PROJECT DESCRIPTION

GENERAL

THIS PROJECT INVOLVES THE FULL RECONSTRUCTION OF THE TRAFFIC SIGNAL WITH STREET LIGHTING AT THE INTERSECTION OF MD 170 (TELEGRAPH ROAD) AND MD 174 (DONALDSON AVENUE / REECE ROAD) IN ANNE ARUNDEL COUNTY. VIDEO DETECTION IS PROPOSED FOR MAINLINE LEFT TURN AND SIDE STREET PRESENCE DETECTION.

MD 170 IS ASSUMED TO RUN IN A NORTH-SOUTH DIRECTION.

INTERSECTION OPERATION

THE INTERSECTION WILL CONTINUE TO OPERATE IN A EIGHT PHASE, FULL-TRAFFIC-ACTUATED MODE. THE EXISTING MAINLINE AND SIDE STREET EXCLUSIVE LEFT TURN PHASING, AND NB FIRE HOUSE PRE-EMPTION PHASE WILL REMAIN.

CONTROLLER REQUIREMENTS

INSTALL A NEW EIGHT-PHASE FULLY ACTUATED TRAFFIC SIGNAL CONTROLLER AND ASSOCIATED HARNESSES IN A NEMA SIZE "S" BASE MOUNTED CABINET WITH ONE (1) VIDEO DETECTION INTERFACE FOR 1-4 CAMERAS AND TWO (2) 4 CHANNEL DETECTOR AMPLIFIERS.

PHONE DROP

THE CONTRACTOR SHALL NOTIFY MR. ROBERT SNYDER OF SHA AT (410) 787-7635 TO ARRANGE FOR THE PHONE DROP LINE INSTALLATION. THE CONTRACTOR IS TO NOTIFY MR. SNYDER WITH THE NEAREST STREET ADDRESS, ZIP CODE AND PHONE NUMBER.

THE CONTACT PERSONS FOR DISTRICT #5 ARE AS FOLLOWS:

Ms. Kimberly Tran
Assistant District Engineer - Traffic
Phone: 410-841-1019

Mr. Mike Huber
District Utility Engineer
Phone: 410-841-1039

Mr. John S. Mays
Assistant District Engineer - Maintenance
Phone: 410-841-1013

OFFICE OF TRAFFIC AND SAFETY:

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

Mr. Robert Snyder
Assistant Division Chief, Traffic Operations
410-787-7630

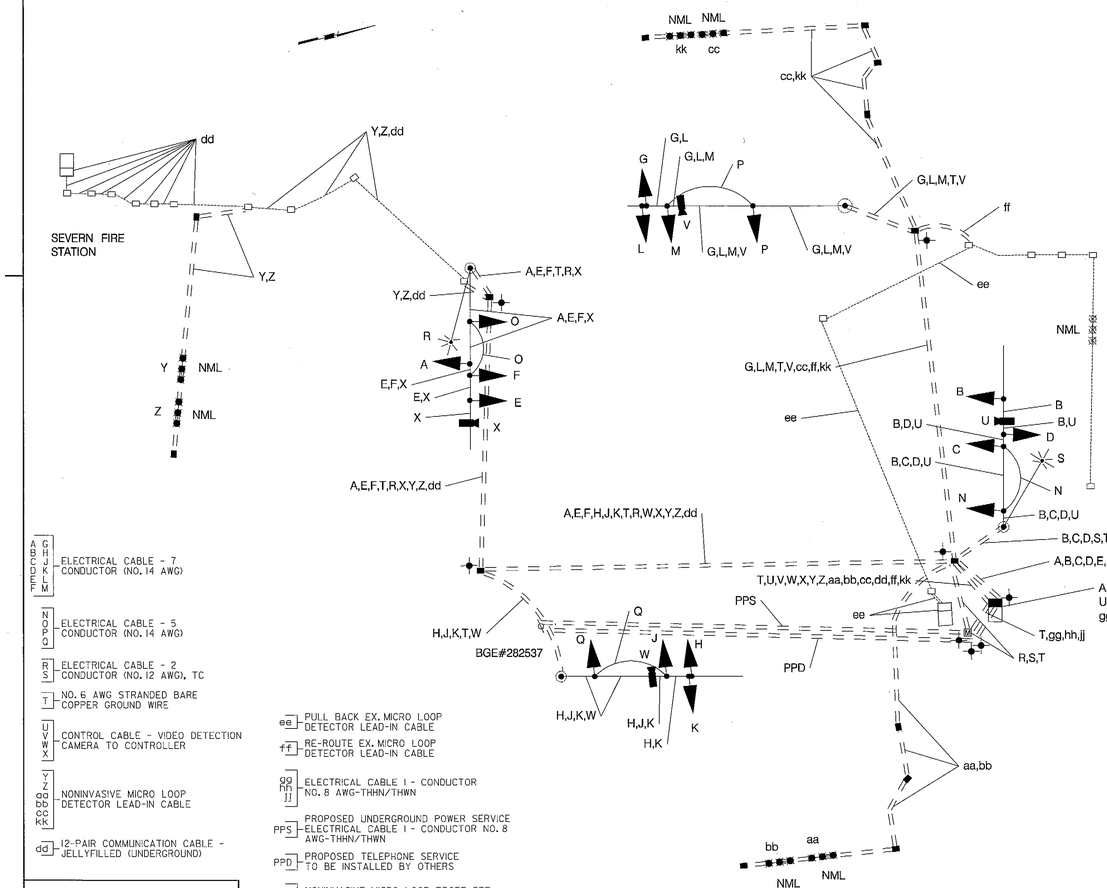
Mr. Edward Rodenhizer
Team Leader Signal Operations
Phone: 410-787-7650

Mr. Eugene Bailey
Team Leader Sign Operations
410-787-7670

The Power Company is:

Baltimore Gas & Electric
1068 N. Front Street
Baltimore, Maryland 21202
Phone: 410-673-8713

WIRING DIAGRAM



A B C D E F G H J K L M — ELECTRICAL CABLE - 7 CONDUCTOR (NO. 14 AWG)

N O P Q — ELECTRICAL CABLE - 5 CONDUCTOR (NO. 14 AWG)

R S — ELECTRICAL CABLE - 2 CONDUCTOR (NO. 12 AWG), TC

T — NO. 6 AWG STRANDED BARE COPPER GROUND WIRE

U V W X — CONTROL CABLE - VIDEO DETECTION CAMERA TO CONTROLLER

Y Z aa bb cc kk — NONINVASIVE MICRO LOOP DETECTOR LEAD-IN CABLE

dd — 12-PAIR COMMUNICATION CABLE - JELLYFILLED (UNDERGROUND)

ee — PULL BACK EX. MICRO LOOP DETECTOR LEAD-IN CABLE

ff — RE-ROUTE EX. MICRO LOOP DETECTOR LEAD-IN CABLE

gg hh jj — ELECTRICAL CABLE 1 - CONDUCTOR NO. 8 AWG-THHN/THWN

PPS — PROPOSED UNDERGROUND POWER SERVICE ELECTRICAL CABLE 1 - CONDUCTOR NO. 8 AWG-THHN/THWN

PPD — PROPOSED TELEPHONE SERVICE TO BE INSTALLED BY OTHERS

NML — NONINVASIVE MICRO LOOP PROBE SET

PROPOSED GROUND ROD - 3/4 IN. DIAMETER X 10 FT. LENGTH

STV

STV Incorporated
7125 Ambassador Road, Suite 200
Baltimore, MD 21244
www.stvinc.com

BY: guiliarmo -

EQUIPMENT LIST 'A'

EQUIPMENT TO BE FURNISHED BY THE SHA.

ITEM NO.	QUANTITY	DESCRIPTION
9016	2 EA	[UPDATED] 4 CHANNEL DETECTOR AMPLIFIER
9044	1 EA	[UPDATED] CONTROLLER CABINET, SIZE S
9086	1 EA	[UPDATED] VIDEO DETECTION INTERFACE EQUIPMENT: 1-4 CAMERAS
9570	66 SF	[UPDATED] SHEET ALUMINUM GROUND MOUNTED SIGN:
		1 EA - MI-5(6) (30 IN. X 48 IN.) "EAST, MD 174, RIGHT ARROW"
		1 EA - MI-5(6) (48 IN. X 72 IN.) "EAST, MD 174, LEFT ARROW"
		2 EA - W4-2(4) (36 IN. X 36 IN.) "SINGLE LANE"
		1 EA - W4-2(3) (36 IN. X 18 IN.) "ALTERNATE MERGE"
		1 EA - W16-2(1) (30 IN. X 18 IN.) "BEYOND SIGNAL"
		1 EA - R4-9(1) (24 IN. X 30 IN.) "FORM SINGLE LANE"
9571	163 SF	[UPDATED] SHEET ALUMINUM MAST ARM / POLE MOUNTED SIGN:
		2 EA - D-3(1) (96 IN. X 16 IN.) DUAL FACED "TELEGRAPH RD"
		1 EA - D-3(1) (96 IN. X 16 IN.) DUAL FACED "REECE RD"
		1 EA - D-3(1) (96 IN. X 16 IN.) DUAL FACED "DONALDSON AVE"
		1 EA - W4-2(5) (30 IN. X 42 IN.)
		1 EA - W9-2(4)(L) (30 IN. X 42 IN.)
		1 EA - MI-5(6) (30 IN. X 48 IN.) "NORTH, MD 170, RIGHT ARROW"
		1 EA - MI-5(6) (30 IN. X 48 IN.) "SOUTH, MD 170, RIGHT ARROW @ 45°"
		1 EA - MI-5(6) (48 IN. X 72 IN.) "NORTH, MD 170, LEFT ARROW"
		1 EA - MI-5(6) (48 IN. X 72 IN.) "SOUTH, MD 170, LEFT ARROW"
		1 EA - MI-5(6) (30 IN. X 48 IN.) "WEST, MD 174, RIGHT ARROW @ 45°"
		1 EA - MI-5(6) (48 IN. X 72 IN.) "WEST, MD 174, LEFT ARROW"

EQUIPMENT LIST 'B'

EQUIPMENT TO BE FURNISHED AND INSTALLED BY THE CONTRACTOR.

ITEM NO.	QUANTITY	DESCRIPTION
1003	3 EA	MAINTENANCE OF TRAFFIC PER ASSIGNMENT
2001	3 CY	CLASS 2 EXCAVATION
2002	8 CY	TEST PIT EXCAVATION
5001	2 EA	REMOVAL OF EXISTING PERMANENT PAVEMENT MARKINGS SYMBOLS OR LEGENDS
5002	20 LF	5 INCH HEAT APPLIED WHITE OR YELLOW PERMANENT PAVEMENT MARKINGS
6001	20 LF	STANDARD TYPE A COMBINATION CURB AND GUTTER 12 IN. GUTTER PAN 8 IN. DEPTH
6002	410 SF	5 INCH CONCRETE SIDEWALK
8001	48 EA	12 INCH LED SIGNAL HEAD SECTION
8007	2 EA	ANY SIZE LIGHTING ARM ON SIGNAL POLE WITH 250 WATT HPS LAMP AND LUMINAIRE
8012	1 EA	EMBEDDED METERED SERVICE PEDESTAL
8019	3 EA	MAST ARM POLE & 50 FT. MAST ARM ANY "T" DIMENSION
8020	1 EA	MAST ARM POLE & 60 FT. MAST ARM ANY "T" DIMENSION
8023	6 EA	NONINVASIVE DETECTOR (ANY LENGTH) LEAD-IN CABLE UP TO 1000 FT.
8024	1 EA	REMOVE & DISPOSE OF EQUIPMENT (PER ASSIGNMENT)
8028	4 EA	VIDEO DETECTION CAMERA & CABLE ANY LENGTH
8030	1,150 LF	12-PAIR COMMUNICATION CABLE, JELLYFILLED (UNDERGROUND)
8032	260 LF	DISCONNECT, PULL-BACK AND REROUTE CABLES
8034	700 LF	UP TO 4 INCH SCHEDULE 80 RIGID PVC CONDUIT - BORED
8035	195 LF	UP TO 4 INCH SCHEDULE 80 RIGID PVC CONDUIT - SLOTTED
8036	875 LF	UP TO 4 INCH SCHEDULE 80 RIGID PVC CONDUIT - TRENCHED
8037	93 LF	WOOD SIGN SUPPORTS UP TO 4 IN. X 6 IN.
8038	229 SF	INSTALL OVERHEAD OR GROUND MOUNTED SIGN (INCLUDING ALL HARDWARE)
8040	560 LF	NO. 6 AWG STRANDED BARE COPPER GROUND WIRE
8043	135 LF	ELECTRICAL CABLE 1-CONDUCTOR NO. 8 AWG-THHN/THWN
8044	14 EA	FURNISH AND INSTALL ELECTRICAL HANDHOLE
8053	110 LF	ELECTRICAL CABLE - 5 CONDUCTOR (NO. 14 AWG)
8054	2,500 LF	ELECTRICAL CABLE - 7 CONDUCTOR (NO. 14 AWG)
8055	430 LF	ELECTRICAL CABLE - 2 CONDUCTOR (NO. 12 AWG), TC
8061	1 EA	INSTALL CONTROLLER AND CABINET - BASE MOUNT

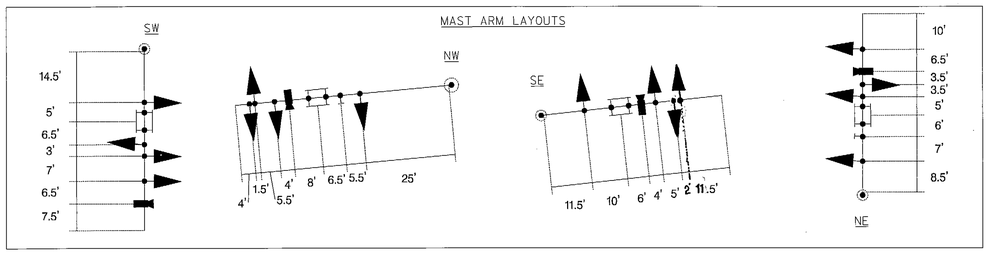
EQUIPMENT LIST 'C'

EQUIPMENT TO BE REMOVED AND RETURNED TO SHA.

ITEM NO.	QUANTITY	DESCRIPTION

NONE - ALL EQUIPMENT TO BE REMOVED SHALL BECOME PROPERTY OF THE CONTRACTOR.

MAST ARM LAYOUTS



PHASE CHART	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
	R Y G	R Y G	R Y G	R Y G	R Y G	R Y G	R Y G	R Y G	R Y G	R Y G	R Y G	R Y G	R Y G	R Y G	R Y G	R Y G
PHASE 1 AND 5	←G—	←G—	R	R	←G—	←G—	R	R	←R—	←R—	R	R	←R—	←R—	R	R
1 AND 5 CHANGE TO 1 AND 6, 2 AND 5, OR 2 AND 6																
PHASE 1 AND 6	←G—	←G—	G	G	←R—	←R—	R	R	←R—	←R—	R	R	←R—	←R—	R	R
PHASE 1 CHANGE	←Y—	←Y—	G	G	←R—	←R—	R	R	←R—	←R—	R	R	←R—	←R—	R	R
PHASE 2 AND 5	←R—	←R—	R	R	←G—	←G—	G	G	←R—	←R—	R	R	←R—	←R—	R	R
PHASE 5 CHANGE	←R—	←R—	R	R	←Y—	←Y—	G	G	←R—	←R—	R	R	←R—	←R—	R	R
PHASE 2 AND 6	←R—	←R—	G	G	←R—	←R—	G	G	←R—	←R—	R	R	←R—	←R—	R	R
2 AND 6 CHANGE	←R—	←R—	Y	Y	←R—	←R—	Y	Y	←R—	←R—	R	R	←R—	←R—	R	R
PHASE 3 AND 7	←R—	←R—	R	R	←R—	←R—	R	R	←G—	←G—	R	R	←G—	←G—	R	R
3 AND 7 CHANGE TO 3 AND 8, 4 AND 7, OR 4 AND 8																
PHASE 3 AND 8	←R—	←R—	R	R	←R—	←R—	R	R	←R—	←R—	R	R	←G—	←G—	G	G
PHASE 3 CHANGE	←R—	←R—	R	R	←R—	←R—	R	R	←R—	←R—	R	R	←Y—	←Y—	G	G
PHASE 4 AND 7	←R—	←R—	R	R	←R—	←R—	R	R	←G—	←G—	G	G	←R—	←R—	R	R
PHASE 7 CHANGE	←R—	←R—	R	R	←R—	←R—	R	R	←Y—	←Y—	G	G	←R—	←R—	R	R
PHASE 4 AND 8	←R—	←R—	R	R	←R—	←R—	R	R	←R—	←R—	G	G	←R—	←R—	G	G
4 AND 8 CHANGE	←R—	←R—	R	R	←R—	←R—	R	R	←R—	←R—	Y	Y	←R—	←R—	Y	Y
PRE-EMPTION	←G—	←G—	G	G	←R—	←R—	R	R	←R—	←R—	R	R	←R—	←R—	R	R
PRE-EMPTION CHANGE	←Y—	←Y—	G	G	←R—	←R—	R	R	←R—	←R—	R	R	←R—	←R—	R	R
FLASHING OPERATION	FL/RA	FL/RA	FL/Y	FL/Y	FL/RA	FL/RA	FL/Y	FL/Y	FL/RA	FL/RA	FL/R	FL/R	FL/RA	FL/RA	FL/R	FL/R

TOD NO: XX353-32
SHA NO: AA816A5B/K5B
MD 170 @ MD 174

SHA

STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION

OFFICE OF TRAFFIC & SAFETY
TRAFFIC ENGINEERING DESIGN DIVISION

MD 170 (TELEGRAPH ROAD) AT

MD 174 (REECE ROAD /DONALDSON AVENUE)

SEVERN, MARYLAND

GENERAL INFORMATION

SCALE NONE ADVERTISED DATE 3 /2011 CONTRACT NO. XX3535168

DESIGNED BY MCG
DRAWN BY MCG
CHECKED BY MTS
F.A.P. NO.

COUNTY ANNE ARUNDEL
LOGMILE 02017003.52
TIMS NO. K599
TOD NO.

TS NO. 1464F-GI | DRAWING SG-02 OF 02 | SHEET NO. 02 OF 02

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