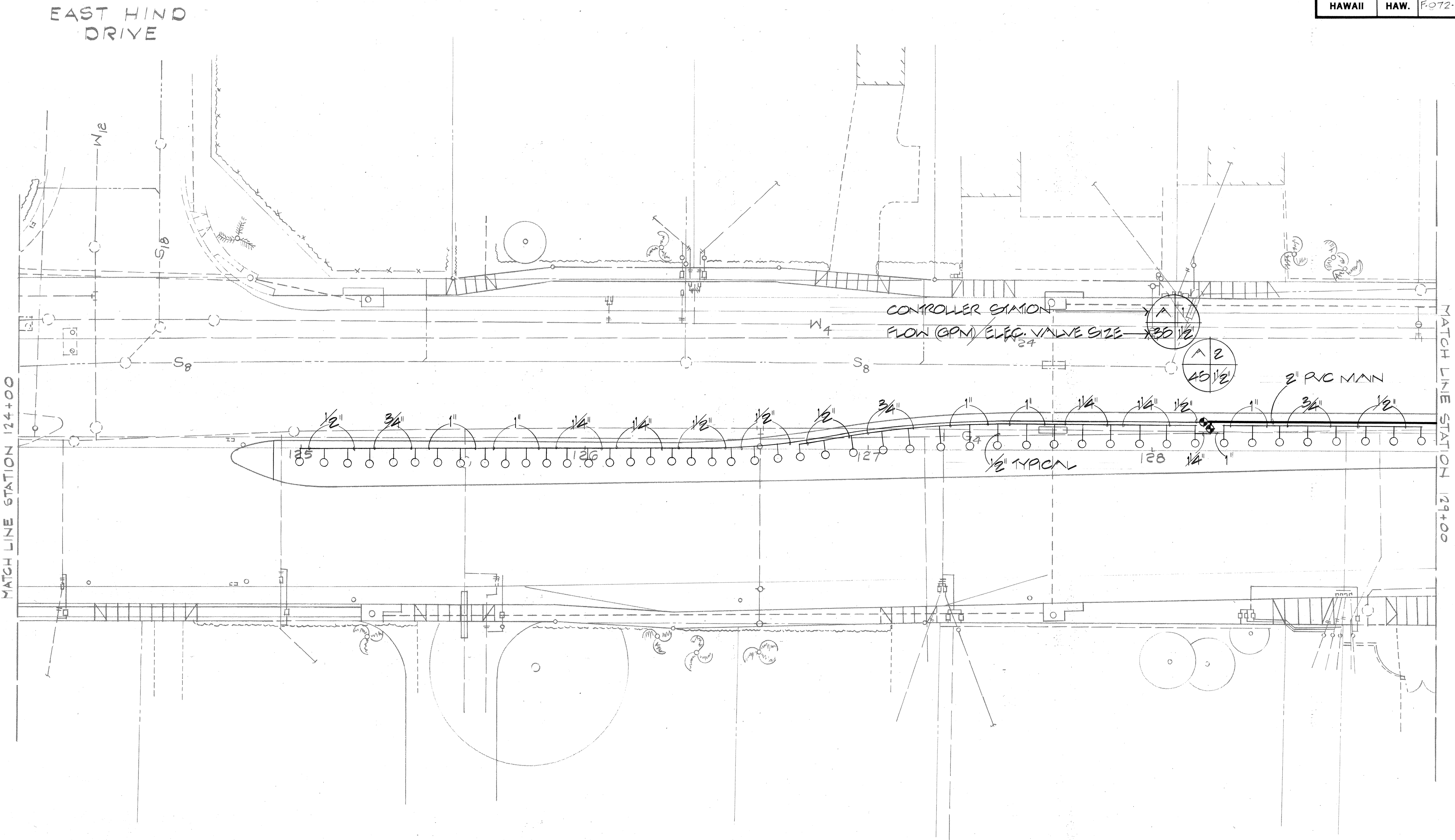


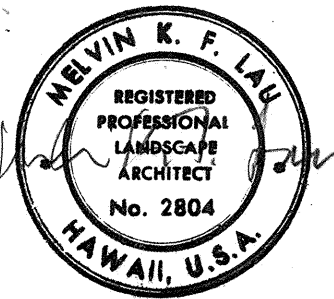
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	F-072-1(34)-B	1991	164	193



UTILITY LEGEND

---	D	DRAIN
---	FM	FORCE MAIN
---	G	GAS LINE
---	S	SANITARY SEWER
---	W	WATER LINE

PARTIAL IRRIGATION SYSTEM
(STATION 124+00 TO STATION 129+00)
SCALE: 1"=20'-0"



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

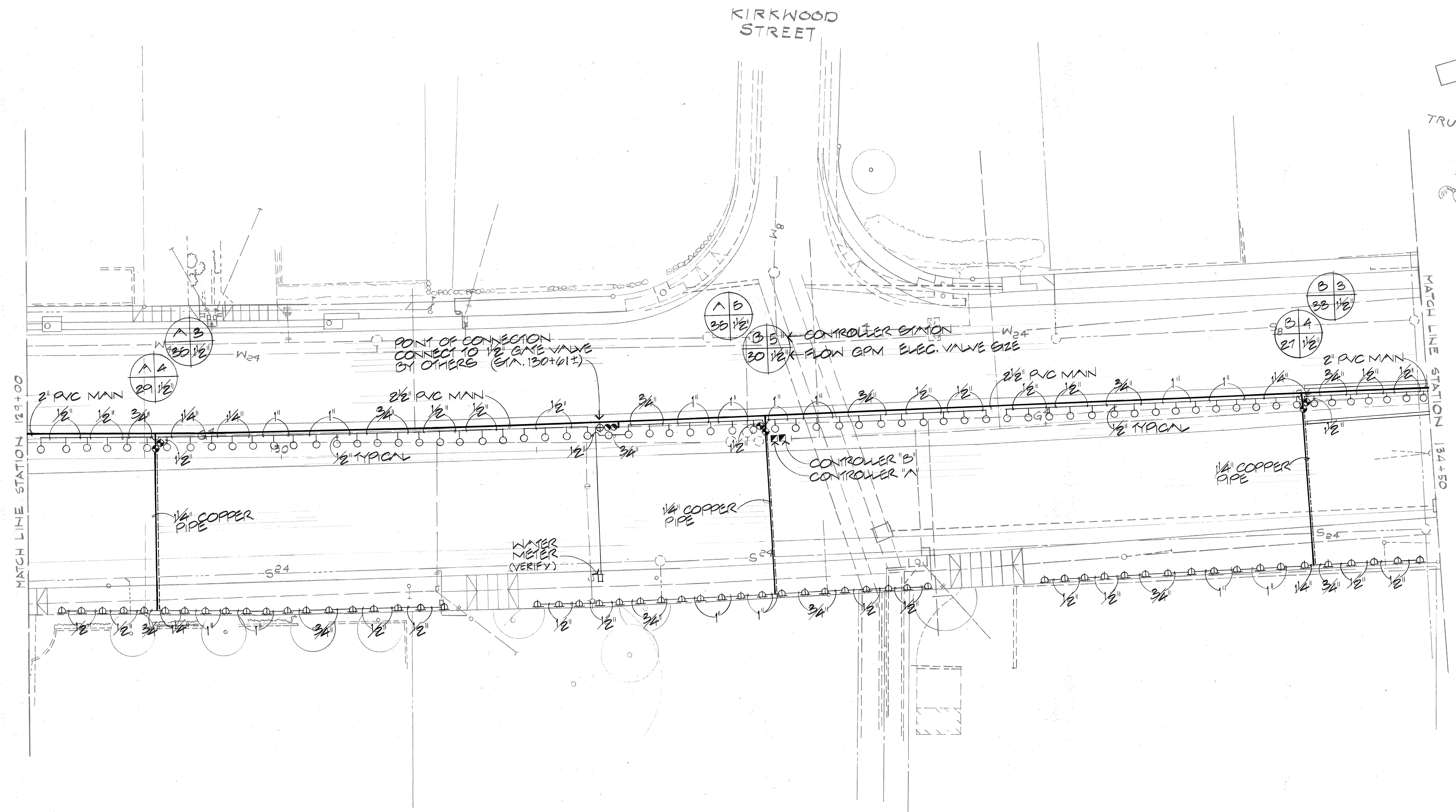
PARTIAL IRRIGATION SYSTEM
KALANIANA'OLE HIGHWAY
E. HIND DR. TO E. HALEMAUMAU ST.
F. A. PROJECT NO. F-072-1(34)-B

SCALE: 1"= 20'
DATE:

SHEET No. 164 OF 30 SHEETS

SURVEY PLOTTED BY	DATE
DRAWN BY	
TRACED BY	
CHECKED BY	
NOTED BY	
NO.	

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	F-072-1(34)-B	1991	165	193

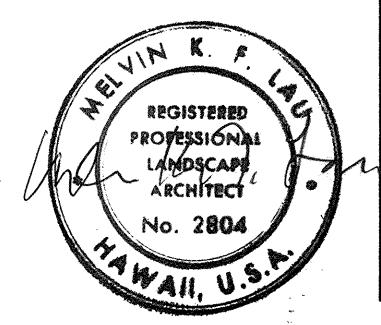


UTILITY LEGEND

---	D	---	DRAIN
---	FM	---	FORCE MAIN
---	G	---	GAS LINE
---	S	---	SANITARY SEWER
---	W	---	WATER LINE

PARTIAL IRRIGATION SYSTEM
 (STATION 129+00 TO STATION 134+50)
 SCALE: 1"=20'-0"

ORIGINAL PLAN	DATE
SURVEY PLOTTED BY	
DRAWN BY	
DESIGNED BY	
CHECKED BY	
NOTE BOOK	
NO.	



STATE OF HAWAII
 DEPARTMENT OF TRANSPORTATION
 HIGHWAYS DIVISION

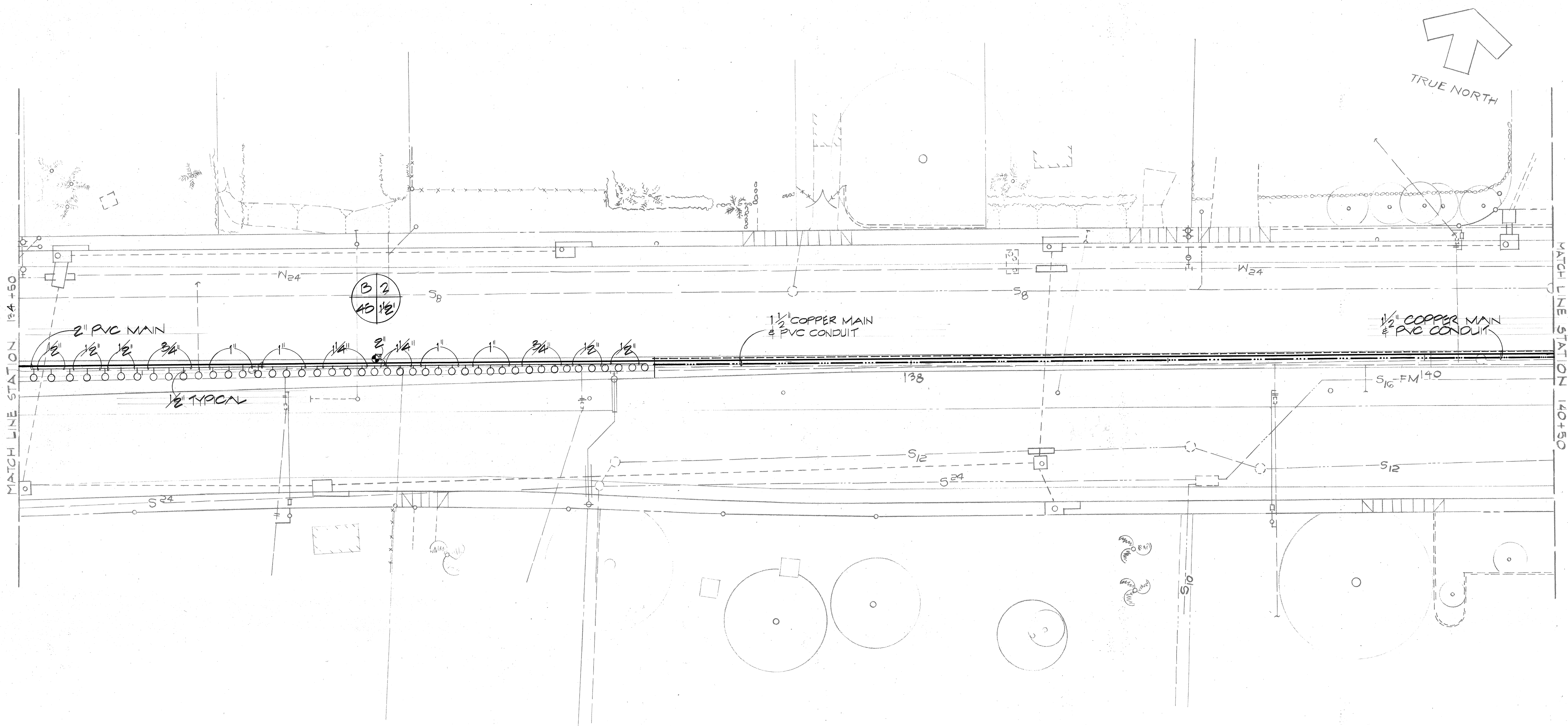
PARTIAL IRRIGATION SYSTEM

KALANIANA'OLE HIGHWAY

E. HIND DR. TO E. HALEMAUMAU ST.
 F. A. PROJECT NO. F-072-1(34)-B

SCALE: 1"=20' DATE: SHEET NO. 165 OF 193 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	F-072-1(34)-B	1991	166	193

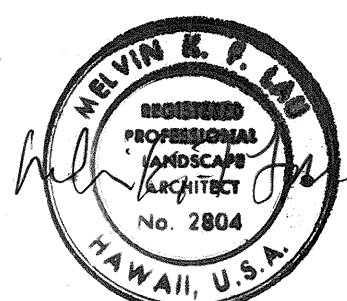


UTILITY LEGEND

---	D	---	DRAIN
---	FM	---	FORCE MAIN
---	G	---	GAS LINE
---	S	---	SANITARY SEWER
---	W	---	WATER LINE

PARTIAL IRRIGATION SYSTEM
 (STATION 134+50 TO STATION 140+50)
 SCALE: 1"=20'-0"

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
NOTED BY	DRAWN BY	
NOTED BY	TRACED BY	
NOTED BY	QUANTITIES BY	
NOTED BY	CHECKED BY	
NOTED BY		
NOTED BY		
NOTED BY		
NOTED BY		
NOTED BY		



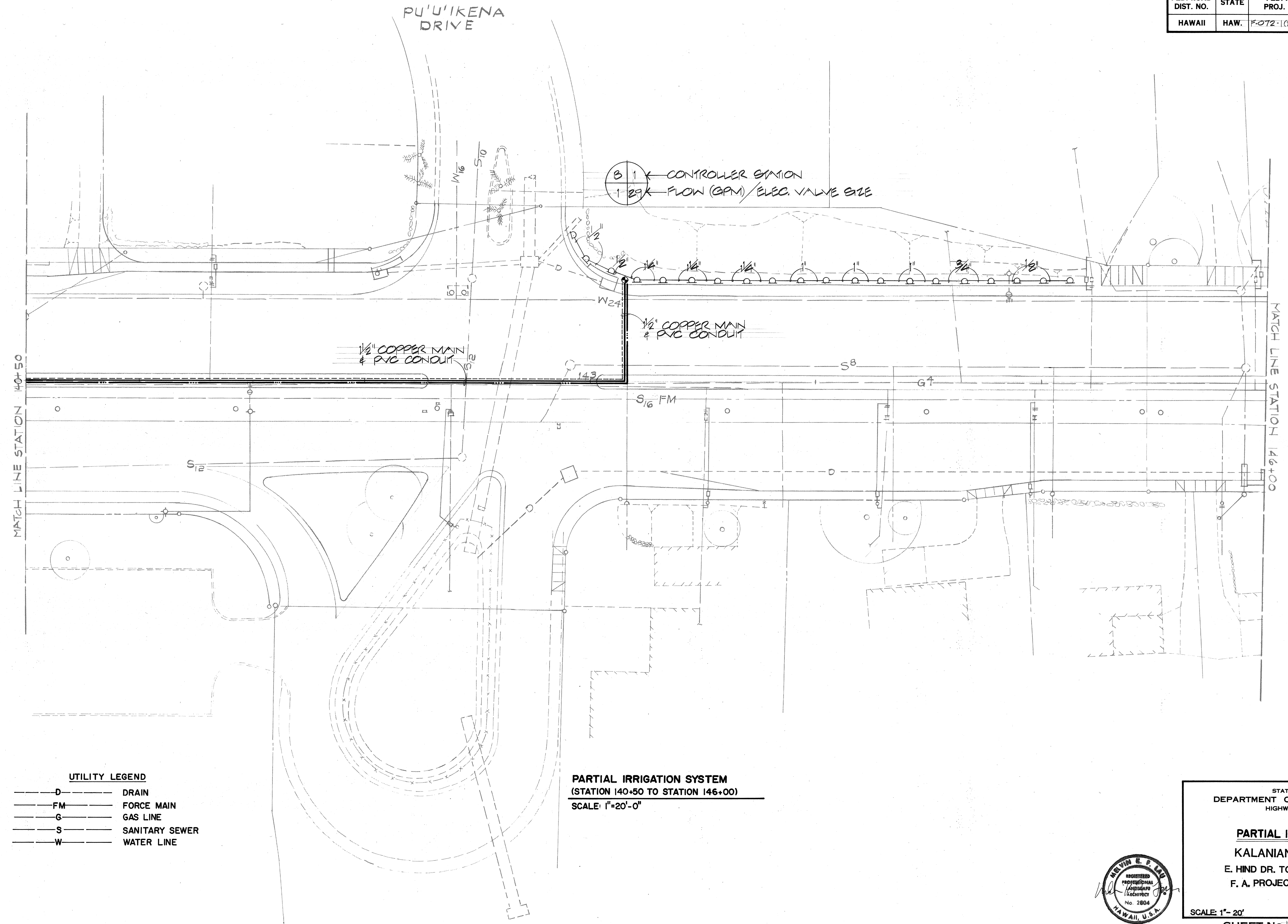
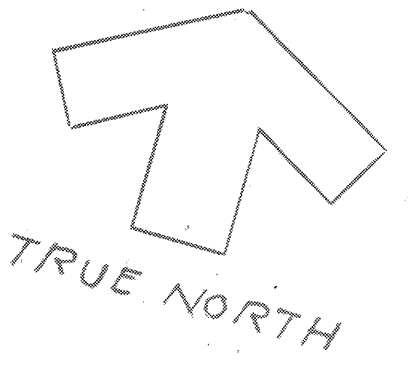
STATE OF HAWAII
 DEPARTMENT OF TRANSPORTATION
 HIGHWAYS DIVISION

PARTIAL IRRIGATION SYSTEM
KALANIANA'OLE HIGHWAY
 E. HIND DR. TO E. HALEMAUMAU ST.
 F. A. PROJECT NO. F-072-1(34)-B

SCALE: 1"= 20' DATE: _____

SHEET No. 166 OF 30 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	F-072-1(34)-B	1991	167	193

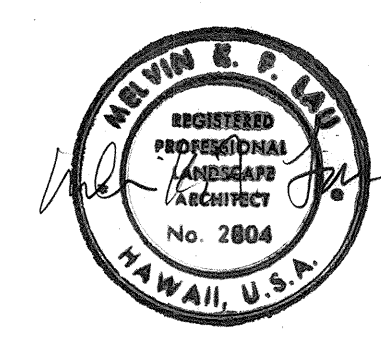


UTILITY LEGEND

— D —	DRAIN
— FM —	FORCE MAIN
— G —	GAS LINE
— S —	SANITARY SEWER
— W —	WATER LINE

PARTIAL IRRIGATION SYSTEM
 (STATION 140+50 TO STATION 146+00)
 SCALE: 1"=20'-0"

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

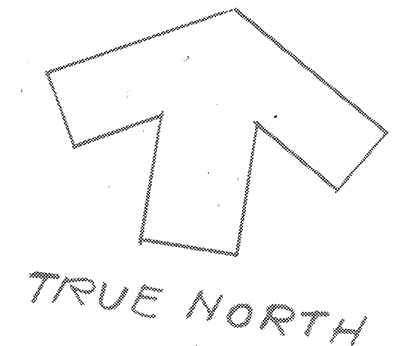
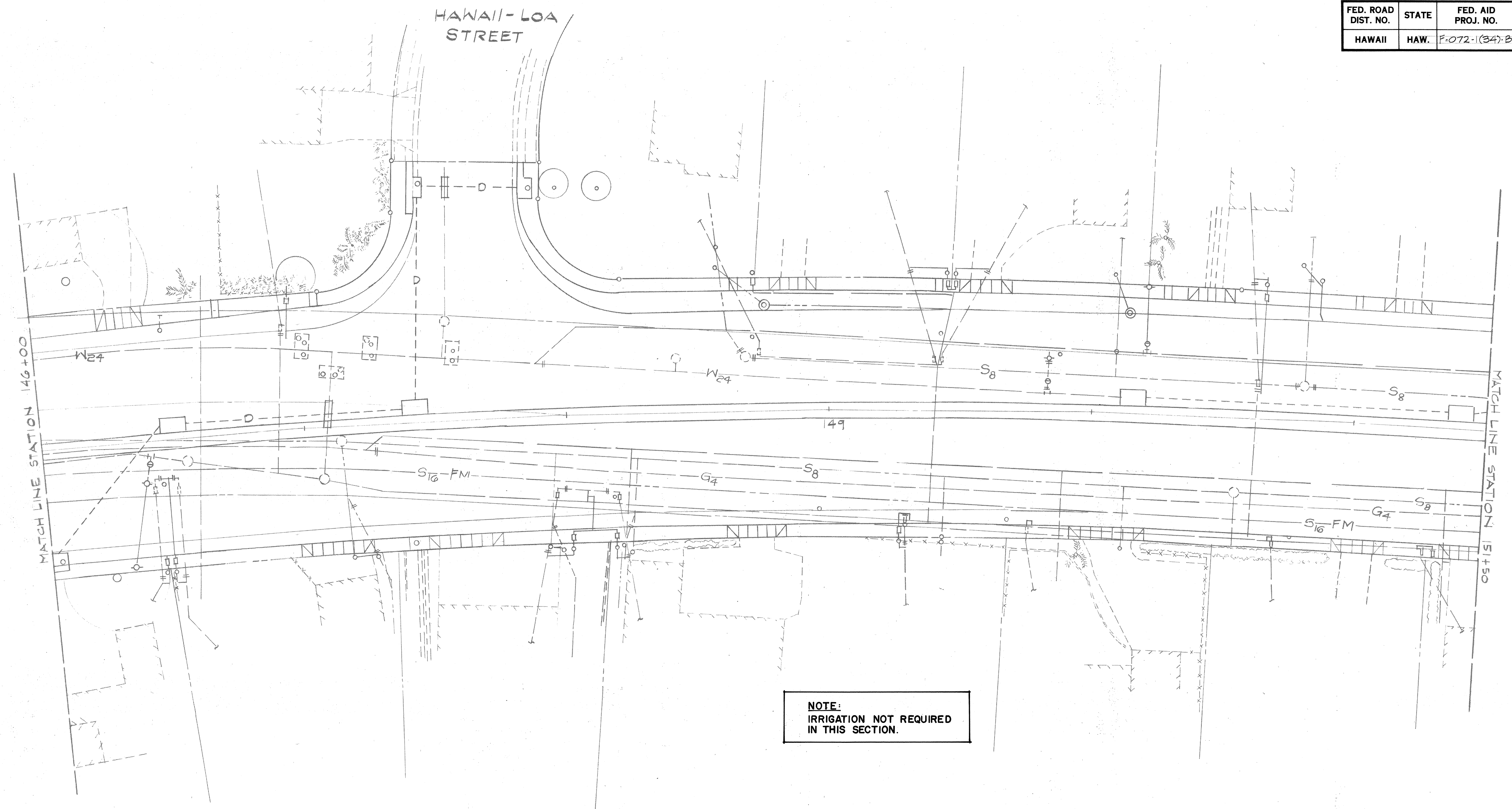


STATE OF HAWAII
 DEPARTMENT OF TRANSPORTATION
 HIGHWAYS DIVISION

PARTIAL IRRIGATION SYSTEM
 KALANIANA'OLE HIGHWAY
 E. HIND DR. TO E. HALEMAUMAU ST.
 F. A. PROJECT NO. F-072-1(34)-B

SCALE: 1"= 20' DATE: _____
 SHEET No. 167 OF 30 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	F-072-1(34)-B	1991	168	193

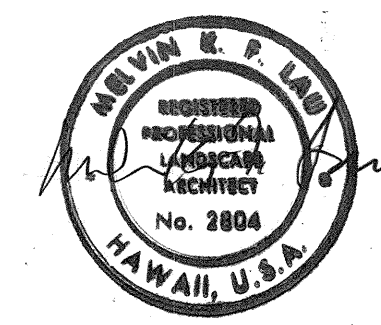


UTILITY LEGEND

---	D	DRAIN
---	FM	FORCE MAIN
---	G	GAS LINE
---	S	SANITARY SEWER
---	W	WATER LINE

PARTIAL IRRIGATION SYSTEM
 (STATION 146+00 TO STATION 151+50)
 SCALE: 1"=20'-0"

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

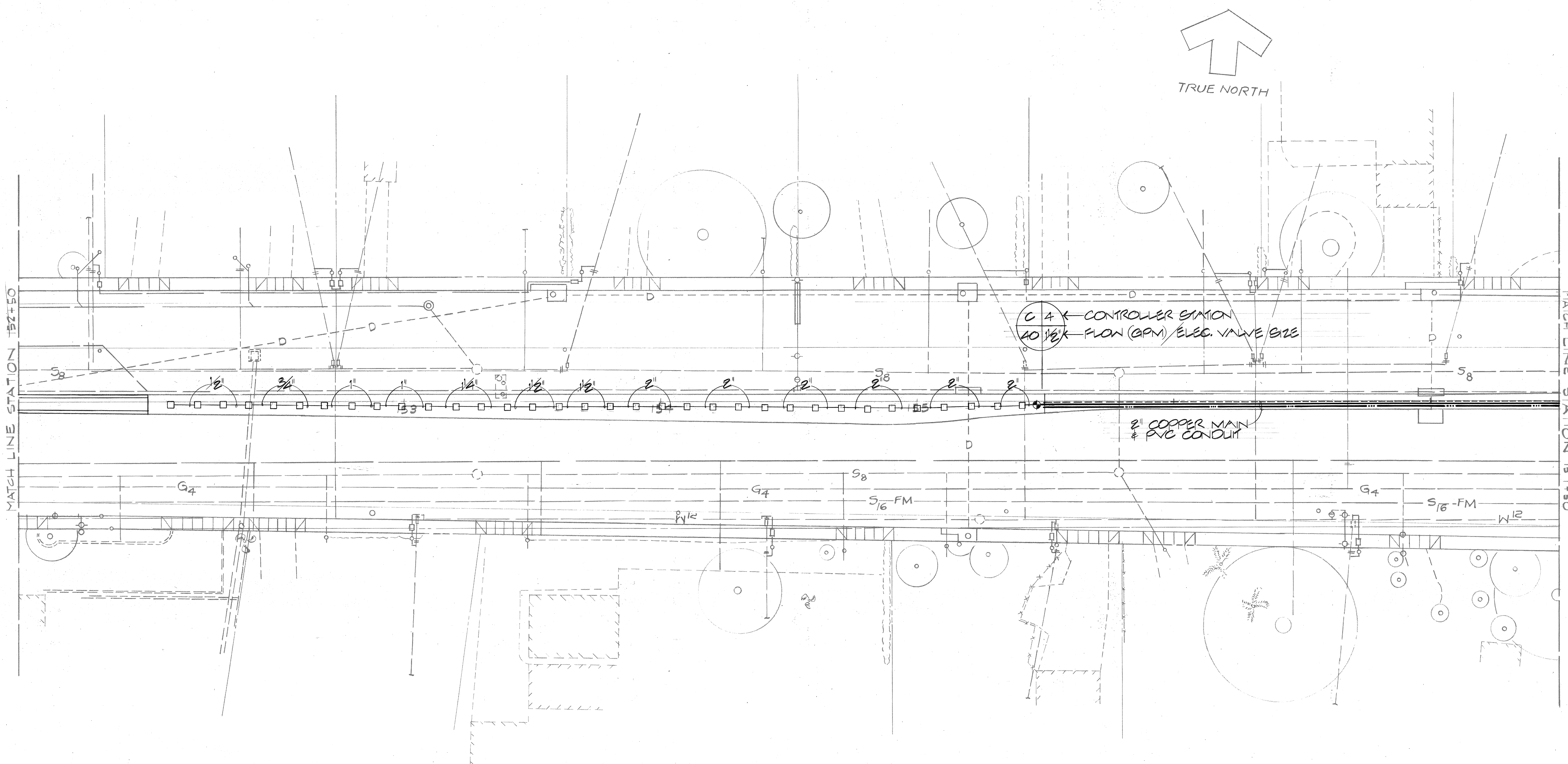


STATE OF HAWAII
 DEPARTMENT OF TRANSPORTATION
 HIGHWAYS DIVISION

PARTIAL IRRIGATION SYSTEM
 KALANIANA'OLE HIGHWAY
 E. HIND DR. TO E. HALEMAUMAU ST.
 F. A. PROJECT NO. F-072-1(34)-B

SCALE: 1"= 20' DATE: _____
 SHEET No. 168 OF 193 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	F-072-1(34)-B	1991	169	192



UTILITY LEGEND

---	D	---	DRAIN
---	FM	---	FORCE MAIN
---	G	---	GAS LINE
---	S	---	SANITARY SEWER
---	W	---	WATER LINE

PARTIAL IRRIGATION SYSTEM
 (STATION 151+50 TO STATION 157+50)
 SCALE: 1"=20'-0"

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



STATE OF HAWAII
 DEPARTMENT OF TRANSPORTATION
 HIGHWAYS DIVISION

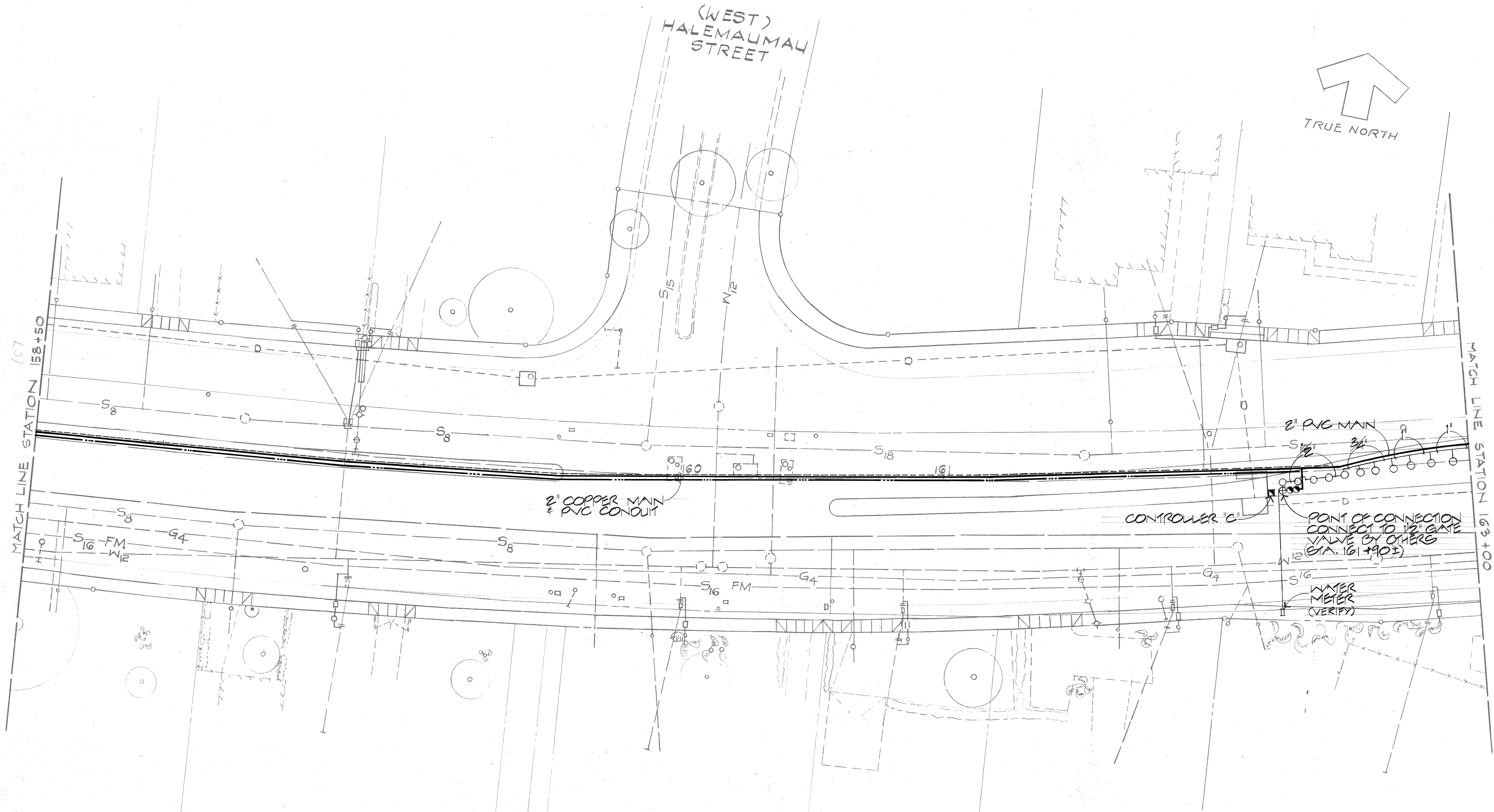
PARTIAL IRRIGATION SYSTEM

KALANIANA'OLE HIGHWAY
 E. HIND DR. TO E. HALEMAUMAU ST.
 F.A. PROJECT NO. F-072-1(34)-B

SCALE: 1"=20' DATE: _____

SHEET NO. 169 OF 30 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	F-072-1(34)-B	1991	170	193

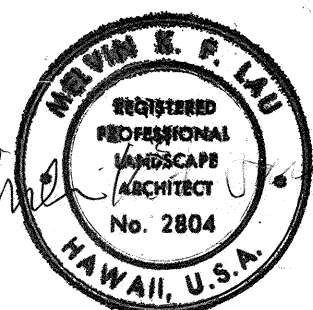


UTILITY LEGEND

- D- DRAIN
- FM- FORCE MAIN
- G- GAS LINE
- S- SANITARY SEWER
- W- WATER LINE

PARTIAL IRRIGATION SYSTEM
(STATION 157+50 TO STATION 163+00)
SCALE: 1"=20'-0"

SURVEY PLOTTED BY	DATE
DRAWN BY	
DESIGNED BY	
QUANTITIES BY	
CHECKED BY	
NO.	



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

PARTIAL IRRIGATION SYSTEM

KALANIANAʻOLE HIGHWAY

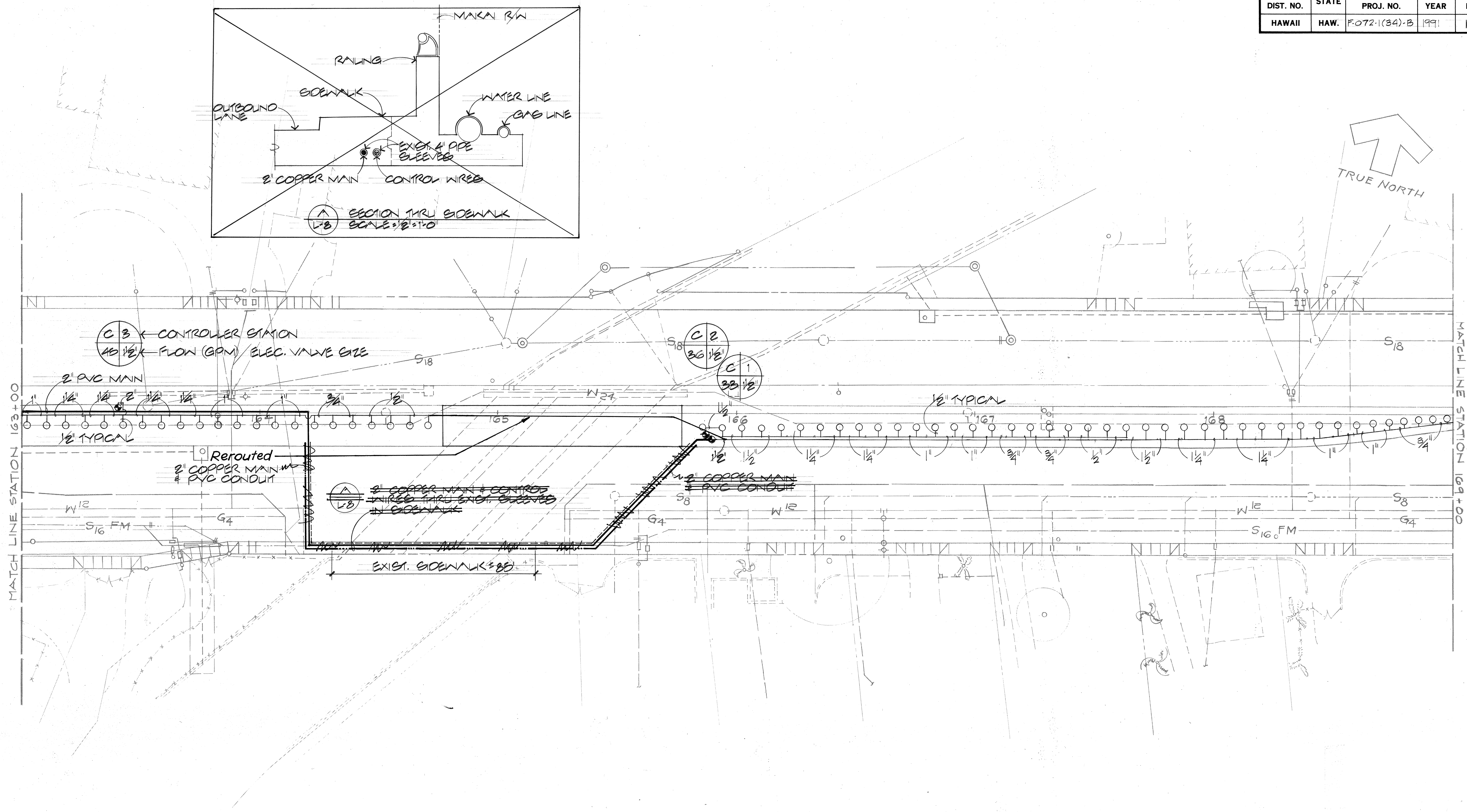
E. HIND DR. TO E. HALEMAUMAU ST.

F. A. PROJECT NO. F-072-1(34)-B

SCALE: 1"=20' DATE:

SHEET No. 17 OF 30 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	F.072-1(34)-B	1991	171	193

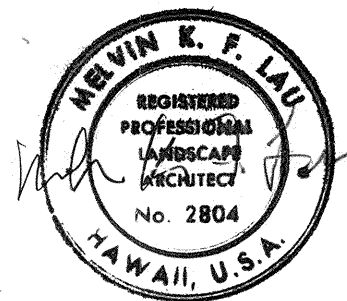


UTILITY LEGEND

---	D	DRAIN
---	FM	FORCE MAIN
---	G	GAS LINE
---	S	SANITARY SEWER
---	W	WATER LINE

PARTIAL IRRIGATION SYSTEM
(STATION 163+00 TO STATION 169+00)
SCALE: 1"=20'-0"

SURVEY PLOTTED BY	DATE
DRAWN BY	
CHECKED BY	
DESIGNED BY	
QUANTITIES BY	
CHECKED BY	
NO.	



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

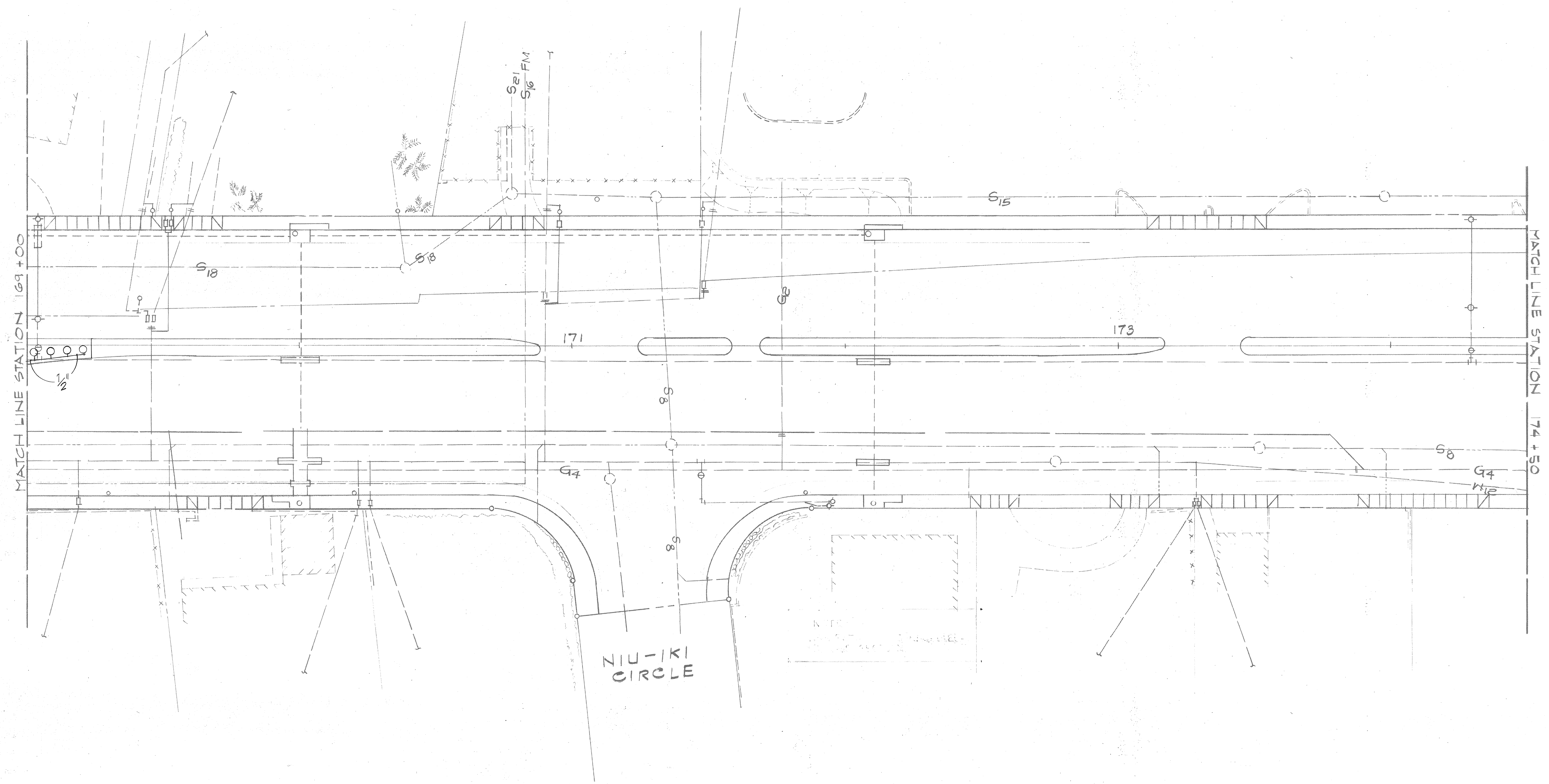
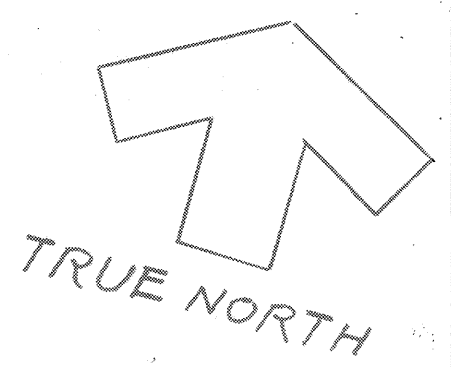
PARTIAL IRRIGATION SYSTEM

KALANIANA'OLE HIGHWAY
E. HIND DR. TO E. HALEMAUMAU ST.
F. A. PROJECT NO. F-072-1(34)-B

SCALE: 1"= 20' DATE:

SHEET NO. 171 OF 30 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	F-072-1(34)-B	1991	172	193

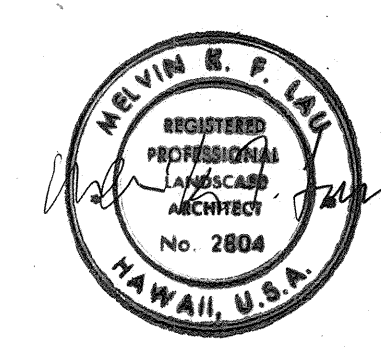


UTILITY LEGEND

—D—	DRAIN
—FM—	FORCE MAIN
—G—	GAS LINE
—S—	SANITARY SEWER
—W—	WATER LINE

PARTIAL IRRIGATION SYSTEM
 (STATION 169+00 TO STATION 174+50)
 SCALE: 1"=20'-0"

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



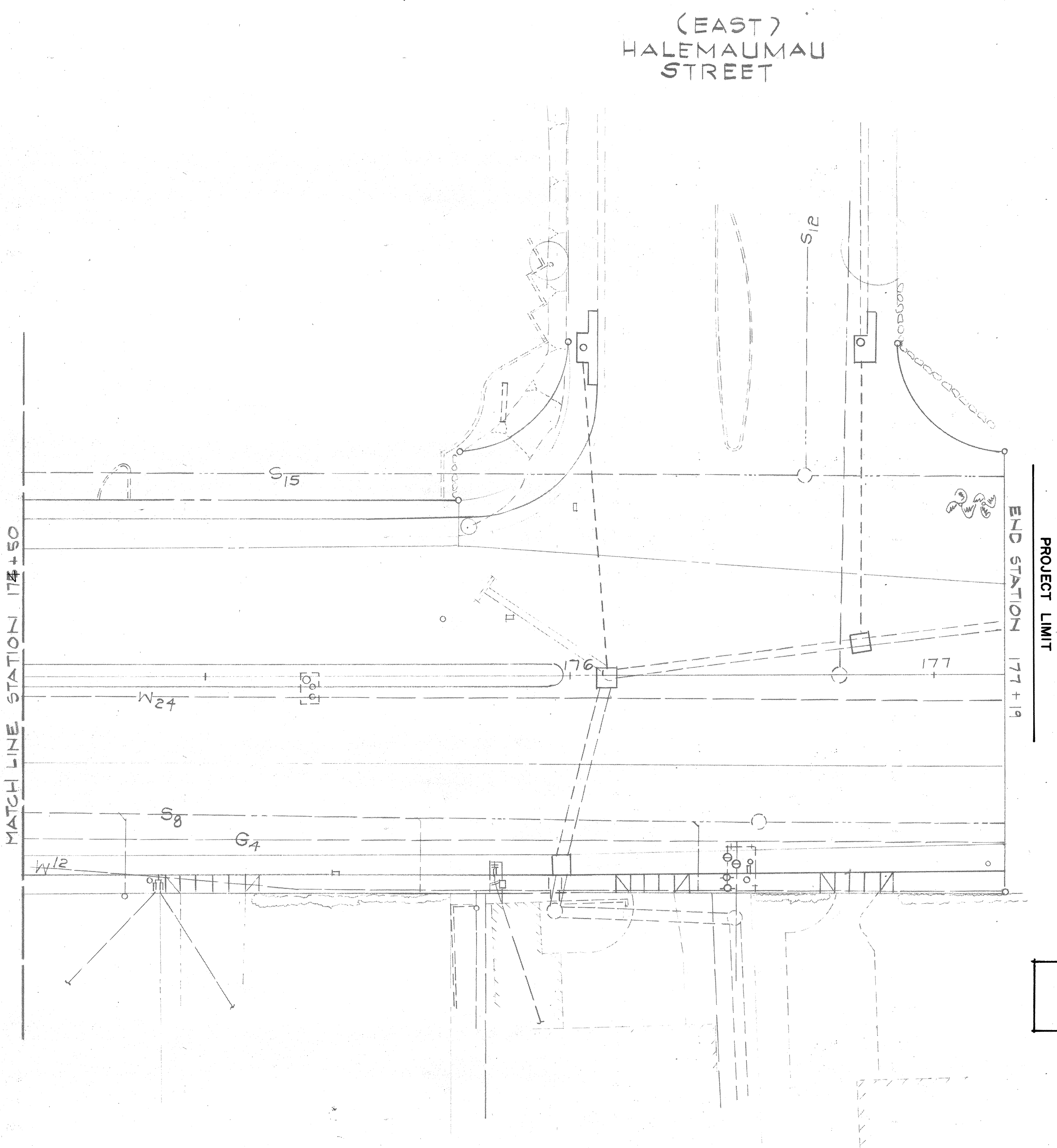
STATE OF HAWAII
 DEPARTMENT OF TRANSPORTATION
 HIGHWAYS DIVISION

PARTIAL IRRIGATION SYSTEM

KALANIANA'OLE HIGHWAY
 E. HIND DR. TO E. HALEMAUMAU ST.
 F. A. PROJECT NO. F-072-1(34)-B

SCALE: 1"= 20' DATE: _____
 SHEET No. 172 OF 193 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	F-072-1(34)-B	1991	173	193



NOTE:
IRRIGATION NOT REQUIRED
IN THIS SECTION.

UTILITY LEGEND

—D—	DRAIN
—FM—	FORCE MAIN
—G—	GAS LINE
—S—	SANITARY SEWER
—W—	WATER LINE

PARTIAL IRRIGATION SYSTEM
(STATION 174+50 TO STATION 177+19)
SCALE: 1"=20'-0"

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

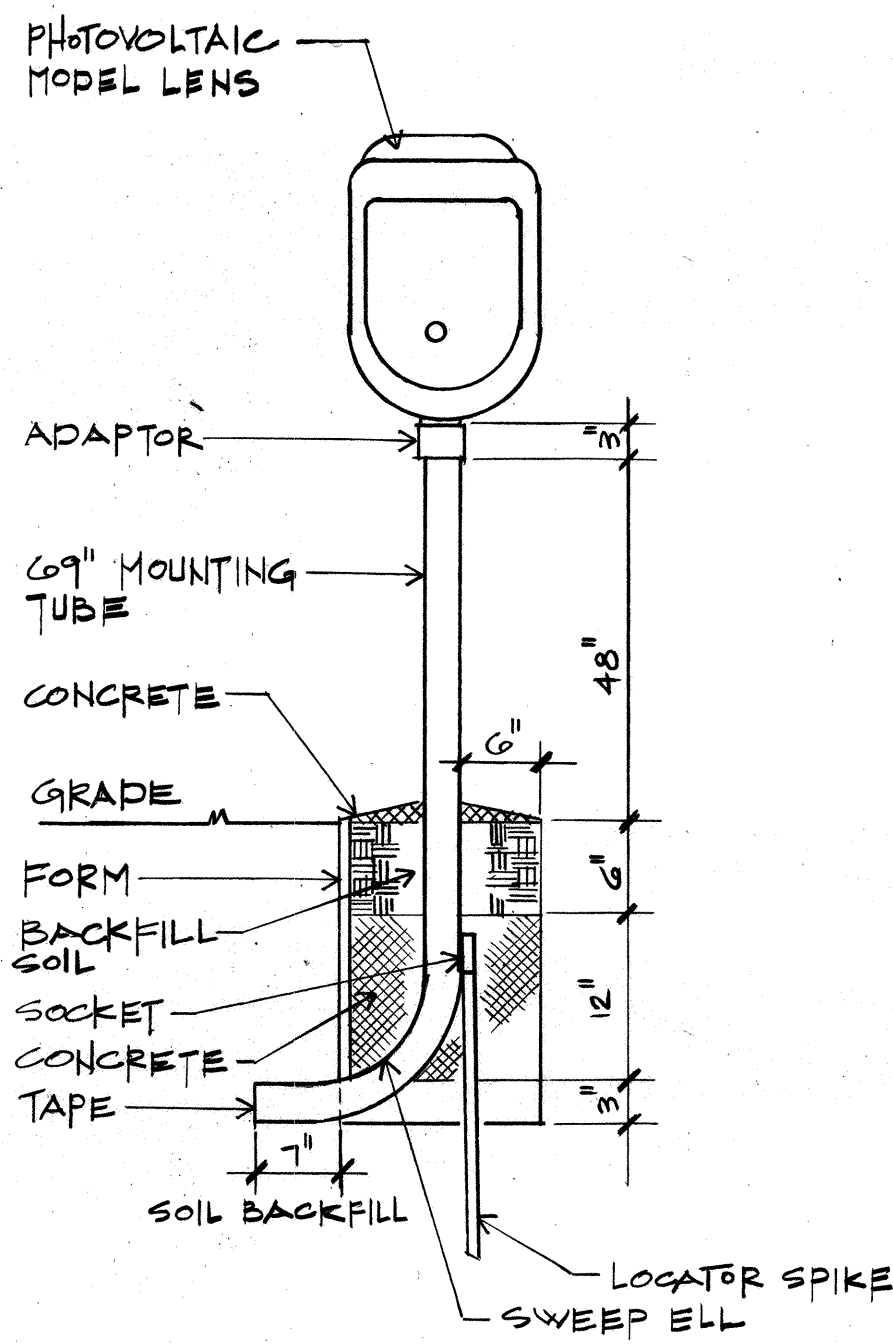


STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

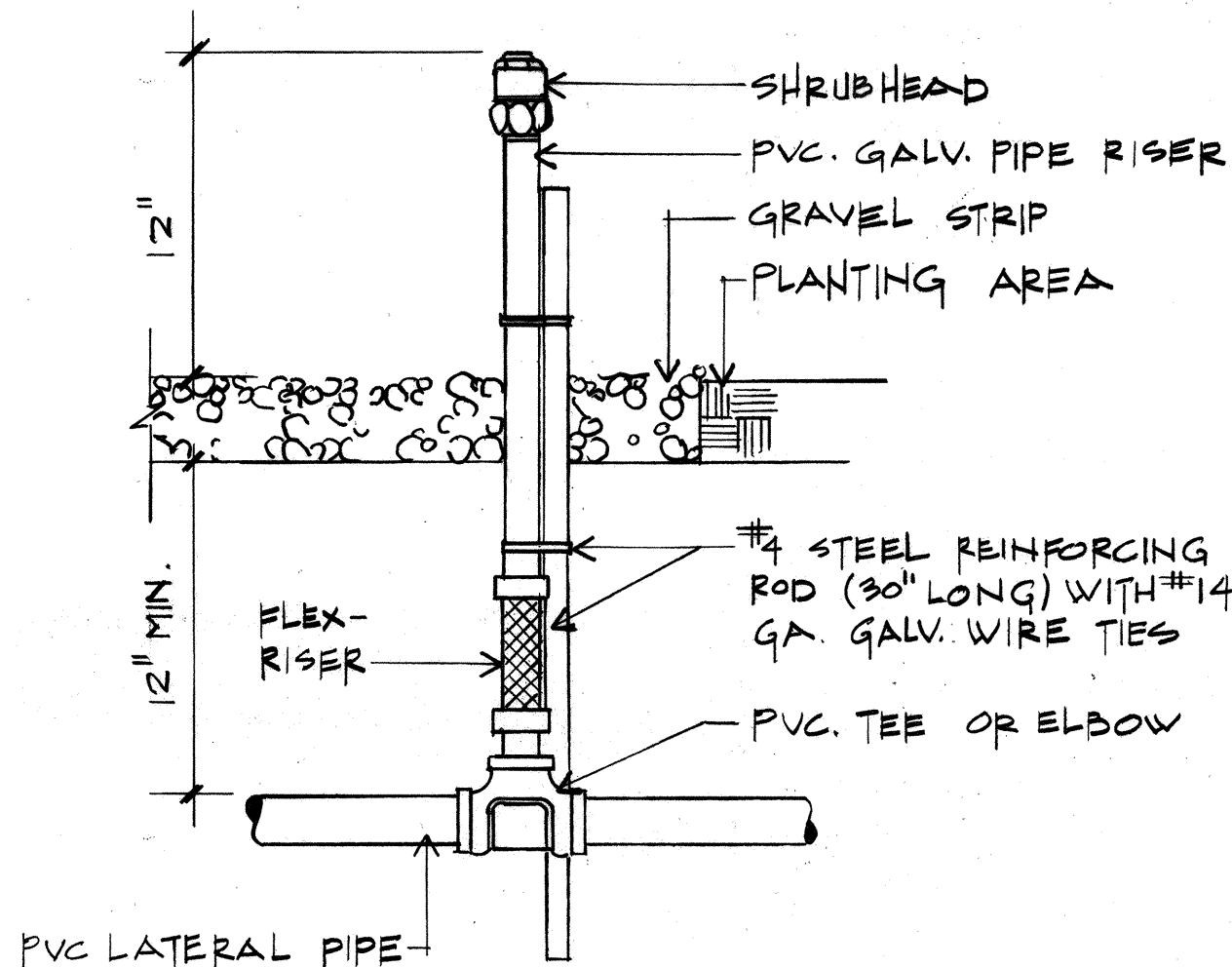
PARTIAL IRRIGATION SYSTEM
KALANIANA'OLE HIGHWAY
E. HIND DR. TO E. HALEMAUMAU ST.
F. A. PROJECT NO. F-072-1(34)-B

SCALE: 1"= 20' DATE: SHEET No. 173 OF 193

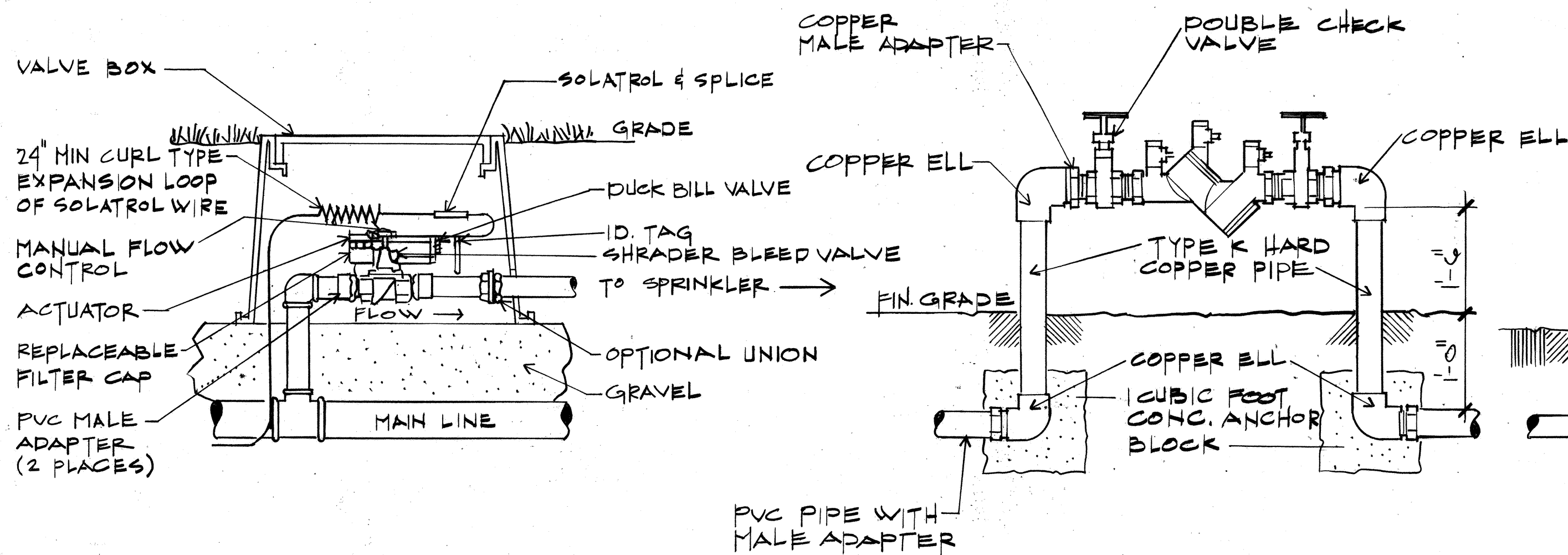
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HAWAII	HAW.	F-072-1(34)-B	1991	174	193



AUTOMATIC CONTROLLER



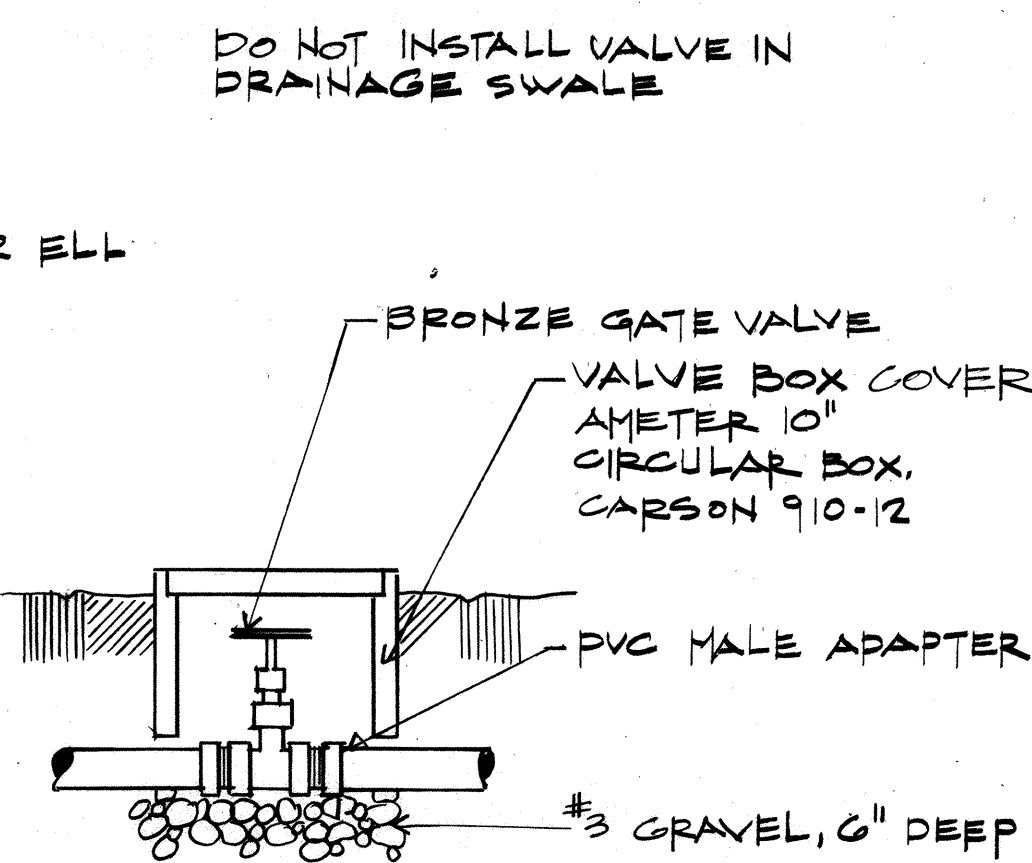
SHRUB HEAD



REMOTE CONTROL VALVE

BACKFLOW PREVENTOR

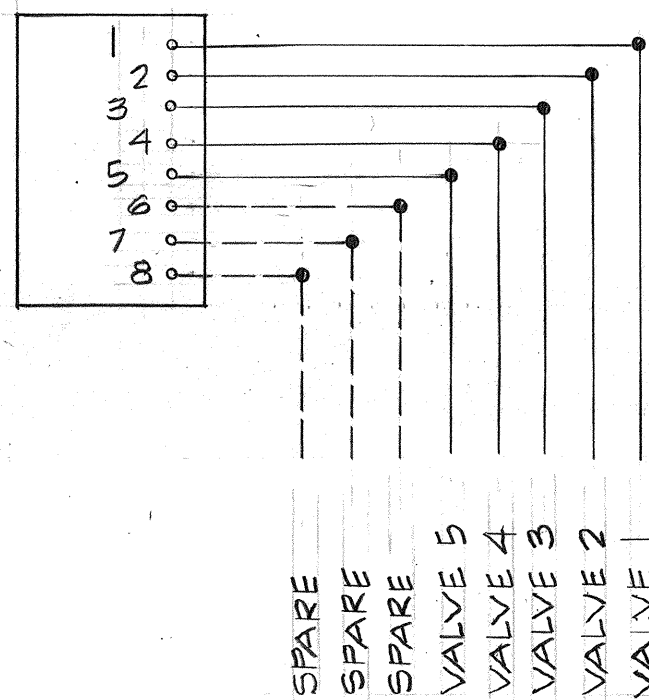
GATE VALVE



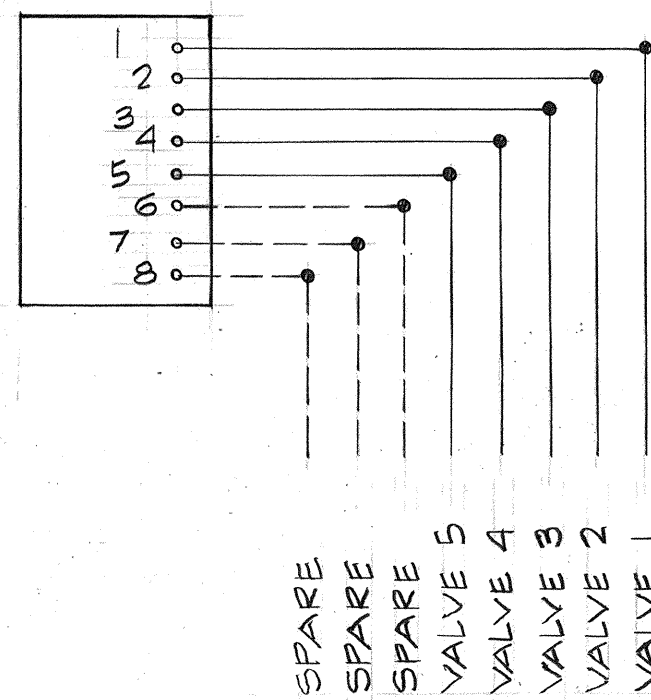
IRRIGATION DETAILS

NO SCALE

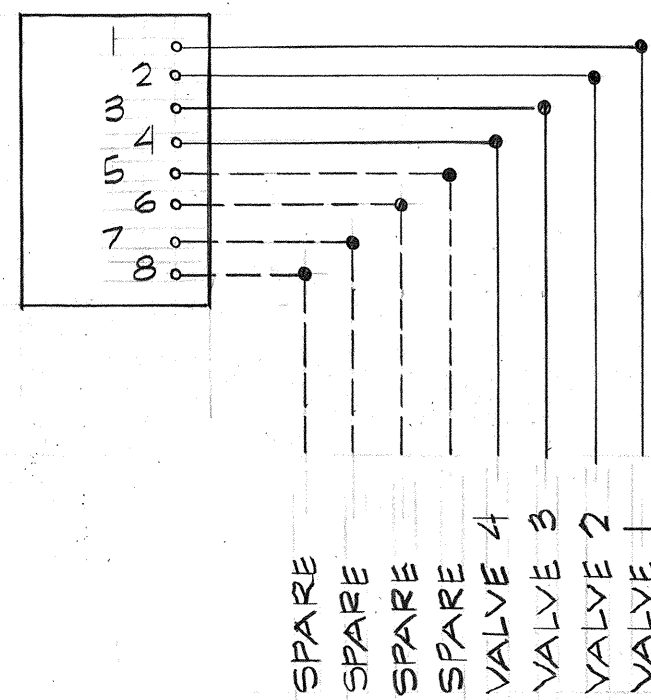
CONTROLLER "A"
STA. 131+95



CONTROLLER "B"
STA. 131+95



CONTROLLER "C"
STA. 132+23

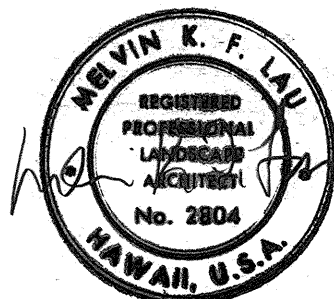


CONTROLLER WIRING DIAGRAM

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

IRRIGATION DETAILS

KALANIANA'OLE HIGHWAY
E. HIND DR. TO E. HALEMAU MAU ST.
F.A. Project No. F-072-1(34)-B
SCALE AS SHOWN DATE:
SHEET No. 174 OF 30 SHEETS

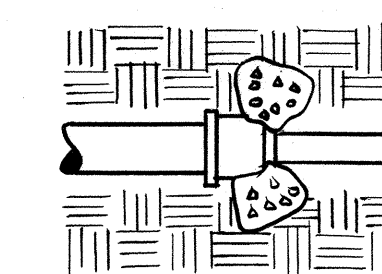
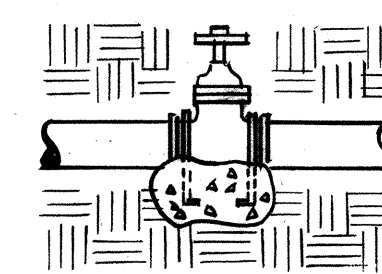
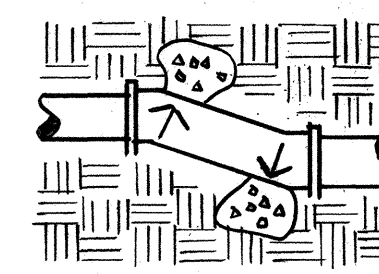
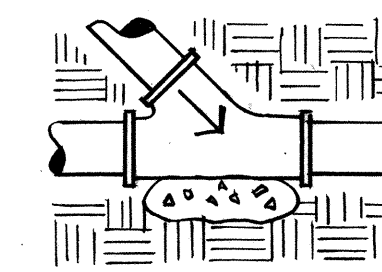
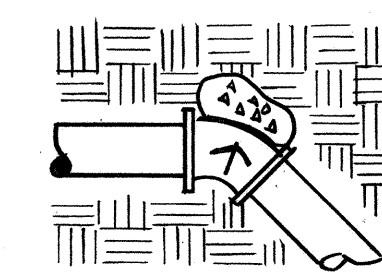
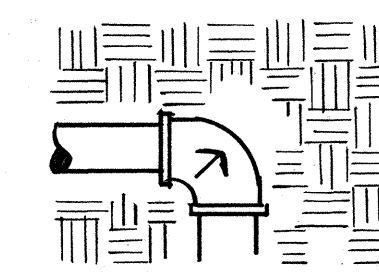
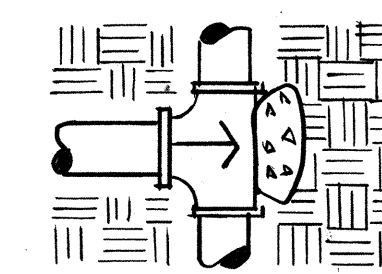
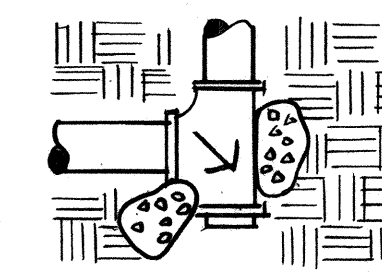
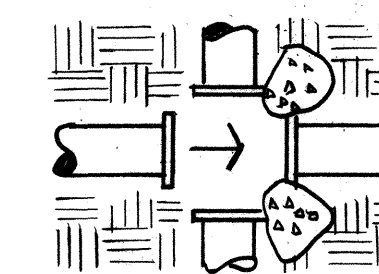


SURVEY PLOTTED BY	DATE
DRAWN BY	
TRACED BY	
QUANTITIES BY	
CHECKED BY	
ORIGINAL PLAN	
NOTE BOOK	
No.	

[illegible]

1. FINAL LOCATIONS OF VALVES, CONTROLLERS & SUPPLY LINES SHALL BE DETERMINED BY THE ENGINEER.
2. CONCRETE REACTION BLOCKS SHALL BE CLASS "B" CONCRETE
3. MINIMUM LINE SIZE BETWEEN SPRINKLER HEADS SHALL BE AS SHOWN ON THE PLANS.
4. NO ROCKS OR SHARP OBJECTS ONE INCH OR LARGER SHALL BE USED IN BACKFILL MATERIAL FOR TRENCHES
5. CONTRACTOR SHALL ADJUST ALL SPRINKLER HEADS FOR PROPER COVERAGE IF ADJUSTMENTS ARE MADE, NOTIFY ENGINEER OF SUCH ACTION.
6. LINE SIZE UP TO & INCLUDING 3" SHALL BE PVC PIPE, EXCEPT PIPE UNDER PAVED AREAS SHALL BE COPPER

7. ALL LINES UNDER ROADWAY, SIDEWALK & OTHER PAVED AREAS SHALL BE INSTALLED PRIOR TO ANY PAVING WORK.
8. ALL WIRES LOCATED UNDER ANY PAVING SHALL BE INSTALLED IN PVC SCH. 40 CONDUITS. SIZE OF CONDUITS SHALL BE DETERMINED BY THE CONTRACTOR & APPROVED BY THE ENGINEER. CONTRACTOR SHALL ALSO SUBMIT "AS-BUILT" ELECTRICAL DRAWING.
9. CONTRACTOR SHALL FURNISH & INSTALL "METALLIC SOUNDING TAPE" IN TRENCHES OF ALL MAIN LINES PER MANUFACTURERS INSTRUCTIONS.



PIPE SIZE	1/4"	1/2"	2"	2 1/2"
TEES & CROSSES	0.50	0.50	0.50	0.50
90° BEND	0.50	0.50	0.50	0.75
45° BEND	0.50	0.50	0.50	0.50

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

IRRIGATION LIST & DETAILS

KALANIANA'OLE HIGHWAY

F.A. Project No. F-072-1(34)-B

SCALE AS SHOWN DATE: _____

SHEET No. 12 OF 30 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	F-072-(134)-B	1991	176	193

* SUBMIT SPARE EQUIPMENT TO THE ENGINEER.
(VALVE BOXES NOT REQUIRED.)

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
LAND TRANSPORTATION FACILITIES DIVISION

SPRINKLER SUMMARY

KALANIANA'OLE HIGHWAY
E. HIND DR. TO E. HALEMAUMAU ST.
F.A. PROJECT NO. F-072-1(134)-B

NO SCALE DATE:

SHEET NO. 13 OF 30 SHEETS