FHWA REGION NO	STATE	FED. AID PROJ. NO	SHEET NO.	TOTAL SHEETS
3	MD.			

PROJECT DESCRIPTION

I. GENERAL

This project involves the installation of new a traffic control signal with intersection lighting and interconnect at the intersection of MD 140 and Dolfield Blvd/Richmar Road in Baltimore County. MD 140 is considered to run in a north/south direction.

II. INTERSECTION OPERATION

An eight (8) phase, full-traffic-actuated, solid state digital controller, with intersection monitor and harness, battery back-up and six (6) two-channel time delay output loop detector amplifiers housed in a base mounted cabinet are to be installed at this location.

The intersection is to operate in a NEMA six (6) phase, full-traffic-actuated mode with and actuated pedestrian movement across the north leg of MD 140 and a concurrent pedestrian movement across the west leg of Dolfield Blvd. Exclusive/permissive left turn movements for both north and southbound MD 140 will be provided. The MD 140 through movements will run concurrently. Dolfield Blvd/ Richmar Road through movements will run concurrently.

EQUIPMENT LIST

A. APPROVED S.H.A. EQUIPMENT TO BE PURCHASED BY THE DEVELOPER AND INSTALLED BY THE CONTRACTOR. ALL EQUIPMENT IN THIS LIST SHALL HAVE CATALOG CUTS SUBMITTED FOR APPROVAL PRIOR TO INSTALLATION.

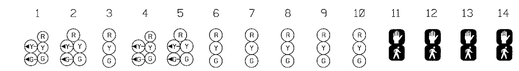
Quantity	Unit	S.H.A. Specification Section	Description
6	EA	814	12", one-way, three section (R,Y,G,) adjustable traffic signal head having proper brackets for mast arm mounting and tunnel visors
3	EA	814	12", one-way, five section (R,Y,G, YA, GA) adjustable traffic signal head having proper brackets for mast arm mounting and tunnel visors
18	SF	813	36" x 36" W3-3 Sign - ground mount.
32	SF	813	48" x 48" W3-3 sign - ground mount
21	SF	813	36" x 42" R10-12 sign - mast arm mount
2	EA	814	8" / 12", one-way, five section (8"-R,Y,G,12-YA,GA) adjustable traffic signal head having proper brackets for mast arm mounting and tunnel visors
1	SF	813	24"x30" R4-7 SIGN - Ground mounted
7.5	SF	813	30" x 36" R3-5(R) sign - mast arm mount
15	SF	813	30" x 36" R3-5(L) sign - mast arm mount
1.5	SF	817	9" x 12" R10-3C sign - pole mount
10.8	SF	813	16" x Var. D3-2 dual faced sign- "<-- Dolfield Blvd/Dolfield Blvd-->" mast arm mount
10.8	SF	813	16" x Var. D3-2 dual faced sign- "<-- Richmar Rd/Richmar Rd-->" mast arm mount
1	EA	816	Standard MD SHA Base mounted cabinet with six (6) amplifiers and Controller (Econolite or approved equal)
1	EA	814	12" ,two way, two section (W,DW) symbolic pedestrian head having proper post top adaptor and cut away visors
2	EA	814	12" ,one way,two section (W,DW) symbolic pedestrian head having proper brackets for pole mounting and cut away visors
2	EA	817	Pushbutton assembly
2	EA	818	27' steel mast arm pole with 50' mast arm
2	EA	818	27' steel mast arm pole with 38' mast arm
16	EA	---	1¾" x 90" anchor bolt
1	EA	818	10' pedestal pole
8	EA	---	1" x 40" anchor bolt
1	EA	808	10' lighting arm with 250 watt high pressure sodium luminaire

EQUIPMENT LIST

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

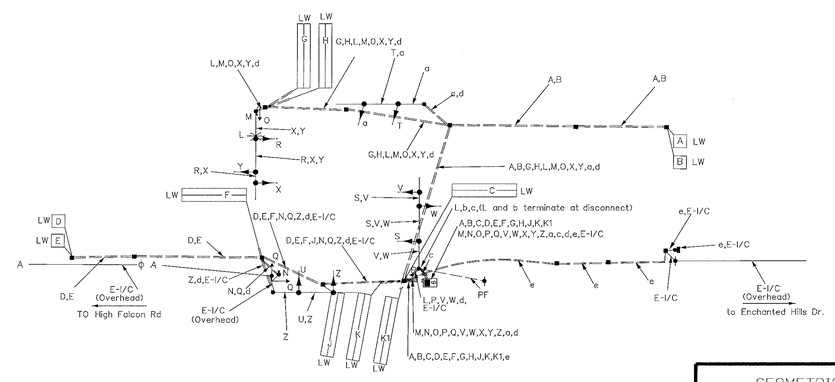
Quantity	Unit	S.H.A. Specification Section	Description
Lump Sum	LS	108	Mobilization
Lump Sum	LS	104	Maintenance of Traffic (traffic control)
Lump Sum	LS	---	Remove and salvage of existing equipment
Lump Sum	LS	---	Relocation of existing equipment
6	CY	205	Test pit excavation
13	EA	811	Handhole
1025	LF	815	Saw cut
3825	LF	810	Loop detector wire (No. 14 A.W.G.) encased in flexible tubing
2075	LF	810	2-conductor electrical cable (aluminum shielded)
280	LF	810	2-conductor tray cable (No. 12 A.W.G.)
205	LF	810	2-conductor electrical cable (No. 14 A.W.G.)
205	LF	810	3-conductor electrical cable (No. 14 A.W.G.)
205	LF	810	5-conductor electrical cable (No. 14 A.W.G.)
1500	LF	810	7-conductor electrical cable (No. 14 A.W.G.)
50	LF	810	3 wire #4 A.W.G., for power feed
80	LF	805	1" liquid tight flexible non-metallic conduit for loop detector lead-in
1320	LF	805	2" polyvinyl chloride electrical conduit (Schedule 40) - trenched
90	LF	805	2" polyvinyl chloride electrical conduit (Schedule 80) - Pushed
25	LF	805	3" polyvinyl chloride electrical conduit (Schedule 40) - trenched
75	LF	805	4" polyvinyl chloride electrical conduit (Schedule 80) - Pushed
30	LF	805	4" polyvinyl chloride electrical conduit (Schedule 40) - trenched
30	LF	810	3 wire #8 A.W.G., for lighting
115	LF	555	Preformed pavement markings - white 24" wide for stop line
300	LF	804	Bare copper stranded ground wire (No.: 6 A.W.G.)
1	EA	807	Control and Distribution Equipment (Type B-8)
250	LF	555	Preformed pavement markings - white 12" wide for crosswalk
4	EA	804	Ground rod
.5	CY	801	Concrete foundation for existing pole
550	LF	810	12 Pair voice grade jelly filled telemetry cable (No. 14 A. W. G.)
2	EA	805	2" Weatherhead
30	LF	805	2" (Schedule 80) riser
72	LF	812	4" X 4" wood sign supports
14.5	CY	801	Concrete foundation
100	LF	805	3" polyvinyl chloride electrical conduit (Schedule 80) - trenched
Lump sum	LS	804	Asbuilt for S.H.A.
1	EA	---	Cut, clean and cap mast arm pole
Lump sum	LS	---	Hand excavation.

PHASE CHART



	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Phase 1 & 5	R ←G—	R ←G—	R	R ←G—	R ←G—	R	R	R	R	R	DW	DW	DW	DW
1 & 5 Change To Phase 1 & 6 or Phase 2 & 5														
Phase 1 & 6	R	R	R	G ←G—	G ←G—	G	R	R	R	R	DW	DW	DW	DW
1 Change	R	R	R	G ←Y—	G ←Y—	Y	R	R	R	R	DW	DW	DW	DW
Phase 2 & 5	G ←G—	G ←G—	G	R	R	R	R	R	R	R	DW	DW	DW	DW
5 Change	G ←Y—	G ←Y—	G	R	R	R	R	R	R	R	DW	DW	DW	DW
Phase 2 & 6	G	G	G	G	G	G	R	R	R	R	WK	WK	DW	DW
PED Clearance	G	G	G	G	G	G	R	R	R	R	FL/DW	FL/DW	DW	DW
2 & 6 Change	Y	Y	Y	Y	Y	Y	R	R	R	R	DW	DW	DW	DW
Phase 4 Alt & 8	R	R	R	R	R	R	G	G	G	G	DW	DW	WK	WK
PED Clearance	R	R	R	R	R	R	G	G	G	G	DW	DW	FL/DW	FL/DW
4 Alt & 8 Change	R	R	R	R	R	R	Y	Y	Y	Y	DW	DW	DW	DW
Phase 4 & 8	R	R	R	R	R	R	G	G	G	G	DW	DW	DW	DW
4 & 8 Change	R	R	R	R	R	R	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	DARK	DARK	DARK	DARK

WIRING DIAGRAM



A, B, C, D, E, F, G, H, J, K, K1 — 2-Conductor Cable (Aluminum Shielded)

L — 2-Conductor Tray Cable (No.12 A.W.G.)

M, N — 2-Conductor Cable (No.14 A.W.G.)

O, P — 3-Conductor Cable (No.14 A.W.G.)

Q, R, S, T, U — 5-Conductor Cable (No.14 A.W.G.)

V, W, X, Y, Z, a — 7-Conductor Cable (No.14 A.W.G.)

b — 3-Wire #8 For Intersection Lighting Electrical Service

c — 3-Wire #4 For Traffic Signal Electrical Service

d — Bare Copper Stranded Ground Wire (No. 6 A.W.G.)

e — 12 Pair voice grade jelly filled telemetry cable (No. 14 A. W. G.)

E-I/C — Existing interconnect cable

LW — LoopWire (No.14 A.W.G.) In Flexible Tubing

PF — Proposed Overhead Electrical Service By Baltimore Gas Electric Company

GEOMETRIC LEGEND

EXISTING GEOMETRICS

PROPOSED GEOMETRICS

UTILITY LEGEND

G — G	GAS MAIN
W — W	WATER MAIN
S — S	SEWER MAIN
E — E	ELECTRIC CABLES
D — D	STORM DRAIN
A — A	AERIAL CABLES
T — T	TELEPHONE CABLES

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Job No. 950805

REVISIONS	APPROVALS
	ASST. DIVISION CHIEF TRAFFIC ENGINEERING DESIGN DIVISION
	CHIEF, TRAFFIC ENGINEERING DESIGN DIVISION
	ASST. DISTRICT ENGINEER - TRAFFIC
	DIRECTOR, OFFICE OF TRAFFIC & SAFETY

ORIGINAL ON FILE

MDOT - STATE HIGHWAY ADMINISTRATION

Office of Traffic & Safety

TRAFFIC ENGINEERING DESIGN DIVISION

LOG MILE 03014005.47

DRAWN BY: M. A. MEARS

DES. BY: M. A. MEARS

CHK. BY:

(GENERAL INFORMATION)

MD 140 AND DOLFIELD BOULEVARD/ RICHMAR ROAD

COUNTY: BALTIMORE

DATE: JULY 17, 1996

SCALE: N.T.S.

F.A.P. NO. N/A

S.H.A. NO. BW908M81

TS/STD. NO. 3591-GI

SHEET NO. ____ OF ____