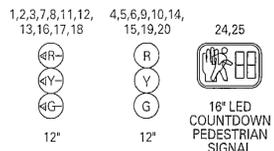


NOTE: MD 26 (LIBERTY ROAD) IS ASSUMED TO RUN IN A EAST-WEST DIRECTION.

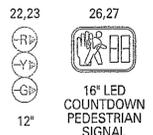
**PROPOSED LED SIGNALS**



**EXISTING OPTICALLY PROGRAMMABLE SIGNAL**



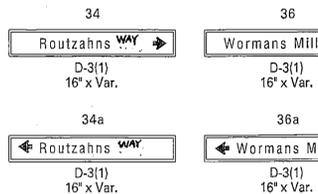
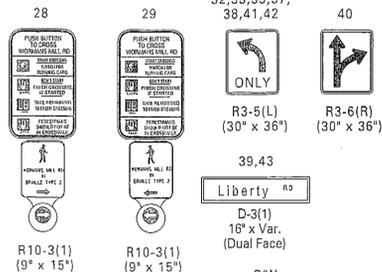
**EXISTING LED SIGNALS**



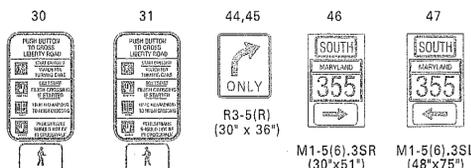
**EXISTING VIDEO DETECTION**



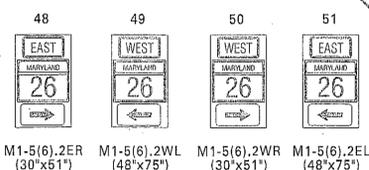
**PROPOSED SIGNS**



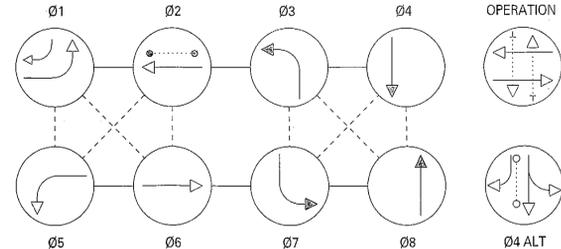
**EXISTING SIGNS**



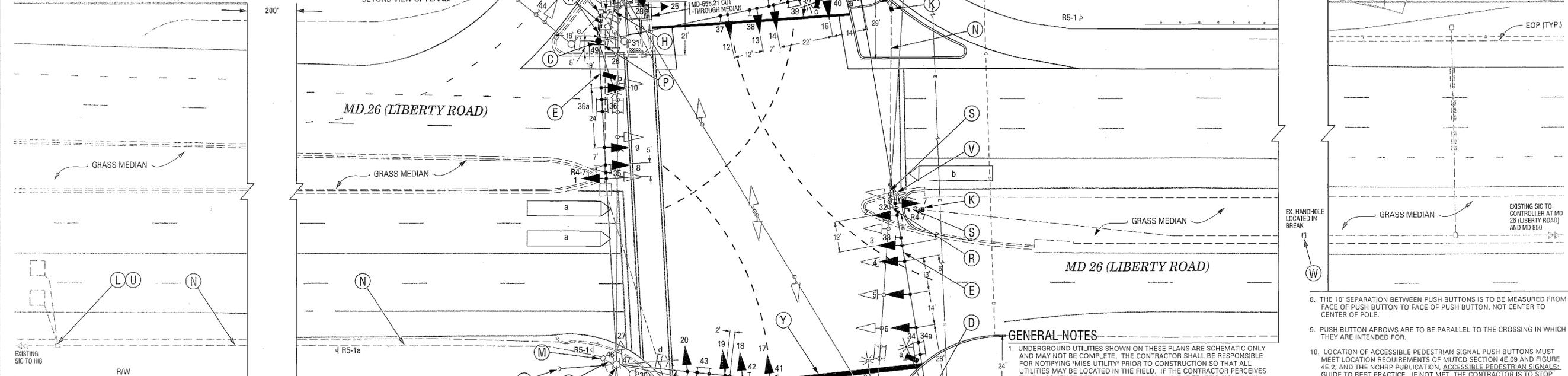
**RELOCATED EXISTING SIGNS**



**NEMA PHASING**



**PHASING NOTES:**  
 1.) PHASES ASSOCIATED BY A DASHED LINE WILL OPERATE CONCURRENTLY  
 2.) PHASES ASSOCIATED BY A SOLID LINE WILL NOT OPERATE CONCURRENTLY



**CONSTRUCTION DETAILS**

- A. USE EXISTING BASE MOUNTED CABINET AND CONTROLLER.
- B. INSTALL 12" x 32" STEEL STRAIN POLE, FOUNDATION, 20' LIGHTING ARM, 250 WATT HPS LUMINAIRE, RELOCATED VIDEO DETECTION CAMERA, PEDESTRIAN COUNTDOWN SIGNAL HEAD, APS PUSH BUTTON AND R10-3(1) SIGN AND 1-3" WEATHERHEAD. (NOTE: INSTALL 1 - 2" (SPARE) AND 1-3" SCHEDULE 80, 90 DEGREE, PVC ELECTRICAL CONDUIT BENDS.)
- C. INSTALL 12" x 32" STEEL STRAIN POLE, FOUNDATION, 20' LIGHTING ARM, 250 WATT HPS LUMINAIRE, RELOCATED VIDEO DETECTION CAMERA, AND 2-3" WEATHERHEAD. (NOTE: INSTALL 1 - 2" (SPARE) AND 2-3" SCHEDULE 80, 90 DEGREE, PVC ELECTRICAL CONDUIT BENDS.)
- D. INSTALL 12" x 32" STEEL STRAIN POLE, FOUNDATION, 20' LIGHTING ARM, 250 WATT HPS LUMINAIRE, AND RELOCATED VIDEO DETECTION CAMERA. (NOTE: INSTALL 1-3" (SPARE) SCHEDULE 80, 90 DEGREE, PVC ELECTRICAL CONDUIT BENDS.)
- E. INSTALL 3/8" STEEL SPAN WIRE, TRAFFIC SIGNAL HEADS AND SIGNS AS SHOWN. (NOTE: SIGNAL HEADS AND SIGNS SHALL BE TETHERED USING 1/4" TETHER WIRE).
- F. USE EXISTING STEEL STRAIN POLE WITH LUMINAIRE, VIDEO DETECTION CAMERA AND POLE MOUNTED SIGNS.
- G. INSTALL 10" STEEL PEDESTAL POLE, FOUNDATION, PEDESTRIAN COUNTDOWN SIGNAL HEAD, APS PUSH BUTTON AND R10-3(1) SIGN. (NOTE: INSTALL 1 - 3" SCHEDULE 80, 90 DEGREE, PVC ELECTRICAL CONDUIT BEND.)
- H. INSTALL 3" SCHEDULE 80, PVC CONDUIT (TRENCHED).
- J. ADJUST EXISTING HANDHOLE TO GRADE. INSTALL NEW FRAME AND COVER.
- K. INTERCEPT EXISTING CONDUIT WITH NEW HANDHOLE.
- L. USE EXISTING HANDHOLE.
- M. USE EXISTING HANDHOLE. DISCONNECT EXISTING SIC AT CONTROLLER AND FEED THROUGH NEW CONDUIT/SPAN WIRE.
- N. USE EXISTING CONDUIT.
- O. REMOVE EXISTING NON-INVASIVE MICROLOOP PROBE.
- P. RELOCATE EXISTING SIGN ASSEMBLY TO SIGNAL POLE AS SHOWN.
- R. REMOVE EXISTING HANDHOLE AND BACKFILL.
- S. CAP & ABANDON EXISTING CONDUIT.
- T. REMOVE EXISTING STRAIN POLE AND SPAN WIRE MOUNTED EQUIPMENT. RELOCATE VIDEO CAMERA TO NEW LOCATIONS SHOWN. REMOVE EXISTING FOUNDATIONS TO 12" BELOW GRADE AND BACKFILL.
- U. SPLICE EXISTING LOOP DETECTOR LEAD-IN TO NEW ELECTRICAL CABLE.
- V. INSTALL NEW 4" PVC CONDUIT AND JOIN WITH EXISTING CONDUIT. PROVIDE WATER TIGHT CONNECTION.
- W. USE EXISTING HANDHOLE. DISCONNECT EXISTING MICRO-LOOP LEAD-IN AND SIC AT CONTROLLER AND FEED THROUGH NEW CONDUIT.
- X. INSTALL TEMPORARY GUY WIRES PRIOR TO INSTALLING NEW SPANWIRE AND EQUIPMENT. REMOVE AT THE COMPLETION OF THIS SIGNAL MODIFICATION.
- Y. INSTALL 24" HEAT-APPLIED, WHITE PREFORMED THERMOPLASTIC PAVEMENT MARKING FOR STOP LINE.
- Z. INSTALL 12" HEAT-APPLIED, WHITE PREFORMED THERMOPLASTIC PAVEMENT MARKING LINE.

**GENERAL NOTES**

1. UNDERGROUND 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 THE CONFLICT MAY BE RESOLVED.
2. THE CONTRACTOR IS RESPONSIBLE FOR TERMINATING ALL SIGNAL CABLES AND VIDEO DETECTION CONTROL CABLES TO THE APPROPRIATE TERMINALS AND PROPERLY LABEL EACH CABLE SO THAT SHA FORCES CAN MAKE THE FINAL CONNECTIONS. CONTACT THE SIGNAL OPERATIONS SUPERVISOR AT LEAST 72 HOURS PRIOR TO INSTALLATION.
3. THE CONTRACTOR SHALL VERIFY ALL PROPOSED POLE LOCATIONS PRIOR TO INSTALLATION.
4. VIDEO CAMERA LOCATION / ALIGNING SHALL BE COORDINATED WITH THE SHA FIELD ENGINEER.
5. ALL TRAFFIC SIGNAL FOUNDATIONS SHALL BE INSTALLED AT THE FINAL SIDEWALK OR CURB GRADE FOR CLOSED SECTION, HIGHEST ROADWAY PROFILE FOR OPEN SECTIONS, TO MEET CLEARANCES AS SPECIFIED IN MD STD B18.01, MD STD B18.02 AND MD STD B18.03. THE CONTRACTOR SHALL VERIFY ALL GRADES PRIOR TO INSTALLATION OF SIGNAL EQUIPMENT.
6. ALL UNUSED SIGNAL CABLES SHALL BE REMOVED AND DISPOSED.
7. PUSH BUTTONS ARE TO BE LOCATED SO THAT THEY CAN BE ACTIVATED BY A PERSON IN WHEELCHAIR REACHING LESS THAN 18" FROM A 60" x 60" LEVEL WHEELING AREA WITH A CROSS SLOPE OF LESS THAN OR EQUAL TO 2%.
8. THE 10' SEPARATION BETWEEN PUSH BUTTONS IS TO BE MEASURED FROM FACE OF PUSH BUTTON TO FACE OF PUSH BUTTON, NOT CENTER TO CENTER OF POLE.
9. PUSH BUTTON ARROWS ARE TO BE PARALLEL TO THE CROSSING IN WHICH THEY ARE INTENDED FOR.
10. LOCATION OF ACCESSIBLE PEDESTRIAN SIGNAL PUSH BUTTONS MUST MEET LOCATION REQUIREMENTS OF MUTCD SECTION 4E.09 AND FIGURE 4E.2, AND THE NCHRP PUBLICATION, ACCESSIBLE PEDESTRIAN SIGNALS: GUIDE TO BEST PRACTICE. IF NOT MET, THE CONTRACTOR IS TO STOP WORK ON PUSH BUTTON LOCATIONS UNTIL AN APPROVED DESIGN WAIVER IS OBTAINED BY THE DIRECTOR OF OFFICE AND TRAFFIC SAFETY.
11. ALL PAVEMENT MARKINGS DETAILED ARE PROPOSED AND ARE TO BE INSTALLED IN ACCORDANCE WITH SHA STANDARDS. ALL CROSSWALKS SHALL BE CENTERED ON HANDICAP RAMPS OR MEDIAN CUT-THROUGHS. STOP BARS AND CROSSWALKS SHALL BE INSTALLED ACCORDING TO THE TRAFFIC SIGNAL PLAN. ALL OTHER MARKINGS SHALL BE INSTALLED IN ACCORDANCE WITH CIVIL PLANS PREPARED BY DAFT MCCUNE WALKER, INC (DMW).
12. THESE PLANS ARE APPROVED FOR CONSTRUCTION FOR A PERIOD OF ONE (1) YEAR FROM DATE OF APPROVAL. SHOULD CONSTRUCTION NOT BEGIN WITHIN THE TIME FRAME, THESE PLANS SHALL BECOME NULL AND VOID WITHOUT A RE-REVIEW FROM THE TRAFFIC ENGINEERING DESIGN DIVISION.

**WELLS + ASSOCIATES, INC**  
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 1420 Spring Hill Road, Suite 800, McLean, Virginia 22102  
 Phone: 703/517-6820 Fax: 703/517-0739

**APPROVALS**  
 ORIGINAL  
 ON FILE  
 TEAM LEADER  
 ASSIST. DIR. CHIEF  
 DIVISION CHIEF  
 OFFICE DIRECTOR

**REVISIONS**  
 H) CONSTRUCT HD THRU RIGHT LANE AND SIDEWALK LEFT TURN LIGHTING LOW - 8/19/2012  
 NG/JS  
 G) ADDED 30" ACCESSIBLE DOUBLE FLIGHT & ADJUSTED SIDE STREET CURE & PHASING ON MD 26. SEE BEST LBL. 8/19/2012  
 LC/ML  
 F) SIDE STREET SPLIT PHASE SIGNAL SHOP PAGES 10/26/2000

**STATE OF MARYLAND**  
 DEPARTMENT OF TRANSPORTATION  
 STATE HIGHWAY ADMINISTRATION  
 OFFICE OF TRAFFIC & SAFETY  
 TRAFFIC ENGINEERING DESIGN DIVISION  
**MD 26 (LIBERTY ROAD) AT**  
**MD 355 (WORMANS MILL ROAD/ROUTZAHNS WAY)**  
 FREDERICK, MARYLAND

**TRAFFIC SIGNAL PLAN**  
 SCALE 1" = 20' DATE 7/27/1984 CONTRACT NO.  
 DESIGNED BY N.L.HILL COUNTY FREDERICK  
 DRAWN BY LOGMILE 10002600.53  
 CHECKED BY T.I.M.S. NO. 1424H  
 F.A.P. NO. N/A TOD NO.  
 DRAWING NO. TS-1424-H SHEET NO. 1 OF 2

BY: WELLS + ASSOCIATES, INC