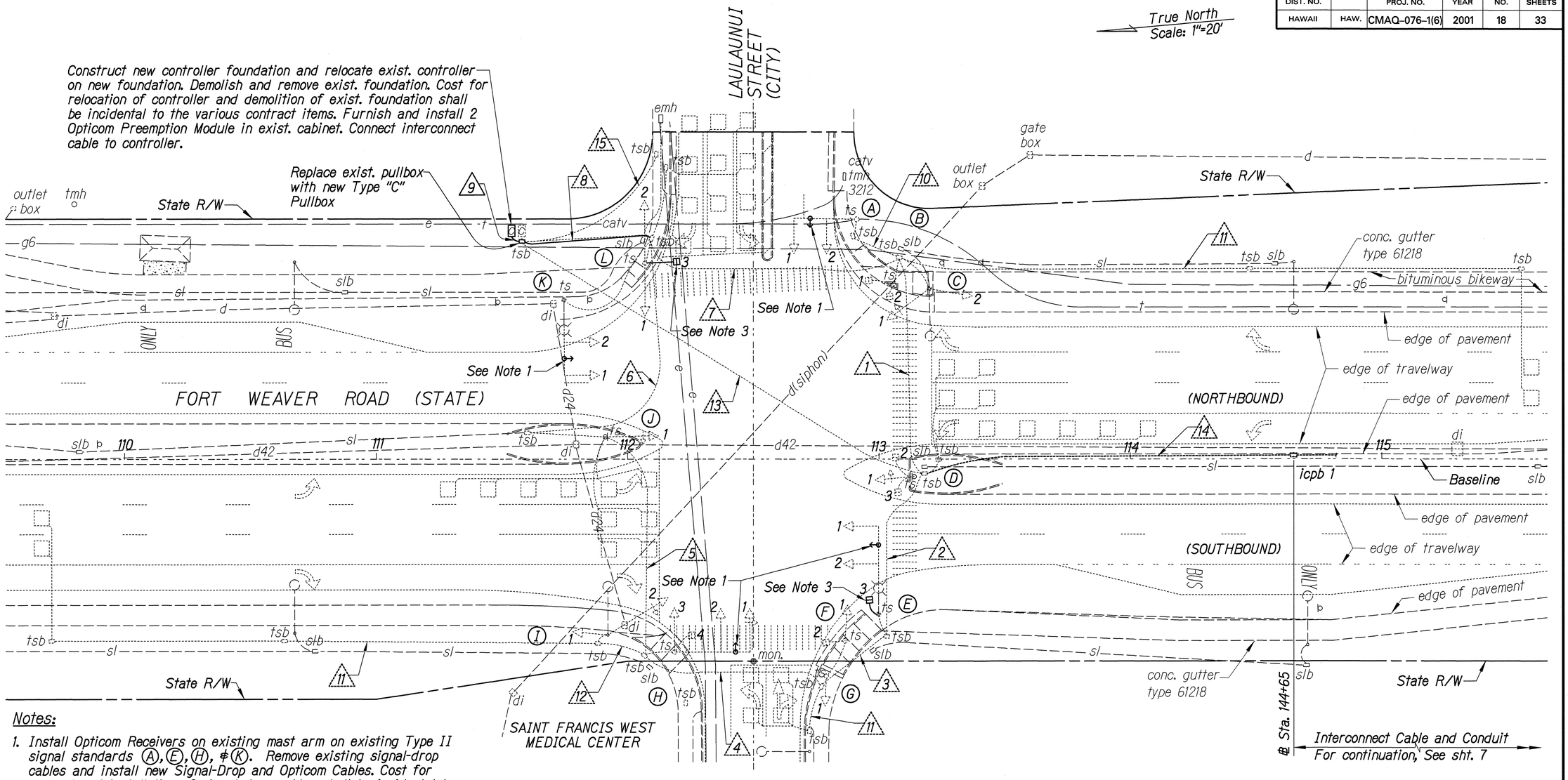
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	CMAQ-076-1(6)	2001	18	33



Notes:

1. Install Opticom Receivers on existing mast arm on existing Type II signal standards Ⓐ,Ⓔ,Ⓗ, & Ⓚ. Remove existing signal-drop cables and install new Signal-Drop and Opticom Cables. Cost for removal and installation of signal drop cables shall be incidental to various contract items. Opticom cables shall be continuous to traffic signal controller.
2. Remove and dispose of existing interconnect cables between Laulaunui Street and Aawa Drive along Fort Weaver Road. Cost shall be incidental to Type 3 Cable.
3. Remove existing and install new Pedestrian Heads and mountings on existing signal standards Ⓔ & Ⓛ. See Traffic Signal Head Schedule on Sht. 19. Remove existing cables and install new Signal-Drop Cables, and cost shall be incidental to various contract items.
4. The existing facilities shown on the plan was furnished by the Dept. of Transportation:
   a. F.A. Project No. STP-076-1(5)
   b. Construction plans for West Loch Estates.

TRAFFIC SIGNAL PLAN

Scale: 1"=20'

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
NOTE BOOK	DRAWN BY SC	
No.	TRACED BY	
	DESIGNED BY DH	
	QUANTITIES BY	
	CHECKED BY	

HOWARD K. ENDO LICENSED PROFESSIONAL ENGINEER No. 6185-C HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

SHIMABUKURO, ENDO & YOSHIZAKI, INC.
1126 12TH Avenue
Honolulu, Hawaii 96816

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TRAFFIC SIGNAL PLAN

Fort Weaver Rd. ℄ Sta. 110+00 to 115+60

Fort Weaver Road
Traffic Signal Modernization
Federal-Aid Project No. CMAQ-076-1(6)

Scale: 1"=20' Date: Sept., 2000

SHEET No. 1 OF 2 SHEETS

9-25-00 FINAL
cmisthsl.dgn

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	CMAQ-076-1(6)	2001	19	33

LIST OF MATERIALS

Pole Letter	Standard Type	Signal Head No.	Mounting Type	Signal Faces & Opticom Receivers
A	II-25	1 2	Mast Arm, One Way Mast Arm, One Way Mast Arm (Horiz.)	*R Y G R Y G Opticom (New)
B	I-8	1 2	Slipfitter } Two-Way Slipfitter }	H - M
C	Street Light	1 2	Pole Bracket, One Way Pole Bracket, One Way	R Y ← R Y G
D	I-10	1 2 3	Slipfitter, One Way Underslung } Two-Way Underslung }	*R Y ← H - M H - M
E	III-35	1 2 3	Mast Arm, One Way Mast Arm, One Way Pole Bracket, One Way Mast Arm (Horiz.)	R Y ↑ R Y G H - M (New) Opticom (New)
F	I-10	1 2	Slipfitter, One Way Underslung, One Way	R Y ← H - M
G	I-10	1	Slipfitter, One Way	R Y G
H	II-30	1 2 3 4	Mast Arm, One Way Mast Arm, One Way Pole Bracket, One Way Underslung, One Way Mast Arm (Horiz.)	*R Y ← R Y G R Y G H - M Opticom (New)
I	Street Light	1 2	Slipfitter } Two-Way Slipfitter }	R Y G R Y ←
J	I-10	1	Slipfitter, One Way	*R Y ←
K	III-30	1 2	Mast Arm, One Way Mast Arm, One Way Mast Arm (Horiz.)	R Y ↑ R Y G Opticom (New)
L	I-10	1 2 3	Slipfitter } Two-Way Slipfitter } Underslung, One Way	R Y G R Y G H - M (New)

* Programmed Visibility Head - No retrofit needed

TRAFFIC SIGNAL HEAD SCHEDULE

TRAFFIC SIGNAL HEAD TYPE AND DESCRIPTION	12" RYG TRAFFIC SIGNAL HEAD	12" RY↑ TRAFFIC SIGNAL HEAD	12" RYG← TRAFFIC SIGNAL HEAD	PEDESTRIAN SIGNAL HEAD
POLE LETTER AND SIGNAL HEAD NUMBER	*A-1 H-3 A-2 I-1 C-2 K-2 E-2 L-1 G-1 L-2 H-2	E-1 K-1	C-1 *J-1 *D-1 F-1 *H-1 I-2	B-1 H-4 B-2 L-3 (New) D-2 D-3 E-3 (New) F-2

* Programmed Visibility Head - No retrofit needed

CONDUIT AND CABLE SCHEDULE

DESCRIPTION	DELTA ITEM NO. (△) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
EXISTING CONDUIT AND CABLE															
Quantity of spare 2" conduit	3	2	3	3	3	3	4								
Quantity of 2" conduit	2	2	2	2	2	2	2	4	5	1	1	1	1	1	1
Quantity of 26C #14 Control Cable (Type 1)	1	1	1	1	1	1	1	2	2	1					
Quantity of 2C #14 Loop Detector & Pedestrian Push Button Lead-In Cable (Type 2)	1	1		2	1	1	4	10	10		1	3			
Quantity of Power Cable (Type 6)									1						1
INSTALL NEW CABLE IN EXISTING CONDUITS															
Quantity of 12 Pr #19 Interconnect Cable (Type 3)													1	1	
Quantity of 3C #20 Opticom Cable (Type7)			1	1	2	2	1			1					
INSTALL NEW CONDUIT AND CABLE															
Quantity of 2" Conduit								5	5						
Quantity of 12 Pr #19 Interconnect Cable (Type 3)									1						
Quantity of 3C #20 Opticom Cable (Type 7)								4	4						

CABLE NOTES:

Type 1 Signal Loop Cable:
Stranded, No. 14, 26 conductors

Type 2 Detector Lead-In Cable and Pedestrian Push Button Circuit Cable:
Stranded, No. 14, 2 Conductors

Type 3 Interconnect Cable:
Solid No. 19, 12 Pairs

Type 4 Loop Sensor Cable:
Solid No. 12, Single Conductor to IMSA SPEC 51-5

Type 5 Signal Drop Cable:
Stranded, No. 14, Single Conductor

Type 6 Service Cable:

Type 7 Opticom Cable:
Solid, No. 20, 3 Conductors
No. 20, 1 Ground

ORIGINAL PLAN | SURVEY PLOTTED BY | DRAWN BY | TRACED BY | DESIGNED BY | QUANTITIES BY | CHECKED BY | DATE | NOTE BOOK | No.

cmsths02.dgn

HOWARD K. ENDO LICENSED PROFESSIONAL ENGINEER No. 6185-C HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

Howard K Endo

SHIMABUKURO, ENDO & YOSHIZAKI, INC.
1126 12TH Avenue
Honolulu, Hawaii 96816

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TRAFFIC SIGNAL PLAN

Fort Weaver Rd. @ Sta. 110+00 to 115+60

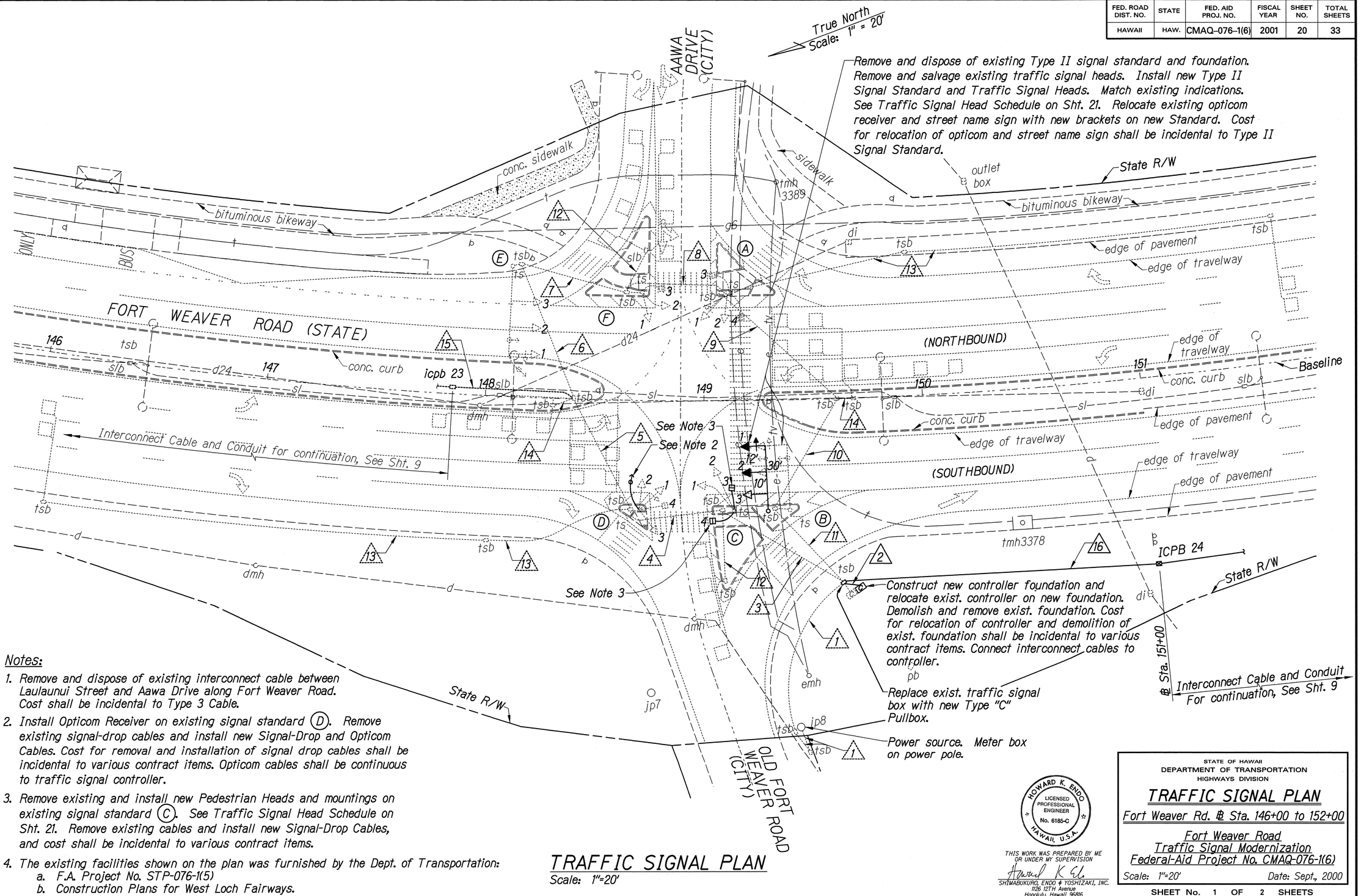
Fort Weaver Road
Traffic Signal Modernization
Federal-Aid Project No. CMAQ-076-1(6)

Date: Sept., 2000

SHEET No. 2 OF 2 SHEETS

P-2500 FINAL

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	CMAQ-076-1(6)	2001	20	33



Notes:

1. Remove and dispose of existing interconnect cable between Laulaunui Street and Aawa Drive along Fort Weaver Road. Cost shall be incidental to Type 3 Cable.
2. Install Opticom Receiver on existing signal standard (D). Remove existing signal-drop cables and install new Signal-Drop and Opticom Cables. Cost for removal and installation of signal drop cables shall be incidental to various contract items. Opticom cables shall be continuous to traffic signal controller.
3. Remove existing and install new Pedestrian Heads and mountings on existing signal standard (C). See Traffic Signal Head Schedule on Sht. 21. Remove existing cables and install new Signal-Drop Cables, and cost shall be incidental to various contract items.
4. The existing facilities shown on the plan was furnished by the Dept. of Transportation:
   a. F.A. Project No. STP-076-1(5)
   b. Construction Plans for West Loch Fairways.

TRAFFIC SIGNAL PLAN

Scale: 1"=20'

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
	DRAWN BY SK	
NOTE BOOK	TRACED BY	
	DESIGNED BY CH	
No.	QUANTITIES BY	
	CHECKED BY	

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

HOWARD K. ENDO LICENSED PROFESSIONAL ENGINEER No. 6185-C HAWAII, U.S.A.

SHIMABUKURO, ENDO & YOSHIZAKI, INC.
1126 12TH Avenue
Honolulu, Hawaii 96816

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TRAFFIC SIGNAL PLAN

Fort Weaver Rd. ℄ Sta. 146+00 to 152+00

Fort Weaver Road
Traffic Signal Modernization
Federal-Aid Project No. CMAQ-076-1(6)

Scale: 1"=20' Date: Sept., 2000

SHEET No. 1 OF 2 SHEETS

20

9-25-00 FINAL

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	CMAQ-076-1(6)	2001	21	33

LIST OF MATERIALS

Pole Letter	Standard Type	Signal Head No.	Mounting Type	Signal Faces & Opticom Receivers
A	I-10	1	Slipfitter } Two-Way	R Y ←
		2	Slipfitter }	R Y G
		3	Underslung } Two-Way	H - M
		4	Underslung }	H - M
B	II-30 (New)	1	Mast Arm, One Way	* R Y ← (New)
		2	Mast Arm, One Way	R Y ↑ (New)
		3	Mast Arm, One Way	R Y G (New)
			Mast Arm (Horiz.)	Opticom
C	I-10	1	Slipfitter } Two-Way	R Y G
		2	Slipfitter }	R Y G
		3	Underslung } Two-Way	H - M (New)
		4	Underslung }	H - M (New)
D	I-10	1	Slipfitter } Three-Way	R Y ←
		2	Slipfitter }	R Y G
		3	Slipfitter }	R Y G
		4	Underslung, One Way	H - M
			TPIW-EVP	Opticom (New)
E	II-40	1	Mast Arm, One Way	* R Y ←
		2	Mast Arm, One Way	R Y ↑
		3	Mast Arm, One Way	R Y G
			Mast Arm (Horiz.)	Opticom
			Mast Arm (Horiz.)	Opticom
F	I-10	1	Slipfitter } Two-Way	R Y G
		2	Slipfitter }	R Y G
		3	Underslung, One Way	H - M

* Programmed Visibility Head - No retrofit needed

CONDUIT AND CABLE SCHEDULE

DESCRIPTION	DELTA ITEM NO. (△)															
	△1	△2	△3	△4	△5	△6	△7	△8	△9	△10	△11	△12	△13	△14	△15	△16
EXISTING CONDUIT AND CABLE																
Quantity of 2" conduit	1	9	6	6	5	4	4	4	4	4	4	1	1	1	1	
Quantity of 26C #14 Control Cable (Type 1)		4	2	2	2	2	2	2	2	2	2					
Quantity of 2C #14 Loop Detector & Pedestrian Push Button Lead-In Cable (Type 2)		14	9	7	5	2	2	1	2	5	5	1	1	3		
Quantity of Power Cable (Type 6)	1	1														
Quantity of 3C #20 Opticom Cable (Type 7)		3	2	2	2	2					1					
INSTALL NEW CABLE IN EXISTING CONDUITS																
Quantity of 12 Pr #19 Interconnect Cable (Type 3)			1	1	1										1	
Quantity of 3C #20 Opticom Cable (Type 7)		1	1	1												
INSTALL NEW CONDUIT AND CABLE																
Quantity of 2" Conduit		4														1
Quantity of 4" Conduit																1
Quantity of 12 Pr #19 Interconnect Cable (Type 3)		2														1

TRAFFIC SIGNAL HEAD SCHEDULE

TRAFFIC SIGNAL HEAD TYPE AND DESCRIPTION	(R)(Y)(G) 12" RYG TRAFFIC SIGNAL HEAD	(R)(Y)(↑) 12" RY↑ TRAFFIC SIGNAL HEAD	(R)(Y)(←) 12" RY← TRAFFIC SIGNAL HEAD	PEDESTRIAN SIGNAL HEAD
POLE LETTER AND SIGNAL HEAD NUMBER	A-2 B-3 (New) C-1 C-2 D-2 D-3 E-3 F-1 F-2	B-2 (New) E-2	A-1 *B-1 (New) D-1 *E-1	A-3 A-4 C-3 (New) C-4 (New) D-4 F-3

* Programmed Visibility Head - No retrofit needed

CABLE NOTES:

Type 1 — Signal Loop Cable:
Stranded, No. 14, 26 conductors

Type 2 — Detector Lead-In Cable and Pedestrian Push Button Circuit Cable:
Stranded, No. 14, 2 Conductors

Type 3 — Interconnect Cable:
Solid No. 19, 12 Pairs

Type 4 — Loop Sensor Cable:
Solid No. 12, Single Conductor to IMSA SPEC 51-5

Type 5 — Cable from Signal Loop to Signal Head:
Stranded, No. 14, Single Conductor

Type 6 — Service Cable:
Solid, No. 8, 3 Conductors & No. 8, 1 Ground

Type 7 — Opticom Cable:
Solid, No. 20, 3 Conductors
No. 20, 1 Ground

DATE
SURVEY PLOTTED BY
DRAWN BY
TRACED BY
DESIGNED BY
QUANTITIES BY
CHECKED BY
ORIGINAL PLAN
NOTE BOOK
No.

HOWARD K. ENDO
LICENSED PROFESSIONAL ENGINEER
No. 6185-C
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION
Howard K. Endo
SHIMABUKURO, ENDO & YOSHIZAKI, INC.
1126 12TH Avenue
Honolulu, Hawaii 96816

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TRAFFIC SIGNAL PLAN

Fort Weaver Rd. @ Sta. 146+00 to 152+00

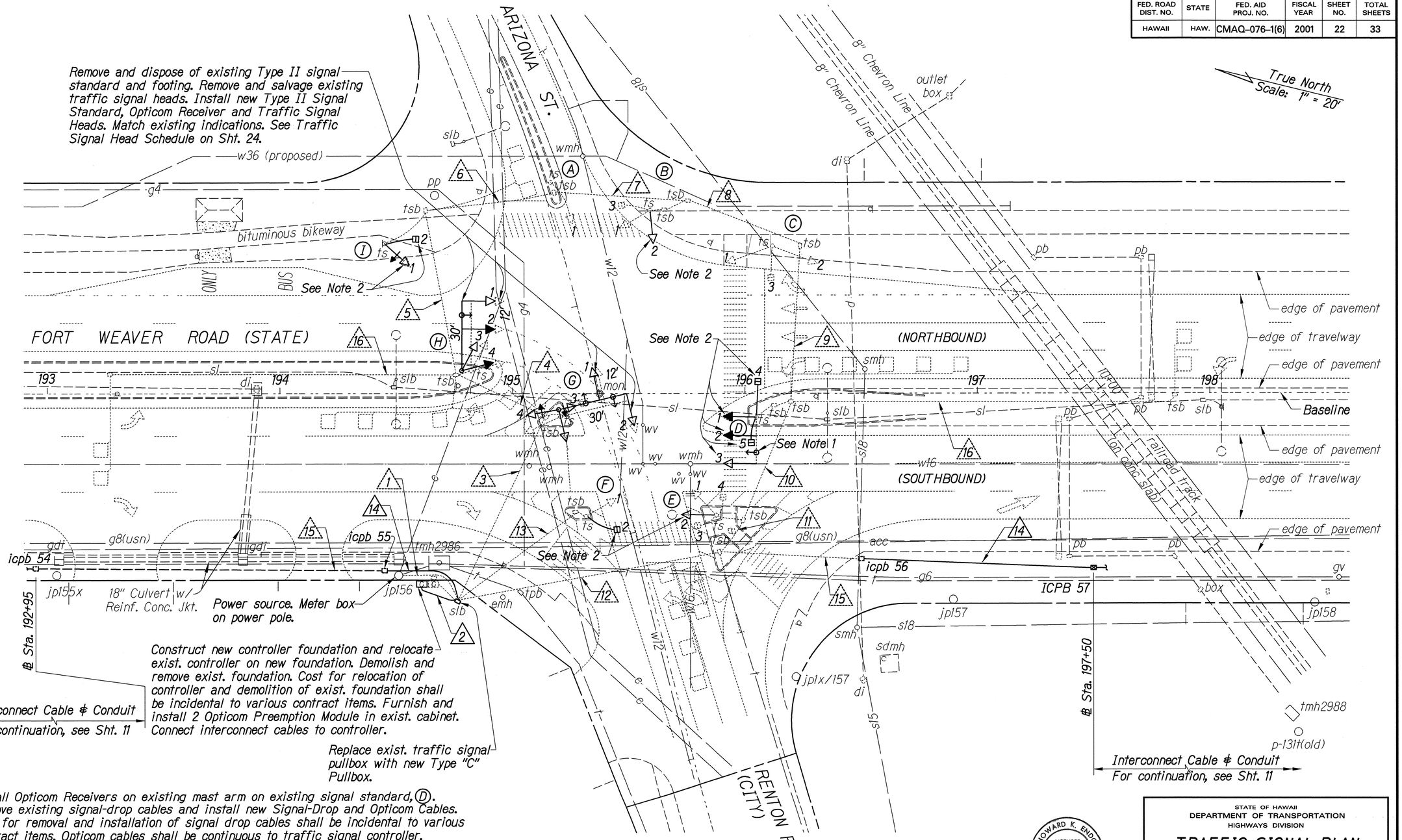
Fort Weaver Road
Traffic Signal Modernization
Federal-Aid Project No. CMAQ-076-1(6)

Date: Sept., 2000

SHEET No. 2 OF 2 SHEETS

9-25-00 FINAL

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	CMAQ-076-1(6)	2001	22	33



SURVEY PLOTTED BY — DATE
DRAWN BY JAK
TRACED BY
DESIGNED BY J.A.
QUANTITIES BY
CHECKED BY
ORIGINAL PLAN
NOTE BOOK
No.

Notes:

1. Install Opticom Receivers on existing mast arm on existing signal standard, Ⓓ. Remove existing signal-drop cables and install new Signal-Drop and Opticom Cables. Cost for removal and installation of signal drop cables shall be incidental to various contract items. Opticom cables shall be continuous to traffic signal controller.
2. Remove existing and install new Pedestrian Heads, Traffic Signal Heads and mountings on existing signal standards, Ⓑ, Ⓓ, Ⓔ, Ⓕ, ℄ Ⓘ. Match existing indications. See Traffic Signal Head Schedule on Sht 23. Remove existing cables and install new Signal-Drop Cables, and cost shall be incidental to various contract items.
3. The existing facilities shown on the plan was furnished by the Dept. of Transportation:
   a. F.A. Project No. F-076-1(5)
   b. F.A. Project No. 7600B-01-82 ℄ S-SR-0760(2)

TRAFFIC SIGNAL PLAN

Scale: 1"=20'

HOWARD K. ENDO
LICENSED PROFESSIONAL ENGINEER
No. 6185-C
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

SHIMABUKURO, ENDO & YOSHIZAKI, INC.
1126 12TH Avenue
Honolulu, Hawaii 96816

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TRAFFIC SIGNAL PLAN

Fort Weaver Rd. ℄ Sta. 193+00 to 198+50

Frot Weaver Road
Traffic Signal Modernization
Federal-Aid Project No. CMAQ-076-1(6)

Scale: 1"=20' Date: Sept., 2000

SHEET No. 1 OF 2 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	CMAQ-076-1(6)	2001	23	33

LIST OF MATERIALS

Pole Letter	Standard Type	Signal Head No.	Mounting Type	Signal Faces & Opticom Receivers
A	I-10	1	Slipfitter, One Way	R Y G
B	I-10	1	Slipfitter } Two-Way	R Y ←
		2	Slipfitter } Two-Way	R Y G (New)
		3	Underslung, One Way	H - M
C	I-10	1	Slipfitter } Two-Way	R Y ←
		2	Slipfitter } Two-Way	R Y G
		3	Underslung, One Way	H - M
D	II-20	1	Pole Bracket, One Way	*R Y ↑ (New)
		2	Mast Arm, One Way	*R Y ↑ (New)
		3	Mast Arm, One Way	*R Y G (New)
		4	Underslung } Two-Way	H - M (New)
		5	Underslung } Two-Way	H - M (New)
			Mast Arm (Horiz.)	Opticom (New)
E	Street Light	1	Pole Bracket, One Way	R Y ←
		2	Pole Bracket, One Way	*R Y G (New)
		3	Underslung, One Way	H - M
		4	Underslung, One Way	H - M
F	I-10	1	Slipfitter, One Way	R Y ←
		2	Underslung, One Way	H - M (New)
G	II-20 (New)	1	Mast Arm, One Way	R Y G (New)
		2	Mast Arm, One Way	R Y G (New)
		3	Pole Bracket, One Way	*R Y ← (New)
		4	Pole Bracket, One Way	*R Y ← (New)
			Mast Arm (Horiz.)	Opticom (New)
			Mast Arm (Horiz.)	Opticom (New)
H	II-30 (New)	1	Mast Arm, One Way	*R Y G (New)
		2	Mast Arm, One Way	*R Y ↑ (New)
		3	Pole Bracket, One Way	*R Y G (New)
		4	Pole Bracket, One Way	R Y ↑ (New)
			Mast Arm (Horiz.)	Opticom (New)
I	I-10	1	Slipfitter, One Way	R Y ← (New)
		2	Underslung, One Way	H - M (New)

* Programmed Visibility Head

CONDUIT AND CABLE SCHEDULE

DESCRIPTION	DELTA ITEM NO. (△) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
EXISTING CONDUIT AND CABLE																
Quantity of spare 2" conduit			3	3	2	2	2	2	2	3	3	4			2	
Quantity of 2" conduit	1	5	3	3	3	3	2	1					1			1
Quantity of 26C #14 Control Cable (Type 1)		1	1	1	1	1	1	1	1	1	1	1	1			
Quantity of 2C #14 Loop Detector & Pedestrian Push Button Lead-In Cable (Type 2)		10	4	2	2	1	1		1	3	4	6	1			1
Quantity of Power Cable (Type 6)	1	1														
INSTALL NEW CABLE IN EXISTING CONDUIT																
Quantity of 12 Pr #19 Interconnect Cable (Type 3)												1			1	
Quantity of 3C #20 Opticom Cable (Type 7)		4	3	1						1	1	1				
INSTALL NEW CONDUIT AND CABLE																
Quantity of 2" Conduit		4												1		
Quantity of 4" Conduit														1		
Quantity of 12 Pr #19 Interconnect Cable (Type 3)		2												1		

CABLE NOTES:

Type 1 Signal Loop Cable:
Stranded, No. 14, 26 conductors

Type 2 Detector Lead-In Cable and Pedestrian Push Button Circuit Cable:
Stranded, No. 14, 2 Conductors

Type 3 Interconnect Cable:
Solid No. 19, 12 Pairs

Type 4 Loop Sensor Cable:
Solid No. 12, Single Conductor to IMSA SPEC 51-5

Type 5 Signal Drop Cable:
Stranded, No. 14, Single Conductor

Type 6 Service Cable:

Type 7 Opticom Cable:
Solid, No. 20, 3 Conductors
No. 20, 1 Ground

TRAFFIC SIGNAL HEAD SCHEDULE

TRAFFIC SIGNAL HEAD TYPE AND DESCRIPTION	12" RYG TRAFFIC SIGNAL HEAD	12" RY↑ TRAFFIC SIGNAL HEAD	12" RYG← TRAFFIC SIGNAL HEAD	PEDESTRIAN SIGNAL HEAD
POLE LETTER AND SIGNAL HEAD NUMBER	A-1 B-2 (New) C-2 *D-3 (New) *E-2 (New) G-1 (New) G-2 (New) *H-1 (New) *H-3 (New)	*D-1 (New) *D-2 (New) *H-2 (New) *H-4 (New)	B-1 C-1 E-1 F-1 *G-3 (New) *G-4 (New) I-1 (New)	B-3 C-3 D-4 (New) D-5 (New) E-3 E-4 F-2 (New) I-2 (New)

* Programmed Visibility Head

ORIGINAL PLAN | NOTE BOOK | SURVEY PLOTTED BY | DRAWN BY | TRACED BY | DESIGNED BY | QUANTITIES BY | CHECKED BY | DATE

cmisth66.dgn

9-26-00 FAHL

HOWARD K. ENDO
LICENSED PROFESSIONAL ENGINEER
No. 6185-C
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION
Howard K Endo
SHIMABUKURO, ENDO & YOSHIZAKI, INC.
1126 12TH Avenue
Honolulu, Hawaii 96816

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TRAFFIC SIGNAL PLAN

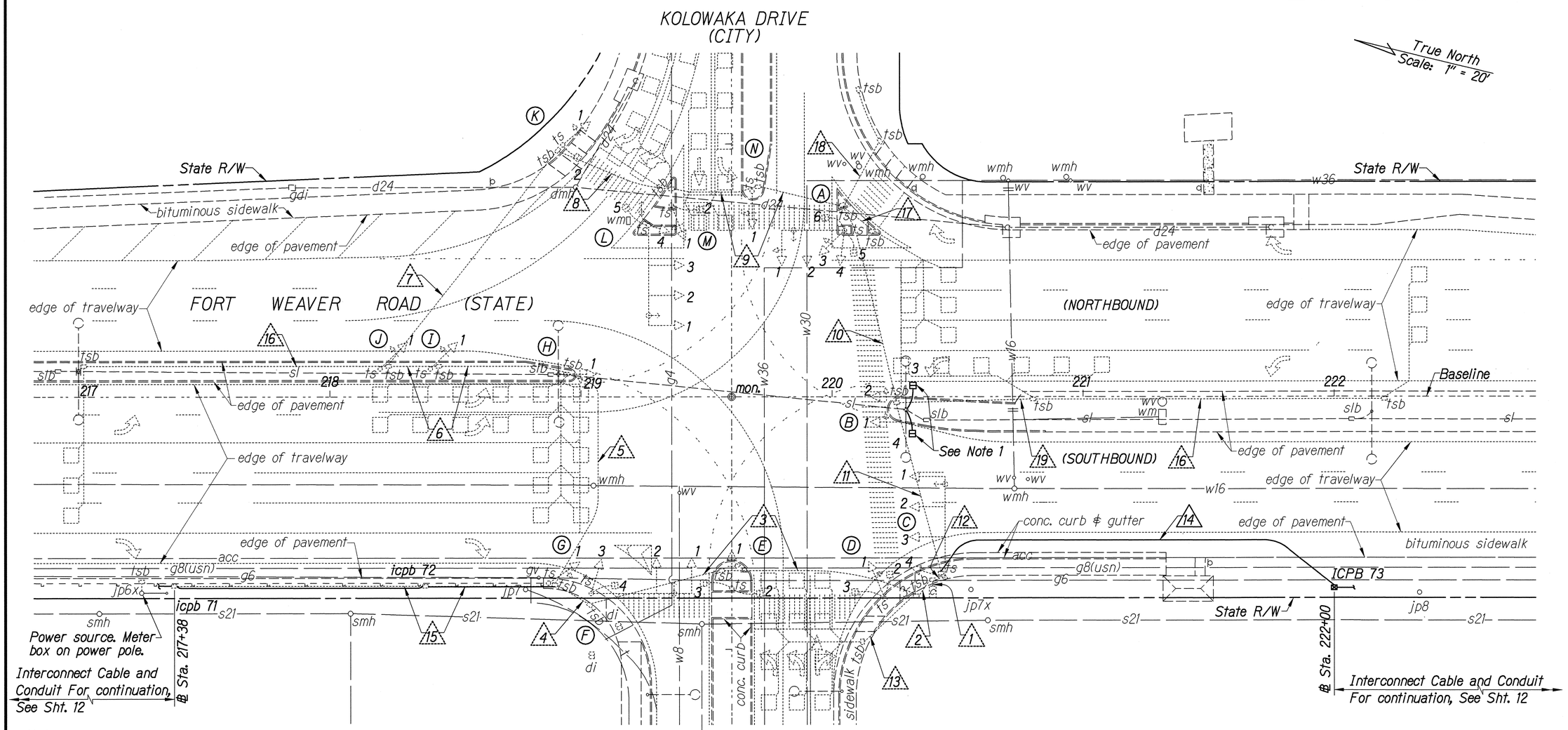
Fort Weaver Rd. @ Sta. 193+00 to 198+50

Fort Weaver Road
Traffic Signal Modernization
Federal-Aid Project No. CMAQ-076-1(6)

Date: Sept., 2000

SHEET No. 2 OF 2 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	CMAQ-076-1(6)	2001	24	33



Notes:

1. The Contractor shall remove existing and install new Pedestrian Heads and mountings on existing standard Ⓑ. See Traffic Signal Head Schedule on Sht. 25. Remove existing signal-drop cables and install new Signal-Drop Cables. Cost for removal and installation of signal drop cables shall be incidental to various contract items.
2. The existing facilities shown on the plan was furnished by the Dept. of Transportation:
   a. F.A. Project No. STP-076-1(5)
   b. Construction Plan for Installation of Traffic Signals at Fort Weaver Road and Kolowaka Drive.
3. Contractor to coordinate work with Contractor for "Road "A" and Fort Weaver Road Intersection Improvements" project. Plans for "Road "A" and Fort Weaver Road Intersection Improvements" project was furnished by Austin Tsutsumi & Associates, Inc. and improvements to be done under this project are shown as existing on this plan.

TRAFFIC SIGNAL PLAN

Scale: 1"=20'

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
NOTE BOOK	DRAWN BY SP	
No.	TRACED BY CH	
	DESIGNED BY	
	QUANTITIES BY	
	CHECKED BY	

HOWARD K. ENDO
LICENSED PROFESSIONAL ENGINEER
No. 6185-C
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

SHIMABUKURO, ENDO & YOSHIZAKI, INC.
1126 12TH Avenue
Honolulu, Hawaii 96816

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TRAFFIC SIGNAL PLAN

Fort Weaver Rd. ℄ Sta. 217+00 to 222+00

Fort Weaver Road
Traffic Signal Modernization
Federal-Aid Project No. CMAQ-076-1(6)

Scale: 1"=20' Date: Sept., 2000

SHEET No. 1 OF 2 SHEETS

12-5-00 PM
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FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	CMAQ-076-1(6)	2001	25	33

LIST OF MATERIALS

Pole Letter	Standard Type	Signal Head No.	Mounting Type	Signal Faces & Opticom Receivers
A	II-25	1	Mast Arm, One Way	*R Y ←
		2	Mast Arm, One Way	R Y ↑
		3	Pole Bracket } Two Way	*R Y ←
		4	Pole Bracket } Two Way	R Y G
		5	Pole Bracket, One Way	H - M
		6	Pole Bracket, One Way	H - M
			Mast Arm (Horiz.)	Opticom
B	Street Light	1	Pole Bracket } Two Way	*R Y ←
		2	Pole Bracket } Two Way	*R Y ←
		3	Pole Bracket } Two Way	H - M (New)
		4	Pole Bracket } Two Way	H - M (New)
C	II-45	1	Mast Arm, One Way	R Y ↑
		2	Mast Arm, One Way	R Y ↑
		3	Mast Arm, One Way	R Y G
		4	Pole Bracket, One Way	R Y G
			Mast Arm (Horiz.)	Opticom
D	I-10	1	Slipfitter, One Way	R Y ←
		2	Underslung } Two Way	H - M
		3	Underslung } Two Way	H - M
E	I-10	1	Slipfitter, One Way	*R Y ←
		2	Underslung } Two Way	H - M
		3	Underslung } Two Way	H - M
F	II-40	1	Mast Arm, One Way	R Y ↑
		2	Mast Arm, One Way	R Y ↑
		3	Pole Bracket, One Way	R Y G
		4	Underslung, One Way	H - M
			Mast Arm (Horiz.)	Opticom
G	I-10	1	Slipfitter, One Way	R Y ←
H	Street Light	1	Pole Bracket, One Way	*R Y ←
I	I-10	1	Slipfitter, One Way	*R Y →
J	I-10	1	Slipfitter, One Way	*R Y →
K	I-10	1	Slipfitter, One Way	R Y →
		2	Underslung, One Way	H - M
L	II-45	1	Mast Arm, One Way	R Y ↑
		2	Mast Arm, One Way	R Y ↑
		3	Mast Arm, One Way	R Y G
		4	Pole Bracket, One Way	R Y G
		5	Pole Bracket, One Way	H - M
			TPIW EVP, One Way	Opticom
M	I-10	1	Slipfitter, One Way	R Y ←
N	I-10	1	Slipfitter, One Way	*R Y ←

* Programmed Visibility Head - No retrofit needed

CONDUIT AND CABLE SCHEDULE

DESCRIPTION	DELTA ITEM NO. (△) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
EXISTING CONDUIT AND CABLE																			
Quantity of spare 2" conduit	2	1	1	1	2	2	2	2	2	2	2	3					1	2	
Quantity of 2" conduit	5	6	6	4	3	3	2	3	4	5	5	5	1	1	1	1	1		1
Quantity of 3" conduit	2																		
Quantity of 26C #14 Control Cable (Type 1)	4	2	2	2	2	2	2	2	2	2	2	2							
Quantity of 2C #14 Loop Detector & Pedestrian Push Button Lead-In Cable (Type 2)	17	9	5		4	1		1	5	7	9	9	3			1	1		2
Quantity of Power Cable (Type 6)	1	1	1	1											1				
Quantity of 3C #20 Opticom Cable (Type 7)	5	1	1						2	3	3	4							
INSTALL NEW CABLE IN EXISTING SPARE 2-INCH CONDUIT																			
Quantity of 12 Pr #19 Interconnect Cable (Type 3)	2	1	1	1								1							
INSTALL NEW CONDUIT AND CABLE																			
Quantity of 2" Conduit	1	1		1										1	1				
Quantity of 4" Conduit		1		1										1	1				
Quantity of 12 Pr #19 Interconnect Cable (Type 3)	2	1	1	1								1		1	1				

CABLE NOTES:

Type 1 Signal Loop Cable:
Stranded, No. 14, 26 Conductors

Type 2 Detector Lead-In Cable and Pedestrian Push Button Circuit Cable:
Stranded, No. 14, 2 Conductors

Type 3 Interconnect Cable:
Solid No. 19, 12 Pairs

Type 4 Loop Sensor Cable:
Solid No. 12, Single Conductor to IMSA SPEC 51-5

Type 5 Signal Drop Cable:
Stranded, No. 14, Single Conductor

Type 6 Service Cable:

Type 7 Opticom Cable:
Solid, No. 20, 3 Conductors
No. 20, 1 Ground

TRAFFIC SIGNAL HEAD SCHEDULE

TRAFFIC SIGNAL HEAD TYPE AND DESCRIPTION	12" RYG TRAFFIC SIGNAL HEAD	12" RY↑ TRAFFIC SIGNAL HEAD	12" RYG TRAFFIC SIGNAL HEAD	12" RYG→ TRAFFIC SIGNAL HEAD	PEDESTRIAN SIGNAL HEAD
POLE LETTER AND SIGNAL HEAD NUMBER	A-4 C-3 C-4 F-3 L-3 L-4	A-2 L-1 C-1 L-2 C-2 F-1 F-2	*A-1 G-1 *A-3 *H-1 *B-1 M-1 *B-2 *N-1 D-1 *E-1	*I-1 *J-1 K-1	A-5 E-2 A-6 E-3 B-3 (New) F-4 B-4 (New) K-2 D-2 L-5 D-3

* Programmed Visibility Head - No retrofit needed

SURVEY PLOTTED BY ____ DATE
DRAWN BY ____
TRACED BY ____
DESIGNED BY ____
QUANTITIES BY ____
CHECKED BY ____
ORIGINAL PLAN
NOTE BOOK ____ No. ____

cmlsts08.dgn

9-25-00 FINAL

HOWARD K. ENDO
LICENSED PROFESSIONAL ENGINEER
No. 6185-C
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

SHIMABUKURO, ENDO & YOSHIZAKI, INC.
1126 12TH Avenue
Honolulu, Hawaii 96816

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TRAFFIC SIGNAL PLAN

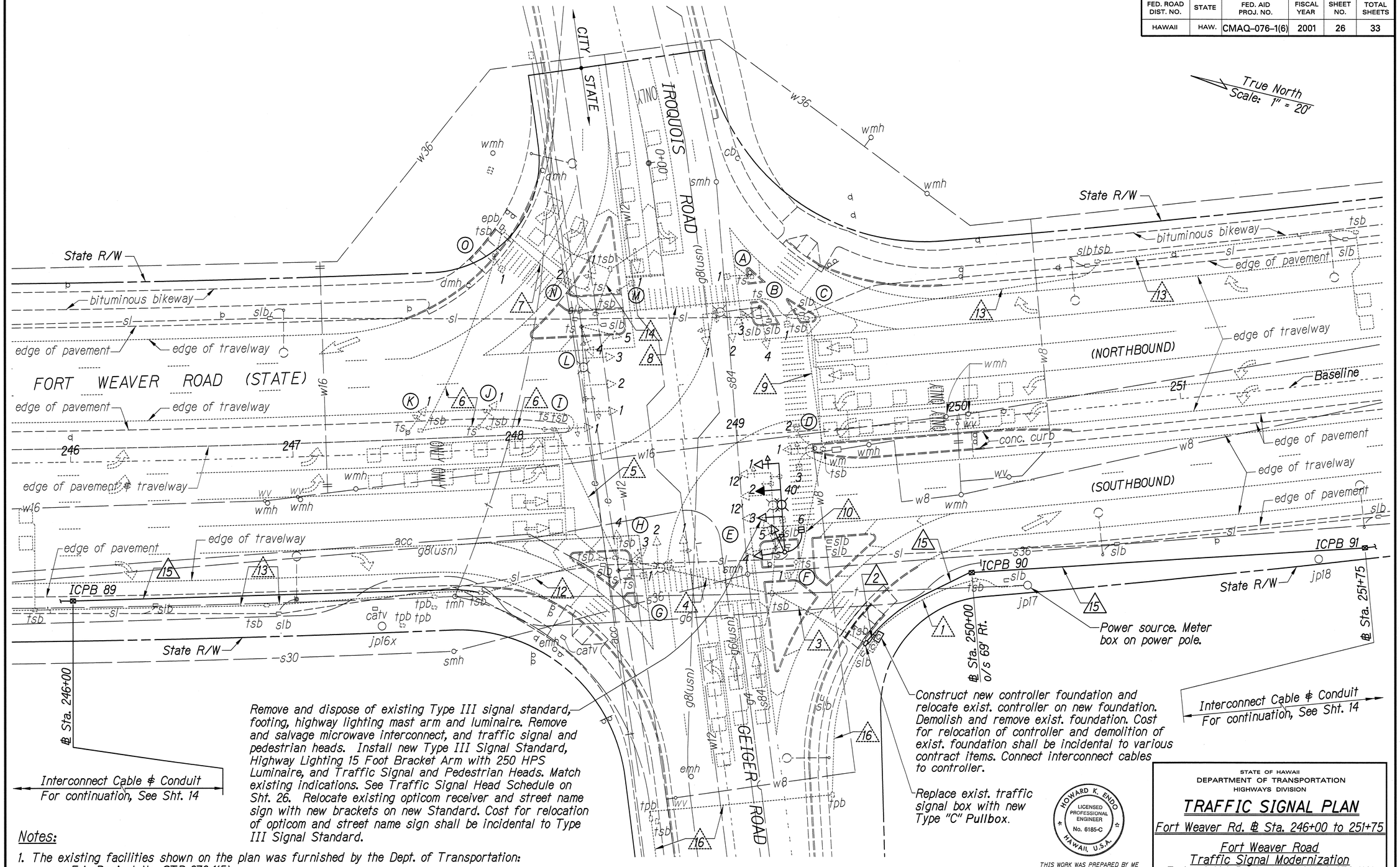
Fort Weaver Rd. @ Sta. 217+00 to 222+00

Fort Weaver Road
Traffic Signal Modernization
Federal-Aid Project No. CMAQ-076-1(6)

Date: Sept., 2000

SHEET No. 2 OF 2 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	CMAQ-076-1(6)	2001	26	33



ORIGINAL PLAN | SURVEY PLOTTED BY | DRAWN BY SC | TRACED BY | DESIGNED BY CH | QUANTITIES BY | CHECKED BY | DATE

NOTE BOOK | No.

mist69dgn

Notes:

1. The existing facilities shown on the plan was furnished by the Dept. of Transportation:
   a. F.A. Project No. STP-076-1(5)
   b. Construction plans for Fort Weaver Road and Iroquois Road Improvements.

TRAFFIC SIGNAL PLAN

Scale: 1"=20'

HOWARD K. ENDO LICENSED PROFESSIONAL ENGINEER No. 6185-C HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

SHIMABUKURO, ENDO & YOSHIZAKI, INC.
1126 12TH Avenue
Honolulu, Hawaii 96816

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TRAFFIC SIGNAL PLAN

Fort Weaver Rd. ℄ Sta. 246+00 to 251+75

Fort Weaver Road
Traffic Signal Modernization
Federal-Aid Project No. CMAQ-076-1(6)

Scale: 1"=20' Date: Sept., 2000

SHEET No. 1 OF 2 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	CMAQ-076-1(6)	2001	27	33

LIST OF MATERIALS

Pole Letter	Standard Type	Signal Head No.	Mounting Type	Signal Faces & Opticom Receivers
A	I-8	1	Slipfitter, One Way	H - M
B	III-27	1	Mast Arm, One Way	R Y ←
		2	Mast Arm, One Way	R Y ↑
		3	Pole Bracket, One Way	R Y ←
		4	Pole Bracket, One Way	R Y G
			Mast Arm (Horiz.)	Opticom
C	I-8	1	TPIW-EVP, One Way	H - M
D	I-10	1	Slipfitter, One Way	*R Y ←
		2	Underslung } Two-Way	H - M
		3	Underslung } Two-Way	H - M
E	III-40 (New)	1	Mast Arm, One Way	*R Y ← (New)
		2	Mast Arm, One Way	R Y ↑ (New)
		3	Mast Arm, One Way	R Y G (New)
		4	Pole Bracket, One Way	R Y G (New)
		5	Pole Bracket, One Way	R Y ← (New)
		6	Underslung, One Way	H - M (New)
			Mast Arm (Horiz.)	Opticom
F	I-8	1	Slipfitter, One Way	H - M
G	I-8	1	Slipfitter, One Way	H - M
H	III-30	1	Mast Arm, One Way	R Y ←
		2	Mast Arm, One Way	R Y ↑
		3	Pole Bracket } Two-Way	R Y ←
		4	Pole Bracket } Two-Way	R Y G
			Mast Arm (Horiz.)	Opticom
I	I-10	1	Slipfitter, One Way	*R Y ←
J	I-10	1	Slipfitter, One Way	R Y →
K	I-10	1	Slipfitter, One Way	R Y →
L	III-37	1	Mast Arm, One Way	*R Y ←
		2	Mast Arm, One Way	R Y ↑
		3	Mast Arm, One Way	R Y ↑
		4	Pole Bracket, One Way	R Y ←
		5	Pole Bracket, One Way	R Y G
			Mast Arm (Horiz.)	Opticom
M	I-8	1	Slipfitter, One Way	H - M
N	I-10	1	Slipfitter, One Way	R Y →
		2	Underslung, One Way	H - M
O	I-8	1	Slipfitter, One Way	H - M

* Programmed Visibility Head - No retrofit needed

CONDUIT AND CABLE SCHEDULE

DESCRIPTION	DELTA ITEM NO. (△) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
EXISTING CONDUIT AND CABLE																
Quantity of spare 2" conduit			3	3	1	1	1	1	1	1		2				
Quantity of 2" conduit	1	5	4	4	3	2	3	4	5	5	1	1	1	1		1
Quantity of 3" conduit		2	2													
Quantity of 26C #14 Control Cable (Type 1)		4	4	2	2	2	2	2	2	2						
Quantity of 2C #14 Loop Detector & Pedestrian Push Button Lead-In Cable (Type 2)		15	15	4	1		1	5	8	9	2	1	1	3		
Quantity of Power Cable (Type 6)	1	1														
Quantity of 3C #19 Opticom Cable (Type 7)		4	4	1				1	2	2						
Quantity of Telephone																1
INSTALL NEW CABLE IN EXISTING 2-INCH CONDUIT																
Quantity of 12 Pr #19 Interconnect Cable (Type 3)			1	1								1				
INSTALL NEW CONDUIT AND CABLE																
Quantity of 2" Conduit		6													1	
Quantity of 4" Conduit															1	
Quantity of 12 Pr #19 Interconnect Cable (Type 3)		2													1	

TRAFFIC SIGNAL HEAD SCHEDULE

TRAFFIC SIGNAL HEAD TYPE AND DESCRIPTION	12" RYG TRAFFIC SIGNAL HEAD	12" RY↑ TRAFFIC SIGNAL HEAD	12" RY← TRAFFIC SIGNAL HEAD	12" RY→ TRAFFIC SIGNAL HEAD	PEDESTRIAN SIGNAL HEAD
POLE LETTER AND SIGNAL HEAD NUMBER	B-4 H-4 E-3 (New) L-1 E-4 (New) L-5	B-2 H-3 E-2 L-2 H-2 L-3	B-1 H-1 B-3 H-3 *D-1 *I-1 *E-1 (New) L-1 E-5 (New) *L-4	J-1 K-1 N-1	A-1 F-1 C-1 G-1 D-2 M-1 D-3 N-2 E-6 (New) O-1

* Programmed Visibility Head - No retrofit needed

CABLE NOTES:

Type 1 Signal Loop Cable:
Stranded, No. 14, 26 conductors

Type 2 Detector Lead-In Cable and Pedestrian Push Button Circuit Cable:
Stranded, No. 14, 2 Conductors

Type 3 Interconnect Cable:
Solid No. 19, 12 Pairs

Type 4 Loop Sensor Cable:
Solid No. 12, Single Conductor to IMSA SPEC 51-5

Type 5 Signal Drop Cable:
Stranded, No. 14, Single Conductor

Type 6 Service Cable:
Solid, No. 6, 3 Conductors

Type 7 Opticom Cable:
Solid, No. 20, 3 Conductors
No. 20, 1 Ground

HOWARD K. ENDO
LICENSED PROFESSIONAL ENGINEER
No. 6185-C
HAWAII, U.S.A.

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1126 12TH Avenue
Honolulu, Hawaii 96816

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TRAFFIC SIGNAL PLAN

Fort Weaver Rd. @ Sta. 246+00 to 251+75

Fort Weaver Road
Traffic Signal Modernization
Federal-Aid Project No. CMAQ-076-1(6)

Date: Sept., 2000

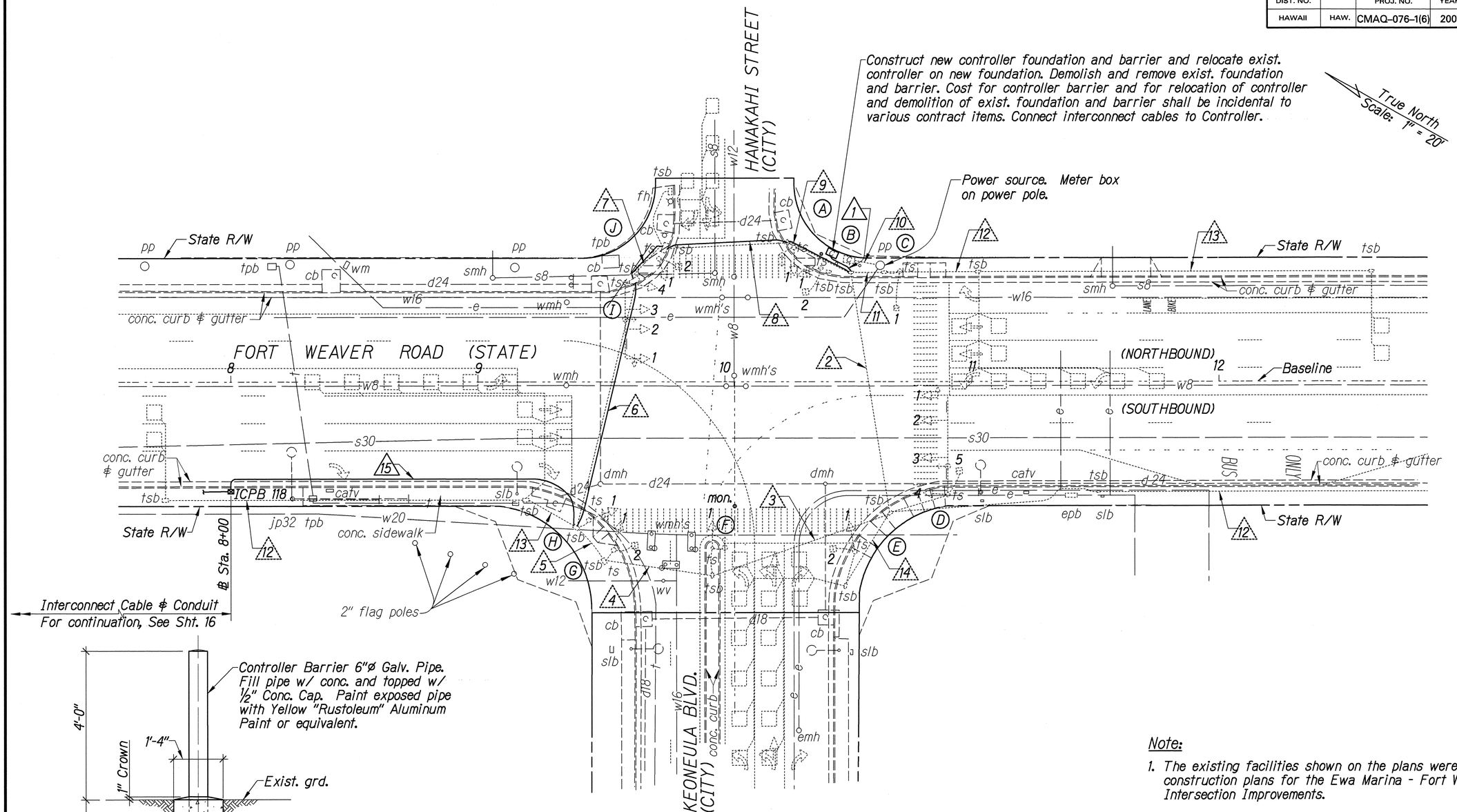
SHEET No. 2 OF 2 SHEETS

ORIGINAL PLAN | SURVEY PLOTTED BY | DRAWN BY | TRACED BY | DESIGNED BY | QUANTITIES BY | CHECKED BY | DATE | NOTE BOOK | No.

cmisfsld.dgn

9-25-00 PM/AL

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	CMAQ-076-1(6)	2001	28	33



CONTROLLER BARRIER DETAIL

Scale: ¾" = 1'-0"

1 / 28 | 28

TRAFFIC SIGNAL PLAN

Scale: 1"=20'

Note:

1. The existing facilities shown on the plans were from the construction plans for the Ewa Marina - Fort Weaver Road Intersection Improvements.

HOWARD K. ENDO
LICENSED PROFESSIONAL ENGINEER
No. 6185-C
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

SHIMABUKURO, ENDO & YOSHIZAKI, INC.
1126 12TH Avenue
Honolulu, Hawaii 96816

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TRAFFIC SIGNAL PLAN

Fort Weaver Rd. ℄ Sta. 8+00 to 12+00

Fort Weaver Road
Traffic Signal Modernization
Federal-Aid Project No. CMAQ-076-1(6)

Scale: 1"=20' Date: Sept., 2000

SHEET No. 1 OF 2 SHEETS

28

ORIGINAL PLAN | SURVEY PLOTTED BY | DRAWN BY SF | TRACED BY | DESIGNED BY CH | QUANTITIES BY | CHECKED BY | DATE | NOTE BOOK | No.

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CMAQ-076-1(6) FINAL

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	CMAQ-076-1(6)	2001	29	33

LIST OF MATERIALS

Pole Letter	Standard Type	Signal Head No.	Mounting Type	Signal Faces & Opticom Receivers
A	I-10	1	Slipfitter, One Way TPIW-EVP, One Way	R Y G Opticom
B	I-10	1 2	Slipfitter, One Way Underslung, One Way	*R Y G ← H - M
C	I-8	1	Slipfitter, One Way	H - M
D	II-40	1 2 3 4 5	Mast Arm, One Way Mast Arm, One Way Mast Arm, One Way Pole Bracket, One Way Underslung, One Way Mast Arm (Horiz.)	*R Y G ← R Y G R Y G R Y G H - M Opticom
E	I-10	1 2	Slipfitter, One Way Underslung, One Way	R Y G H - M
F	I-10	1	Slipfitter, One Way TPIW-EVP, One Way	R Y G Opticom
G	I-10	1 2	Slipfitter, One Way Pole Bracket, One Way	R Y G H - M
H	I-10	1	Slipfitter, One Way	*R Y G ←
I	II-32	1 2 3 4	Mast Arm, One Way Mast Arm, One Way Mast Arm, One Way Pole Bracket, One Way Mast Arm (Horiz.)	*R Y G ← R Y G R Y G R Y G Opticom
J	I-10	1 2	Slipfitter, One Way Underslung, One Way	R Y G H - M

* Fiber Optic Dual Indication

TRAFFIC SIGNAL HEAD SCHEDULE

TRAFFIC SIGNAL HEAD TYPE AND DESCRIPTION	12" RYG TRAFFIC SIGNAL HEAD	12" RYG ← G Y TRAFFIC SIGNAL HEAD	PEDESTRIAN SIGNAL HEAD
POLE LETTER AND SIGNAL HEAD NUMBER	A-1 F-1 A-2 G-1 D-2 I-2 D-3 I-3 D-4 I-4 E-1 J-1	*B-1 *D-1 *H-1 *I-1	B-2 G-2 C-1 J-2 D-5 E-2

* Fiber Optic Dual Indication

CONDUIT AND CABLE SCHEDULE

DESCRIPTION	DELTA ITEM NO. (△) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
EXISTING CONDUIT AND CABLE															
Quantity of spare 2" conduit				1		1	1	1	1						
Quantity of 2" conduit	6	4	4	3	1	3	4	4	4	2	2	2	1	1	
Quantity of 26C #14 Control Cable (Type 1)	2	2	2	2	2	2	2	2	2						
Quantity of 2C #14 Loop Detector & Pedestrian Push Button Lead-In Cable (Type 2)	14	5	1	1	1	4	4	6	6		4	3	1	3	
Quantity of 12 Pr #19 Interconnect Cable (Type 3)	1									1					
Quantity of 4C #14 Cable (Type 5)											1			2	
Quantity of Power Cable (Type 6)	1									1					
Quantity of 3C #20 Opticom Cable (Type 7)	4	2	1				1	1	2						
INSTALL NEW CABLE IN EXISTING 2-INCH CONDUIT															
Quantity of 12 Pr #19 Interconnect Cable (Type 3)	1					1	1	1	1						
INSTALL NEW CONDUIT AND CABLE															
Quantity of 2" Conduit, (Conc. Encased)	2					2	2	2	2						1
Quantity of 4" Conduit, (Conc. Encased)															1
Quantity of 12 Pr #19 Interconnect Cable (Type 3)															1

CABLE NOTES:

Type 1 Signal Loop Cable:
Stranded, No. 14, 26 conductors

Type 2 Detector Lead-In Cable and Pedestrian Push Button Circuit Cable:
Stranded, No. 14, 2 Conductors

Type 3 Interconnect Cable:
Solid No. 19, 12 Pairs

Type 4 Loop Sensor Cable:
Solid No. 12, Single Conductor to IMSA SPEC 51-5

Type 5 Signal Drop Cable:
Stranded, No. 14, Single Conductor

Type 6 Service Cable:
Solid, No. 6, 3 Conductors

Type 7 Opticom Cable:
Solid, No. 20, 3 Conductors
No. 20, 1 Ground

ORIGINAL PLAN
NOTE BOOK
SURVEY PLOTTED BY
DRAWN BY
TRACED BY
DESIGNED BY
QUANTITIES BY
CHECKED BY
DATE
No.

cmistsl2.dgn

HOWARD K. ENDO
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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
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TRAFFIC SIGNAL PLAN

Fort Weaver Rd. @ Sta. 8+00 to 12+00

Fort Weaver Road
Traffic Signal Modernization
Federal-Aid Project No. CMAQ-076-1(6)

Date: Sept., 2000

SHEET No. 2 OF 2 SHEETS