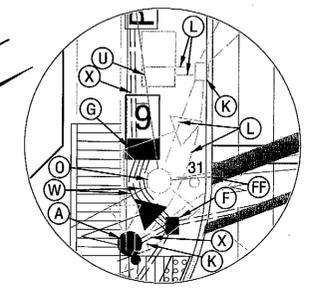
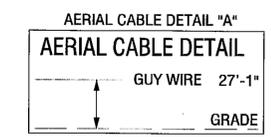
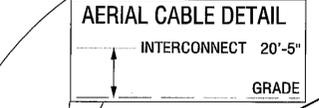
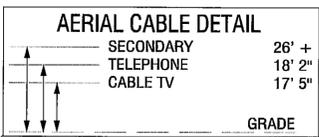
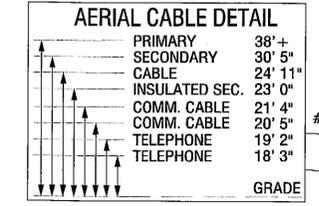
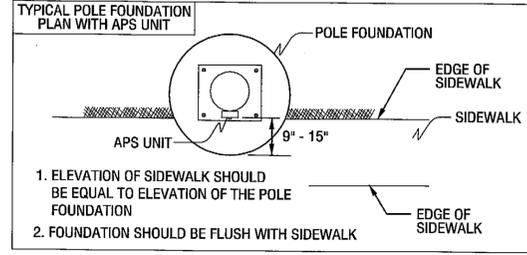
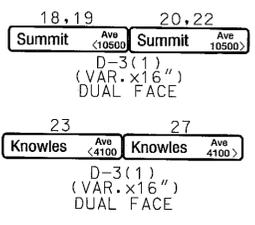


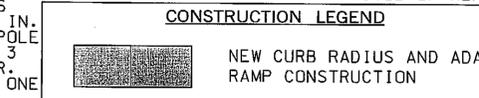
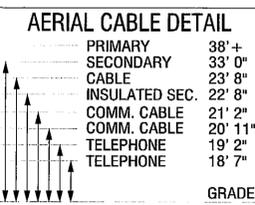
MD 547 IS ASSUMED TO RUN IN AN EAST-WEST DIRECTION



- GENERAL NOTES**
- PUSHBUTTONS ARE TO BE LOCATED SO THAT THEY CAN BE ACTIVATED BY A PERSON IN A WHEELCHAIR REACHING LESS THAN 18" FROM A 60" X 60" LEVEL LANDING AREA WITH A CROSS SLOPE OF LESS THEN OR EQUAL TO 2%.
  - THE 10' SEPARATION BETWEEN PUSHBUTTONS IS TO BE MEASURED FROM FACE OF PUSHBUTTON TO FACE OF PUSHBUTTON, NOT CENTER TO CENTER OF POLE.
  - PUSHBUTTON ARROWS ARE TO BE PARRALLEL TO THE CROSSING FOR WHICH THEY ARE INTENDED.
  - LOCATION OF ACCESSIBLE PEDESRTIAN SIGNAL PUSHBUTTONS MUST MEET LOCATION REQUIREMENTS OF MUTCD SEC. 4E.09 AND FIG. 4E.2 AND THE NCHRP PUBLICATION, "ACCESSIBLE PEDESRTIAN SIGNALS: GUIDE TO BEST PRACTICE". IF NOT MET, THE CONTRACTOR IS TO STOP WORK ON PUSHBUTTON LOCATIONS UNTIL A DESIGN WAIVER IS OBTAINED, APPROVED BY THE DIRECTOR, OFFICE OF TRAFFIC AND SAFETY.
  - THE CONTRACTOR IS TO CONTACT PEPCO AND SCHEDULE THE DE-ENERGIZING OF THE EXISTING ELECTRICAL SERVICE EQUIPMENT PRIOR TO THE REMOVAL OF THE EXISTING CONTROLLER CABINET.

- CONSTRUCTION DETAILS**
- INSTALL CONCRETE FOUNDATION WITH 10 FT. STEEL PEDESTAL POLE WITH MODIFIED COUPLING BREAKAWAY BASE PER MD STANDARD 801.01-01 AND 818.16-01 WITH 16 INCH LED COUNTDOWN PEDESTRIAN SIGNAL HEAD, R10-3(1) SIGN AND AUDIBLE/TACTILE PEDESTRIAN PUSHBUTTON STATION WITH INTERNATIONAL BRAILLE ON FACE PLATE. (NOTE: ONE 2 IN. PVC SCHEDULE 80 CONDUIT BEND).
  - INSTALL CONCRETE FOUNDATION WITH A 21 FT. MAST ARM POLE WITH SINGLE 38 FT. MAST ARM WITH SIGNAL HEADS, SIGNS, LED COUNTDOWN PEDESTRIAN SIGNAL HEAD, R10-3(1) SIGN AND AUDIBLE/TACTILE PEDESTRIAN PUSHBUTTON STATION WITH INTERNATIONAL BRAILLE ON FACE PLATE, AND VIDEO DETECTION CAMERA. (NOTE: ONE 3 IN. PVC SCHEDULE 80 CONDUIT BEND)
  - INSTALL CONCRETE FOUNDATION WITH A 27 FT. MAST ARM POLE WITH TWIN 60 FT. AND 50 FT MAST ARMS WITH SIGNAL HEADS, VIDEO DETECTION CAMERA, 20 FT. LIGHTING BRACKET ARM WITH 250 WATT LUMINAIRE LED COUNTDOWN PEDESTRIAN SIGNAL HEAD, R10-3(1) SIGN AND AUDIBLE/TACTILE PUSHBUTTON WITH INTERNATIONAL BRAILLE ON THE FACE PLATE AND SIGNS. (NOTE: ONE 4 IN. PVC SCHEDULE 80 CONDUIT BEND)
  - INSTALL 3 IN. PVC SCHEDULE 80 ELECTRICAL CONDUIT - TRENCHED.
  - INSTALL 4 IN. PVC SCHEDULE 80 ELECTRICAL CONDUIT - SLOTTED.
  - INSTALL HANDHOLE.
  - INSTALL NEMA 6 BASE MOUNTED CABINET AND CONTROLLER WITH VIDEO INTERFACE EQUIPMENT. (NOTE: TWO 2 IN. AND TWO 4 IN. PVC CONDUIT BENDS)
  - DISCONNECT, PULL BACK INTERCONNECT CABLE TO PEPCO POLE NO. 777434-4196. REROUTE CABLE THRU HANDHOLES AND CONDUIT TO PROPOSED CABINET.
  - INSTALL EMBEDDED METER SERVICE PEDESTAL.
  - REMOVE HANDHOLE COVER AND FRAME 12 INCHES BELOW GRADE AND BACKFILL.
  - CAP AND ABANDON EXISTING CONDUIT.
  - REMOVE EXISTING PEDESTAL POLE AND ALL ASSOCIATED EQUIPMENT.
  - REMOVE EXISTING SPAN WIRE AND ALL ASSOCIATED EQUIPMENT.
  - REMOVE EXISTING STRAIN POLE AND ALL ASSOCIATED EQUIPMENT, AND CONCRETE FOUNDATION 12 INCHES BELOW GRADE AND BACKFILL.
  - INSTALL 12 IN. WHITE HEAT APPLIED PREFORMED PERMANENT THERMOPLASTIC PAVEMENT MARKINGS FOR CROSSWALK.
  - INSTALL 24 IN. WHITE HEAT APPLIED PREFORMED PERMANENT THERMOPLASTIC PAVEMENT MARKINGS FOR STOPLINE. 80 CONDUIT BEND).
  - REMOVE EXISTING SIDEWALK AND INSTALL NEW SIDEWALK RAMP (MD STANDARD 655.12) AND DETECTABLE WARNING SURFACE (MD STANDARD 655.40)
  - REMOVE EXISTING SIDEWALK AND INSTALL NEW SIDEWALK RAMP (SEE DRAWING 4 OF 5 FOR DETAILS) WITH DETECTABLE WARNING SURFACE (MD STANDARD 655.40).
  - INSTALL 5" HEAT APPLIED YELLOW PERM PVMT LINE MARKINGS.
  - REMOVE EXISTING CABINET AND FOUNDATION 12 IN. BELOW GRADE AND BACKFILL.
  - INSTALL 4 IN. PVC SCHEDULE 80 CONDUIT - TRENCHED, STUB-UP CONDUIT TO BASE OF UTILITY POLE NO. 777435-3303
  - INSTALL 4 IN. PVC SCHEDULE 80 CONDUIT - TRENCHED.
  - INSTALL 2 IN. PVC SCHEDULE 80 CONDUIT - TRENCHED.
  - HAND DIG AND INSTALL CONCRETE FOUNDATION WITH 10 FT. STEEL PEDESTRIAN POLE WITH MODIFIED COUPLING BREAKAWAY BASE PER MD STANDARD 801.01-01 AND 818.16-01 WITH 16 INCH LED COUNTDOWN PEDESTRIAN SIGNAL HEAD, R10-3(1) SIGN AND AUDIBLE/TACTILE PEDESTRIAN PUSHBUTTON STATION WITH INTERNATIONAL BRAILLE ON FACE PLATE. (NOTE: ONE 2 IN. PVC SCHEDULE 80 CONDUIT BEND).
  - ABANDON EXISTING LOOP DETECTORS.

- CONSTRUCTION DETAILS (CONTINUED)**
- INSTALL 8 IN. CURB AND GUTTER AS SHOWN. SEE PLAN DRAWING 4 OF 5 FOR DETAILS.
  - REMOVE EXISTING PAVEMENT MARKINGS.
  - REMOVE AND DISPOSE OF EXISTING SPLICE CABINET FROM POLE NO. 77743-1603. INSTALL PROPOSED POLE MOUNTED SPLICE CABINET AT A HEIGHT OF 4 FT. FROM THE BOTTOM OF THE CABINET TO GRADE LEVEL.
  - INSTALL 3 IN. CONDUIT RISER ON PEPCO POLE NO. 777434-1603 FROM THE TOP OF PROPOSED SPLICE CABINET TO A HEIGHT OF 20 FT. FROM GRADE WITH A 3 INCH WEATHERHEAD, INSTALL 12 PAIR COMMUNICATION CABLE OVERHEAD TO PROPOSED WEATHER HEAD ON MAST ARM POLE, INSTALL CABLE AND USE PROPOSED MAST ARM POLE, CONDUIT BEND, CONDUIT AND HANDHOLE TO PROPOSED CONTROLLER CABINET. INSTALL CABLE INSIDE CONTROLLER CABINET WITH LABELS AND TAGS AT CABLE ENDS AND TERMINATE, MONTGOMERY COUNTY FORCES SHALL MAKE FINAL CONNECTION INSIDE CONTROLLER CABINET.
  - INSTALL CONCRETE FOUNDATION WITH A 27 FT. MAST ARM POLE WITH SINGLE 38 FT. MAST ARM WITH A 3 INCH WEATHER HEAD, SIGNAL HEADS, SIGNS, 10 FT. LIGHTING BRACKET ARM WITH 250 WATT HPS LUMINAIRE, VIDEO DETECTION CAMERA, LED COUNTDOWN PEDESTRIAN SIGNAL HEAD AND AUDIBLE/TACTILE PEDESTRIAN PUSHBUTTON STATION WITH INTERNATIONAL BRAILLE ON THE FACE PLATE. (NOTE: ONE 3 IN. PVC SCHEDULE 80 CONDUIT BEND).
  - REMOVE AND DISPOSE OF EXISTING SIGN AND POST.
  - REROUTE EXISTING INTERCONNECT CABLE FROM BEACH DRIVE INTO THE PROPOSED SPLICE CABINET. REMOVE EXISTING INTERCONNECT CABLE BETWEEN EXISTING SPLICE CABINET AND EXISTING CONTROLLER CABINET.
  - INSTALL 3 IN. PVC SCHEDULE 80 ELECTRICAL CONDUIT - TRENCHED, STUB-UP NEXT TO PEPCO POLE NO. 777434-4196 6 IN. ABOVE GRADE. INSTALL 3 IN. CONDUIT RISER ON THE PEPCO POLE TO A HEIGHT OF 20 FT. WITH A 3 IN. WEATHERHEAD ON THE RISER.
  - INSTALL A NEW R3-7R SIGN ON ONE 4"x4" WOOD SUPPORT.



APPROVALS	REVISIONS
<p>TEAM LEADER</p> <p>ASST. DIV. CHIEF</p> <p>DIVISION CHIEF</p> <p>OFFICE DIRECTOR</p>	<p>SCALE: 1" = 20'</p> <p>DATE: 1/27/2011</p>

**SHA** STATE OF MARYLAND  
DEPARTMENT OF TRANSPORTATION  
STATE HIGHWAY ADMINISTRATION  
OFFICE OF TRAFFIC & SAFETY  
TRAFFIC ENGINEERING DESIGN DIVISION

MD 547 (KNOWLES AVENUE)  
AT SUMMIT AVENUE  
KENSINGTON, MARYLAND

**TRAFFIC SIGNAL PLAN**

SCALE: 1" = 20' ADVERTISED DATE: 10-10-06 CONTRACT NO. M-579-501-385

DESIGNED BY: R. ZACHERL (FOR STS.) COUNTY: MONTGOMERY  
DRAWN BY: S. THACKER (FOR STS.) LOGMILE: 15054.701.63  
CHECKED BY: DENNIS J. DODA TIMS NO.:  
F.A.P. NO.: TOD NO.:

TS NO. 471A DRAWING 1 OF 4 SHEET NO. OF

**SABRA, WANG & ASSOCIATES, INC.**  
1504 JOH AVENUE  
SUITE 100  
BALTIMORE, MD 21127  
(410) 737-6564  
WWW.SABRA-WANG.COM