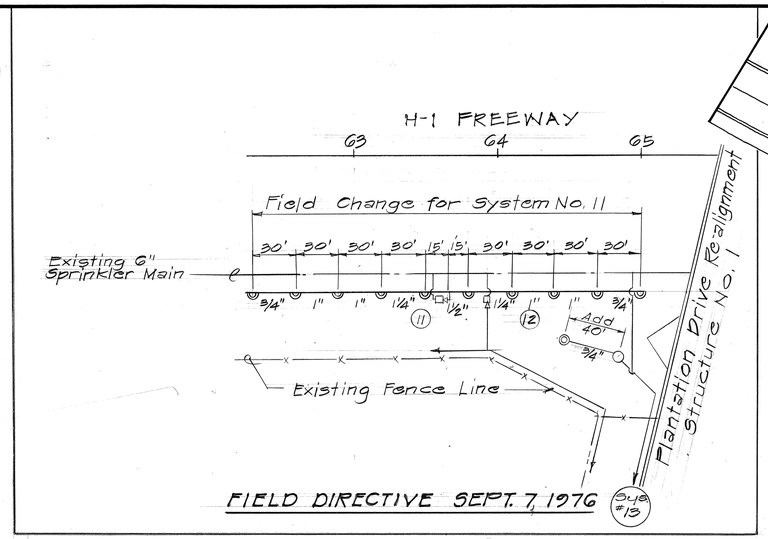
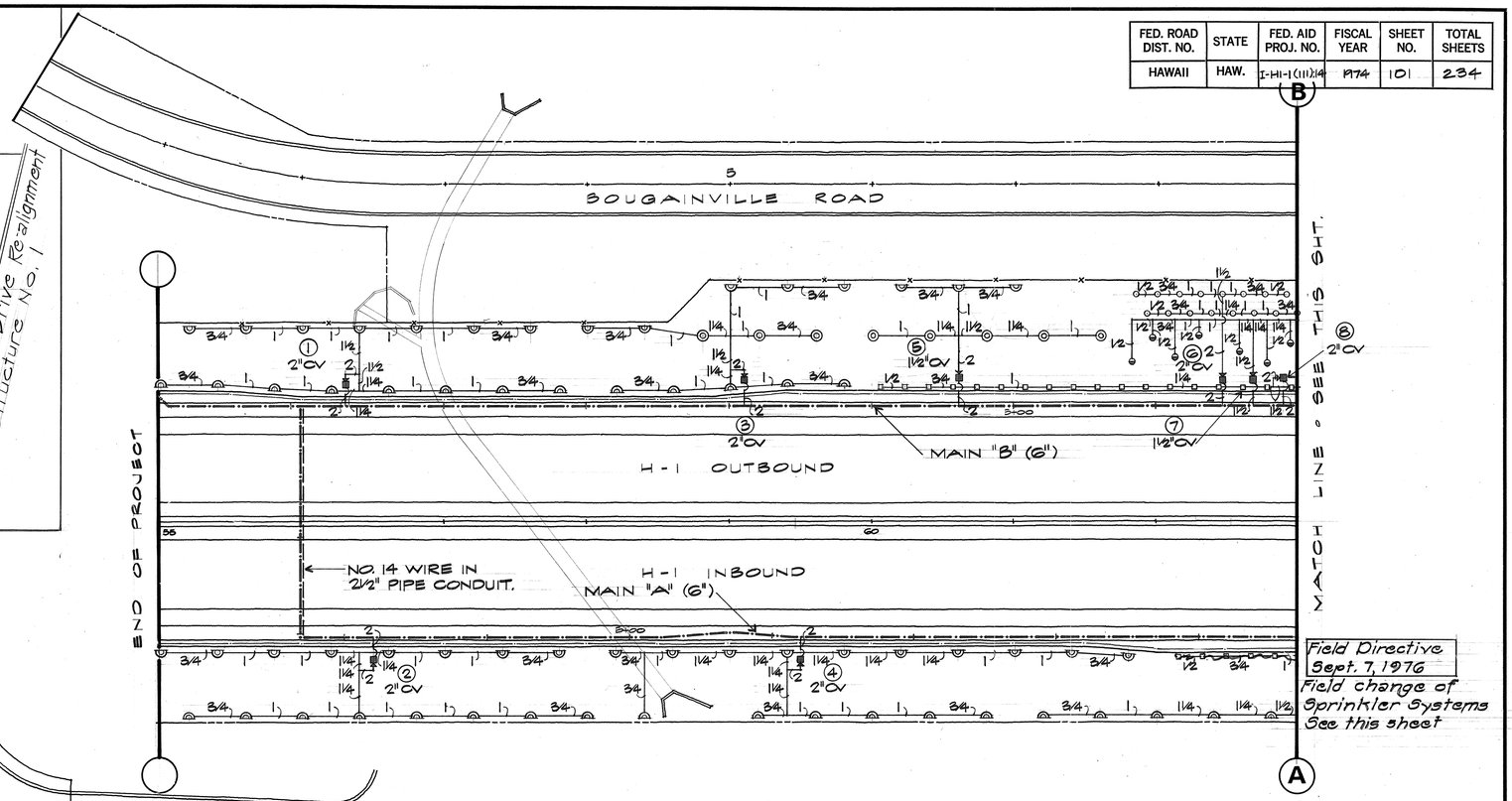
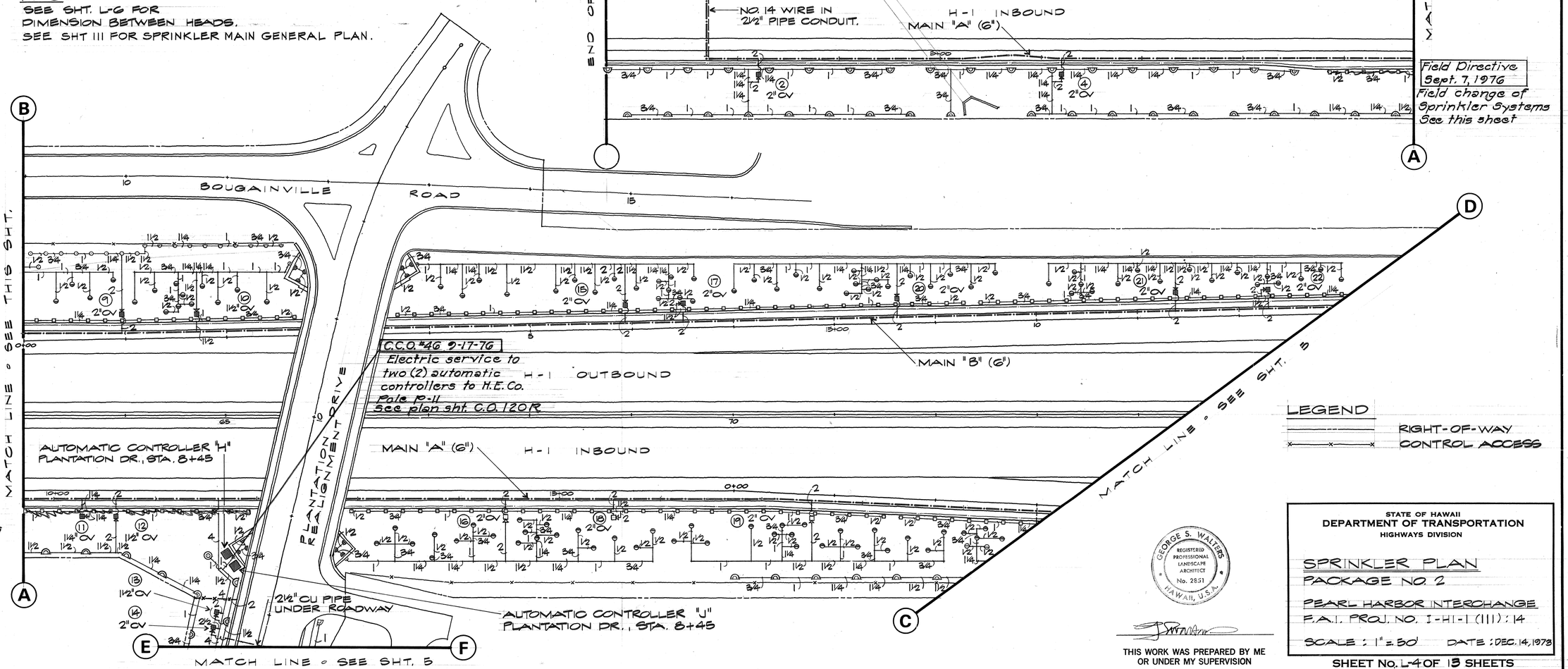
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(111)14	1974	101	234



NOTE:
SEE SHT. L-6 FOR DIMENSION BETWEEN HEADS.
SEE SHT III FOR SPRINKLER MAIN GENERAL PLAN.





LEGEND

RIGHT-OF-WAY
CONTROL ACCESS

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

GEORGE S. WALTERS
REGISTERED PROFESSIONAL LANDSCAPE ARCHITECT
No. 2851
HAWAII, U.S.A.

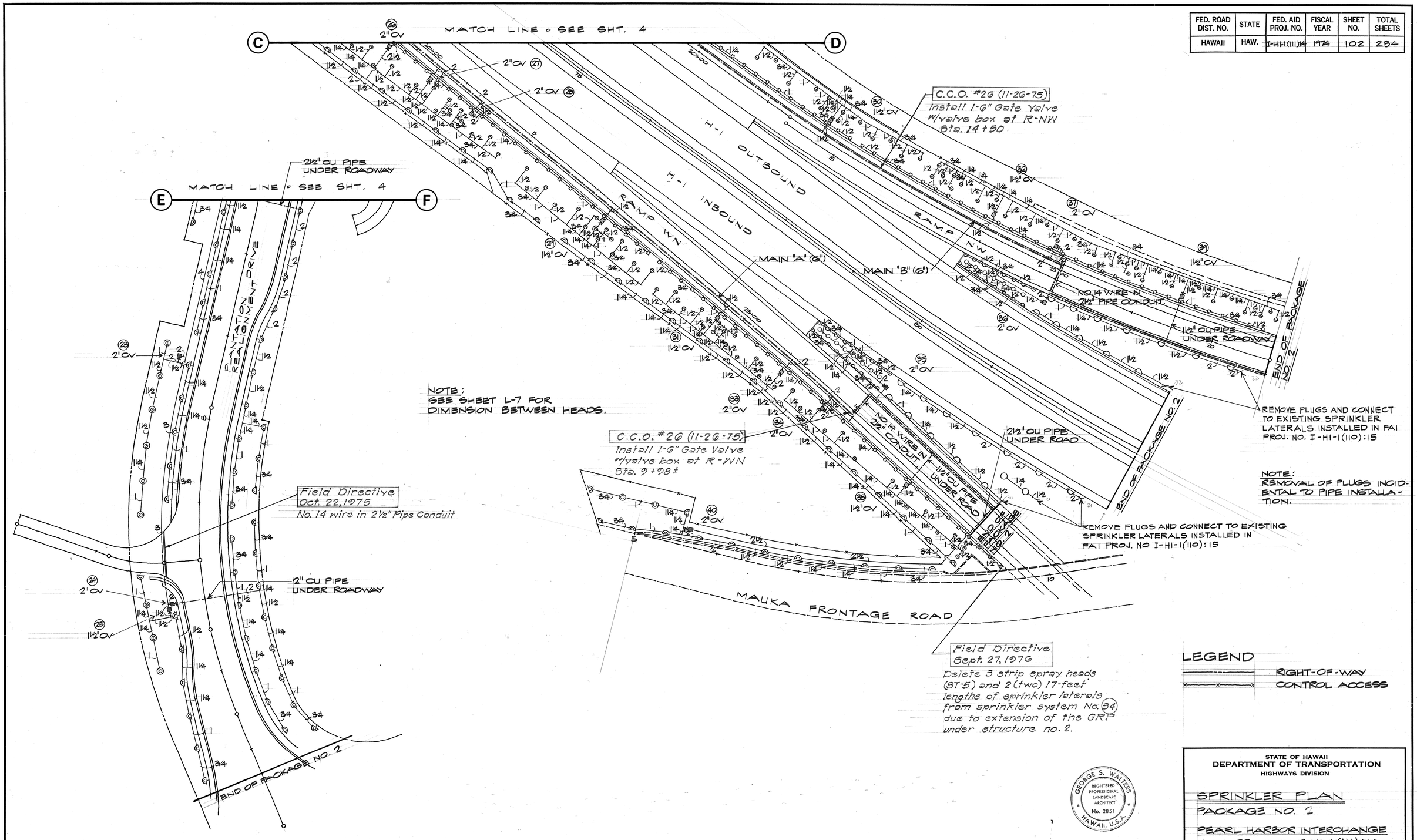
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

SPRINKLER PLAN
PACKAGE NO. 2
PEARL HARBOR INTERCHANGE
F.A.I. PROJ. NO. I-HI-1 (111) : 14
SCALE : 1" = 50' DATE : DEC. 14, 1973

SHEET No. L-4 OF 13 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-I(III)14	1974	102	234



LEGEND

RIGHT-OF-WAY

CONTROL ACCESS

ORIGINAL PLAN		
	SURVEY PLOTTED BY	DATE
	DRAWN BY	"
	TRACED BY	"
NOTE BOOK	DESIGNED BY	"
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SPRINKLER PLAN
PACKAGE NO. 2
PEARL HARBOR INTERCHANGE
F.A.I. PROJ. NO. I-HI-1(111):14

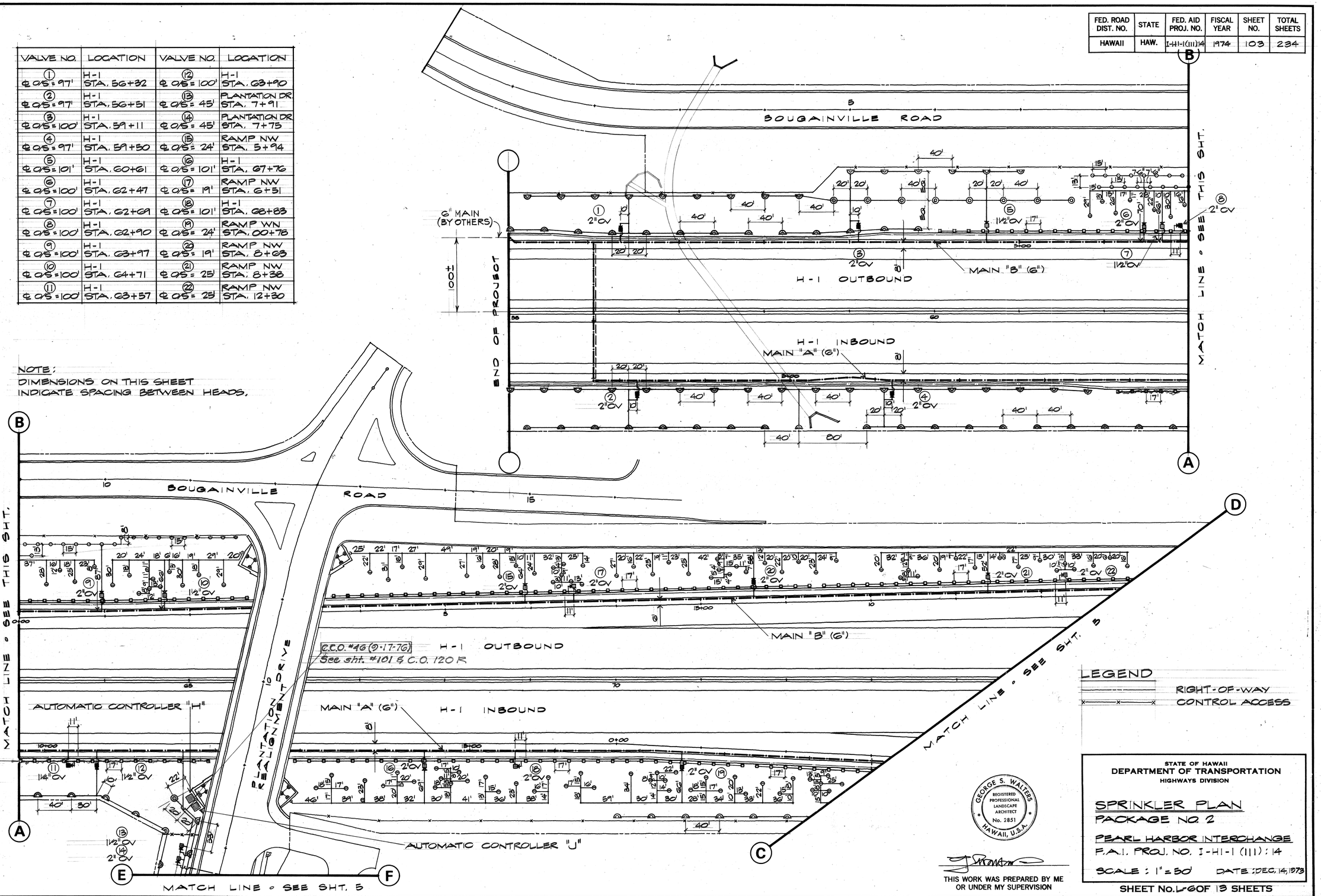
SCALE: 1" = 50' DATE: DEC. 14, 1973

SHEET No. L-5 OF 13 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(III)14	1974	103	234

VALVE NO.	LOCATION	VALVE NO.	LOCATION
1 ℄ O/S = 97'	H-1 STA. 56+32	12 ℄ O/S = 100'	H-1 STA. 63+90
2 ℄ O/S = 97'	H-1 STA. 56+51	13 ℄ O/S = 45'	PLANTATION DR. STA. 7+91
3 ℄ O/S = 100'	H-1 STA. 59+11	14 ℄ O/S = 45'	PLANTATION DR. STA. 7+75
4 ℄ O/S = 97'	H-1 STA. 59+50	15 ℄ O/S = 24'	RAMP NW STA. 5+94
5 ℄ O/S = 101'	H-1 STA. 60+61	16 ℄ O/S = 101'	H-1 STA. 67+76
6 ℄ O/S = 100'	H-1 STA. 62+47	17 ℄ O/S = 19'	RAMP NW STA. 6+51
7 ℄ O/S = 100'	H-1 STA. 62+69	18 ℄ O/S = 101'	H-1 STA. 68+83
8 ℄ O/S = 100'	H-1 STA. 62+90	19 ℄ O/S = 24'	RAMP WN STA. 00+78
9 ℄ O/S = 100'	H-1 STA. 63+97	20 ℄ O/S = 19'	RAMP NW STA. 8+63
10 ℄ O/S = 100'	H-1 STA. 64+71	21 ℄ O/S = 25'	RAMP NW STA. 8+38
11 ℄ O/S = 100'	H-1 STA. 63+57	22 ℄ O/S = 25'	RAMP NW STA. 12+30

NOTE:
DIMENSIONS ON THIS SHEET INDICATE SPACING BETWEEN HEADS.



LEGEND

RIGHT-OF-WAY
CONTROL ACCESS

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HIGHWAYS DIVISION

SPRINKLER PLAN
PACKAGE NO. 2

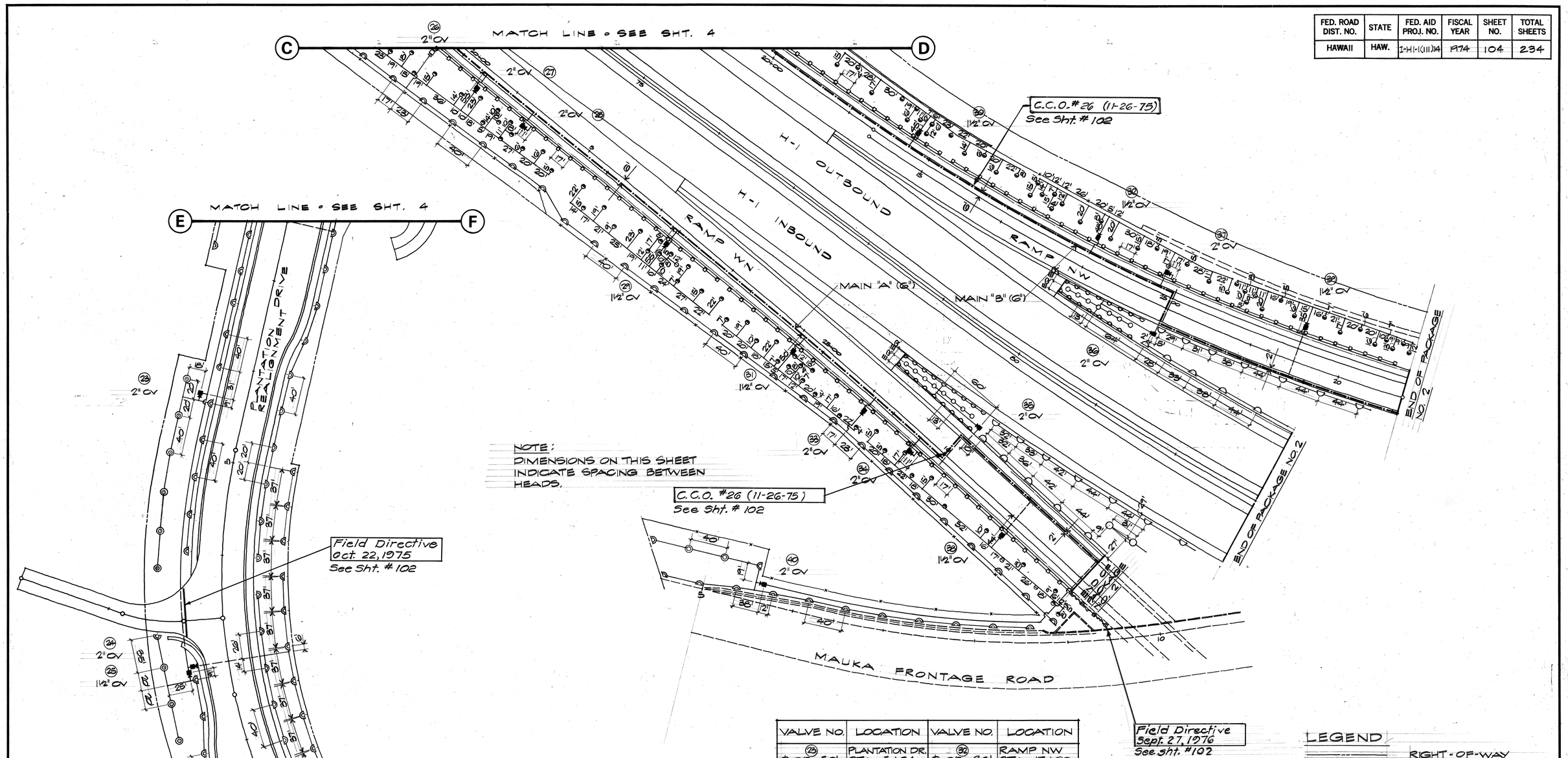
PEARL HARBOR INTERCHANGE
F.A.I. PROJ. NO. I-HI-1 (III) : 14

SCALE : 1" = 50' DATE : DEC. 14, 1973

SHEET No. L-60 OF 13 SHEETS

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

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(111)14	1974	104	234



VALVE NO.	LOCATION	VALVE NO.	LOCATION
23 ℄ O/S = 50'	PLANTATION DR. STA. 5+64	32 ℄ O/S = 36'	RAMP NW STA. 17+00
24 ℄ O/S = 40'	PLANTATION DR. STA. 2+87	33 ℄ O/S = 24'	RAMP WN STA. 9+05
25 ℄ O/S = 44'	PLANTATION DR. STA. 2+82	34 ℄ O/S = 23'	RAMP WN STA. 9+71
26 ℄ O/S = 25'	RAMP WN STA. 3+00	35 ℄ O/S = 46'	RAMP WN STA. 10+11
27 ℄ O/S = 25'	RAMP WN STA. 3+63	36 ℄ O/S = 31'	RAMP NW STA. 18+00
28 ℄ O/S = 26'	RAMP WN STA. 4+28	37 ℄ O/S = 35'	RAMP NW STA. 17+85
29 ℄ O/S = 25'	RAMP WN STA. 6+27	38 ℄ O/S = 24'	RAMP WN STA. 11+04
30 ℄ O/S = 33'	RAMP NW STA. 14+74	39 ℄ O/S = 40'	RAMP NW STA. 19+50
31 ℄ O/S = 25'	RAMP WN STA. 8+06	40 ℄ O/S = 20'	MAUKA FR. RD STA. 5+64

LEGEND

RIGHT-OF-WAY

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SPRINKLER PLAN
PACKAGE NO. 2

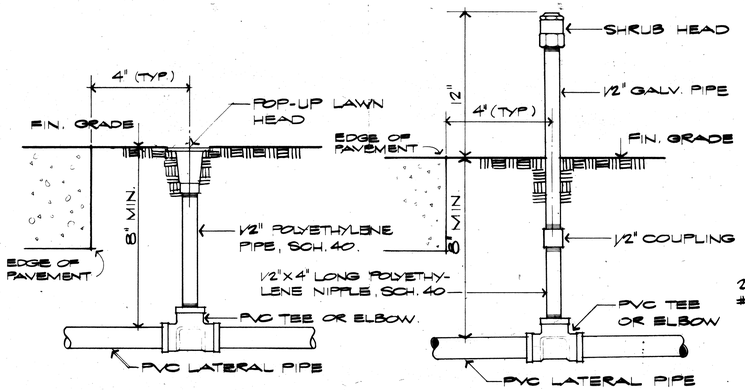
PEARL HARBOR INTERCHANGE
F.A.I. PROJ. NO. I-HI-1 (111) ; 14

SCALE: 1" = 50' DATE: DEC. 14, 1973

SHEET No. L-7 OF 13 SHEETS

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

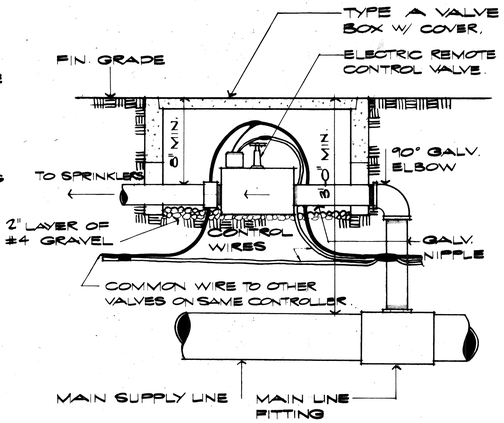
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(111)14	1974	105	234



NOTE:
USE 1/2" POLYETHYLENE PIPE ON ALL POP-UP LAWN, STRIP-SPRAY, AND SHRUB HEADS DIRECTLY ADJACENT TO ROADWAY SHOULDERS. USE 1/2" GALV. STEEL PIPE RISER FOR REMAINING TYPES OF HEADS MENTIONED ABOVE.

TYPICAL POP-UP AND STRIP-SPRAY DETAIL
NO SCALE

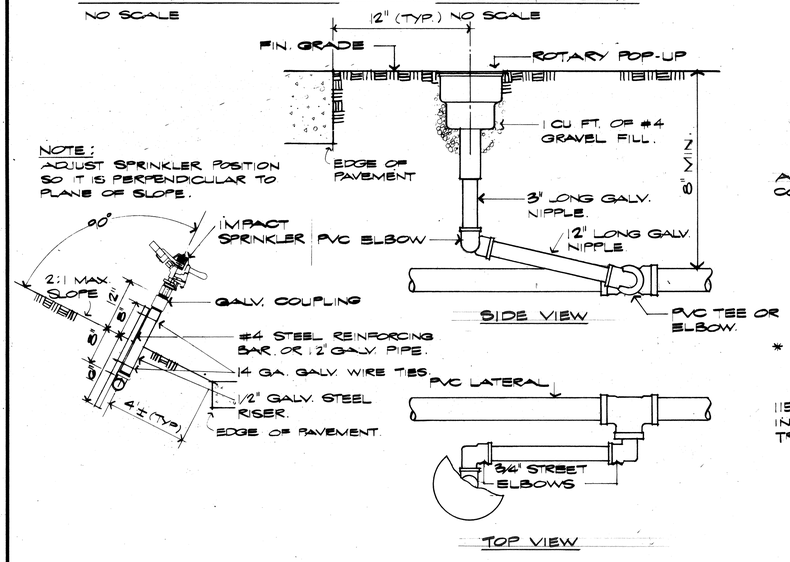
TYPICAL SHRUB HEAD AND BUBBLER DETAIL
NO SCALE



SOLENOID VALVE DETAIL
NO SCALE

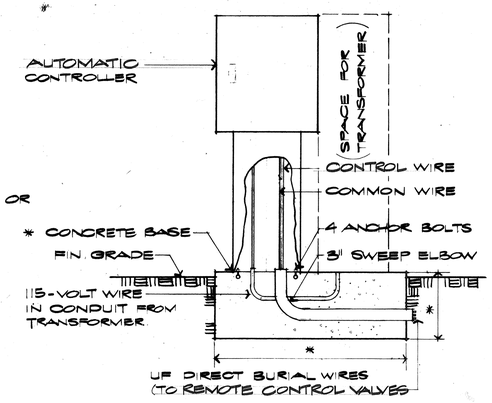
NOTE:
SEE ELECTRICAL PLANS FOR ELECTRICAL TRANSFORMER DETAILS.
ADDITIONAL CONCRETE BASE REQUIRED FOR ELECTRICAL TRANSFORMER

SPRINKLER LEGEND								
SPRINKLER	SYMBOL	DESCRIPTION	PRESSURE P.S.I.	COVERAGE FT.	FLOW GPM	NOZZLE INCHES	RISER INCHES	SPECIAL FEATURES
P-12	○	POP-UP LAWN - FULL	20	12 RAD.	3.2		1/2	2" POP-UP
P-12	◠	POP-UP LAWN - HALF	20	12 RAD.	2.5		1/2	
P-12	◺	POP-UP LAWN - QUARTER	20	12 RAD.	1.2		1/2	
S-12	●	SHRUB SPRAY - FULL	20	10 RAD.	3.0		1/2	
S-12	◓	SHRUB SPRAY - HALF	20	10 RAD.	2.5		1/2	
S-12	◔	SHRUB SPRAY - QUARTER	20	10 RAD.	1.2		1/2	
B-10	◒	BUBBLER HEAD	15	0	3.1		1/2	
ST-5	□	STRIP SPRAY	15	8X12	1.5		1/2	
I-35F	◎	IMPACT - FULL	30	39 RAD.	5.5	3/16	3/4	BRASS/ BRONZE CONSTRUCTION W/ BRASS NOZZLE W/ BREAK-UP PIN.
I-35P	◠	IMPACT - PART	30	36 RAD.	3.1	9/64	1/2	
R-40F	◯	ROTARY POP-UP - FULL	40	46 RAD.	9.3	7/32	1	BRASS/ BRONZE CONSTRUCTION W/ BRASS NOZZLE W/ BREAK-UP PIN.
R-40P	◠	ROTARY POP-UP - PART	40	40 RAD.	4.6	5/32	3/4	
	■	AUTOMATIC CONTROLLER - 10 STATION (MINIMUM)						PEDESTAL MOUNTED
	■	ELECTRIC REMOTE CONTROL VALVE						24V WATERPROOF SOLENOID. INSTALL IN VALVE BOX W/ COVER



IMPACT HEAD DETAIL
NO SCALE

ROTARY POP-UP DETAIL
NO SCALE



CONTROLLER DETAIL
NO SCALE

NOTE:
* CONCRETE BASE TO BE SIZED ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.

NOTES TO CONTRACTOR:

1- ALL WIRING UNDER ROADWAY TO BE INSTALLED IN 2 1/2" PIPE CONDUITS.
2- PVC PIPE AND FITTINGS SHALL BE INSTALLED IN STRICT ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
3- NO ROCKS OR SHARP OBJECTS ONE INCH OR LARGER SHALL BE USED IN THE BACKFILLING OF TRENCHES EXCEPT IN TUFF-CUT SLOPES.
4- FINAL LOCATIONS OF CONTROL VALVES SHALL BE DETERMINED BY THE ENGINEER.
5- CONTRACTOR SHALL ADJUST ALL SPRINKLER HEADS FOR PROPER COVERAGE.
6- CONCRETE REACTION BLOCK SHALL BE CLASS B.
7- PROVIDE TWO 30" LONG HEAVY PLATED IRON KEY FOR CONTROL VALVE (INCIDENTAL TO VALVE COST).
8- UNLESS OTHERWISE NOTED ON DRAWINGS THE STANDARD TRIANGULAR SPACING BETWEEN VARIOUS TYPES OF SPRINKLER HEADS ARE AS FOLLOWS:

		PART	FULL
POP-UP LAWN - 15'	IMPACT	- 40'	43'
SHRUB SPRAY - 15'	ROTARY POP-UP	- 44'	47'

9- TRENCH WIDTHS SHALL NOT BE LESS THAN 12".
10- ALL SPRINKLER LATERALS UNDER THE ROADWAY SHALL BE AT A DEPTH OF 2'-0".
11- ALL SPRINKLER SUPPLY LINES SHALL BE AT A DEPTH OF 3'-0".

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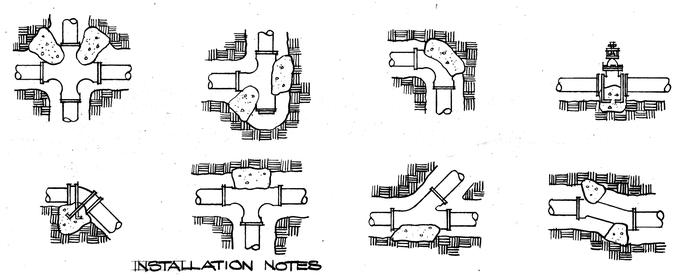
SPRINKLER DETAILS
PACKAGE NO. 2
PEARL HARBOR INTERCHANGE
F.A.I. PROJ. NO. I-HI-1(111):14
SCALE: NONE DATE: DEC. 14, 1973

SHEET No. L-8 OF 13 SHEETS

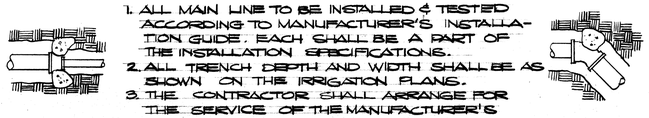
ORIGINAL PLAN		DATE
	SURVEY PLOTTED BY	
	DRAWN BY	
	TRACED BY	
NOTE BOOK	DESIGNED BY	
	QUANTITIES BY	
No.	CHECKED BY	

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H-1(111)14	1974	106	234



INSTALLATION NOTES

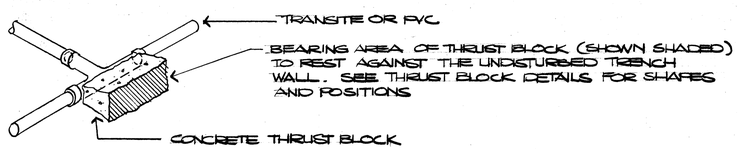
1. ALL MAIN LINE TO BE INSTALLED & TESTED ACCORDING TO MANUFACTURER'S INSTALLATION GUIDE. EACH SHALL BE A PART OF THE INSTALLATION SPECIFICATIONS.
2. ALL TRENCH DEPTH AND WIDTH SHALL BE AS SHOWN ON THE IRRIGATION PLANS.
3. THE CONTRACTOR SHALL ARRANGE FOR THE SERVICE OF THE MANUFACTURER'S QUALIFIED INSTRUCTOR.

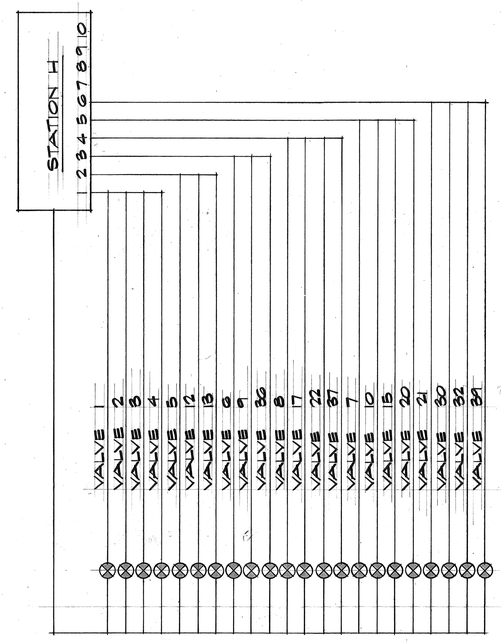


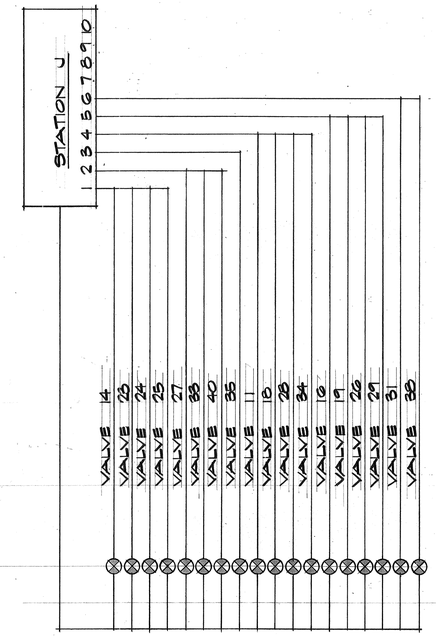
TYPICAL THRUST BLOCK DETAILS FOR TRANSITE OR PVC PIPE

NO SCALE

BEARING AREA REQUIRED FOR THRUST BLOCKS (SQ. FT.)						
PIPE SIZE	3"	2½"	2"	1½"	1¼"	4"
TEES & CROSSES	1.00	0.50	0.50	0.50	0.50	1.25
90° BEND	1.25	0.75	0.50	0.50	0.50	2.00
45° BEND	0.75	0.50	0.50	0.50	0.50	1.00







NOTE:
ALL WIRES ARE NO. 14 WIRE.

SCHEMATIC WIRING DIAGRAM

OPERATING SCHEDULE			
	STATION NO.	H	J
	DAY OF OPERATION	MTWThFS	MTWThFS
	STARTING TIME	8:00 A.M. ~~8:00 AM~~	3:30 P.M. ~~3:00 AM~~
STATION NUMBER	1	42 MIN.	42 MIN.
	2	42	42
	3	7	7
	4	4	4
	5	2	2
	6	2	2
	7		
	8		
	9		
	10		

Field Directive
Feb. 5, 1976

All automatic sprinkler system controllers shall be set to operate only between 8:00 a.m. and 3:30 p.m.

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SPRINKLER DETAILS
PACKAGE NO. 2
PEARL HARBOR INTERCHANGE
F.A.I. PROJ. NO. I-H1-1(111):14
SCALE: NONE DATE: DEC. 14, 1973

SHEET No. L-9 OF 13 SHEETS

ORIGINAL PLAN		DATE
	SURVEY PLOTTED BY	"
	DRAWN BY	"
	TRACED BY	"
NOTE BOOK	DESIGNED BY	"
No.	QUANTITIES BY	"
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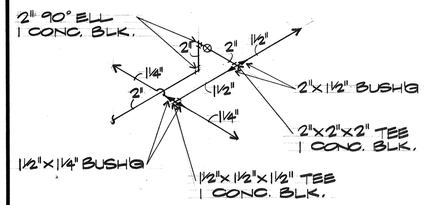
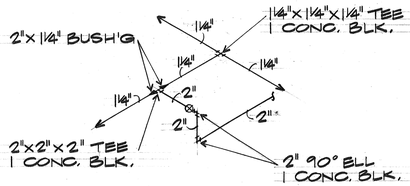
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H1-(111)14	1974	107	234

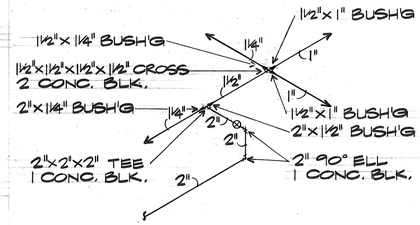
VALVE ① - 2"



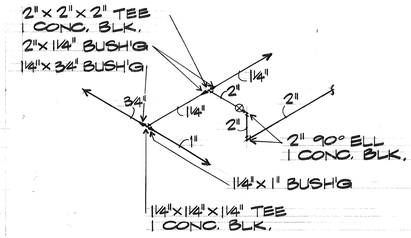
VALVE ② - 2"



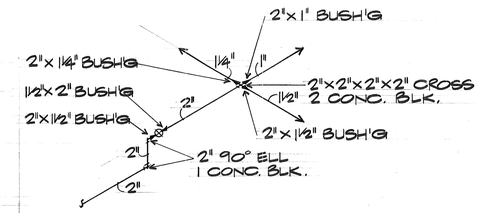
VALVE ③ - 2"



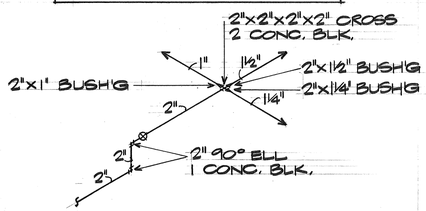
VALVE ④ - 2"



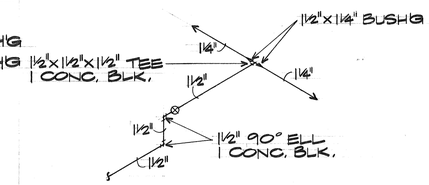
VALVE ⑤ - 1½"



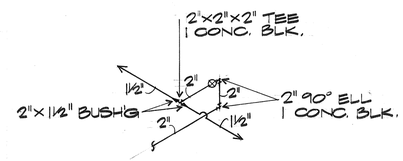
VALVE ⑥ - 2"



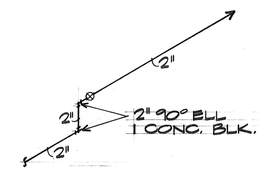
VALVE ⑦ ㉜ ㉜ - 1½"



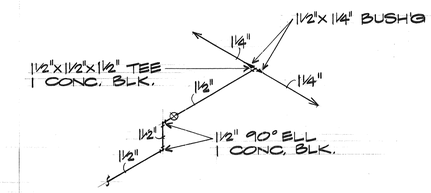
VALVE ⑧ ㊲ - 2"



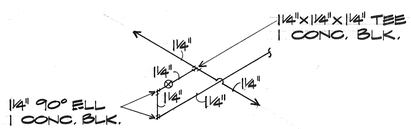
VALVE ⑨ - 2"



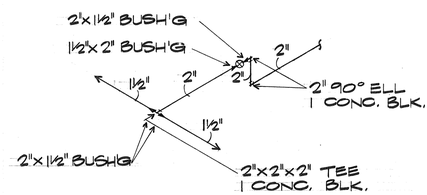
VALVE ⑩ - 1½"



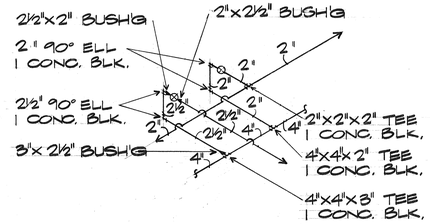
VALVE ⑪ - 1¼"



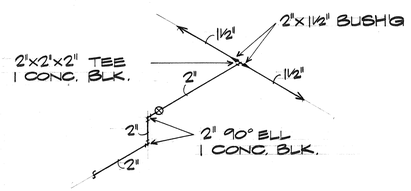
VALVE ⑫ - 1½"



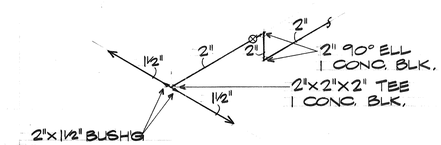
VALVES ⑭ - 2", ⑬ - 1½"



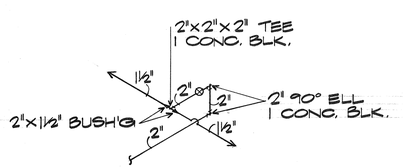
VALVE ㉑ - 2"



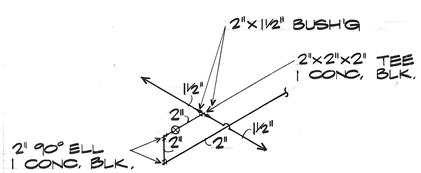
VALVE ⑯ ⑲ ㉗ - 2"



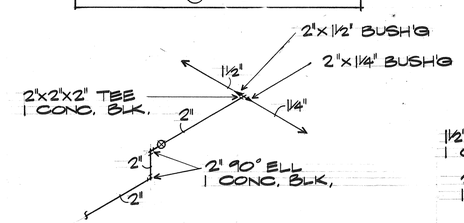
VALVE ⑰ ㉒ - 2"



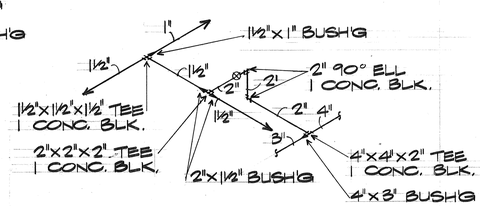
VALVE ⑱ ㉖ ㉞ - 2"



VALVE ⑳ - 2"



VALVE ㉓ - 2"



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

GEORGE S. WALTERS
REGISTERED PROFESSIONAL LANDSCAPE ARCHITECT
No. 2851
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

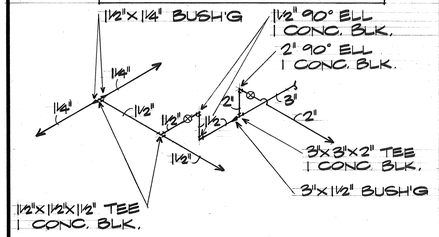
SPRINKLER DETAILS
PACKAGE NO. 2
PEARL HARBOR INTERCHANGE
F.A.I. PROJ. NO. I-H1-1 (111) : 14

SCALE : NONE DATE : DEC. 14, 1973

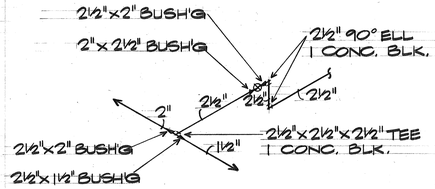
SHEET No. 110 OF 13 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(111)14	1974	108	234

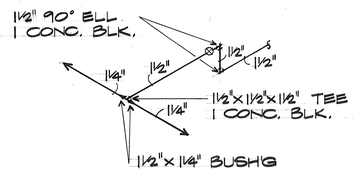
VALVES (25) - 1½" (24) - 2"



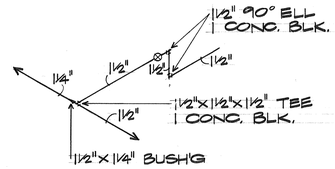
VALVE (26) - 2"



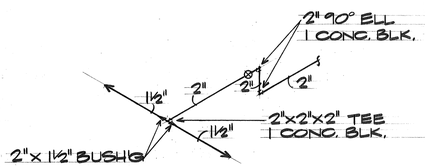
VALVES (27) (28) - 1½"



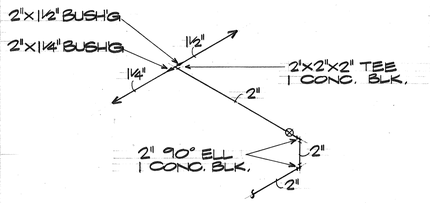
VALVE (31) - 1½"



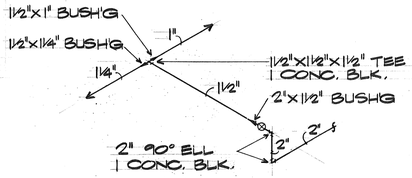
VALVE (32) - 2"



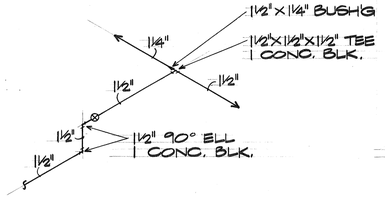
VALVE (33) - 2"



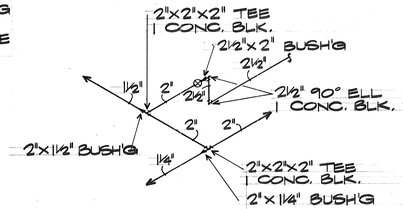
VALVE (36) - 2"



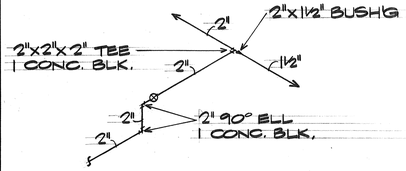
VALVE (37) - 1½"



VALVE (40) - 2"



VALVE (15) - 2"



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

GEORGE S. WALTERS
REGISTERED PROFESSIONAL LANDSCAPE ARCHITECT
No. 2851
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

SPRINKLER DETAILS
PACKAGE NO. 2
PEARL HARBOR INTERCHANGE
P.A.I. PROJ. NO. I-HI-1 (111) : 14
SCALE : NONE DATE : DEC. 14, 1973

SHEET No. L-11 OF 13 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(111)14	974	103	234

SPRINKLER SUMMARY

ESTIMATED QUANTITIES

SYSTEM NO.	ITEM NO.	503 003	503 201	606 063	606 070	606 100	606 101	606 102	606 113	606 114	606 115	606 116	606 117	606 130	606 131	606 132	606 133	606 134	606 135	606 136	606 137	606 138	606 210	606 222	606 235	606 258	606 259	606 263	606 280	606 282	606 284	606 288	606 286	606 289	206 040	606 304	REMARKS
	VALVE LOCATION	CONCRETE FOR SPRINKLER SYSTEM	CONCRETE OTHER STRUCTURES (CLASS B)	2½-INCH RIGID STL. PIPE, ACR OR PVC PIPE, CONDUIT	½-INCH GALVANIZED STEEL PIPE OR POLYETHYLENE PIPE	½-INCH GALVANIZED STEEL PIPE	¾-INCH GALVANIZED STEEL PIPE	1-INCH GALVANIZED STEEL PIPE	¼-INCH COPPER PIPE	½-INCH COPPER PIPE	1-INCH COPPER PIPE	2½-INCH COPPER PIPE	3-INCH COPPER PIPE.	½-INCH GALVANIZED STEEL PIPE COPPER PIPE OR PVC PIPE	¾-INCH GALVANIZED STEEL PIPE COPPER PIPE, OR PVC PIPE	1-INCH GALVANIZED STEEL PIPE COPPER PIPE, OR PVC PIPE	1¼-INCH GALVANIZED STEEL PIPE COPPER PIPE, OR PVC PIPE	1½-INCH GALVANIZED STEEL PIPE COPPER PIPE, OR PVC PIPE	2-INCH GALVANIZED STEEL PIPE COPPER PIPE, OR PVC PIPE	2½-INCH GALVANIZED STEEL PIPE COPPER PIPE, OR PVC PIPE	3-INCH GALVANIZED STEEL PIPE COPPER PIPE, OR PVC PIPE	4-INCH GALVANIZED STEEL PIPE COPPER PIPE, OR PVC PIPE	P-12 SPRINKLER HEAD	S-12 SPRINKLER HEAD	R(40) SPRINKLER HEAD	I(35) SPRINKLER HEAD	B-10 SPRINKLER HEAD	ST-5 SPRINKLER HEAD	AUTOMATIC CONTROLLER MINIMUM COST CONTROL	CENTRAL AUTOMATIC CONTROLLER MINIMUM COST CONTROL	1¼-INCH ELECTRIC CONTROL VALVE W/ TYPE A VALVE BOX	1½-INCH ELECTRIC CONTROL VALVE W/ TYPE A VALVE BOX	2-INCH ELECTRIC CONTROL VALVE W/ TYPE A VALVE BOX	DIRECT BURIAL CABLES	STRUCTURE EXCAVATION FOR SPRINKLER LATERALS	FURNISH AND INSTALL 12-INCH CONCRETE PIPE SLEEVE (CLASS 2)	
	UNIT USED	CU.YD.	CU.YD.	LIN.FT.	LIN.FT.	LIN.FT.	LIN.FT.	LIN.FT.	LIN.FT.	LIN.FT.	LIN.FT.	LIN.FT.	LIN.FT.	LIN.FT.	LIN.FT.	LIN.FT.	LIN.FT.	LIN.FT.	LIN.FT.	LIN.FT.	LIN.FT.	LIN.FT.	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	LIN.FT.	CU.YD.	LIN.FT.	
1 ℄ 05=97'	H-1 STA. 56+32		.07				23								100	320	40	50	35							15							1		1710	23		
2 ℄ 05=97'	H-1 STA. 56+51		.07				24								100	360	90		35							16							1		1390	24		
3 ℄ 05=100'	H-1 STA. 59+11		.09				15	5							200	215	35	28	37							13							1		1990	19		
4 ℄ 05=97'	H-1 STA. 59+50		.07				24								170	200	250		34							16							1		1160	24		
5 ℄ 05=101'	H-1 STA. 60+61		.07				5	8							80	115	60	20	50							8						1			2070	12		
6 ℄ 05=100'	H-1 STA. 62+47		.07											60	60	105	15	15	71				16										1		2370	12		
7 ℄ 05=100'	H-1 STA. 62+69		.06		11									258	33	98	36	66									11						1		2270	18		
8 ℄ 05=100'	H-1 STA. 62+90		.06		17									34	68	102	238	119	27									34					1		2290	22		
9 ℄ 05=100'	H-1 STA. 63+97		.04											30	30	60	75	60	87				18										1		2340	13		
10 ℄ 05=100'	H-1 STA. 64+71		.06				3							203	92	43	39	66						3			11						1		2390	17		
11 ℄ 05=100'	H-1 STA. 65+57		.06		10									34	68	102	125											19				1			320	12		
12 ℄ 05=100'	H-1 STA. 65+90		.06				18								80	80	160	120	60							12							1		430	19		
13 ℄ 05=45'	PLANTATION DR STA. 7+91		.07				19	2						38	61	80	80	58	60			120		3		8							1		230	14		
14 ℄ 05=45'	PLANTATION DR STA. 7+75		.06				21					80			77	117	65	20	100	24						14							1		150	15		
15 ℄ 05=24'	RAMP NW STA. 5+94		.06				21							288	19	57	83	126	94					3			16						1		3440	25		
16 ℄ 05=101'	H-1 STA. 67+76		.06				24							299	106	91	142	62	69					3			19						1		750	29		
17 ℄ 05=19'	RAMP NW STA. 6+51		.06		17									34	68	102	238	119	25									34					1		3170	22		
18 ℄ 05=101'	H-1 STA. 68+83		.06		16									34	68	102	238	85	23									32					1		730	21		
19 ℄ 05=24'	RAMP WN STA. 00+76		.06				17							274	65	107	48	58	66								17						1		1030	25		
20 ℄ 05=19'	RAMP NW STA. 8+63		.06				16							277	66	82	71	35	58								16						1		3620	22		
21 ℄ 05=23'	RAMP NW STA. 8+38		.06				17							233	38	67	132	51	52								17						1		3970	21		
22 ℄ 05=23'	RAMP NW STA. 12+30		.06		17									34	68	102	238	119	27									34					1		3030	22		
23 ℄ 05=30'	PLANTATION DR STA. 5+64		.09				8	9							40	100	120	133	15			223				11							1		330	15		
24 ℄ 05=40'	PLANTATION DR STA. 2+87		.04				23						67		64	154	137	154	52	42		235				15							1		900	29		

DATE	REVISION
9/18/75	C.C.O. #22 (10-6-75) CHANGE IN DIRECT BURIAL CABLE LINEAL FOOTAGE

GEORGE S. WALTERS
REGISTERED PROFESSIONAL LANDSCAPE ARCHITECT
No. 2851
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

SPRINKLER SUMMARY
PACKAGE NO. 2
PEARL HARBOR INTERCHANGE
F.A.I. PROJ. NO. I-HI-1(111):14
SCALE: NONE DATE: DEC. 14, 1973

SHEET No. L-12 OF 13 SHEETS

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

109R

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(111)14	1974	110	234

SPRINKLER SUMMARY

ESTIMATED QUANTITIES

SYSTEM NO.	VALVE LOCATION	503 003 CONCRETE FOR SPRINKLER SYSTEM (CU.YD.)	503 201 CONCRETE OTHER THAN BRIDGES (CU.YD.)	616 065 1/2-INCH RIGID STL. PIPE AND/OR P.V.C. PIPE CONDUIT (LIN.FT.)	616 070 1/2-INCH GALVANIZED STEEL PIPE OR POLYETHYLENE PIPE (LIN.FT.)	616 100 1/2-INCH GALVANIZED STEEL PIPE (LIN.FT.)	616 101 3/4-INCH GALVANIZED STEEL PIPE (LIN.FT.)	616 102 1-INCH GALVANIZED STEEL PIPE (LIN.FT.)	616 113 1/4-INCH COPPER PIPE (LIN.FT.)	616 114 1/2-INCH COPPER PIPE (LIN.FT.)	616 115 2-INCH COPPER PIPE (LIN.FT.)	616 116 2 1/2-INCH COPPER PIPE (LIN.FT.)	616 117 3-INCH COPPER PIPE (LIN.FT.)
25 ℄ OS = 44'	PLANTATION DR. STA. 2+82		.07			11	5						
26 ℄ OS = 25'	RAMP WN STA. 3+00		.06			23							
27 ℄ OS = 25'	RAMP WN STA. 3+63		.06			21							
28 ℄ OS = 26'	RAMP WN STA. 4+28		.06		16								
29 ℄ OS = 25'	RAMP WN STA. 6+27		.06			15							
30 ℄ OS = 33'	RAMP NW STA. 14+74		.06			14							
31 ℄ OS = 25'	RAMP WN STA. 8+06		.06			14							
32 ℄ OS = 36'	RAMP NW STA. 17+00		.06			15							
33 ℄ OS = 24'	RAMP WN STA. 9+05		.06			24							
34 ℄ OS = 23'	RAMP WN STA. 9+71		.06		17								
35 ℄ OS = 46'	RAMP WN STA. 10+11		.06		13								
36 ℄ OS = 31'	RAMP NW STA. 15+00		.06		12								
37 ℄ OS = 35'	RAMP NW STA. 17+85		.06		16								
38 ℄ OS = 24'	RAMP WN STA. 11+04		.06			14				40			
39 ℄ OS = 40'	RAMP NW STA. 19+50		.06			15				48			
40 ℄ OS = 20'	MAUKA FR. RD. STA. 5+64		.07			18	3					40	
22	VALVE FROM F.A.I. PROJ. NO. I-HI-1(110):15						8						
23	VALVE FROM F.A.I. PROJ. NO. I-HI-1(110):15						11						
30	VALVE FROM F.A.I. PROJ. NO. I-HI-1(110):15						8						
31	VALVE FROM F.A.I. PROJ. NO. I-HI-1(110):15						11	3					
CONTROLLER "H"		1.8		225									
CONTROLLER "J"		1.8		55									
TOTALS		3.6	2.5	280	162	402	70	3		88	67	120	64

SYSTEM NO.	616 130 1/2-INCH GALVANIZED STEEL PIPE, COPPER PIPE, OR P.V.C. PIPE (LIN.FT.)	616 131 3/4-INCH GALVANIZED STEEL PIPE, COPPER PIPE OR P.V.C. PIPE (LIN.FT.)	616 132 1-INCH GALVANIZED STEEL PIPE, COPPER PIPE OR P.V.C. PIPE (LIN.FT.)	616 133 1 1/4-INCH GALVANIZED STEEL PIPE, COPPER PIPE, OR P.V.C. PIPE (LIN.FT.)	616 134 1 1/2-INCH GALVANIZED STEEL PIPE, COPPER PIPE, OR P.V.C. PIPE (LIN.FT.)	616 135 2-INCH GALVANIZED STEEL PIPE, COPPER PIPE OR P.V.C. PIPE (LIN.FT.)	616 136 2 1/2-INCH GALVANIZED STEEL PIPE, COPPER PIPE OR P.V.C. PIPE (LIN.FT.)	616 137 3-INCH GALVANIZED STEEL PIPE, COPPER PIPE, OR P.V.C. PIPE (LIN.FT.)	616 138 4-INCH GALVANIZED STEEL PIPE, COPPER PIPE, OR P.V.C. PIPE (LIN.FT.)	616 210 P-12 SPRINKLER HEAD (EACH)	616 222 G-12 SPRINKLER HEAD (EACH)	616 255 R (4D) SPRINKLER HEAD (EACH)	616 258 I (180) SPRINKLER HEAD (EACH)	616 259 B-10 SPRINKLER HEAD (EACH)	616 265 ST-5 SPRINKLER HEAD (EACH)	616 280 CONTROLLER, AUTOMATIC 10-STATION MINIMUM (EACH)	616 282 CENTRAL AUTOMATIC CONTROLLER 48-STATION MINIMUM (EACH)	616 284 1 1/4-INCH ELECTRIC CONTROL VALVE W/ TYPE A VALVE BOX (EACH)	616 285 1 1/2-INCH ELECTRIC CONTROL VALVE W/ TYPE A VALVE BOX (EACH)	616 286 2-INCH ELECTRIC CONTROL VALVE W/ TYPE A VALVE BOX (EACH)	616 289 DIRECT BURIAL CABLES (LIN.FT.)	616 STRUCTURE EXCAVATION FOR SPRINKLER LATERALS (CU.YD.)	616 304 PUSHING AND INSERTING 2-INCH OPEN SLEEVE (CLASS 150) (LIN.FT.)
25 ℄ OS = 44'		40	115	120	87							10						1		610	14	
26 ℄ OS = 25'		80	80	160	223	17	71					15							1	1300	24	
27 ℄ OS = 25'	225	50	35	91	98	53							21						1	1200	21	
28 ℄ OS = 26'	34	68	102	238	85	26								32					1	1330	21	
29 ℄ OS = 25'	219	68	68	40	55								15					1		1730	17	
30 ℄ OS = 33'	160	54	91	46	45								14					1		4340	15	
31 ℄ OS = 25'	170	36	84	27	67								14					1		1930	14	
32 ℄ OS = 36'	198	50	48	125	48								15					1		4570	18	
33 ℄ OS = 24'		80	80	240	200	55						16						1		1930	24	
34 ℄ OS = 23'	34	68	102	238	102	25								33					1	2060	21	
35 ℄ OS = 46'	78	78	180	26	4	80				26									1	2170	15	
36 ℄ OS = 31'	130	104	39	5	65	13				23									1	4370	13	
37 ℄ OS = 35'	34	68	102	238	85	22								32					1	4520	21	
38 ℄ OS = 24'	112	30	64	168	28								14					1		2600	15	
39 ℄ OS = 40'	168	26	41	111	51								15					1		4960	15	
40 ℄ OS = 20'		120	120	140	100	80	357					15							1	3330	34	
22			28	33	117												5					
23			29	31	126	57											7					
30			32	36	114												5					
31				96	59	147											9					
CONTROLLER "H"																				1		
CONTROLLER "J"																				1		
TOTALS	3087	3043	4394	4970	3221	1644	452	235	343	83	12	26	184	215	250	2		1	13	26	86,160	777

C.C.O. #22 (10-6-75)

DATE	REVISION
9/18/78	CHANGE IN DIRECT BURIAL CABLE LINEAL FOOTAGE

GEORGE S. WALTERS — REGISTERED PROFESSIONAL LANDSCAPE ARCHITECT No. 2851 — HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

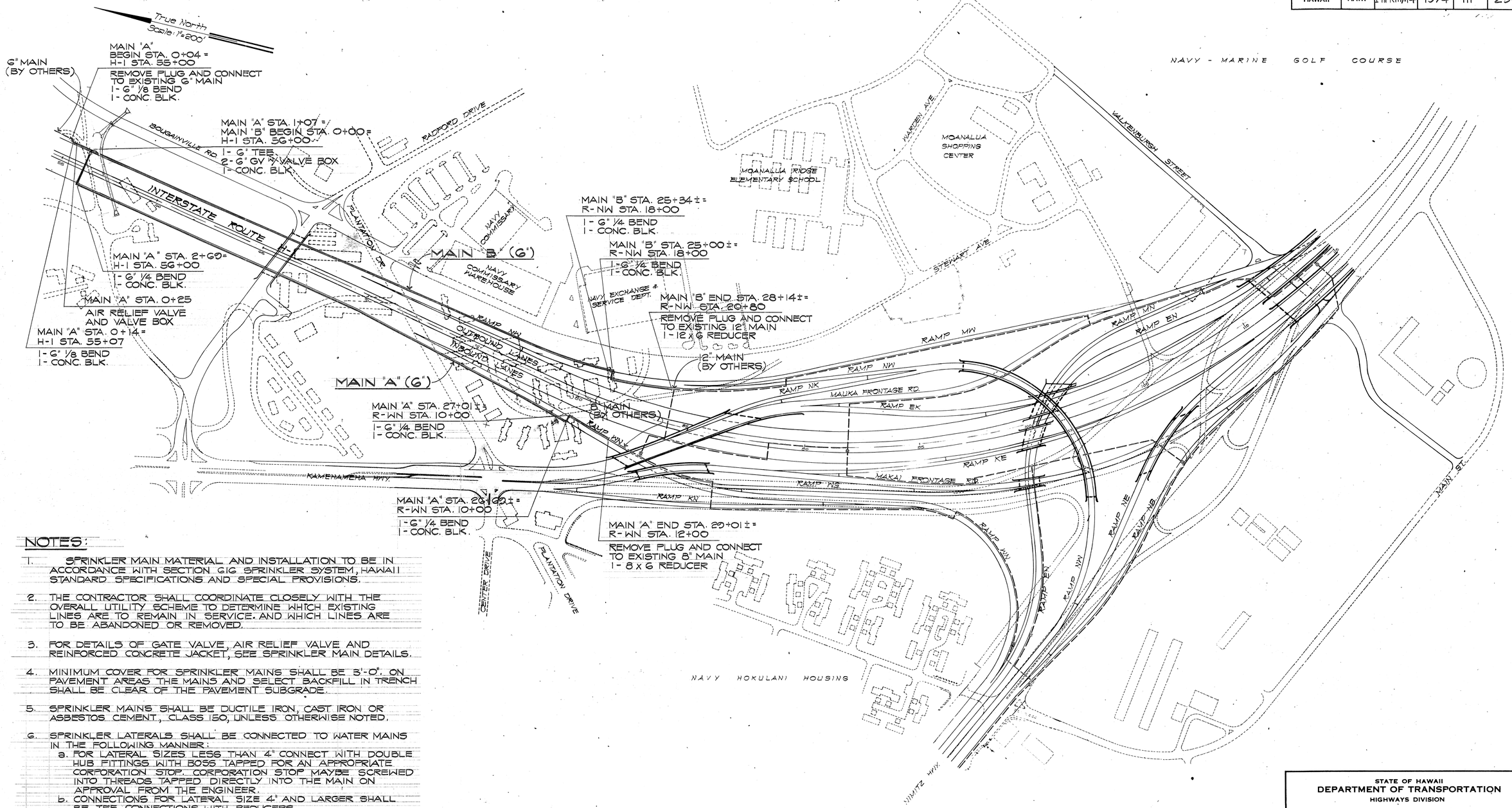
SPRINKLER SUMMARY
PACKAGE NO. 2
PEARL HARBOR INTERCHANGE
F.A.I. PROJ. NO. I-HI-1(111):14
SCALE: NONE DATE: DEC. 14, 1973

SHEET No. L-13 OF 13 SHEETS

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

110R

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(111):14	1974	111	234



NOTES:

1. SPRINKLER MAIN MATERIAL AND INSTALLATION TO BE IN ACCORDANCE WITH SECTION 616 SPRINKLER SYSTEM, HAWAII STANDARD SPECIFICATIONS AND SPECIAL PROVISIONS.
2. THE CONTRACTOR SHALL COORDINATE CLOSELY WITH THE OVERALL UTILITY SCHEME TO DETERMINE WHICH EXISTING LINES ARE TO REMAIN IN SERVICE. AND WHICH LINES ARE TO BE ABANDONED OR REMOVED.
3. FOR DETAILS OF GATE VALVE, AIR RELIEF VALVE AND REINFORCED CONCRETE JACKET, SEE SPRINKLER MAIN DETAILS.
4. MINIMUM COVER FOR SPRINKLER MAINS SHALL BE 3'-0". ON PAVEMENT AREAS THE MAINS AND SELECT BACKFILL IN TRENCH SHALL BE CLEAR OF THE PAVEMENT SUBGRADE.
5. SPRINKLER MAINS SHALL BE DUCTILE IRON, CAST IRON OR ASBESTOS CEMENT, CLASS 150, UNLESS OTHERWISE NOTED.
6. SPRINKLER LATERALS SHALL BE CONNECTED TO WATER MAINS IN THE FOLLOWING MANNER:
   a. FOR LATERAL SIZES LESS THAN 4" CONNECT WITH DOUBLE HUB FITTINGS WITH BOSS TAPPED FOR AN APPROPRIATE CORPORATION STOP. CORPORATION STOP MAYBE SCREWED INTO THREADS TAPPED DIRECTLY INTO THE MAIN ON APPROVAL FROM THE ENGINEER.
   b. CONNECTIONS FOR LATERAL SIZE 4" AND LARGER SHALL BE TEE CONNECTIONS WITH REDUCERS.

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

PLAN

SCALE: 1" = 200'

GARY T. YAMAMOTO
REGISTERED PROFESSIONAL ENGINEER
No. 2997
HAWAII, U.S.A.

WILBERT T. TAKAMIYA
REGISTERED PROFESSIONAL ENGINEER
No. 1684
HAWAII, U.S.A.

Wilbert T. Takamiya

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

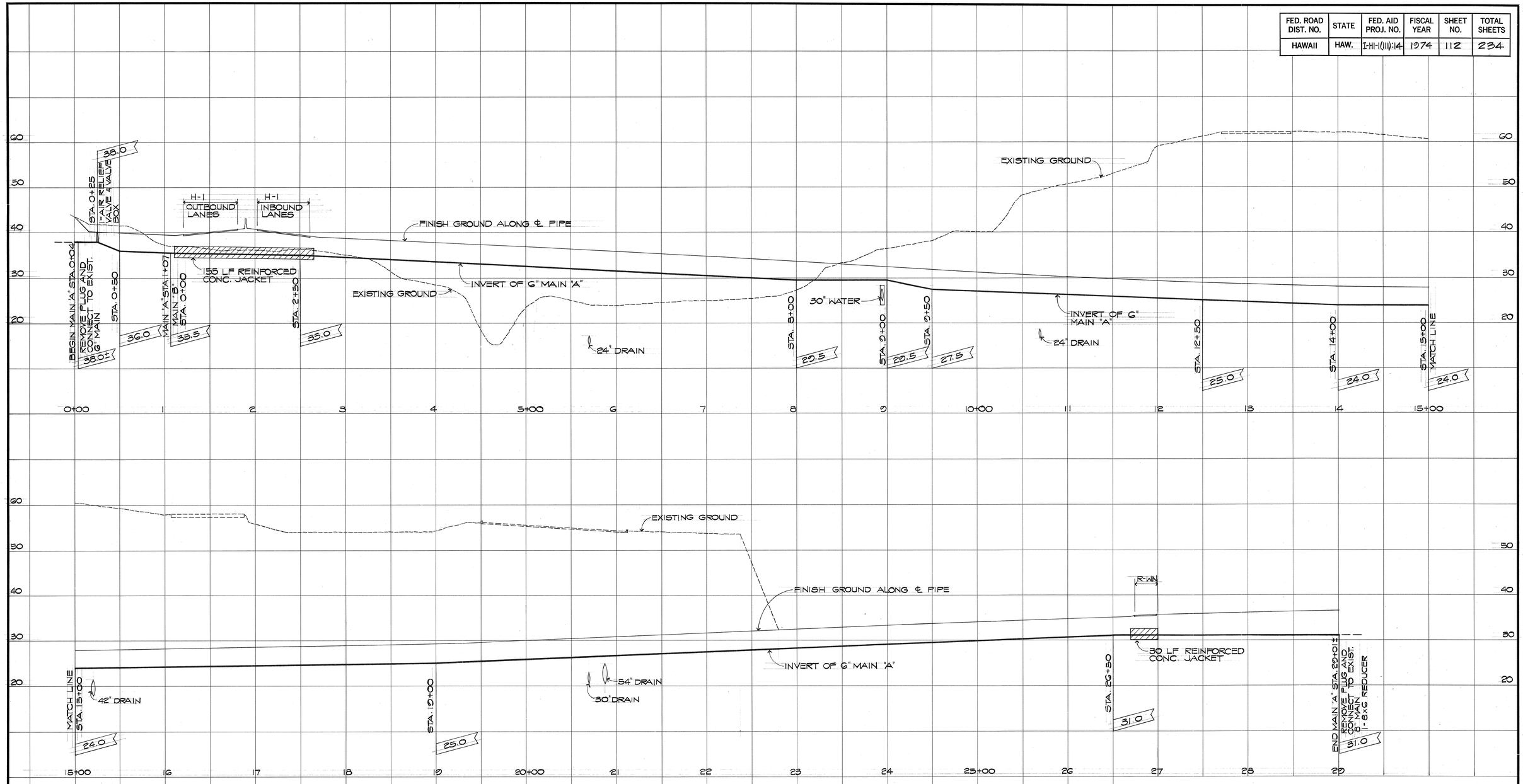
SPRINKLER MAIN GENERAL PLAN

PEARL HARBOR INTERCHANGE
F.A.I. PROJ. NO. I-HI-1(111):14

SCALE: AS SHOWN DATE: DEC. 14, 1973

SHEET No. 1 OF 4 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(III):14	1974	112	234



MAIN "A"

SCALES: HORIZ 1" = 50'
VERT 1" = 10'

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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

SPRINKLER MAIN PROFILE

PEARL HARBOR INTERCHANGE
F.A.I. PROJ. NO: I-HI-1 (III) : 14

SCALE: AS SHOWN DATE: DEC. 14, 1973

SHEET No. 2 OF 4 SHEETS

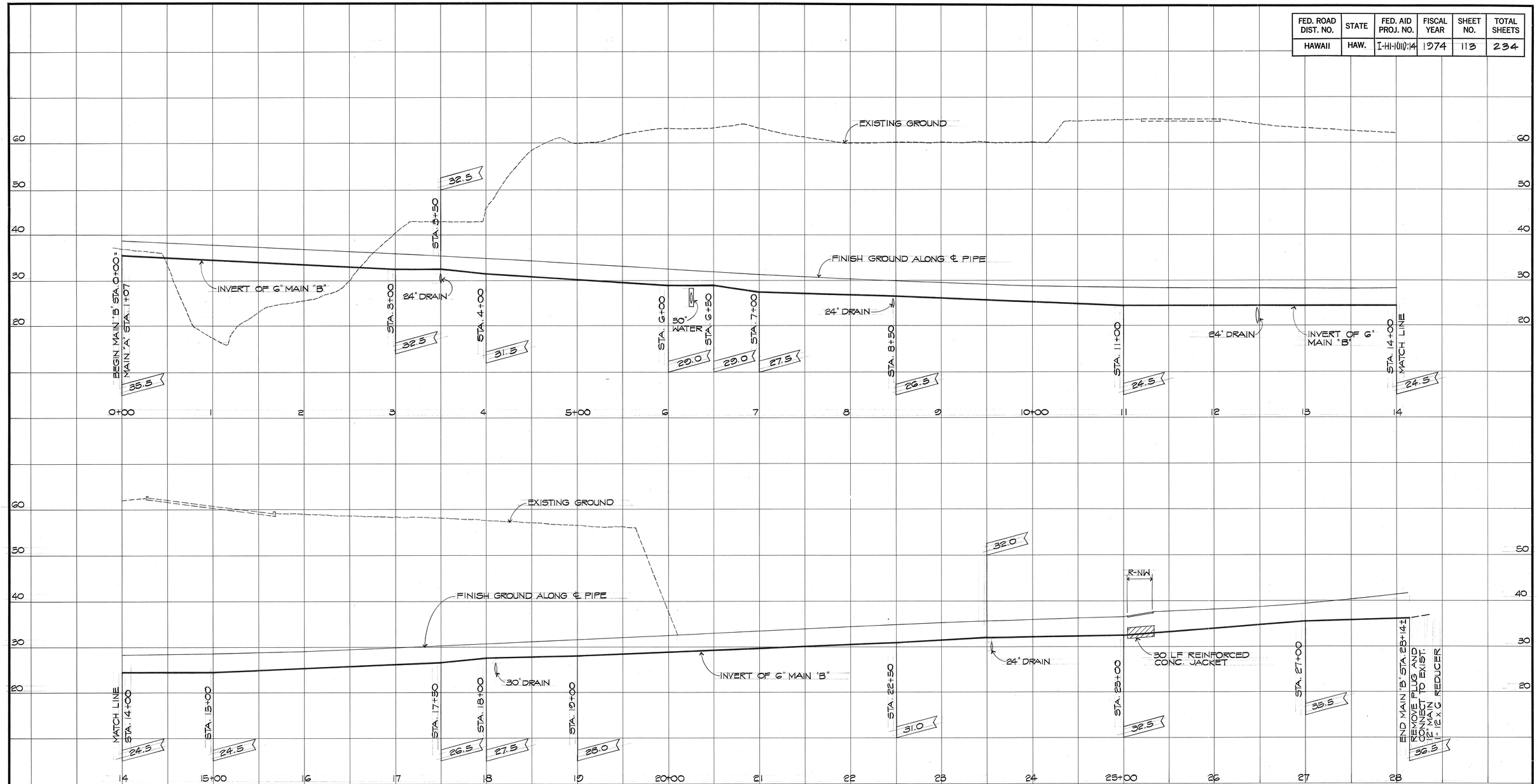
ORIGINAL PLAN		DATE
	SURVEY PLOTTED BY	
	DRAWN BY	"
	TRACED BY	"
	DESIGNED BY	"
NOTE BOOK	QUANTITIES BY	"
No.	CHECKED BY	"

112

SCALES HORIZ 1" = 50
VERT 1" = 10

1/2 MAIN "A"

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(111):14	1974	113	234



MAIN "B"

SCALES: HORIZ. 1" = 50'
VERT. 1" = 10'

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

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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

SPRINKLER MAIN PROFILE

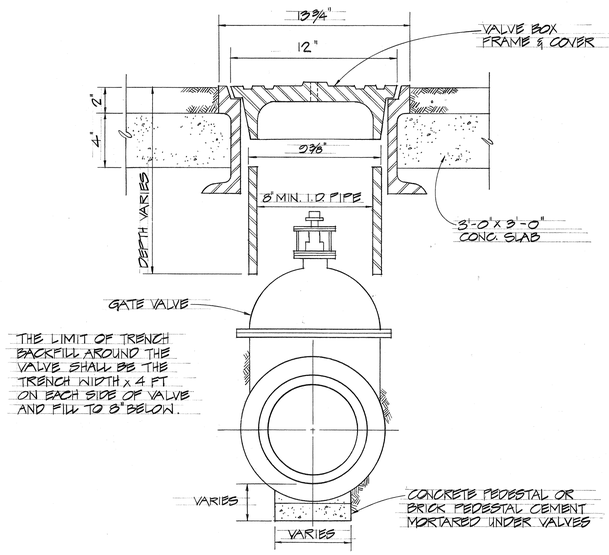
PEARL HARBOR INTERCHANGE
F.A.I. PROJ. NO: I-HI-1 (111) : 14

SCALE: AS SHOWN DATE: DEC. 14, 1973

SHEET No. 3 OF 4 SHEETS

113 MAIN B

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(III):14	1974	114	234

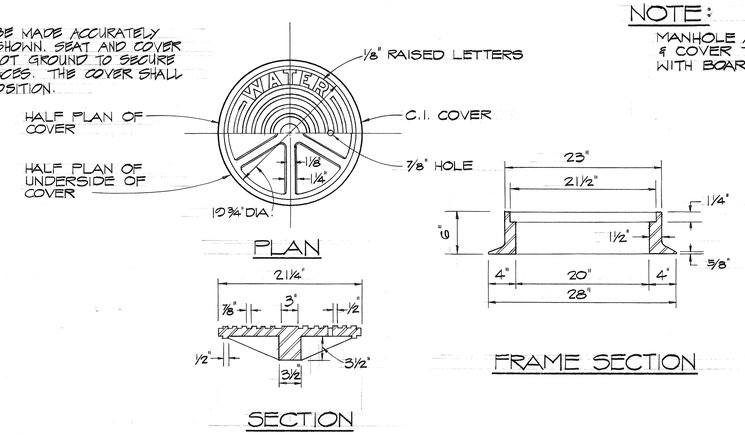


GATE VALVE AND VALVE BOX

NOT TO SCALE

NOTE:

ALL CASTINGS SHALL BE MADE ACCURATELY TO THE DIMENSIONS SHOWN. SEAT AND COVER SHALL BE MACHINED, NOT GROUND TO SECURE FLAT AND TRUE SURFACES. THE COVER SHALL NOT RATTLE IN ANY POSITION.

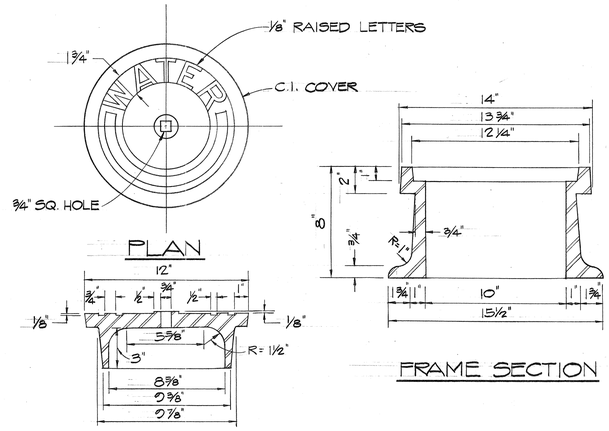


TYPICAL MANHOLE FRAME & COVER

NOT TO SCALE

NOTE:

MANHOLE AND VALVE BOX FRAME & COVER TO BE IN ACCORDANCE WITH BOARD OF WATER SUPPLY STANDARDS.

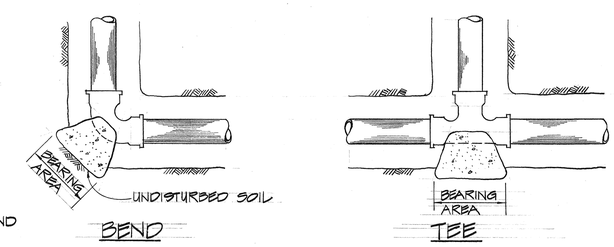


TYPICAL VALVE BOX FRAME & COVER

NOT TO SCALE

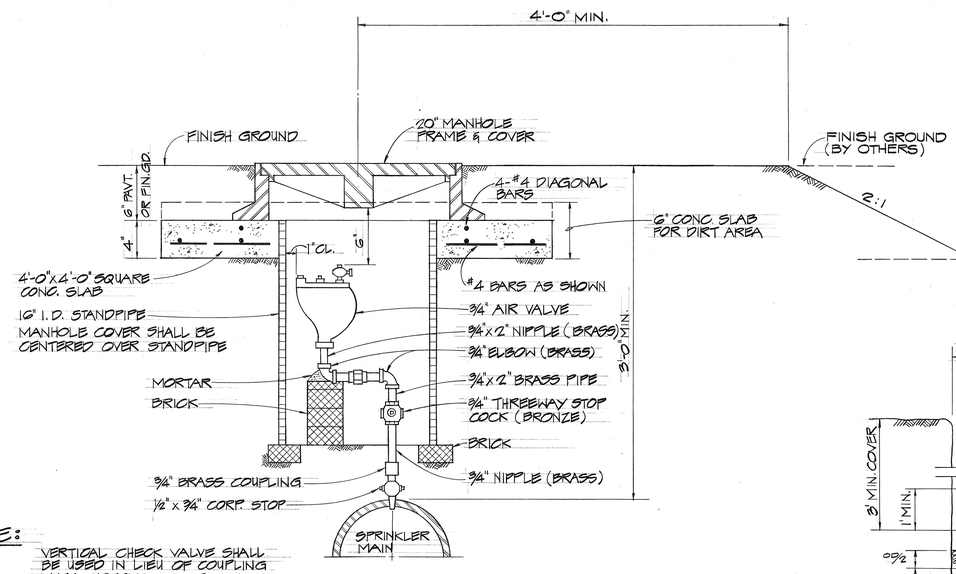
NOTE:

BEARING AREA 4 SQ. FT. MINIMUM



CONCRETE BLOCK DETAILS

(FOR HORIZONTAL BENDS)
NOT TO SCALE

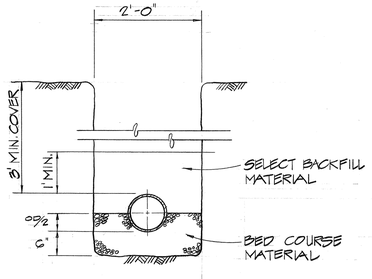


NOTE:

VERTICAL CHECK VALVE SHALL BE USED IN LIEU OF COUPLING WHEN THREEWAY STOP COCK IS IMMERSED IN WATER.

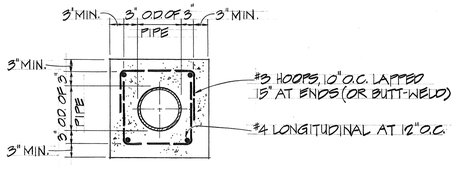
AIR RELIEF VALVE AND VALVE BOX

NOT TO SCALE



TRENCH DETAIL

NOT TO SCALE



REINFORCED CONCRETE JACKET

NOT TO SCALE

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STATE OF HAWAII
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HIGHWAYS DIVISION

SPRINKLER MAIN DETAILS

PEARL HARBOR INTERCHANGE
F.A.I. Proj. No. I-HI-1(III):14

Scale: As Shown — Date: DEC. 14, 1973

SHEET No. 4 OF 4 SHEETS

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