PROJECT DESCRIPTION

I. FOREST DRIVE AND MD 393 (OLD SOLOMON'S ISLAND RD.)

(Reconstruction and Systemization. See intersection's GI sheet no.: 2 of 15.)

II. MD 2 (SOLOMON'S ISLAND RD.) AND FOREST DRIVE

(Reconstruction and Systemization. See intersection's GI sheet no.: 4 of 15.)

III. MD 450 AND RIVA RD./ US 50 EASTBOUND ON RAMPS

(Reconstruction and systemization. See intersection's GI sheet no.: 6 of 15.)

IV. MD 450 AND RIVA RD. CONNECTOR 'A'

This traffic control signal shall be included with the MD 2/ MD 178/ MD 450 system. A video detection camera system shall provide the detection The sampling fields are located farside on the west leg of MD 450. Street lighting is provided on the northwest and southeast quaudrants.

MD 450 is assumed to run in an east-west direction. The intersection shall continue to operate in a three-phase, semi-traffic actuated mode. MD 450 approaches shall run concurrently with Riva Rd. Connector 'A' operating alone.

A video interface shall be added to the controller housed in the existing Nema size '6' base mounted cabinet at the intersection.

V. MD 450 AND JENNIFER RD./ US 50 WESTBOUND ON RAMPS

[1] This traffic control signal shall be included with the MD 2/ MD 178/ MD 450 system. Video detection camera system shall provided the detection. The sampling fields are located farside on the east and west legs of MD 450. Street lighting is provided on the northwest and southeast quadrants.

MD 450 is assumed to run in an east-west direction. The intersection shall continue to operate in a six-phase, full-traffic-actuated mode. ~~The left turns for MD 450 shall be changed from exclusive/permissive to exclusive.~~ Jennifer Rd./ US 50 ramps shall operate in a split phase.

A NEMA eight-phase, full-traffic actuated, solid state digital controller with five (5) four-channel rack mounted loop detector amplifies, detector panel, rack power supply, and video interface with all necessary equipment housed in a NEMA size "6" base-mounted cabinet shall be installed at the intersection on the existing cabinet foundation.

VI. MD 450 / MD 178 AND ANNAPOLIS MALL ENTRANCE

This traffic control signal shall serve as the master to the MD 2/ MD 178/ MD 450 system. Video detection camera system shall provided the detection for the sampling fields.The sampling fields are located farside on the west leg of MD 178 and farside on the east leg of MD 450. Street lighting is provided on the northwest and southeast quadrants.

MD 450 is assumed to run in an east-west direction. The intersection shall continue to operate in a six-phase, full-traffic-actuated mode. Exclusive/ permissive left turns are provided for the east leg of MD 450 and the west leg of MD 178. The north leg, Annapolis Mall Ent. and the south leg, MD 450 shall operate in a split phase. Queing loops shall be provided for the double left turns on the east leg of MD 450.

A NEMA eight-phase, master/local, full-traffic actuated, solid state digital controller with three (3) four-channel rack mounted loop detector amplifies, rack power supply, and Video interface with all necessray equipment housed in a NEMA size "6" base-mounted cabinet shall be installed at the intersection on the existing cabinet foundation.

VII. MD 178 AND SAM'S CLUB ENTRANCE

This traffic control signal shall be included with the MD 2/ MD 178/ MD 450 system.

MD 178 is assumed to run in a north-south direction. The intersection shall continue to operate in a three-phase, full-traffic-actuated mode. Exclusive/ permissive left turn is provided for the south leg of MD 178. Sam's Club Ent. shall operate alone. Street lighting is provided on the northeast quadrant.

The existing controller will be retrofitted for three (3) four-channel rack mounted loop detector amplifies. A rack power supply with all necessary equipment shall be added to the existing NEMA size "6" base-mounted cabinet.

VIII. MD 178 AND BESTGATE RD. / HOUSLEY RD.

This traffic control signal shall be included with the MD 2/ MD 178/ MD 450 system. Video detection camera system shall provided the detection for the sampling fields.The sampling fields are located farside on the north and south legs of MD 178. Street lighting is provided on the northeast quadrant.

MD 178 is assumed to run in a north-south direction. The intersection shall continue to operate in a six-phase, full-traffic-actuated mode. Exclusive/ permissive left turns are provided for MD 178. Bestgate Rd./ Housley Rd. shall operate in a split phase.

The existing controller shall be retrofitted for five (5) four-channel rack mounted loop detector amplifies. A detector panel, rack power supply, and video interface with all necessary equipment shall be added to the existing NEMA size "6" base- mounted cabinet.

The following contact persons for District # 5 are as follows:

Mr. Paul D. Armstrong
District Engineer
Phone: (410) 841-1001

Mr. Larry Elliott
Assistant District Engineer - Traffic
Phone: (410) 841-1003

Mr. George Charles
Assistant District Engineer - Maintenance
Phone: (410) 841-1002

Mr. John Mays
Assistant District Engineer - Utility
Phone: (410) 841-1005

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

The power company representatives is:
Baltimore Gas and Electric
Mike Malizewski
7317 Parkway Drive
Hanover, Maryland 21076
410- 859-9043

EQUIPMENT LIST

A. EQUIPMENT TO BE FURNISHED BY M.S.H.A.

	ITEM NO.	QUANTITY	UNIT	DESCRIPTION
	9000	2	EA	An eight-phase, solid state full-traffic actuated digital controller with one (1) four-channel rack mounted loop detector amplifiers, and rack power supply with all the necessary equipment housed in a NEMA size '6' base mounted cabinet. (MD 2 & Forest Dr. and MD 450 & Riva Rd.)
	9000	1	EA	An eight-phase, solid state full-traffic-actuated digital controller with all necessary equipment housed in a NEMA size '6' base-mounted cabinet. (Forest Dr. & MD 393)
	9000	1	EA	An eight-phase, solid state full-traffic-actuated digital controller with five (5) four-channel rack mounted loop detector amplifiers, detector panel, and rack power supply with all necessary equipment housed in a NEMA size '6' base-mounted cabinet. (MD 450 & Jennifier RD)
	9000	1	EA	An eigth-phase, master/local solid state full-traffic-actuated digital controller with three (3) four-channel ampifiers, and rack power supply with all necessary equipment housed in a NEMA size '6' base-mounted cabinet. (MD 450 & Annapolis Mall)
	9000	2	EA	Detector rack retrofit.
	9002	19	EA	Detector amplifier 4-channel rack mounted.
	9003	3	EA	Detector panel.
	9004	2	EA	Detector power supply.
	9087	8	EA	ASC II's controller.
	9088	1	EA	ASC II Master Controller.
[1]	9089	439	SF	Flat Sheet aluminum sign (white).
		[1] ~~3~~ 4	each	R3-5L "LEFT TURN ONLY" sign (30" x 36").
		1	each	R3-5R "RIGHT TURN ONLY" sign (30" x 36").
		1	each	R3-6R "THRU, RIGHT TURN" sign (30" x 36").
		2	each	R3-6L "THRU, LEFT TURN" sign (30" x 36").
		1	each	R3-1R "NO RIGHT TURN" sign (30" x 30").
		1	each	R3-1L "NO LEFT TURN" sign (30" x 30").
		3	each	R10-12 "LEFT TURN, YIELD ON GREEN BALL" sign (36" x 42").
		1	each	Guide Shield Assembly sign (48" x 75") - M3-3 "SOUTH" (30"x 15"), M1-5 "MARYLAND 178" (48"x36"), M6-1 "LEFT ARROW" (30"x24").
		2	each	Guide Shield Assembly sign (48" x 75") - M3-1 "NORTH" (30"x15"), M1-5 "MARYLAND 178" (48"x 36"), M6-1 "LEFT ARROW" (30"x 24").
		1	each	Guide Shield Assembly sign (30" x 51) - M3-1 "NORTH" (24"x 12"), M1-5 "MARYLAND 178" (30"x24"), M6-1"RIGHT ARROW" (21"x 15").
		2	each	Guide Shield Assembly signs (30" x 51") - M3-3 "SOUTH" (24"x12"), M1-5 "MARYLAND 178" (30"x 24"), M6-1"RIGHT ARROW" (21"x15").
		1	each	Guide Shield Assembly signs (48" x 75") - M3-3 "SOUTH" (30" x 15"), M1-5 "MARYLAND 393" (48" x 36"), M6-1 "LEFT ARROW" (30" x 24").
		1	each	Guide Shield Assembly signs (48" x 75") - M3-1 "NORTH" (30" x 15"), M1-5 "MARYLAND 393" (48" x 36"), M6-1 "LEFT ARROW" (30" x 24").
		1	each	Guide Shield Assembly signs (30" x 51") - M3-1 "NORTH" (24" x 12"), M1-5 "MARYLAND 393" (30" x 24"), M6-1 "RIGHT ARROW" (21" x 15").
		1	each	Guide Shield Assembly signs (30"x 51") - M3-3 "SOUTH" (24" x 12"), M1-5 "MARYLAND 393" (30" x 24"), M6-1 "RIGHT ARROW" (21" x 15").
		1	each	Guide Shield Assembly pole mounted sign (36" x 75") - M3-1 "NORTH" (30"x 15"), M1-5 "MARYLAND 2" (36"x36"), M6-1"LEFT ARROW" (30"x24").
		1	each	Guide Shield Assembly pole mounted sign (36" x 75") - M3-3 "SOUTH (30"x 24"), M1-5 "MARYLAND 2" (36"x36"), M6-1 "LEFT ARROW" (30"x 24").
		1	each	Guide Shield Assembly pole mounted sign (30" x 51") - M3-3 "SOUTH" (24"x12"), M1-5 "MARYLAND 2" (30"x24"), M6-1 "RIGHT ARROW" (21"x15").
		1	each	Guide Shield Assembly pole mounted sign (30" x 51") - M3-1 "NORTH" (24"x12"), M1-5 "MARYLAND 2" (30"x24"), M6-1 "RIGHT ARROW" (21"x15").
		1	each	Guide Shield Assembly pole mounted sign (30" x 51") - M3-3 "SOUTH' (24"x 12"), M1-5 "MARYLAND 2" (30"x24"), M6-1 "RIGHT ARROW" (12"x 15").
		1	each	Guide Shield Assembly pole mounted sign (36" x 75") - M3-2 "EAST" (30"x15"), M1-4 "US 50 shield" (36"x 36"), M6-1 "LEFT ARROW" (30"x24").
		2	each	Guide Shield Assembly pole mounted sign (48" x 75") - M3-2 "EAST" (30"x15"), M1-5 "MARYLAND 450" (48"x36"), M6-1 "LEFT ARROW" (30"x24").
		1	each	Guide Shield Assembly pole mounted sign (30" x 51") - M3-2 "EAST" (24"x12"), M1-5 "MARYLAND 450" (30"x 24"), M6-1 "RIGHT ARROW" (21"x 15").
		2	each	Guide Shield Assembly pole mounted sign (30" x 51") - M3-4 "WEST" (24"x12"), M1-5 "MARYLAND 450" (30"x24"), M6-1 "RIGHT ARROW" (21"x15").
	9090	85	SF	Flat Sheet aluminum sign (blue or green).
		1	each	D3-2 "ARROW Riva RD" sign, (variable x 16").
		1	each	D3-2 "Riva RD" sign, (variable x 16").
		2	each	D3-2 "Solomon's Is. RD" dual faced sign, (variable x 16").
		4	each	D3-2 "Forest DR" dual faced sign, (variable x 16").
		2	each	D3-2 "Old Solomon's Is. RD" dual faced sign, (variable x 16').

EQUIPMENT LIST (con't)

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

	ITEM NO.	QUANTITY	UNIT	DESCRIPTION.
[1]	1001	~~43~~ 4	EA	Maintenance of traffic.
	2001	112	CY	Class 1 excavation.
[1]	2003	~~26.5~~ 330	CY	Class 2 excavation.
	2004	9	CY	Test pit excavation.
	5005	140	LF	24" white heat applied thermoplastic pavement marking.
	5008	140	LF	Remove existing pavenent line markings.
	6001	50	LF	Depressed curb and gutter.
	6002	420	LF	Standard curb and gutter (12" gutter pan/ 8" depth).
	6003	10	LF	Monolithic concrete median (4' wide).
[1]	6004	~~300~~ 3335	SF	4" concrete sidewalk.
	8003	1	EA	Adjust existing handhole to grade.
	8004	8	EA	Cut,clean and cap traffic signal structure.
[1]	~~8005~~ Delete	~~5~~	~~EA~~	~~Deliver existing controller, cabinet and galvanized structure.~~
	8008	8	EA	Optically programed traffic signal head section.
[1]	8010	~~96~~ 108	EA	12" traffic signal head section.
	8012	8	EA	15' bracket arm for signal structure.
	8013	5	EA	250 Watt HPS luminaire with photocell.
	8014	2	EA	3" weatherhead.
[1]	8018	~~33~~ 27	EA	8" traffic signal head section.
	8020	1	EA	27' steel pole (cut to 21') with 38' mast arm (cut to 34').
	8021	1	EA	27' steel pole (cut to 21') with 50' mast arm (cut to 40').
	8021	2	EA	27' steel pole with 50' mast arm (cut to 45').
	8021	1	EA	27' steel pole with 50' mast arm (cut 40').
	8021	3	EA	27' steel pole with 50' mast arm.
	8022	2	EA	27' steel pole (cut to 21') with 60' mast arm.
	8022	1	EA	27' steel pole with 60' mast arm.
	8028	2	EA	Microloop probe set with 1000' lead-in cable.
	8029	2	EA	Microloop probe set with 500' lead-in cable.
[1]	8037	~~4~~ 1	EA	Remove and dispose material and equipment. (Per assignment)
	8038	17	EA	Remove and dispose foundation 12" below grade.
[1]	~~8039~~ Delete	~~17~~	~~LF~~	~~Remove existing controller, cabinet and gal. structure.~~
	8042	55	LF	2" PVC schedule 80 electrical conduit- trenched
	8044	1560	LF	3" PVC schedule 80 electrical conduit- trenched.
	8045	60	LF	3" schedule 80 PVC riser.
	8046	185	LF	4" PVC schedule 80 electrical conduit- trenched.
	8048	1120	LF	2-conductor electrical cable (No. 12 TC).
	8049	40	CY	Concrete for signal foundation.
	8052	1240	LF	No 6 AWG stranded bare copper ground wire.
	8056	1930	LF	4" PVC schedule 80 electrical conduit- bored.
	8060	26	LF	1" liquid tight flexible non-metallic conduit for detector sleeve.
	8061	90	LF	1-conductor electrical cable (No. 4-AWG THHN/THWN).
	8063	31	EA	Electrical handhole.
[1]	8066	~~523~~ 531	SF	Install overhead sign.
	8067	400	LF	12 pair communication cable, self supporting (overhead).
	8071	17	EA	Ground rod ¾" dia x 10' length.
	8072	3	EA	Control and distribution equipment (120/240 V, 1 phase/3 wire).

EQUIPMENT LIST (con't)

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

	ITEM NO.	QUANTITY	UNIT	DESCRIPTION
	8073	1620	LF	2-conductor electrical cable (aluminum shielded).
[1]	8076	~~400~~ 840	LF	5-conductor electrical cable (No. 14 AWG).
[1]	8077	~~6360~~ 6640	LF	7-conductor electrical cable (No. 14 AWG).
	8078	825	LF	Loop wire (No. 14 AWG) encased in flexible tuding.
	8079	240	LF	Sawcut for signal loop detector.
	8084	5	EA	Install controlier and cabinet-base mounted.
	8090-A	5300	EA	Fiber optic interconnect cable.
	8092-A	8	EA	Fiber optic I/O panel.
	8093-A	6	EA	Fiber optic repeater modem.
	8094-A	2	EA	Fiber optic transceiver modem.
	8095-A	9	EA	Fiber optic telemetry modules.
	8096-A	1	EA	Cable from master to telemetry.
	8097-A	9	EA	Telemetry interface cable.
	8098-A	9	EA	Fiber optic modem cable.
	8099-A	9	LF	Fiber optic telemetry cable.
	NEG	5000	LF	No. 10 AWG bare copper (tracer wire).
	NEG	200	LF	Pull back and re-route existing cables.
	NEG	10	EA	Handhole (frame & cover) with concrete collar.
[1]	~~NEG~~	~~320~~	~~LF~~	~~Removal of curb & gutter.~~ ADDED TO CLASS 2 EXCAVATION
[1]	~~NEG~~	~~1445~~	~~SF~~	~~Removal of concrete island.~~
	NEG	515	LF	Sawcut of pavement.
[1]	~~NEG~~	~~3035~~	~~SF~~	~~Concrete for island reconstruction.~~ ADDED TO ITEM 6004
[1]	NEG	420	LF	Hot mix asphalt (HMA) curb. (To adjoin the existing road to new island)
[1]	NEG	187	CY	Fill (Δ excavate → 4" finish grade). (To adjoin the existing road to new island)
	NEG	16	EA	Video detection camera.
	NEG	7	EA	Video detection interface equipment.
	~~NEG~~	~~10~~	~~EA~~	~~250' pre-manufactured video detection cable.~~
[1]	NEG	~~6~~ 16	EA	500' pre-manufactured video detection cable.

[1] ~~C. EQUIPMENT TO BE REMOVED BY THE CONTRACTOR AND RETURNED TO THE OFFICE OF TRAFFIC, HANOVER.~~ Delete

~~5 EA Controller and base-mounted cabinet.~~

~~ALL REMOVED SIGNAL MATERIALS ARE TO BECOME THE PROPERTY OF THE CONTRACTOR.~~

[1] C. EQUIPMENT TO BE REMOVED:

SHA FORCES SHALL REMOVE THE CONTROLLER AND ALL AUXILIARY EQIPMENT FROM THE CONTOLLER CABINET.

THE CABINET AND ALL OTHER MATERIALS TO BE REMOVED BY THE CONTRACTOR SHALL BECOME THE PROPERTY OF THE CONTRACTOR.

[1] REVISION NO. 1 8/22/01

REVISION NO. 1

STREET TRAFFIC STUDIES, LTD.
400 Corby Hwy./Rt.
Glen Burnie, MD 21061
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3925xGI.DGN TASK 5

MARYLAND DOT - STATE HIGHWAY ADMINISTRATION
Office of Traffic & Safety
TRAFFIC ENGINEERING DESIGN DIVISION

MD 2/ MD 178/ MD 450 SYSTEM

SYSTEM GENERAL INFORMATION SHEET

DRAWN BY: EMM	F.A.P. NO.		TS NO. 3319 XGI	SHEET NO.
CHECKED BY: RRZ	S.H.A. NO.	AA085A54/B56		3 OF 3
SCALE: NONE	COUNTY:	ANNE ARUNDEL	T.I.M.S. NO. D 828	
DATE: 7/13/01	LOG MILE:			

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