F H WA REGION NO	STATE	FED. AID PROJ. NO	SHEET NO.	TOTAL SHEETS
3	MD.		1	6

SIGNS

16 — R3-6, 30"x36"

17 — R3-5R, 30"x36"

15 — LEFT TURN YIELD ON GREEN, R10-12, 36"x42"

11 — TRUCKS AT HARMANS RD USE: OLD DORSEY RD / TO CANDLEWOOD RD
SEE TYPICAL FOR LOCATION

14 — TRUCKS

22 — Candlewood Rd / Harmans Rd
D3-2, 32" x Variable
SEE TYPICAL FOR LOCATION

13a / 13b — Harmans Rd / Shipley Ave; Shipley Ave / Harmans Rd
D3-2, VARIABLE x 32"

12b / 12a — Harmans Rd / Shipley Ave; Shipley Ave / Harmans Rd
D3-2, VARIABLE x 32"

SIGNALS

1,2,5-7,9,10 — R Y G, 12"

3 — R 8", Y 8", G 8", 12"

4 — R Y G, 12"

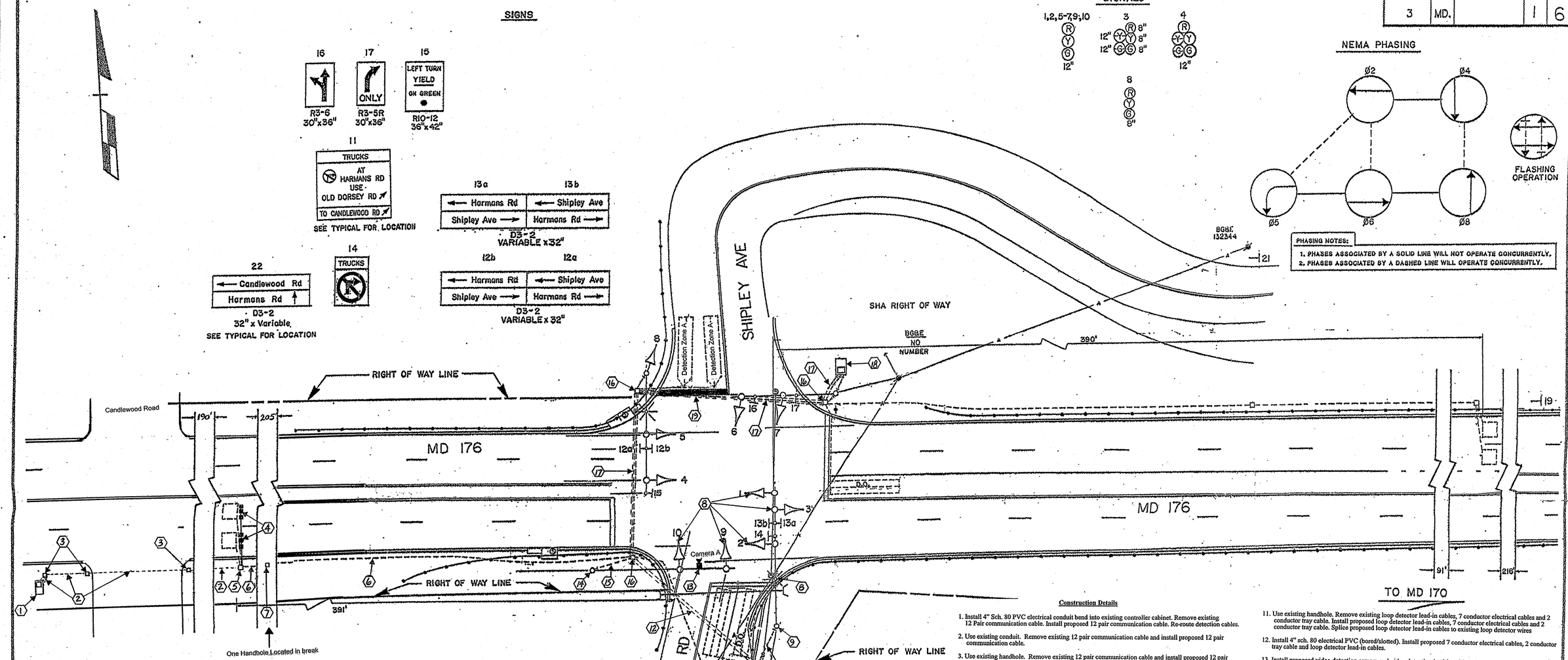
8 — R Y G, 8"

NEMA PHASING

Ø2, Ø4, Ø5, Ø6, Ø8

FLASHING OPERATION

PHASING NOTES:
1. PHASES ASSOCIATED BY A SOLID LINE WILL NOT OPERATE CONCURRENTLY.
2. PHASES ASSOCIATED BY A DASHED LINE WILL OPERATE CONCURRENTLY.



TRAFFIC SIGNAL SYMBOLS

PROPOSED		EXISTING
■	HANDHOLE	□
▭	LOOP DETECTOR(6X30)	▭
□	LOOP DETECTOR(6X6)	□
═══	CONDUIT	═══
▬	MICRO LOOP PROBE SET	▬
■◄	ZOOM LENS IMAGE SENSOR	□◄

LEGEND OF UNDERGROUND AND OVERHEAD UTILITIES

AERIAL CABLE — A — A — A — A
ELECTRIC — E — E — E — E
TELEPHONE — T — T — T — T
GAS — G — G — G — G
SEWER — S — S — S — S
WATER — W — W — W — W
CABLE TV — TV — TV — TV — TV

Equipment List 'B'

Equipment to be furnished and installed by the Contractor.

ITEM	QUANTITY		DESCRIPTION
1001	1	EA	MAINTENANCE OF TRAFFIC PER ASSIGNMENT
5004	30	LF	24 INCH WHITE LEAD FREE REFLECTIVE THERMOPLASTIC PAVEMENT MARKINGS
5005	30	LF	REMOVAL OF EXISTING PERMANENT PAVEMENT LINE MARKINGS ANY WIDTH
8013	1	EA	CONDUIT BEND IN EXISTING BASE
8016	1	EA	CONTROL CABLE 300 FT, VIDEO DETECTION CAMERA TO CONTROLLER
8020	1	EA	REMOVE AND DISPOSE OF EQUIPMENT (PER ASSIGNMENT)
8025	7	LF	DISCONNECT, PULL-BACK & REROUTE CABLES
8026	322	LF	ELECTRICAL CABLE- 2 CONDUCTOR (12 AWG)- TRAY CABLE
8035	225	LF	4 IN. SCHEDULE 80 RIGID PVC CONDUIT- BORED
8037	7	LF	4 IN. SCHEDULE 80 RIGID PVC CONDUIT- TRENCHED
8041	6	LF	1 IN. LIQUID TIGHT FLEXABLE NON-METALLIC CONDUIT FOR DETECTOR SLEEVE
8047	2	EA	MICROLOOP PROBE, 1000 FOOT LEAD IN CABLE
8053	1	EA	VIDEO DETECTION CAMERA
8056	1104	LF	12-PAIR COMMUNICATION CABLE, JELLYFILLED (UNDERGROUND)
8064	380	LF	ELECTRICAL CABLE - 2 CONDUCTOR (ALUMINUM SHIELDED)
8068	1110	LF	ELECTRICAL CABLE - 7 CONDUCTOR (NO.14 AWG)
8070	25	LF	SAW CUT FOR SIGNAL (LOOP DETECTOR)

Equipment List 'A'

Equipment to be supplied and installed. By the SHA

Communication Panel
TS-2 Mini-Hub
TS-2 Mini-Hub Cables
Industrial 56k Modem
SDLC Cables

Equipment List 'C'

Removed and Salvaged Items

NONE

Construction Details

1. Install 4" Sch. 80 PVC electrical conduit bend into existing controller cabinet. Remove existing 12 Pair communication cable. Install proposed 12 pair communication cable. Re-route detection cables.
2. Use existing conduit. Remove existing 12 pair communication cable and install proposed 12 pair communication cable.
3. Use existing handhole. Remove existing 12 pair communication cable and install proposed 12 pair communication cable.
4. Install proposed Triple Micro Loop probe sets.
5. Use existing handhole. Remove existing Loop detector lead-in cables and 12 pair communication cable. Cap and abandon existing detector sleeve. Install proposed detector sleeve, Triple Micro loop probe lead-in cables and 12 pair communication cable.
6. Use existing conduit. Remove existing Loop detector lead-in cables and 12 pair communication cable. Install proposed Triple Micro loop probe lead-in cables and 12 pair communication cable.
7. Use existing handhole. Remove existing Loop detector lead-in cables and 12 pair communication cable. Install proposed Triple Micro loop probe lead-in cables and 12 pair communication cable.
8. Use existing signal heads and luminaire. Remove existing 7 conductor electrical cables and 2 conductor tray cable. Install proposed 7 conductor electrical cables and 2 conductor tray cable. Re-wire signal heads and luminaire.
9. Use existing mast arm and upright. Remove existing 7 conductor electrical cable and 2 conductor tray cable. Install proposed 7 conductor electrical cables and 2 conductor tray cable.
10. Use existing conduit. Remove existing 7 conductor electrical cables and 2 conductor tray cable. Install proposed 7 conductor electrical cable and 2 conductor tray cable.
11. Use existing handhole. Remove existing loop detector lead-in cables, 7 conductor electrical cables and 2 conductor tray cable. Install proposed loop detector lead-in cables, 7 conductor electrical cables and 2 conductor tray cable. Splice proposed loop detector lead-in cables to existing loop detector wires
12. Install 4" sch. 80 electrical PVC (bored/slotted). Install proposed 7 conductor electrical cables, 2 conductor tray cable and loop detector lead-in cables.
13. Install proposed video detection camera and video detection lead-in cable.
14. Use existing mast arm and upright. Remove existing 7 conductor electrical cable. Install proposed 7 conductor electrical cables and video detection lead-in cable.
15. Use existing conduit. Remove existing 7 conductor electrical cable. Install proposed 7 conductor electrical cables and video detection lead-in cable.
16. Use existing handhole. Remove existing 12 pair communication cable, phase 6 and 8 loop detector lead in cables, 7 conductor electrical cables and 2 conductor tray cable. Install proposed phase 8 loop detector lead-in cables 12 pair communication cable, Triple Micro Loop probe lead-in cables, video detection lead-in cable, 7 conductor electrical cables and 2 conductor tray cable.
17. Install 4" sch. 80 electrical PVC (bored/slotted) Install proposed 12 pair communication cable, Triple Micro Loop probe lead-in cables, video detection camera lead-in cable, loop detector lead-in cables, 7 conductor electrical cables and 2 conductor tray cable.
18. Use existing controller cabinet. Remove existing 12 pair communication cable, 7 conductor electrical cables, 2 conductor tray cable and loop detector lead-in cable(s) for phases 4, 6 and 8. Install 2" schedule 80 conduit bend into existing base to accommodate phone drop. Install proposed triple Micro Loop probe lead-in cables and video detection lead-in cables. Traffic Operations Division personnel will install and program video detection interface equipment and re-tune amplifiers after completion of proposed detector work.
19. Remove existing stop line and replace stop line in accordance with SHA Standards.

REVISIONS	APPROVALS
	CHIEF, SIGNAL DESIGN SECTION 8/3/20
	ASST. DISTRICT ENGINEER, TRAFFIC 8/3/20
(B) Install video detection 10/2005 OT 2005	CHIEF, BUREAU OF TRAFFIC ENGINEERING 8-3-20
(A) Replace Failed Loop Detector 06/2004	DEPUTY CHIEF ENGINEER, OFFICE OF TRAFFIC 8/10/20

MARYLAND DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION – OFFICE OF TRAFFIC
TRAFFIC ENGINEERING DIVISION

DRAWN BY: S K MILLER (FOR STS)
DES. BY: R R ZACHERL (FOR STS)
CHK. BY: 8/3/20 8-3-20

MD 176 AND HARMANS RD/ SHIPLEY AVE

SIGNAL NO.- 02017603.00 COUNTY: ANNE ARUNDEL

DATE: 8-10-89 F.A.P. NO.
SCALE: 1" = 20' S.H.A. NO. BW-376-802-512

TS/FILE NO. TS-3027 (B) SHEET NO. 1 OF 6

SHA#: 23855T2509716 TOD#: OT-2003-16

TCA 301-860-3940