PROJECT DESCRIPTION

THIS PROJECT INVOLVES THE TOTAL RECONSTRUCTION OF THE EXISTING TRAFFIC CONTROL SIGNAL AT THE INTERSECTION OF MD 157 AND MOORGATE ROAD/MEADOW LANE IN BALTIMORE COUNTY.
MD 157 IS ASSUMED TO RUN IN A NORTH-SOUTH DIRECTION.
THE INTERSECTION OPERATION WILL ALSO BE CHANGED FROM A NEMA SIX PHASE TO A NEMA FOUR PHASE, ELIMINATING THE LEFT TURN PHASES FOR N.B. AND S.B. MD 157. THE ADDITION OF PEDESTRIAN PHASES WILL ALSO BE INCORPORATED.

INTERSECTION OPERATION

THE INTERSECTION WILL NOW OPERATE IN A NEMA FOUR-PHASE, FULL-TRAFFIC-ACTUATED MODE WITH CONCURRENT PEDESTRIAN PHASES ACROSS THE NORTH LEG AND SOUTH LEG OF MD 157. VIDEO DETECTION CAMERA FOR SIDE STREETS, 1 AND ~~LOOP DETECTION~~ FOR ACCESS ROAD.

CONTROLLER REQUIREMENTS

INSTALL A FULL-TRAFFIC-ACTUATED, EIGHT-PHASE CONTROLLER WITH SYSTEM PACKAGE,
1 VIDEO DETECTION INTERFACE EQUIPMENT, AND ONE (1) FOUR-CHANNEL, TIME-DELAY-OUTPUT LOOP DETECTOR AMPLIFIER HOUSED IN A NEMA SIZE "6" BASE MOUNTED CABINET.

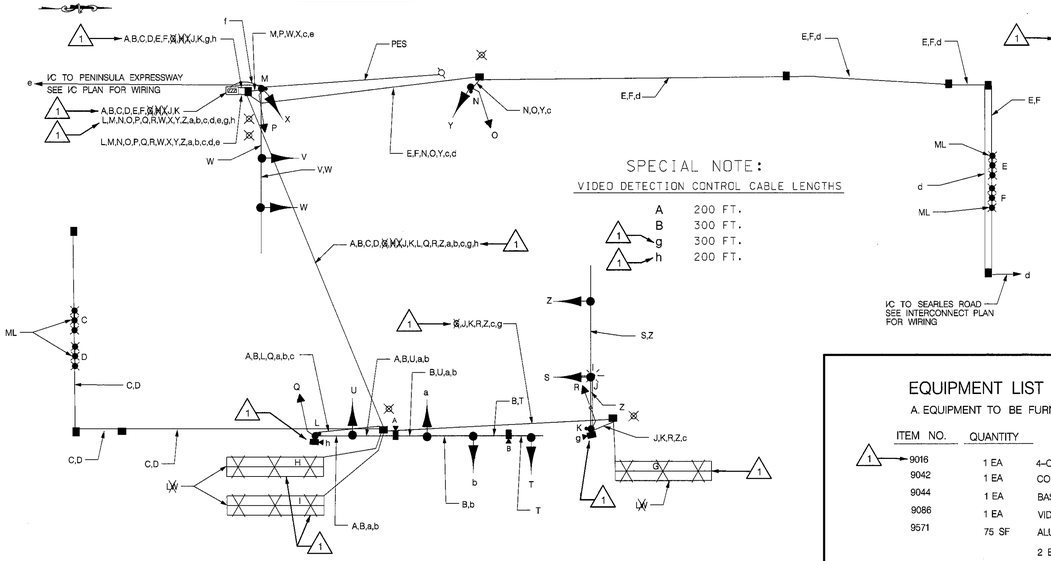
SPECIAL NOTE

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

PHASING CHART

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
PHASE 2 & 6	G	G	G	G	G	G	R	R	R	R	R	R	R	DW	DW	DW	DW
2 & 6 CHANGE	Y	Y	Y	Y	Y	Y	R	R	R	R	R	R	R	DW	DW	DW	DW
PHASE 4 & 8	R	R	R	R	R	R	G	G	G	G	G	G	G	DW	DW	DW	DW
4 & 8 CHANGE	R	R	R	R	R	R	G	G	G	G	G	G	G	DW	DW	DW	DW
PHASE 4 ALT. & 8	R	R	R	R	R	R	G	G	G	G	G	G	G	WK	WK	DW	DW
PED CLEAR	R	R	R	R	R	R	G	G	G	G	G	G	G	FL/DW	FL/DW	DW	DW
4 ALT. & 8 CHANGE	R	R	R	R	R	R	Y	Y	Y	Y	Y	Y	Y	DW	DW	DW	DW
PHASE 4 & 8 ALT.	R	R	R	R	R	R	G	G	G	G	G	G	G	DW	DW	WK	WK
PED CLEAR	R	R	R	R	R	R	G	G	G	G	G	G	G	DW	DW	FL/DW	FL/DW
4 & 8 ALT. CHANGE	R	R	R	R	R	R	Y	Y	Y	Y	Y	Y	Y	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	FL/R	FL/R	DARK	DARK	DARK	DARK

WIRING DIAGRAM



SPECIAL NOTE:

VIDEO DETECTION CONTROL CABLE LENGTHS

A	200 FT.
B	300 FT.
1 g	300 FT.
1 h	200 FT.

WIRING KEY

A-B	VIDEO DETECTION PREMANUFACTURED CABLE
C-F	MICRO-LOOP PROBE
1 G-I	~~2 CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.) ALUMINUM SHIELDED~~
J	2 CONDUCTOR ELECTRICAL CABLE (NO. 12 A.W.G.)
K-N	2 CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)
O-R	3 CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)
S-V	5 CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)
W-b	7 CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)
c	STRANDED BARE COPPER GROUND WIRE (NO. 6 A.W.G.)
d	12-PAIR COMMUNICATION CABLE, JELLY FILLED (UNDERGROUND) SEE I/C PLAN
e	EXISTING 12-PAIR COMMUNICATION SELF-SUPPORTING (OVERHEAD) SEE I/C PLAN
f	1-CONDUCTOR ELECTRICAL CABLE (4 A.W.G.) THHN/THWN (3X)
PES	PROPOSED ELECTRICAL SERVICE (OVERHEAD)
1 ~~LW~~	~~LOOP WIRE (NO. 14 A.W.G.)~~
ML	MICRO-LOOP PROBE
⊗	GROUND ROD
1 g-h	VIDEO DETECTION PREMANUFACTURED CABLE

EQUIPMENT LIST "B"

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

	ITEM NO.	QUANTITY	DESCRIPTION
	1001	3 EA	MAINTENANCE OF TRAFFIC
	2001	36 CY	CLASS 2 EXCAVATION
	2002	5 CY	TEST PIT EXCAVATION
	5001	45 LF	REMOVAL OF EXISTING PAVEMENT LINE MARKING - ANY WIDTH
	5005	685 LF	FURNISH AND INSTALL 12 IN. WHITE HEAT APPLIED PERMANENT THERMOPLASTIC PAVEMENT MARKING
	5006	45 LF	FURNISH AND INSTALL 24 IN. WHITE HEAT APPLIED PERMANENT THERMOPLASTIC PAVEMENT MARKING
	6001	140 LF	FURNISH AND INSTALL DEPRESSED CURB AND GUTTER
	8001	14 CY	FURNISH AND INSTALL CONCRETE FOR SIGNAL FOUNDATION
	8002	8 EA	FURNISH AND INSTALL 12 IN. PEDESTRIAN SIGNAL HEAD SECTION
1	8008	2 EA	FURNISH AND INSTALL 200 FT. VIDEO DETECTION CONTROL CABLE
1	8009	2 EA	FURNISH AND INSTALL 300 FT. VIDEO DETECTION CONTROL CABLE
	8014	1 EA	FURNISH AND INSTALL 16.5 FT. MAST ARM POLE WITH 50 FT. MAST ARM WITH 15 FT. "T" DIMENSION
	8018	1 EA	FURNISH AND INSTALL PEDESTAL POLE ANY SIZE
	8019	LS	REMOVE AND DISPOSE OF EXISTING EQUIPMENT
	8027	41 LF	FURNISH AND INSTALL 4 IN. X 4 IN. WOOD SUPPORT
	8029	500 LF	FURNISH AND INSTALL NO. 6 AWG STRANDED BARE COPPER WIRE
	8035	120 LF	FURNISH AND INSTALL 3 IN. SCHEDULE 80 RIGID ELECTRICAL PVC CONDUIT - BORED
	8036	320 LF	FURNISH AND INSTALL 4 IN. SCHEDULE 80 RIGID ELECTRICAL PVC CONDUIT - BORED
	8038	670 LF	FURNISH AND INSTALL 3 IN. SCHEDULE 80 RIGID ELECTRICAL PVC CONDUIT - TRENCHED
	8039	20 LF	FURNISH AND INSTALL 4 IN. SCHEDULE 80 RIGID ELECTRICAL PVC CONDUIT - TRENCHED
	8045	1 EA	FURNISH AND INSTALL ELECTRICAL UTILITY SERVICE EQUIPMENT 120/240 VOLTS, 60 AMPS
	8046	30 LF	FURNISH AND INSTALL ELECTRICAL CABLE 1-CONDUCTOR NO.4 AWG - THHN/THWN
	8050	4 EA	FURNISH AND INSTALL NON INVASIVE PROBE WITH 500 FT. LEAD-IN
	8052	11 EA	FURNISH AND INSTALL ELECTRICAL HANDHOLE
	8054	27 SF	INSTALL GROUND MOUNTED SIGN
	8055	54 SF	INSTALL OVERHEAD SIGN
1	8056	4 EA	FURNISH AND INSTALL VIDEO DETECTION CAMERA
	8062	1 EA	FURNISH AND INSTALL 27 FT. MAST ARM POLE WITH 50 FT. MAST ARM
	8066	1 EA	FURNISH AND INSTALL 27 FT. MAST ARM POLE WITH 70 FT. MAST ARM
	8069	1 EA	FURNISH AND INSTALL 250 WATT HIGH PRESSURE SODIUM LAMP AND LUMINAIRE
	8073	5 EA	FURNISH AND INSTALL GROUND ROD 3/4 IN. DIAMETER X 10 FT. LENGTH
	8074	3 EA	FURNISH AND INSTALL 8 IN. VEHICULAR SIGNAL HEAD SECTION
	8075	27 EA	FURNISH AND INSTALL 12 IN. VEHICULAR SIGNAL HEAD SECTION
1	~~8080~~	~~500 LF~~	~~FURNISH AND INSTALL ELECTRICAL CABLE 2-CONDUCTOR (ALUMINUM SHIELDED)~~
	8081	515 LF	FURNISH AND INSTALL ELECTRICAL CABLE 2-CONDUCTOR NO. 14 AWG
	8082	515 LF	FURNISH AND INSTALL ELECTRICAL CABLE 3-CONDUCTOR NO. 14 AWG
	8083	100 LF	FURNISH AND INSTALL ELECTRICAL CABLE 5-CONDUCTOR NO. 14 AWG
	8084	920 LF	FURNISH AND INSTALL ELECTRICAL CABLE 7-CONDUCTOR NO. 14 AWG
	8085	275 LF	FURNISH AND INSTALL ELECTRICAL CABLE 2-CONDUCTOR NO. 12 AWG TC
1	~~8086~~	~~1345 LF~~	~~FURNISH AND INSTALL LOOP WIRE ENCASED IN FLEXIBLE TUBING NO. 14 AWG~~
1	~~8087~~	~~415 LF~~	~~FURNISH AND INSTALL SAW CUT FOR LOOP DETECTOR~~
	8088	4 EA	FURNISH AND INSTALL PEDESTRIAN PUSHBUTTON AND SIGN SIGN TO READ" PUSH BUTTON TO CROSS MD 157"
	8089	1 EA	FURNISH AND INSTALL 15 FT. STREET LIGHTING ARM ON SIGNAL STRUCTURE
	8094	1 EA	INSTALL CONTROLLER AND CABINET BASE MOUNT
1	8030	30 LF	FURNISH AND INSTALL 1 IN. ELECTRICAL CONDUIT- GALVANIZED RISER

EQUIPMENT LIST "A"

A. EQUIPMENT TO BE FURNISHED BY MSHA AND INSTALLED BY THE CONTRACTOR.

	ITEM NO.	QUANTITY	DESCRIPTION
1	9016	1 EA	4-CHANNEL, TIME-DELAY-OUTPUT, LOOP DETECTOR AMPLIFIER
	9042	1 EA	CONTROLLER ASC II WITH TELEMETRY
	9044	1 EA	BASE MOUNTED CABINET NEMA SIZE 6
	9086	1 EA	VIDEO DETECTION INTERFACE EQUIPMENT 1-4 CAMERAS
	9571	75 SF	ALUMINUM SHEET
			2 EACH R10-11B SIGN (24" X 24") MAST ARM MOUNT
			3 EACH R5-1 SIGN (30" X 30") GROUND MOUNT
			1 EACH D3-1 DUAL FACE SIGN "MEADOW LN WRT. ARROW (VAR. X 16") MAST ARM MOUNT
			1 EACH D3-1 DUAL FACE SIGN "MEADOW LN WLT. ARROW (VAR. X 16") MAST ARM MOUNT
			1 EACH D3-1 DUAL FACE SIGN "MOORGATE RD WRT. ARROW (VAR. X 16") MAST ARM MOUNT
			1 EACH D3-1 DUAL FACE SIGN "MOORGATE RD WLT. ARROW (VAR. X 16") MAST ARM MOUNT
			2 EACH M95-1 (72" X 24") MAST ARM MOUNT

EQUIPMENT LIST "C"

C. MSHA FORCES SHALL REMOVE CONTROLLER AND ALL AUXILIARY EQUIPMENT. THE CABINET AND ALL OTHER MATERIAL TO BE REMOVED BY THE CONTRACTOR AND SHALL BECOME THE PROPERTY OF THE CONTRACTOR.

CONTACT PERSONS FOR DISTRICT 4 ARE AS FOLLOWS:

MR. RANDALL SCOTT
ASSISTANT DISTRICT ENGINEER - TRAFFIC
(410) 321-2781

MR. STEVE MARCISZEWSKI
ASSISTANT DISTRICT ENGINEER - MAINTENANCE
(410) 321-2761

MS. SUENETTE POPE
ASSISTANT DISTRICT ENGINEER - UTILITIES
(410) 321-2841

CONTACTS FOR OFFICE OF TRAFFIC AND SAFETY

MR. RICHARD DAFF, SR.
CHIEF, TRAFFIC OPERATIONS
(410) 787-7630

MR. EUGENE BAILEY
TEAM LEADER SIGN OPERATIONS
(410) 787-7676

MR. ROBERT SNYDER
ASSISTANT DIVISION CHIEF,
TRAFFIC OPERATIONS
(410) 787-7631

MS. DARLENE EIDE
SUPPLY OFFICE
SIGNAL SHOP WAREHOUSE
(410) 787-7668

MR. ED RODENHIZER
TEAM LEADER SIGNAL OPERATIONS
(410) 787-7652

CONSTRUCTION REVISION

11-24-04

1 - CHANGE ACCESS ROAD DETECTION FROM LOOP DETECTORS TO VIDEO DETECTION AND INSTALL CONDUIT RISER FOR PHONE DROP.

TRAFFIC CONCEPTS, INC.
325 Gambrills Road
Suite E
Gambrills, MD 21054
(410) 923-7101
FAX (410) 923-6473 EMAIL: TRACONCEPT@AOL.COM

SHA MARYLAND DOT - STATE HIGHWAY ADMINISTRATION
Office of Traffic & Safety
TRAFFIC ENGINEERING DESIGN DIVISION
GENERAL INFORMATION SHEET

MD 157 AND MOORGATE ROAD/MEADOW LANE

DRAWN BY: M.HOWELL	F.A.P. NO. N/A	TS NO. 4339	SHEET NO. 2 OF 5
CHECKED BY:	S.H.A. NO. AT3575185		
SCALE: NONE	COUNTY: BALTIMORE	T.I.M.S. NO. 0350	
DATE: 8/2004	LOG MILE:		

m:\1000\02-1039\24 md 157@mooregat Nov. 24, 2004 10:50:00