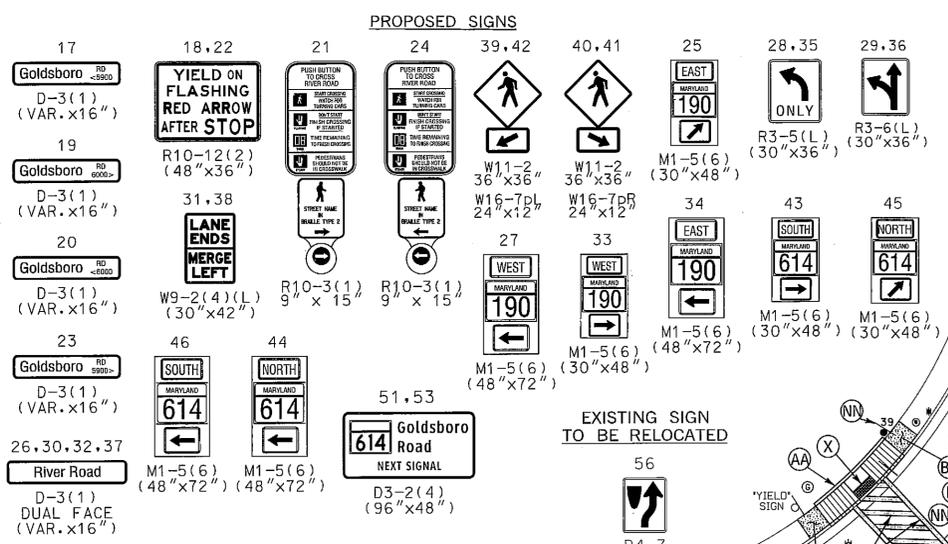
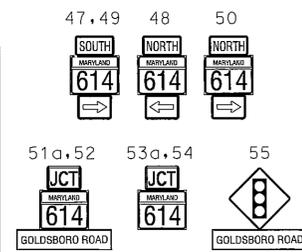


MD 190 IS ASSUMED TO RUN IN AN EAST-WEST DIRECTION

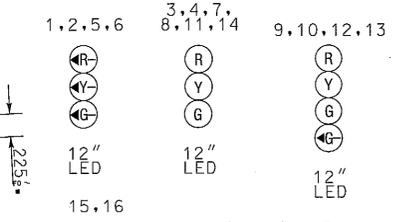
EXISTING SIGNS TO BE REMOVED



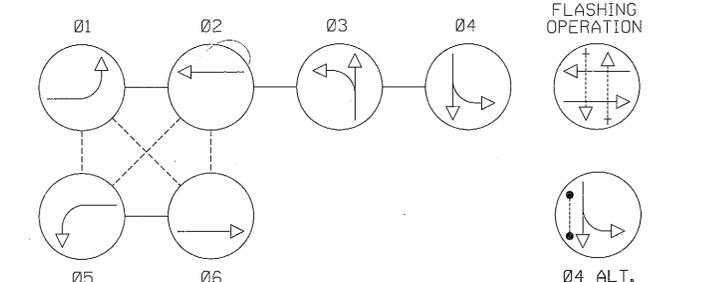
EXISTING SIGN TO BE RELOCATED



PROPOSED SIGNALS



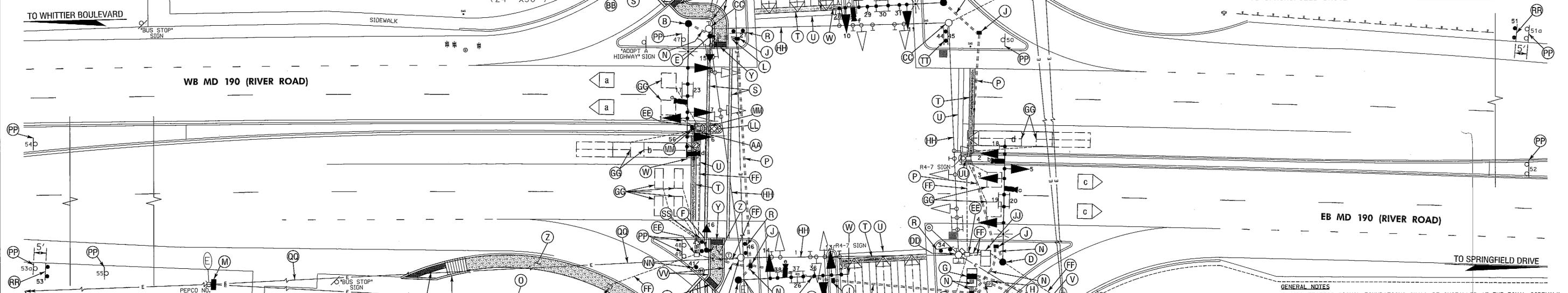
NEMA PHASING



NOTE: PHASES ASSOCIATED BY A DASHED LINE WILL OPERATE CONCURRENTLY. PHASES ASSOCIATED BY A SOLID LINE WILL NOT OPERATE CONCURRENTLY.

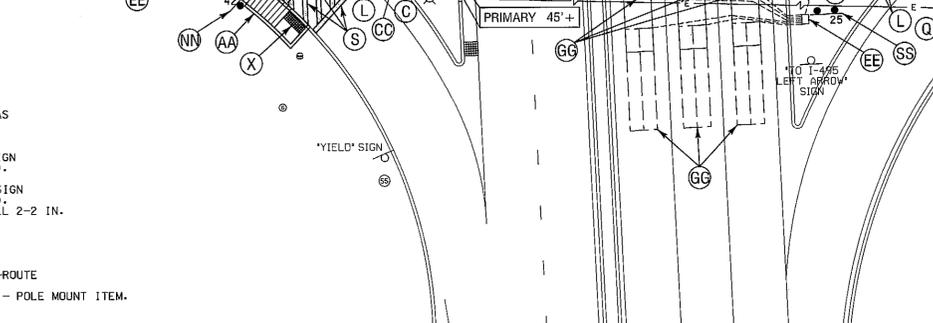
UTILITY LEGEND

| | | |
|----|----|------------------|
| SD | SD | STORM DRAIN |
| G | G | GAS MAIN |
| W | W | WATER MAIN |
| S | S | SEWER MAIN |
| E | E | ELECTRIC CABLES |
| A | A | AERIAL CABLES |
| T | T | TELEPHONE CABLES |
| F | F | FIBER-OPTIC |



CONSTRUCTION DETAILS

- A. INSTALL CONCRETE FOUNDATION WITH A 27 FT. STEEL POLE WITH A 50 FT. (CUT TO 45 FT.) MAST ARM, TRAFFIC SIGNAL HEADS, SIGNS, VIDEO DETECTION CAMERA MOUNTED ON MAST ARM AND 15 FT. STREET LIGHTING ARM WITH A LED LUMINAIRE. (INSTALL 1-2 IN. AND 1-4 IN. SCHEDULE 80, 90 DEGREE PVC ELECTRICAL CONDUIT BENDS IN POLE BASE).
- B. INSTALL CONCRETE FOUNDATION WITH A 27 FT. STEEL POLE WITH A 50 FT. (CUT TO 45 FT.) MAST ARM, TRAFFIC SIGNAL HEADS, SIGNS, AND VIDEO DETECTION CAMERAS MOUNTED ON MAST ARM AND 15 FT. STREET LIGHTING ARM WITH A LED LUMINAIRE (INSTALL 1-2 IN. AND 1-4 IN. SCHEDULE 80, 90 DEGREE PVC ELECTRICAL CONDUIT BENDS IN POLE BASE).
- C. INSTALL CONCRETE FOUNDATION WITH A 27 FT. STEEL POLE WITH A 50 FT. (CUT TO 45 FT.) MAST ARM, TRAFFIC SIGNAL HEADS, SIGNS, AND VIDEO DETECTION CAMERA MOUNTED ON MAST ARM (INSTALL 1-2 IN. AND 1-4 IN. SCHEDULE 80, 90 DEGREE PVC ELECTRICAL CONDUIT BENDS IN POLE BASE).
- D. INSTALL CONCRETE FOUNDATION WITH A 27 FT. STEEL POLE WITH A 50 FT. MAST ARM, TRAFFIC SIGNAL HEADS, SIGNS, VIDEO DETECTION CAMERAS MOUNTED ON MAST ARM AND 15 FT. STREET LIGHTING ARM WITH A LED LUMINAIRE. (INSTALL 1-2 IN. AND 1-4 IN. SCHEDULE 80, 90 DEGREE PVC ELECTRICAL CONDUIT BENDS IN POLE BASE).
- E. INSTALL CONCRETE FOUNDATION WITH 10 FT. STEEL PEDESTAL POLE WITH MODIFIED BREAKAWAY BASE STANDARD NO. MD 801-01-01. COUNTDOWN PEDESTRIAN SIGNAL HEAD, AUDIBLE/TACTILE PEDESTRIAN PUSHBUTTON INSTALLED WITH VIBRATING ARROW POINTING LEFT AND R10-3(1) SIGN. (SIGN TO READ "PUSH BUTTON TO CROSS RIVER ROAD"). (INSTALL 1-2 IN. SCHEDULE 80, 90 DEGREE PVC ELECTRICAL CONDUIT BEND IN PEDESTAL BASE).
- F. INSTALL CONCRETE FOUNDATION WITH 10 FT. STEEL PEDESTAL POLE WITH MODIFIED BREAKAWAY BASE STANDARD NO. MD 801-01-01. COUNTDOWN PEDESTRIAN SIGNAL HEAD, AUDIBLE/TACTILE PEDESTRIAN PUSHBUTTON INSTALLED WITH VIBRATING ARROW POINTING RIGHT AND R10-3(1) SIGN. (SIGN TO READ "PUSH BUTTON TO CROSS RIVER ROAD"). (INSTALL 1-2 IN. SCHEDULE 80, 90 DEGREE PVC ELECTRICAL CONDUIT BEND IN PEDESTAL BASE).
- G. INSTALL NEMA SIZE "S" BASE MOUNTED CABINET AND CONTROLLER WITH SIZE "S" FOUNDATION TYPICAL NOS. MD 816-06 AND MD 816-07. (INSTALL 2-2 IN. AND 2-4 IN. SCHEDULE 80, 90 DEGREE PVC ELECTRICAL CONDUIT BENDS IN CABINET BASE).
- H. INSTALL EMBEDDED METERED SERVICE PEDESTAL WITH 2-2 IN. AND 1-4 IN. SCHEDULE 80, 90 DEGREE PVC CONDUIT BENDS IN PEDESTAL BASE.
- I. INSTALL HANDHOLE.
- K. CONTRACTOR SHALL COORDINATE WITH ENGINEER TO HAVE LOCAL POWER COMPANY REMOVE EXISTING LEASE LIGHT FROM EXISTING UTILITY POLE.
- L. INSTALL 2 IN. PVC SCHEDULE 80 ELECTRICAL CONDUIT - TRENCHED.
- M. INSTALL INTERCONNECT SPICE CABINET PROVIDED BY MONTGOMERY COUNTY FORCES ON EXISTING WOOD UTILITY POLE (SEE SPECIAL NOTE 3). RE-ROUTE ALL EXISTING INTERCONNECT AND PROPOSED INTERCONNECT CABLES INTO SPICE BOX. MONTGOMERY COUNTY FORCES TO MAKE FINAL CONNECTIONS (SEE SPECIAL NOTE 4). INSTALLATION OF INTERCONNECT SPICE CABINET TO BE PAID UNDER ITEM NO. 8063 INSTALL CABINET AND CONTROLLER - POLE MOUNT ITEM.
- N. INSTALL 4 IN. PVC SCHEDULE 80 ELECTRICAL CONDUIT - TRENCHED.
- O. INSTALL 12 PAIR INTERCONNECT CABLE FROM UTILITY POLE NO. 765415-0217 TO UTILITY POLE NO. 765414-2393.
- P. INSTALL 4 IN. PVC SCHEDULE 80 ELECTRICAL CONDUIT - BORED.
- Q. INSTALL 2 IN. PVC SCHEDULE 80 ELECTRICAL CONDUIT - BORED FOR PROPOSED UNDERGROUND ELECTRICAL SERVICE. CAP AND MARK CONDUIT 2 FT. ABOVE GRADE AT UTILITY POLE FOR USE BY PEPCO FORCES.
- R. INSTALL M1-5(6) (48"x72") SIGN ON TWO 4 IN. X 6 IN. TREATED WOOD SUPPORT (L1=L2=19') AS SHOWN.
- S. INSTALL 12 IN. WHITE PREFORMED THERMOPLASTIC PAVEMENT MARKING FOR CROSSWALKS.
- T. INSTALL 24 IN. WHITE PREFORMED THERMOPLASTIC PAVEMENT MARKING FOR STOP LINE.
- U. REMOVE EXISTING STOP LINE.
- V. INSTALL 4 IN. PVC SCHEDULE 80, ELECTRICAL CONDUIT - BORED FOR PROPOSED SURVEILLANCE CAMERA SERVICE. CAP AND MARK CONDUIT 2 FT. ABOVE GRADE AT UTILITY POLE FOR USE BY MONTGOMERY COUNTY FORCES.
- W. CUT, CLEAN, GALVANIZE AND CAP TRAFFIC SIGNAL STRUCTURE.
- X. INSTALL SIDEWALK RAMP STANDARD NO. MD 655-12) AND DETECTABLE WARNING SURFACE WITH THE PLACEMENT IN ACCORDANCE WITH STANDARD NO. MD 655-40.
- Y. INSTALL SIDEWALK RAMP AND DETECTABLE WARNING WITH THE PLACEMENT IN ACCORDANCE WITH STANDARD NO. MD 655-40.
- Z. INSTALL CONCRETE SIDEWALK.
- AA. INSTALL STANDARD TYPE 'A' CONCRETE CURB (STANDARD NO. MD 620-02 TYPE 'A').
- BB. REMOVE EXISTING CONCRETE SIDEWALK AND INSTALL 5 IN. CONCRETE SIDEWALK.
- CC. REMOVE EXISTING STRAIN POLE AND REMOVE FOUNDATION 12 IN. BELOW GRADE AND BACKFILL.
- DD. PRIOR TO THE REMOVAL OF EXISTING STRAIN POLE, CONTRACTOR SHALL CONTACT MONTGOMERY COUNTY FORCES TO COORDINATE THE REMOVAL OF THE EXISTING SURVEILLANCE CAMERA, SPICE CABINET, POLE MOUNTED CABINET, AND CONTROLLER. ONCE THE EXISTING SURVEILLANCE CAMERA EQUIPMENT HAS BEEN REMOVED BY MONTGOMERY COUNTY FORCES, REMOVE THE EXISTING STRAIN POLE AND REMOVE FOUNDATION 12 IN. BELOW GRADE AND BACKFILL. REMOVE EXISTING HANDHOLE.
- EE. CAP AND ABANDON EXISTING CONDUIT.
- FF. ABANDON EXISTING LOOP DETECTOR. DISCONNECT AND REMOVE LOOP DETECTOR CABLES FROM CONDUITS, HANDHOLES, SIGNAL STRUCTURES AND CONTROLLER.
- HH. REMOVE EXISTING SPAN WIRE AND ALL ASSOCIATED EQUIPMENT.
- JJ. REMOVE EXISTING BASE MOUNTED CABINET AND CONTROLLER. REMOVE FOUNDATION 12 IN. BELOW GRADE AND BACKFILL. SHA SIGNAL SHOP SHALL BE NOTIFIED TO REMOVE THE CONTROLLER AND ALL AUXILIARY EQUIPMENT FROM THE CABINET.
- KK. EXISTING OVERHEAD ELECTRICAL SERVICE TO BE REMOVED BY OTHERS (SEE SPECIAL NOTE 2).
- LL. REMOVE EXISTING CONCRETE MEDIAN AND INSTALL 5 IN. CONCRETE SIDEWALK AS SHOWN.
- MM. RELOCATE EXISTING R4-7 SIGN AND REMOVE EXISTING WOOD SIGN SUPPORT. INSTALL RELOCATED R4-7 SIGN ON ONE 4 IN. X 4 IN. TREATED WOOD SIGN SUPPORT (L=15') AS SHOWN WITHIN A PVC SLEEVE IN MEDIAN.
- NN. INSTALL W11-2 (36"x36") BLK/PY AND W16-7b (24"x12") BLK/PY SIGNS ON ONE 4 IN. X 6 IN. TREATED WOOD SUPPORT (L=17') AS SHOWN.
- OO. INSTALL WHITE PREFORMED THERMOPLASTIC PAVEMENT MARKING SYMBOL.
- PP. REMOVE EXISTING GROUND MOUNTED SIGN AND SUPPORT.
- QQ. CONTRACTOR TO COORDINATE WITH MONTGOMERY COUNTY FORCES TO REMOVE EXISTING INTERCONNECT CABLE PRIOR TO REMOVAL OF EXISTING SIGNAL.
- RR. INSTALL D3-2(4) S16 (30"x48") SIGN ON TWO 4 IN. X 6 IN. TREATED WOOD SUPPORTS (L1=L2=19') AS SHOWN.
- SS. INSTALL M1-5(1) (30"x48") SIGN ON ONE 4 IN. X 6 IN. TREATED WOOD SUPPORT (L1=L2=19') AS SHOWN.
- TT. INSTALL M1-5(6) (30"x48") SIGN AND M1-5(6) (48"x72") SIGN ON TWO 4 IN. X 6 IN. TREATED WOOD SUPPORTS (L1=L2=19') AS SHOWN.
- UU. USE EXISTING HANDHOLE.
- VV. INSTALL CONCRETE CURB AS PER STANDARD NO. MD 655-21 (PAID UNDER ITEM NO. 6001).



- SPECIAL NOTES:**
1. CONTRACTOR SHALL USE CAUTION WHEN INSTALLING SIGNAL EQUIPMENT TO AVOID DISTURBANCE OF EXISTING UNDERGROUND UTILITIES. CONTRACTOR SHALL TEST PIT TO DETERMINE EXACT LOCATION AND DEPTH OF UNDERGROUND UTILITIES PRIOR TO INSTALLING SIGNAL EQUIPMENT.
 2. THE CONTRACTOR SHALL COORDINATE WITH SHA TRAFFIC OPERATION DIVISION TO CONTACT LOCAL POWER COMPANY TO SET-UP WORK WITH TO DISCONNECT THE EXISTING ELECTRICAL SERVICE AND HAVE THE NEW SERVICE ENERGIZED.
 3. CONTRACTOR SHALL COORDINATE WITH MONTGOMERY COUNTY FORCES TO ARRANGE FOR PICK-UP OF INTERCONNECT SPICE CABINETS.
 4. ALL DISCONNECTING AND RECONNECTING OF EXISTING INTERCONNECT, FIBER OPTIC CABLES, SURVEILLANCE CAMERA AND CABINETS SHALL BE COORDINATED WITH MONTGOMERY COUNTY FORCES (MR. BOB RICKETTS).
 5. THE CONTRACTOR SHALL CONTACT MR. ED RODENHIZER AT SHA SIGNAL SHOP (410) 787-7682 TO DELIVER APS EQUIPMENT FOR TESTING.
 6. EXISTING SURVEILLANCE CAMERA EQUIPMENT WILL BE RE-INSTALLED BY MONTGOMERY COUNTY FORCES ONCE PROPOSED SIGNAL INFRASTRUCTURE IS IN PLACE. CONTRACTOR SHALL COORDINATE WITH MONTGOMERY COUNTY FORCES.

WR&A
WHITMAN, REQUARDT & ASSOCIATES, LLP
 801 South Caroline Street, Baltimore, Maryland 21231

SHA
 STATE OF MARYLAND
 DEPARTMENT OF TRANSPORTATION
 STATE HIGHWAY ADMINISTRATION
 OFFICE OF TRAFFIC & SAFETY
 TRAFFIC ENGINEERING DESIGN DIVISION
 MD 190 (RIVER ROAD) AND MD 614 (GOLDSBORO ROAD)
 (BETHESDA, MD)

| APPROVALS | | REVISIONS | |
|------------------|--|--|--|
| TEAM LEADER | | (E) REBUILD TRAFFIC SIGNAL SHA NO. XX4395185 T1MS NO. K981 02/2013 | |
| ASST. DIV. CHIEF | | (D) ADD E/B LEFTS ON MD 190, ASBUILT | |
| DIVISION CHIEF | | (C) ADD RED-LIGHT CAMERA EB MD 190 | |
| OFFICE DIRECTOR | | | |

| | | | |
|--------------|--------------------|---------|------------------|
| DESIGNED BY | W J NIES (FOR STS) | COUNTY | MONTGOMERY |
| DRAWN BY | W J NIES (FOR STS) | LOGMILE | 15019013.83 |
| CHECKED BY | RRZ (FOR STS) | TMS NO. | |
| F.A.P. NO. | | TOD NO. | |
| TS NO. 3179E | DRAWING TSP-1 | OF 3 | SHEET NO. 1 OF 3 |

BY: jrasmusen

TOD NO: XX439-26
 SHA NO: MO242B5C
 MD 190 @ MD 614

PLOTTED: February 04, 2013
 FILE: N:\31699-175\CADD\p8g-p001_MDI90.dgn