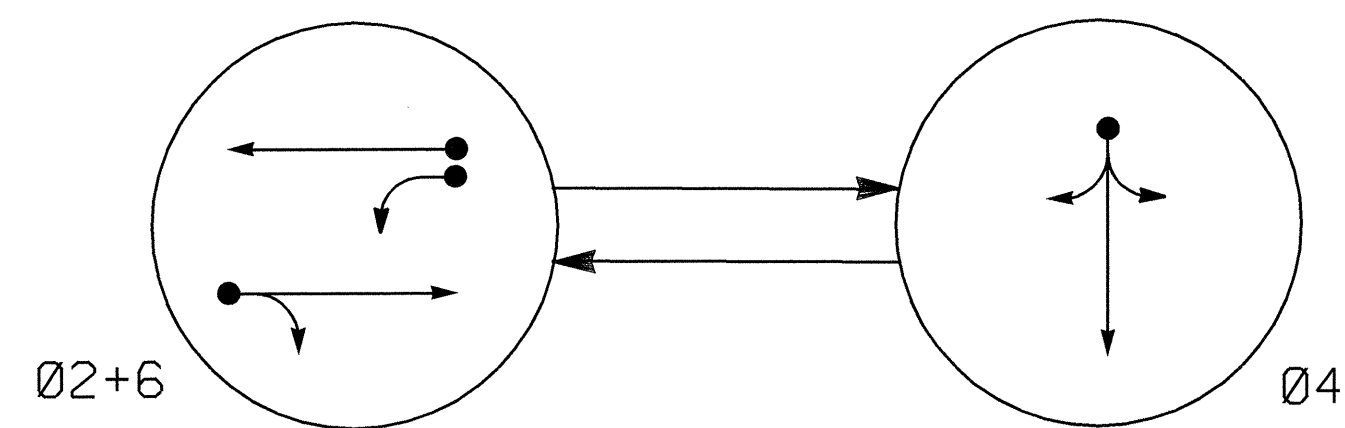


PHASING DIAGRAM

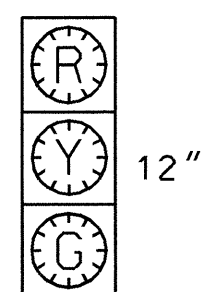


PHASING DIAGRAM DETECTION LEGEND

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

SIGNAL FACE I.D.

Denotes L.E.D.



21,22
41,42
61,62

| SIGNAL FACE | PHASE | | |
|-------------|-------|----|----|
| | Ø2+6 | Ø4 | Ø6 |
| 21, 22 | G | R | Y |
| 41, 42 | R | G | R |
| 61, 62 | G | R | Y |

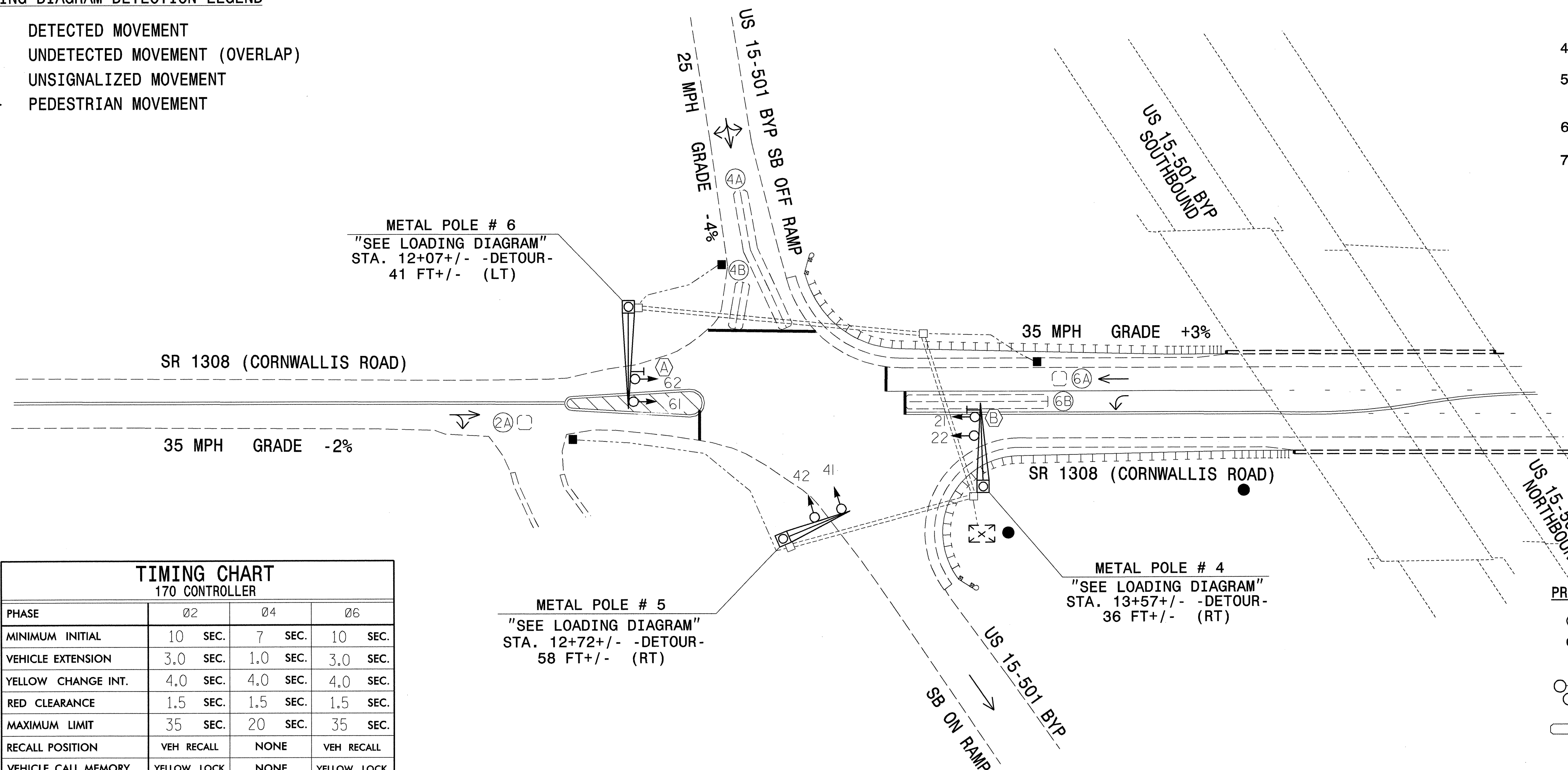
DETECTOR ZONE AND CONTROLLER INSTALLATION CHART

| ZONE NO. | SIZE (FT) | DIST. FROM STOPBAR (FT) | NEW EXISTING | NEMA PHASE | TIMING | | CONTROLLER PROGRAMMING | | | | | | | | STATUS | | |
|----------|-----------|-------------------------|--------------|------------|---------|-----------------|------------------------|----------|------|----------|-------|-----------|--------|---------|--------|----------|-----------|
| | | | | | DELAY | CARRY (STRETCH) | ATTRIBUTES | | | | | | | | NEW | EXISTING | |
| | | | | | | | FULL TIME | PRESENCE | CALL | RESERVED | COUNT | EXTENSION | TYPE 3 | CALLING | | | ALTERNATE |
| 2A | 6X6 | 70 | X | Ø2 | — SEC. | — SEC. | | | | | X | X | | | | | X |
| 4A | 6X6 | 0 | X | Ø4 | 5 SEC. | — SEC. | | | | X | X | | | | | | X |
| 4B | 6X20 | 0 | X | Ø4 | 10 SEC. | — SEC. | | | | X | X | | | | | | X |
| 6A | 6X6 | 70 | X | Ø6 | — SEC. | — SEC. | | | | X | X | | | | | | X |
| 6B | 6X6 | 0 | X | Ø6 | — SEC. | — SEC. | | | | X | X | | | | | | X |

2 Phase Fully Actuated (Durham Signal System)

NOTES

1. REFER TO "ROADWAY STANDARD DRAWINGS NCDOT", DATED JANUARY 2002 AND "STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES" DATED JANUARY 2002.
2. PAVEMENT MARKINGS ARE EXISTING.
3. MAXIMUM TIMES SHOWN IN TIMING CHART ARE FOR FREE-RUN OPERATIONS ONLY. COORDINATED SIGNAL SYSTEM TIMING VALUES SHALL SUPERSEDE THESE VALUES.
4. SET ALL DETECTOR UNITS TO PRESENCE MODE.
5. DO NOT PROGRAM SIGNAL FOR LATE NIGHT FLASHING OPERATION UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
6. PROGRAM ALL TIMING INFORMATION INTO PHASE BANKS 1, 2, AND 3 UNLESS OTHERWISE NOTED.
7. SET PHASE BANK 3 MAXIMUM LIMIT TO 250 SECONDS FOR PHASES USED.



| PLAN QUANTITIES | |
|-----------------|------|
| Pay Item | Feet |
| Signal Cable | 570 |
| Messenger Cable | — |
| Lead-in Cable | 605 |

| TIMING CHART | | | |
|----------------------|-------------|----------|-------------|
| 170 CONTROLLER | | | |
| PHASE | Ø2 | Ø4 | Ø6 |
| MINIMUM INITIAL | 10 SEC. | 7 SEC. | 10 SEC. |
| VEHICLE EXTENSION | 3.0 SEC. | 1.0 SEC. | 3.0 SEC. |
| YELLOW CHANGE INT. | 4.0 SEC. | 4.0 SEC. | 4.0 SEC. |
| RED CLEARANCE | 1.5 SEC. | 1.5 SEC. | 1.5 SEC. |
| MAXIMUM LIMIT | 35 SEC. | 20 SEC. | 35 SEC. |
| RECALL POSITION | VEH RECALL | NONE | VEH RECALL |
| VEHICLE CALL MEMORY | YELLOW LOCK | NONE | YELLOW LOCK |
| DOUBLE ENTRY | OFF | OFF | OFF |
| WALK | — SEC. | — SEC. | — SEC. |
| FLASHING DON'T WALK | — SEC. | — SEC. | — SEC. |
| TYPE 3 LIMIT | — SEC. | — SEC. | — SEC. |
| ALTERNATE EXTENSION | — SEC. | — SEC. | — SEC. |
| ADD PER VEHICLE | — SEC. | — SEC. | — SEC. |
| MAXIMUM INITIAL | — SEC. | — SEC. | — SEC. |
| MAXIMUM GAP | 3.0 SEC. | 1.0 SEC. | 3.0 SEC. |
| REDUCE 0.1 SEC EVERY | — SEC. | — SEC. | — SEC. |
| MINIMUM GAP | 3.0 SEC. | 1.0 SEC. | 3.0 SEC. |

- LEGEND
- | | | | |
|-----|--|-----|--|
| ○→ | PROPOSED Traffic Signal Head | ●→ | EXISTING Traffic Signal Head |
| ●→ | PROPOSED Modified Signal Head | N/A | EXISTING Modified Signal Head |
| + | PROPOSED Sign | + | EXISTING 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" Underground Conduit | --- | EXISTING 2" Underground Conduit |
| → | PROPOSED Directional Arrow | → | EXISTING Directional Arrow |
| ○ | PROPOSED Directional Drill | ○ | EXISTING Directional Drill |
| ○ | PROPOSED 2-50 mm Polyethylene Conduit | ○ | EXISTING 2-50 mm Polyethylene Conduit |
| ○ | PROPOSED Metal Pole with Mastarm | ○ | EXISTING Metal Pole with Mastarm |
| Ⓐ | PROPOSED No Right Turn Sign (R3-1) | Ⓐ | EXISTING No Right Turn Sign (R3-1) |
| Ⓑ | PROPOSED No Left Turn Sign (R3-2) | Ⓑ | EXISTING No Left Turn Sign (R3-2) |

FINAL

| | | | | |
|--|---|--|--|-------------|
| <p>PLANS PREPARED BY : RUMMEL KLEPPER & KAHL, LLP consulting engineers 5800 FARINGDON PLACE SUITE 105 RALEIGH, NORTH CAROLINA 27609-3960</p> <p>FOR DIVISION OF HIGHWAYS</p> | <p>Prepared for the Offices of:</p> <p>122 N. McDowell St., Raleigh, NC 27603</p> | <p>US 15-501 BYP SB RAMPS AT SR 1308 (CORNWALLIS ROAD)</p> | | <p>SEAL</p> |
| | | <p>DIVISION 05 DURHAM COUNTY DURHAM NC</p> <p>PLAN DATE: 08-15-04 REVIEWED BY: D.W. MORTON</p> <p>PREPARED BY: C.B. HOLDEN RK&K PROJECT NO. 302-079-SIG6</p> | | |