PROJECT DESCRIPTION

GENERAL

THIS PORTION OF THE PROJECT INVOLVES THE RECONSTRUCTION OF THE EXISTING TRAFFIC CONTROL SIGNAL AT THE INTERSECTION OF MD 355 AND MD 410 (EAST-WEST HIGHWAY)/ MD 187 (OLD GEORGETOWN ROAD) IN MONTGOMERY COUNTY, MARYLAND. MD 355 IS ASSUMED TO RUN IN AN NORTH-SOUTH DIRECTION.

INTERSECTION OPERATION

THE INTERSECTION OPERATES IN A NEMA THREE-PHASE, FULL-TRAFFIC-ACTUATED MODE WITH THE MD 355 APPROACHES OPERATING CONCURRENTLY AND THE MD 410 APPROACH OPERATING ALONE.

EXCLUSIVE/PERMISSIVE LEFT-TURN PHASING IS PROVIDED FOR THE NORTHBOUND MD 355 APPROACH.

AN ALTERNATE PEDESTRIAN PHASE IS PROVIDED ACROSS BOTH LEGS OF MD 355 AND PEDESTRIAN INDICATIONS ARE PROVIDED ACROSS THE MD 410 AND THE MD 187 APPROACHES.

TYPICAL MESSAGES FOR ACCESSIBLE PED SIGNALS

MD 355 (WISCONSIN AVENUE) AT MD 410 (EAST-WEST HWY)/ MD 187 (OLD GEORGETOWN RD) - NORTH LEG

INTERSECTION WITH ANGLED CROSSING

WAIT: "WAIT TO CROSS WISCONSIN AT EAST-WEST AND OLD GEORGETOWN. CROSSWALK ANGLES RIGHT. WAIT." **

WALK: RAPID TICK

MD 355 (WISCONSIN AVENUE) AT MD 410 (EAST-WEST HWY)/ MD 187 (OLD GEORGETOWN RD) - SOUTH LEG

STREETS AT 90 DEGREES

WAIT: "WAIT TO CROSS WISCONSIN AT EAST-WEST AND OLD GEORGETOWN. WAIT." *

WALK: RAPID TICK

MD 410 (EAST-WEST HWY) AT MD 355 (WISCONSIN AVENUE) - EAST LEG

STREETS AT 90 DEGREES

WAIT: "WAIT TO CROSS EAST-WEST AT WISCONSIN. WAIT." *

WALK: RAPID TICK

MD 187 (OLD GEORGETOWN RD) AT MD 355 (WISCONSIN AVENUE). WAIT."*

STREETS AT 90 DEGREES

WAIT: "WAIT TO CROSS OLD GEORGETOWN AT WISCONSIN. WAIT."

WALK: RAPID TICK

* MESSAGE USED IF DISTANCE FROM NEAREST PUSHBUTTON FOR PERPENDICULAR CROSSING IS < 10'
** MESSAGE USED IF CROSSWALK DIVERGES FROM OR CONVERGES WITH PARALLEL TRAFFIC

NOTE: MESSAGES FOR INTERSECTION CONFIGURATIONS, VARYING FROM THE ABOVE ARE TO BE APPROVED BY THE DIRECTOR, OFFICE OF TRAFFIC AND SAFETY.

CONTROLLER REQUIREMENTS

INSTALL A FULL-TRAFFIC-ACTUATED, EIGHT-PHASE CONTROLLER WITH SYSTEM PACKAGE HOUSED IN A NEMA SIZE "S" BASE MOUNTED CABINET.

PROJECT CONTACTS

THE CONTACT PERSONS FOR SHA ARE AS FOLLOWS:

MS. CORREN JOHNSON
CHIEF, TRAFFIC OPERATIONS DIVISION
PHONE: (410) 787-7630

MR. TOM FOUNTAIN
ASSISTANT DISTRICT ENGINEER - MAINTENANCE
PHONE: (301) 513-7304

MR. VICTOR GRAFTON
DISTRICT UTILITY ENGINEER
PHONE: (301) 513-7350

MS. ANYESHA MOOKHERJEE
ASSISTANT DISTRICT ENGINEER -
TRAFFIC (MONTGOMERY)
PHONE: (301) 513-7404

MR. KAMAL HAMUD
TEAM LEADER, TRAFFIC SIGNALS
MONTGOMERY COUNTY DOT -
DIVISION OF TRAFFIC ENGINEERING AND OPERATIONS
PHONE: (240) 777-8761

MR. BOB RICKETTS
MONTGOMERY COUNTY SIGNAL SHOP
PHONE: (240) 876-3681

MR. ROBERT SNYDER - OOTS
ASSISTANT DIVISION CHIEF, TRAFFIC OPERATIONS
PHONE: (410) 787-7630

MR. EDWARD RODENHIZER - OOTS
CHIEF, SIGNAL OPERATIONS SECTION
PHONE: (410) 787-7670

EQUIPMENT LIST "A"

A. EQUIPMENT TO BE SUPPLIED BY THE SHA

CATEGORY CODES	QUANTITY	DESCRIPTION
900000	1 EACH	CONTROLLER CABINET, SIZE "S" W/CTRL
900000	1 EACH	UPS EQUIPMENT FOR "S" CABINET
900000	1 EACH	LAU PANEL
973022	38 S.F.	SHEET ALUMINUM SIGNS TO CONSIST OF (GROUND MOUNT) :
		- 2 EACH R7-4(3) MOD. (18 IN. x 24 IN.) - GROUND MOUNT
		- 2 EACH R7-201a (12 IN. x 6 IN.) - GROUND MOUNT
		- 1 EACH R4-7 (24 IN. x 30 IN.) - GROUND MOUNT
		- 1 EACH R5-1 (30 IN. x 30 IN.) - GROUND MOUNT
		- 1 EACH M4-5 (24 IN. x 12 IN.) - GROUND MOUNT
		- 1 EACH M6-3 (21 IN. x 15 IN.) - GROUND MOUNT
		- 1 EACH M3-1 (24 IN. x 12 IN.) - GROUND MOUNT
		- 1 EACH M6-2 (21 IN. x 15 IN.) - GROUND MOUNT
		- 2 EACH M1-5 (30 IN. x 24 IN.) - GROUND MOUNT
973023	96 L.F.	SHEET ALUMINUM SIGNS TO CONSIST OF (POLE MOUNT) :
		- 2 EACH R3-1 (36 IN. x 36 IN.) - MAST ARM MOUNT
		- 2 EACH R3-18 (36 IN. x 36 IN.) - MAST ARM MOUNT
		- 3 EACH R3-5(L) (30 IN. x 36 IN.) - MAST ARM MOUNT
		- 1 EACH R3-5(R) (30 IN. x 36 IN.) - MAST ARM MOUNT
		- 1 EACH R3-6 (30 IN. x 36 IN.) - MAST ARM MOUNT
		- 1 EACH R10-15 (30 IN. x 36 IN.) - MAST ARM MOUNT
		- 1 EACH R10-11b (24 IN. x 24 IN.) - MAST ARM MOUNT
		- 4 EACH R10-3(1) SIGN (9 IN. x 15 IN.) TO READ "PUSHBUTTON TO CROSS WISCONSIN AVENUE"
		- 2 EACH R10-3(1) SIGN (9 IN. x 15 IN.) TO READ "PUSHBUTTON TO CROSS EAST-WEST HWY"
		- 2 EACH R10-3(1) SIGN (9 IN. x 15 IN.) TO READ "PUSHBUTTON TO CROSS OLD GEORGETOWN RD"

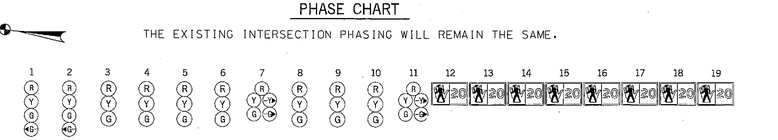
MAINTENANCE OF TRAFFIC

THE FOLLOWING TRAFFIC CONTROL STANDARDS SHALL BE REFERENCED FOR THE PROJECT.
ADDITIONAL TRAFFIC CONTROL STANDARDS MAY BE USED AS DIRECTED BY THE ENGINEER.

STANDARD NO. MD-104.04-02 (SHOULDER WORK)
STANDARD NO. MD-104.04-04 (LEFT LANE CLOSURE)
STANDARD NO. MD-104.04-06 (RIGHT LANE CLOSURE)
STANDARD NO. MD-104.04-08 (CENTER LANE CLOSURE)
STANDARD NO. MD-104.04-14 (LEFT TURN BAY CLOSURE)
STANDARD NO. MD-104.04-16 (INTERSECTION LEFT LANE, TURN BAY)

PHASE CHART

THE EXISTING INTERSECTION PHASING WILL REMAIN THE SAME.



	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
PHASE 1	G	G	G	R	R	R	R	R	R	R	R	DW	WK	WK	DW	DW	DW	DW	DW
PED CLEARANCE	G	G	G	R	R	R	R	R	R	R	R	DW	FL/DW	FL/DW	DW	DW	DW	DW	DW
1 CHANGE	G	G	G	R	R	R	R	R	R	R	R	DW	DW	DW	DW	DW	DW	DW	DW
PHASE 2	R	R	R	G	G	G	R	R	R	R	R	WK	DW	DW	WK	DW	DW	DW	DW
PED CLEARANCE	R	R	R	G	G	G	R	R	R	R	R	FL/DW	DW	DW	FL/DW	DW	DW	DW	DW
2 CHANGE	R	R	R	Y	Y	Y	R	R	R	R	R	DW	DW	DW	DW	DW	DW	DW	DW
PHASE 4	R	R	R	R	R	R	G	G	G	G	G	DW	DW	DW	DW	WK	WK	WK	WK
PED CLEARANCE	R	R	R	R	R	R	G	G	G	G	G	DW	DW	DW	DW	FL/DW	FL/DW	FL/DW	FL/DW
4 CHANGE	R	R	R	R	R	R	Y	Y	Y	Y	Y	DW	DW	DW	DW	DW	DW	DW	DW
FLASHING OPERATION	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/R	FL/R	FL/R	FL/R	FL/R	DARK	DARK	DARK	DARK	DARK	DARK	DARK	DARK

EQUIPMENT LIST "B"

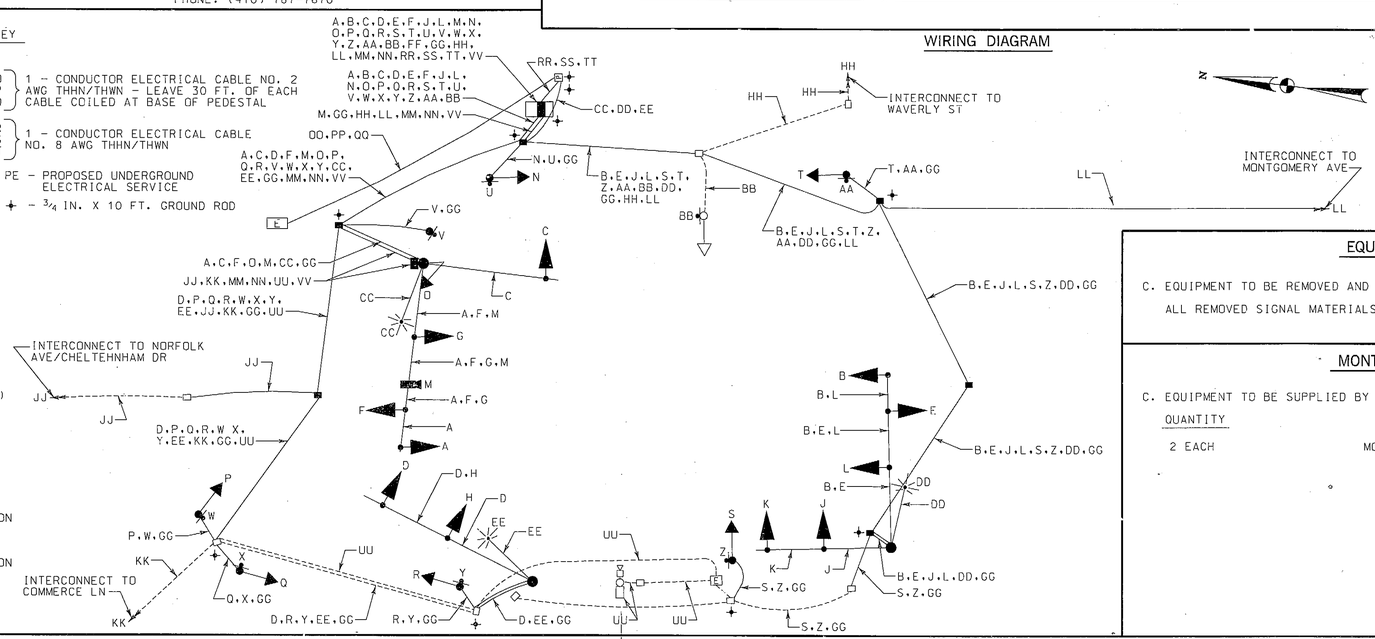
B. EQUIPMENT TO BE FURNISHED AND/OR INSTALLED BY THE CONTRACTOR

CATEGORY CODES	QUANTITY	DESCRIPTION
120500	1 EACH	MAINTENANCE OF TRAFFIC
203030	6 C.Y.	TEST PIT EXCAVATION
585621	935 L.F.	12 INCH WHITE PREFORMED THERMOPLASTIC PAVEMENT MARKING LINES
585625	160 L.F.	24 INCH HEAT APPLIED WHITE PERMANENT PREFORMED THERMOPLASTIC PAVEMENT MARKINGS
655383	425 S.F.	BRICK SIDEWALKS
801004	23 C.Y.	CONCRETE FOR SIGNAL FOUNDATION
801104	61 L.F.	WOOD SIGN SUPPORTS 4 INCH X 4 INCH
802145	3 EACH	ADJUST EXISTING HANDHOLE
802501	785 L.F.	NO. 6 AWG STRANDED BARE COPPER GROUND WIRE
805125	45 L.F.	2 INCH SCHEDULE 80 RIGID PVC CONDUIT-TRENCHED
805140	25 L.F.	4 INCH SCHEDULE 80 RIGID PVC CONDUIT-TRENCHED
805145	115 L.F.	2 INCH SCHEDULE 80 RIGID PVC CONDUIT-SLOTTED
805150	20 L.F.	3 INCH SCHEDULE 80 RIGID PVC CONDUIT-SLOTTED
805155	500 L.F.	4 INCH SCHEDULE 80 RIGID PVC CONDUIT-SLOTTED
807202	1 EACH	METERED SERVICE PEDESTAL
810022	75 L.F.	ELECTRICAL CABLE 1-CONDUCTOR NO. 8 AWG-THHN/THWN
811001	6 EACH	FURNISH AND INSTALL ELECTRICAL HANDHOLE
813014	38 S.F.	INSTALL GROUND MOUNTED SIGN
813015	139 S.F.	INSTALL OVERHEAD SIGN
818004	7 EACH	10 FOOT BREAKAWAY PEDESTAL POLE
818021	2 EACH	STEEL POLE WITH TWIN 50 FOOT AND 50 FOOT MAST ARMS
818036	1 EACH	STEEL POLE WITH A SINGLE 50 FOOT MAST ARM
831010	3 EACH	LED LAMP AND LUMINAIRE
832018	340 L.F.	CABLE - 1 CONDUCTOR, NO 2 AWG, TYPE USE, 600V
837001	10 EACH	GROUND ROD - 3/4 INCH DIAMETER X 10 FOOT LENGTH
860284	39 EACH	12 IN. LED VEHICULAR TRAFFIC SIGNAL HEAD SECTION
860290	4 EACH	CUT, CLEAN, GALVANIZE AND CAP TRAFFIC SIGNAL STRUCTURE
861105	1560 L.F.	ELECTRICAL CABLE - 2 CONDUCTOR (NO. 14 AWG)
861107	2000 L.F.	ELECTRICAL CABLE - 5 CONDUCTOR (NO. 14 AWG)
861108	1650 L.F.	ELECTRICAL CABLE - 7 CONDUCTOR (NO. 14 AWG)
861106	735 L.F.	ELECTRICAL CABLE - 3 CONDUCTOR (NO. 14 AWG)
866103	3 EACH	15 FOOT LIGHTING ARM ON SIGNAL STRUCTURE
871041	1 EACH	INSTALL AUXILARY CABINET WITH TERMINAL STRIP - POLE MOUNT
871202	1 EACH	INSTALL CONTROLLER AND CABINET - BASE MOUNT
800000	1 EACH	REMOVE AND DISPOSE OF EXISTING MATERIAL AND EQUIPMENT
800000	7 EACH	16 INCH COUNTDOWN PEDESTRIAN SIGNAL HEAD
800000	8 EACH	AUDIBLE/TACTILE PEDESTRIAN PUSHBUTTON STATION
800000	1 EACH	2-WIRE CENTRAL CONTROL UNIT
800000	1 EACH	VIDEO DETECTION CAMERA AND CABLE
800000	420 L.F.	DISCONNECT AND PULL BACK EXISTING ELECTRICAL CABLE
800000	3 EACH	PAINT SIGNAL AND MAST ARM POLE FEDERAL BROWN NO. 595a-20040
800000	8 EACH	PAINT PEDESTAL POLE FEDERAL BROWN NO. 595a-20040

WIRING KEY

- A, B, C, D, E } 7-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)
- F, G, H, J, K, L } 5-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)
- U, V, W, X } Z, Y, AA, BB } 2-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)
- CC, DD, EE } 3-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.) - TRAY CABLE
- FF } VIDEO CAMERA DETECTION LEAD-IN CABLE
- GG } STRANDED BARE COPPER GROUND WIRE (NO. 6 A.W.G.)
- HH, JJ } EX. 12-PAIR COMMUNICATION CABLE (JELLY-FILLED)
- KK } EX. 50-PAIR COMMUNICATION CABLE
- LL, MM, NN } PROP. 12-PAIR COMMUNICATION CABLE (JELLY-FILLED)
- UU, VV } PROP. 50-PAIR COMMUNICATION CABLE
- M } VIDEO CAMERA DETECTION LEAD-IN CABLE
- OO, PP, QQ } 1 - CONDUCTOR ELECTRICAL CABLE NO. 2 AWG THHN/THWN - LEAVE 30 FT. OF EACH CABLE COILED AT BASE OF PEDESTAL
- RR, SS, TT } 1 - CONDUCTOR ELECTRICAL CABLE NO. 8 AWG THHN/THWN
- PE - PROPOSED UNDERGROUND ELECTRICAL SERVICE
- ⏚ - 3/4 IN. X 10 FT. GROUND ROD

WIRING DIAGRAM



EQUIPMENT LIST "C"

C. EQUIPMENT TO BE REMOVED AND RETURNED TO SHA

ALL REMOVED SIGNAL MATERIALS SHALL BECOME PROPERTY OF THE CONTRACTOR

MONTGOMERY COUNTY

C. EQUIPMENT TO BE SUPPLIED BY MONTGOMERY COUNTY

QUANTITY	DESCRIPTION
2 EACH	MONTGOMERY COUNTY SPLICE CABINET - POLE MOUNT

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

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

MD 355 and MD 410 (East-West Hwy)/MD 187 (Old Georgetown Rd)
Bethesda, Maryland

GENERAL INFORMATION SHEET

SCALE NONE ADVERTISED DATE 3/05/2013 CONTRACT NO. MO1175177

DESIGNED BY N. Leary
DRAWN BY S. Bloss
CHECKED BY N. Leary
F.A.P. NO. SEE TITLE SHEET
COUNTY Montgomery
LOGMILE 15035501.70
TIMS NO. L488
TOD NO.

TS NO. 2694 D | DRAWING TSP-18 OF 20 | SHEET NO. ### OF ###

PLOTTED: March 11, 2013
FILE: N:\31689-239\CADD\pSG-P018_md355.dgn

BY: sbloss