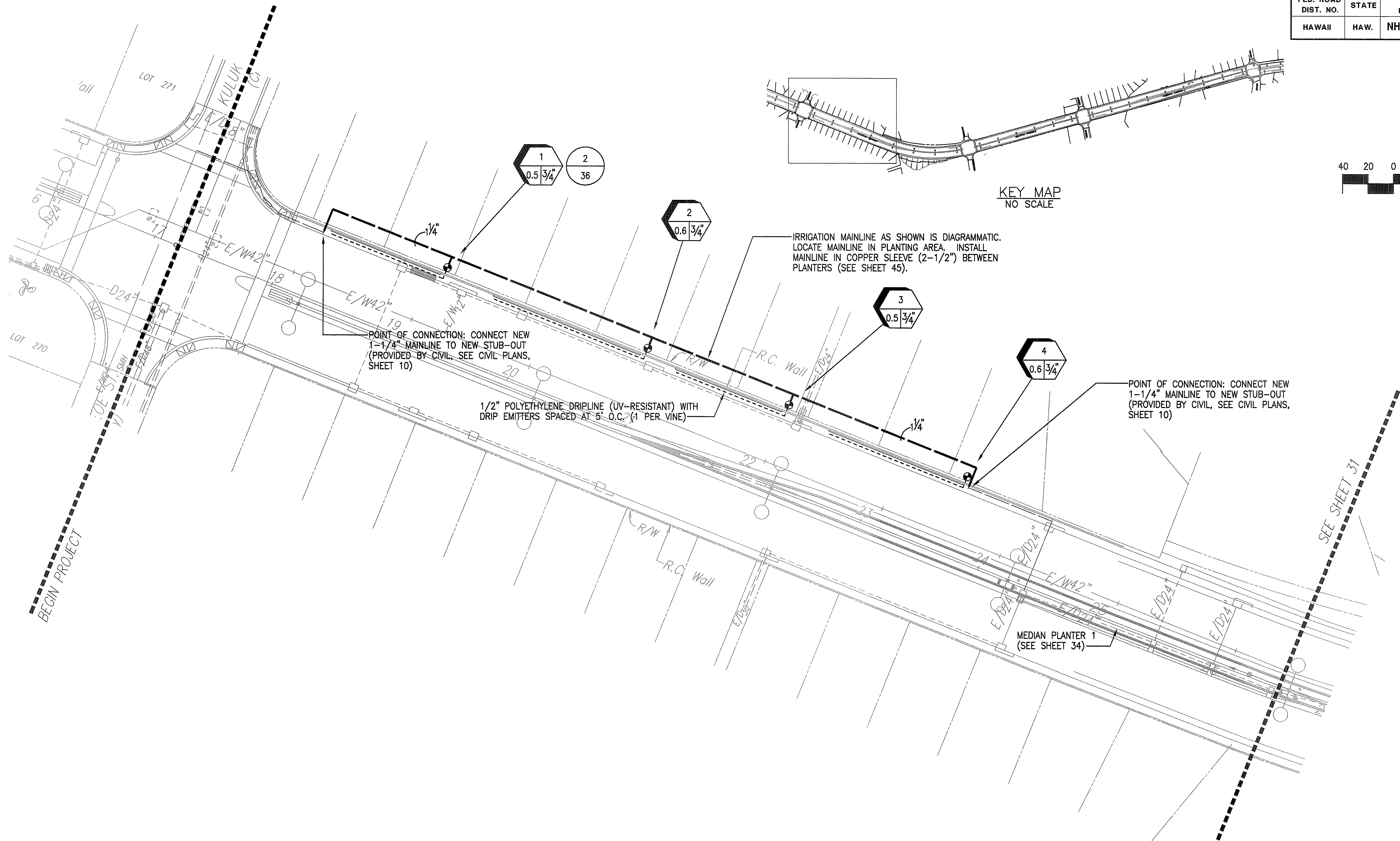
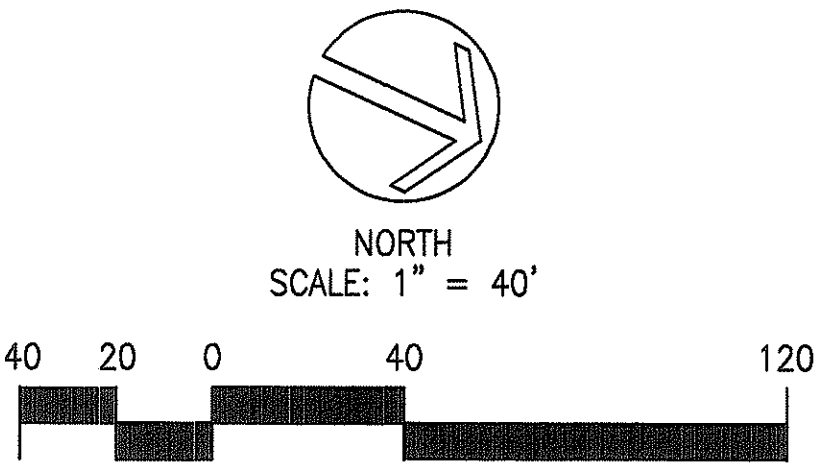
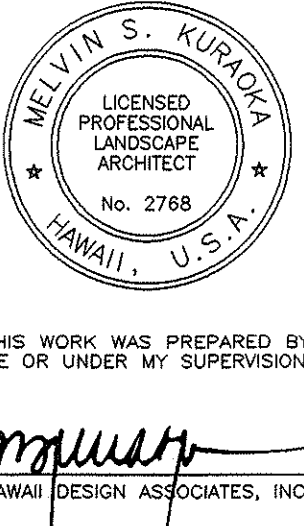


FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-083-1(49)	2003	30	78



SURVEY PLOTTED BY	DATE
DESIGNED BY	12/02
TRACED BY	12/02
QUANTITIES BY	12/02
CHECKED BY	12/02



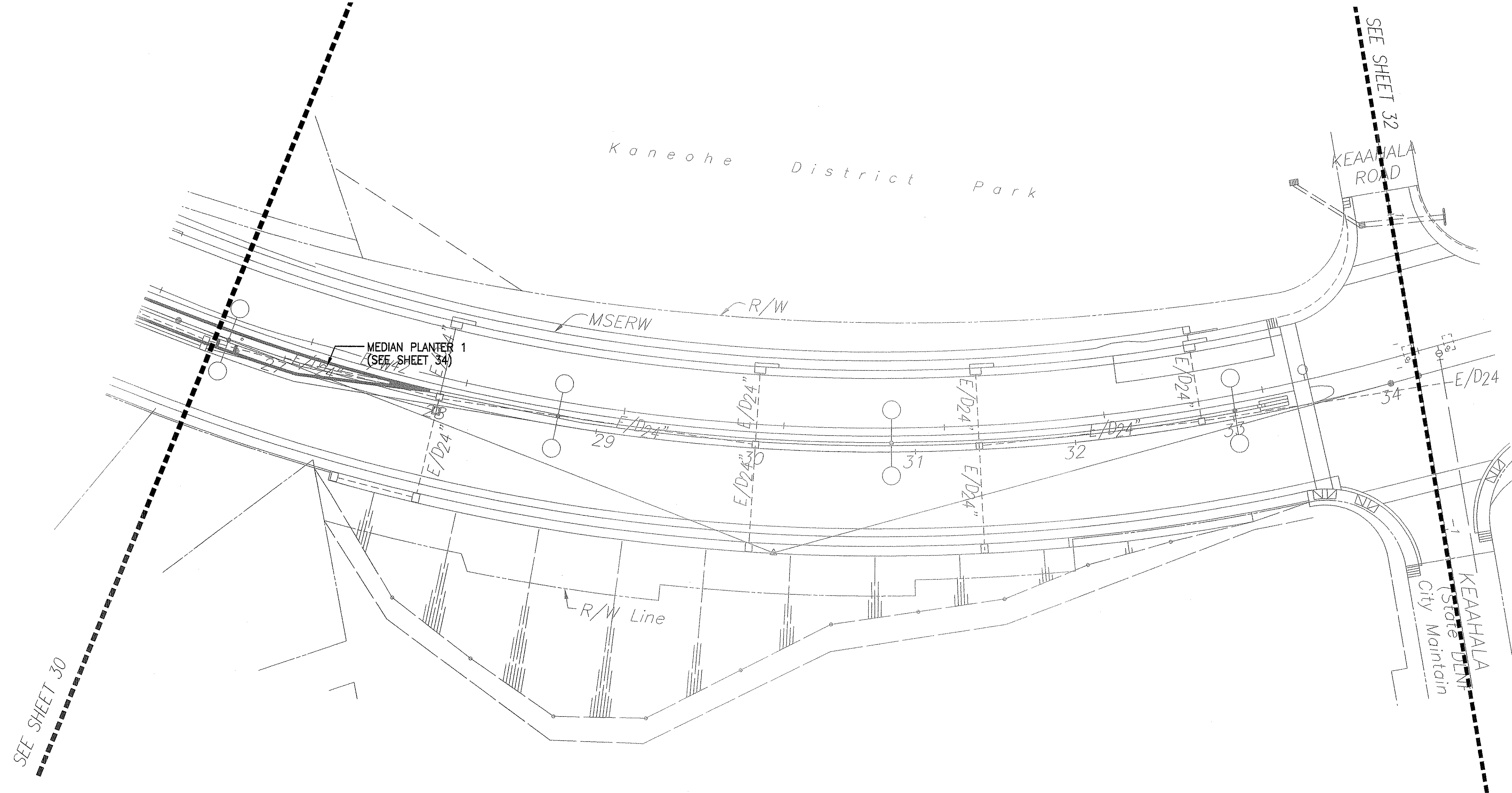
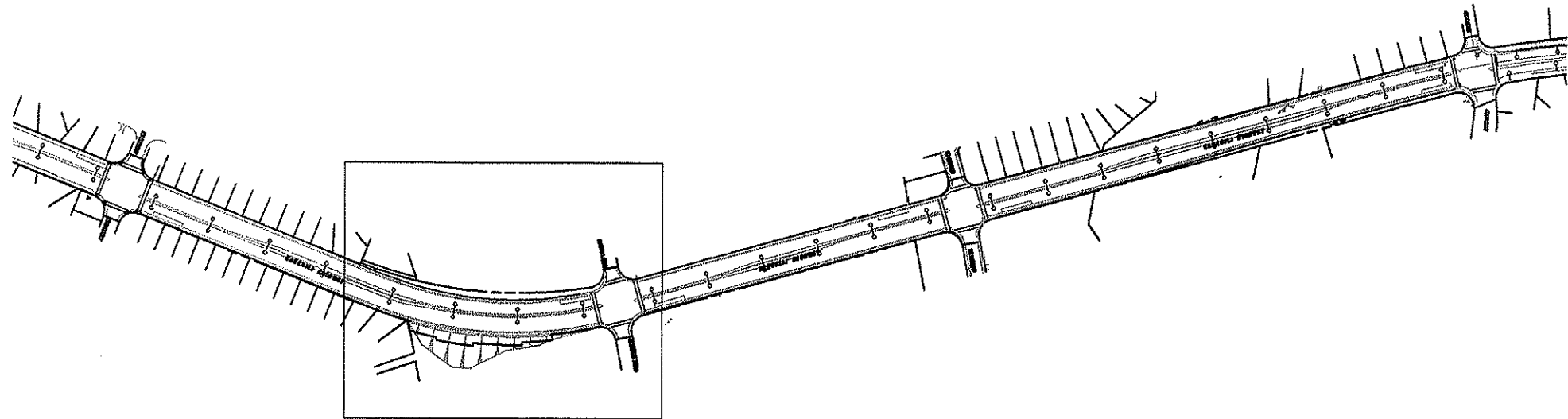
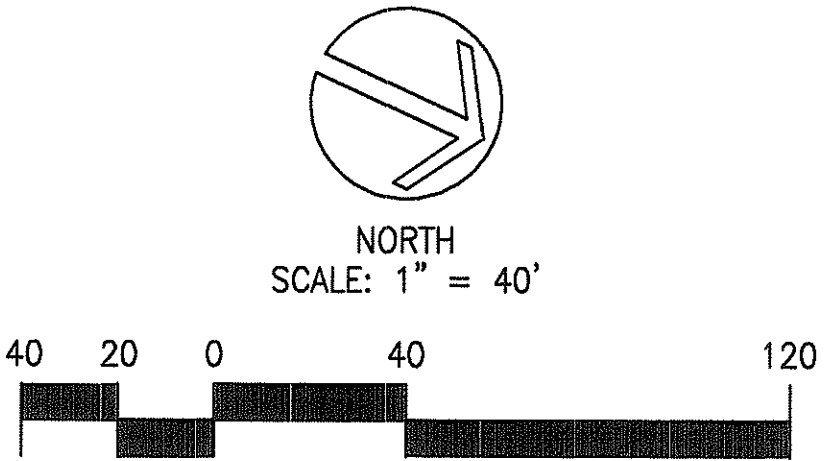
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

LANDSCAPE IRRIGATION PLAN
STA. 17+20.16 TO STA. 26+54.95
KAHEKILI HIGHWAY LANDSCAPING
Kuluokee Street to Vicinity of Haiku Road
F.A. Project No. NH-083-1(49)

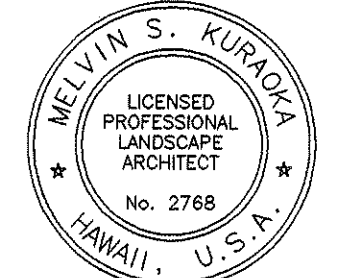
Scale: As Noted Date: Apr. 2002

SHEET No. 1 OF 8 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-083-1(49)	2003	31	78



ORIGINAL PLAN	DATE
DESIGNED BY	12/02
DESIGNED BY	12/02
QUANTITIES BY	12/02
CHECKED BY	12/02



THIS WORK WAS PREPARED BY
ME OR UNDER MY SUPERVISION.
Melvin S. Kurak
HAWAII DESIGN ASSOCIATES, INC.

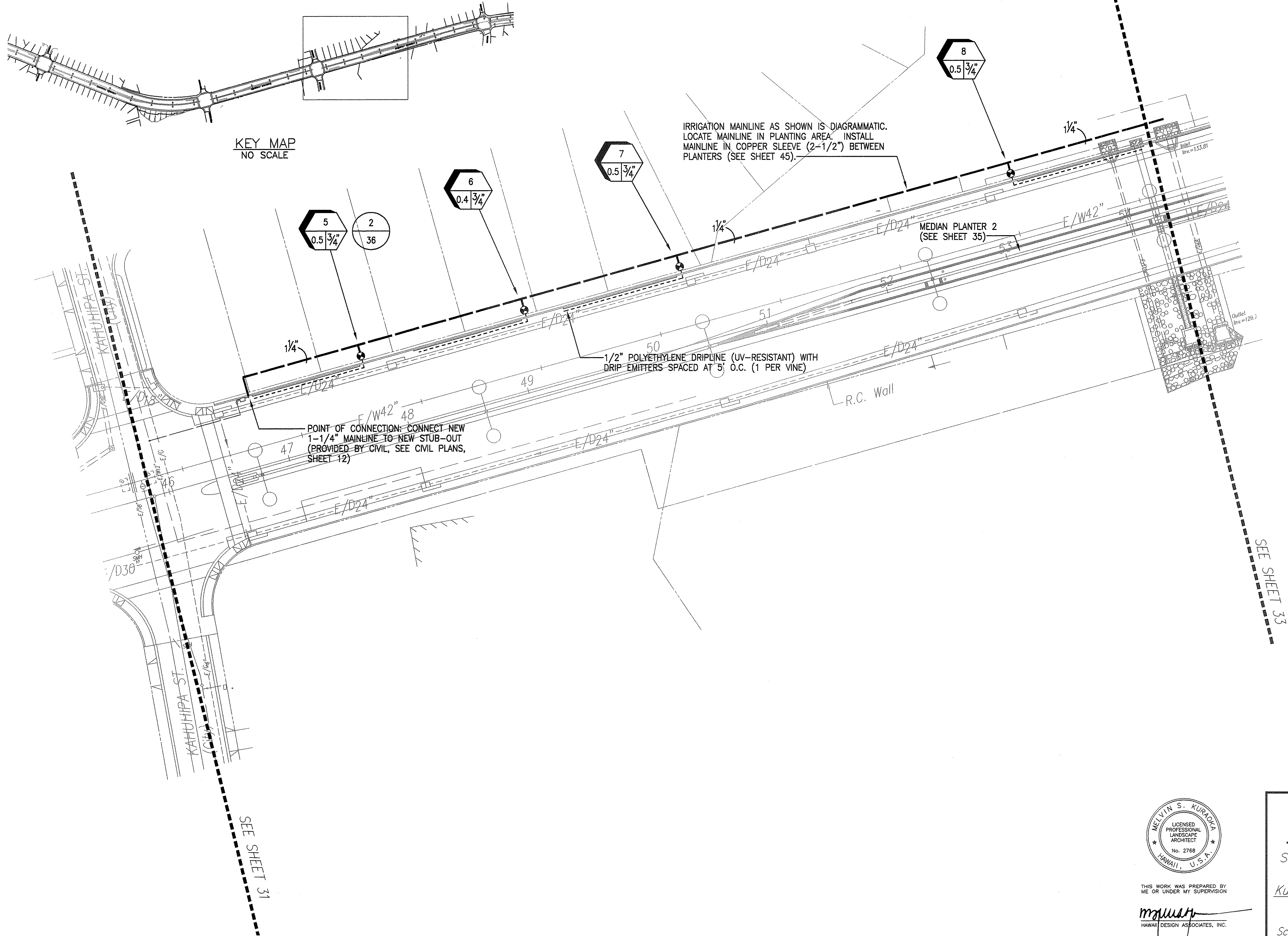
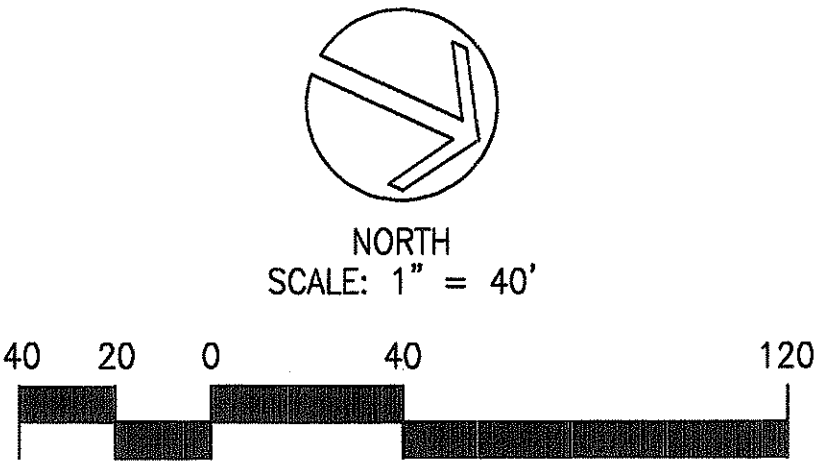
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

LANDSCAPE IRRIGATION PLAN

STA. 26+54.95 TO STA. 34+17.10
KAHEKILI HIGHWAY LANDSCAPING
Kulukeoe Street to Vicinity of Haiku Road
F.A. Project No. NH-083-1(49)

Scale: As Noted Date: Apr. 2002

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-083-1(49)	2003	32	78



ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
NOTE BOOK	DRAWN BY	12/02
No.	DESIGNED BY	12/02
	QUANTITIES BY	12/02
	CHECKED BY	



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ME OR UNDER MY SUPERVISION

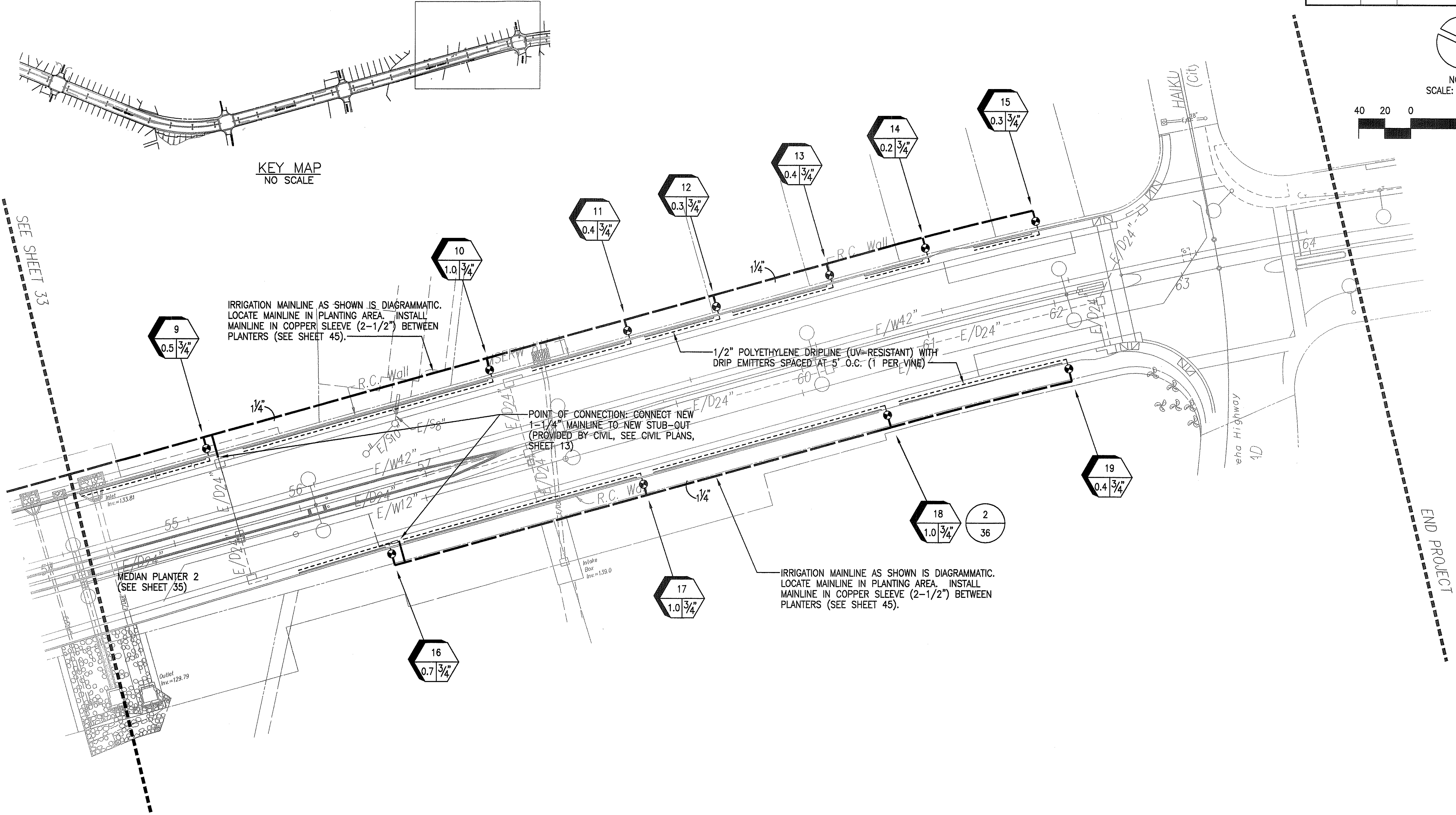
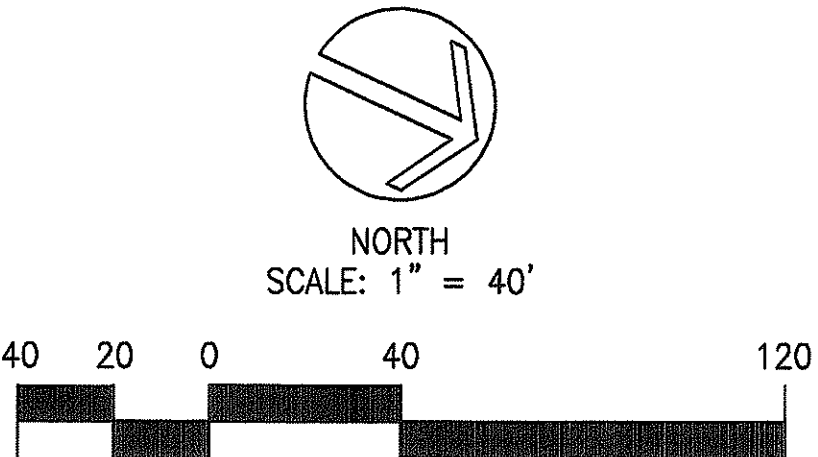
melvin s. kurakia
HAWAII DESIGN ASSOCIATES, INC.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

LANDSCAPE IRRIGATION PLAN
STA. 45+84.75 TO STA. 54+33.80
KAHEKILI HIGHWAY LANDSCAPING
Kulukee Street to Vicinity of Haiku Road
F.A. Project No. NH-083-1(49)
Scale: As Noted Date: Apr. 2002

SHEET No. 3 OF 8 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-083-1(49)	2003	33	78



KEY MAP
NO SCALE

IRRIGATION MAINLINE AS SHOWN IS DIAGRAMMATIC. LOCATE MAINLINE IN PLANTING AREA. INSTALL MAINLINE IN COPPER SLEEVE (2-1/2") BETWEEN PLANTERS (SEE SHEET 45).

POINT OF CONNECTION: CONNECT NEW 1-1/4" MAINLINE TO NEW STUB-OUT (PROVIDED BY CIVIL, SEE CIVIL PLANS, SHEET 13)

IRRIGATION MAINLINE AS SHOWN IS DIAGRAMMATIC. LOCATE MAINLINE IN PLANTING AREA. INSTALL MAINLINE IN COPPER SLEEVE (2-1/2") BETWEEN PLANTERS (SEE SHEET 45).

MEDIAN PLANTER 2
(SEE SHEET 35)

ORIGINAL PLAN	DATE
DESIGNED BY	12/02
DESIGNED BY	12/02
QUANTITIES BY	12/02
CHECKED BY	12/02



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mkuar
HAWAII DESIGN ASSOCIATES, INC.

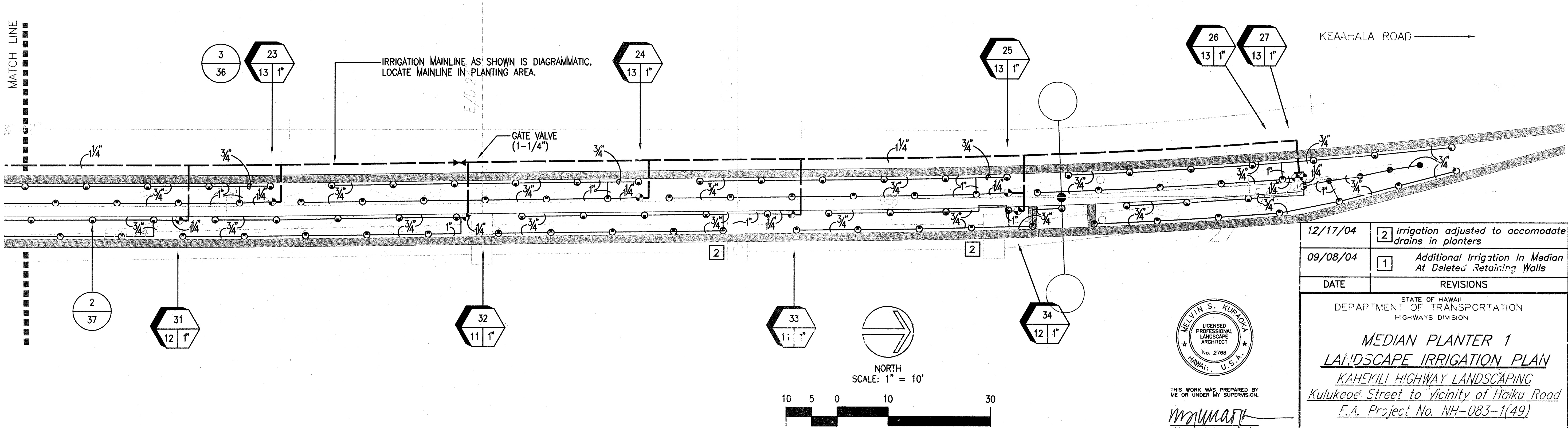
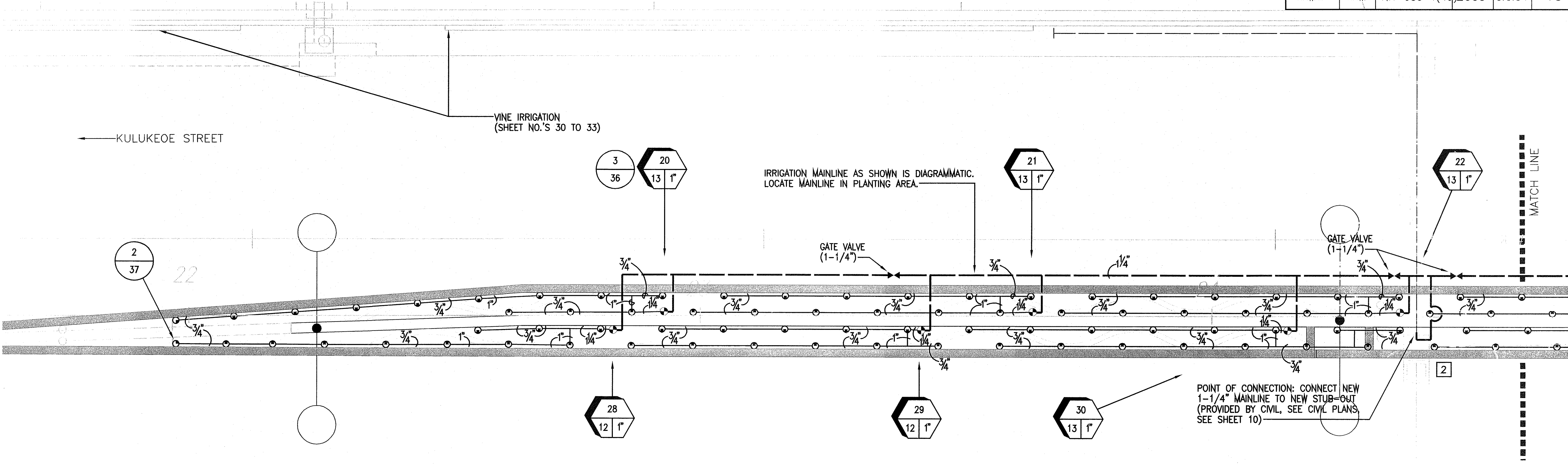
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

LANDSCAPE IRRIGATION PLAN
STA. 54+33.80 TO STA. 64+16.39
KAHEKILI HIGHWAY LANDSCAPING
Kuluokee Street to Vicinity of Haiku Road
F.A. Project No. NH-083-1(49)

Scale: As Noted Date: Apr. 2002

SHEET No. 4 OF 8 SHEETS

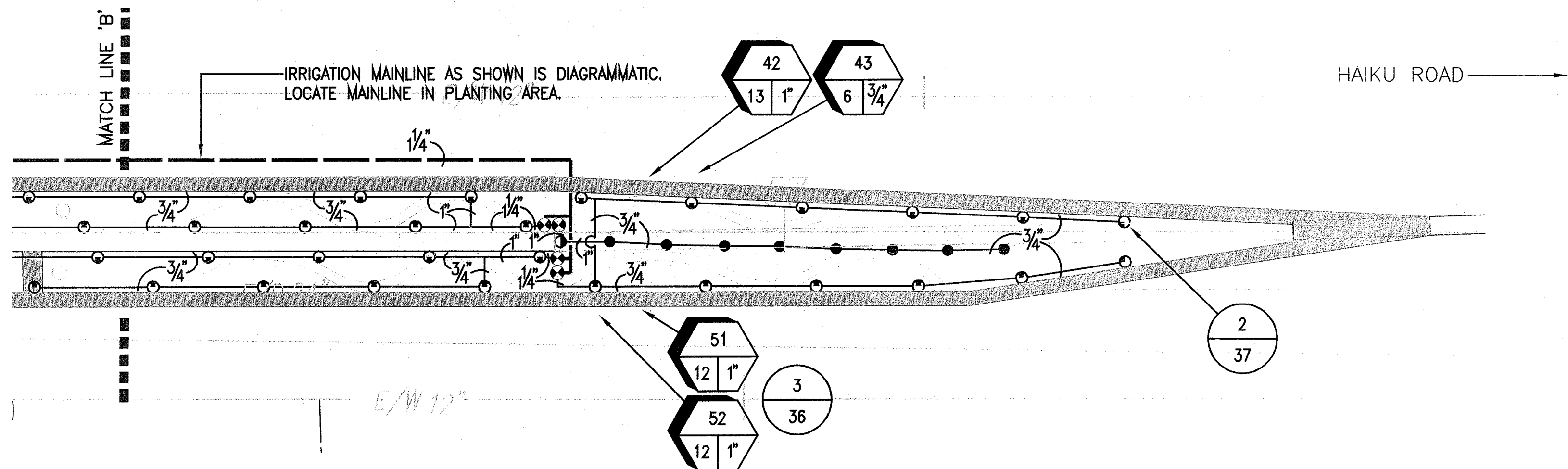
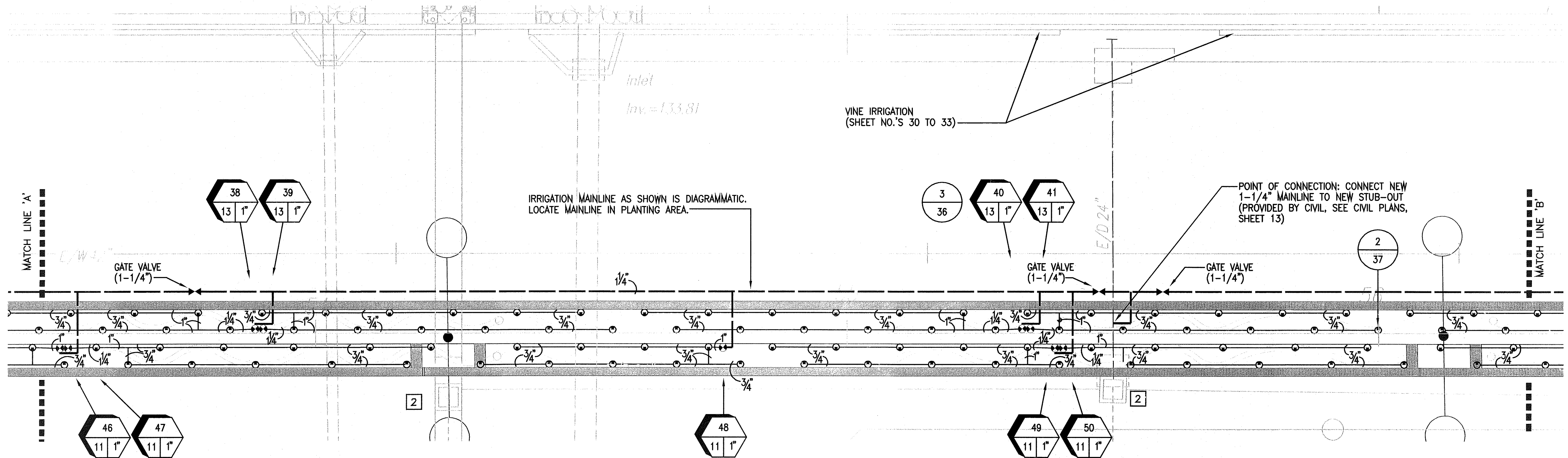
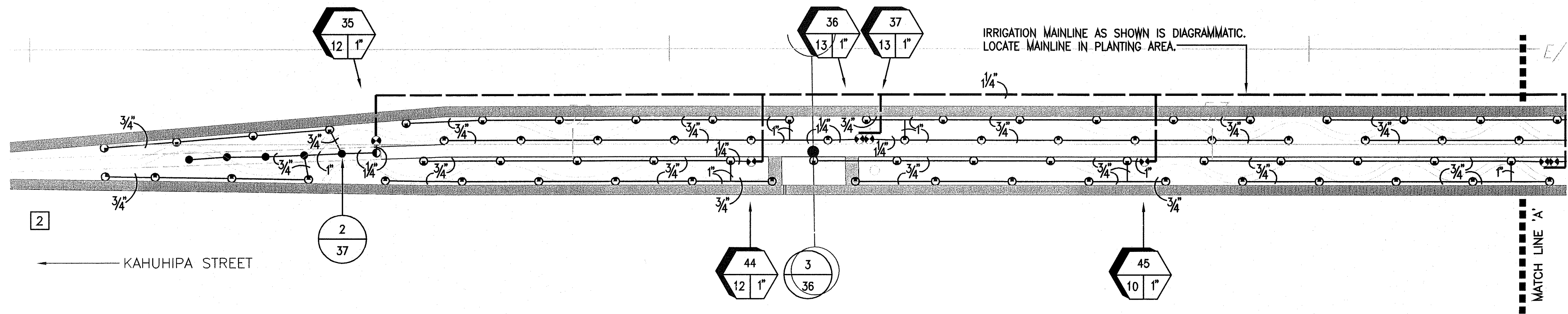
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-083-1(49)	2003	C.O.34	78



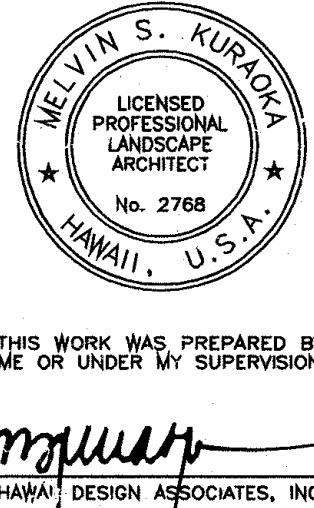
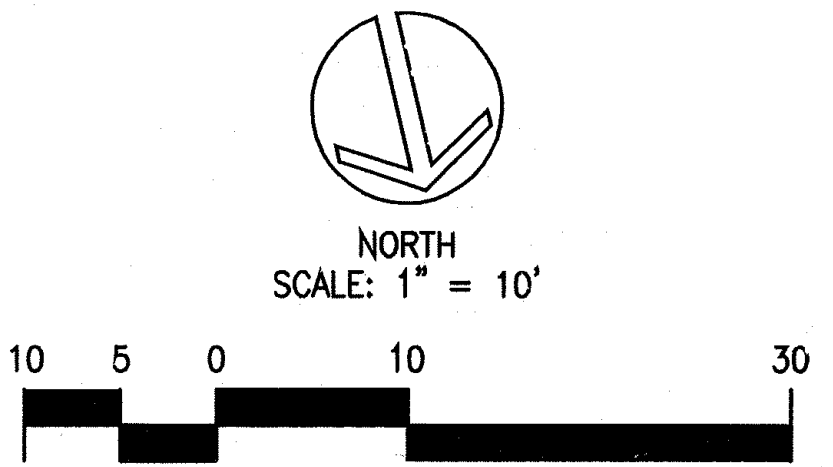
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NO. 7	12/02
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NO. 98	12/02
NO. 99	12/02
NO. 100	12/02

12/17/04	2	irrigation adjusted to accommodate drains in planters
09/08/04	1	Additional Irrigation In Median At Deleted Retaining Walls
DATE	REVISIONS	
STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION		
MEDIAN PLANTER 1 <u>LANDSCAPE IRRIGATION PLAN</u> <u>KAHEKILI HIGHWAY LANDSCAPING</u> <u>Kuluokee Street to Vicinity of Haiku Road</u> <u>F.A. Project No. NH-083-1(49)</u>		
Scale: As Noted	Date: Apr. 2002	
SHEET No. 5 OF 8 SHEETS		

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-083-1(49)	2003	C.O.35	78

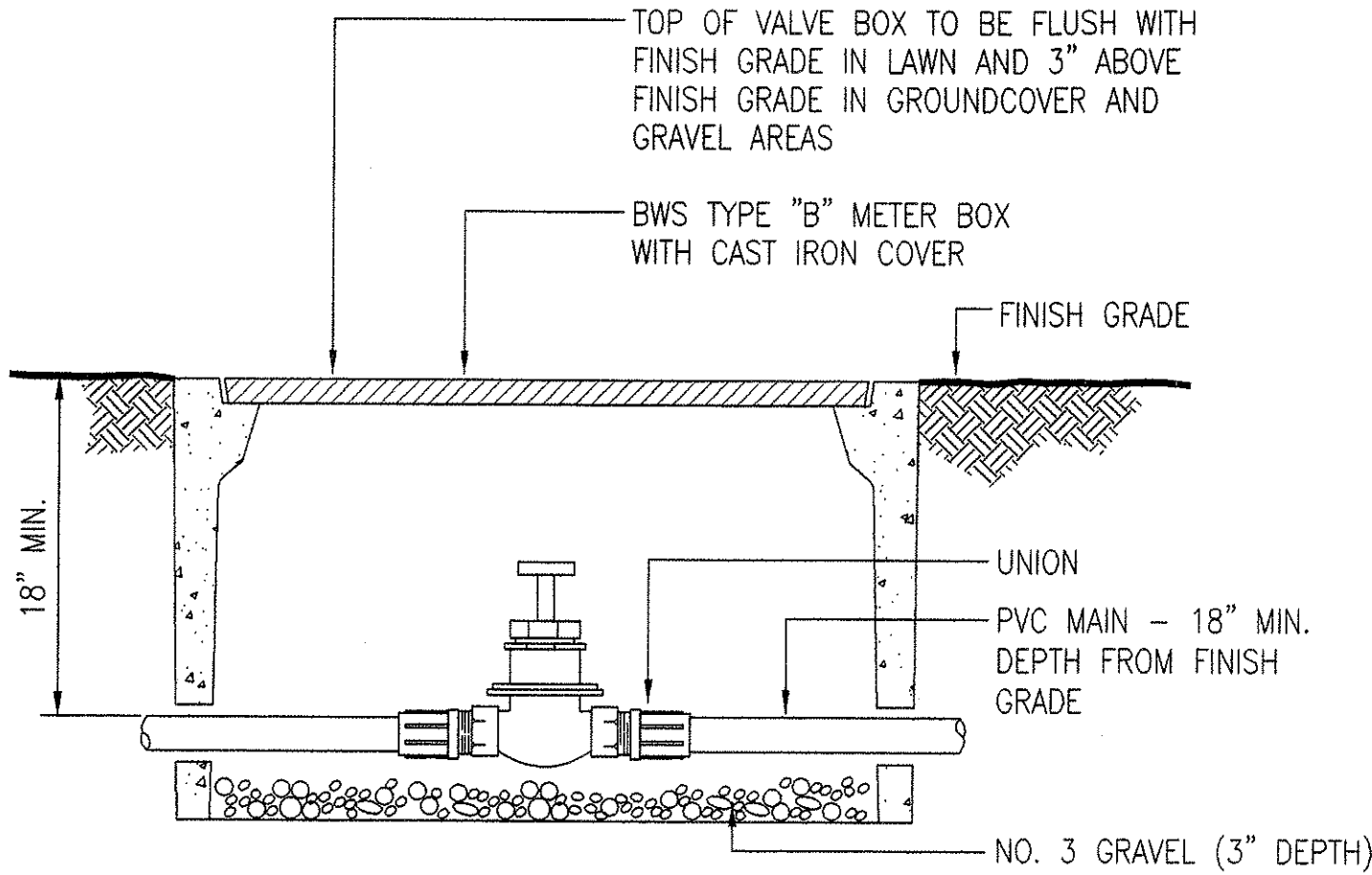


SURVEY PLATTED BY	DATE
DRAWN BY	12/02
DESIGNED BY	12/02
CHECKED BY	12/02
ORIGINAL PLAN	
NOTE BOOK	
No.	



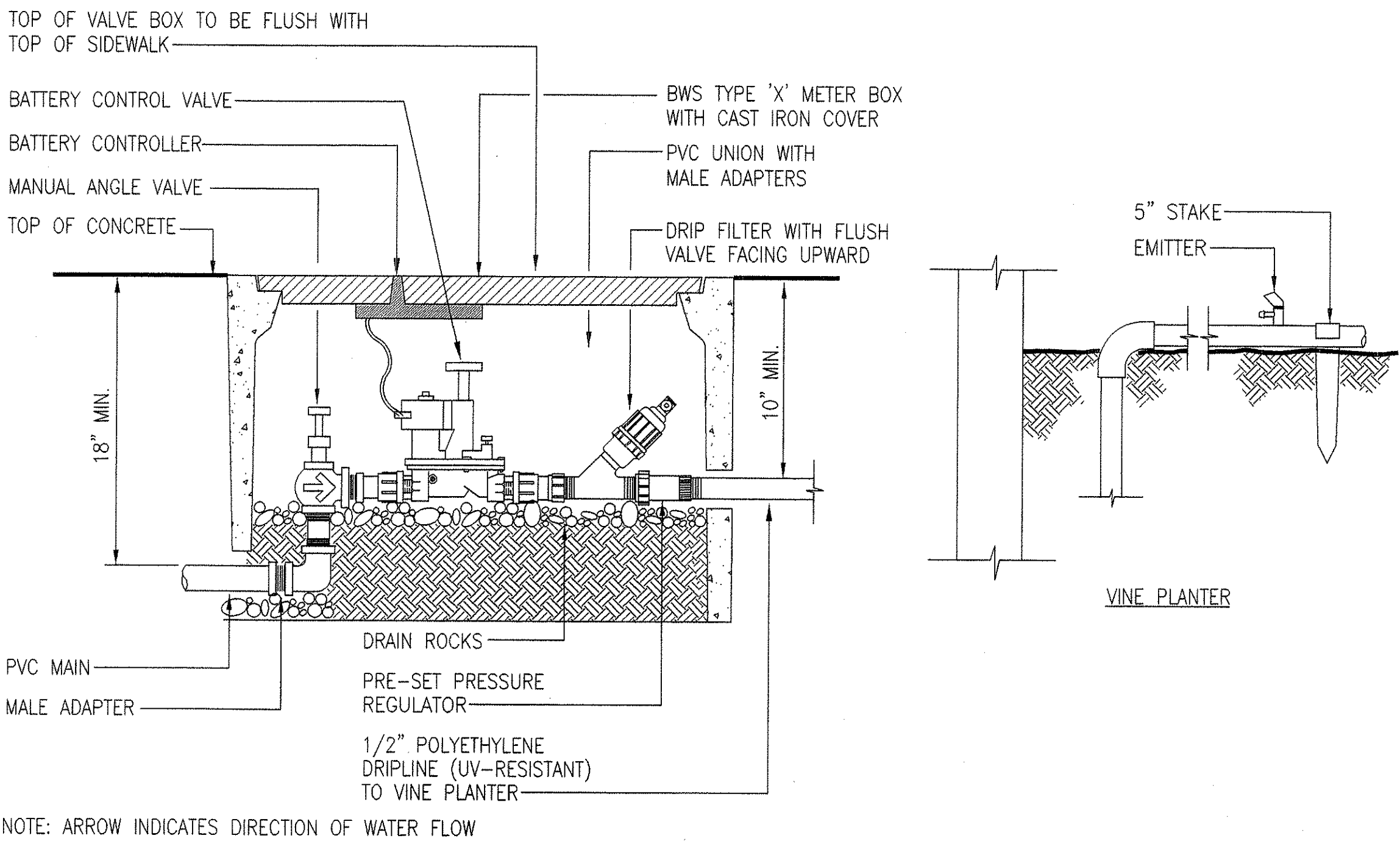
12/17/04	2	Irrigation adjusted to accomodate drains in planters
09/08/04	1	Additional Irrigation In Median At Deleted Retaining Walls
DATE	REVISIONS	
STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION		
<u>MEDIAN PLANTER 2</u> <u>LANDSCAPE IRRIGATION PLAN</u> <u>KAHEKILI HIGHWAY LANDSCAPING</u> <u>Kuluokee Street to Vicinity of Haiku Road</u> <u>F.A. Project No. NH-083-1(49)</u>		
Scale: As Noted		Date: Apr. 2002
SHEET No. 6 OF 8 SHEETS		

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-083-1(49)	2003	36	78



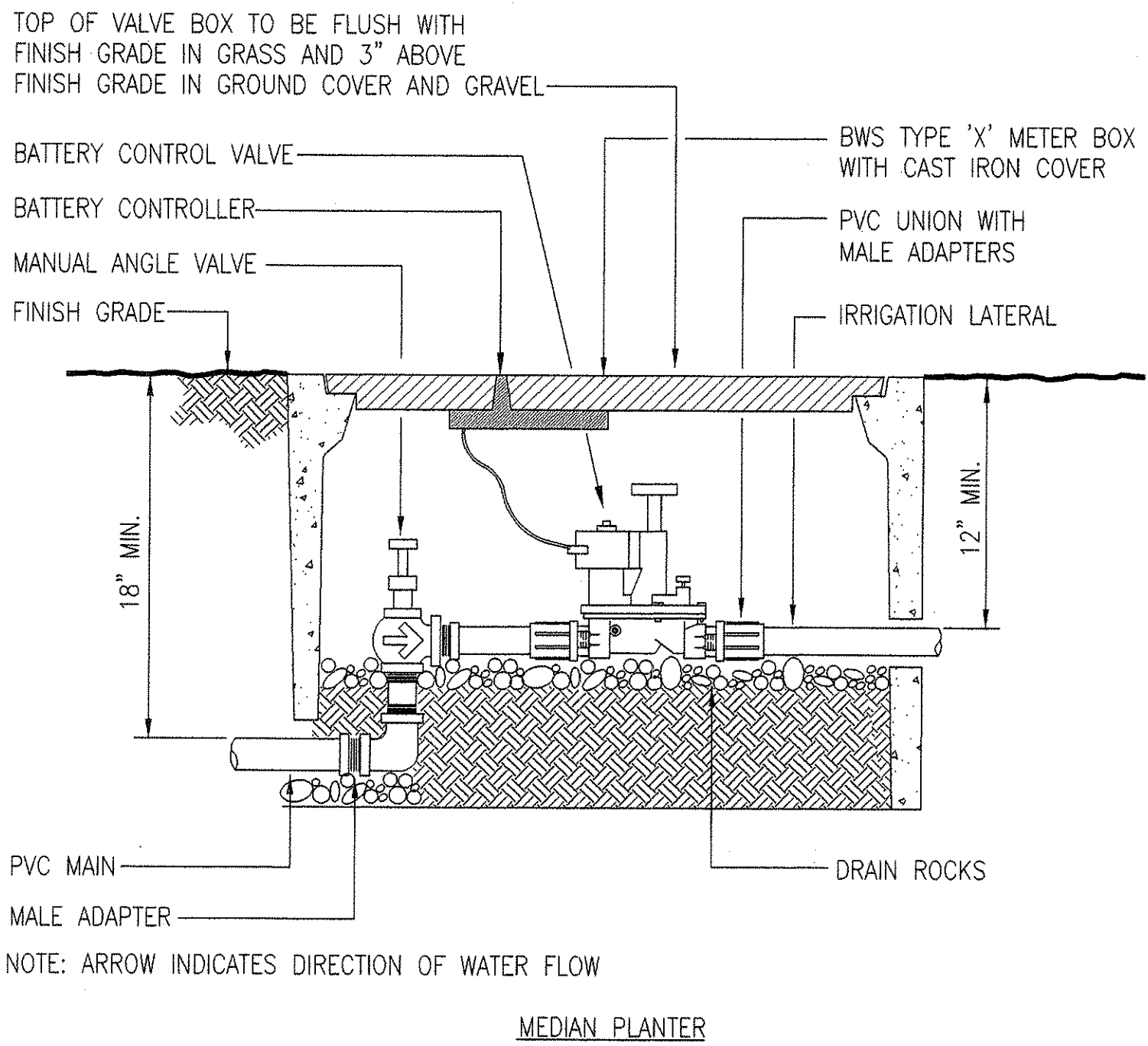
1 GATE VALVE DETAIL
36 NOT TO SCALE

IRRIGATION EQUIPMENT LIST					
SYMBOL	DESCRIPTION	GPH	GPM	RADIUS	PSI
	12" POP-UP SPRAY SPRINKLER, LARGE FILTER SCREEN AND HEAVY DUTY WIPER SEAL, SIDE STRIP		1.10	4' X 28'	20
	12" POP-UP SPRAY SPRINKLER, LARGE FILTER SCREEN AND HEAVY DUTY WIPER SEAL, LEFT CORNER STRIP		0.55	4' X 14'	20
	12" POP-UP SPRAY SPRINKLER, LARGE FILTER SCREEN AND HEAVY DUTY WIPER SEAL, RIGHT CORNER STRIP		0.55	4' X 14'	20
	12" POP-UP SPRAY SPRINKLER, LARGE FILTER SCREEN AND HEAVY DUTY WIPER SEAL, FULL		0.67	6'	20
	12" POP-UP SPRAY SPRINKLER, LARGE FILTER SCREEN AND HEAVY DUTY WIPER SEAL, HALF		0.34	6'	20
	1/2" POLYETHYLENE TUBING WITH 1.5 GPH EMITTERS AT 5' O.C.	1.5			20
	GATE VALVE REDUCE PRESSURE BACKFLOW PREVENTER (1", PROVIDED BY CIVIL) MANUAL ANGLE VALVE AND BATTERY OPERATED CONTROL VALVE				
	PVC SCHEDULE 40 MAIN PVC CLASS 200 LATERAL TYPE 'K' COPPER PIPE SLEEVE				
	STATION NUMBER GPM OF SYSTEM / SIZE OF RCV				



NOTE: ARROW INDICATES DIRECTION OF WATER FLOW

2 BATTERY OPERATED CONTROL VALVE DETAIL FOR DRIP IRRIGATION
36 NOT TO SCALE

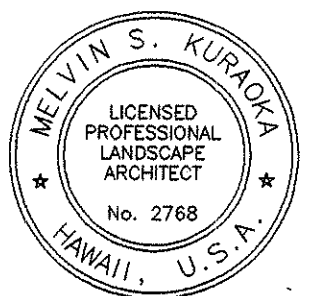


3 MANUAL ANGLE VALVE AND BATTERY
36 OPERATED CONTROL VALVE DETAIL
NOT TO SCALE

IRRIGATION NOTES:

- REFER TO IRRIGATION SPECIFICATIONS SECTION 616 PRIOR TO START OF WORK. CONTRACTOR SHALL BE HELD RESPONSIBLE FOR ALL MATERIALS, SCHEDULING, PRODUCTS, WARRANTIES AND METHODS FOR EXECUTION OF WORK WHICH MAY NOT BE INDICATED WITHIN THE DRAWING.
- IRRIGATION SYSTEMS SHOWN ON THE DRAWINGS ARE DIAGRAMMATIC AND ARE SUBJECT TO ADJUSTMENTS DUE TO UNANTICIPATED FIELD CONDITIONS. UNLESS OTHERWISE NOTED, LOCATE ALL SPRINKLER HEADS, VALVES, AND PIPES WITHIN PLANTING AREAS.
- THE IRRIGATION SYSTEM DESIGN IS BASED ON A MINIMUM STATIC WATER PRESSURE OF 45 PSI AT THE POINT OF CONNECTIONS. NOTIFY PROJECT ENGINEER IF PRESSURE IS LESS THAN 45 PSI.
- CONTRACTOR IS RESPONSIBLE FOR THE COORDINATION OF THE INSTALLATION OF ALL SLEEVES, MAINS AND LATERALS UNDER PAVEMENT AND THROUGH WALLS AND SHALL ASSURE THAT THESE ITEMS ARE LAID PRIOR TO THE PLACEMENT OF PAVEMENT/WALL.
- VERIFY UTILITY LOCATIONS BEFORE TRENCHING. CONTRACTOR WILL BE RESPONSIBLE FOR ANY DAMAGE TO UTILITIES.
- INSTALL SPRINKLER HEADS 4" AWAY FROM WALKWAYS, DRIVEWAYS AND A MINIMUM OF 2' FROM STRUCTURES. ADJUST ALL SPRINKLER HEADS TO OBTAIN HEAD TO HEAD COVERAGE. ADJUST FLOW CONTROL OF BATTERY OPERATED PRESSURE REGULATING CONTROL VALVES TO MINIMIZE MISTING.
- THE CONTRACTOR, TOGETHER WITH THE ENGINEER AND THE STATE'S REPRESENTATIVE SHALL PROGRAM THE BATTERY OPERATED CONTROL VALVES TO ACCOMMODATE THE LANDSCAPE AND SITE REQUIREMENTS, AND SHALL INSTRUCT THE REPRESENTATIVE ON THE OPERATION OF THE COMPLETE SYSTEM.
- THE CONTRACTOR SHALL FURNISH THE STATE WITH TWO (2) SETS OF REPRODUCIBLE 'AS-BUILT' PLANS.

DATE	12/02
SURVEY PLOTTED BY	L. KEHA
DRAWN BY	L. KEHA
DESIGNED BY	L. KEHA
CHECKED BY	M. KUBOTA
ORIGINAL PLAN	
NOTE BOOK	
No.	



THIS WORK WAS PREPARED BY
ME OR UNDER MY SUPERVISION.

Melvin S. Kuroda
HAWAII DESIGN ASSOCIATES, INC.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

LANDSCAPE IRRIGATION EQUIPMENT LIST,
DETAILS AND NOTES
KAHEKILI HIGHWAY LANDSCAPING
Kuluokee Street to Vicinity of Haiku Road
F.A. Project No. NH-083-1(49)
Scale: As Noted Date: Apr. 2002
SHEET No. 7 OF 8 SHEETS

