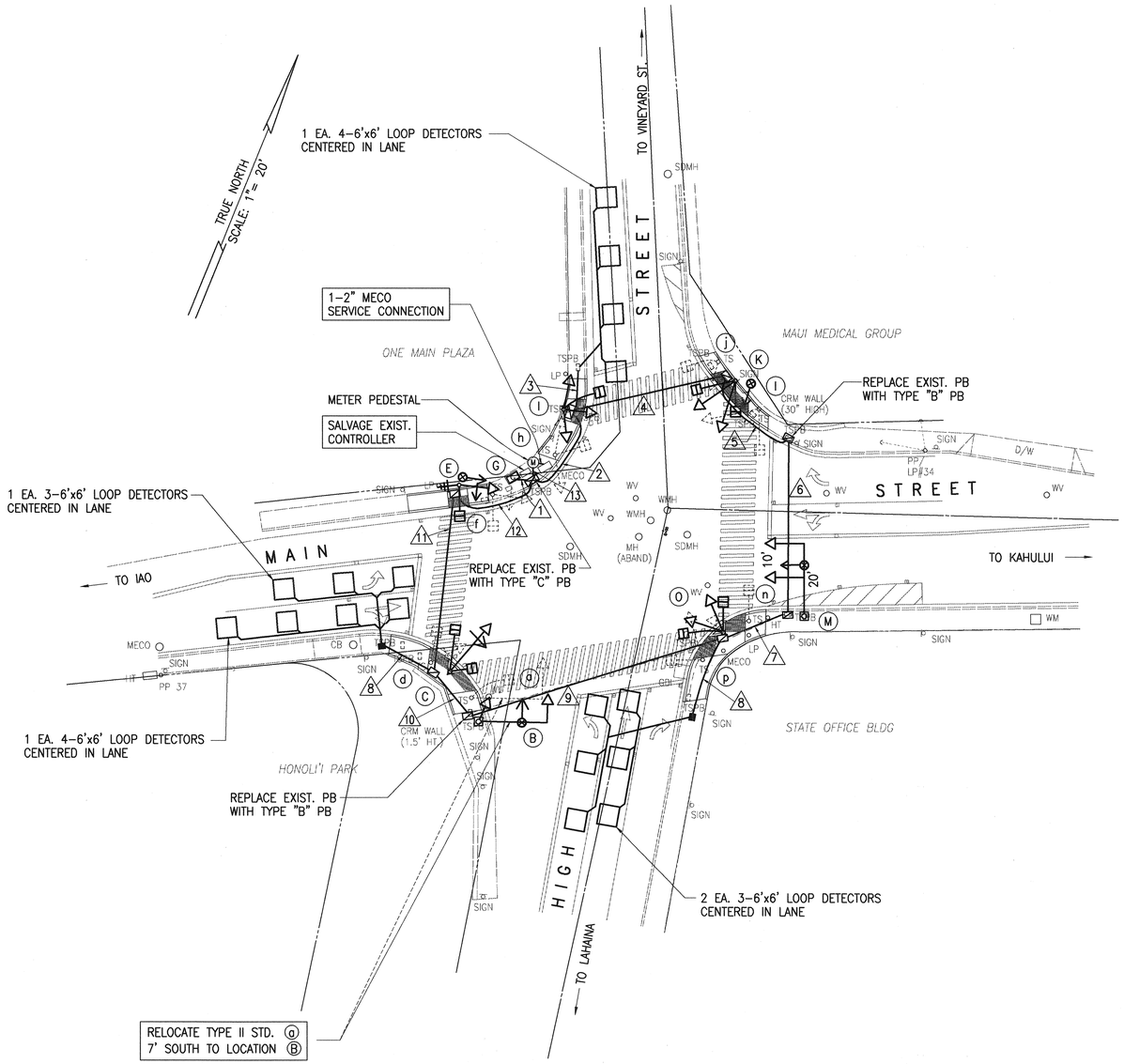
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-STP-032-1(6)	2000	36	53

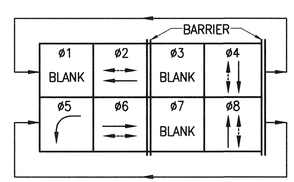


TRAFFIC SIGNAL PLAN
MAIN ST. AT HIGH ST.

SCALE: 1"=20'

STANDARDS, SIGNAL HEADS AND APPURTENANCES					
ITEM NO.	STANDARD TYPE	COMMENTS	MOUNT TYPE	SIGNAL HEAD AND APPURTENANCES: NEW	SIGNAL HEAD AND APPURTENANCES: EXISTING TO SALVAGE
ⓐ	II	RELOCATE TO LOCATION Ⓑ			
Ⓑ	II	RELOCATED	IV VI MA-EVP	R+Y+G R+Y+G EVP	PED HEAD
Ⓒ	I	NEW	IA IV IV	R+Y+G+←(G/Y) PED HEAD PPB (R) PED HEAD PPB (L)	
ⓓ	I	SALVAGE			R+Y+G+←(G/Y) PED HEAD
Ⓔ	I	NEW	IA IV TP-EVP TP-SSR	R+Y+G+←(G/Y) PED HEAD PPB (L) EVP SSR	
ⓕ	I	SALVAGE			R+Y+G+←(G/Y) PED HEAD
Ⓖ	1-MODEL 170/332 CONTROLLER ASSEMBLY ON NEW BASE				
ⓗ	I	SALVAGE			R+Y+G R+Y+G PED HEAD
Ⓘ	I	NEW	III IV	R+Y+G, R+Y+G, R+Y+G PED HEAD PPB (R)	
ⓙ	I	SALVAGE			R+Y+G PED HEAD
Ⓚ	I	NEW	II IV IV TP-EVP	R+Y+G, R+Y+G PED HEAD PPB (R) PED HEAD PPB (L) EVP	
Ⓛ	I	SALVAGE			R+Y+G PED HEAD
Ⓜ	II-20	NEW	VI VI MA-EVP	R+Y+G R+Y+G EVP	
ⓝ	I	SALVAGE			R+Y+G PED HEAD
Ⓞ	I	NEW	II IV IV	R+Y+G, R+Y+G PED HEAD PPB (R) PED HEAD PPB (L)	
Ⓟ	I	SALVAGE			R+Y+G PED HEAD

CONDUIT AND CABLE SCHEDULE				
DESIGNATION	PVC CONDUITS		CABLE: NEW	CABLE: EXISTING
1	9-2"	NEW	2-TYPE 1 7-TYPE 2 1-TYPE 6 4-TYPE 7 1-TYPE 9 SPARE SPARE	
2	5-2"	NEW	1-TYPE 1 3-TYPE 2 1-TYPE 7 SPARE SPARE	
3	1-2"	NEW	1-TYPE 2	
4	5-2"	NEW	1-TYPE 1 2-TYPE 2 1-TYPE 7 SPARE SPARE	
5	4-2"	NEW	1-TYPE 1 1-TYPE 2 SPARE SPARE	
6	4-2"	NEW	1-TYPE 1 1-TYPE 2 SPARE SPARE	
7	5-2"	NEW	1-TYPE 1 1-TYPE 2 1-TYPE 7 SPARE SPARE	
8	1-2"	NEW	1-TYPE 2	
9	5-2"	NEW	1-TYPE 1 2-TYPE 2 1-TYPE 7 SPARE SPARE	
10	5-2"	NEW	1-TYPE 1 2-TYPE 2 2-TYPE 7 SPARE SPARE	
11	5-2"	NEW	1-TYPE 1 4-TYPE 2 2-TYPE 7 SPARE SPARE	
12	5-2"	NEW	1-TYPE 1 4-TYPE 2 3-TYPE 7 1-TYPE 9 SPARE	
13	1-2"	NEW	1-TYPE 6	



PHASE ASSIGNMENT DIAGRAM

THEODORE S. KAWAHIGASHI
LICENSED PROFESSIONAL ENGINEER
No. 3244-C
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

Signature

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

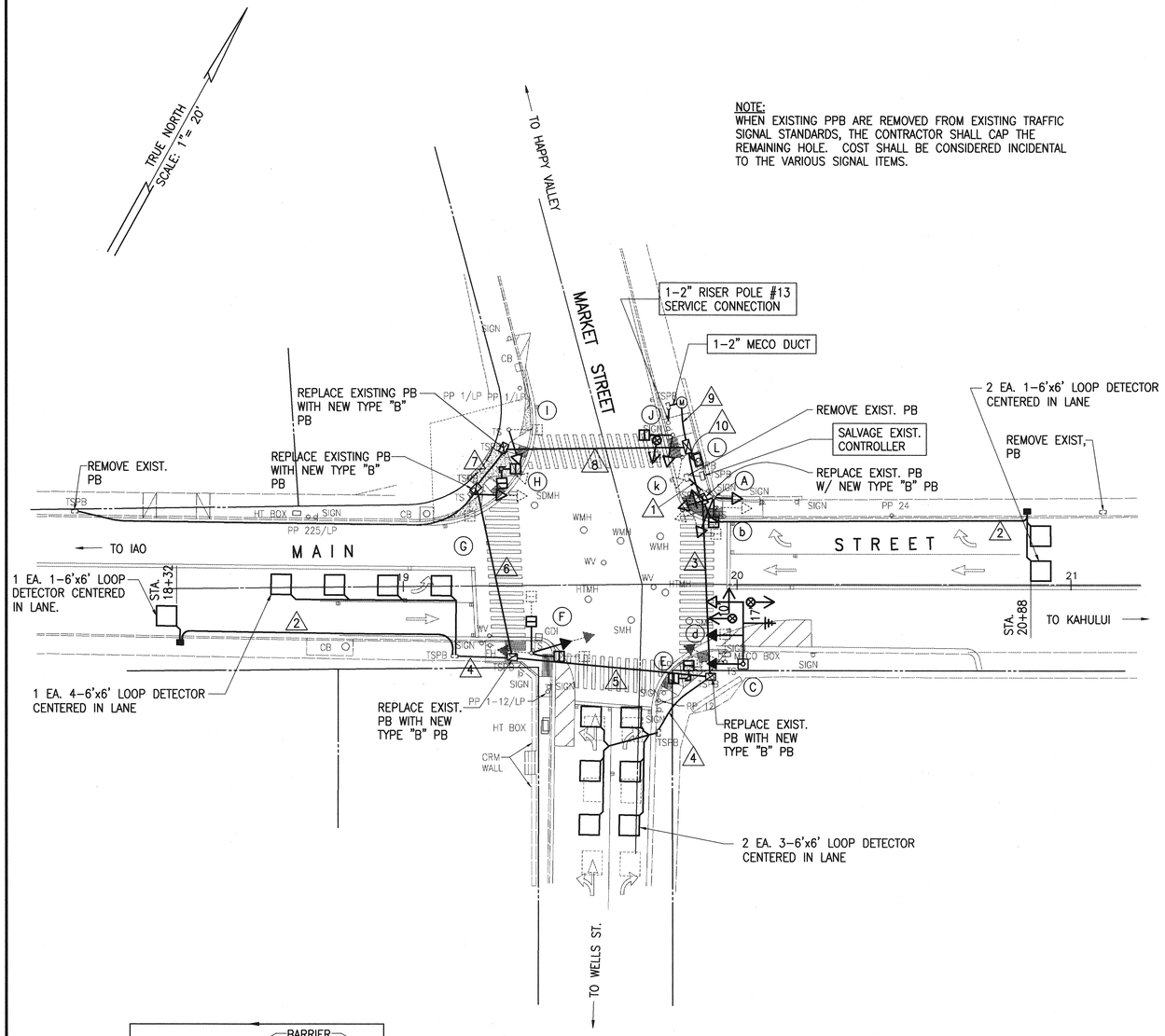
TRAFFIC SIGNAL PLAN
MAIN ST. AT HIGH ST.

KAAHUMANU AVENUE
TRAFFIC SIGNAL MODERNIZATION
HIGH STREET TO WHARF STREET
FEDERAL AID PROJECT NO. NH-STP-032-1(6)

SCALE: AS NOTED DATE: AUG. 1999

SHEET No. 1 OF 1 SHEETS

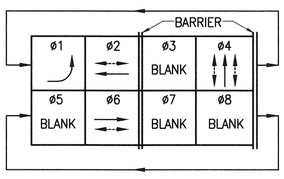
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-STP-032-1(6)	2000	37	53



NOTE:
WHEN EXISTING PPB ARE REMOVED FROM EXISTING TRAFFIC SIGNAL STANDARDS, THE CONTRACTOR SHALL CAP THE REMAINING HOLE. COST SHALL BE CONSIDERED INCIDENTAL TO THE VARIOUS SIGNAL ITEMS.

STANDARDS, SIGNAL HEADS AND APPURTENANCES					
ITEM NO.	STANDARD TYPE	COMMENTS	MOUNT TYPE	SIGNAL HEAD AND APPURTENANCES	
				NEW	EXISTING TO SALVAGE
(A)	I	NEW	III IV	R+Y+G+← (FIBER OPTIC), R+Y+G, R+Y+G PED. HEAD PPB(R)	
(b)	I	SALVAGE			R+Y+G+←+←, R+Y+G PED. HEAD PPB
(C)	II-17	NEW	VI VI IV SSR MA-EVP MA-EVP	R+Y+G+← (FIBER OPTIC), R+Y+↑ R+Y+↑ SSR EVP EVP	
(d)	I	SALVAGE			R+Y+↑ PED. HEAD PED. HEAD PPB
(E)	I-8	NEW	II	PED. HEAD (TWO-WAY) PBB(R) PPB(L)	
(F)	I	EXIST.	I A IV IV	R+Y+↑ PED. HEAD PED. HEAD PPB(R) PPB(L)	R+Y+↑ (TWO-WAY) PED. HEAD PED. HEAD
(G)	I	EXIST.	I A	R+Y+G	R+Y+G PED. HEAD PPB
(H)	I-8	NEW	II	PED. HEAD (TWO-WAY) PPB(R) PPB(L)	
(I)	I	EXIST.	I A	R+Y+G	R+Y+G PED. HEAD PPB
(J)	I	NEW	I A IV TP-EVP	R+Y+G PED. HEAD PPB(L) EVP	
(k)	I	SALVAGE			R+Y+G PED. HEAD PPB
(L)	1-MODEL 170/332 CONTROLLER ASSEMBLY ON NEW BASE				

CONDUIT AND CABLE SCHEDULE				
DESIGNATION	PVC CONDUITS		CABLE	
			NEW	EXISTING TO REMOVE
1	7-2"	NEW	1-TYPE 1 7-TYPE 2 2-TYPE 7 1-TYPE 9 SPARE SPARE	
2	1-2"	NEW	1-TYPE 2	
3	6-2"	NEW	1-TYPE 1 6-TYPE 2 2-TYPE 7 1-TYPE 9 SPARE SPARE	
4	1-2"	EXIST.	2-TYPE 2	1-TYPE 2
5	4-2"	NEW	1-TYPE 1 3-TYPE 2 SPARE SPARE	
6	4-2"	NEW	1-TYPE 1 1-TYPE 2 SPARE SPARE	
7	4-2"	NEW	1-TYPE 1 1-TYPE 2 SPARE SPARE	
8	3-2"	NEW	1-TYPE 1 2-TYPE 2 SPARE	
9	1-2"	NEW	1-TYPE 6	
10	8-2"	NEW	1-TYPE 1 9-TYPE 2 1-TYPE 6 3-TYPE 7 1-TYPE 9 SPARE SPARE	



PHASE ASSIGNMENT DIAGRAM

TRAFFIC SIGNAL PLAN
MAIN ST. AT MARKET ST.

SCALE: 1"=20'

THEODORE S. KAWAHIGASHI
LICENSED PROFESSIONAL ENGINEER
No. 3244-C
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

Signature

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

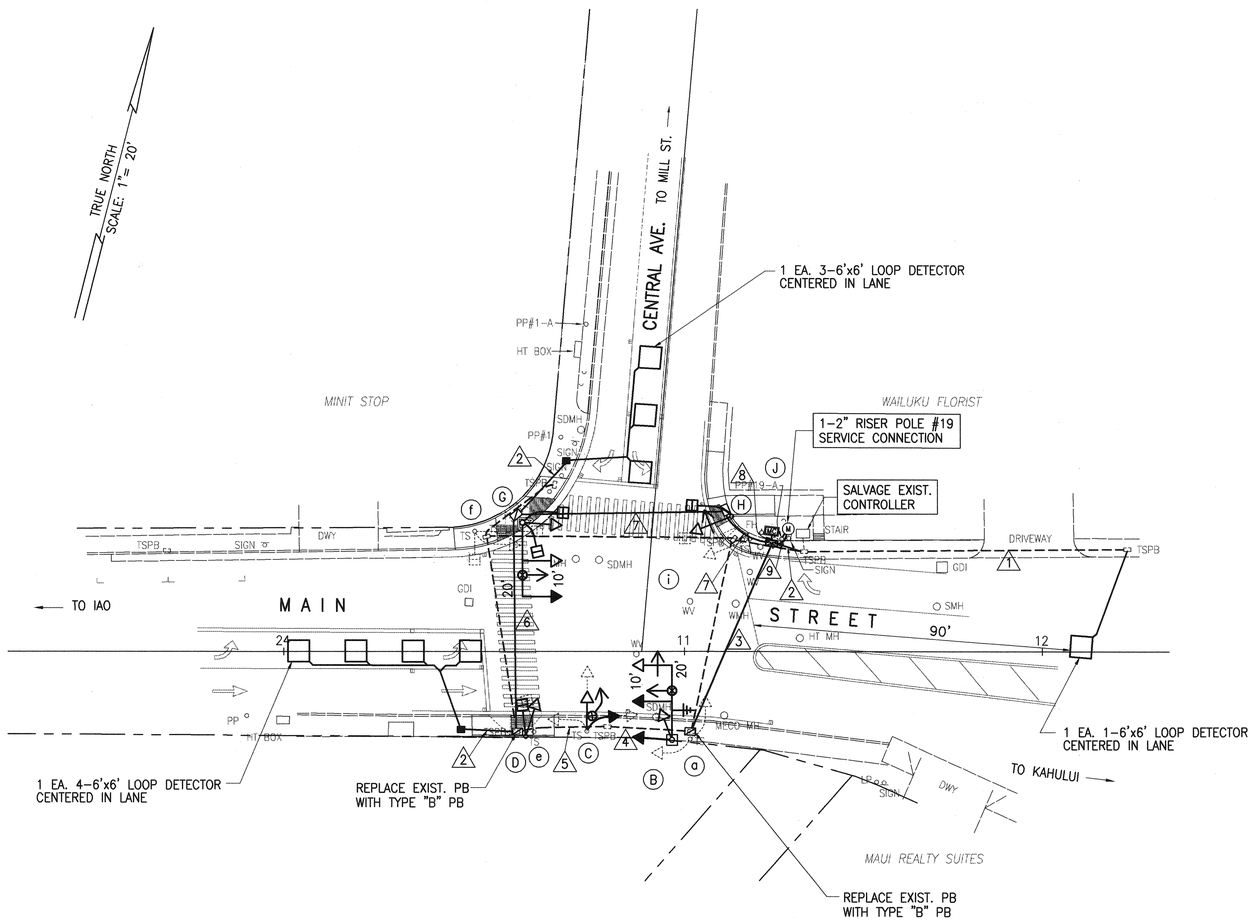
TRAFFIC SIGNAL PLAN
MAIN ST. AT MARKET ST.

KAAHUMANU AVENUE
TRAFFIC SIGNAL MODERNIZATION
HIGH STREET TO WHARF STREET
FEDERAL AID PROJECT NO. NH-STP-032-1(6)

SCALE: AS NOTED DATE: AUG. 1999

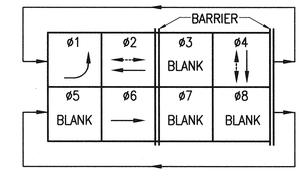
SHEET No. 1 OF 1 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-STP-032-1(6)	2000	38	53



TRAFFIC SIGNAL PLAN
MAIN ST. AT CENTRAL AVE.

SCALE: 1"=20'



PHASE ASSIGNMENT DIAGRAM

STANDARDS, SIGNAL HEADS AND APPURTENANCES					
ITEM NO.	STANDARD TYPE	COMMENTS	MOUNT TYPE	SIGNAL HEAD AND APPURTENANCES NEW	SIGNAL HEAD AND APPURTENANCES EXISTING TO SALVAGE
a	I	SALVAGE			R+Y+G (TWO WAY)
B	II-20	NEW	V VI VI MA-EVP MA-SSR	R+Y+G, R+Y+↑ R+Y+G+← (FIBER OPTIC) R+Y+↑ EVP SSR	
C	I	EXIST.	II TP-EVP	R+Y+G, R+Y+↑ EVP	R+Y+G (THREE WAY)
D	I	NEW	I A IV	R+Y+G PED. HEAD PPB(R)	
e	I	SALVAGE			PED. HEAD PPB
f	I	SALVAGE			R+Y+G PED. HEAD PED. HEAD PPB PPB
G	II-20	NEW	VI VI IV IV IV MA-EVP	R+Y+↑ R+Y+G R+Y+G PED. HEAD PPB(R) PED. HEAD PPB (L) EVP	
H	I	NEW	I A IV	R+Y+G+← (FIBER OPTIC) PED. HEAD PPB(R)	
i	I	SALVAGE			R+Y+G (TWO WAY) PED. HEAD PPB
J	1-MODEL 170/332 MASTER CONTROLLER ASSEMBLY ON NEW BASE				

CONDUIT AND CABLE SCHEDULE				
DESIGNATION	PVC CONDUITS		CABLE NEW	CABLE EXISTING TO REMOVE
1	1-2"	EXIST.	1-TYPE 2	1-TYPE 2
2	1-2"	NEW	1-TYPE 2	
3	5-2"	NEW	1-TYPE 1 2-TYPE 7 1-TYPE 9 SPARE	
4	2-2"	EXIST.	1-TYPE 1 1-TYPE 7	1-19C #14
5	2-2"	EXIST.	1-TYPE 1	1-19C #14
6	4-2"	NEW	1-TYPE 1 2-TYPE 2 SPARE SPARE	
7	5-2"	NEW	1-TYPE 1 4-TYPE 2 1-TYPE 7 SPARE SPARE	
8	7-2"	NEW	2-TYPE 1 5-TYPE 2 1-TYPE 6 3-TYPE 7 1-TYPE 9 SPARE SPARE	
9	1-2"	NEW	1-TYPE 6	

THEODORE S. KAWAHIGASHI
LICENSED PROFESSIONAL ENGINEER
No. 3244-C
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

Signature

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TRAFFIC SIGNAL PLAN
MAIN ST. AT CENTRAL AVE.

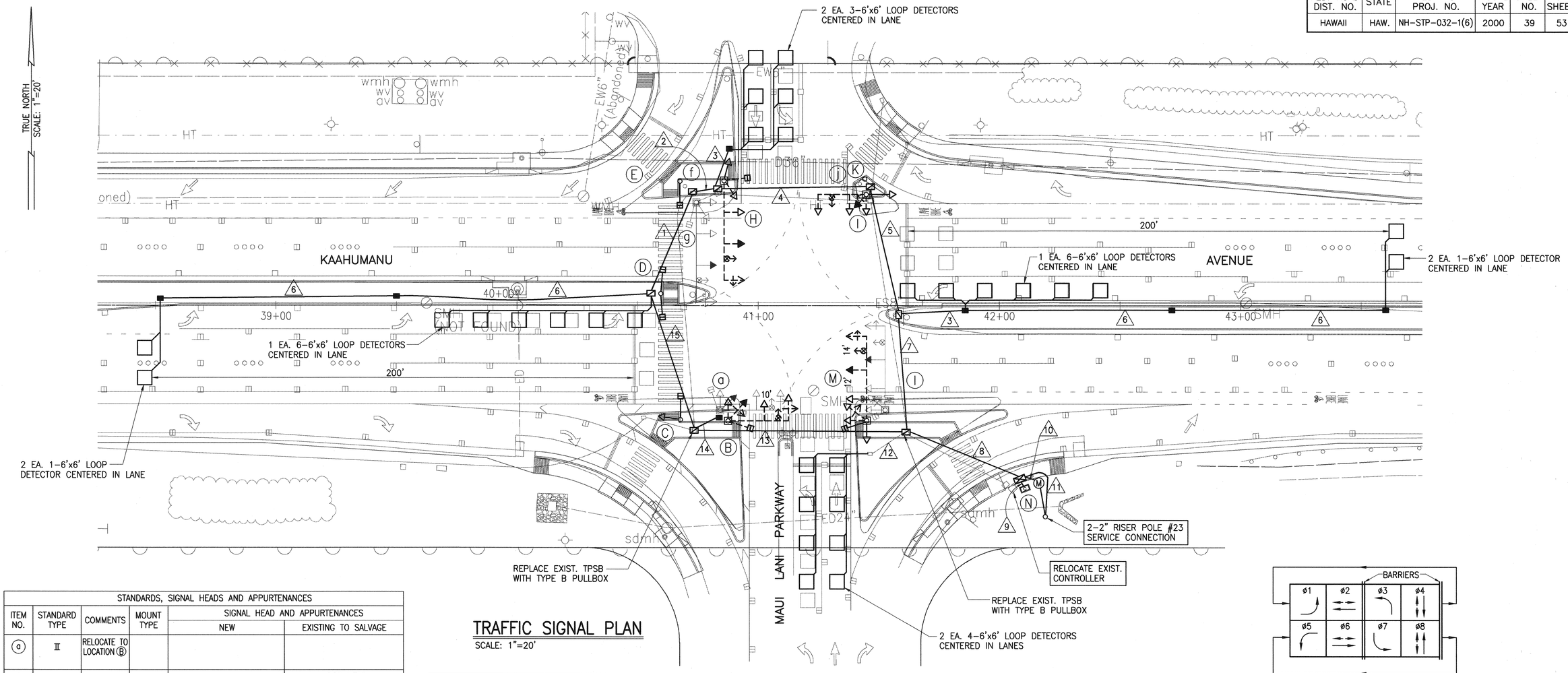
KAAHUMANU AVENUE
TRAFFIC SIGNAL MODERNIZATION
HIGH STREET TO WHARF STREET
FEDERAL AID PROJECT NO. NH-STP-032-1(6)

SCALE: AS NOTED DATE: AUG. 1999

SHEET No. 1 OF 1 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-STP-032-1(6)	2000	39	53

TRUE NORTH
SCALE: 1"=20'



TRAFFIC SIGNAL PLAN

SCALE: 1"=20'

STANDARDS, SIGNAL HEADS AND APPURTENANCES					
ITEM NO.	STANDARD TYPE	COMMENTS	MOUNT TYPE	SIGNAL HEAD AND APPURTENANCES NEW	SIGNAL HEAD AND APPURTENANCES EXISTING TO SALVAGE
a	II	RELOCATE TO LOCATION B			
B	II	RELOCATED		PPB(R)	PED HEAD PPB(R) PPB(L)
C	I	NEW	IA IV	R+Y+G PED HEAD PPB(L)	
D	I-8	NEW	II	PED. HEAD, PED. HEAD PPB(<->)	
E	I-8	NEW	I	PED. HEAD PPB(R)	
f	PPB POST	SALVAGE			PPB(R) PPB(L)
g	II	RELOCATE TO LOCATION H			
H	II	RELOCATED	IV	R+Y+G PPB(L)	PED HEAD
I	II	EXIST.	IV	R+Y+G	
j	PPB POST	SALVAGE			PPB(R)
K	PPB POST	NEW		PPB(R)	
l	II	RELOCATE TO LOCATION M			
M	II	RELOCATED	IV	R+Y+G PPB(L)	PPB(L)
I	RELOCATE MODEL 170/332 CONTROLLER ASSEMBLY ON NEW BASE				

CONDUIT AND CABLE SCHEDULE									
DESIGNATION	PVC CONDUITS		CABLE NEW	CABLE EXISTING	DESIGNATION	PVC CONDUITS		CABLE NEW	CABLE EXISTING
1	5-2"	NEW	2-TYPE 1 1-TYPE 2 SPARE SPARE		8	9-2"	NEW	4-TYPE 1 11-TYPE 2 4-TYPE 7 SPARE, SPARE	
2	4-2"	NEW	2-TYPE 1 SPARE SPARE		9	11-2"	NEW	4-TYPE 1 11-TYPE 2 1-TYPE 3 1-TYPE 6 4-TYPE 7 SPARE, SPARE	
3	1-2"	NEW	2-TYPE 2						
4	6-2"	NEW	2-TYPE 1 3-TYPE 2 1-TYPE 7 SPARE, SPARE		10	1-2"	NEW	1-TYPE 6	
					11	1-2"	NEW	1-TYPE 3	
					12	1-2"	EXIST.	2-TYPE 2	2-TYPE 2
5	6-2"	NEW	2-TYPE 1 3-TYPE 2 2-TYPE 7 SPARE SPARE		13	6-2"	NEW	2-TYPE 1 4-TYPE 2 1-TYPE 7 SPARE, SPARE	
6	1-2"	NEW	1-TYPE 2		14	2-2"	NEW	1-TYPE 2 6-TYPE 5 1-TYPE 7	
7	6-2"	NEW	2-TYPE 1 5-TYPE 2 2-TYPE 7 SPARE SPARE		15	5-2"	NEW	2-TYPE 1 3-TYPE 2 SPARE, SPARE	

PHASE ASSIGNMENT DIAGRAM

NOTE:
WHEN EXISTING PPB ARE REMOVED FROM EXISTING TRAFFIC SIGNAL STANDARDS, THE CONTRACTOR SHALL CAP THE REMAINING HOLE. COST SHALL BE CONSIDERED INCIDENTAL TO THE VARIOUS SIGNAL ITEMS.

THEODORE S. KAWAHIGASHI
LICENSED PROFESSIONAL ENGINEER
No. 3244-C
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

Signature

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

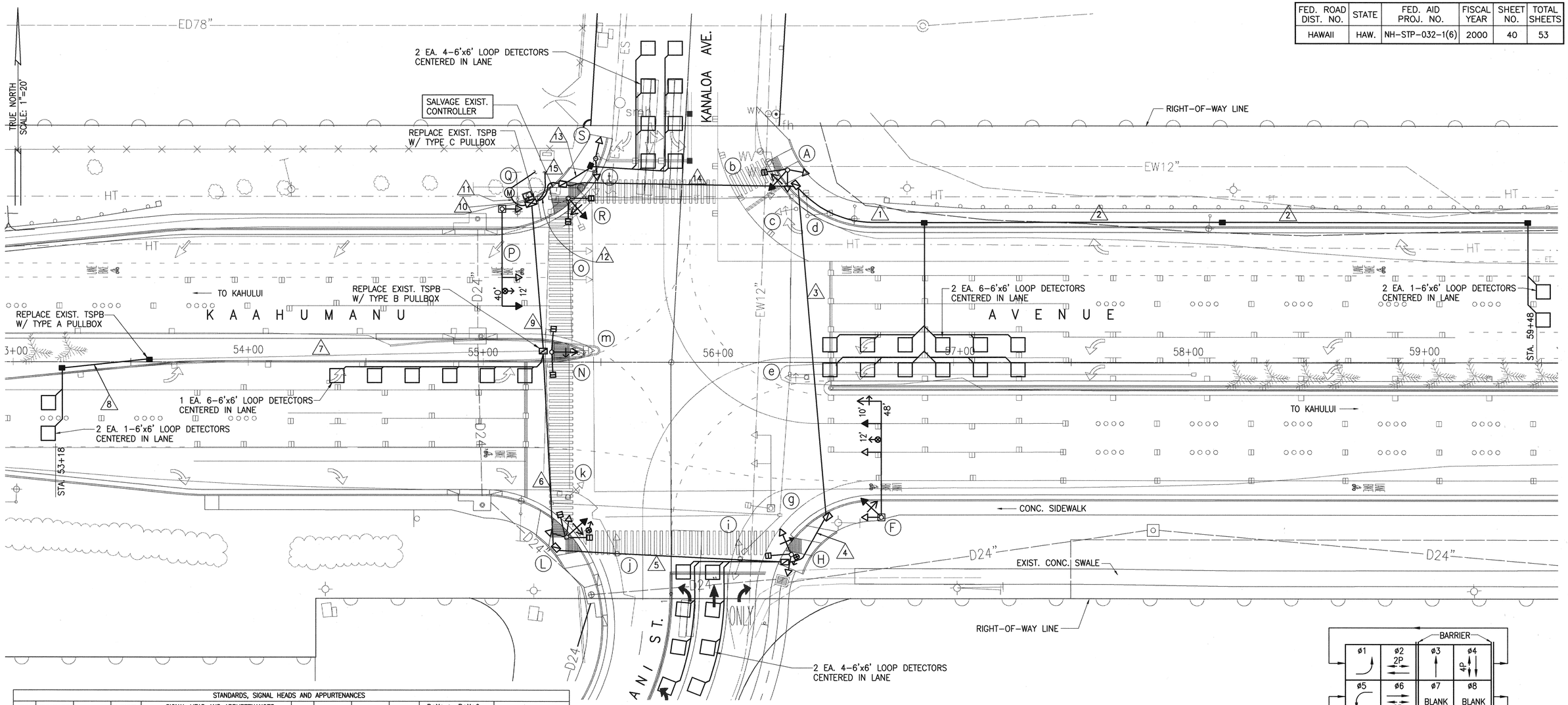
TRAFFIC SIGNAL PLAN
KAAHUMANU AVE. AT MAUI LANI PKWAY.

KAAHUMANU AVENUE
TRAFFIC SIGNAL MODERNIZATION
HIGH STREET TO WHARF STREET
FEDERAL AID PROJECT NO. NH-STP-032-1(6)

SCALE: AS NOTED DATE: AUG. 1999

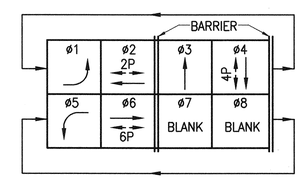
SHEET No. 1 OF 1 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-STP-032-1(6)	2000	40	53



STANDARDS, SIGNAL HEADS AND APPURTENANCES					
ITEM NO.	STANDARD TYPE	COMMENTS	MOUNT TYPE	SIGNAL HEAD AND APPURTENANCES NEW	SIGNAL HEAD AND APPURTENANCES EXISTING TO SALVAGE
(A)	I	NEW	III IV	R+Y+←, R+Y+G, R+Y+G PED. HEAD PPB (R)	
(b)	I	SALVAGE			R+Y+G
(c)	I	SALVAGE			R+Y+G+←(G/Y)
(d)	I	SALVAGE			PED. HEAD (TWO WAY)
(e)	I	SALVAGE			R+Y+G+←(G/Y)
(F)	II-48	NEW	VI VI VI V MA-EVP	R+Y+←(PVH) R+Y+↑ R+Y+G R+Y+←, R+Y+G EVP	
(g)	II	SALVAGE			R+Y+G R+Y+G PED. HEAD PPB
(H)	I	NEW	II IV TP-EVP	R+Y+G+←, R+Y+G PED. HEAD PPB (R) EVP	
(i)	I	SALVAGE			R+Y+G (TWO WAY)
(j)	I	SALVAGE			R+Y+G
(k)	I	SALVAGE			R+Y+G+←(G/Y), PPB
(L)	I	NEW	III IV IV TP-EVP	R+Y+←, R+Y+G, R+Y+G PED. HEAD PED. HEAD PPB (R) PPB (L) EVP	
(m)	I	SALVAGE			R+Y+G+←(G/Y)
(N)	I	NEW	I A IV IV	R+Y+←(PVH) PED. HEAD PED. HEAD PPB (↔)	
(o)	II	SALVAGE			R+Y+G R+Y+G PED. HEAD PPB
(P)	II-40	NEW	VI VI IV MA-EVP	R+Y+↑ R+Y+G R+Y+G EVP	
(Q)	1-MODEL 170/332 CONTROLLER ASSEMBLY ON NEW BASE				
(R)	I	NEW	I A IV IV	R+Y+← PED. HEAD PED. HEAD PPB (R) PPB (L)	
(S)	I	NEW	II	R+Y+G, R+Y+G	
(t)	I	SALVAGE			R+Y+G (TWO WAY)

CONDUIT AND CABLE SCHEDULE				
DESIGNATION	PVC CONDUITS		CABLE NEW	CABLE EXISTING TO SALVAGE
1	1-2"	NEW	3-TYPE 2	
2	1-2"	NEW	1-TYPE 2	
3	5-2"	NEW	2-TYPE 1 1-TYPE 7 SPARE SPARE	
4	4-2"	NEW	2-TYPE 1 SPARE SPARE	
5	6-2"	NEW	2-TYPE 1 2-TYPE 2 1-TYPE 7 SPARE SPARE	
6	6-2"	NEW	2-TYPE 1 3-TYPE 2 2-TYPE 7 SPARE SPARE	
7	1-2"	EXIST.	1-TYPE 2	1-TYPE 2
8	1-2"	NEW	1-TYPE 2	
9	6-2"	NEW	2-TYPE 1 5-TYPE 2 2-TYPE 7 SPARE SPARE	
10	11-2"	NEW	4-TYPE 1 10-TYPE 2 1-TYPE 3 1-TYPE 6 4-TYPE 7 SPARE SPARE	
11	1-2"	NEW	1-TYPE 6	
12	6-2"	NEW	2-TYPE 1 5-TYPE 2 1-TYPE 7 SPARE SPARE	
13	1-2"	NEW	1-TYPE 2 2-TYPE 5	
14	6-2"	NEW	2-TYPE 1 4-TYPE 2 1-TYPE 7 SPARE SPARE	
15	1-2"	NEW	1-TYPE 3	



PHASE ASSIGNMENT DIAGRAM

THEODORE S. KAWAHIGASHI
LICENSED PROFESSIONAL ENGINEER
No. 3244-C
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

Signature

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TRAFFIC SIGNAL PLAN
KAAHUMANU AVE. AT MAHALANI ST.

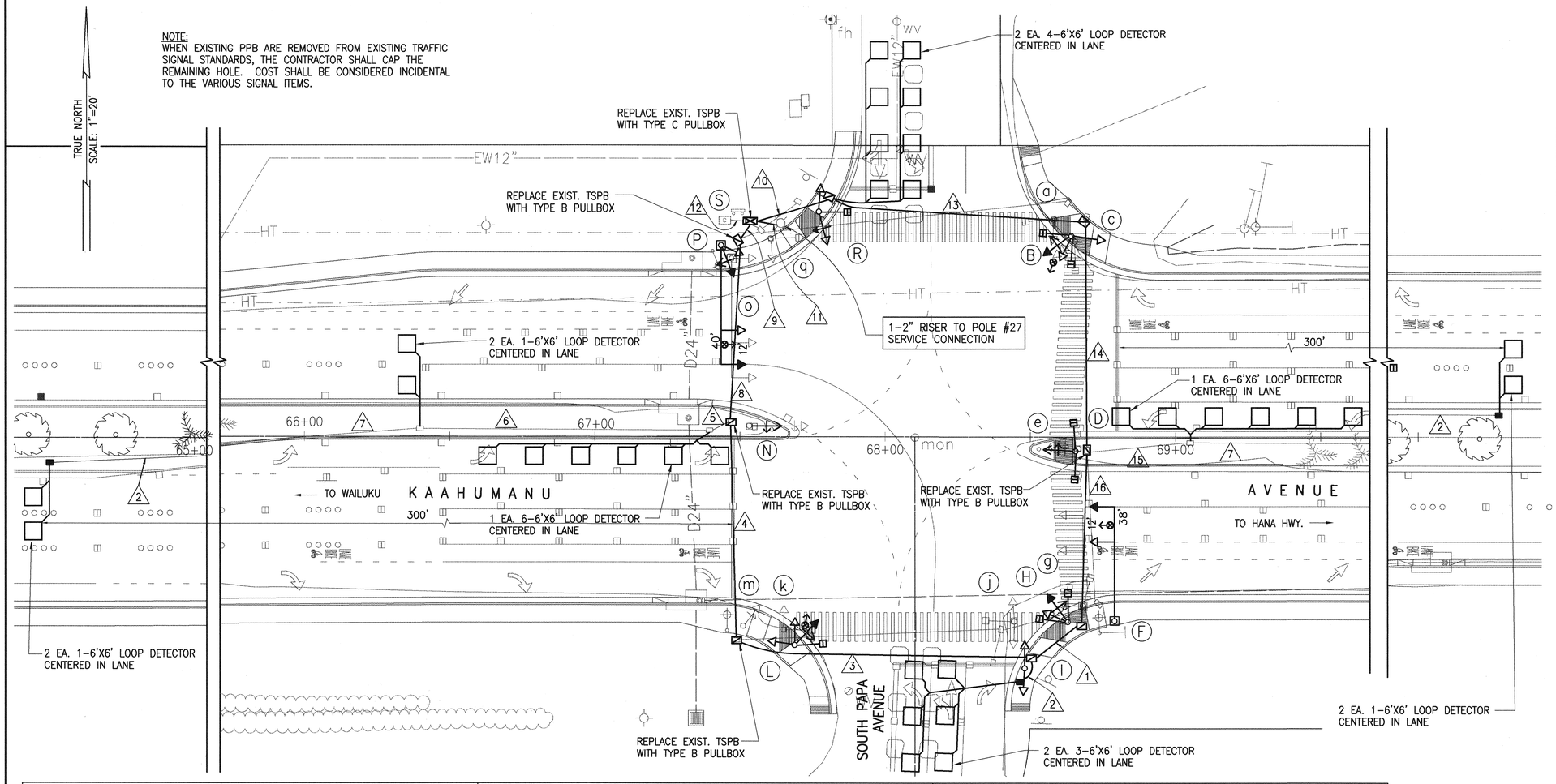
KAAHUMANU AVENUE
TRAFFIC SIGNAL MODERNIZATION
HIGH STREET TO WHARF STREET
FEDERAL AID PROJECT NO. NH-STP-032-1(6)

SCALE: AS NOTED DATE: AUG. 1999

SHEET No. 1 OF 1 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-STP-032-1(6)	2000	41	53

NOTE:
WHEN EXISTING PPB ARE REMOVED FROM EXISTING TRAFFIC SIGNAL STANDARDS, THE CONTRACTOR SHALL CAP THE REMAINING HOLE. COST SHALL BE CONSIDERED INCIDENTAL TO THE VARIOUS SIGNAL ITEMS.

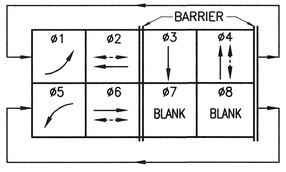


CONDUIT AND CABLE SCHEDULE				
DESIGNATION	PVC CONDUITS		CABLE NEW	CABLE EXIST. TO REMOVE
1	5-2"	NEW	2-TYPE 1 1-TYPE 2 SPARE SPARE	
2	1-2"	NEW	1-TYPE 2	
3	5-2"	NEW	2-TYPE 1 2-TYPE 2 SPARE SPARE	
4	6-2"	NEW	2-TYPE 1 2-TYPE 2 1-TYPE 7 SPARE SPARE	
5	1-2"	EXISTING	4-TYPE 2	4-TYPE 2
6	1-2"	EXISTING	3-TYPE 2	3-TYPE 2
7	1-2"	EXISTING	1-TYPE 2	1-TYPE 2
8	6-2"	NEW	2-TYPE 1 6-TYPE 2 1-TYPE 7 SPARE SPARE	
9	6-2"	NEW	2-TYPE 1 6-TYPE 2 2-TYPE 7 SPARE SPARE	
10	6-2"	NEW	2-TYPE 1 5-TYPE 2 2-TYPE 7 SPARE SPARE	
11	1-2"	NEW	1-TYPE 3	
12	6-2"	EXISTING	2-TYPE 1 11-TYPE 2 1-TYPE 3 1-TYPE 6 4-TYPE 7	
13	6-2"	NEW	2-TYPE 1 4-TYPE 2 2-TYPE 7 SPARE SPARE	
14	6-2"	NEW	2-TYPE 1 3-TYPE 2 1-TYPE 7 SPARE SPARE	
15	2-2"	EXISTING	2-TYPE 2	2-TYPE 2
16	6-2"	NEW	2-TYPE 1 1-TYPE 2 1-TYPE 7 SPARE SPARE	

STANDARDS, SIGNAL HEADS AND APPURTENANCES					
ITEM NO.	STANDARD TYPE	COMMENTS	MOUNT TYPE	SIGNAL HEAD & APPURTENANCES NEW	SIGNAL HEAD & APPURTENANCES EXISTING TO SALVAGE
a	I	SALVAGE			R+Y+G PED. HEAD PPB
B	I	NEW	III IV IV TP-EVP	R+Y+←, R+Y+G R+Y+G PED. HEAD PED. HEAD PPB (R) PPB (L) EVP	
c	I	SALVAGE			R+Y+G+←(G/Y) PED. HEAD PPB
D	I	NEW	IA IV IV	R+Y+ ← (PVH) PED. HEAD PED. HEAD PPB (←→)	
e	I	SALVAGE			R+Y+G+ ← PPB
F	II-38	NEW	VI VI MA-EVP	R+Y+↑ (BP) R+Y+G (BP) EVP	
g	II	SALVAGE			R+Y+G R+Y+G R+Y+G PED. HEAD PPB

STANDARDS, SIGNAL HEADS AND APPURTENANCES					
ITEM NO.	STANDARD TYPE	COMMENTS	MOUNT TYPE	SIGNAL HEAD & APPURTENANCES NEW	SIGNAL HEAD & APPURTENANCES EXISTING TO SALVAGE
H	I	NEW	II IV IV	R+Y+ ←, R+Y+G PED. HEAD PED. HEAD PPB (R) PPB (L)	
I	I	NEW	II	R+Y+G, R+Y+G	
j	I	SALVAGE			R+Y+G (TWO WAY) PED. HEAD PPB
k	I	SALVAGE			R+Y+G PED. HEAD PPB
L	I	NEW	III IV TP-EVP	R+Y+←, R+Y+G, R+Y+G PED. HEAD PPB (L) EVP	
m	I	SALVAGE			R+Y+G+←(G/Y)
N	I	EXISTING	IA	R+Y+ ← (PVH)	R+Y+G+←(G/Y) PPB
o	II	SALVAGE			R+Y+G R+Y+G R+Y+G

STANDARDS, SIGNAL HEADS AND APPURTENANCES					
ITEM NO.	STANDARD TYPE	COMMENTS	MOUNT TYPE	SIGNAL HEAD & APPURTENANCES NEW	SIGNAL HEAD & APPURTENANCES EXISTING TO SALVAGE
P	II-40	NEW	VI VI V MA-EVP	R+Y+↑ (BP) R+Y+G (BP) R+Y+←, R+Y+G EVP	
q	I	SALVAGE			R+Y+G PED. HEAD PPB
R	I	NEW	II IV	R+Y+G+←, R+Y+G PED. HEAD PPB (R)	
S	EXIST. MODEL 170/332 CONTROLLER ASSEMBLY ON EXIST. BASE				



PHASE ASSIGNMENT DIAGRAM

THEODORE S. KAWAHIGASHI
LICENSED PROFESSIONAL ENGINEER
No. 3244-C
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

Signature

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TRAFFIC SIGNAL PLAN
KAAHUMANU AVE. AT PAPA AVE.

KAAHUMANU AVENUE
TRAFFIC SIGNAL MODERNIZATION
HIGH STREET TO WHARF STREET
FEDERAL AID PROJECT NO. NH-STP-032-1(6)

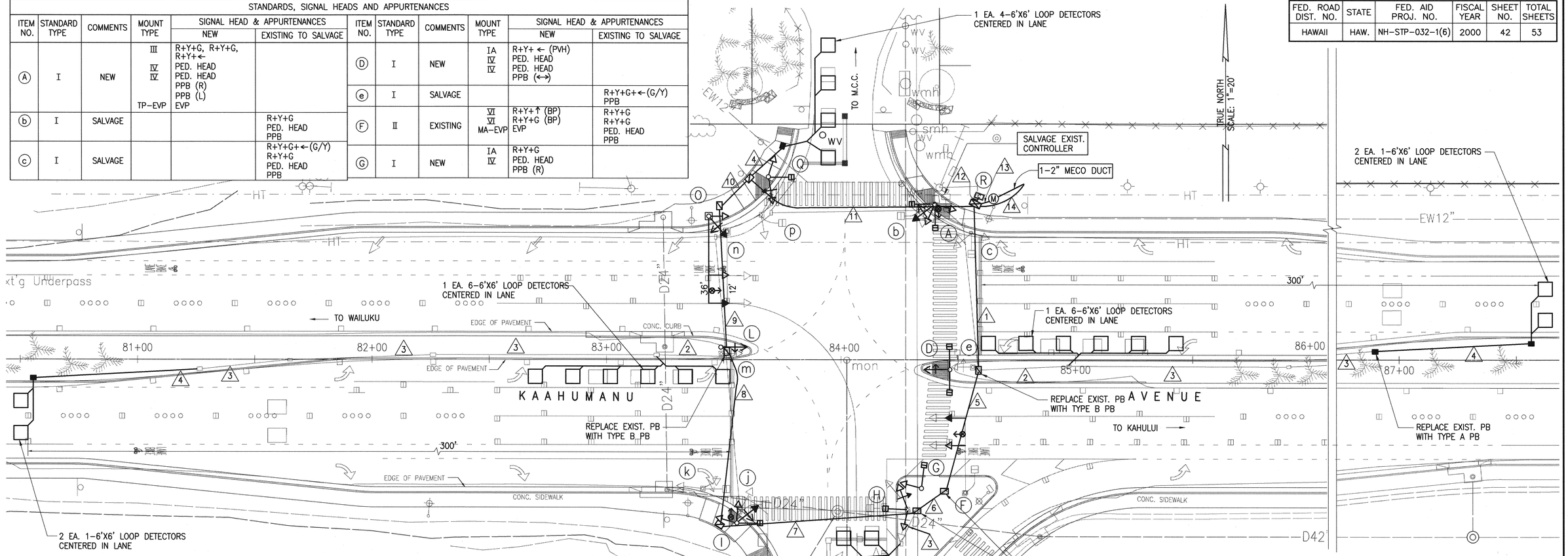
SCALE: AS NOTED DATE: AUG. 1999

SHEET No. 1 OF 1 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-STP-032-1(6)	2000	42	53

STANDARDS, SIGNAL HEADS AND APPURTENANCES

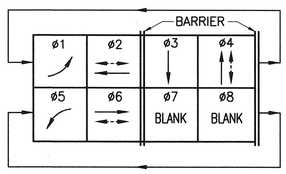
ITEM NO.	STANDARD TYPE	COMMENTS	MOUNT TYPE	SIGNAL HEAD & APPURTENANCES NEW	SIGNAL HEAD & APPURTENANCES EXISTING TO SALVAGE
(A)	I	NEW	III IV IV TP-EVP	R+Y+G, R+Y+G, R+Y+← PED. HEAD PED. HEAD PPB (R) PPB (L) EVP	
(b)	I	SALVAGE			R+Y+G PED. HEAD PPB
(c)	I	SALVAGE			R+Y+G+←(G/Y) R+Y+G PED. HEAD PPB
(D)	I	NEW	IA IV IV	R+Y+ ← (PVH) PED. HEAD PED. HEAD PPB (↔)	
(e)	I	SALVAGE			R+Y+G+←(G/Y) PPB
(F)	II	EXISTING	VI VI MA-EVP	R+Y+↑ (BP) R+Y+G (BP) EVP	R+Y+G R+Y+G PED. HEAD PPB
(G)	I	NEW	IA IV	R+Y+G PED. HEAD PPB (R)	



NOTE:
WHEN EXIST. PPB ARE REMOVED FROM EXIST. TRAFFIC SIGNAL STANDARDS, THE CONTRACTOR SHALL CAP THE REMAINING HOLE. COST SHALL BE CONSIDERED INCIDENTAL TO THE VARIOUS TRAFFIC SIGNAL ITEMS.

CONDUIT AND CABLE SCHEDULE

DESIGNATION	PVC CONDUITS		CABLE NEW	CABLE EXISTING TO REMOVE
1	6-2"	NEW	2-TYPE 1 5-TYPE 2 1-TYPE 7 SPARE SPARE	
2	1-2"	EXIST	2-TYPE 2	2-TYPE 2
3	1-2"	EXIST	1-TYPE 2	1-TYPE 2
4	1-2"	NEW	1-TYPE 2	
5	6-2"	NEW	2-TYPE 1 3-TYPE 2 1-TYPE 7 SPARE SPARE	
6	5-2"	NEW	2-TYPE 1 2-TYPE 2 SPARE SPARE	
7	5-2"	NEW	2-TYPE 1 1-TYPE 2 SPARE SPARE	
8	5-2"	NEW	2-TYPE 1 1-TYPE 7 SPARE SPARE	
9	6-2"	NEW	2-TYPE 1 2-TYPE 2 1-TYPE 7 SPARE SPARE	
10	6-2"	NEW	2-TYPE 1 2-TYPE 2 2-TYPE 7 SPARE SPARE	
11	6-2"	NEW	2-TYPE 1 4-TYPE 2 2-TYPE 7 SPARE SPARE	
12	11-2"	NEW	4-TYPE 1 9-TYPE 2 1-TYPE 3 1-TYPE 6 4-TYPE 7 SPARE SPARE	
13	1-2"	NEW	1-TYPE 6	
14	1-2"	NEW	1-TYPE 3	



PHASE ASSIGNMENT DIAGRAM

STANDARDS, SIGNAL HEADS AND APPURTENANCES

ITEM NO.	STANDARD TYPE	COMMENTS	MOUNT TYPE	SIGNAL HEAD & APPURTENANCES NEW	SIGNAL HEAD & APPURTENANCES EXISTING TO SALVAGE
(H)	I	EXISTING	II IV	R+Y+G+←, R+Y+G PED. HEAD PPB (R)	R+Y+G (TWO WAY) PED. HEAD PPB
(I)	I	NEW	III IV TP-EVP	R+Y+G, R+Y+G, R+Y+← PED. HEAD PPB (L) EVP	
(j)	I	SALVAGE			R+Y+G PED. HEAD PPB
(k)	I	SALVAGE			R+Y+G+←(G/Y) R+Y+G PED. HEAD
(L)	I	NEW	IA	R+Y+ ← (PVH)	
(m)	I	EXISTING			R+Y+G+←(G/Y)
(n)	II	SALVAGE			R+Y+G R+Y+G
(O)	II-36	NEW	VI VI V MA-EVP	R+Y+↑ (BP) R+Y+G (BP) R+Y+←, R+Y+G EVP	
(p)	I	SALVAGE			R+Y+G (TWO WAY) PED. HEAD PPB
(Q)	I	NEW	II IV	R+Y+G+←, R+Y+G PED. HEAD PPB (R)	
(R)	1-MODEL 170/332 CONTROLLER ASSEMBLY ON NEW BASE				

THEODORE S. KAWAHIGASHI
LICENSED PROFESSIONAL ENGINEER
No. 3244-C
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

Signature

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

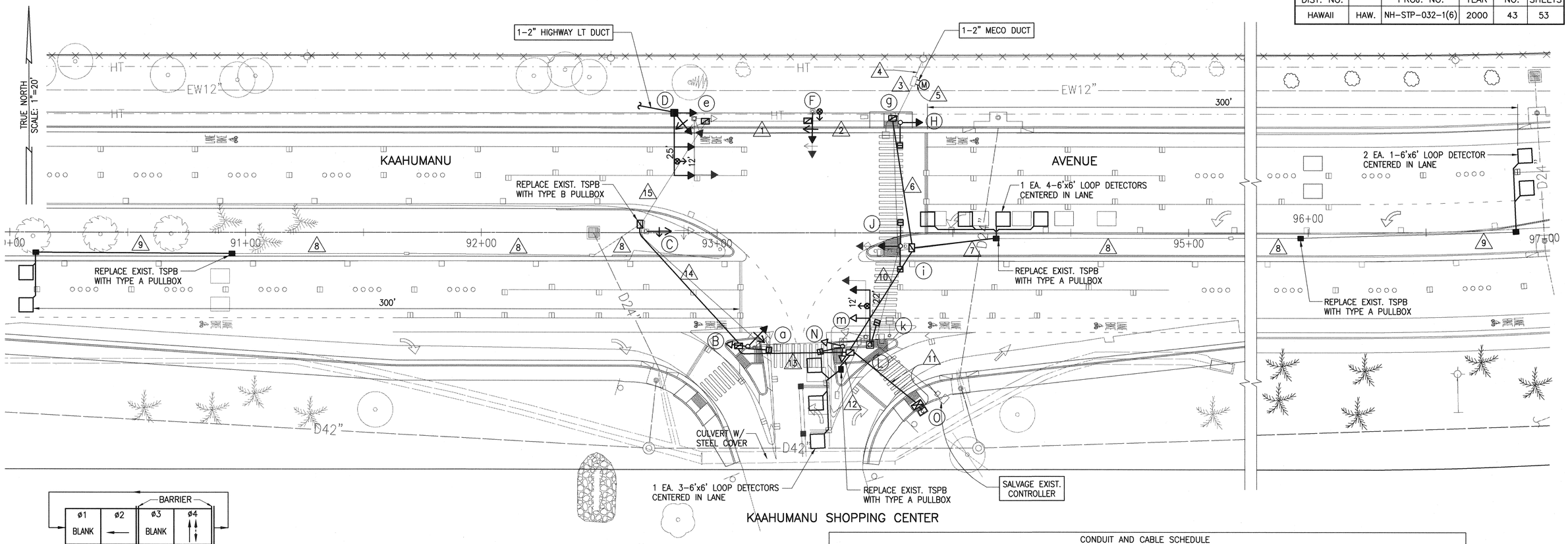
TRAFFIC SIGNAL PLAN
KAAHUMANU AVE. AT WAKEA AVE.

KAAHUMANU AVENUE
TRAFFIC SIGNAL MODERNIZATION
HIGH STREET TO WHARF STREET
FEDERAL AID PROJECT NO. NH-STP-032-1(6)

SCALE: AS NOTED DATE: AUG. 1999

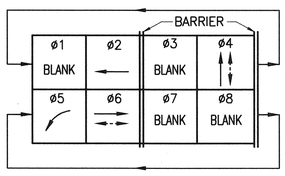
SHEET No. 1 OF 1 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-STP-032-1(6)	2000	43	53



TRAFFIC SIGNAL PLAN

SCALE: 1"=20'



PHASE ASSIGNMENT DIAGRAM

STANDARDS, SIGNAL HEADS AND APPURTENANCES

ITEM NO.	STANDARD TYPE	COMMENTS	MOUNT TYPE	SIGNAL HEAD & APPURTENANCES NEW	SIGNAL HEAD & APPURTENANCES EXISTING TO SALVAGE
a	I	SALVAGE			R+Y+G+← (G/Y) PED. HEAD PPB
B	I	NEW	II IV	R+Y+ ←, R+Y+G PED. HEAD PPB (R)	
C	I	EXISTING	IA	R+Y+ ← (PVH)	R+Y+G+← (G/Y)
D	III-20	NEW	VI VI V MA-EVP	R+Y+↑ (BP) R+Y+↑ (BP) R+Y+ ←, R+Y+↑ EVP	
e	III	SALVAGE			R+Y+ ↑ R+Y+G R+Y+ ←
F	I	EXISTING	IA TP-EVP	R+Y+ ← EVP	R+Y+←
g	I	SALVAGE			PED. HEAD PPB
H	I	NEW	IA IV	R+Y+ ↑ PED. HEAD PPB (R)	
i	I	SALVAGE			R+Y+ ↑ PPB
J	I	NEW	IA IV IV	R+Y+ ↑ PED. HEAD PED. HEAD PPB (←→)	
k	I	SALVAGE			PED. HEAD PPB
L	II-22	NEW	VI VI IV MA-EVP	R+Y+ ↑ (BP) R+Y+G (BP) PED. HEAD PPB (R) EVP	
m	II	SALVAGE			R+Y+ ↑ R+Y+G PED. HEAD PPB
N	I	NEW	II IV	R+Y+G , R+Y+G PED. HEAD PPB (L)	
O	1-MODEL 170/332 CONTROLLER ASSEMBLY ON NEW BASE				

CONDUIT AND CABLE SCHEDULE

DESIGNATION	PVC CONDUITS		CABLE NEW	CABLE EXISTING TO REMOVE
1	4-2"	EXISTING	1-TYPE 1 1-TYPE 7 SPARE SPARE	2-19C #14
2	2-2"	EXISTING	1-TYPE 1 2-TYPE 7	1-19C #14
3	2-2"	EXISTING	1-TYPE 3 1-TYPE 6	1-TYPE 3 1-TYPE 6
4	1-2"	EXISTING	1-TYPE 3	1-TYPE 3
5	1-2"	NEW	1-TYPE 6	
6	7-2"	NEW	1-TYPE 1 1-TYPE 2 1-TYPE 3 1-TYPE 6 2-TYPE 7 SPARE SPARE	
7	1-2"	NEW	2-TYPE 2	
8	1-2"	EXISTING	1-TYPE 2	1-TYPE 2
9	1-2"	NEW	1-TYPE 2	
10	7-2"	NEW	1-TYPE 1 3-TYPE 2 1-TYPE 3 1-TYPE 6 2-TYPE 7 SPARE SPARE	
11	8-2"	NEW	2-TYPE 1 6-TYPE 2 1-TYPE 3 1-TYPE 6 3-TYPE 7 SPARE SPARE	
12	1-2"	NEW	1-TYPE 2	
13	4-2"	NEW	1-TYPE 1 2-TYPE 2 SPARE SPARE	
14	4-2"	NEW	1-TYPE 1 1-TYPE 2 SPARE SPARE	
15	2-2"	EXISTING	1-TYPE 1 SPARE	1-19C #14

THEODORE S. KAWAHIGASHI
LICENSED PROFESSIONAL ENGINEER
No. 3244-C
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

Signature

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TRAFFIC SIGNAL PLAN-KAAHUMANU AVE. AT KAAHUMANU SHOPPING CENTER

KAAHUMANU AVENUE
TRAFFIC SIGNAL MODERNIZATION
HIGH STREET TO WHARF STREET
FEDERAL AID PROJECT NO. NH-STP-032-1(6)

SCALE: AS NOTED DATE: AUG. 1999

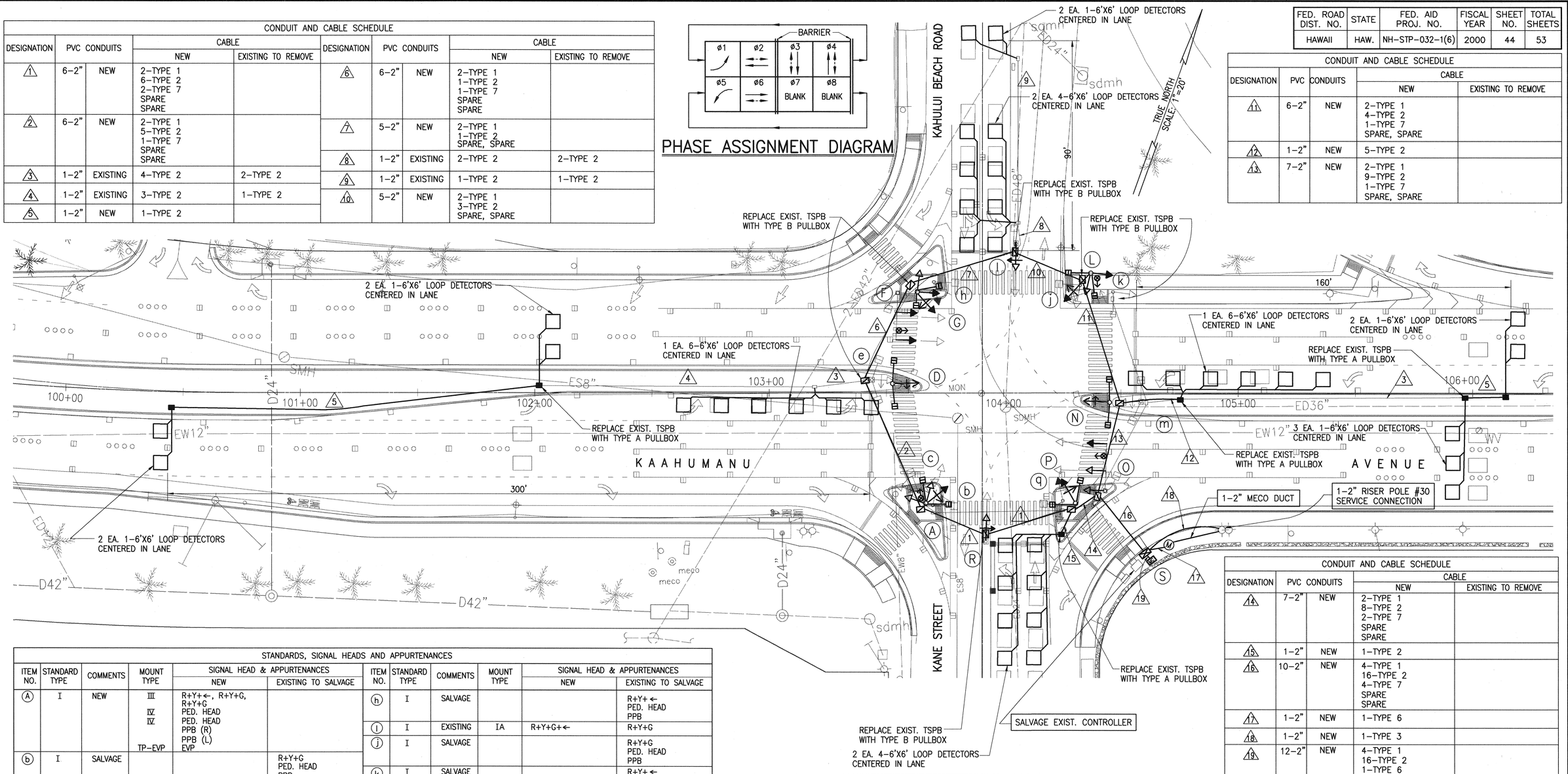
SHEET No. 1 OF 1 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-STP-032-1(6)	2000	44	53

CONDUIT AND CABLE SCHEDULE

DESIGNATION	PVC CONDUITS		CABLE NEW	CABLE EXISTING TO REMOVE
1	6-2"	NEW	2-TYPE 1 6-TYPE 2 2-TYPE 7 SPARE SPARE	
2	6-2"	NEW	2-TYPE 1 5-TYPE 2 1-TYPE 7 SPARE SPARE	
3	1-2"	EXISTING	4-TYPE 2	2-TYPE 2
4	1-2"	EXISTING	3-TYPE 2	1-TYPE 2
5	1-2"	NEW	1-TYPE 2	
6	6-2"	NEW	2-TYPE 1 1-TYPE 2 1-TYPE 7 SPARE SPARE	
7	5-2"	NEW	2-TYPE 1 1-TYPE 2 SPARE, SPARE	
8	1-2"	EXISTING	2-TYPE 2	2-TYPE 2
9	1-2"	EXISTING	1-TYPE 2	1-TYPE 2
10	5-2"	NEW	2-TYPE 1 3-TYPE 2 SPARE, SPARE	

PHASE ASSIGNMENT DIAGRAM



CONDUIT AND CABLE SCHEDULE

DESIGNATION	PVC CONDUITS		CABLE NEW	CABLE EXISTING TO REMOVE
11	6-2"	NEW	2-TYPE 1 4-TYPE 2 1-TYPE 7 SPARE, SPARE	
12	1-2"	NEW	5-TYPE 2	
13	7-2"	NEW	2-TYPE 1 9-TYPE 2 1-TYPE 7 SPARE, SPARE	

CONDUIT AND CABLE SCHEDULE

DESIGNATION	PVC CONDUITS		CABLE NEW	CABLE EXISTING TO REMOVE
14	7-2"	NEW	2-TYPE 1 8-TYPE 2 2-TYPE 7 SPARE SPARE	
15	1-2"	NEW	1-TYPE 2	
16	10-2"	NEW	4-TYPE 1 16-TYPE 2 4-TYPE 7 SPARE SPARE	
17	1-2"	NEW	1-TYPE 6	
18	1-2"	NEW	1-TYPE 3	
19	12-2"	NEW	4-TYPE 1 16-TYPE 2 1-TYPE 6 4-TYPE 7 1-TYPE 3 SPARE SPARE	

STANDARDS, SIGNAL HEADS AND APPURTENANCES

ITEM NO.	STANDARD TYPE	COMMENTS	MOUNT TYPE	SIGNAL HEAD & APPURTENANCES NEW	SIGNAL HEAD & APPURTENANCES EXISTING TO SALVAGE
A	I	NEW	III IV IV TP-EVP	R+Y+←, R+Y+G, R+Y+G PED. HEAD PED. HEAD PPB (R) PPB (L) EVP	
b	I	SALVAGE			R+Y+G PED. HEAD PPB
c	I	SALVAGE			R+Y+G+←(G/Y) R+Y+G PED. HEAD PPB
D	I	NEW	IA IV IV	R+Y+ ← (PVH) PED. HEAD PED. HEAD PPB (←→)	
e	I	SALVAGE			R+Y+G+←(G/Y) PED. HEAD (TWO WAY) PPB
F	II	EXISTING	VI VI MA-EVP	R+Y+↑(BP) R+Y+↑(BP) EVP	R+Y+G R+Y+G PED. HEAD PPB
G	I	NEW	III IV IV	R+Y+←, R+Y+G, R+Y+↑ PED. HEAD PED. HEAD PPB (R) PPB (L)	
h	I	SALVAGE			R+Y+ ← PED. HEAD PPB
I	I	EXISTING	IA	R+Y+G+←	R+Y+G
j	I	SALVAGE			R+Y+G PED. HEAD PPB
k	I	SALVAGE			R+Y+ ← R+Y+G PED. HEAD PPB
L	I	NEW	III IV IV TP-EVP	R+Y+←, R+Y+G, R+Y+G PED. HEAD PED. HEAD PPB (L) PPB (L) EVP	
m	I	SALVAGE			R+Y+G+←(G/Y) PED. HEAD (TWO WAY) PPB
N	I	NEW	IA IV IV	R+Y+ ← (PVH) PED. HEAD PED. HEAD PPB (←→)	
O	II	EXISTING	VI VI IV MA-EVP	R+Y+↑(BP) R+Y+G (BP) R+Y+G EVP	R+Y+G R+Y+G PED. HEAD PPB
P	I	NEW	IA IV IV	R+Y+ ← PED. HEAD PED. HEAD PPB (R) PPB (L)	
q	I	SALVAGE			R+Y+ ← PED. HEAD PPB
R	I	EXISTING	IA	R+Y+G+←	R+Y+G
S	1-MODEL 170/332 MASTER CONTROLLER ASSEMBLY ON NEW BASE				

NOTE:
WHEN EXISTING PPB ARE REMOVED FROM EXISTING TRAFFIC SIGNAL STANDARDS, THE CONTRACTOR SHALL CAP THE REMAINING HOLE. COST SHALL BE CONSIDERED INCIDENTAL TO THE VARIOUS SIGNAL ITEMS.

THEODORE S. KAWAHIGASHI
LICENSED PROFESSIONAL ENGINEER
No. 3244-C
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

Theodore S. Kawahigashi
Signature

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

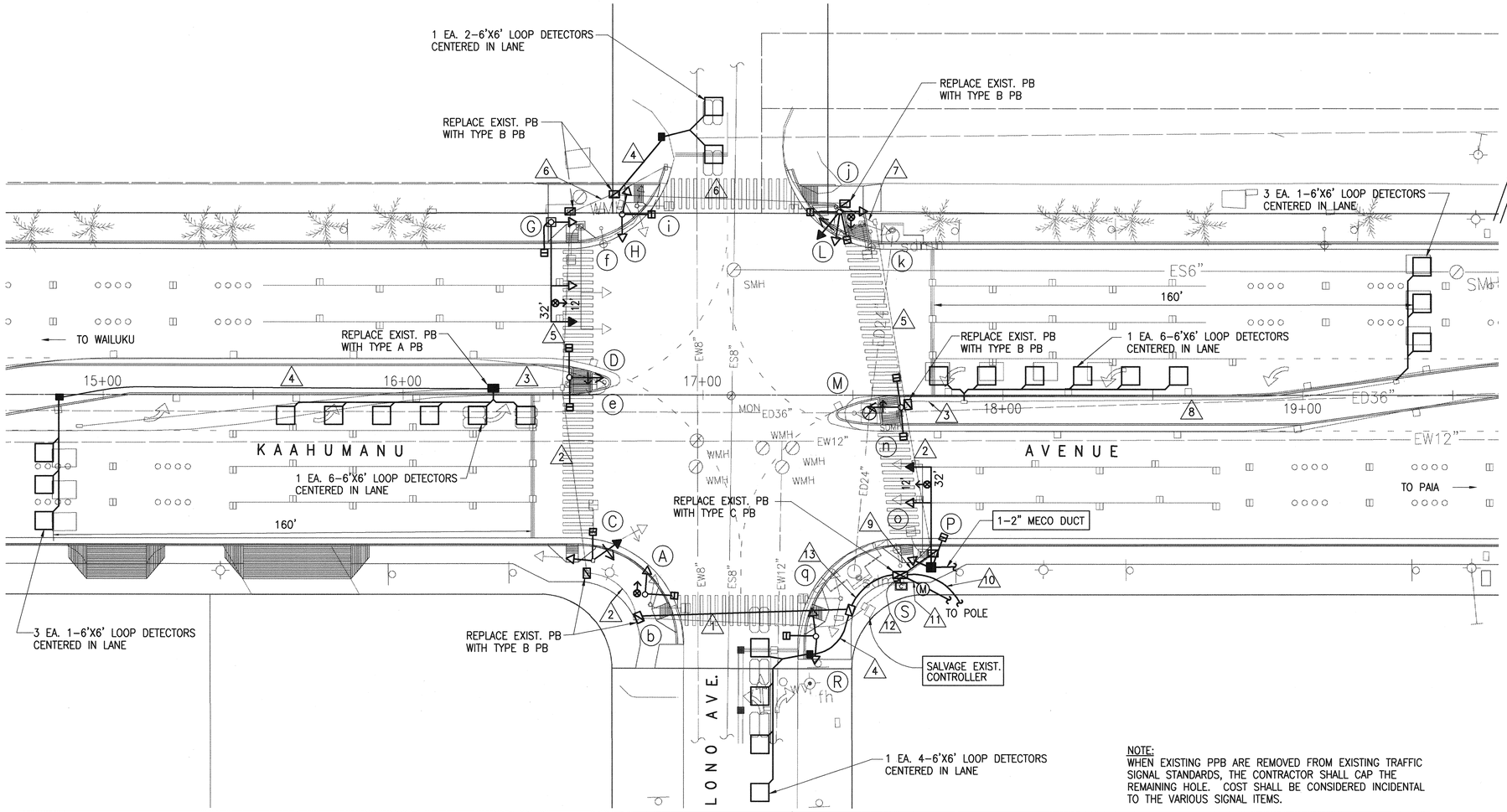
TRAFFIC SIGNAL PLAN
KAAHUMANU AVE. AT KANE ST.

KAAHUMANU AVENUE
TRAFFIC SIGNAL MODERNIZATION
HIGH STREET TO WHARF STREET
FEDERAL AID PROJECT NO. NH-STP-032-1(6)

SCALE: AS NOTED DATE: AUG. 1999

SHEET No. 1 OF 1 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-STP-032-1(6)	2000	45	53



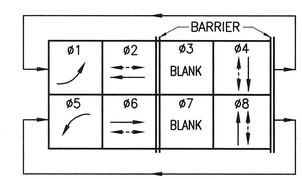
NOTE:
WHEN EXISTING PPB ARE REMOVED FROM EXISTING TRAFFIC SIGNAL STANDARDS, THE CONTRACTOR SHALL CAP THE REMAINING HOLE. COST SHALL BE CONSIDERED INCIDENTAL TO THE VARIOUS SIGNAL ITEMS.

CONDUIT AND CABLE SCHEDULE

DESIGNATION	PVC CONDUITS		CABLE NEW	CABLE EXIST. TO REMOVE
1	6-2"	NEW	1-TYPE 1, 1-TYPE 5 5-TYPE 2 2-TYPE 7 SPARE SPARE	
2	2-2"	EXISTING	1-TYPE 1, 1-TYPE 5 4-TYPE 2 1-TYPE 7	1-TYPE 1 4-TYPE 2
3	1-2"	EXISTING	2-TYPE 2	2-TYPE 2
4	1-2"	NEW	1-TYPE 2	
5	2-2"	EXISTING	1-TYPE 1, 1-TYPE 5 2-TYPE 2 1-TYPE 7	1-TYPE 1 2-TYPE 2
6	2-2"	EXISTING	1-TYPE 1, 1-TYPE 5 1-TYPE 2	1-TYPE 1 1-TYPE 2
7	2-2"	EXISTING	1-TYPE 1, 1-TYPE 5 2-TYPE 2 1-TYPE 7	1-TYPE 1 1-TYPE 2
8	1-2"	EXISTING	1-TYPE 2	1-TYPE 2
9	6-2"	NEW	1-TYPE 1, 1-TYPE 5 4-TYPE 2 2-TYPE 7 SPARE SPARE	
10	1-2"	NEW	1-TYPE 3	
11	1-2"	NEW	1-TYPE 6	
12	11-2"	NEW	4-TYPE 1 10-TYPE 2 1-TYPE 3 1-TYPE 6 4-TYPE 7 SPARE SPARE	
13	6-2"	NEW	1-TYPE 1, 1-TYPE 5 6-TYPE 2 2-TYPE 7 SPARE	

STANDARDS, SIGNAL HEADS AND APPURTENANCES

ITEM NO.	STANDARD TYPE	COMMENTS	MOUNT TYPE	SIGNAL HEAD & APPURTENANCES NEW	SIGNAL HEAD & APPURTENANCES EXISTING TO SALVAGE
A	I	NEW	IA IV TP-EVP	R+Y+G PED. HEAD PPB (R) EVP	
b	I	SALVAGE			R+Y+G PED. HEAD PPB
C	I	EXISTING	II IV	R+Y+←, R+Y+G PED. HEAD PPB (L)	R+Y+G+←(G/Y) R+Y+G PED. HEAD PPB
D	I	NEW	IA IV IV	R+Y+ ← (PVH) PED. HEAD PED. HEAD PPB (←→)	
e	I	SALVAGE			R+Y+G+←(G/Y) PPB
f	II	SALVAGE			R+Y+G R+Y+G PED. HEAD PPB
G	II-32	NEW	VI VI IV IV MA-EVP	R+Y+↑(BP) R+Y+G (BP) R+Y+G PED. HEAD PPB (L) EVP	
H	I	NEW	II IV	R+Y+G, R+Y+G PED. HEAD PPB (L)	
i	I	SALVAGE			R+Y+G (TWO WAY) PED. HEAD PPB
j	I	SALVAGE			R+Y+G PED. HEAD PPB
k	I	SALVAGE			R+Y+G+←(G/Y) R+Y+G PED. HEAD PPB
L	I	NEW	III IV IV TP-EVP	R+Y+ ←, R+Y+G, R+Y+G PED. HEAD PED. HEAD PPB (R) PPB (L) EVP	
M	I	NEW	IA IV IV	R+Y+ ← (PVH) PED. HEAD PED. HEAD PPB (←→)	
n	I	SALVAGE			R+Y+G+←(G/Y) PPB
o	II	SALVAGE			R+Y+G R+Y+G PED. HEAD PPB
P	III-32	NEW	VI VI IV IV MA-EVP	R+Y+↑(BP) R+Y+G (BP) R+Y+G PED. HEAD PPB (L) EVP	
q	I	SALVAGE			R+Y+G (TWO WAY) PED. HEAD PPB
R	I	NEW	II IV	R+Y+G, R+Y+G PED. HEAD PPB (R)	
R	1-MODEL 170/332 CONTROLLER ASSEMBLY ON NEW BASE				



PHASE ASSIGNMENT DIAGRAM

THEODORE S. KAWAHIGASHI
LICENSED PROFESSIONAL ENGINEER
No. 3244-C
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

Signature

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

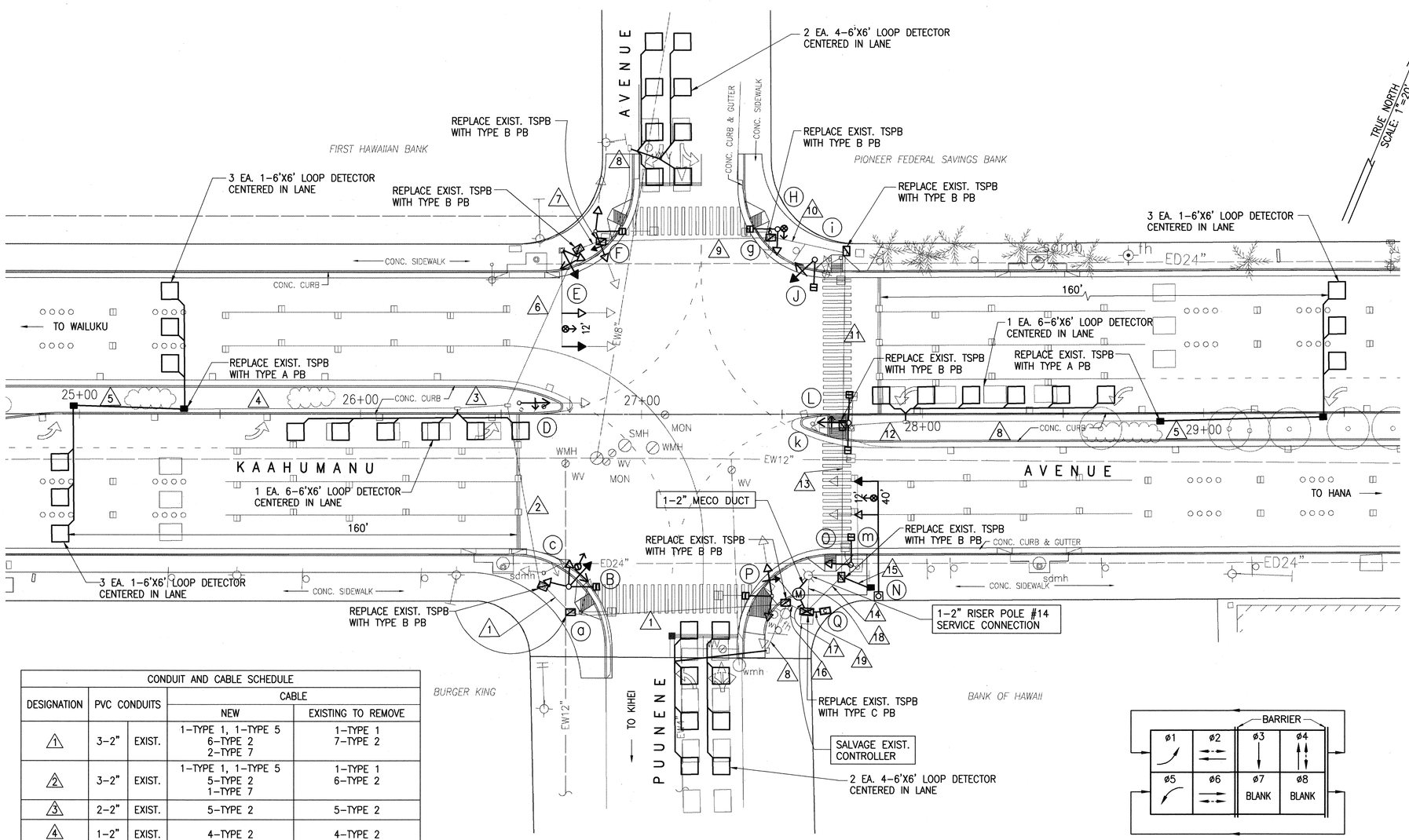
TRAFFIC SIGNAL PLAN
KAAHUMANU AVE. AT LONO AVE.

KAAHUMANU AVENUE
TRAFFIC SIGNAL MODERNIZATION
HIGH STREET TO WHARF STREET
FEDERAL AID PROJECT NO. NH-STP-032-1(6)

SCALE: AS NOTED DATE: AUG. 1999

SHEET No. 1 OF 1 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-STP-032-1(6)	2000	46	53



STANDARDS, SIGNAL HEADS AND APPURTENANCES					
ITEM NO.	STANDARD TYPE	COMMENTS	MOUNT TYPE	SIGNAL HEAD AND APPURTENANCES NEW	SIGNAL HEAD AND APPURTENANCES EXISTING TO SALVAGE
a	I	SALVAGE			R+Y+G PED. HEAD PPB
B	I	NEW	III IV TP-EVP	R+Y+ ←, R+Y+G, R+Y+G PED. HEAD PPB(R) EVP	
c	I	SALVAGE			R+Y+G+←(G/Y) R+Y+G
D	I	EXIST.	I A	R+Y+←(PVH) (BP)	R+Y+G+←(G/Y)
E	II	EXIST.	VI VI V MA-EVP	R+Y+↑ (BP) R+Y+G (BP) R+Y+←, R+Y+G EVP	R+Y+G R+Y+G
F	I	EXIST.	II IV	R+Y+G+←, R+Y+G PED. HEAD PPB(L)	R+Y+G (TWO WAY) PED. HEAD PPB
g	I	SALVAGE			R+Y+G PED. HEAD PPB
H	I	NEW	I A IV TP-EVP	R+Y+G PED. HEAD PPB(R) EVP	
i	I	SALVAGE			R+Y+G+←(G/Y) PED. HEAD PPB
J	I	NEW	I A IV	R+Y+ ← PED. HEAD PPB (L)	
k	I	SALVAGE			R+Y+G+←(G/Y) PED. HEAD PED. HEAD PPB
L	I	NEW	I A IV IV	R+Y+←(PVH) (BP) PED. HEAD PED. HEAD PPB (↔)	
m	I	SALVAGE			R+Y+G R+Y+G PED. HEAD PPB
N	II-40	NEW	VI VI MA-EVP	R+Y+↑ (BP) R+Y+G (BP) EVP	
O	I	NEW	I A IV	R+Y+G PED. HEAD PPB(L)	
P	I	EXIST.	II IV	R+Y+G+←, R+Y+G PED. HEAD PPB(L)	R+Y+G (TWO WAY) PED. HEAD PPB
Q	1-MODEL 170/332 CONTROLLER ASSEMBLY ON NEW BASE				

CONDUIT AND CABLE SCHEDULE				
DESIGNATION	PVC CONDUITS		CABLE NEW	CABLE EXISTING TO REMOVE
1	3-2"	EXIST.	1-TYPE 1, 1-TYPE 5 6-TYPE 2 2-TYPE 7	1-TYPE 1 7-TYPE 2
2	3-2"	EXIST.	1-TYPE 1, 1-TYPE 5 5-TYPE 2 1-TYPE 7	1-TYPE 1 6-TYPE 2
3	2-2"	EXIST.	5-TYPE 2	5-TYPE 2
4	1-2"	EXIST.	4-TYPE 2	4-TYPE 2
5	1-2"	NEW	1-TYPE 2	
6	2-2"	EXIST.	1-TYPE 1, 1-TYPE 5 1-TYPE 7	1-TYPE 1 3-TYPE 2
7	2-2"	EXIST.	1-TYPE 1, 1-TYPE 5	5-TYPE 2
8	1-2"	EXIST.	1-TYPE 2	1-TYPE 2
9	2-2"	EXIST.	1-TYPE 1, 1-TYPE 5 2-TYPE 2	1-TYPE 1 2-TYPE 2
10	2-2"	EXIST.	1-TYPE 1, 1-TYPE 5 2-TYPE 2 1-TYPE 7	1-TYPE 1 2-TYPE 2
11	2-2"	EXIST.	1-TYPE 1, 1-TYPE 5 3-TYPE 2 1-TYPE 7	1-TYPE 1 3-TYPE 2
12	1-2"	EXIST.	2-TYPE 2	2-TYPE 2
13	3-2"	EXIST.	1-TYPE 1, 1-TYPE 5 5-TYPE 2 1-TYPE 7	1-TYPE 1 4-TYPE 2
14	3-2"	EXIST.	1-TYPE 1, 1-TYPE 5 5-TYPE 2 2-TYPE 7	1-TYPE 1 4-TYPE 2
15	1-2"	NEW	2-TYPE 5 1-TYPE 7	

CONDUIT AND CABLE SCHEDULE				
DESIGNATION	PVC CONDUITS		CABLE NEW	CABLE EXISTING TO REMOVE
16	4-2"	EXIST.	1-TYPE 1, 1-TYPE 5 7-TYPE 2 2-TYPE 7	1-TYPE 1 10-TYPE 2
17	1-2"	NEW	1-TYPE 6	
18	1-2"	EXIST.	1-TYPE 3	1-TYPE 3
19	11-2"	NEW	4-TYPE 1 12-TYPE 2 1-TYPE 3 1-TYPE 6 4-TYPE 7 SPARE SPARE	

PHASE ASSIGNMENT DIAGRAM

NOTE:
WHEN EXISTING PPB ARE REMOVED FROM EXISTING TRAFFIC SIGNAL STANDARDS, THE CONTRACTOR SHALL CAP THE REMAINING HOLE. COST SHALL BE CONSIDERED INCIDENTAL TO THE VARIOUS SIGNAL ITEMS.

THEODORE S. KAWAHIGASHI
LICENSED PROFESSIONAL ENGINEER
No. 3244-C
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

Signature

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

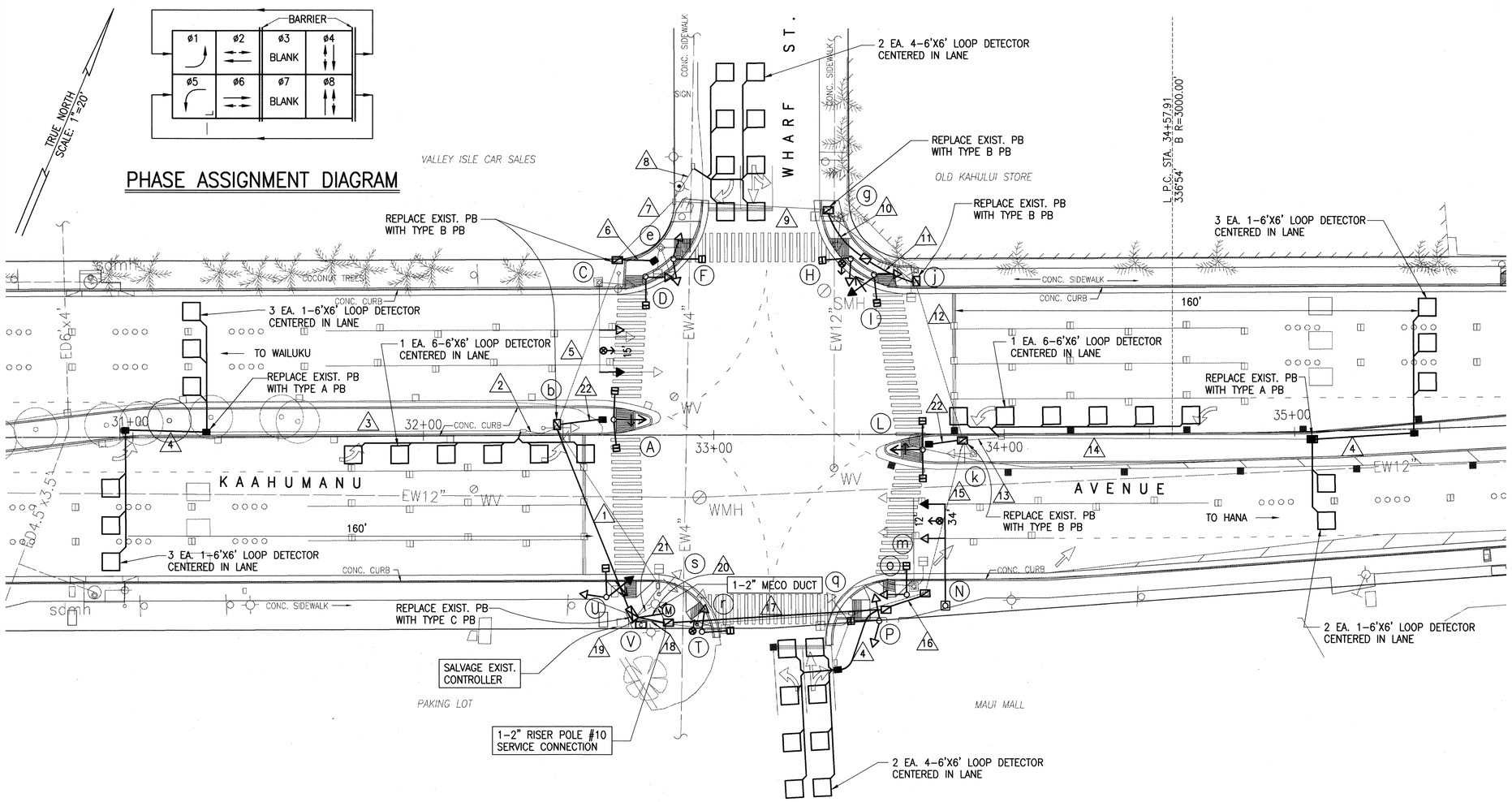
TRAFFIC SIGNAL PLAN
KAAHUMANU AVE. AT PUUNENE AVE.

KAAHUMANU AVENUE
TRAFFIC SIGNAL MODERNIZATION
HIGH STREET TO WHARF STREET
FEDERAL AID PROJECT NO. NH-STP-032-1(6)

SCALE: AS NOTED DATE: AUG. 1999

SHEET No. 1 OF 1 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-STP-032-1(6)	2000	47	53



CONDUIT AND CABLE SCHEDULE				
DESIGNATION	PVC CONDUITS		CABLE	
			NEW	EXISTING TO REMOVE
1	7-2"	NEW	1-TYPE 1, 1-TYPE 5 8-TYPE 2 2-TYPE 7 SPARE SPARE	
2	2-2"	EXIST.	5-TYPE 2	2-TYPE 2
3	1-2"	EXIST.	4-TYPE 2	1-TYPE 2
4	1-2"	NEW	1-TYPE 2	
5	2-2"	EXIST.	1-TYPE 1, 1-TYPE 5 3-TYPE 2 2-TYPE 7	1-TYPE 1 3-TYPE 2
6	1-2"	NEW	2-TYPE 2 5-TYPE 5	
7	2-2"	EXIST.	1-TYPE 1, 1-TYPE 5 2-TYPE 2 1-TYPE 7	1-TYPE 1 1-TYPE 2
8	1-2"	EXIST.	1-TYPE 2	1-TYPE 2
9	2-2"	EXIST.	1-TYPE 1, 1-TYPE 5 1-TYPE 2 1-TYPE 7	1-TYPE 1 1-TYPE 2
10	6-2"	NEW	1-TYPE 1, 1-TYPE 5 1-TYPE 2 1-TYPE 7 SPARE SPARE	
11	5-2"	NEW	1-TYPE 1, 1-TYPE 5 1-TYPE 2 SPARE SPARE	
12	2-2"	EXIST.	1-TYPE 1, 1-TYPE 5 1-TYPE 2	1-TYPE 1 3-TYPE 2
13	2-2"	EXIST.	4-TYPE 2	2-TYPE 2
14	1-2"	EXIST	3-TYPE 2	1-TYPE 2
15	2-2"	EXIST.	1-TYPE 1, 1-TYPE 5 5-TYPE 2	1-TYPE 1 3-TYPE 2
16	6-2"	NEW	1-TYPE 1, 1-TYPE 5 5-TYPE 2 1-TYPE 7 SPARE SPARE	
17	7-2"	NEW	1-TYPE 1, 1-TYPE 5 7-TYPE 2 1-TYPE 7 SPARE SPARE	
18	7-2"	NEW	1-TYPE 1, 1-TYPE 5 7-TYPE 2 2-TYPE 7 SPARE SPARE	
19	11-2"	NEW	4-TYPE 1 15-TYPE 2 1-TYPE 3 1-TYPE 6 4-TYPE 7 SPARE SPARE	
20	1-2"	NEW	1-TYPE 6	
21	1-2"	EXIST.	1-TYPE 3	1-TYPE 3
22	1-2"	NEW	1-TYPE 2 3-TYPE 5	

STANDARDS, SIGNAL HEADS AND APPURTENANCES

ITEM NO.	STANDARD TYPE	COMMENTS	MOUNT TYPE	SIGNAL HEAD AND APPURTENANCES NEW	SIGNAL HEAD AND APPURTENANCES EXISTING TO SALVAGE
A	I	NEW	I A IV IV	R+Y+←(PVH) PED. HEAD PED. HEAD PPB(←→)	
b	I	SALVAGE			R+Y+G+←(G/Y)
C	II	EXIST.	VI VI MA-EVP	R+Y+↑ R+Y+G EVP	R+Y+G R+Y+G R+Y+G
D	I	NEW	I A IV	R+Y+G PED. HEAD PPB(R)	
e	I	SALVAGE			R+Y+G PED. HEAD PED. HEAD PPB PPB
F	I	NEW	II IV	R+Y+G, R+Y+G PED. HEAD PPB(L)	
g	I	SALVAGE			R+Y+G PED. HEAD PPB
H	I	NEW	I A IV TP-EVP	R+Y+G PED HEAD PPB(R) EVP	
I	I	NEW	II IV	R+Y+←, R+Y+G PED. HEAD PPB(L)	
j	I	SALVAGE			R+Y+G+←(G/Y) PED. HEAD PPB
k	I	SALVAGE			R+Y+G+←(G/Y)
L	I	NEW	I A IV IV	R+Y+←(PVH) PED. HEAD PED. HEAD PPB(←→)	
m	II	SALVAGE			R+Y+G R+Y+G R+Y+G PED. HEAD PPB
N	II-34	NEW	VI VI MA-EVP	R+Y+↑ R+Y+G EVP	
O	I	NEW	I A IV	R+Y+G PED. HEAD PPB(L)	
P	I	NEW	II IV	R+Y+G, R+Y+G PED. HEAD PPB(R)	
q	I	SALVAGE			R+Y+G PED. HEAD PPB
r	I	SALVAGE			R+Y+G PED. HEAD PPB
s	I	SALVAGE			R+Y+G+←(G/Y) PED. HEAD PPB
T	I	NEW	I A IV TP-EVP	R+Y+G PED. HEAD PPB(L) EVP	
U	I	NEW	II IV	R+Y+←, R+Y+G PED. HEAD PPB(R)	
V	1-MODEL 170/332 CONTROLLER ASSEMBLY ON NEW BASE				

THEODORE S. KAWAHIGASHI
LICENSED PROFESSIONAL ENGINEER
No. 3244-C
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

Theodore S. Kawahigashi
Signature

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TRAFFIC SIGNAL PLAN
KAAHUMANU AVE. AT WHARF AVE.

KAAHUMANU AVENUE
TRAFFIC SIGNAL MODERNIZATION
HIGH STREET TO WHARF STREET
FEDERAL AID PROJECT NO. NH-STP-032-1(6)

SCALE: AS NOTED DATE: AUG. 1999

SHEET No. 1 OF 1 SHEETS