BORDER REV: DATE: June 1, 2004

## PROJECT DESCRIPTION

I. GENERAL

This project involves the modification of an existing Traffic Control Signal with street lighting at the intersection of MD 201 (Kenilworth Ave) and Riverdale Road in Prince George's County. All pedestrian phases shall be upgraded to Countdown pedestrian phases with audible pushbuttons. MD 201 (Kenilworth Ave) is assumed to run a north-south direction.

II. INTERSECTION OPERATION

1. The intersection shall continue to operate in a NEMA six-phase, semi-actuated mode, with the MD 201 (Kenilworth Ave) approaches running concurrently. Exclusive/Permissive left turn phases shall continue to be provided for both approaches of MD 201 (Kenilworth Ave). The pedestrian phases with pushbutton actuation across both legs of MD 201 (Kenilworth Ave) shall now be Countdown pedestrian phases with audible pushbutton actuation. The pedestrian phases across both legs of Riverdale Road shall now be Countdown pedestrian phases with audible pushbuttons on recall. The Riverdale Road approaches shall also continue run as a side street split phase.

2. The exsiting full-traffic-actuated, eight-phase controller with all necessary equipment housed in a NEMA size "6" base-mounted cabinet shall be utilized at this intersection.

3. SHA signal shop shall install APS control unit into controller cabinet. The Contractor shall deliver the Control Unit and audible pushbuttons to the SHA Signal Shop for testing and programming.

III. SPECIAL NOTES

1. The Contractor shall be responsible for terminating all signal cables, to the appropriate terminals and shall properly label each cable.

2. All controller cabinet wiring will be performed by the S.H.A. Signal Shop Contact Mr. Ed Rodenhizer at (410) 787-7652 seventy-two hours in advance of intended work.

3. All underground and overhead utilities shown on these plans are schematic only and may not be complete. The Contractor shall be responsible for notifying Miss Utility prior to construction so that all utilities may be located in the field. If the Contractor perceives that a conflict between the utilities and the traffic signal will occur, the Contractor shall notify the Project Engineer immediately so that the conflict may be resolved.

4. APS will function as follows:

TO CROSS KENILWORTH AVENUE (NORTH LEG)

a When pedestrian locates and presses the pushbutton for an extended time, the pushbutton unit will announce the following message " Wait to cross Kenilworth at Riverdale."

b. When the WALK phase begins, the pushbutton unit will provide a rapid tick which will last for the duration of the WALK phase.

TO CROSS KENILWORTH AVENUE (SOUTH LEG)

a When pedestrian locates and presses the pushbutton for an extended time, the pushbutton unit will announce the following message " Wait to cross Kenilworth at Riverdale. Crosswalk angles right."

b. When the WALK phase begins, the pushbutton unit will provide a rapid tick which will last for the duration of the WALK phase.

TO CROSS RIVERDALE ROAD

a When pedestrian locates and presses the pushbutton for an extended time, the pushbutton unit will announce the following message " Wait to cross Riverdale at Kenilworth."

b. When the WALK phase begins, the pushbutton unit will provide a rapid tick which will last for the duration of the WALK phase.

The contact persons for District #3 and SHA (Prince George's County) are as follows:

Mr. Brian Young
Assistant District Engineer - Traffic
Phone: (301) 513-7409

Mr. Richard L. Daff, Sr.
Chief, Traffic Operations Division
Phone: (410) 787-7630

Mr. Vernon Stinnett
Assistant District Engineer - Maintenance
Phone: (301) 513-7304

Mr. Ed Rodenhizer
Manager, Signal Operations Section
410-787-7652

Mr. Augie Rebish
Assistant District Engineer - Utility
Phone: (301) 513-7350

Sonny Bailey
Manager, Sign Shop Operations
410-787-7676

## EQUIPMENT LIST

A. EQUIPMENT TO BE SUPPLIED BY S.H.A..

| ITEM NO. | DESCRIPTION | QUANTITY |
|---|---|---|
| 9570 | Sheet aluminum signs to consist of: (ground mount) | 110 SF |
| | R4-7 "KEEP RIGHT (symbolic)" sign, (24" x 30") | 1 EA |
| | Pedestrian education R10-3(1) sign (9"x15"). (Note: Sign to read "PUSHBUTTON TO CROSS KENILWORTH AVENUE") | 4 EA |
| | Pedestrian education R10-3(1) sign (9"x15"). (Note: Sign to read "PUSHBUTTON TO CROSS RIVERDALE AVENUE") | 4 EA |
| | M1-5(6) GUIDE SHIELD ASSEMBLY (48"x72") SOUTH / MD 355 / LEFT ARROW | 1 EA |
| | R1-2 "YIELD" sign, (36" x 36" x 36") | 1 EA |

## EQUIPMENT LIST

A. EQUIPMENT TO BE SUPPLIED BY S.H.A..

| ITEM NO. | DESCRIPTION | QUANTITY |
|---|---|---|
| | W11-2 "PEDESTRIAN CROSSING (SYMBOLIC)" sign, (30" x 30") (FL/Y) | 8 EA |
| | W16-7P(R) "arrow (symbolic)" diagonal sign, (15" x 21") | 4 EA |
| | W16-9P "AHEAD" sign, (24" x 12") | 4 EA |
| 9571 | Sheet aluminum signs to consist of: (mast arm or pole) | 19 SF |
| | R3-5L "LEFT TURN ONLY" sign, (30" x 36"), mast arm mt | 1 EA |
| | M6-2 "Arrow (Symbolic Diagnal)" sign, (15"x21") pole mt | 2 EA |
| | I-7(3) "MARC" sign (24"x18") pole mounted | 1 EA |
| | M6-1 "arrow (Symbolic)" sign (15" x 21") pole mounted. | 1 EA |
| | 1-7 "Train Station (Symbolic) sign (18" x 18") pole mounted. | 1 EA |

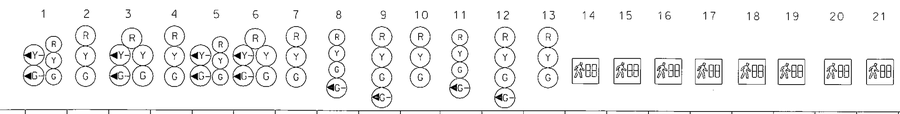
B. EQUIPMENT TO BE FURNISHED AND INSTALLED BY THE CONTRACTOR

| ITEM NO. | DESCRIPTION | QUANTITY |
|---|---|---|
| 1001 | Maintenance of traffic per assignment. | 2 EA |
| 2001 | Class 2 Excavation. | 7 C.Y. |
| 2002 | Test Pit Excavation | 7 C.Y. |
| 5001 | Removal of existing permanent pavement line markings any width | 800 L.F. |
| 5003 | 5" heat applied white permanent preformed thermoplastic pavement marking. | 30 L.F. |
| 5005 | 12" white preformed thermoplastic pavement marking lines | 730 L.F. |
| 5006 | 24" white preformed thermoplastic pavement marking lines. | 130 L.F. |
| 6001 | Standard Type A Combination Curb and Gutter 12 inch Gutter Pan 8 Inch | 420 L.F. |
| 6002 | 5 inch concrete sidewalk | 1765 SF |
| 8002 | 2 wire Central Control unit | 1 EA |
| 8006 | Adjust existing handhole to grade. | 2 EA |
| 8007 | Audible/tactile pedestrian pushbutton station & signs. | 8 EA |
| 8008 | Breakaway pedestal pole (10') | 7 EA |
| 8010 | LED 16" countdown pedestrian signal head. | 8 EA |
| 8013 | Remove and dispose of equipment (per assignment) | 1 EA |
| 8016 | Schedule 80 rigid PVC conduit up to 4" - bored. | 75 L.F. |
| 8018 | Schedule 80 rigid PVC conduit up to 4" - trenched. | 60 L.F. |
| 8019 | Detectable Warning Surfaces | 206 SF |
| 8023 | Electrical cable - 2 conductor (No. 14 AWG). | 1190 L.F. |
| 8025 | Electrical cable - 5 conductor (No. 14 AWG). | 1300 L.F. |
| 8031 | Wood sign supports up to 4"x6". | 128 L.F. |
| 8033 | No. 6 AWG stranded bare copper ground wire. | 70 L.F. |
| 8034 | Install overhead or ground mounted sign. | 129 S.F. |

C. EQUIPMENT TO BE REMOVED

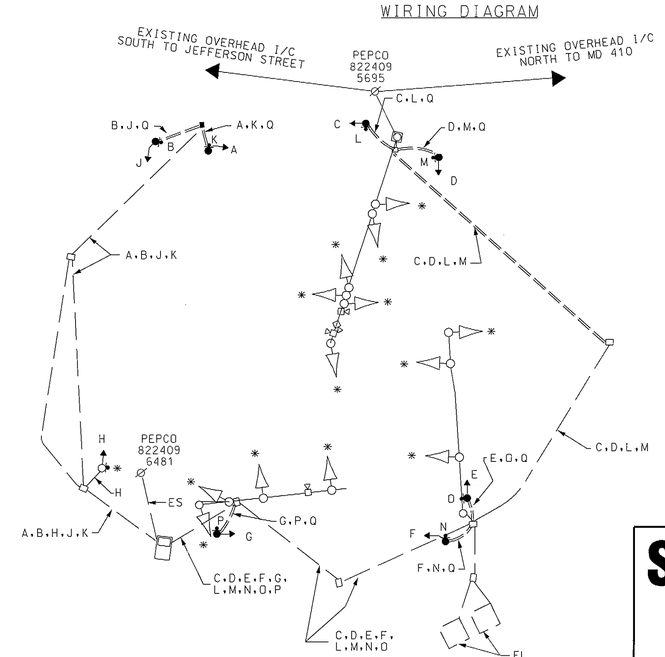
All removed signal materials are to become property of the contractor.

## PHASE CHART



| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PHASE 1 & 5 | ◄G-/R | R | ◄G-/R | R | ◄G-/R | ◄G-/R | R | R | R | R | R | R | R | DW | DW | DW | DW | DW | DW | DW | DW |
| CHANGES TO PHASES 1 & 6, 2 & 5 OR 2 & 6 | | | | | | | | | | | | | | | | | | | | | |
| PHASE 1 & 6 | ◄G-/G | G | ◄G-/G | G | R | R | R | R | R | R | R | R | R | DW | WK | WK | DW | DW | DW | DW | DW |
| 1 & 6 CHANGE | ◄Y-/G | G | ◄Y-/G | G | R | R | R | R | R | R | R | R | R | DW | WK | WK | DW | DW | DW | DW | DW |
| PHASE 2 & 5 | R | R | R | R | ◄G-/G | ◄G-/G | G | R | R | R | R | R | R | WK | DW | DW | WK | DW | DW | DW | DW |
| 2 & 5 CHANGE | R | R | R | R | ◄Y-/G | ◄Y-/G | G | R | R | R | R | R | R | WK | DW | DW | WK | DW | DW | DW | DW |
| PHASE 2 & 6 | G | G | G | G | G | G | G | R | R | R | R | R | R | WK | WK | WK | WK | DW | DW | DW | DW |
| PED CLEAR / COUNTDOWN | G | G | G | G | G | G | G | R | R | R | R | R | R | FL/DW | FL/DW | FL/DW | FL/DW | DW | DW | DW | DW |
| 2 & 6 CHANGE | Y | Y | Y | Y | Y | Y | Y | R | R | R | R | R | R | DW | DW | DW | DW | DW | DW | DW | DW |
| PHASE 3 | R | R | R | R | R | R | R | R | R | R | G/◄G- | G/◄G- | G | DW | DW | DW | DW | DW | DW | DW | DW |
| 3 CHANGE | R | R | R | R | R | R | R | R | R | R | Y | Y | Y | DW | DW | DW | DW | DW | DW | DW | DW |
| PHASE 4 | R | R | R | R | R | R | R | G/◄G- | G/◄G- | G | R | R | R | DW | DW | DW | DW | DW | DW | DW | DW |
| 4 CHANGE | R | R | R | R | R | R | R | Y | Y | Y | R | R | R | DW | DW | DW | DW | DW | DW | DW | DW |
| PHASE 3 ALT | R | R | R | R | R | R | R | R | R | R | G/◄G- | G/◄G- | G | DW | DW | DW | DW | WK | DW | DW | WK |
| PED CLEAR / COUNTDOWN | R | R | R | R | R | R | R | R | R | R | G/◄G- | G/◄G- | G | DW | DW | DW | DW | FL/DW | DW | DW | FL/DW |
| 3 ALT CHANGE | R | R | R | R | R | R | R | R | R | R | Y | Y | Y | DW | DW | DW | DW | DW | DW | DW | DW |
| PHASE 4 ALT | R | R | R | R | R | R | R | G/◄G- | G/◄G- | G | R | R | R | DW | DW | DW | DW | DW | WK | WK | DW |
| PED CLEAR / COUNTDOWN | R | R | R | R | R | R | R | G/◄G- | G/◄G- | G | R | R | R | DW | DW | DW | DW | DW | FL/DW | FL/DW | DW |
| 4 ALT CHANGE | R | R | R | R | R | R | R | Y | Y | Y | R | R | R | DW | DW | DW | DW | DW | DW | DW | DW |
| FLASHING OPERATION | FL/Y | FL/Y | FL/Y | FL/Y | FL/Y | FL/Y | FL/Y | FL/R | FL/R | FL/R | FL/R | FL/R | FL/R | DARK | DARK | DARK | DARK | DARK | DARK | DARK | DARK |

## WIRING DIAGRAM




WIRING KEY

A, B, C, D, E, F, G, H } 5-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G )

J, K, L, M, N, O, P } 2-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G )

Q - STRANDED BARE COPPER GROUND WIRE (NO. 6 A.W.G.)

* - USE EXISTING CABLE

EL - LOOP WIRE (NO. 14 A.W.G.) EXISTING

ES - EXISTING UNDERGROUND SERVICE TO BE MAINTAINED BY PEPCO

STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION

# MD 201 (KENILWORTH AVE) AND RIVERDALE ROAD

RIVERDALE, MARYLAND

## GENERAL INFORMATION SHEET

SCALE NONE DATE 1/15/10 CONTRACT NO. SHA XX4275185

DESIGNED BY J.W.A
DRAWN BY R.C.
CHECKED BY
F.A.P. NO.

COUNTY PRINCE GEORGE'S
LOGMILE 16020103.80
TIMS NO. J936
TOD NO.

TS NO. 708 D | DRAWING NO. 2 OF 2 | SHEET NO. OF

STREET TRAFFIC STUDIES, LTD.
400 Crain Hwy.N.W.
Glen Burnie,MD 21061
Ph (410) 590-5500
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PLOTTED: FRIDAY, JANUARY 22, 2010 AT 11:11 AM
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