                    | 6     | Y       | Y         | -               | -            | -          | -           | Y        |
| 8A   | 6X40      | 0                          | 2-4-2 | -                    | 8     | Y       | Y         | -               | -            | 5          | -           | Y        |
| S1   | 6X6       | EXIST                      | EXIST | -                    | -     | -       | -         | -               | -            | -          | -           | Y        |
| S2   | 6X6       | EXIST                      | EXIST | -                    | -     | -       | -         | -               | -            | -          | -           | Y        |
| S3   | 6X6       | +165                       | EXIST | -                    | -     | -       | -         | -               | -            | -          | -           | Y        |
| S4   | 6X6       | +165                       | EXIST | -                    | -     | -       | -         | -               | -            | -          | -           | Y        |

5 Phase Fully Actuated Asheville Signal System

NOTES

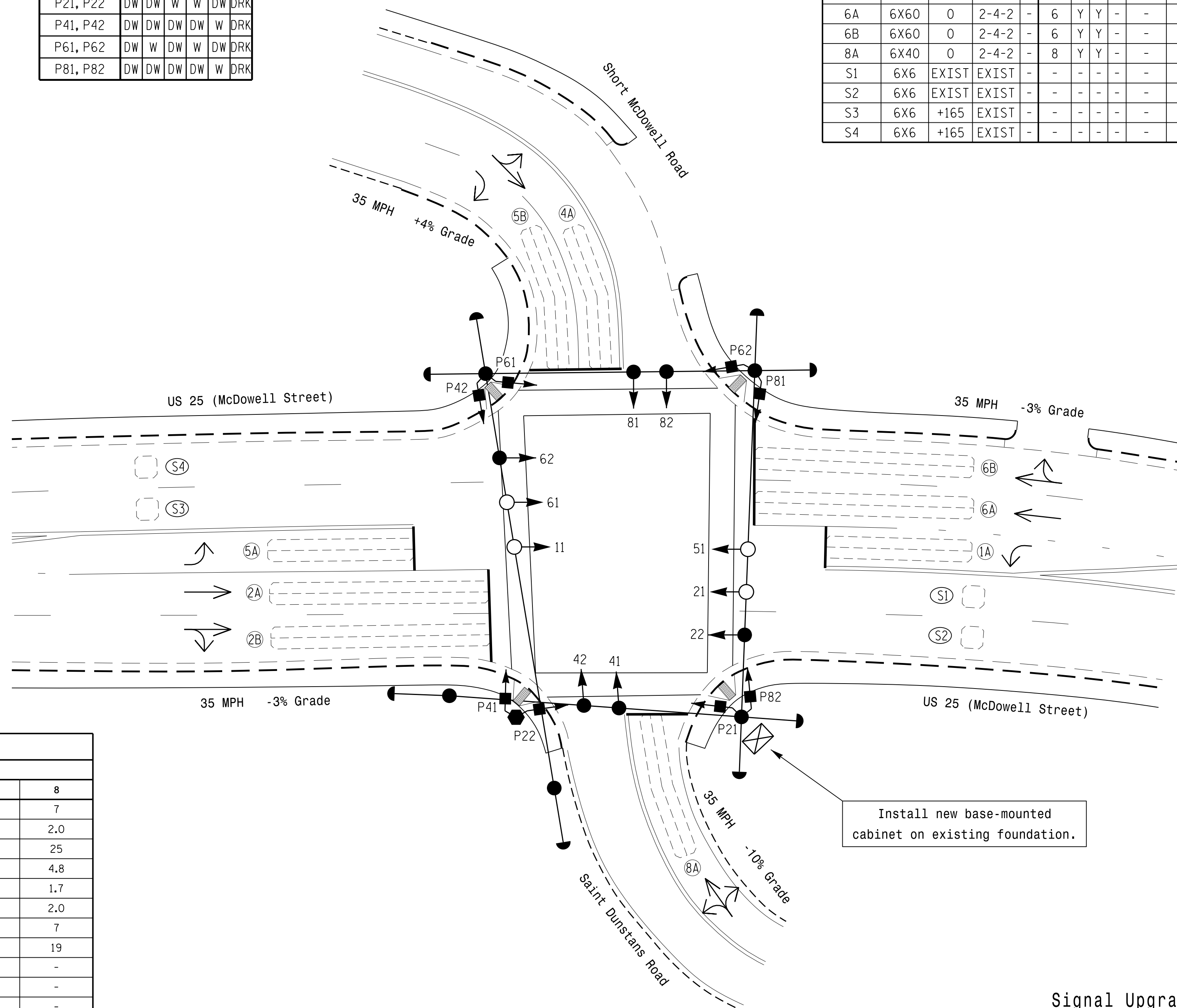
- Refer to "Roadway Standard Drawings NCDOT" dated January 2012 and "Standard Specifications for Roads and Structures" dated January 2012.
- Do not program signal for late night flashing operation unless otherwise directed by the Engineer.
- Phase 1 and/or phase 5 may be lagged.
- Set all detector units to presence mode.
- In the event of loop replacement, refer to the current ITS and Signals Design Manual and submit a Plan of Record to the Signal Design Section.
- Locate new cabinet so as not to obstruct sight distance of vehicles turning right on red.
- Omit "WALK" and flashing "DON'T WALK" with no pedestrian calls.
- Program pedestrian heads to countdown the flashing "Don't Walk" time only.
- Pavement markings are existing.
- Maximum times shown in timing chart are for free-run operation only. Coordinated signal system timing values supersede these values.

LEGEND

- |       |   |       |   |
|-------|---|-------|---|
| ○→    | PROPOSED Traffic Signal Head                            | ●→    | EXISTING Traffic Signal Head                            |
| ●→    | PROPOSED Modified Signal Head                           | N/A   | EXISTING Modified Signal Head                           |
| ⊥     | PROPOSED Pedestrian Signal Head With Push Button & Sign | ⊥     | EXISTING Pedestrian Signal Head With Push Button & Sign |
| ⊥     | 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                       |
| N/A   | PROPOSED Right of Way                                   | - - - | EXISTING Right of Way                                   |
| →     | PROPOSED Directional Arrow                              | →     | EXISTING Directional Arrow                              |
| ○     | PROPOSED Type II Signal Pedestal                        | ●     | EXISTING Type II Signal Pedestal                        |
| N/A   | PROPOSED Curb Ramp                                      | ⊠     | EXISTING Curb Ramp                                      |

| FEATURE                | OASIS 2070 TIMING CHART |            |     |     |            |     |
|------------------------|-------------------------|------------|-----|-----|------------|-----|
|                        | 1                       | 2          | 4   | 5   | 6          | 8   |
| Min Green 1*           | 7                       | 10         | 7   | 7   | 10         | 7   |
| Extension 1*           | 2.0                     | 2.0        | 2.0 | 2.0 | 2.0        | 2.0 |
| Max Green 1*           | 15                      | 45         | 25  | 15  | 45         | 25  |
| Yellow Clearance       | 3.0                     | 4.1        | 4.8 | 3.0 | 4.1        | 4.8 |
| Red Clearance          | 2.4                     | 1.5        | 1.7 | 2.6 | 1.5        | 1.7 |
| Red Revert             | 2.0                     | 2.0        | 2.0 | 2.0 | 2.0        | 2.0 |
| Walk 1*                | -                       | 7          | 7   | -   | 7          | 7   |
| Don't Walk 1           | -                       | 12         | 20  | -   | 16         | 19  |
| 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             | -                       | -          | ON  | -   | -          | ON  |
| 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 Upgrade

|  |  |                         |  |                   |  |
|--|--|-------------------------|--|-------------------|--|
|  | Prepared In the Offices of:<br>TRANSPORTATION MOBILITY AND SAFETY DIVISION<br>NORTH CAROLINA DEPARTMENT OF TRANSPORTATION<br>Signal Design Section<br>750 N. Greenfield Pkwy, Garner, NC 27529 |                         | US 25 (McDowell Street)<br>at<br>Short McDowell Street/<br>Saint Dunstons Road |                   | DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED<br>SEAL<br>RICHARD N. ZINSER<br>PROFESSIONAL ENGINEER<br>LICENSE NO. 043914<br>DATE: 8/10/2016 |
|  | Division 13 Buncombe County Asheville<br>PLAN DATE: November 2015 REVIEWED BY: Z.M. Little<br>PREPARED BY: R.N. Zinser REVIEWED BY:  | REVISIONS<br>INIT. DATE | SCALE<br>0 20<br>1"=20'  | DATE<br>8/10/2016 |  |

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