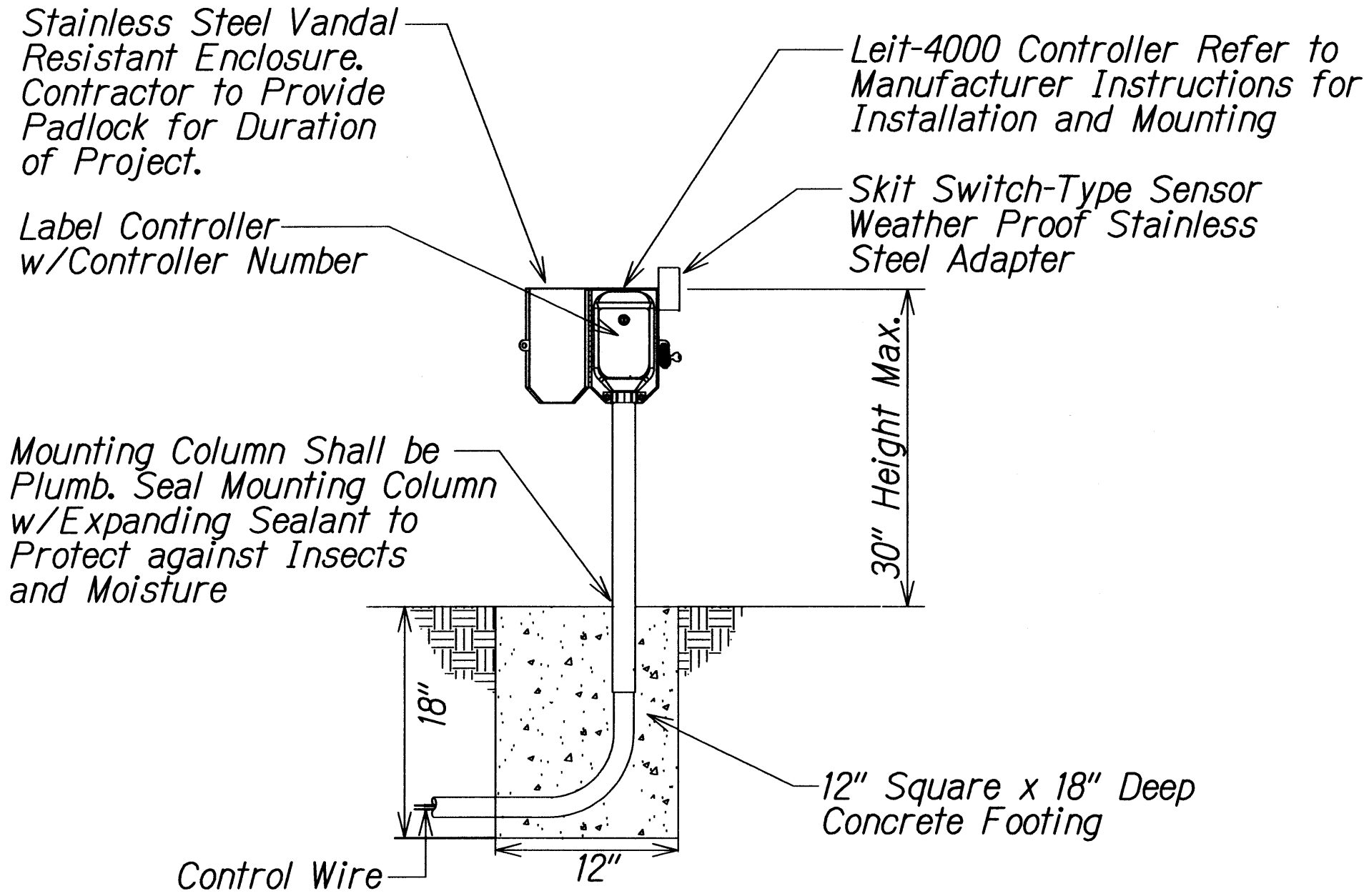


FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	H201A-01-10M	2010	15	16

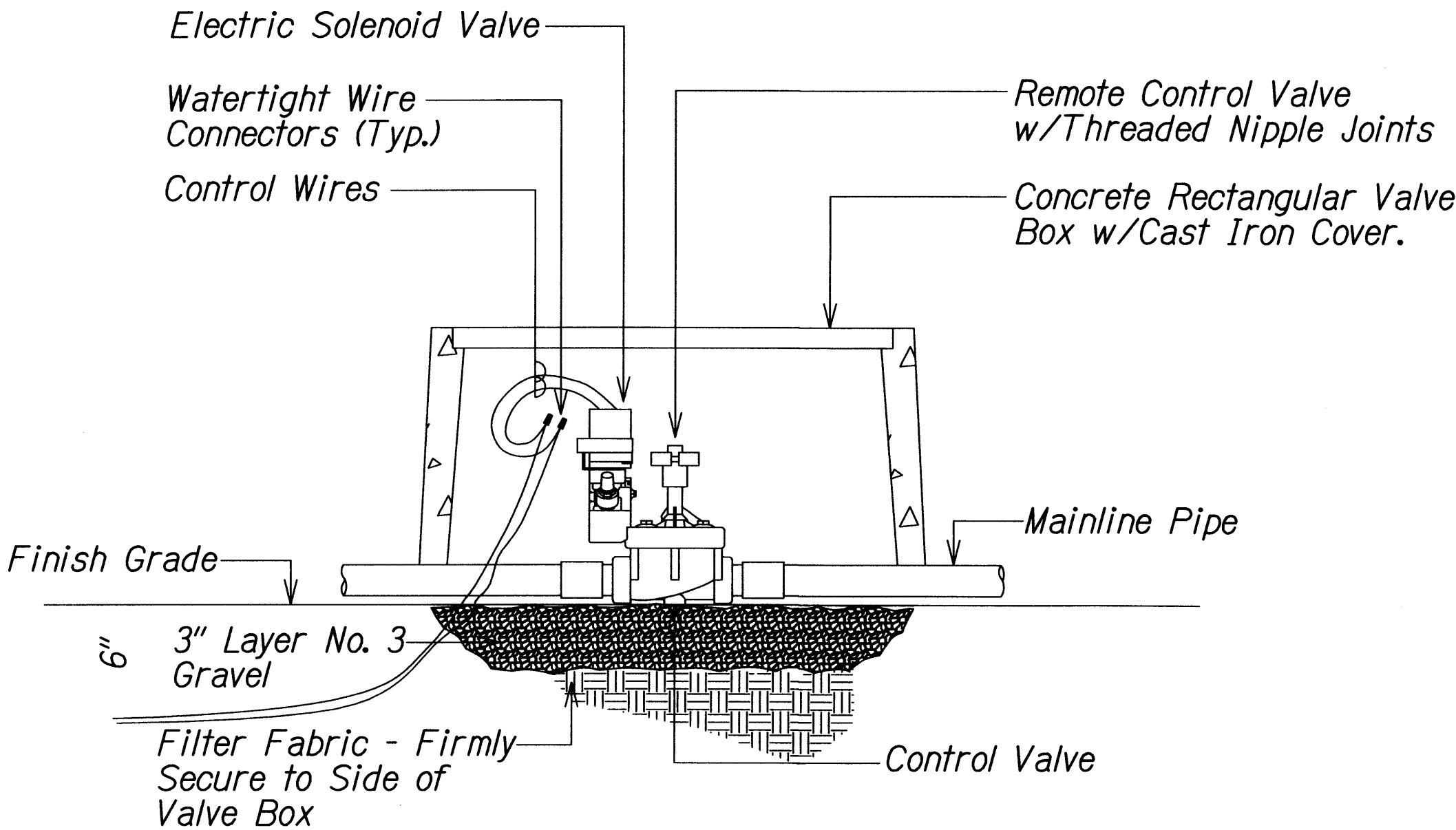
IRRIGATION NOTES:

- Contractor shall install controllers, lines, wires, valves and heads per specifications. Existing gate valves, point of connection, etc. are derived from the best available information and on-site inspection. The Contractor shall verify those points of connection noted and report any discrepancies to the Engineer
- This plan is diagrammatic. Irrigation system is subject to field adjustments due to unanticipated site conditions. Locate all mainlines, laterals, valves and sprinklers heads within planting areas, unless otherwise noted. Place mainline in planting areas where no sleeves are shown. Avoid any conflict between underground utilities, structures and plantings. The Contractor shall be responsible for locating and protecting all existing utilities.
- This irrigation system was designed with a minimum static water pressure of 75 psi at the point of connection. Notify the Project Engineer if water pressure is less than 50 psi or greater than 100 psi.
- Contractor shall secure all necessary permits and observe all local codes and regulations. The Contractor shall confirm all sites dimensions and conditions, and report any discrepancies to the Engineer.
- Contractor shall coordinate the installation of all sleeves, conduits, mainlines and laterals under pavement and through walls. Contractor shall assure that these items are laid prior to placement of pavement or wall structures.
- Locate and install all sprinkler heads 6" from sidewalks, curbs, driveways, building and wall unless otherwise noted. Adjust all sprinkler heads and flow control for maximum coverage and minimum overthrow and misting. Operate only one valve at a time per controller.
- Within 30 days after award of the contract, submit for the Engineer's acceptance six (6) copies of detailed scaled drawings and wiring diagrams for permanent and temporary irrigation systems. Not proposed deviations from the contract. Include samples of materials, if required by contract.
- Perform hydrostatic test by applying continuous static pressure of 60 psi for one (1) hour. Notify the Engineer at least three (3) days in advance of test. Repair leaks that develop and repeat test. Do not backfill until there is no further sign of leakage.
- Perform operability test by opening remote control valve and test circuits for leaks around barbed and threaded PVC fittings. Repair leaks and repeat tests. Notify the Engineer at least three (3) days in advance of test. Do not back fill until there is no further sign of leakage.
- Perform coverage test. Before planting period, run automatic controller through all it's cycles. Check watering for coverage and uniformity in company of the Engineer. Run system until there are puddles or there is sheet flow to determine initial irrigation time and number of cycles per week needed to water requirements of plants.
- Median irrigation piping to be at finish grade. Median controller wires to be a minimum 6" below finish grade under new irrigation mainline or lateral.
- If plans do not specify depth of excavation, provide minimum cover to finish grade as follows:
 - 18 inches for irrigation main.
 - 10 inches for irrigation lateral.
 - for controller wires and conduits in unpaved areas, depth equal to that of pressure irrigation pipe.
- Contractor shall prefabricate as much of the irrigation system as possible off site for quick on site installation
- All valve boxes shall be concrete type 'x'. All valve box cover shall be Cast Iron covers. Plastic valve boxes will not be utilized



Note:
Controller location shall be located in an area well protected from vehicles. If the Controller is located in an unprotected area, then four (4) 6" Pipe Bollards filled w/Concrete shall surround Controller. Provide one (1) Leit Key per Controller.

22 SOLAR POWERED CONTROLLER DETAIL
Scale: N.T.S.



Note:
All Valve Box Covers shall be labeled Valve Type, Zone Number and Controller Number.

25 MEDIAN REMOTE CONTROL VALVE DETAIL
Scale: N.T.S.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

IRRIGATION NOTES & DETAIL

MOANALUA FREEWAY LANDSCAPING
Ala Kapuna Street to Funston Road
Project No. H201A-01-10M

Scale: Not to Scale Date: Mar., 2010

SHEET No. 1 OF 2 SHEETS

SURVEY PLOTTED BY	DATE
DRAWN BY	
DESIGNED BY	
QUANTITIES BY	
CHECKED BY	
ORIGINAL PLAN	
NOTE BOOK	
300/10/10/10	
10/10/10/10	

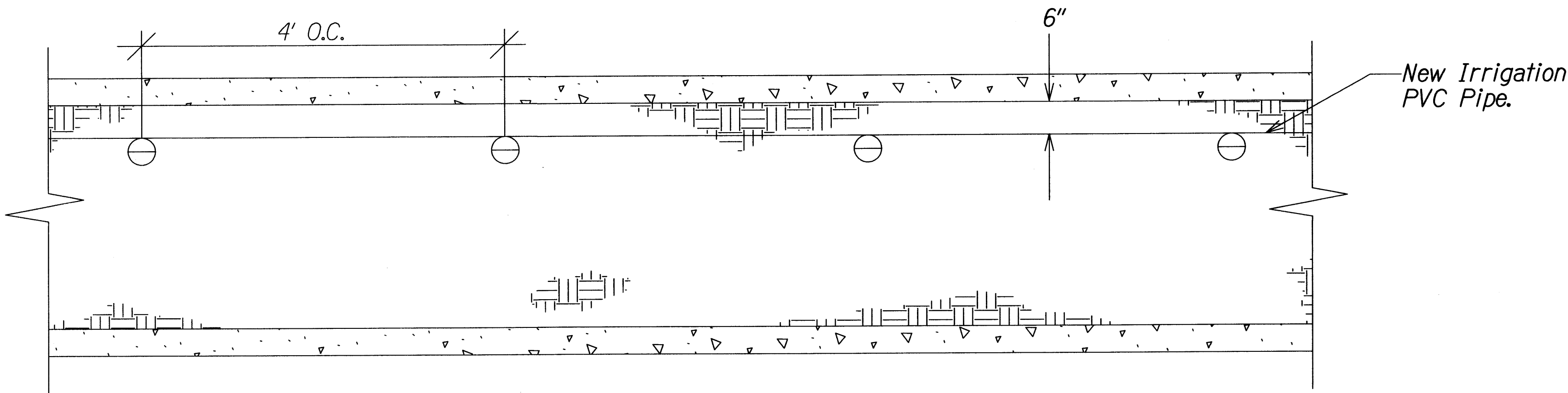
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	H201A-01-10M	2010	16	16

Median Irrigation Schedule:

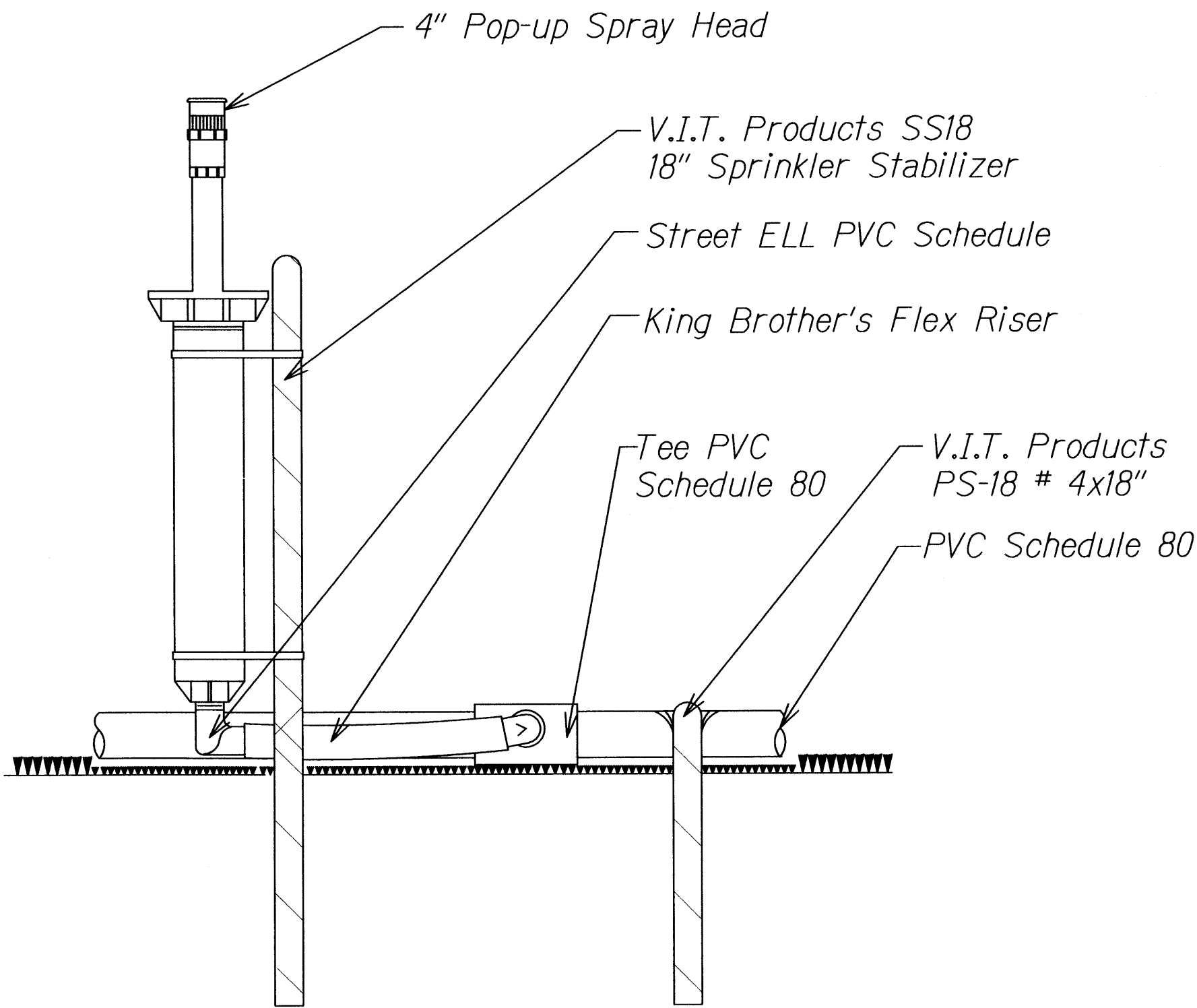
QUANTITY	CATALOG NUMBER	DESCRIPTION	GPM	RADIUS (ft)	PSI
1,344	Rainbird 1804 SAM-PRS with SQHLF Nozzle	4" Pop-up w/ Check Valve	0.2	4x4	30
443	Tee PVS SCH 80 ASTM D2467	802-209 1-1/2x1/2 reducing Tee SxSxFipt			
901	Tee PVS SCH 80 ASTM D2467	802-288 1-1/2x1/2 reducing Tee SxSxFipt			
4,032	Street Ell PVC Sch 40 MITP X FIPT	412-005 1/2" Mipt x Fitp, 3 ea. per sprinkler			
1,344	King Brother's Flex Riser FR-0500-4M	1/2" x 4" Long MxM Rubber Flex Riser			
556	V.I.T. Products PS - 18 #4 x 18" SS18 18" Pipe Stabilizer	Rebar Rod w/double "J" Hooked Rod. At one end to hold pipe securely in place, install 10' O.C. Rubber Coated "J" Hooks			
1,344	V.I.T. Products SS18 18" Sprinkler Stabilizer	Rebar Rod w/ 3 Stainless Steel Wire Ties. Secure around 4" Pop-up Sprinkler and above ground portion of rebar			
7	Rainbird 200-PEB-PRS-D w/ 1600 LEMA 1600 HE Solenoid w/ 30-92I Plastic Adapter	2" Remote Control Valve w/Actuator			
12	Concrete Box Type "X"	BWS Approved Concrete Box & Cast Iron Cover			
12	Cast Iron Cover Type "X" marked "Irrigation"				
4	DIG LEIT 4004 on 4000 series mounting column with LEIT Stainless Steel Enclosure ENCL 4000 with Hunter Mini-Click2 Rain Sensor Sensor Adapter SKIT882I-4 with V.I.T. Strongbox Rain Sensor Enclosure RGVRS	Solar Irrigation Controller and Rain Sensor in Stainless Steel Enclosure. Controller mounted on mounting column.			
	PVC Schedule 80 ASTM D1784/ASTM D1785	Mainline & lateral line PVC Irrigation Pipe. Install on grade			

Areca Palm Irrigation Schedule

QUANTITY	CATALOG NUMBER	DESCRIPTION	GPM	RADIUS (ft)	PSI
92	Rainbird 1804 SAM-PRS-U8H	4" Pop-up sprinkler w/ check valve & pressure regulating stem	0.52	8	30
1	Rainbird 200-PEB-PRS-D w/ 1600 LEMA 1600 HE Solenoid w/ 30-92I Plastic Adapter	2" Remote Control Valve w/Actuator			
2	Concrete Box Type "X"	BWS Approved Concrete Box & Cast Iron Cover			
2	Cast Iron Cover Type "X" marked "Irrigation"				
1	DIG LEIT 4004 on series mounting column w/ LEIT Stainless Steel Enclosure ENCL 4000 w/ Hunter Mini-Click2 Rain Sensor Adapter SKIT882I-4 w/ V.I.T. Strongbox Rain Sensor Enclosure RGVRS				
	PVC Schedule 80 ASTM D1784/ASTM D1785	Mainline & lateral line PVC Irrigation Pipe. Install on grade.			



TYPICAL MEDIAN IRRIGATION DETAIL
Scale: N.T.S.



MEDIAN SHRUB POP-UP SPRAY HEAD DETAIL
Scale: N.T.S.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

IRRIGATION NOTES & DETAIL

MOANALUA FREEWAY LANDSCAPING
Ala Kapuna Street to Funston Road
Project No. H201A-01-10M

Scale: Not to Scale Date: Mar., 2010

SHEET No. 2 OF 2 SHEETS

SURVEY PLOTTED BY	DATE
DRAWN BY	
DESIGNED BY	
QUANTITIES BY	
CHECKED BY	
ORIGINAL PLAN	
NOTE BOOK	
3/9/2010	
16	