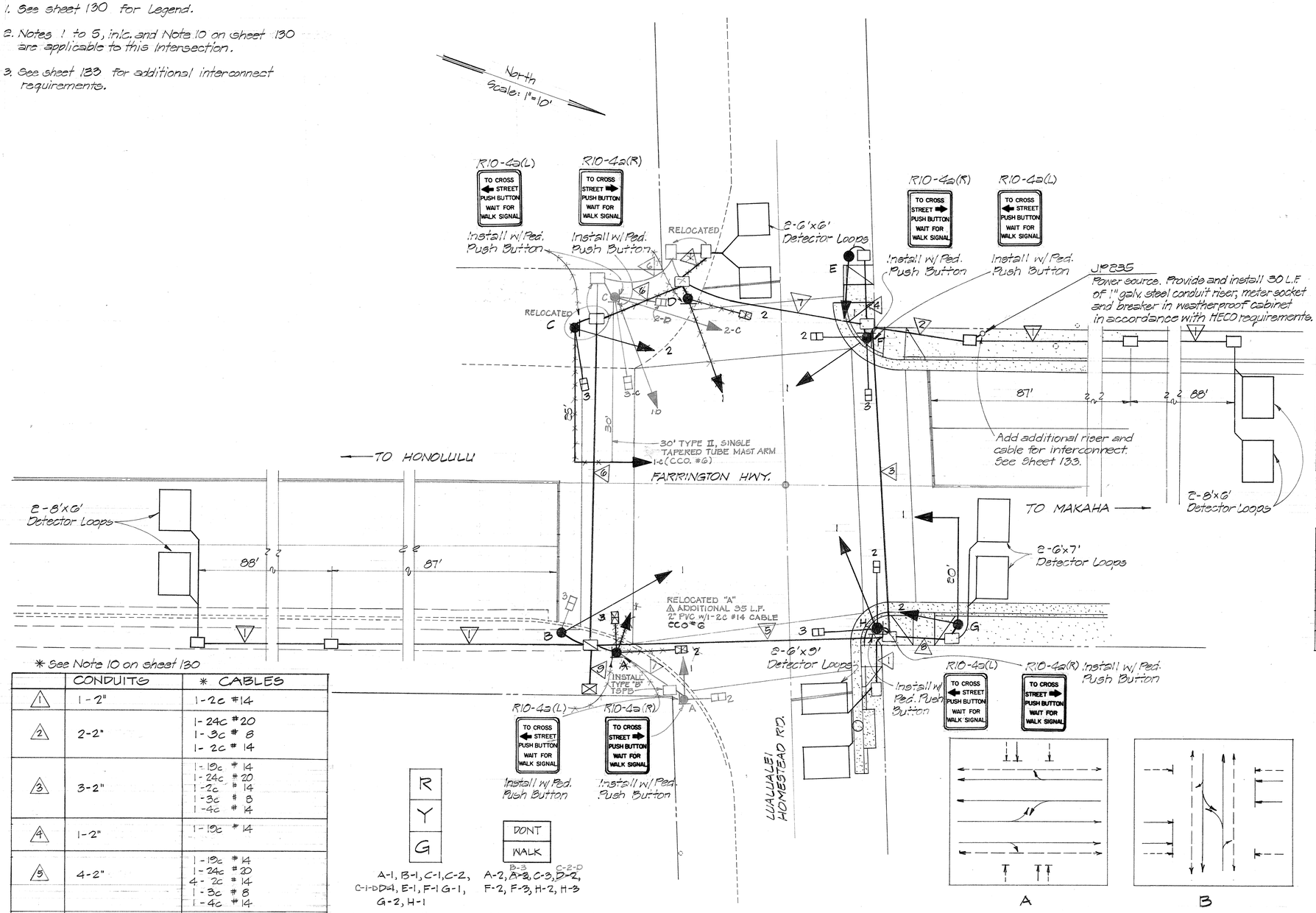
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.		1978	129	159

PROJECT NO. 93B-01-75

NOTES:

1. See sheet 130 for Legend.
2. Notes 1 to 5, inc. and Note 10 on sheet 130 are applicable to this intersection.
3. See sheet 133 for additional interconnect requirements.



* See Note 10 on sheet 130

	CONDUITS	* CABLES
1	1 - 2"	1-2c #14
2	2-2"	1-24c #20 1-3c # 8 1-2c # 14
3	3-2"	1-10c # 14 1-24c # 20 1-2c # 14 1-3c # 8 1-4c # 14
4	1-2"	1-10c # 14
5	4-2"	1-10c # 14 1-24c # 20 4-2c # 14 1-3c # 8 1-4c # 14
6	2-2"	1-10c # 14 1-2c # 14 1-4c # 14
7	2-2"	1-10c # 14 1-4c # 14
8	2-2"	1-10c # 14 2-2c # 14
9	4-2"	2-10c # 14 6-2c # 14 1-3c # 8 1-24c # 20 1-4c # 14

A-1, B-1, C-1, C-2, C-1-DD4, E-1, F-1 G-1, G-2, H-1

B-3 C-2-D
A-2, A-3, C-3, D-2, F-2, F-3, H-2, H-3

SIGNAL INDICATIONS

A B

PHASE DIAGRAM

LUALUALEI HOMESTEAD RD. & FARRINGTON HWY. TRAFFIC SIGNAL PLAN

Scale: 1"=10'

TIMING DATA	FARRINGTON HIGHWAY	LUALUALEI HOMESTEAD RD.
WALK	16	7
PED. CLEARANCE	10	12
MINIMUM GREEN	5	5
PASSAGE	2.5	2.5
MAX I	38	21
MAX II		
YEL. CLEARANCE	4	4
RED CLEARANCE	1	1

Note: Timing Data shown may be used for initial startup but shall be adjusted to suit actual traffic conditions and equipment installed.

COORDINATOR DATA			
CYCLE	1	2	3
OFFSET #1	.78	.83	.90
OFFSET #2	.04	.04	.05
OFFSET #3	.51	.62	.74
FORCE OFF #1	.62	.58	.52

CYCLES
1=55 SEC.
2=60 SEC.
3=65 SEC.

Notes on Coordinator Data
1. Offsets have been computed to beginning of arterial ped. clearance.
2. Force offs have been computed to beginning of cross street yellow.

CONTROLLER EQUIPMENT DATA	
EQUIPMENT	TYPE
CONTROLLER	2-Φ, SS., ACTUATED
CABINET & BASE	TO SUIT
MIN. AUX. EQUIPMENT	4-CH. DET. AMP.
	COORDINATOR

APPROVED:

Cef Nakae 10/23/78

DIRECTOR, DEPARTMENT OF TRANSPORTATION SERVICES, CITY & COUNTY OF HONOLULU — DATE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TRAFFIC SIGNAL SYSTEM AT FARRINGTON HWY. & LUALUALEI HMSTD. RD.

FARRINGTON HIGHWAY WIDENING

LUALUALEI HOMESTEAD ROAD TO JADE STREET

PROJECT NO. 93B-01-75, UNIT I

SCALE = 1" = 10' DATE:

SHEET No. 1 OF 9 SHEETS

PAUL T. TANIGUCHI REGISTERED PROFESSIONAL ENGINEER No. 864 HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

Paul T. Taniguchi

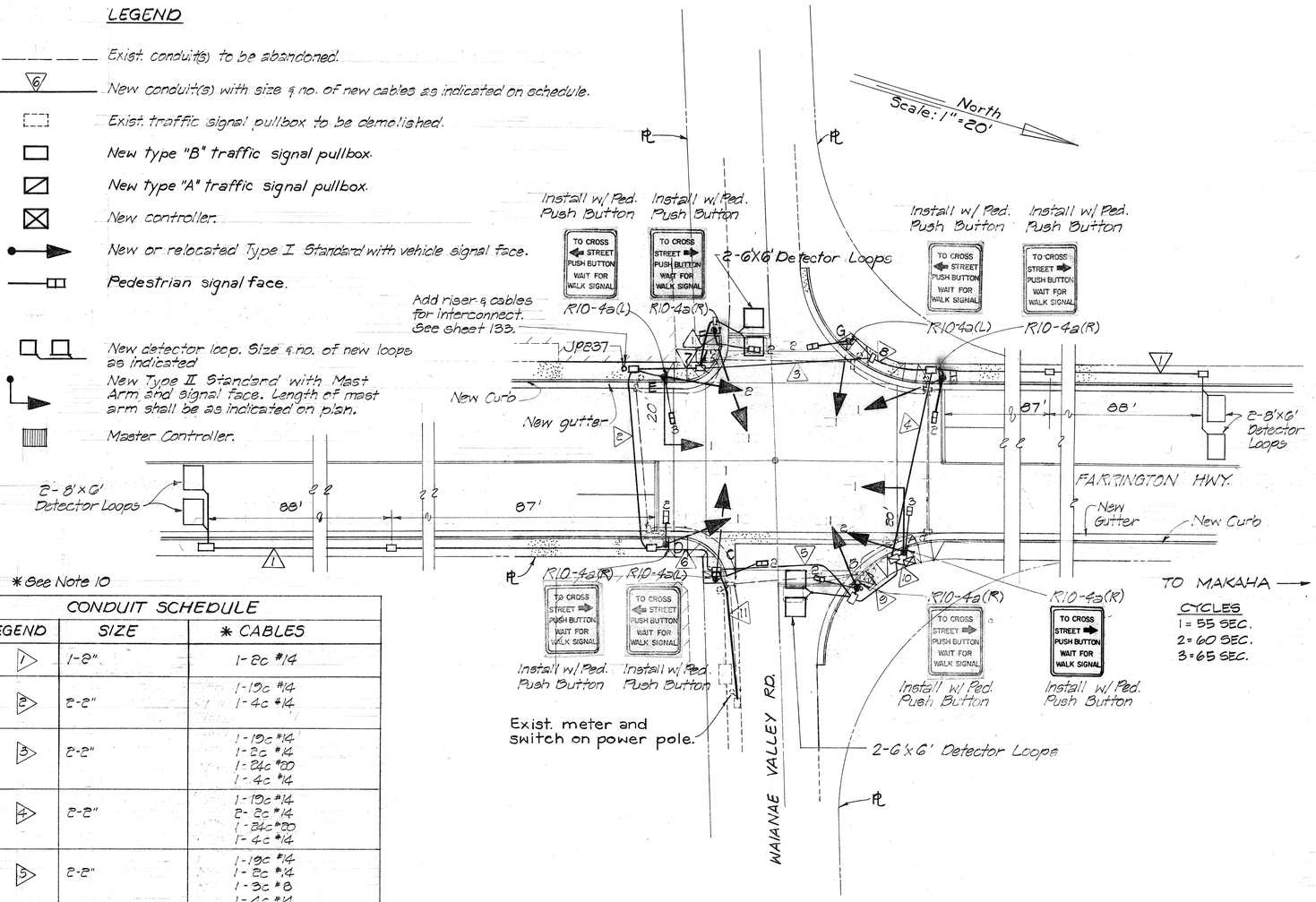
ORIGINAL PLAN | NOTE BOOK No. | SURVEY PLOTTED BY | DRAWN BY | TRACED BY | DESIGNED BY | QUANTITIES BY | CHECKED BY | DATE

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.		1978	130	150

PROJECT NO. 93B-01-75

LEGEND

- Exist. conduit(s) to be abandoned.
- (6) New conduit(s) with size & no. of new cables as indicated on schedule.
- Exist. traffic signal pullbox to be demolished.
- New type "B" traffic signal pullbox.
- New type "A" traffic signal pullbox.
- New controller.
- New or relocated Type I Standard with vehicle signal face.
- Pedestrian signal face.
- New detector loop. Size & no. of new loops as indicated
- New Type II Standard with Mast Arm and signal face. Length of mast arm shall be as indicated on plan.
- Master Controller.



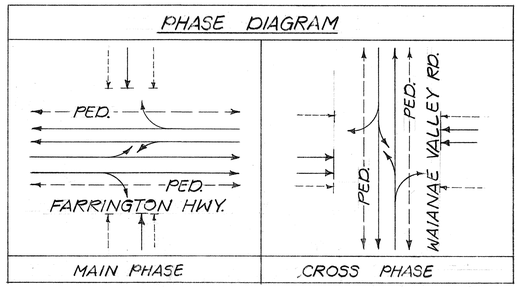
* See Note 10

CONDUIT SCHEDULE

LEGEND	SIZE	* CABLES
1	1-2"	1-2c #14
2	2-2"	1-19c #14 1-4c #14
3	2-2"	1-19c #14 1-2c #14 1-24c #20 1-4c #14
4	2-2"	1-19c #14 2-2c #14 1-24c #20 1-4c #14
5	2-2"	1-19c #14 1-2c #14 1-3c #8 1-4c #14
6	2-2"	1-19c #14 1-2c #14 1-4c #14
7	2-2"	1-19c #14 1-24c #20 1-4c #14
8	2-2"	1-19c #14 1-3c #14 1-24c #20 1-4c #14
9	2-2"	1-19c #14 2-2c #14 1-3c #8 1-4c #14
10	3-2"	2-19c #14 4-2c #14 1-3c #8 1-24c #20 1-4c #14
11	1-2"	1-3c #8

WAIANAE VALLEY RD. & FARRINGTON HWY.
TRAFFIC SIGNAL PLAN
Scale: 1"=20'

PHASE DIAGRAM



R
Y
G

A-1, A-2, B-1, C-1, D-1, E-1, E-2, F-1, G-1, H-1

DONT
WALK

A-3, B-2, C-2, D-2, E-3, F-2, G-2, H-2

SIGNAL INDICATIONS

Note: Timing Data shown may be used for initial startup but shall be adjusted to suit actual traffic conditions & equipment installed.

TIMING DATA

	FARRINGTON HIGHWAY	MAIANAE VALLEY ROAD
WALK	12	7
PED. CLEARANCE	14	12
MINIMUM GREEN	5	5
PASSAGE	2.5	2.5
MAX I	30	21
MAX II		
YEL. CLEARANCE	4	4
RED CLEARANCE	1	1

COORDINATOR DATA

CYCLE	1	2	3
OFFSET #1	.70	.77	.83
OFFSET #2	.76	.79	.81
OFFSET #3	.63	.73	.85
FORCE OFF #1	.70	.64	.59

CONTROLLER EQUIPMENT DATA

EQUIPMENT	TYPE
CONTROLLER	2-8, S.S. ACTUATED
CABINET & BASE	TO SUIT
MIN. AUX. EQUIPMENT	2-CH. DET. AMP.
	COORDINATOR

Notes on Coordinator Data

1. Offsets have been computed to beginning of arterial Ped. clearance.
2. Force offs have been computed to beginning of Cross Street yellow.

CONSTRUCTION NOTES

1. The locations of traffic signal standards, pedestrian push buttons, traffic controllers, pull-boxes, conduits and traffic detectors shall be staked out in the field by the Contractor, and approval of the locations obtained from the Engineer before construction & installation.
2. All traffic signal work shall conform to the requirements of the "Manual on Uniform Traffic Control Devices for Streets & Highways," Federal Highway Administration (1971).
3. Construction of signal systems will be subject to the inspection of the Department of Transportation Services, City and County of Honolulu in addition to that of the State.
4. The Department of Transportation Services, City and County of Honolulu, shall make all splices and connections at pullboxes, signal faces, standards and controller terminal blocks, but not work on grounding systems nor connections within the controller assembly. The Contractor shall notify the City and County at least 3 days prior to the time at which such work can be performed.
5. Conduit from signal standard base to adjacent pullbox shall be 1-2" conduit. A sufficient number of #14, single conductor Type TW Control Wires to service the signals and pedestrian push buttons on the standards shall be installed from signals and push buttons to pullbox.
6. Demolish all existing traffic signal pullboxes after operable substitute devices have been constructed.
7. Relocate all existing signal standards and vehicular signal faces. Eight (8) vehicular signal faces and eight (8) signal standards are reusable. All other materials shall be new.
8. Remove and salvage existing pedestrian signal faces and controller, controller cabinet, controller pedestal and auxiliary equipment. Demolish all concrete bases for existing signal standards and controller pedestal.
9. Location of pullboxes wherever possible shall not be in the wheelchair ramps.
10. A bare copper 1c #8 shall run along the entire traffic signal system.
11. See sheet 133 for additional interconnect requirements.
12. All Vehicular Signal Lens shall be 12-inch in diameter.

APPROVED:

Cey Moku 10/2/78

DIRECTOR, DEPARTMENT OF TRANSPORTATION SERVICES, CITY & COUNTY OF HONOLULU — DATE

PAUL T. TANIGUCHI — REGISTERED PROFESSIONAL ENGINEER No. 864 — HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

Paul T. Taniguchi

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TRAFFIC SIGNAL SYSTEM AT FARRINGTON HWY. & WAIANAE VALLEY RD.
FARRINGTON HIGHWAY WIDENING
LUALUALEI HOMESTEAD ROAD TO JADE STREET
PROJECT NO. 93B-01-75, UNIT I
SCALE: AS SHOWN DATE:

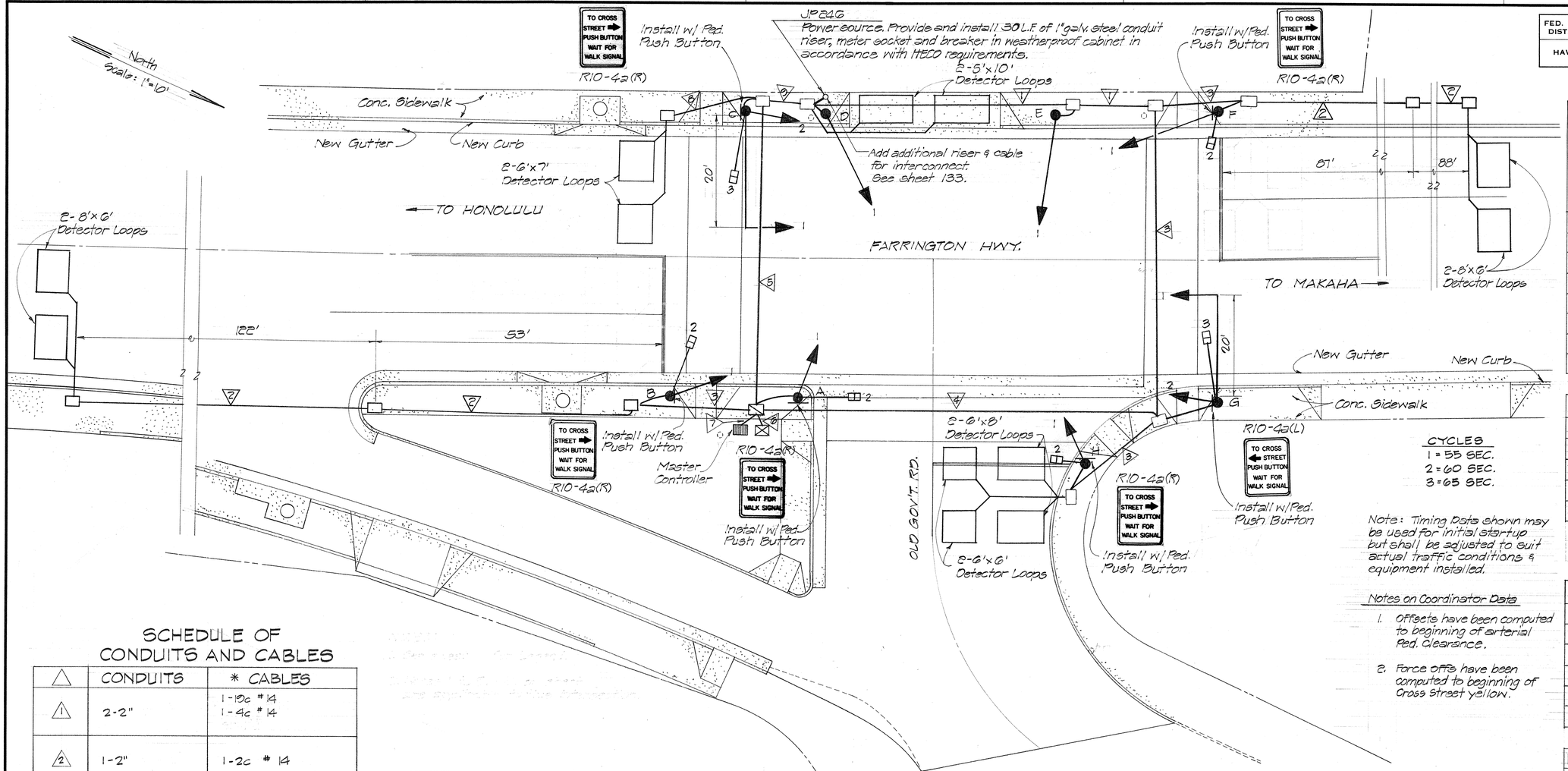
SHEET No. 2 OF 9 SHEETS

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

K+E © TRACING PAPER

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.		1978	131	159

PROJECT NO. 93B-01-75



TIMING DATA

	FARRINGTON HIGHWAY	OLD GOV'T. ROAD
WALK	11	7
PED CLEARANCE	15	12
MINIMUM GREEN	5	5
PASSAGE	2.5	2.5
MAX I	30	21
MAX II		
YEL. CLEARANCE	4	4
RED CLEARANCE	1	1

COORDINATOR DATA

CYCLE	1	2	3
OFFSET #1	.18	.25	.31
OFFSET #2	.18	.25	.31
OFFSET #3	.18	.25	.31
FORCE OFF #1	.72	.66	.61
FORCE OFF #2	.21	.25	.25
FORCE OFF #3	.21	.25	.25

CYCLES
1 = 55 SEC.
2 = 60 SEC.
3 = 65 SEC.

Note: Timing Data shown may be used for initial startup but shall be adjusted to suit actual traffic conditions & equipment installed.

Notes on Coordinator Data

1. Offsets have been computed to beginning of arterial Red. Clearance.
2. Force offs have been computed to beginning of Cross Street Yellow.

CONTROLLER EQUIPMENT DATA

EQUIPMENT	TYPE
CONTROLLER	2-Ø, S.S. ACTUATED
CONT. CABINET & BASE	TO SUIT
MIN. AUX. EQUIPMENT	4-CH. DET. AMP.
	TIME SWITCH/CLOCK
	COORDINATOR

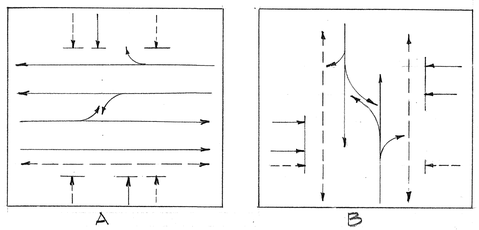
MASTER CONTROLLER EQUIPMENT DATA

MASTER CONTROLLER	S.S., T.M. TYPE
MASTER CONT. CAB. & BASE	TO SUIT

SCHEDULE OF CONDUITS AND CABLES

	CONDUITS	* CABLES
1	2-2"	1-19c #14 1-4c #14
2	1-2"	1-2c #14
3	2-2"	1-19c #14 1-2c #14 1-4c #14
4	2-2"	1-19c #14 2-2c #14 1-4c #14
5	4-2"	1-19c #14 1-24c #20 3-2c #14 1-3c #8 1-4c #14
6	4-2"	2-19c #14 1-24c #20 1-3c #8 6-2c #14 1-4c #14
7	2-2"	1-3c #8 1-24c #20
8	1-2"	2-2c #14
9	3-2"	1-19c #14 1-3c #8 1-2c #14 1-24c #20 1-4c #14

* See Note 10 on sheet 130



PHASE DIAGRAM

R
Y
G

DONT
WALK

A-2, B-2, C-3
F-2, G-3, H-2

A-1, B-1, C-1, C-2, D-1, E-1, F-1, G-1, G-2, H-1

SIGNAL INDICATIONS

OLD GOV'T. RD. & FARRINGTON HWY.
TRAFFIC SIGNAL PLAN

Scale: 1" = 10'

NOTES:

1. See sheet 130 for legend.
2. Notes 1 to 5, incl., and Note 10 on sheet 130 are applicable to this intersection.
3. See sheet 133 for additional interconnect requirements.

APPROVED:

/s/ Ceq Nohara 10/3/77

for DIRECTOR, DEPARTMENT OF TRANSPORTATION SERVICES, CITY & COUNTY OF HONOLULU — DATE

PAUL T. TANIGUCHI REGISTERED PROFESSIONAL ENGINEER No. 864 HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

/s/ Paul T. Taniguchi

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TRAFFIC SIGNAL SYSTEM AT FARRINGTON HWY. & OLD GOV'T. RD.

FARRINGTON HIGHWAY WIDENING
LUALUALEI HOMESTEAD ROAD TO JADE STREET
PROJECT NO. 93B-01-75, UNIT I
SCALE: 1" = 10' DATE:

SHEET No. 3 OF 9 SHEETS

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

B-7-2

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.		1978	132	159

PROJECT NO. 93B-01-75

NOTES:

1. See sheet 130 for Legend.
2. Notes 1-5, incl. and Note 10 on sheet 130 are applicable to this intersection.

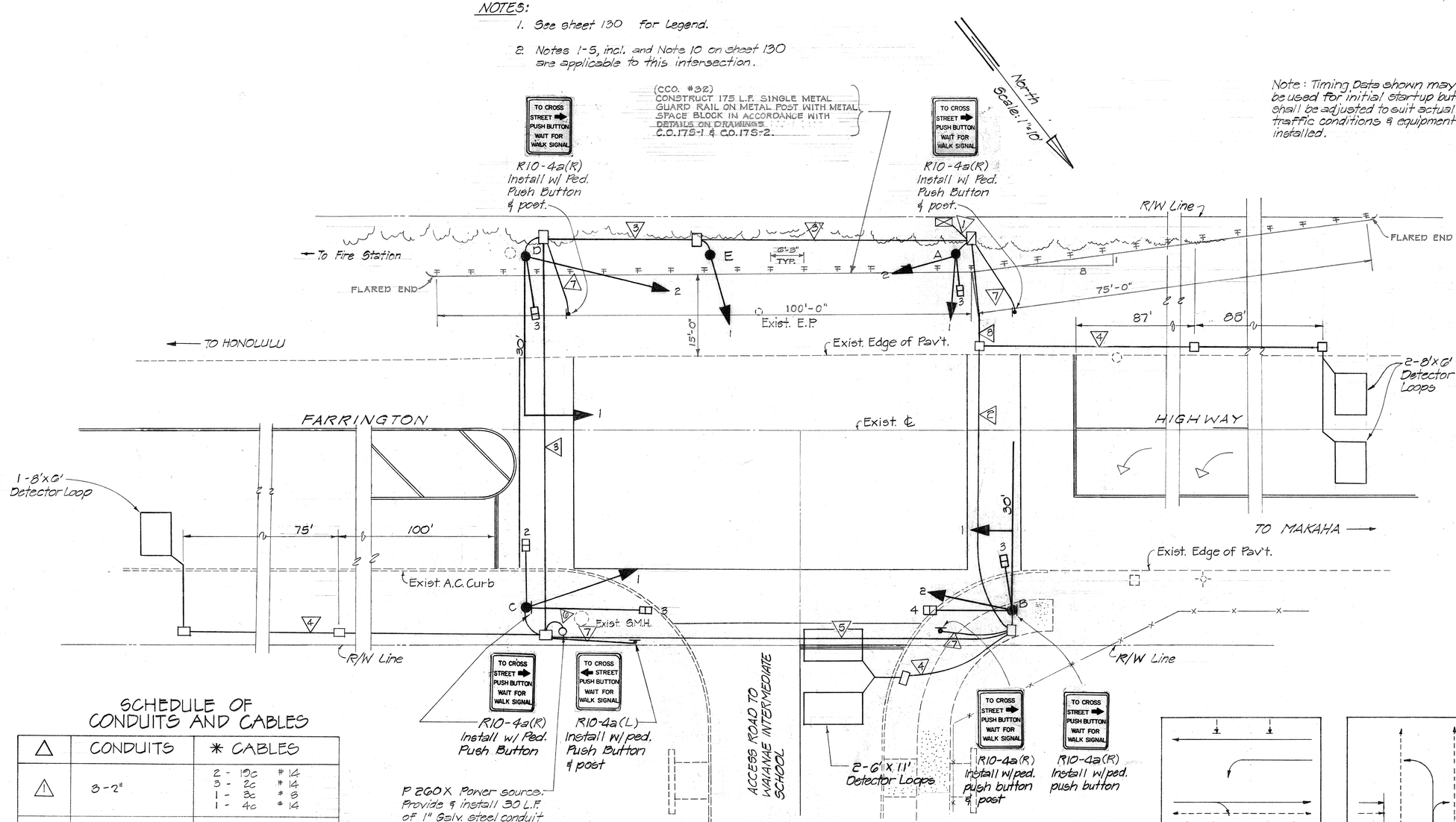
(CCO. #32)
CONSTRUCT 175 L.F. SINGLE METAL GUARD RAIL ON METAL POST WITH METAL SPACE BLOCK IN ACCORDANCE WITH DETAILS ON DRAWINGS C.O.175-1 & C.O.175-2.

North
Scale: 1"=10'

Note: Timing Data shown may be used for initial startup but shall be adjusted to suit actual traffic conditions & equipment installed.

TIMING DATA	FARRINGTON HIGHWAY	ACCESS ROAD TO WAIANAE INT. & H.
WALK	8	7
PED CLEARANCE	15	15
MINIMUM GREEN	5	5
PASSAGE	2.5	2.5
MAX I	35	24
MAX II		
YEL. CLEARANCE	4	4
RED CLEARANCE	1	1

CONTROLLER EQUIPMENT DATA	
EQUIPMENT	TYPE
CONTROLLER	2-Ø, S.S., ACTUATED
CABINET & BASE	TO SUIT
MIN. AUX. EQUIPMENT	2-CH. DET. AMP.
	TIME SWITCH/CLOCK
	COORDINATOR



P 260X. Power source. Provids & install 30 L.F. of 1" Galv. steel conduit riser, meter socket and breaker in weatherproof cabinet in accordance with H.E.C.O. requirements.

SCHEDULE OF CONDUITS AND CABLES

△	CONDUITS	* CABLES
1	3-2"	2 - 19c #14 3 - 2c #14 1 - 3c #8 1 - 4c #14
2	2-2"	1 - 19c #14 1 - 2c #14 1 - 4c #14
3	2-2"	1 - 19c #14 1 - 3c #8 1 - 2c #14 1 - 4c #14
4	1-2"	1 - 2c #14
5	2-2"	1 - 19c #14 1 - 4c #14
6	1-2"	1 - 3c #8
7	1-2"	1 - 4c #14
8	2-2"	1 - 19c #14 2 - 2c #14 1 - 4c #14

* See Note 10 on sheet 130.

ACCESS ROAD TO WAIANAE INTERMEDIATE SCHOOL & FARRINGTON HIGHWAY TRAFFIC SIGNAL PLAN

Scale = 1"=10'

DATE	REVISION
11/08/79	Relocate Conduit Line 4.
8/06/79	Revised traffic signal system at Waianae Intermediate School.

R / Y / G — A-1, B-1, B-2, C-1, D-1, D-2, E-1

DONT WALK — A-3, B-3, B-4, C-2, C-3, D-3

R / Y / ↑ — A-2

SIGNAL INDICATIONS

PHASE DIAGRAM

APPROVED:

cy Mohan 10/23/79
DIRECTOR, DEPARTMENT OF TRANSPORTATION SERVICES, CITY & COUNTY OF HONOLULU — DATE

PAUL T. TANIGUCHI REGISTERED PROFESSIONAL ENGINEER No. 864 HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

Paul T. Taniguchi

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TRAFFIC SIGNAL SYSTEM AT FARRINGTON HWY. & ACCESS RD. TO WAIANAE INT.

FARRINGTON HIGHWAY WIDENING
LUALUALEI HOMESTEAD ROAD TO JADE STREET
PROJECT NO. 93B-01-75, UNIT I

SCALE: AS SHOWN DATE:

SHEET No. 4 OF 9 SHEETS

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

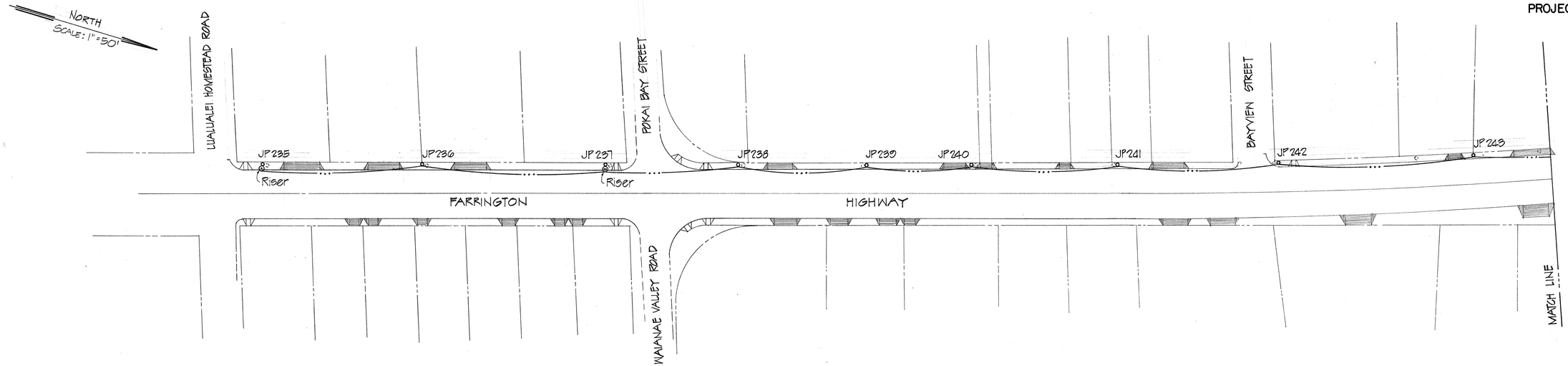
K-E TRACING PAPER

C.O. 132

DD. B-7-2

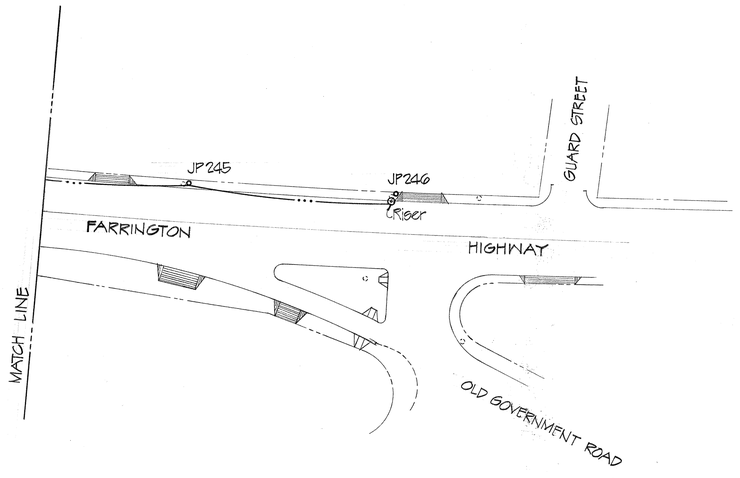
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.		1978	133	159

PROJECT NO. 93B-01-75



PLAN OF OVERHEAD INTERCONNECT SYSTEM

SCALE: 1" = 50'



PLAN OF OVERHEAD INTERCONNECT SYSTEM

SCALE: 1" = 50'

SUMMARY OF APPROX. QUANTITIES

	LUALUALEI	WAIANAE	OLD GOVT.	INTERMEDIATE	INTERTIE	TOTAL
12" Veh. Signals	10	10	10	8		38 *
Pedestrian Signals	8	8	6	6		28
Type I Std.	6	6	6	3		21 *
Type II Std.	2	2	2	2		8
PPB Pedestal				4		4
Type A TSPB	1	1	1	1		4
Type B TSPB	13	12	13	9		47
PPB w/eign	8	8	6	6		28
1" G.S. Riser	30	30	30	30		120
2" G.S. Riser	25	25	25			75
Mtr. Socket & Switch	1	1	1	1		4
Saw Cut	357	278	390	240		1265
1- 2" C (PVC)	403	433	397	481		1714
2- 2" C (PVC)	140	297	253	568		1258
3- 2" C (PVC)	60	5	6	4		75
4- 2" C (PVC)	63		61			124
1- 1¼" C (G.S.)	25	20	25	15		85
2C - #14	900	820	960	670		3350
4C - #14	270	350	360	440		1420
10C - #14	320	350	360	360		1390
1C - #14 (TW)	2200	2200	2000	2300		8700
24C - #20	140	180	130			450
Bare 1C - #8	780	790	830	890		3290
3C - #8	100	90	100	190		480
Messenger + 24C - #20					2250	2250
Det. Loop 1C - #12	1140	910	1410	700		4160
1 - Grd. Rod	14	13	14	10		51
Controller Equip.	See Intersection Drawings					

* 8 Standards & 8 Signals for Waianae Valley Road may be reused.

LEGEND

—·····— Solid No. 20, 24 Conductor, Interconnect Cable with 3/8" seven-wire strand messenger.

⊙ OR ⊜ 2" Galv. steel conduit riser, 25' high, with 1 or 2 - Solid No. 20, 24 Conductor, Interconnect Cable.

DATE	REVISION
8/06/79	Revised approximate quantities for Waianae Intermediate School traffic signal system.

APPROVED:

/s/ Cy Nohara 10/23/78

DIRECTOR, DEPARTMENT OF TRANSPORTATION SERVICES, CITY & COUNTY OF HONOLULU — DATE

PAUL T. TANIGUCHI REGISTERED PROFESSIONAL ENGINEER No. 864 HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

Paul T. Taniguchi

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TRAFFIC SIGNAL SYSTEM INTERCONNECT SYSTEM

FARRINGTON HIGHWAY WIDENING
LUALUALEI HOMESTEAD ROAD TO JADE STREET
PROJECT NO. 93B-01-75, UNIT I
SCALE: 1"=10' DATE:

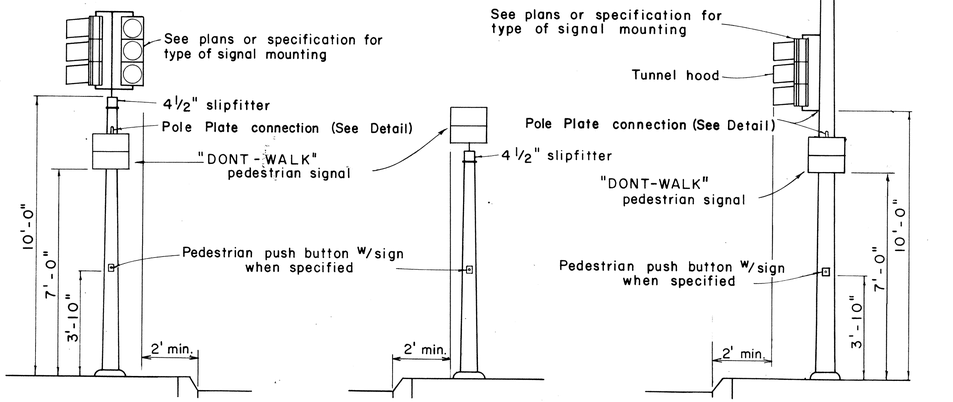
ORIGINAL PLAN | SURVEY PLOTTED BY | DRAWN BY | TRACED BY | DESIGNED BY | QUANTITIES BY | CHECKED BY | DATE | NOTE BOOK | No.

SHEET No. 5 OF 9 SHEETS

C.O.133

PROJECT NO. 93B-01-75

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.		1978	134	159

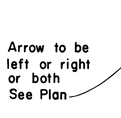


ON 10-FOOT STANDARD

ON 8-FOOT STANDARD WHEN SPECIFIED

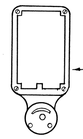
ON MAST ARM OR SPAN WIRE STANDARD

TYPICAL EQUIPMENT MOUNTINGS



Arrow to be left or right or both See Plan

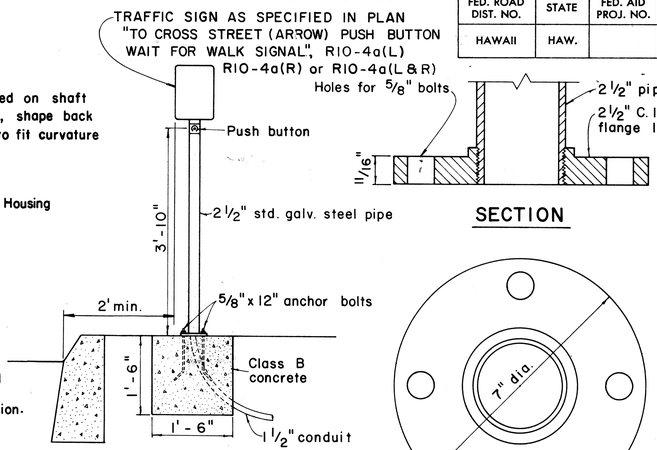
R10-4a(L) 5" x 7"



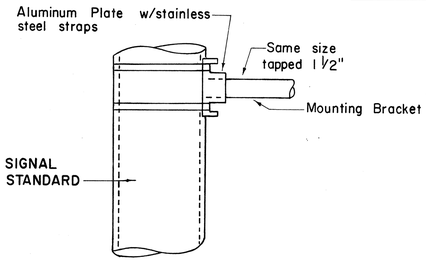
When mounted on shaft of Standard, shape back of Housing to fit curvature of Shaft

PEDESTRIAN PUSH BUTTON

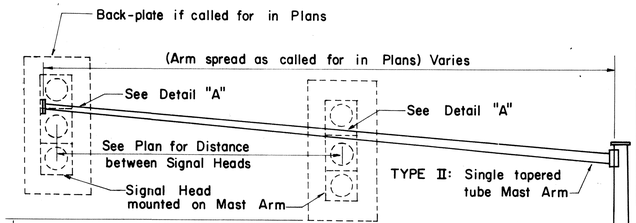
NOTE:
1. Conduits shall protrude 2" max. above finished surface of foundation.
2. Conduits shall slope away from pole foundation.

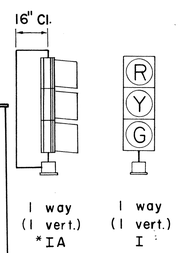


PEDESTRIAN PUSH BUTTON POST AND FOOTING



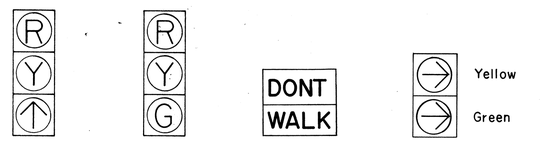
DETAIL OF POLE PLATE CONNECTIONS

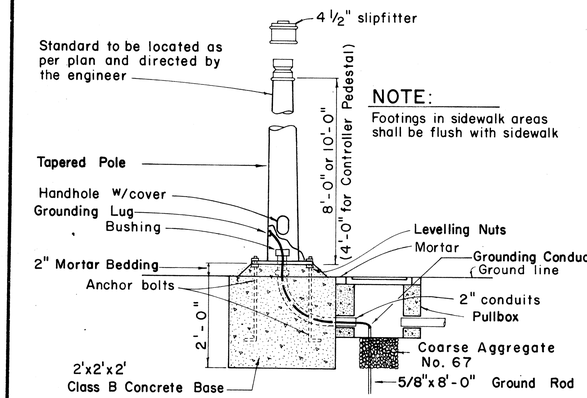




* Use with Programmed Visibility Signal

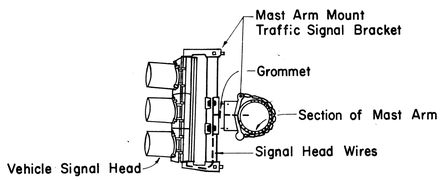
TYPICAL VEHICULAR AND PEDESTRIAN SIGNAL MOUNTINGS



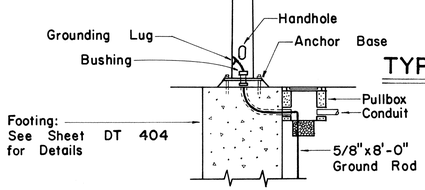


NOTE:
Footings in sidewalk areas shall be flush with sidewalk

TYPE I SIGNAL STANDARD OR CONTROLLER PEDESTAL AND FOOTING



DETAIL "A"



TYPE II MAST ARM AND STANDARD

TYPICAL SIGNAL ARRANGEMENTS

APPROVAL RECOMMENDED:

Eiichi Tanaka — TRAFFIC ENGINEER — 12/29/69 DATE

ASSISTANT CHIEF, ENGINEERING — 12/30/69 DATE

NO.	REVISION	APPROVED BY	DATE
1	Revise code nos. for Pedestrian Push Button signs.	H.T.	3/23/72
2	Revise Details of Traffic and Pedestrian Signals, Standards and Pedestrian Push Button and Signs.	H.T.	3/5/76
3	Revise signal indications.	H.T.	9/22/76
4	Remove Note No. 3 & Revise clearance and dimension.	H.T.	9/19/77

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
LAND TRANSPORTATION FACILITIES DIVISION

TRAFFIC SIGNAL SYSTEM

MISCELLANEOUS DETAILS

Not to Scale

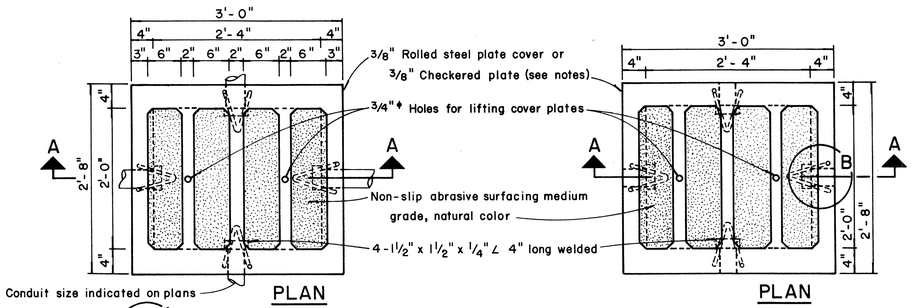
SURVEY PLOTTED BY
DRAWN BY
TRACED BY
DESIGNED BY
QUANTITIES BY
CHECKED BY
DATE
NOTE BOOK
No.

SHEET No. 6 OF 9 SHEETS DT 400

PRINTED ON NO. 1000H CLEARPRINT

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.		1978	135	159

PROJECT NO. 93B-01-75

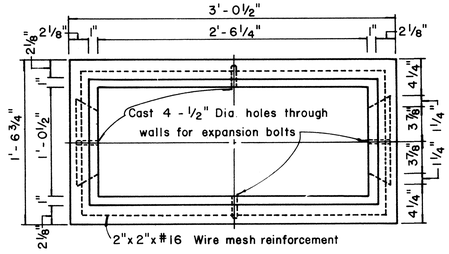


TYPE "A" PULLBOX CAST-IN-PLACE

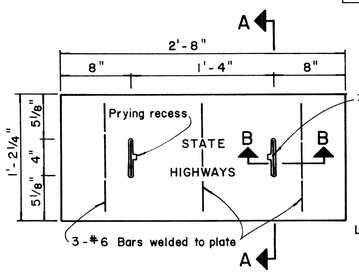
Scale: 1" = 1'-0"

TYPE "A" PULLBOX PRECAST

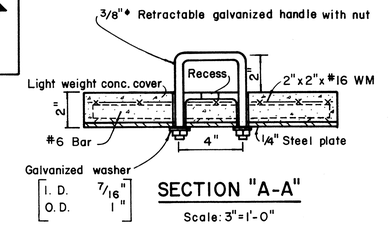
Scale: 1" = 1'-0"



PLAN

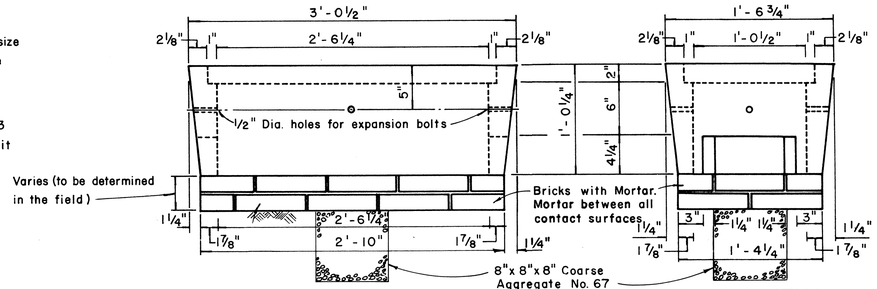


PLAN OF COVER



SECTION "A-A"

Scale: 3"=1'-0"

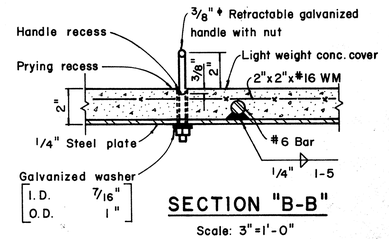


SIDE ELEVATION

END ELEVATION

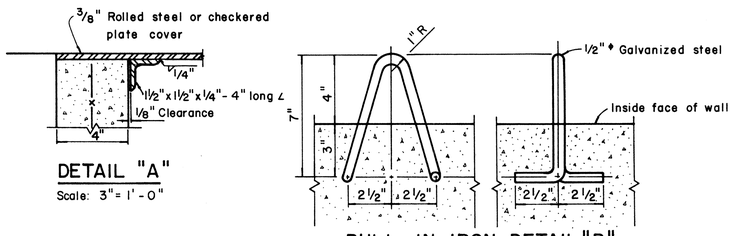
TYPE "C" PULLBOX

Scale: 1 1/2" = 1'-0"



SECTION "B-B"

Scale: 3"=1'-0"



DETAIL "A"

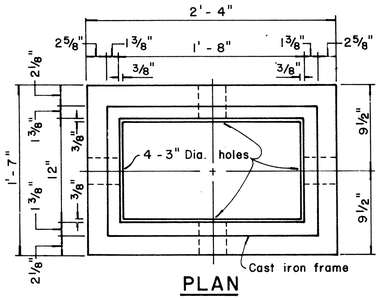
Scale: 3" = 1'-0"

PULL-IN IRON DETAIL "B"

Scale: 3" = 1'-0"

NOTES: (FOR TYPE "A" PULLBOX)

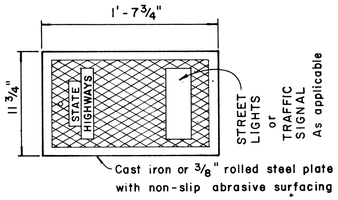
1. 3/8" Rolled steel plate cover with non-slip abrasive surfacing medium grade, natural color shall be used on all pullboxes located on sidewalk areas where pedestrians are walking.
2. 3/8" Checkered plate cover shall be used on all pullboxes located in median areas and other locations where there are no pedestrians walking.
3. Pull irons shall be placed opposite each conduit slot.
4. Covers on all pullboxes located in sidewalk areas shall be set flush with the concrete sidewalk.
5. Each pullbox shall have a pair of pull irons opposite each other for lifting purposes.



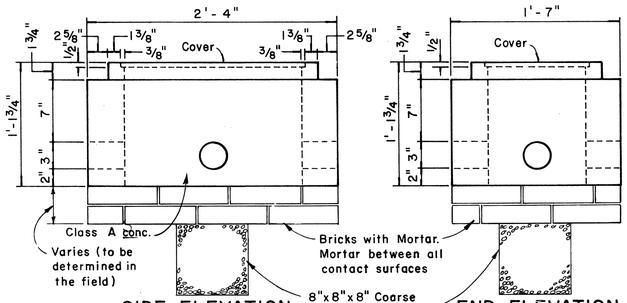
PLAN

NOTE:

Steel rim shall be welded to bottom of steel cover if necessary so that top of cover and frame are flush



PLAN OF COVER



SIDE ELEVATION

END ELEVATION

TYPE "B" PULLBOX

Scale: 1 1/2" = 1'-0"

APPROVAL RECOMMENDED:

Eiichi Tanaka — TRAFFIC ENGINEER — 12/1/69 DATE

APPROVED:

ASSISTANT CHIEF, ENGINEERING — 12-30-69 DATE

NO.	REVISION	APPROVED BY	DATE
1	Revised Type B & C Pullbox details	H.F.	3-5-76

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
LAND TRANSPORTATION FACILITIES DIVISION

STANDARD DETAILS
PULLBOXES

Scale as noted — Date

SHEET No. 7 OF 9 SHEETS DT 401

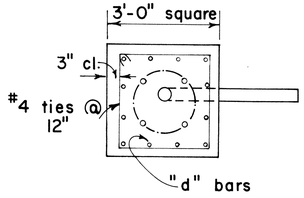
ORIGINAL PLAN | SURVEY PLOTTED BY | DRAWN BY | TRACED BY | DESIGNED BY | NOTE BOOK | QUANTITIES BY | CHECKED BY | DATE | No.

PRINTED ON NO. 1000H CLEARPRINT

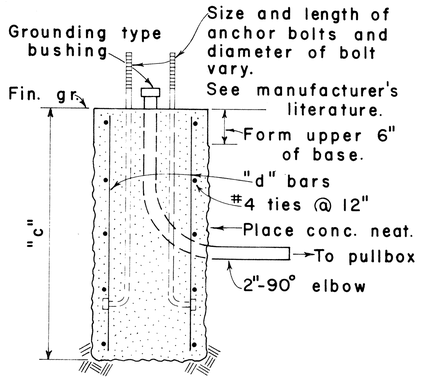
135

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.		1978	136	159

PROJECT NO. 93B-01-75



PLAN - SECTION



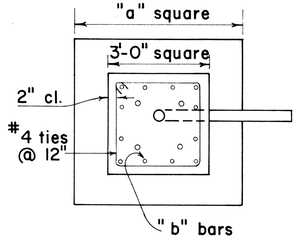
NOTE:

Concrete shall be Class B.

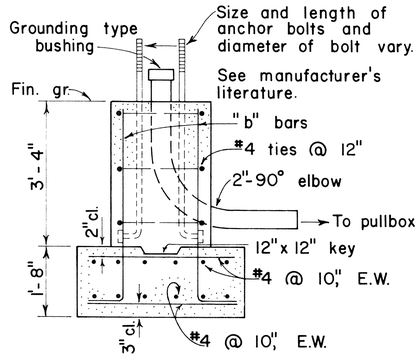
SECTION

MAST ARM LENGTH	"c"	"d" BARS
16'-18'	5'-0"	12-#6
20'	5'-6"	12-#6
25'	6'-0"	12-#6
30'	6'-6"	12-#6
35'	7'-0"	12-#8
40'	8'-0"	12-#8

TYPE II



PLAN - SECTION



NOTE:

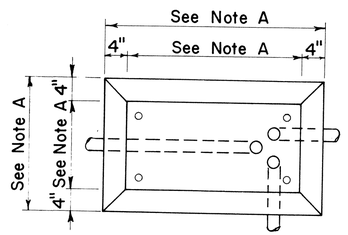
Concrete shall be Class B.

SECTION

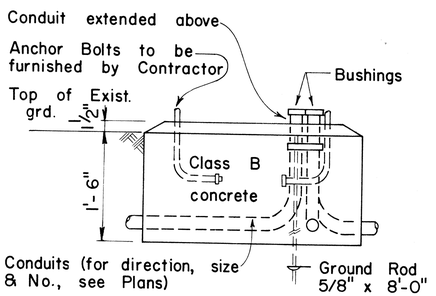
MAST ARM LENGTH	"a"	"b" BARS
16'-18'	5'-0"	12-#6
20'	5'-6"	12-#6
25'	6'-0"	12-#6
30'	6'-6"	12-#8
35'	6'-6"	12-#8
40'	7'-0"	12-#8

TYPE IIA

FOOTING FOR MAST ARM STANDARD



PLAN



ELEVATION

CONCRETE BASE FOR CONTROLLER CABINET

NOTES:

A. Dimensions to be determined by the size of the Controller Cabinet to be furnished under this Contract.

B. Details of Conduits, Anchor Bolts, etc., are approximate only. Exact details shall be secured by the Contractor from Manufacturer.

APPROVAL RECOMMENDED:

Eiichi Tanaka 3/9/76
TRAFFIC ENGINEER DATE

APPROVED:

Herbert S. Richardson 3-5-76
ASSISTANT CHIEF, ENGINEERING DATE

NO.	REVISION	APPROVED BY	DATE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
LAND TRANSPORTATION FACILITIES DIVISION

TRAFFIC SIGNAL SYSTEM
MISCELLANEOUS DETAILS

Not to Scale

SHEET NO. 8 OF 9 SHEETS DT404

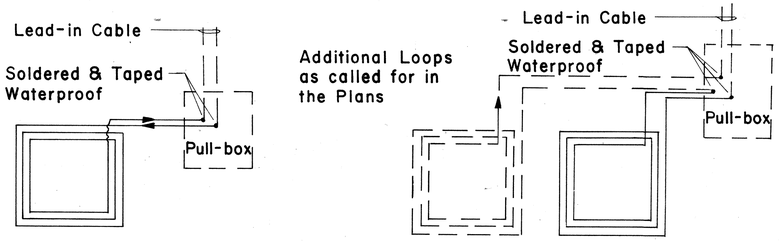
ORIGINAL PLAN
NOTE BOOK No.
SURVEY PLOTTED BY DATE
DRAWN BY
TRACED BY
DESIGNED BY
QUANTITIES BY
CHECKED BY

K+E ® TRACING PAPER

136

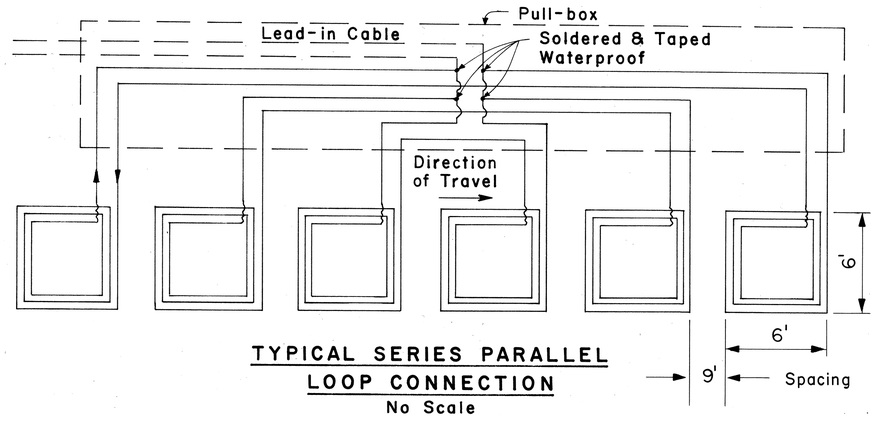
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.		1978	137	159

PROJECT NO. 93B-01-75



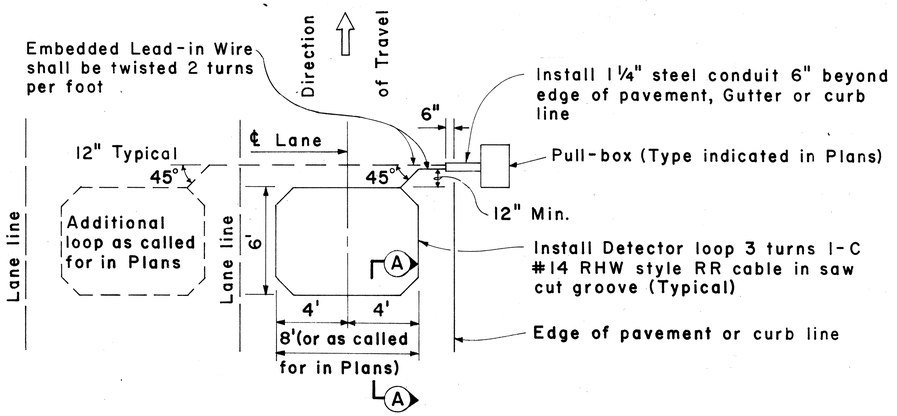
TYPICAL LOOP CONFIGURATIONS

No Scale



TYPICAL SERIES PARALLEL LOOP CONNECTION

No Scale

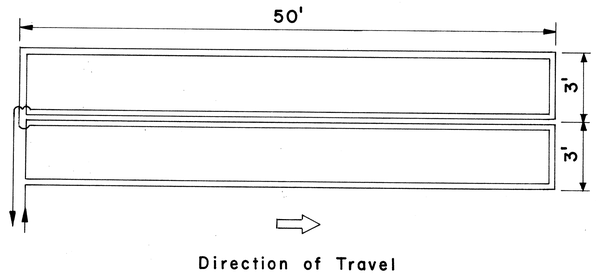


PLAN - MULTIPLE LOOP LAYOUT

Scale : ¼" = 1' - 0"

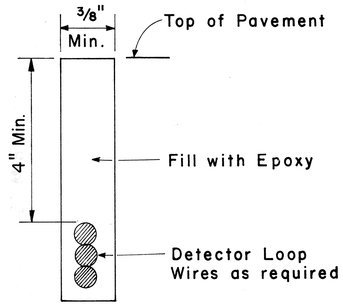
DETECTION LOOP

Scale : As Shown



WIRING FOR 6' x 50' LOOP DETECTOR

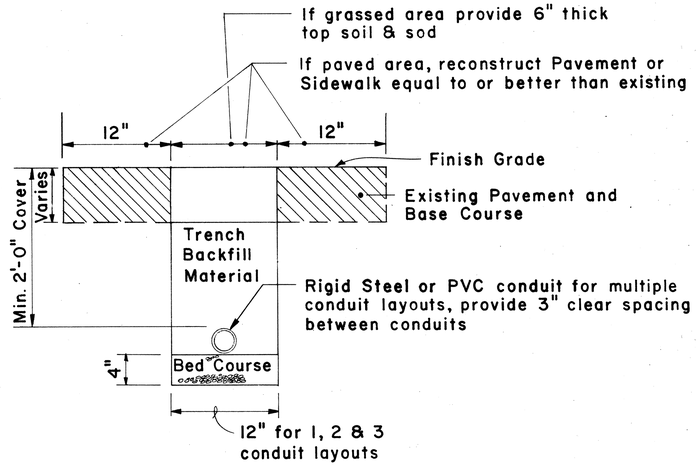
No Scale



Detector Loop Saw-Cut

SECTION A-A (TYPICAL)

No Scale



TYPICAL TRENCH SECTION FOR CONDUIT

Scale : 1½" = 1' - 0"

NOTE:

1. All conduits under roadways shall be steel or PVC schedule 80. All other conduits shall be steel or PVC schedule 40.

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

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
LAND TRANSPORTATION FACILITIES DIVISION

TRAFFIC SIGNAL SYSTEM MISCELLANEOUS DETAILS

Scale : As Noted

SHEET No. 9 OF 9 SHEETS DT 405

137

H-E ◎ TRACING PAPER

Unit I

L744