

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
HONOLULU, HAWAII

SPECIAL PROVISIONS, SPECIFICATIONS, PROPOSAL,
CONTRACT, AND BOND

FOR

MAINTENANCE OF LANDSCAPED AREAS
AND MAINTENANCE AND INSPECTION OF IRRIGATION SYSTEM
H-3 FREEWAY, HALEKOU INTERCHANGE TO KAILUA INTERCHANGE
DISTRICT OF KOOLAUPOKO
ISLAND OF OAHU
PROJECT NO. H3(IJ)-01-23C

2023

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NOTICE TO BIDDERS
(Chapter 103D, HRS)

The receiving of SEALED BIDS for MAINTENANCE OF LANDSCAPED AREAS AND MAINTENANCE AND INSPECTION OF IRRIGATION SYSTEM, H-3 FREEWAY, HALEKOU INTERCHANGE TO KAILUA INTERCHANGE, DISTRICT OF KOOLAUPOKO, ISLAND OF OAHU, PROJECT NO. H3(IJ)-01-23C, will begin as advertised in HiePRO. Bidders are to register and submit bids through HiePRO only. See the following HiePRO link for important information on registering: <https://hiepro.ehawaii.gov/welcome.html>.

The deadline to submit bids is April 25, 2023, at 2:00 P.M., Hawaii Standard Time. Bids received after said due date and time shall not be considered.

The scope of work consists of furnishing all labor, materials, tools, and equipment necessary for the maintenance of landscaped areas on the H-3 Freeway, from Halekou Interchange to Kailua Interchange, in Honolulu, Hawaii, including applicable planter boxes within the highway right-of-way, and the maintenance and inspection of the irrigation system.

To be eligible for award, bidders must possess a valid State of Hawaii Specialty Contractor's C-27, Landscaping Contractor's license at the time of bidding. Bidder's attention is also directed to Section 10.3 and Section 11.3 of the Specifications regarding additional bidder's qualification.

All requests for information (RFI) shall be received in writing via HiePRO prior to the Question Due Date in General Information of the HiePRO solicitation. Questions received after the deadline will not be addressed. Verbal requests for information will not receive a response.

Any protest of this solicitation shall be submitted in writing to the Director of Transportation, in accordance with §103D-701, HRS and §3-126, HAR.

Campaign contributions by State and County Contractors. Contractors are hereby notified of the applicability of § 11-355, HRS, which states that campaign contributions are prohibited from specified State or county government contractors during the term of the contract if the contractors are paid with funds appropriated by a legislative body. For more information, contact the Campaign Spending Commission at (808) 586-0285.

The Equal Employment Opportunity Regulations of the Secretary of Labor implementing Executive Order 11246, as amended, shall be complied with on this project.

The U.S. Department of Transportation Regulation entitled “Nondiscrimination in Federally-Assisted Programs of the U.S. Department of Transportation,” Title 49, Code of Federal Regulations (CFR), Part 21 is applicable to this project. Bidders are hereby notified that the Department of Transportation will affirmatively ensure that the contract entered into pursuant to this advertisement will be awarded to the lowest responsible bidder without discrimination on the grounds of race, color, national origin or sex (as directed by 23 CFR Part 200).

For additional information, contact Jake Dickman, by phone at (808) 587-2189 or e-mail at jake.j.dickman@hawaii.gov or Michelle Kwan, by phone at (808) 587-2186 or e-mail at michelle.s.kwan@hawaii.gov.

The State reserves the right to reject any or all proposals and to waive any defects in said proposals for the best interest of the public.

ROBIN K. SHISHIDO
Deputy Director, Highways Division

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
HONOLULU, HAWAII

SPECIAL PROVISIONS

SPECIAL PROVISIONS

The specifications contain herein are amended as follows:

(A) SECTION 1 – DEFINITIONS AND TERMS shall be amended as follows:

1. 1.33 SUBCONTRACTOR shall be amended in its entirety to read as follows:

“1.33 SUBCONTRACTOR – An individual, partnership, firm corporation, or joint venture, or other legal entity, as licensed or required to be licensed under Chapter 444, Hawaii Revised Statutes, as amended, which enters into an agreement with the Contractor to perform a portion of the work.”

2. 1.38 WORKING DAY shall be amended in its entirety to read as follows:

“1.38 WORKING DAY – Every day, except Saturdays, Sundays, State holidays as applicable and as observed.

Normal State holidays are as follows:

New Year's Day (The first day in January)
Dr. Martin Luther King, Jr. Day (The third Monday in January)
President's Day (The third Monday in February)
Prince Jonah Kuhio Kalaniana'ole Day (The twenty-sixth day in March)
Good Friday (The Friday preceding Easter Sunday)
Memorial Day (The last Monday in May)
King Kamehameha Day (The eleventh day in June)
Independence Day (The fourth day in July)
Statehood Day (The third Friday in August)
Labor Day (The first Monday in September)
General Election Day (The first Tuesday in November following the first Monday of even numbered years)
Veteran's Day (The eleventh day in November)
Thanksgiving Day (The fourth Thursday in November)
Christmas Day (The twenty-fifth day in December)

State Holiday schedules can be obtained online at:

<http://dhrd.hawaii.gov/state-observed-holidays/>”

3. Add the following new subsections:

“1.39 ENGINEER – The respective District Engineer, acting directly or through his duly authorized representatives, who are responsible for engineering supervision of construction and other highway matters.

1.40 STANDARD SPECIFICATIONS – The Hawaii Standard Specifications for Road and Bridge Construction, 2005, Highways Division, Department of Transportation, including any amendments. To review the Standard Specifications, log on to:

<http://hidot.hawaii.gov/highways/s2005-standard-specifications/>

to review the 2005 Standard Specifications and their applicable amendments/Special Provisions.

The Contractor shall utilize the latest revision.

1.41 MUTCD – The Manual on Uniform Traffic Control Devices, 2009, Federal Highway Administration, U.S. Department of Transportation, including any amendments or revisions. To review the MUTCD, log on to:

<http://mutcd.fhwa.dot.gov/>

The Contractor shall utilize the latest revision.

1.42 HMSLM – The Hawaii Department of Transportation (HDOT) Highway Manual for Sustainable Landscape Maintenance, 2011, Highways Division, Hawaii Department of Transportation, including any amendments or revisions. To review the HMSLM, log on to:

<http://hidot.hawaii.gov/highways/landscape-architecture-program/>

1.43 OSHA – The U.S. Department of Labor (DOL), Occupational Safety and Health Administration (OSHA). To review the OSHA, log on to:

<https://www.osha.gov/>

The Contractor shall utilize the latest revision.

1.45 DEBRIS & LITTER – Rubbish and other objects that are unsightly, glass, trash, papers, cans, bottles, cigarette butts, palm fronds and tree limbs and the like.”

(B) SECTION 2 – PROPOSAL REQUIREMENTS AND CONDITIONS shall be amended as follows:

1. 2.3 PROPOSAL GUARANTY is deleted in its entirety.
2. 2.4 DELIVERY OF PROPOSALS shall be amended in its entirety to read as follows:

“2.4 DELIVERY OF PROPOSALS – The bidder shall submit the proposal in HiePRO. Bids received after said date and time shall not be considered. Original bid documents do not have to be submitted. Award will be made based on proposals submitted via HiePRO.”

3. 2.5 WITHDRAWAL OF PROPOSALS shall be amended in its entirety to read as follows:

“2.5 WITHDRAWAL OF PROPOSALS – A bidder may withdraw or revise a proposal after the bidder submits the proposal in HiePRO. Withdrawal or revision of proposal must be completed before the time set for receiving of bids.”

4. 2.6 PUBLIC OPENING OF PROPOSALS is not applicable.

5. Add the following new subsection:

“2.9 CERTIFICATE FOR PERFORMANCE OF SERVICES – Pursuant to Section 103-55, Hawaii Revised Statutes, and unless indicated otherwise, each bidder should submit the “Certificate for Performance of Services” in the event bids are more than \$25,000. The notarized certificate must be submitted to the Contracts Office, Department of Transportation, 869 Punchbowl Street, Honolulu, Hawaii 96813, before entering a contract to perform services. This form is available in the Forms section.

As of October 1, 2022, salaries of State employees performing work similar to the work called for under this contract are as follows:

Class Title	Bargaining Unit (BU) Salary Schedule	Grade	Minimum Hourly Pay Rate
General Laborer I	BU 01	BC-02	\$ 22.08
General Laborer II	BU 01	BC-03	\$ 22.71
General Laborer III	BU 01	WS-03	\$ 24.31
Equipment Operator I	BU 01	BC-04	\$ 23.62
Equipment Operator II	BU 01	BC-06	\$ 25.55
Nursery Worker II	BU 01	WS-05	\$ 26.31
Grounds Maintenance Supervisor I	BU 02	F-103	\$ 25.74
Highway Maintenance Supervisor I & II	BU 02	F-105	\$ 28.20

The above information is provided to the Contractor for guidance only and is subject to change in accordance with existing collective bargaining contracts or

shall change as contracts are renegotiated. It is the Contractor's responsibility to verify the accuracy of the wage rates contained herein and to provide for changes in the minimum wages, which must be paid to personnel when work is done on this project. Information on the status of Bargaining Unit (BU) contracts, salary schedules, Class Specifications and minimum qualification requirements can be obtained from the State Department of Transportation, Highways Division, Personnel Management office (587-2229) or online at:

<http://dhrd.hawaii.gov/state-hr-professionals/class-and-comp/>

Bidders are further advised that they are not restricted to hire only those classifications of employees as listed but are free to employ such other classifications of workers as the bidder deems proper and proposes to use on the project, as may be according to the bidder's common hiring practice. However, the principal duties of employees other than those listed hereinabove working on the project will be matched against those of State workers to determine the closest equivalent State employee classification, and the Contractor must compensate such employee(s) at a rate which is no less than that of the equivalent State employee."

(C) SECTION 3 – AWARD AND EXECUTION OF CONTRACT shall be amended as follows:

1. 3.1 AWARD OF CONTRACT shall be amended by adding the following to the end of the subsection:

"Any bid lacking a unit price or amount shall disqualify the bidder."

(D) SECTION 4 – SCOPE OF WORK shall be amended as follows:

1. 4.2 PERFORMANCE OF WORK shall be amended by adding the following to the end of the subsection:

"The Contractor shall perform work satisfactorily in the judgment of the State during the contract period. If it appears at any time that the work contracted to be performed is not satisfactory, the State may require the Contractor to furnish and place in operation such additional force and equipment as the State shall deem necessary to bring the work up to satisfactory status.

In case the Contractor fails to comply after ten (10) working days from the date of receipt of such a written order from the State, the State may employ a working force and equipment and charge the Contractor for the reasonable cost thereof including depreciation for equipment and or he may terminate the contract."

(E) SECTION 5 – CONTROL OF WORK shall be amended as follows:

1. 5.3 COOPERATION OF CONTRACTOR AND DIRECTOR shall be amended by adding the following to the end of the subsection:

“The Contractor shall always have an authorized individual to relate with the State Inspector or Engineer at each work site during scheduled work.

The Contractor shall furnish the State with contract information including a telephone number and an electronic mail address where the Contractor may always be reached. The Contractor shall respond to all notifications within an hour of receipt and no longer than three (3) hours of receipt.”

2. 5.4 INSPECTION shall be amended by adding the following to the end of the subsection:

“The State reserves the right to have all work as specified by the contract documents to be inspected by a State Inspector or by a State-Contractor/ Consultant-provided inspector.

The Contractor shall maintain all books, documents, papers, records, and other evidence pertaining to payroll, employee’s name, wage rates and hours worked and to make such materials and information available at their respective offices at all reasonable times during the contract period and for three (3) years from the date of final payment under the contract, for inspection by the State. Failure to comply with the conditions of this Section during the contract period may result in cancellation of the contract.”

3. Add the following new subsection:

“5.7 CONTRACTOR PERFORMANCE RATING – The Contractor shall be rated at least every three (3) months or as determined by the Engineer. The Contractor will be rated on performance factors related to compliance with the contract specifications on administrative items and performance of field activities.

The Contractor’s continuous unsatisfactory performance to meet the contract requirements shall be grounds for non-extension of the contract.”

- (F) SECTION 7 – LEGAL RELATIONS AND RESPONSIBILITY shall be amended as follows:

1. 7.8 LABOR AND COMPENSATION REQUIREMENTS shall be amended by replacing the first two paragraphs with the following:

“7.8 LABOR AND COMPENSATION REQUIREMENTS – Pursuant to Section 103-55, H.R.S., Wages, Hours, Working Conditions of Employees of Contractor’s Supplying Services, services to be rendered shall be performed by employees paid at wages or salaries not less than the wages paid to public officers and employees

for similar work. The Contractor shall submit certified payroll affidavits in the form approved by the Department. Additional information on the requirements of Section 103.55, H.R.S. may be obtained at:

https://www.capitol.hawaii.gov/hrscurrent/Vol02_Ch0046-0115/HRS0103/HRS_0103-0055.htm.

The Contractor shall be required to comply with the laws of the U.S. Citizenship and Immigration Services (USCIS). The Department reserves the right to periodically check the employable status of persons listed on the certified payroll certificates. Any person, who is found to be an illegal alien (undocumented alien) under the laws of the USCIS, shall be immediately dismissed from the project and not be rehired until he or she is properly cleared.”

2. Add the following new subsection:

“7.10 PUBLIC CONVENIENCE AND SAFETY

The Contractor shall always conduct maintenance operations with due regard to the convenience and safety of the public. The protection of persons and property shall be provided by the Contractor.

All work under this contract shall be in full compliance with Subsection 107.11, Safety: Accident Prevention and 107.12, Protection of Persons and Property of the Standard Specifications. Refer to Section 1.40 Standard Specifications, of the Special Provisions for the definition of Standard Specifications.

The Contractor shall take all necessary precautions to protect all personnel from hazards and injuries. The rules and regulations promulgated by the U.S. Department of Labor Occupational Safety and Health Acts (OSHA); the Hawaii Department of Labor and Industrial Relations (DLIR); the Hawaii Occupational Safety and Health Division (HIOSH) and any other applicable federal, state, and local rules and regulations are not included herein, but are applicable and made part of these Specifications.”

- (G) SECTION 8 – PROSECUTION AND PROGRESS shall be amended as follows:

1. 8.2 SUBCONTRACTING shall be amended by replacing the first paragraph with the following paragraphs:

“The Contractor shall give his personal attention to the fulfillment of the contract and shall always keep the work under his control.

The scope and nature of work required under this contract are such that any licensed Landscape Contractor “C-27” should be able to do the work required without subcontracting any of it to others.

Any work, which falls outside of the authorized work of the C-27 license or work that requires specific training and certification, may be subcontracted only upon approval of the State or the Contractor may employ these personnel that requires specific training and certification as part of his or her staff. The State’s decision shall be final. Payment of all costs for such subcontractor work shall be according to prices or arrangements agreed upon prior to authorization of such work in writing.”

2. 8.6 LIQUIDATED DAMAGES shall be amended by adding the following to the end of the subsection:

“A. Liquidated Damages for Maintenance of Landscaped Areas:

1. Plants which die due to irrigation failure, as applicable, may be considered to have died due to the Contractor’s negligence, invasive plants, insects, disease, or malpractice and shall be replaced with the same species, spread and height at the Contractor’s expense within four weeks of notification from the Engineer. The Contractor shall pay liquidated damages to the Department for the replacement value of plants not replaced within four weeks after notification from the Engineer.

Item	Unit Size/Description	Unit	Liquidated Damages
<u>El Toro Zoysia grass</u> [<i>Zoysia japonica</i> var. <i>El Toro</i>]	4" square Plug	Per SF	\$2.50
<u>Loulu palm</u> [<i>Pritchardia hillebrandii</i>]	7 Gallon, 3' brown trunk height	Each	\$1,000.00
<u>Foxtail Palm</u> [<i>Wodyetia bifurcate</i>]	25 Gallon, 2' brown trunk height	Each	\$1,000.00
<u>Alexander Palm</u> [<i>Archontophoenix alexandrae</i>]	25 Gallon, 2' brown trunk height	Each	\$1,000.00
<u>Chinese Fan Palm</u> [<i>Livistona chinensis</i>]	5 Gallon, 18" brown trunk height	Each	\$1,000.00
<u>Macarthur Palm</u> [<i>Ptychosperma macarthurii</i>]	25 Gallon, 3' brown trunk height	Each	\$1,000.00

Item	Unit Size/Description	Unit	Liquidated Damages
<u>Beach Naupaka</u> [<i>Scaevola taccada</i>]	1 Gallon	Each	\$150.00
<u>Oleander Hardy Red</u> [<i>Nerium oleander</i>]	3 Gallon, 2 1/2' ht, 2' spd.	Each	\$150.00
<u>Plumbago</u> [<i>Plumbago auriculata</i>]	3 Gallon, 2 1/2' ht, 2' spd.	Each	\$150.00

2. \$75.00 for each and every calendar day for failure to respond to a phone call, facsimile, or email regarding work requests requiring immediate attention and other contractual issues as specified in Section 5.3, Cooperation of Contractor and Direct of the Specifications.
3. \$400.00 for each calendar day for failure to have the required CLT Exterior Maintenance (ornamental and Turf) or equivalent certificate or CLT Exterior Irrigation or equivalent on site during landscape and/or irrigation maintenance operations as specified in these Contract Specifications.

B. Liquidated Damages for routine and preventative Maintenance and Inspection of Irrigation System.

Timely performance by the Contractor of all his duties every calendar day is an essential part of this Contract and in case of failure on the part of the Contractor to perform any of his duties in a timely manner; damages will be sustained by the State. Since the value of damages are difficult to predetermine, the value of such damages is fixed in advance as follows:

1. For failure to provide satisfactory and timely maintenance and inspection service in accordance with the Specifications as determined by the State. Liquidated damages shall be assessed to the Contractor for each calendar day at the rate of five percent (5%) of the unit price of the maintenance service items.
2. Five percent (5%) of current total monthly billing may be deducted from State's payment to the Contractor for each time it does not respond within two (2) hours after receipt of an irrigation trouble call request. For the purposes of this paragraph, the definition of the term "respond," means to have maintenance personnel on the

jobsite and working on the equipment which is the subject of request.”

(H) SECTION 9 – PAYMENT shall be amended as follows:

1. 9.2 RETAINAGE/DEDUCTION FROM PAYMENT shall be amended by adding the following to the end of the third paragraph:

“Retainage is deducted monthly starting on the first invoice of the applicable term and if contract performance is satisfactory, deduction will end after six (6) months. The Contractor has two options to be paid the retainage amount:

- a. Submit the total retainage invoice at the end of the first term. Repeat the whole process of deducting retainage and submitting total retainage for payment for each contract term, or
- b. Submit the total retainage invoice held during the first term at the end of the fifth term or the final term, as applicable (when contract is not renewed, etc.). Retainage will no longer be deducted at the second, third, fourth, and fifth term or the final term, as applicable (when contract is not renewed, etc.) of the contract.”

2. 9.4 PROGRESS PAYMENTS shall be amended by adding the following to the end of the subsection:

“The Contractor shall bill the State once a month when a work order is in progress. All monthly payments are approximate only and shall be subject for correction at any time prior to or in the final estimate and payment. To expedite processing of all payments for services rendered, the Contractor shall forward copies of the invoice as specified in Section 9.4 Progress Payments, of the Specifications, to the following address:

District Engineer – Oahu District Highways Division Department of Transportation 727 Kakoi Street Honolulu, Hawaii 96819
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Each invoice shall include but not limited to the following information:

- a. Contractor's name, address, and phone number.
- b. Contract number, project number and project title.

- c. Bid item number, description of services, periods covered or date of service performed, quantity, unit price, amount, subtotal, and total.
- d. Deductions, as applicable, shall be included in the invoices as separate subtotal(s) and labeled as either i., ii., and/or iii., below:
 - i. Deductions for failing to maintain the designated landscaped areas satisfactorily.
 - ii. Liquidated Damages.
 - iii. Retainage.
- e. Certification by the Contractor that services as requested under the Contract have been performed as specified in Section 9.4 Progress Payments, of these Specifications.

Pursuant to Section 7.8 Labor and Compensation Requirements, of the Special Provisions, the Contractor shall submit certified copies of the payrolls with the monthly invoice within seven (7) days after the end of the month. The certification shall affirm that the payrolls are correct and complete. The certificates shall be forwarded to the same address as specified above.”

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION

SPECIFICATIONS

SECTION 1 - DEFINITION AND TERMS

Whenever the following pronouns are used in these specifications, or in any documents or instruments where these specifications govern, the intent and meaning shall be interpreted as follows:

1.1 ADDENDA - A written document which may be issued by the Director during the bidding period involving changes to the specifications and plans, if any, which shall be considered and made a part of the contract.

1.2 AIRPORTS DIVISION - Airports Division, Department of Transportation, State of Hawaii.

1.3 AWARD - The written acceptance of a proposal by the State.

1.4 BIDDER - Any individual, partnership, corporation or other legal entity, or combination thereof, submitting a proposal for the work contemplated, acting either directly or through a duly authorized representative.

1.5 CALENDAR DAY - Every day shown on the calendar. If no designation of calendar or working day is made, "day" shall mean calendar day.

1.6 CHANGE ORDER - A written order issued by the Director to the Contractor requiring the contract work to be performed in accordance with a change or changes that may involve an adjustment in contract time and price or requiring performance of any unforeseen work essential to complete the contract.

1.7 CONTRACT - The written agreement between the State and the Contractor setting forth the obligations of the parties thereunder, including, but not limited to, the performance of the work, the furnishing of labor and materials, and the basis of payment.

The contract includes the (1) notice to bidders, (2) proposal, (3) contract form and contract bond, (4) specifications, (5) special provisions and plans, if any, (6) addenda, (7) notice to proceed, and (8) change orders and agreements that are required to complete the work, all of which constitute one instrument.

1.8 CONTRACT BOND - The approved form of security, executed by the Contractor and its Surety or Sureties, guaranteeing the completion of the work in accordance with the terms of the contract, and guaranteeing full payment of all claims for labor, materials, and supplies used or incorporated in the work.

1.9 CONTRACT TIME - The number of working days or calendar days allowed for completion of the contract, including authorized time extensions.

If a calendar date is specified as the date of completion in lieu of the number of working days or calendar days, the contract shall be completed by that date.

In case the contract is for a specified period of time, the contract time shall be for said specified period of time.

1.10 CONTRACTOR - The individual, partnership, corporation or other legal entity, or combination thereof, contracting with the State for performance of the prescribed work.

1.11 DEPARTMENT - The State Department of Transportation.

1.12 DIRECTOR - The Director of Transportation, acting either directly or through the Director's duly authorized representative.

1.13 EQUAL OR APPROVED EQUAL - Whenever this term is used in the specifications and plans, if any, it means a brand or article pre-qualified in accordance with Section 6.2 Trade Names and Alternates and which may be used in place of the one specified.

1.14 H.A.R. or HAR - Hawaii Administrative Rules.

1.15 H.R.S. or HRS - Hawaii Revised Statutes.

1.16 HARBORS DIVISION - Harbors Division, Department of Transportation, State of Hawaii.

1.17 HIGHWAYS DIVISION - Highways Division, Department of Transportation, State of Hawaii.

1.18 HOLIDAYS - The days which are set apart and established as State holidays pursuant to Section 8-1, H.R.S.

1.19 INSPECTOR - The Director's authorized representative assigned to make detailed inspections of contract performance and materials supplied.

1.20 NOTICE TO BIDDERS - The public announcement, as required by law, inviting proposals for the work to be performed or materials to be furnished.

1.21 NOTICE OF FINAL ACCEPTANCE - Written notice from the Director to the Contractor that the entire contract has been completed in all respects in accordance with the specifications and plans, if any, and any changes thereof previously approved by the Director.

1.22 NOTICE TO PROCEED - Written notice from the Director to the Contractor advising the Contractor of the date on which he is to begin the prosecution of the work.

1.23 PLANS - The contract drawings approved by the Director which show the location, character, dimensions and details of the work to be done and shall be a part of the contract.

1.24 PROCUREMENT OFFICER - The Director's duly authorized representative including project managers, project engineers and contract administrators assigned to prepare, evaluate and administer contracts for the purchasing of goods and services.

1.25 PROPOSAL (OR BID) - The offer of a bidder, on the prescribed form, to perform the work and to furnish the labor and materials at the prices quoted.

1.26 PROPOSAL FORM - The approved format prepared by the Department or a facsimile thereof on which bids for the work must be prepared and submitted. (Reasonable facsimile acceptable for bidding.)

1.27 PROPOSAL GUARANTY - The security furnished with a proposal to guarantee that the bidder will enter into the contract and furnish all other requirements if the bidder's proposal is accepted.

1.28 QUALIFICATION QUESTIONNAIRE - The specified forms on which the bidder shall furnish required information as to the bidder's ability to perform and finance the work.

1.29 S.L.H. or SLH - Session Laws of Hawaii.

1.30 SPECIAL PROVISIONS - Revisions to the specifications. The specific clauses setting forth conditions or requirements peculiar to the project under consideration which are not thoroughly or satisfactorily stipulated in these specifications.

1.31 SPECIFICATIONS - The directions, provisions, and requirements pertaining to the method and manner of performing the work and to the quantities and qualities of materials to be furnished under the contract.

1.32 STATE - The State of Hawaii.

1.33 SUBCONTRACTOR - An individual, partnership, corporation, other legal entity, or any combination thereof, that enters into an agreement with the Contractor to perform a portion of the work for the Contractor.

1.34 SUPERINTENDENT - The Contractor's representative who is responsible for and in charge of the work.

1.35 SURETY - The corporation, partnership or individual, other than the Contractor, executing a bond furnished by the Contractor and guaranteeing performance by the Contractor.

1.36 TITLES (OR HEADINGS) - The titles or headings of the Sections herein are intended for convenience of reference and shall not be considered as having any bearing on their interpretation. Unless otherwise indicated, whenever the word "Section" is used, reference is being made to a Section in these specifications.

1.37 WORK - The furnishing of all labor, materials, equipment, and other incidentals necessary or convenient for the successful completion of the project and the execution of all the duties and obligations imposed by the contract.

1.38 WORKING DAY - Any day, except Saturdays, Sundays and State holidays.

SECTION 2 - PROPOSAL REQUIREMENTS AND CONDITIONS

2.1 QUALIFICATION OF BIDDERS - Prospective bidders must be capable of performing the work for which bids are called.

In accordance with Section 103D-310, HRS, the Department may require any prospective bidder to submit answers to questions contained in the "Standard Qualification Questionnaire for Prospective Bidders on Public Works Contracts" on the form furnished by the Department, properly executed and notarized, setting forth a complete statement of the experience of such prospective bidder and its organization in performing similar work and a statement of the equipment proposed to be used, together with adequate proof of the availability of such equipment. Whenever it appears to the Department, from answers to the questionnaire or otherwise, that the prospective bidder is not fully qualified and able to perform the intended work, the Department will, after affording the prospective bidder an opportunity to be heard and if still of the opinion that the bidder is not fully qualified to perform the work, refuse to receive or consider any bid offered by the prospective bidder. All information contained in the answers to the questionnaire shall be kept confidential. Questionnaire so submitted shall be returned to the bidders after serving their purpose.

Failure to complete the qualification questionnaire will be sufficient cause for the Department to disqualify a prospective bidder.

No person, firm or corporation may bid where (1) the person, firm, or corporation, or (2) a corporation owned substantially by the person, firm, or corporation, or (3) a substantial stockholder or an officer of the corporation, or (4) a partner or substantial investor in the firm is in arrears in payments owed to the State of Hawaii or its political subdivisions or is in default as a surety or failure to do faithfully and diligently previous contracts with the State.

2.2 REJECTION OF PROPOSALS CONTAINING ALTERATIONS, ERASURES, OR IRREGULARITIES - Proposals may be rejected if they show any alterations of form, additions not called for, conditional bids, incomplete bids, erasures, or irregularities of any kind.

When proposals are signed by any agent, other than the officer or officers of a corporation authorized to sign contract on its behalf or a member of copartnership, a Power of Attorney must be on file with the Department prior to opening bids or shall be submitted with the proposal; otherwise, the proposal may be rejected as irregular and unauthorized.

Members of a joint venture may be requested to supply the Department with a copy of their joint venture agreement or each member of the joint venture may be required to sign the proposal.

2.3 PROPOSAL GUARANTY - A proposal guaranty (bid bond) is not required except when specifically noted in the proposal section of the bid document.

When a proposal guaranty is required with a bid, it will be specifically stated in the proposal; and no proposal totaling \$25,000 or more will be considered unless accompanied by one of the following forms of bidder's security:

- A. a deposit of legal tender; or
- B. a surety bid bond underwritten by a company licensed to issue bonds in the State of Hawaii and submitted on the standard form provided herewith; or
- C. a certificate of deposit, share certificate, cashier's check, treasurer's check, teller's check, or official check drawn by, or a certified check accepted by and payable on demand to the State by a bank, savings institution, or credit union insured by the Federal Deposit Insurance Corporation (FDIC) or the National Credit Union Administration (NCUA).
 1. The bidder may use these instruments only to a maximum of one hundred thousand dollars (\$100,000.00).
 2. If the required security or bond amount totals over one hundred thousand dollars (\$100,000.00), more than one instrument not exceeding one hundred thousand dollars (\$100,000.00) each and issued by different financial institutions shall be acceptable.
 3. The instrument shall be made payable at sight to the Department of Transportation, State of Hawaii.

According to Section 103D-323, HRS, the above shall be in a sum not less than five percent (5%) of the amount bid.

2.4 DELIVERY OF PROPOSALS - Each proposal shall be placed, together with the proposal guaranty when required, in an envelope and sealed and so marked as to indicate the identity of the project, the name and address of the bidder, and other required information and then delivered as indicated in the Notice to Bidders. Proposals will be received up to the time fixed in the Notice to Bidders for the opening of bids.

2.5 WITHDRAWAL OF PROPOSALS - Any proposal may be withdrawn at any time prior to the time fixed in the Notice to Bidders for the opening of proposals upon the filing of a written request therefore with the Department, executed by the bidder or a duly authorized representative. The withdrawal of a proposal shall not preclude a bidder from submitting a new proposal.

2.6 PUBLIC OPENING OF PROPOSALS - Proposals will be opened and read publicly at the time and place indicated in the Notice to Bidders. Bidders or their authorized agents are invited to be present.

2.7 DISQUALIFICATION OF BIDDERS - Any of the following reasons may be considered as being sufficient grounds for the disqualification of a bidder and the rejection of his proposal or proposals.

A. More than one proposal for the same work from an individual, firm, or corporation under the same or different name.

B. Evidence of collusion among bidders. Participants in such collusion will receive no recognition as bidders for any future work of the Department until such participant shall have been reinstated as a qualified bidder.

C. Evidence of assistance from a person who has been an employee of the agency within the preceding two years and who participated while in State office or employment in the matter with which the contract is directly concerned, pursuant to Section 84-15, H.R.S.

D. Lack of proposal guaranty.

E. Unsigned proposal or proposal not signed in ink by person or persons legally authorized to submit a proposal on behalf of the bidder.

2.8 MATERIAL GUARANTY - The bidder may be required to furnish a complete statement of the origin, composition and manufacture of any or all materials to be used in the prosecution of the work, together with samples. Such samples may be subjected to tests to determine their quality and fitness for the work.

SECTION 3 - AWARD AND EXECUTION OF CONTRACT

3.1 AWARD OF CONTRACT - The State reserves the right to reject any and all proposals and to waive any defects as may be deemed to be in the best interest of the public.

The award of contract, if it be awarded, will be made within sixty (60) calendar days after the opening of bids to the lowest responsive and responsible bidder whose proposal complies with all the prescribed requirements. The successful bidder will be notified, by letter mailed to the address shown in its proposal, that its proposal has been accepted and it has been awarded the contract.

Requirement for award. To be eligible for award, the apparent low Bidder will be contacted to submit copies of the documents listed below to demonstrate compliance with Section 103D-310(c), HRS. The documents should be submitted to the Department as soon as possible. If a valid certificate/clearance is not submitted on a timely basis for award of a contract, a Bidder otherwise responsive and responsible may not receive the award.

A. Tax Clearance.

Pursuant to §103D-310(c), 103-53 and 103D-328, HRS, the successful bidder shall be required to submit a certified copy of its tax clearance issued by the Hawaii State Department of Taxation (DOTAX) and the Internal Revenue Service (IRS) to demonstrate its compliance with Chapter 237, HRS. A tax clearance is valid for six (6) months from the most recent approval stamp date on the tax clearance and must be valid on the bid's first legal advertisement date or any date thereafter up to the bid opening date.

FORM A6, TAX CLEARANCE CERTIFICATE, is available at the following website:

<http://www.hawaii.gov/tax/>

To receive DOTAX Forms by fax or mail, phone (808)587-7572 or 1-800-222-7572.

The application for the Tax Clearance Certificate is the responsibility of the bidder, and must be submitted directly to the DOTAX or IRS. The approved certificate may then be submitted to the Department.

B. DLIR Certificate of Compliance.

Pursuant to §103D-310(c), HRS, the successful bidder shall be required to submit a copy (faxed copies are acceptable) of its approved Certificate of Compliance issued by the Hawaii State Department of Labor and Industrial Relations (DLIR) to demonstrate its compliance with unemployment insurance (Chapter 383, HRS), workers' compensation (Chapter 386, HRS), temporary disability insurance (Chapter 392, HRS), and prepaid health care (Chapter 393, HRS). The certificate is valid for six (6) months from the most recent approval stamp date on the certificate and must be valid on the bid's first legal advertisement date or any date thereafter up to the bid opening date. For certificates which receive a "pending" approval stamp, a DLIR approval stamp is required prior to the issuance of the Notice to Proceed.

FORM LIR#27, APPLICATION FOR CERTIFICATE OF COMPLIANCE WITH SECTION 3-122-112, HAR, is available at the following website:

www.hawaii.gov/labor

More information is available by calling the DLIR Unemployment Insurance Division at (808) 586-8926.

Inquiries regarding the status of a LIR#27 Form may be made by calling the DLIR Disability Compensation Division at (808)586-9200.

The application for the Certificate of Compliance is the responsibility of the bidder, and must be submitted directly to the DLIR. The approved certificate may then be submitted to the Department.

C. DCCA Certificate of Good Standing.

Pursuant to §103D-310(c), HRS, the successful bidder shall be required to submit a copy (faxed copies are acceptable) of its approved Certificate of Good Standing issued by the Hawaii State Department of Commerce and Consumer Affairs (DCCA), Business Registration Division (BREG) to demonstrate that it is either:

- (1) incorporated or organized under the laws of the State; or
- (2) registered to do business in the State as

a separate branch or division that is capable of fully performing under the contract.

A Certificate of Good Standing is valid for six (6) months from the approval date on the certificate and must be valid on the bid's first legal advertisement date or any date thereafter up to the bid opening date. A Hawaii business that is a sole proprietorship, is not required to register with the BREG, and therefore not required to submit a Certificate of Good Standing. Bidders are advised that there are costs associated with registering and obtaining a Certificate of Good Standing from the DCCA.

To purchase a CERTIFICATE OF GOOD STANDING, go to On-Line Services at the following website:

www.hawaii.gov/dcca/

The application for the Certificate of Good Standing is the responsibility of the bidder, and must be submitted directly to the DCCA. The approved certificate may then be submitted to the Department.

3.2 CANCELLATION OF AWARD - The State reserves the right to cancel the award of any contract any time before the execution of said contract by all parties without any liability to the successful bidder or any other bidder.

3.3 RETURN OF PROPOSAL GUARANTY - All proposal guaranties, except those of the lowest two (2) bidders, will be returned immediately following the opening and checking of the proposals. The retained proposal guaranty of the second lowest bidder, if not a bid bond, will be returned within ten (10) calendar days following execution of contract by the successful bidder. The successful bidder's proposal guaranty, if not a bid bond, will be returned after a satisfactory contract bond has been furnished and the contract has been executed.

3.4 REQUIREMENT OF CONTRACT BOND - Only when required by the proposal, the successful bidder at the time of the execution of the contract shall file good and sufficient performance and payment bonds on the forms furnished by the Department, or a facsimile thereof, conditioned for the full and faithful performance of the contract in accordance with the terms and intent thereof and also for the prompt payment to all others for all labor and materials furnished by them to it and use in the prosecution of the work provided for in such contract,

in the manner, form and amount required by Section 3-122-224(b)(2), H.A.R., which bonds shall be in an amount equal to fifty per cent (50%) of the contract price, including amounts estimated to be required for extra work, or in the case of price-term, open-end, or requirements contract under which the total amount to be paid to the Contractor cannot be accurately estimated at the time the contract is to be awarded, the bond amounts shall be as designated in the bid documents. Such bonds shall also by their terms inure to the benefit of any and all persons entitled to file claims for labor performed or materials furnished in the work so as to give them a right of action as contemplated by Section 103D-324, H.R.S.

The bidder shall limit the acceptable performance and payment bonds to the following:

- (a) Legal tender; or
- (b) Surety bond underwritten by a company licensed to issue bonds in the State of Hawaii; or
- (c) A certificate of deposit; share certificate; cashier's check; treasurer's check; teller's check drawn by or a certified check accepted by and payable on demand to the State by a bank, savings institution or credit union insured by the Federal Deposit Insurance Corporation (FDIC) or the National Credit Union Administration (NCUA).

1. The bidder may use these instruments only to a maximum of one hundred thousand dollars (\$100,000.00).
2. If the required security or bond amount totals over one hundred thousand dollars (\$100,000.00) more than one instrument not exceeding one hundred thousand dollars (\$100,000.00) each and issued by different financial institutions shall be acceptable.

3.5 EXECUTION OF CONTRACT - The contract and the "Certificate for Performance of Services", similar to a copy of the same annexed hereto, shall be executed by the successful bidder and returned, together with the contract bonds, when required, within ten (10) days after the award of the contract or within such further time as the Director may allow after the bidder has received the contract for execution.

Pursuant to Section 103D-309, H.R.S., the contract shall not bind the State in any way unless said contract has been fully and properly executed by all the parties thereto and

the Comptroller has endorsed thereon a certificate that there is available an unexpended appropriation over and above all outstanding contracts, sufficient to cover the amount required by the contract.

3.6 FAILURE TO EXECUTE CONTRACT - Failure to execute the contract, Certificate for Performance of Services and file acceptable bonds, when required, within ten (10) days after the award of the contract, or within such further time as the Director may allow, shall be cause for the cancellation of the award and the forfeiture of the proposal guaranty. Award of the contract may then be made to the next lowest responsible bidder.

SECTION 4 - SCOPE OF WORK

4.1 WORK TO BE DONE - The work to be done is described in the Section(s) following Section 9 of these specifications.

4.2 PERFORMANCE OF WORK - The Contractor shall employ, so far as possible, such methods and means in carrying out his work so as not to cause any interruption, disturbance, or interference with the public.

In case the Contractor is performing work in a building, the Contractor shall conduct the work in such a manner so as not to cause any interruption, disturbance, or interference with the business activities of the tenants in the building.

4.3 EXTRA WORK - New and unforeseen items of work will be classed as extra work when they cannot be covered by any of the various items for which there is a bid price.

4.4 CHANGES AND CLAIMS FOR ADJUSTMENT

A. Change order. By a written order, at any time, and without notice to any surety, the procurement officer may, subject to all appropriate adjustments, make changes within the general scope of this contract in any one or more of the following:

1. Drawings, designs, or specifications, if the goods to be furnished are to be specially manufactured for the State in accordance therewith;
2. Method of shipment or packing;
3. Place of delivery;
4. Changes in the work within the scope of the contract; or
5. Changes in the time of performance of the contract that do not alter the scope of work.

B. Adjustments of price or time for performance. If any change order increases or decreases the contractor's cost of, or the time required for, performance of any part of the work under this contract, whether or not changed by the order, an adjustment shall be made and the contract modified in writing accordingly. Any adjustment in contract price made pursuant to this clause shall be determined in accordance with the price adjustment clause of this contract. Failure of the parties to agree to an adjustment shall not excuse the contractor from proceeding with the contract as changed, provided that the procurement officer promptly and duly make the provisional adjustments in payment or time for performance as may be reasonable. By proceeding with the work, the contractor shall not be deemed to have

prejudiced any claim for additional compensation, or an extension of time for completion.

C. Time period for claim. Within thirty (30) days after receipt of a written change order under subsection (a) unless the period is extended by the procurement officer in writing, the contractor shall file notice of intent to assert a claim for an adjustment. Later notification shall not bar the contractor's claim unless the State or county is prejudiced by the delay in notification.

D. Claim barred after final payment. No claim by the contractor for an adjustment hereunder shall be allowed if notice is not given prior to final payment under this contract.

E. Other claims not barred. In the absence of a change order, nothing in this clause shall be deemed to restrict the contractor's right to pursue a claim as under the contract or for breach of contract.

4.5 PRICE ADJUSTMENT

Any adjustment in contract price pursuant to a clause in this contract shall be made in one or more of the following ways:

- A. By agreement on a fixed price adjustment before commencement of the pertinent performance or as soon thereafter as practicable;
- B. By unit prices specified in the contract or subsequently agreed upon;
- C. By the costs attributable to the event or situation covered by the clause, plus appropriate profit or fee, all as specified in the contract or subsequently agreed upon;
- D. In such other manner as the parties may mutually agree; or
- E. In the absence of agreement between the parties, by a unilateral determination by the procurement officer of the costs attributable to the event or situation covered by the clause, plus appropriate profit or fee, all as computed by the procurement officer in accordance with generally accepted accounting principles and applicable sections of chapters 3-123 and 3-126 of the Hawaii Administrative Rules.

4.6 VARIATION IN QUANTITY

Upon agreement of the parties, the quantity of goods or services or both specified in this contract may be increased by a maximum of ten (10) percent provided (1) the unit prices will remain the same except for any price adjustments otherwise applicable and (2) the procurement officer makes a written determination that such an increase will either be more economical than awarding another contract or that it would not be practical to award another contract.

SECTION 5 - CONTROL OF WORK

5.1 AUTHORITY OF DIRECTOR - The Director shall decide all questions which may arise as to the quality or acceptability of materials furnished and work performed; the manner of performance and rate of progress of the work; the compensation for work performed; the interpretation of the contract and the fulfillment of the contract on the part of the Contractor. The Director's decision shall be final and the Director shall have the authority to enforce any such decision and order which the Contractor fails to carry out promptly and diligently. The Director shall have the following powers in the way of enforcement:

- A. The right to suspend the work.
- B. The right to withhold payment due the Contractor.

5.2 COORDINATION OF PLANS, SPECIFICATIONS AND SPECIAL PROVISIONS - These specifications, the plans, special provisions, and all supplementary documents are essential parts of the contract, and a requirement occurring in one is as binding as though occurring in all. They are intended to describe and provide for the complete work.

5.3 COOPERATION OF CONTRACTOR AND DIRECTOR - The Contractor shall have available at the work site at all times, a copy of the specifications, special provisions and plans. The Contractor shall give the work constant attention to facilitate the progress thereof and shall cooperate with the Director in every way possible.

Before starting work on the project, the Contractor shall designate in writing a superintendent who shall have complete authority to represent and to act for the Contractor.

5.4 INSPECTION - The Director at all times shall have access to the work during its prosecution and shall be furnished with every reasonable facility for ascertaining that the materials and the workmanship are in accordance with the requirements and intentions of these specifications and special provisions. All work done and all materials furnished shall be subject to the Director's inspection and approval.

The inspection of the work shall not relieve the Contractor of any of its obligations to fulfill its contract as prescribed, and defective work shall be made good and unsuitable materials may be rejected, notwithstanding that such defective work and materials may have been previously overlooked by the Director and accepted or included in an estimate for payment.

Projects financed in whole or in part with Federal funds shall be subject to inspection at all times by representatives of the Federal agency involved.

5.5 REMOVAL OF DEFECTIVE AND UNAUTHORIZED WORK - All work which has been rejected shall be corrected or removed and replaced by the Contractor in an acceptable manner and no compensation will be allowed the Contractor for such correction or removal and replacement. Upon failure on the part of the Contractor to comply promptly with any order of the Director, the Director may cause any rejected work to be corrected or removed and replaced and to deduct the costs thereof from any monies due or to become due the Contractor.

5.6 CLAIMS AND DISPUTES - The Contractor may give notice in writing to the Director for claims that extra compensation, damages, or an extension of time for completion is due the Contractor for one or more of the following reasons:

- A. Requirements not clearly covered in the contract, or not ordered by the Director as extra work;
- B. Failure between the State and the Contractor to agree to an adjustment in price for a contract change order issued by the State; or
- C. An action or omission on the part of the Director requiring performance changes within the scope of the contract.

The Contractor shall continue with performance of the contract in compliance with the directions or orders of the procurement officer, but by so doing, the Contractor shall not be deemed to have prejudiced any claim for additional compensation, damages, or an extension of time for completion; provided:

- A. The notice in writing be given:
 - 1. Before the commencement of the work involved, if at that time the Contractor knows of such requirements or the occurrence of such actions or omissions; or
 - 2. Within thirty (30) calendar days after the Contractor knows of such requirements or the occurrence of such action or omission if the Contractor did not have such knowledge before the commencement of the work; or
 - 3. Within thirty (30) calendar days after receipt of the written contract change order that was not

agreed upon by both parties; or

4. Within such further time as may be allowed by the Director in writing.

B. The notice shall clearly state the Contractor's intention to make claim and the reasons why the Contractor believes that additional compensation, changes or an extension of time may be remedies to which the Contractor is entitled; and afford the Director every facility for keeping records of the actual cost of work. Failure on the part of the Contractor to give such notification or to afford the procurement officer proper facilities for keeping strict account of actual cost shall constitute waiver of the claim for such extra compensation. The filing of such notice by the Contractor and the keeping of costs by the procurement officer shall not in any way be construed to prove the validity of the claim.

The Director will review the notice and render a decision. The Director's decision shall be final and conclusive unless, within thirty (30) calendar days from the date of the decision, the Contractor mails or otherwise furnishes a written appeal to the Director. The decision of the Director shall be final. Later notification of such claims shall not bar the Contractor's claim unless the State is prejudiced by the delay in notification. No claim by the Contractor for an adjustment hereunder shall be allowed if notice is not given before final payment under this contract. Any adjustment in the contract price made pursuant to this clause shall be determined according to Section 4.5 - Price Adjustment.

The provisions of this Section shall not be construed as establishing any claims contrary to the terms of Section 4.4 - Changes and Claims for Adjustment.

Nothing herein contained, however, shall excuse the Contractor from compliance with any rules of law precluding any state officers and any Contractors from acting in collusion or bad faith in issuing or performing contract change orders which are clearly not within the scope of the contract.

SECTION 6 - CONTROL OF MATERIAL AND EQUIPMENT

6.1 DEFECTIVE MATERIALS - All materials not conforming to the requirements of these specifications or the special provisions shall be considered defective and all such materials, whether in place or not, shall be rejected. They shall be removed immediately from the site of the work, unless otherwise permitted by the Director. No rejected materials, the defects of which have been subsequently corrected, shall be used until approval in writing has been given by the Director. Upon failure on the part of the Contractor to comply promptly with any order to remove and replace defective materials, the Director may remove and replace defective material and to deduct the cost of removal and replacement from any monies due or to become due the Contractor.

6.2 TRADE NAMES AND ALTERNATES - For convenience in designation on the plans or in the specifications, certain equipment or articles or materials may be designated under a trade name or the name of a manufacturer and its information catalogue. The use of alternate equipment or an article or material which is of equal quality and of the required characteristics for the purposes intended will be permitted, subject to the written approval of the Director, in accordance with the following requirements:

A. QUALIFICATION BEFORE BID OPENING - When the specifications and/or plans specify one or more manufacturer's brand names of materials or equipment to indicate a quality, style, appearance, or performance, the bidder will be assumed to have based its bid on one of the specified named products, except where such proprietary product are specified, alternate brands may be qualified if found equal or better by the Director. Bidders requesting qualification of alternate proprietary products must submit a request to the Director for review and approval at the earliest date possible, but in any event, such request must be received at the Contracts office not later than ten (10) days before the bid opening date, not including the bid opening date.

It shall be the responsibility of the bidder to submit sufficient evidence based upon which a determination can be made by the Director that the alternate brand is qualified. The evidence shall be transmitted with a covering letter which shall list the evidence submitted and the items for which the substitution is requested.

If the evidence accompanying a request for substitution is insufficient to qualify a particular

model, the request shall be denied provided that further evidence may be submitted to qualify the item five (5) days prior to the bid opening date if the initial request was made prior to the deadline set above.

B. SUBSTITUTION AFTER BID OPENING - Substitution of material or equipment will not be allowed after the bid opening date except under the following unforeseen circumstances:

1. If a specified or pre qualified item is delayed by a lengthy strike in the factory or other unforeseeable contingency beyond the control of the Contractor which would cause an abnormal delay in the project completion.
2. If a specified or pre qualified item is found to be unusable due to change or other circumstances.
3. If the Contractor is willing to provide a more recently developed or manufactured item of material or equipment of the same manufacturer which the Director determines to be equal or better than the one specified or pre-qualified.

A substitution request, regardless of reason, shall be fully explained in writing by the Contractor and shall include its justification for said request, the quantities and unit prices involved, quotations and such other documents as are deemed necessary to support the request. Any savings in cost will accrue to the State and any additional cost for the substituted items will be paid by the Contractor.

The burden of proof as to the comparative quality and suitability of alternate equipment, articles, or materials shall be upon the bidder or Contractor and bidder or Contractor shall furnish, at its own expense, all information necessary or related thereto as required by the Director. The Director shall be the sole judge as to the comparative quality and suitability of alternate equipment, articles or materials and the Director's decisions shall be final.

The above shall not be construed to mean that substitution for brand name specified materials and equipment will be allowed; the Director reserves the right to deny any request he deems irregular or not in the best interest of the State.

6.3 ASSIGNMENT OF ANTITRUST CLAIMS FOR OVERCHARGES FOR GOODS AND MATERIALS PURCHASED

A. Vendor and purchaser recognize that in actual economic practice, overcharges resulting from antitrust violations are in fact usually borne by the purchaser. Therefore, vendor hereby assigns to purchaser any and all claims for such overcharges as to goods and materials purchased in connection with this order or contract, except as to overcharges which result from antitrust violations commencing after the price is established under this order or contract and which are not passed on to the purchaser under an escalation clause.

B. Contractor and owner recognize that in actual economic practice, overcharges resulting from antitrust violations are in fact usually borne by the owner. Therefore, contractor hereby assigns to owner any and all claims for such overcharges as to goods and materials purchased in connection with this order or contract, except as to overcharges which result from antitrust violations commencing after the price is established under this order or contract and any change order. In addition, contractor warrants and represents that each of its first tier suppliers and subcontractors shall assign any and all such claims to owner, subject to the aforementioned exception.

SECTION 7 - LEGAL RELATIONS AND RESPONSIBILITY

7.1 LAWS TO BE OBSERVED - The Contractor shall comply with all federal, state, city and county laws, ordinances, rules and regulations which in any manner affect those engaged or employed in the work, the materials used in the work, and the conduct of the work. Any reference to such laws, ordinances, rules and regulations shall include any amendments thereto effective as of the date of the call for sealed proposals.

The Contractor shall hold harmless, indemnify, defend and where appropriate, insure the State, its officers, agents and employees against any claim or liability arising from or based on the violation of any such laws, ordinances, rules or regulations. If any discrepancy or inconsistency is discovered in the contract for the work in relation to any law, ordinance, rule, regulation, order or decree, the Contractor shall forthwith report the same to the Director in writing.

7.2 PERMITS AND LICENSES - The Contractor shall procure all permits and licenses, pay all charges and fees, and give all notices necessary and incident to the due and lawful prosecution of the work.

7.3 PATENTS - The Contractor shall assume all costs arising from the use of patented materials, equipment, devices, or processes used on or incorporated in the work, and shall hold harmless, indemnify, defend and where appropriate, insure the State, its officers, agents and employees from all suits at law or actions of every nature, for or on account of the use of any patented materials, equipment, devices or processes.

7.4 RESPONSIBILITY FOR INJURY AND DAMAGE - The State, its officers, agents and employees shall not be held accountable in any manner for any loss or damage to the work or any part thereof, or for any of the materials and equipment used or employed in performing the work, or for any injury to any person or persons either workers or the public, or for any damage to property caused by the Contractor or its workers or any one employed by the Contractor. The Contractor shall be responsible for any liability imposed by law for any injury to any person or any damage to property resulting from defects or obstructions or from any cause whatsoever during the progress of the work or at any time before its completion and final acceptance. The acceptance of the completed work of the Contractor by the Director shall not relieve the Contractor from any liability which may have accrued or may accrue as a result of the performance of the work by the Contractor. The Contractor shall hold harmless, indemnify, defend and where appropriate, insure the State, its officers, agents and employees, from all suits or actions of every name, kind and description, brought for or on account of

any injuries or damages sustained by any persons or property caused by the Contractor, its servants or agents, or by or on account of any act or omission of the Contractor or its servants or agents, regardless of whether such actions or any claim is brought against them or any one of them before or after the final acceptance of the work. In addition to any remedy authorized by law, the State may withhold payment of any money due to Contractor as shall be reasonable until disposition has been made of any suits or claims for injuries or damages.

It is not the intention of the parties to this contract to make the public or any member thereof a third party beneficiary hereunder, or to authorize anyone not a party hereto to maintain a suit for personal injuries or property damage based on a contract theory of liability. In any event, the Contractor shall hold harmless, indemnify, defend and where appropriate, insure the State from suits and claims for personal injuries or property damage where such injuries or damage are caused by the negligent acts or omissions of the Contractor, its agents or employees.

7.5 COOPERATION BETWEEN CONTRACTORS - Where two or more Contractors are employed on related or adjacent work, each shall conduct its operations in such a manner as not to cause any unnecessary delay or hindrance to the other.

7.6 CONTRACTOR'S RESPONSIBILITY FOR WORK - Until the acceptance of the contract, the Contractor shall have the charge and care thereof and shall bear the risk of injury or damage to any part thereof by the action of the elements or from any other cause, whether arising from the execution or from the non-execution of the work. The Contractor shall rebuild, repair, restore, and make good all damages to any portion of the work occasioned by any of the above causes before its completion and acceptance and shall bear the expenses thereof.

7.7 NO PERSONAL LIABILITY - Neither the Director nor any other officer or authorized employee of the Department shall be personally responsible for any liability arising under the contract.

7.8 LABOR AND COMPENSATION REQUIREMENTS - Wages paid each laborer employed by the Contractor or any subcontractor shall not be less than the prevailing minimum wage rate prescribed by law.

Every laborer employed by the Contractor or any subcontractor whose rate of compensation is Five Dollars (\$5.00) or less per day shall be paid his wages weekly pursuant to Section 103-54, H.R.S.

The Contractor's attention is directed to Chapter 377, H.R.S., Hawaii Employment Relations Act; Chapter 378, H.R.S., Employment Practices; Chapter 383, H.R.S., Hawaii Employment Security Law; Chapter 386, H.R.S., Workers' Compensation Law; Chapter 387, H.R.S., Wage and Hour Law; Chapter 392, H.R.S., Temporary Disability Insurance; Chapter 393, H.R.S., Prepared Health Care Act; Chapter 396, H.R.S., Occupational Safety and Health; and Section 103-55, H.R.S., Wages, Hours, Working Conditions of Employees of Contractor's Supplying Services.

7.9 INSURANCE - Prior to commencing with the work, the Contractor shall, at its own expense, obtain and submit to the Department, Certificate of Insurance from an insurance company authorized by the laws of the State to issue such insurance in the State of Hawaii showing full policy coverage of the Contractor.

TYPES OF INSURANCE:

A. Workers' Compensation:

The Contractor shall obtain worker's compensation insurance for all persons whom they employ in carrying out the work under this contract. This insurance shall be in strict conformity with the requirements of the most current and applicable State of Hawaii Worker's Compensation Insurance laws in effect on the date of the execution of this contract and as modified during the duration of the contract. The minimum limit of liability for workers compensation is the HRS 386 statutory limit.

B. Comprehensive Automobile Liability:

The Contractor shall obtain Auto Liability Insurance covering all owned, non-owned and hired autos with a combined single Limit of not less than \$1,000,000 per accident for bodily injury and property damage with the State of Hawaii named as additional insured. The required limit of insurance may be provided by a single policy or with a combination of primary and excess

policies.

C. Commercial General Liability:

The Contractor shall obtain General Liability insurance with a limit of not less than \$1,000,000 per occurrence and in the aggregates. The General liability insurance shall include the State of Hawaii as an additional insured. The required limit of insurance may be provided by a single policy or with a combination of primary and excess policies.

All policies must provide that 30 days prior written notice of cancellation or material change in coverage be given to certificate holders stated above.

Such insurance when accepted by the Director in writing shall become applicable and shall remain unmodified throughout the entire term of the contract and in no event shall be terminated or otherwise allowed to lapse prior to written certification of final acceptance of the work by the State. Such insurance aforementioned shall cover the State for all work performed under the contract, all work performed incidental thereto or directly or indirectly connected therewith, including other work performed outside of the work area, and all change orders.

Any delay in the submission and approval of insurance certificates shall not be justification of or grounds for a request by the Contractor postponing the issuance of a notice to proceed notwithstanding the fact that the Contractor shall not be allowed to proceed with the work until said certificates are submitted and approved.

Failure to obtain insurance in accordance with the Section, on the part of the Contractor, shall be considered a major breach of the contract; and should the State be forced to expend funds which would have been covered under the insurance, the Contractor agrees to assume the liability for such funds and to indemnify and hold the State harmless.

SECTION 8 - PROSECUTION AND PROGRESS

8.1 NOTICE TO PROCEED - A "Notice to Proceed" letter will be written to the Contractor by the Director. Such letter will indicate the date the Contractor is to begin work and from which date the contract time will commence to run.

The Contractor shall diligently perform the required duties during the term of the contract, or if the work is to be completed within a specified time limit, the Contractor shall diligently prosecute the work to completion within the specified time limit.

8.2 SUBCONTRACTING - The Contractor shall give its personal attention to the fulfillment of the contract and shall keep the work under its control.

Subject to Section 103D-302, H.R.S., the Contractor may subcontract a portion of the work pursuant to the provisions of this section, but the Contractor shall be primarily responsible for the work so subcontracted. The Contractor shall not subcontract any work to any subcontractor who has been suspended by the State.

Before any work is started under a subcontract, the Contractor shall have the written approval of the Director on a written statement on forms furnished by the Department, indicating the work to be subcontracted, the names of the subcontractors and the description of each portion of the work to be so subcontracted and showing that the subcontractors are particularly experienced and equipped to do the work subcontracted. The Contractor shall give assurance that the minimum wage rate schedule as stated in the contract shall apply to labor performed on the work so subcontracted. Consent of the Director to the subcontracting of work shall not be construed to relieve the Contractor of any responsibility for the fulfillment of the contract.

When any portion of the work which has been subcontracted by the Contractor is not prosecuted in a manner satisfactory to the Director, the Contractor, upon receipt of a notice thereof in writing from the Director, shall remove the subcontractor immediately from the project and the subcontractor shall not again be employed on the work.

8.3 ASSIGNMENT OF CONTRACT - The performance of the contract may be assigned only with the prior written consent of the Director and when applicable, the Contractor's surety. Consent to any assignment shall not relieve the Contractor or the Contractor's surety of any obligations of the contract.

8.4 INSUBORDINATION - If any subcontractor or person employed by the Contractor shall fail or refuse to carry out the directions of the Director or shall appear to the Director to be incompetent or to act in a disorderly or improper manner, the subcontractor or person shall be removed immediately upon request by the Director and shall not again be employed on the work, nor shall it be employed upon any other Department project currently under contract to the same Contractor or subcontractor.

8.5 TEMPORARY SUSPENSION OF WORK

A. Order to stop work. The Director, may, by written order to the contractor, at any time, and without notice to any surety, require the contractor to stop all or any part of the work called for by this contract. This order shall be for a specified period not exceeding sixty (60) days after the order is delivered to the contractor, unless the parties agree to any further period. Any such order shall be identified specifically as a stop work order issued pursuant to this section. Upon receipt of such an order, the contractor shall forthwith comply with its terms and take all reasonable steps to minimize the occurrence of costs allocable to the work covered by the order during the period of work stoppage. Before the stop work order expires, or within any further period to which the parties shall have agreed, the Director shall either:

1. Cancel the stop work order; or
2. Terminate the work covered by such order as provided in the "termination for default clause" or the "termination for convenience clause" of this contract.

B. Cancellation or expiration of the order. If a stop work order issued under this section is canceled or if the period of the order or any extension thereof expires, the contractor shall have the right to resume work. An appropriate adjustment shall be made in the delivery schedule or contract price, or both, and the contract shall be modified in writing accordingly; if:

1. The stop work order results in an increase in the time required for, or in the contractor's cost properly allocable to, the performance of any part of this contract; and
2. The contractor asserts a claim for such an adjustment within thirty (30) days after the end of the period of work stoppage; provided that, if the Director decides that the facts justify such

action, any such claim asserted may be received and acted upon at any time prior to final payment under this contract.

C. Termination of stopped work. If a stop work order is not canceled and the work covered by such order is terminated for default or convenience, the reasonable costs resulting from the stop work order shall be allowable by adjustment or otherwise.

D. Adjustment of price. Any adjustment in contract price made pursuant to this clause shall be determined in accordance with the price adjustment clause of this contract.

8.6 LIQUIDATED DAMAGES - It is mutually understood and agreed by and between the parties to the contract that the performance by the Contractor of its duties every calendar/working day is an essential part of the contract and in case of failure on the part of the Contractor to perform its duties for the time specified in the contract, the State will be damaged thereby and the amounts of said damages being difficult, if not impossible of definite ascertainment and proof, shall be estimated, agreed upon and fixed at the sum shown in the proposal for each and every calendar/working day that the Contractor fails to perform its duties during the period the contract is in effect; and the Contractor shall pay the liquidated damages as provided for in the proposal and, in case the same are not paid, the Department may deduct the amount thereof from any monies due or that may become due the Contractor under the contract.

8.7 DEFAULT AND TERMINATION OF CONTRACT

A. Termination by Default. If the contractor refuses or fails to perform any of the provisions of this contract with such diligence as will ensure its completion within the time specified in this contract, or any extension thereof, otherwise fails to timely satisfy the contract provisions, or commits any other substantial breach of this contract, the Director may notify the contractor in writing of the delay or non-performance and if not cured in ten (10) days or any longer time specified in writing by the Director, such officer may terminate the contractor's right to proceed with the contract or such part of the contract as to which there has been delay or a failure to properly perform. In the event of termination in whole or in part the Director may procure similar goods or services in the manner and upon terms deemed appropriate by the Director. The contractor shall continue performance of the contract to the extent it is not terminated and shall be liable for excess costs incurred in procuring

similar goods or services.

1. Contractor's duties. Notwithstanding termination of the contract and subject to any directions from the Director, the contractor shall take timely, reasonable, and necessary action to protect and preserve property in the possession of the contractor in which the State or county has an interest.

2. Compensation. Payment for completed goods delivered and accepted by the State shall be at the contract price. Payment for the protection and preservation of property shall be in an amount agreed upon by the contractor and Director; if the parties fail to agree, the Director shall set an amount subject to the contractor's rights under chapter 3-126, HAR. The State may withhold from amounts due the contractor such sums as the Director deems to be necessary to protect the State against loss because of outstanding liens or claims of former lien holders and to reimburse the State for the excess costs incurred in procuring similar goods and services.

3. Excuse for nonperformance or delayed performance. Except with respect to defaults of subcontractors, the contractor shall not be in default by reason of any failure in performance of this contract in accordance with its terms, including any failure by the contractor to make progress in the prosecution of the work hereunder which endangers such performance, if the contractor has notified the Director within fifteen (15) days after the cause of the delay and the failure arises out of causes such as: acts of God; acts of the public enemy; acts of the State and any other governmental body in its sovereign or contractual capacity; fires; floods; epidemics; quarantine restrictions; strikes or other labor disputes; freight embargoes; or unusually severe weather. If the failure to perform is caused by the failure of a subcontractor to perform or to make progress, and if such failure arises out of causes similar to those set forth above, the contractor shall not be deemed to be in default, unless the goods or services to be furnished by the subcontractor were unreasonably obtained from other sources in sufficient time to permit the contractor to meet the contract requirements. Upon request of the contractor, the Director shall ascertain the facts and extent of such failure, and if such officer determines that any failure to perform was

occasioned by any one or more of the excusable causes, and that, but for the excusable cause, the contractor's progress and performance would have met the terms of the contract, the delivery schedule shall be revised accordingly, subject to the rights of the State under the clause entitled "Termination for Convenience". As used in this paragraph of this clause, the term "subcontractor" means subcontractor at any tier.

4. Erroneous termination for default. If, after notice of termination of the contractor's right to proceed under the provisions of this clause, it is determined for any reason that the contractor was not in default under the provisions of the clause, or that the delay was excusable under the provisions of paragraph 3 above, Excuse for nonperformance or delayed performance of this clause, the rights and obligations of the parties shall, if the contract contains a clause providing for termination for convenience of the State, be the same as if the notice of termination had been issued pursuant to such clause.

5. Additional rights and remedies. The rights and remedies provided in this clause are in addition to any other rights and remedies provided by law or under this contract.

B. Termination for convenience. The Director may, when the interests of the State so require, terminate this contract in whole or in part, for the convenience of the State. The Director shall give written notice of the termination to the contractor specifying the part of the contract terminated and when termination becomes effective.

1. Contractor's obligation. The contractor shall incur no further obligations in connection with the terminated work and on the dates set in the notice of termination the contractor will stop work to the extent specified. The contractor shall also terminate outstanding orders and subcontracts as they relate to the terminated work. The contractor shall settle the liabilities and claims arising out of the termination of subcontracts and orders connected with the terminated work. The Director may direct the contractor to assign the contractor's right, title, and interest under terminated orders or subcontracts to the State. The contractor must still complete the work not terminated by the notice of termination and may incur obligations as are necessary to do so.

2. Right to goods. The Director may require the contractor to transfer title and deliver to the State in the manner and to the extent directed by the Director:

- a. Any completed goods; and
- b. The partially completed goods and materials, parts, tools, dies, jigs, fixtures, plans, drawings, information, and contract rights hereinafter called "manufacturing material," as the contractor has specifically produced or specially acquired for the performance of the terminated part of this contract.

The Contractor shall, upon direction of the Director, protect and preserve property in the possession of the contractor in which the State has an interest. If the Director does not exercise this right, the contractor shall use the Contractor's best efforts to sell such goods and manufacturing materials. Use of this section in no way implies that the State has breached the contract by exercise of the termination for convenience clause.

3. Compensation:

- a. The Contractor shall submit a termination claim specifying the amounts due because of the termination for convenience together with cost or pricing data to the extent required by subchapter 15, chapter 3-122, HAR, bearing on such claim. If the Contractor fails to file a termination claim within one (1) year from the effective date of termination, the Director may pay the Contractor, if at all, an amount set in accordance with subparagraph c. below.
- b. The Director and the Contractor may agree to settlement provided the Contractor has filed a termination claim supported by cost or pricing data to the extent required by subchapter 15, chapter 3-122, HAR, and that the settlement does not exceed the total contract price plus settlement costs reduced by payments previously made by the State, the proceeds of any sales of goods and manufacturing materials under paragraph (2) of this clause, and the contract price of the work not terminated.

c. Absent complete agreement under subparagraph b above, the Director shall pay the Contractor the following amounts, provided payments agreed to under subparagraph b shall not duplicate payments under this subparagraph for the following:

(i) Contract prices for goods or services accepted under the contract;

(ii) Costs incurred in preparing to perform and performing the terminated portion of the work plus a fair and reasonable profit on such portion of the work, such profit shall not include anticipatory profit or consequential damages, less amounts paid or to be paid for accepted goods or services; provided that if it appears that the Contractor would have sustained a loss if the entire contract would have been completed, no profit shall be allowed or included and the amount of compensation shall be reduced to reflect the anticipated rate of loss;

(iii) Costs of settling and paying claims arising out of the termination of subcontracts or orders pursuant to paragraph 1 of this clause. These costs must not include costs paid in accordance with subparagraph (ii) above.

(iv) The reasonable settlement costs of the Contractor including accounting, legal, clerical, and other expenses reasonably necessary for the preparation of settlement claims and supporting data with respect to the terminated portion of the contract and for the termination of subcontracts thereunder, together with reasonable storage, transportation, and other costs incurred in connection with the protection or disposition of property allocable to the terminated portion of this contract. The total sum to be paid the Contractor under this subparagraph shall not exceed the total contract price plus the reasonable settlement cost of the Contractor reduced by the amount of payments otherwise made, the proceeds of any sales of supplies and manufacturing materials under subparagraph b of this paragraph, and the contract price of work not terminated.

d. Cost claimed, agreed to, or established under subparagraphs b and c shall be in accordance with chapter 3-123, HAR. bearing on such claim.

8.8 FINAL INSPECTION - Upon notice from the Contractor of the completion of the work or contract, the Director shall make an inspection. If the contract is found completed to the Director's satisfaction, such inspection shall constitute the final inspection and acceptance of the work.

If the work is unsatisfactory in whole or in part, the Director shall notify the Contractor of the work necessary for final completion and acceptance and the Contractor shall forthwith perform the work required by the Director. Upon performance of such required work by the Contractor, another inspection shall be made which shall constitute the final inspection if the work is completed satisfactorily.

Within ten (10) days after final inspection and acceptance of the work, or as soon thereafter as is practicable, the Contractor shall be notified by the Director in writing of such acceptance.

8.9 TERMINATION OF CONTRACTOR'S RESPONSIBILITY - The contract will be considered complete when all work has been completed, the final inspection made, the work accepted by the Director, and the final estimate paid. The Contractor will then be released from further obligation except as set forth in the contract and bond, when applicable.

SECTION 9 - PAYMENT

9.1 SCOPE OF PAYMENT - The Contractor's bid price shall be inclusive of all costs, direct or indirect, including all taxes, required for the fulfillment of the contract.

Contract payments to the Contractor by the State shall be full payment for the furnishing of all labor, tools, equipment, and other incidentals, including all taxes, necessary for performing all work and services contemplated and embraced under the contract.

9.2 RETAINAGE/DEDUCTION FROM PAYMENT - The Director may at any time retain or deduct out of any sums due the Contractor to cover claims of the State against the Contractor, or such sums sufficient to cover any unpaid claims of others supported by sworn statements filed in the office of the Director, without any liability for damages, interest or otherwise to the Contractor for such retention or deduction.

Provided the work of the Contractor is progressing satisfactorily in the judgment of the Director and in accordance with the provisions of this contract, monthly payments, less five percent (5%), will be made to the Contractor. The amount of such monthly payments shall be determined by the Director based on the Director's estimate of the items of work performed and materials incorporated in the work and the value therefor at the unit prices or lump sum prices set forth in the contract. All monthly payments are shall be subject to correction at any time prior to or in the final payment.

At any time after fifty per cent (50%) of the work has been completed, if the State determines that the work contracted to be performed is progressing satisfactorily, the State may make any of the remaining monthly payments in full.

If the Director finds that unsatisfactory progress is being made, the State may, from the beginning of such unsatisfactory progress, withhold any amount up to five per cent (5%) of any subsequent monthly payment.

9.3 ASSIGNMENT OF PAYMENTS - All monies payable under the contract, or any part thereof, shall be paid to the Contractor in accordance with the provisions of this Section and no assignment or order executed by the Contractor directing payment of any portion or all of such funds to any other person or persons shall be recognized by the State unless such assignment or order specifies the amounts to be so paid and the purposes for which the assignment or order is given. Such assignment or order shall have attached thereto, by endorsement or otherwise, the consent of the surety, when

applicable. No such assignment or order shall be binding on the State.

Any assignment of money shall, however, be subject to all proper set-offs in favor of the State, to all deductions provided for in the contract and to all liens and rights conferred by law on the State. All money withheld, whether assigned or not, shall be subject to being used by the State for the completion of the work in the event of the Contractor's default.

9.4 PROGRESS PAYMENTS - Payments under this contract shall be made only upon submission by the Contractor of an original invoice and 2 copies. The invoice shall specify the amount due less retainage and shall also certify that services requested under the contract have been performed by the Contractor according to the contract.

9.5 FINAL PAYMENT - Final payment will only be made after the Contractor receives final acceptance by the Director as provided in Section 8.8, and until the Contractor has filed with the Department the following:

A. Consent of the surety, when applicable, to payment of the final estimate;

B. Satisfactory evidence by affidavit that all debts resulting from the contract have been fully paid or satisfactorily secured;

C. A current "Certificate of Vendor Compliance" issued by the Hawaii Compliance Express (HCE). The Certificate of Vendor Compliance is used to certify the Contractor's compliance with (a) Section 103D-328, HRS (for all contracts \$25,000 or more) which requires a current tax clearance certificate issued by the Hawaii State Department of Taxation and the Internal Revenue Service; (b) Chapters 383, 386, 392, and 393, HRS; and (c) Subsection 103D-310(c), HRS. The State reserves the right to verify that compliance is current prior to the issuance of final payment. Contractors are advised that non-compliance status will result in final payment being withheld until compliance is attained.

The filing of willfully false affidavits will disqualify the Contractor from bidding on future work of the Department.

SECTION 10 – MAINTENANCE OF LANDSCAPED AREAS

10.1 DESCRIPTION

The work shall consist of maintenance of planted areas through continued watering, weeding, fertilizing, mowing, reseeding, cultivating, spraying, mulching, trimming and care of shrubs and trees, edging, invasive plant removal, and other services necessary for care and upkeep of highway plantings. This section also describes replacement of dead or damaged plants, clearing and clearing of sidewalks, gutters, swales, and ditches within the contract limits and removal and disposal of trash and debris.

The location plans in the Appendices show areas where landscaped maintenance services are to be provided on HDOT rights-of-way at the H-3 Freeway between the Halekou Interchange to the Kailua Interchange. These plans are in reduced scale and bidders are advised to review the full-scale plans that are available at the Oahu District office by appointment.

10.2 COORDINATION OF WORK

All work under this contract shall be coordinated with the Engineer or a duly authorized representative.

Engineer Mr. Mike Medeiros District Engineer (DE) – Oahu District Phone: 808-831-6700 x128 Fax: 808-831-6725 Email: mike.medeiros@hawaii.gov	Authorized Representative of the DE Mr. Dean Takayama District Horticulturist – Oahu District Phone: 808-831-6700 x132 Fax: 808-831-6725 Email: dean.t.takayama@hawaii.gov
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10.3 QUALIFICATIONS OF BIDDERS

Contractors may be asked to provide documentation of licenses, certificates and other required documents listed in the subsections below. The applicable requested documents in Section 10.3(A) and (B) shall be received by the Project Manager no later than seven (7) working days from the date of receipt of the written request from the State. Failure to submit requested documents may result in the rejection of bid or termination of contract by the Department of Transportation.

Attention is direct to the provisions of Chapter 444, Contractors, of the Hawaii revise statutes, regarding the licensing of contractors in the State.

(A) Contractor or Contractor's Responsible Managing Employee (RME) Qualification.

1. **License.** At the time of bidding, possesses a valid State of Hawaii Specialty Contractor's C-27, Landscaping contractor license. The Contractor shall possess the license throughout the duration of the contract and or any extensions. The

Contractor shall provide a copy of the specified license and contractor license number as applicable.

2. **Work Experience.** At the time of bidding, the Contractor shall have a minimum of two (2) consecutive years of Hawaii Specialty Contractor's C-27, Landscaping Contractor's experience. The experience shall include a minimum of two (2) years in managing contracts like this project in size and scope immediately prior to bid opening. The contractor shall provide the number of years of experience as applicable.
 - a. The State may request a list of similar projects to substantiate the bidder's/contractor's experience. The list shall contain a minimum of three (3) different landscape projects and shall include a) name of the company, b) point of contact, c) phone number, d) description of landscaping work performed, and e) size of the project (cost wise).
3. The contractor shall possess the required business and tax license to conduct business in the State of Hawaii.
4. The contractor shall have all required equipment and tools necessary to perform the specified services for this project. Contractors using a leasing required equipment will need to provide a lease agreement and show availability for this project. Approval and verification for all equipment shall be made the by State.
5. The contractor shall be able to provide and be experience in traffic control following the current U.S. Federal Highway Administration's Manual on Uniform Traffic Control Devices (MUTCD)
6. Have all required equipment (e.g., handheld tools, utility trucks, aerial bucket trucks, chippers, etc.) necessary to perform the specified services in this document. For leased equipment, the copy of the lease agreement shall be verified during the pre-start meeting.
 - a. Required equipment maybe owned or leased. To show availability of equipment, the bidder shall submit a list of owned and or leased equipment.
 - b. Bidders who are currently renting equipment shall submit a copy of rental agreements during the pre-start meeting as specified in Section 10.10 Pre-start Meeting. The State reserves the right to verify the availability of equipment, prior to the Notice to Proceed date and throughout the term of the contract. The Contractor shall bear the cost of the lease.
 - c. The following are required on all equipment/vehicles, as applicable:

- i. Contractor's vehicles must have Contractor's company name and/or logo displayed on doors or side panels and shall be in letters large enough to be easily legible from a distance of one hundred (100) feet. Magnetic signs bearing the contractor's company name/logo are acceptable. Cost for the logo/contractor's company name shall be considered as incidental cost of palm pruning or removal services.
 - ii. All vehicles shall be kept in good condition and appearance.
 - iii. Shall meet all State and County licensing and registration and safety requirements and shall be equipped properly in accordance with City, State, Federal and OSHA requirements.
 - iv. Equipment/vehicles parked on the shoulder shall require proper traffic signage (i.e., "Shoulder Work Ahead", etc.) traffic cones, barricades, etc. as necessary and placed in accordance with the MUTCD. Refer to Section 10.8(A)5.
 - v. The Contractor shall obtain insurance coverages as specified by Section 7.9 Insurance.
 - vi. Operation of all equipment shall be in accordance with all applicable OSHA, other Federal, State, and local regulations and laws and the equipment operator's manual.
7. Be familiar with working on State Highways preferably on the Island of Oahu.
 8. Be experienced on establishing required traffic control per the current U.S. Federal Highway Administration's 'Manual on Uniform Traffic Control Devices (MUTCD). The Contractor may employ a person or use a sub-contractor who is knowledgeable on traffic control.
 9. Proposed Disposal Site Location. This information shall be provided no later than seven (7) working days from the date of receipt of the written request from the State and shall be verified prior to award and prior to issuance of the Notice to Proceed to the lowest responsive and responsible bidder.
 10. Possess a valid disposal permit. This requirement shall be provided no later than seven (7) working days from the date of receipt of the written request from the State and shall be verified three (3) working days prior to the Notice to Proceed date to the lowest responsive bidder. Failure to submit the required document(s) shall be grounds for terminating the contract.

(B) Contractor or Contractor's RME or Contractor's Personnel Qualification.

The Contractor shall determine the number of trained/certified staff personnel that is to be employed to satisfactorily perform all the tasks following all the safety requirements of the contract documents, but shall employ the minimum number of personnel as specified below who is trained/certified/licensed/experienced on the following:

1. **Lead Maintenance Person/Highway Maintenance Supervisor.** At the time of bidding, the Contractor shall employ, as a minimum, a Certified Landscape Technician (CLT) in good standing. The CLT shall have a minimum of one (1) year experience in supervising personnel performing general landscaping maintenance work on state highway's right-of-way areas or two (2) years of experience in general landscaping.
 - a. The CLT shall be always present on-site during any work activity for this project. Liquidated Damages may be incurred if a CLT is not present.
 - b. A list of employed CLT with their certification shall be provided to the State at the Pre-Start Meeting (refer to Section 10.10).

2. **Traffic Control Personnel.** The Contractor shall have personnel with at least two (2) years' experience in establishing the required traffic control using the current U.S. Federal Highway Administration's Manual on Uniform Traffic Control Devices (MUTCD). The Contractor shall provide a list of personnel who is trained and certified on the following American Traffic Safety Services Association (ATSSA) courses or approve equivalent at the Pre-Start Meeting (refer to Section 10.10). The list shall include the full name of each personnel with their certification and expiration date, course information, and years' experience relative to the list below.
 - a. Flagger
 - b. Traffic Control Technician (TCT)
 - c. Traffic Control Supervisor (TCS)

For more information on the above courses, log on to:

<http://www.atssa.com/training>

The Contractor may, with approval from the State, use a sub-contractor who is qualified and knowledgeable with the traffic control. The subcontractor shall fulfill all training and certification requirements for this project.

3. **Fall Protection Competent Personnel.** The contractor shall have current personnel who satisfies the requirements of the 29 CFR 1926.503 and other

Federal, State, and local regulations for Fall Protection. Have the requirement to meet the "Competent Person" as defined in 29 CFR 1926.32(f). A list of qualified persons shall include the full name of each personnel with their certification and expiration date, course information, and years of experience.

(C) Falsification of personal qualifications, inability to successfully perform the work, or excessively high turnover of personnel assigned to this work shall constitute a major breach of this contract and the contract shall be subject to termination.

(D) Supplementary Contractor Personnel Requirements.

1. Uniforms. Contractor employees on the job site shall be easily identified as the Contractor's employee by wearing a shirt, T-shirt or coverall with the company name or logo. All Contractor's personnel shall always present a neat and clean appearance. One color and style of uniform shirt shall be selected which will be worn by all Contractor personnel. Cost of employee's shirt, T-shirt or coverall shall be incidental to the unit price of palm pruning and removal services.
2. Conduct of personnel. The State reserves the right to disqualify a person based on performance anytime during the contract. Upon disqualification, the Contractor has ten (10) working days to submit a qualified replacement.
3. The Contractor shall prohibit their personnel from parking their personal-owned vehicle along the highway right-of-way areas.

(E) Schedule of Submitting Required Documents.

The applicable requested documents in Section 10.3(A) and (B) shall be received by the Project Manager no later than seven (7) working days from the date of receipt of the written request from the State.

All required and requested documents as listed below and/or specified in this contract shall be submitted prior to award and/or the notice to proceed date to the Engineer and Project Manager. The Engineer/Project Manager shall verify and approve all submittals.

Failure to submit required or requested documentation may result in bid rejection or termination of contract by the Department of Transportation.

1. Equipment List including lease agreement and equipment availability.
2. List of all personnel working on this contract including names, telephone numbers, and applicable license and certifications.
3. Safety Plan
4. Traffic Control Plan
5. Safety Data Sheets
6. Certified Payroll Affidavit (Submitted monthly when service is performed.)

10.4 INSPECTION OF PLANS AND OF AREAS TO BE MAINTAINED

- (A) A set of detailed plans showing the limits of the areas and plant inventory to be maintained will be available for inspection at Oahu District Baseyard Office at 727 Kakoi Street, Honolulu, Hawaii 96819, from the first day of advertising for bids up to an including the day of bid opening. In case of dispute over limits of work areas, the limits shown on the detailed plans shall govern. It is the Contractor's responsibility to meet with District personnel and discuss the plans and specifications prior to submitting a proposal.
- (B) In case of new construction and other State maintenance activities, whether planned or unplanned, the State reserves the right to reduce the scope of work and areas to be maintained within the landscaped areas as specified in the contract. The State shall issue a Change Order and shall modify the contract in writing as specified in Section 4.4, Changes and Claims for Adjustments. Adjustments in the contract price shall be determined in accordance with Section 4.5 Price Adjustment.
- (C) Once construction is complete and plants have been established on new construction, the State may request the Contractor to provide landscaped maintenance services. The State shall issue a Change Order and shall modify the contract in writing as specified.
- (D) Throughout the life of the contract, the State may add additional small areas that are not under contract which are "adjacent" or "within the vicinity" to the project limits and which are the property of the State, requiring services that are specified in this contract. For the purposes of these specifications, the work "adjacent" or "within the vicinity" shall be defined by the proximity of the closest landscaped area under contract to the proposed additional area and not by a certain measured linear distance. By this definition, as an example, the State may add a small area as mentioned above which is located five (5) miles to the closest landscaped area under contract for as long as this landscape are under contract is the closest to the proposed additional small area. Payments for services to added areas will be paid under **Bid Item No. 9 Miscellaneous Work**.

For the proposed additional small areas, the State reserves the right to solicit competitive quotations and have the landscape maintained by the lowest quotation.

10.5 SCOPE OF WORK

All work shall be in accordance with these Specifications, best horticultural practices and the Highway Manual for Sustainable Landscape Maintenance (HMSLM). The location plan and maintenance of landscaped areas task and frequency can be found in the appendices. The Contractor shall bring the project up to specifications within thirty (30) days from the Notice to Proceed date. Additional time may be granted upon a request by the Contractor and approval of the State.

- (A) **MOWING.** All turf shall be mowed uniformly at the required frequency stated in the Task and Frequency Matrix, Maintenance of Landscaped Areas. During long dry periods, if directed by the State in writing, grass height may govern mowing frequency. The turf height shall be from one and one-half (1-1/2) inch to two (2) inches on medians and areas with foot traffic and four (4) to six (6) inches on other open areas along the highway for erosion control. Remove all litter and debris prior to mowing. A bag chute shall be used to remove excess cuttings, or the area may be raked. Clean and remove all clippings from hard surfaces, roadways and drainage swales by the end of each workday. A payment deduction will be applied if trimmings are not removed by the end of each workday as specified in Deductions under Basis for Payment below.
- (B) **EDGING AND TRIMMING OF GRASS.** Edging and trimming of all turf cover along sidewalks, roadways, expansion joints and cracks, plant beds or structures shall be incidental to turf mowing. Monofilament line trimmers shall not be used around the base of the trees unless a tree guard is installed. Chemical edging is unacceptable. Conspicuous and deleterious weeds shall be cut at the ground line.
- (C) **WEEDING.** Weeds shall be considered as any undesirable plants not originally planted and noxious vegetation shall be defined by the “Hawaii Invasive Species Council List of Plant Species Designated as Noxious Weeds for Eradication or Control Purposes by the Hawaii Department of Agriculture (06/18/1992).” All pavement expansion joints and cracks are to be maintained free of weeds.

The weeding cycle shall be continuous and as needed. Weed infestation shall not exceed ten (10) percent of each designated area.

All landscaped areas shall not exceed ten (10) percent weed infestation of each designated area within thirty (30) days after commencement of work. The Contractor shall use pre-emergent herbicides as necessary to control excessive weeds in planting beds.

Conspicuous and deleterious weeds shall be removed by its roots in all landscaped areas. Removal by cutting or topping at the ground line will not be allowed. This requirement shall be strictly enforced. In maintenance areas without landscaping but only vegetative cover erosion control purposes, cutting or topping of weeds will be allowed at the State’s discretion.

(D) EDGING AND TRIMMING OF VINES AND GROUND COVER (AS APPLICABLE).

Vines and ground cover shall be edged and/or trimmed by the best horticultural practice as required to maintain a neat appearance and safe roadway.

Vines or ground cover shall not be allowed to overgrow shrubbery, signs, streetlights, fences, valve boxes, guardrails or other structures unless otherwise instructed.

All work in this section shall be in order within thirty (30) days after commencement of the work. Unless directed otherwise, ground covers shall be maintained at a uniform height not exceeding twelve (12) inches or not less than six (6) inches above ground and shall be cleared from around all sprinkler heads, valves and other utilities. All other undesirable vines and ground covers shall be entirely removed from the area.

(E) CARING AND TRIMMING OF SHRUBS.

Shrubbery shall be maintained and trimmed by the best horticultural practice as required to maintain a healthy and vigorous growth. Conform to the horticultural recommendations in publication A300-1995, "Tree, Shrub, and Other Woody Plant Maintenance – Standard Practices," of the American National Standards Institute (ANSI).

1. Caring of Shrubs.

- a. **Apply a two (2) inch depth of compost** in all planting beds of shrubs in the first week of January, April, July and October.
- b. Application of compost to shrubs shall be performed at the request of the State and if approved, will be paid by **Bid Item No. 9 Miscellaneous Work.**

2. Trimming of Shrubs.

- a. Shrubs shall be trimmed to a minimum frequency in accordance with the Task and Frequency Matrix for Maintenance of Landscaped Areas.
- b. Shrub pruning shall be performed to maintain a "natural" appearance; decorative, poodle cuts or other unnatural pruning will not be permitted unless box hedging is required by the State.
- c. Shrubs in natural plantings or formal hedges shall be pruned as mass planting. Do not shear shrubs into topiary (shapes) unless specifically instructed to do so in writing by the State. Under no circumstances shall shrubs be pruned more than twenty-five (25) percent. If a shrub is pruned more than 25% than the shrub shall be replaced with the same species, spread and height at the Contractor's expense within four (4) weeks of notification from the State. Hedges shall be wider at the base than the top.
- d. The Contractor shall be responsible for trimming shrubs affecting the sight distance to the sign. Traffic signs shall be always visible. Trimming of shrubs to eliminate traffic hazards and to make traffic signs always visible at all times shall be continuous and as needed. The limbs shall not hang over the travelway.

- e. Trimming of shrubs shall be paid by the **Bid Item No. 2 Caring and Trimming of Shrubs.**
3. **Shrub Removal.** Shrub removal shall be performed at the request of the State.
- a. Removal, including stump grinding, shall be used to remove any unwanted shrubs. Stump grinding shall not be required for all removed trees but only in special cases, such as highly visible developed areas and special situations. The State may require that stumps be grinded to a minimum of six (6) inches below the finish grade.
 - b. The cost of removal of unwanted shrubs, if approved by the State, shall be negotiated and paid by **Bid Item No. 9 Miscellaneous Work.**

(F) CARING AND TRIMMING (*SIGHT DISTANCE/CLEAR ZONES/CLEAR SPACE*) OF TREES.

These tasks shall be performed at a frequency in accordance to each subtask as scheduled below. Caring and trimming (*sight distance/clear zones/clear space*) of trees shall conform to the horticultural recommendations in publication A300-1995, “Tree, Shrub and Other Woody Plant Maintenance – Standard Practices,” of the American National Standards Institute (ANSI).

1. **Caring of Trees.**
- a. **Mulching.** Apply a three (3) foot radius circle of two (2) inch depth of mulch around the base of all trees and palms by the first Thursday of March and September. Mulching shall be performed only at the request and approval of the State. The cost shall be negotiated and paid by **Bid Item No. 9 Miscellaneous Work.**
 - b. **Stakes and Guy wires** (as applicable). Stakes and guy wires shall be adjusted, or if necessary, removed as determined by the State to prevent damage to the trees and to reduce hazards to the maintenance personnel. A minimum clear area of three (3) feet in radius shall ring young trees to prevent mowing, damage and choking. The cost of removing stakes and guy wires shall be incidental to **Bid Item No. 3 Caring and Trimming of Trees.**
2. **Trimming of Trees (*Sight Distance/Clear Zones/Clear Space*) – continuous and as needed.**
- a. **Traffic Signs.** The Contractor shall be responsible for trimming tree branches of all trees affecting the sight distance to a sign. Traffic signs

shall always be visible. Trimming of trees to eliminate traffic hazards and to make traffic signs visible at all times shall be continuous and as needed. The limbs shall not hang over the travelway.

- b. **Clear zone trees.** In the clear zone, remove all new saplings that will, at maturity, be greater than four (4) inches in tree trunk diameter. In the clear zone, remove all new tree saplings growing within six (6) feet, trunk-to-trunk spacing. Removing saplings in the clear zone shall be performed continuously and as needed.

The clear zone is measured from the travel lane line towards the right of way line or property line. The width of the clear zone varies due to the posted speed and the slope of shoulder. See chart below for the required clear zones for each speed.

Shoulder Slope			
Posted Speed	Upslope and Flat to 1' V:6' H	Down Slope 1' V:5' H to 1' V:4' H	Down Slope Slope>1' V:4' H
< 45 mph	16'	18'	Clear zone extends to bottom of slope
45 to 55 mph	22'	28'	
55 mph	24'	32'	
60 mph	32'	44'	

- c. **Clear space.** The Contractor shall trim trees to maintain a minimum ten (10) foot clear space below its canopy. At the direction of the State, trees within thirty (30) feet of the edge of pavement may be lifted additionally. Side pruning of trees to provide clearances to signs, utility poles and lines, structures, etc., shall be included.
- d. **Trimming of Trees (*Sight Distance/Clear Zones/Clear Space*).** As specified above shall be paid by **Bid Item No. 3 Caring and Trimming of Trees.**

(G) CONTROLLING VEGETATION INTRUSION ALONG RIGHT-OF-WAY.

The Contractor shall be responsible for controlling of all undesirable vegetation intrusions into right-of-way areas from the adjoining properties. In extreme cases, the inspectors who are responsible for the areas shall work with the Contractor and property owners to control the intrusions. Ultimately, it is the Contractor's responsibility to control or mitigate all undesirable vegetation intrusions.

(H) WATERING.

The watering cycle shall be in accordance with the plant's needs to maintain a healthful, vigorous, and lush growth. Watering problems shall be called to the attention of the State immediately to prevent plant damage.

The Contractor shall be responsible for the control of the irrigation system and shall minimize and conserve the use of water whenever possible.

The Contractor shall perform the following work:

1. Monitor the landscaped areas for water needs.
2. Water the landscaped areas as needed.
3. Promptly report all deficiencies of irrigation system pressure lines and the control clocks to the State for repair.
4. The Contractor shall be charged liquidated damages for plants which die due to the failure of the Contractor to notify the State.

(I) FERTILIZING.

Application of fertilizer shall be performed at the request of the State and if approved, the cost shall be negotiated and paid by **Bid Item No. 9 Miscellaneous Work.**

1. **Lawn.** For best result under most highway conditions, a mixed lawn should receive one (1) pound of actual nitrogen per 1,000 square feet for each growing months and shall be completed by the first Wednesday of January, March, May, July, September and November. For efficient plant consumption, consistent rates of lawn growth, and to minimize "fertilizer burn", fertilizers should be applied frequently in small amounts rather than in large amounts at greater intervals. Lawns should never be fertilized while the grass is wet. Sufficient water should be applied after the application to dissolve the fertilizer and wash it into the root zone. This first watering must be thorough.

Fertilizers should be applied evenly with seeder-type spreaders or wheel-mounted fertilizer spreaders. Care should be taken with either type of spreader, to place the fertilizer strips to completely cover the area. Spreaders should not be filled on the lawn as fertilizer is too frequently spilled, killing the lawn in that area. Fertilizer shall be applied by mechanical apparatus, centrifugal throw spreader or motorized spreader at a rate of five hundred (500) pounds per acre or as directed by the State. The Contractor is responsible for damages resulting from over fertilization. During the winter months, reduce or omit nitrogen applications for Bermuda grass in cooler and windward areas.

2. **Shrubs and Plant Beds.** Shrubs and planting beds shall be fertilized quarterly and shall be completed by the third Wednesday of February, May, August, and November. Fertilizer shall be a complete balance fertilizer (15:15:15) at a rate of two (2) pounds of slow-release nitrogen per 1,000 square feet per application.
3. **Trees and Palms.** Trees shall be fertilized annually in January with a slow-release fertilizer (15:15:15) at a rate of two (2) pounds of slow-release nitrogen per 1,000 square feet of root zone under the drip line. Fertilize native plantings sparingly or as recommended. Palms shall be fertilized annually with an approved Palm specific fertilizer with Epson salt to palm special blend with high magnesium and phosphorous. Notify the State of fertilization schedule at least one week prior to fertilization.

(J) SPRAYING PESTICIDE & HERBICIDE.

1. Insecticides, fungicides and other pesticides shall be applied as directed by the State to control insect pest and disease. Herbicides may be used for weed control. The Contractor shall obtain written approval from the State before using pesticides and/or herbicides. The Contractor may purchase pesticide and herbicide from suppliers, but prior to purchase, the Contractor shall submit a list of needed pesticide and/or herbicide and their respective price to the State for approval. Pesticide and herbicide purchased without the State's approval shall not be paid. Cost for the pesticide and herbicide shall be paid for under **Bid Item No. 9 Miscellaneous Work.**
2. It is the Contractor's responsibility to maintain all plantings in good health, free of harmful insects and disease. Plant material that dies because of insect or disease shall be replaced with the same species, spread and height at the Contractor's cost within four (4) weeks of notification from the State. If the Contractor applies herbicide to areas not approved then the Contractor shall replace plants that are applied with herbicide with the same species, spread and height at the

Contractor's cost within four (4) weeks of notification from the State. The Contractor shall maintain a record of all pesticides and/or herbicides used on the project including the name of the pesticide and/or herbicide, location and areas of application, dates of application, rates of application and total quantity used per day. A copy of the record shall be submitted to the State weekly or as requested.

The Contractor shall not spray herbicides or pesticides on windy or rainy days. The Contractor shall exercise care when spraying near drainage structures or swales and shall not spray within any drainage structures or swales and shall spray within ten (10) feet of these areas. Preemergents shall only be used in planting beds after bark mulch has been applied. The Contractor shall consider integrated vegetative management decision making and apply the appropriate means including mechanical, herbicide and/or organic herbicides for low lifecycle

cost and environmental impact. If the undesirable vegetation is greater than five (5) feet in height, then it shall be cut first to a height no greater than six (6) inches and then sprayed.

3. If the Contractor chooses to use restricted pesticides, the Contractor shall obtain all proper certifications from the State of Hawaii, Department of Agriculture. All related certification documentation shall be submitted to the State. The processing, handling, and application of the pesticide and/or herbicide must be in compliance with all rules and regulations of the State of Hawaii, Department of Agriculture, and all other applicable Federal, State, County and local rules and regulations.
4. All work shall be performed in strict compliance with the manufacturer's label and Safety Data Sheet (SDS) as applicable, and in accordance with all State, Federal, County and local rules and regulations. A copy of the SDS shall be submitted to the State as a part of his approval to use pesticide and/or herbicide and a copy shall be maintained by the Contractor at the job site during processing, handling and application of pesticides and/or herbicides.
5. Any damage to man, vegetation, environment, or other property, within or outside the highway right-of-way due to the use of pesticides and/or herbicides by the Contractor shall be the sole responsibility of the Contractor. Damage of desired plants or erosion of soils shall be replaced at the Contractor's expense.

(K) CLEARING GUTTERS, SWALES AND DITCHES.

Clear and maintain lined drainage ditches, swales, and roadway gutters to be free of vegetation, rock, silt and mud, papers, bottles, cans and maintain these areas clear of debris plant growth. Stabilize and replant any eroding areas immediately. Earth drainage ditches, swales and gutters will be turf maintained the same as the areas indicated above. All drainage culverts under roadways and embankments shall be maintained by the State. The Contractor shall notify the State immediately of any blockage detected during normal landscape work. The cost of clearing gutters, swales and ditches shall be paid for under **Bid Item No. 6 Litter Collection.**

(L) PLANTINGS REQUIRING ADDITIONAL TASKS.

The additional tasks are summarized in the table below. The additional tasks shall be included in the bid price for **Bid Item No. 1 Maintenance of Landscaped Areas.**

TREES	Additional Tasks
<u>Loulu Palm</u> [<i>Pritchardia spp.</i>]	Remove brown fronds and ripe fruit. Scales, mealy bugs and ants may cause occasional problems especially on unfurled leaves and among roots. A mild detergent solution is generally effective. Avoid weed whackers around palm base.
<u>Foxtail Palm</u> [<i>Wodyetia bifurcate</i>]	Remove brown fronds and ripe fruit. Foxtail palms may develop potassium deficiency in potassium deficient soils. Avoid weed whackers around palm base.
<u>Alexander Palm</u> [<i>Archontophoenix alexandrae</i>]	Remove brown fronds and ripe fruit. May be damaged by spider mites, Helminthosporium leaf spot in young plants, Phytophthora root rot, and aerial blight. Avoid weed whackers around the palm base.
<u>Macarthur Palm</u> [<i>Ptychosperma macarthurii</i>]	Sooty mold sometimes coats the trunk. Avoid weed whackers around palm base.
<u>Chinese Fan Palm</u> [<i>Livistona chinensis</i>]	<u>Some susceptibility to lethal yellowing disease.</u> Avoid weed whackers around palm base.

SHRUBS	Additional Tasks
<u>Plumbago</u> [<i>Plumbago auriculata</i>]	Do not add lime to the soil; Plumbago likes slightly acidic pH. The foliage may turn yellow due to manganese deficiency but applying manganese sulfate will cure that. Plumbago should be pruned heavily to keep it neat and within bounds and to make it bushy to maximize the number of flowers. Minimal problem with scales, aphids and mealy bugs.
<u>Oleander</u> [<i>Nerium oleander</i>]	All parts are poisonous. Avoid ingesting. Susceptible to Oleander hawk moth, mealy bugs and scale.
<u>Naupaka</u> [<i>Scaevola sericea</i>]	Maintain as an irregular, informal massing. Too much moisture can cause wood rot.
<u>False Eranthemum</u> [<i>Pseuderanthemum carruthersii</i>]	Prune as hedge.

GROUND COVERS	Additional Tasks
<u>El Toro Zoysia</u> [<i>Zoysia japonica var. El Toro</i>]	Maintain grass at 3/4" height by mowing, remove grass clippings, alternate mowing pattern to reduce thatch, fertilize four times annually at a rate of one (1) pound N per 1000 sq. ft. Zoysia grass is tolerant of many of the herbicides that are commercially available. Preemergence herbicides can be used on a regular basis as a preventative measure to control weeds before they become a problem in mature established lawns.

(M) INVASIVE PLANT REMOVAL.

The Contractor is responsible for removal and damages resulting from invasive plants found onsite. Refer to the List of Plant Species Designated as Noxious Weeds for Eradication or Control Purposes by the Hawaii Department of Agriculture, dated June 18, 1992, or as amended or revised. This list is also in Hawaii Administrative Rules (HAR), Title 4, Chapter 68, Noxious Weed Rules (4-68-10).

The following species are a priority on Oahu: Guinea Grass, Sleeping grass, Wiregrass, Kyllinga, California Grass, Maile Pilau, Ivy Gourd, Opiuma, Mysore Thorn and Shoebuttan.

Further information may be obtained from The Oahu Invasive Species Committee, 743 Ulukahiki Street, Kailua, HI 96734, Office: (808)266-7994, Fax: (808)266-7995. Their website can be found at www.oahuisc.org

(N) REMOVAL OF RUBBISH, DEBRIS AND SOLID HAZARDOUS WASTE.

The Contractor shall remove all rubbish and debris from the project contract limits. The project shall be maintained at a neat and clean appearance.

1. **Debris and litter on roadways, which originate from the landscape maintenance work.** Rubbish and debris on roadways shall be removed by the Contractor before the end of each work day, or immediately if it creates a traffic hazard. The cost of removal and disposal of debris and litter on roadway is incidental **Bid Item No. 1 Maintenance of Landscaped Areas**.
2. **General clean up.** Litter in landscaped areas, gutters and shoulders (papers, cigarette butts, bottles, cans, stockpiles, etc.) shall be removed and hauled offsite for proper disposal by the Contractor. General clean up shall be conducted three (3) days per week for areas covered by this contract as specified in the Appendix C Maintenance of Landscaped Areas Task and Frequency Matrix. During each general clean up day all litter shall be picked up along the entirety of all routes covered by this contract. If no litter is observed or picked up on a given general clean up day then this shall be documented on the Litter Collection Log (described below). This shall be strictly enforced.
3. **Litter collection.** The Contractor shall track and provide a log of the total number of bags of litter collected, including size of bags and estimated percent full, for each general clean up day. The form for documenting this information is provided in the appendices, Litter Collection Log. The litter collection log and weigh tickets documenting the quantity of debris disposed, solely from this contract, shall be provided monthly to the State and or shall be readily available upon the request of the State.

Cost for removal, completion of Litter Collection Logs, weigh tickets, and disposal of debris and litter during general clean up is incidental to **Bid Item No. 6 Litter Collection.**

4. **Prohibited Activities.**

- a. The burning of rubbish and debris in the highway right-of-way is prohibited.
- b. The Contractor shall under no circumstances stockpile debris, soil or garbage within the highway right-of-way. Any existing stockpiles at the beginning of the contract shall be removed within 30 days. The Contractor shall receive a payment deduction for any stockpiling.

5. **Solid/Hazardous Waste Disposal.** Disposal of solid/hazardous waste such as batteries, tires, tire shreds, machine parts, large debris (i.e., large furniture, etc.) will require a receipt from the certified landfill and a photograph of the waste materials in the original location. Payments shall not be processed without the required receipt and pictures. The Contractor shall submit to the State the required receipt and photographs with his/her monthly invoice. The total cost of disposal of the above solid/hazardous waste shall be paid for by allowance in **Bid Item No. 9 Miscellaneous Work** and shall be negotiated in a manner similar to Section 4.5, Price Adjustment and shall be no more than 1.5 x landfill cost. The landfill receipt shall clearly indicate the items, quantity and weight of the disposed items. The photographs submitted shall clearly show all waste items prior to the removal of waste material in the original locations.

6. **Biohazards** (i.e., drugs, needles, etc.) **and Biowaste** (i.e., human waste, etc.). When found at the highway right-of-way, do NOT touch these materials. Contact/notify the State immediately. These materials are infectious or are potentially infectious and shall be handled by trained personnel only. Handling and disposal of these materials shall be performed by a separate State contract.

7. Debris, rubbish, and solid/hazardous shall be disposed of away from the highway right-of-way and in accordance with Federal, State, County and local rules and regulations.

(O) REPORTING OF HAZARDOUS CONDITIONS AND DAMAGES TO LANDSCAPE AREAS.

Pursuant to Chapter 14, Reporting of the HMSLM, the Contractor shall report the following to the State:

1. Injuries.
2. Illnesses.

3. Damage to government property.
4. Blocked culverts, ditches, and swales.
5. Eroding areas.
6. Severe instances of illegal rubbish dumping.

(P) TRAFFIC CONTROL/CLOSING OF LANES.

If necessary, the Contractor shall furnish traffic control and closing of lanes and shall be in accordance with the current edition of the Manual on Uniform Traffic Control Devices (MUTCD) for Streets and Highways and shall be performed by trained and certified personnel only.

1. The Contractor shall make all the necessary coordination and shall request approval of the State in writing seven (7) working days prior to the schedule lane closure/traffic control.
2. **Traffic control Plan.** All closing of lanes shall require a traffic control plan. The traffic control plan shall be prepared/developed by persons trained or certified on the fundamental principles of traffic control and work activities to be performed. The State reserves the right to require the Contractor to submit a copy of the certificate of training of the person who prepared the traffic control plan. The Contractor shall submit this plan to the State and shall request the State's approval in writing seven (7) working days prior to the scheduled lane closure/traffic control. This work is incidental to **Bid Item No. 1 Maintenance of Landscaped Areas.**
3. **Permit for the Occupancy & Use of State Highway Right-Of-Way.** The Contractor shall submit this application to the State, along with the traffic control plan. This permit shall be made part of the approval process specified in the "Traffic Control Plan" subsection. A copy of this application permit can be found in the appendices and online at:
<https://hidot.hawaii.gov/highways/files/2020/03/Application-Permit-for-the-Occupancy-Use-of-State-Hwy-ROW.pdf>
4. Do not close traffic lanes or slow down traffic during the peak hours as specified in the Application & Permit for the Occupancy & Use of State Highway Right-Of-Way.
5. The Contractor may employ a person or use a sub-contractor who is knowledgeable on traffic control. The cost for traffic control shall include preparation of the traffic control plan, set-up and removal of all signs, cones, delineators, barricades, certified and trained flag persons or special duty police officers, arrow boards, etc. as applicable, and shall be incidental to the **Bid Item No. 1 Maintenance of Landscaped Areas.**

6. The contractor is responsible for the work site and the work practices of all employees on the project site and is the controlling, exposing, correcting as well as the creating employer for purposes of this scope of work. The State of Hawaii Department of Transportation monitoring of the work in progress is not representative as the controlling employer for purposes of workplace and work practice safety and health compliance. The Contractor shall make all the necessary coordination and shall request approval of the State in writing seven (7) working days prior to the scheduled lane closure/traffic control.

(Q) LANDSCAPED AREAS COMPREHENSIVE ANNUAL INSPECTION.

1. For the purposes of a contract extension, on the second Monday on the fourth month after the Notice to Proceed date and the fourth month from the beginning of each contractual term for each contract renewal, as applicable.
2. For the purposes of contract closing, sixty (60) days to the end of the contract.
3. The Contractor and the State shall perform a comprehensive annual inspection which shall include the following:
 - a. Plant Inventory.
 - b. Plant list comparison and replacement list.
 - c. Liquidated damages assessed.
 - d. Soil tests of troubled planting areas.
 - e. Fertilization schedule review.
 - f. Herbicide schedule review.
 - g. Invasive species.
 - h. Discretionary fund projects for coming year.
 - i. Professional credential review.
 - j. Maintenance sustainability recommendations.

(R) MISCELLANEOUS WORK.

1. The State may request the Contractor to provide discretionary services that includes:
 - a. Mulching.
 - b. Manual watering, maintenance, and inspection of irrigation system.
 - c. Application of fertilizer.
 - d. Additional maintenance tasks to plantings.
 - e. Removal and disposal of solid hazardous waste.
2. For the Contractor to commence performance of all miscellaneous work, a Notice to Proceed letter shall be issue by the State.

10.6 WORK SCHEDULE

- (A) The Contractor's normal work shall be performed during daylight hours, Monday to Friday (except State Holidays). All work shall be conducted in a professional manner and is not disruptive to the public and traffic flow.
- (B) The State reserves the right to change the hours of operations.
- (C) Two (2) working days in advance of the required commencement date, the Contractor shall furnish a weekly schedule detailing the date, the location, the number of workers and the type of work that is planned for each day of the schedule for work periods of not less than three (3) days per week.
- (D) The Schedule may be revised by the State at any time. The Contractor shall maintain and revise the work schedule to always be current. Progress payments shall be withheld until a satisfactory work schedule is received by the State. The State reserves the right to instruct the Contractor to work in areas other than his contract areas if such areas require immediate attention.
- (E) For emergency services the Contractor shall be made available outside of normal working hours, seven (7) days a week, including State holidays.
- (F) The State may contact the Contractor to schedule work as needed.

10.7 ORDER TO STOP WORK

- (A) Order to stop work shall be in accordance with Section 8.5.A Order to Stop Work.
- (B) The State reserves the right to stop work at any time, to include but not limited to hazardous condition or unsafe acts as a result of the Contractor's palm pruning/removal operation or failure to follow a contractual requirement e.g., failure to have an Arborist on site during pruning/removal operations.
- (C) Upon receipt of either a written or verbal notification from the State, the Contractor shall immediately stop any practice or work as determined by the State as an obvious hazard or for failing to follow a contractual requirement. The State shall document the safety or hazardous incidents and/or contractual violation.
- (D) Work may continue when the hazard has been rectified, removed and/or the contractual deficiency have been resolved. And the Contractor must obtain the approval from the State prior to resuming work.
- (E) The Contractor may not be given additional time past the completion date of the Work Order for time that is lost during the "stop work."

- (F) Refer to Section 8.6 Liquidated Damages, for liquidated damages that are charged against the Contractor for failure to comply with contractual requirements.

10.8 SAFETY AND ACCIDENT PREVENTION

The Contractor shall conduct his maintenance operations with due regard to the convenience and safety of the public. The protection of persons and property shall be provided by the Contractor.

(A) SAFETY CONCERNS.

1. The Contractor shall observe safety concerns that are mentioned in Section 7.10, Public Convenience and Safety, to the fullest during performance of work.
2. The Contractor and Contractor's employees shall exercise due care in performing any work. The Contractor and Contractor's employees may be subject to slip, trip, fall, vehicular hazards, chemical hazards, noise hazards and other workplace hazards. The Contractor shall maintain an internal aggressive safety program.
3. All Contractor's methods and practices shall be in accordance with the U.S. Department of Labor (DOL) Occupational Safety and Health Acts (OSHA); the Hawaii Department of Labor and Industrial Relations (DLIR); Hawaii Occupational Safety and Health Division (HIOSH), the Environmental Protection Agency (EPA), American National Standard Institute (ANSI) Z133.1-2012, Arboricultural Operations – Pruning, Repairing, Maintaining, Removing Trees and Cutting Brush – Safety Requirement. Local and State occupational safety, health standards, and health programs required by the Hawaii Administrative Rules §12-110 and Hawaii Revised Statutes §396, any other applicable federal, state, and local rules and regulations specified in Section 7.10 Public Convenience and Safety.
4. The Contractor is responsible for the work site and the work practices of all employees on the project site and is the controlling, exposing, correcting as well as the creating employer for purposes of this scope of work. The State of Hawaii, Department of Transportation, monitoring the work in progress is not a representative or responsible to control the employer workplace and work practice and health compliance.
5. All closing of lanes and traffic control and safety measures shall be performed in conformance with the current edition of the Manual on Uniform Traffic Control Devices (MUTCD) for Streets and Highways.
6. Contractor shall at all times conduct work to assure the least possible obstruction to public traffic. The Safety and convenience of the general public and the protection of persons and property is of utmost importance, and the Contractor shall provide appropriate traffic control and safety measures. The Contractor and

its employees shall treat members of the public in a fair and polite manner. All Contractor's personnel shall present a professional appearance and always conduct themselves in a professional manner.

7. While working in the right-of-way areas, all employees under control of the Contractor shall wear OSHA-compliant personal protective equipment (PPE) appropriate to the hazards, including, but not limited to: head protection, safety hard hats, hearing protection, safety vest, safety belts, lanyards, fall arrest system, goggles, gloves, chemical gloves, safety shoes, chain-saw-resistant leg protection, clothing and footwear appropriate to the known hazard and other equipment as required. As a minimum, vest shall be the appropriate safety apparel that meets the current ANSI/ISEA 107 and the U.S. Department of Transportation's MUTCD High-visibility Safety Apparel Standards.

(B) HAZARDOUS MATERIALS / ENVIRONMENTAL PROTECTION.

1. The Contractor shall comply with all Federal, State, and local environmental laws and regulations when handling hazardous materials.
2. All work shall be performed in strict compliance with the manufacturer's label and or Safety Data Sheet (SDS) as applicable and in accordance with State, Federal and local regulations, and laws. A copy of the SDS shall be submitted to the State two days prior to the scheduled use for approval prior to use or immediately notify the State by phone or fax for his verbal approval in cases of emergency situations which occur during off hours. A copy of the SDS shall be submitted to the State by close of business the following working day. Contractor's employees who are involved in the application of pesticides and herbicides shall complete a video training as specified in Section 10.8(C)1. The Contractor at the jobsite shall maintain a copy while handling chemicals. The Contractor is responsible in notifying everyone the existence of hazardous chemicals within the project area.
3. The Contractor shall immediately contain and clean up the release or spill of hazardous material and shall report the incident to the State.
4. The Contractor shall not allow debris from the landscape maintenance operation to get into irrigation canals, rivers, or any stream.
5. Work shall not cause air or storm water pollution. The Contractor shall be responsible for all hauling and lawful disposal of debris. Any unauthorized or illegal disposal is grounds for termination of the contract.

(C) MANDATORY TRAINING.

1. **Initial and Annual Training.** The Contractor's employees who are involved in the application of herbicide shall complete a video training before applying herbicide and shall be trained annually thereafter. The Contractor shall contact the State for information on mandatory training. Completed training reports shall be submitted to the State. The training completion report shall contain the name of personnel attending, date, title of video, signature of person administering the training (or official of the firm)
2. **Annual Training.** The Contractor and his entire crew who are working on this contract shall attend training once every two (2) years to be conducted by the Department. Training will include State Highway Manual for Sustainable Landscape Maintenance (HMSLM). The State will notify the Contractor to schedule the training. Attendees are required to pass a written exam at the end of the training to fulfill the requirements of the training.
3. Cost of time spent on mandatory training shall be incidental to the unit price of palm pruning/removing service. The runtime for the video is thirty (30) minutes and the departmental training will be for approximately two (2) days per two (2) years.

(D) SAFETY PLAN.

1. As a minimum and as applicable, the Safety Plan shall contain the following information: Project Number, Project Title, Contract Number, Activity description, hazard, action required to mitigate the hazard, special training requirements, engineering controls (i.e., guardrails, barricades, etc.), administrative controls (Standard Operating Procedures, signs, etc.), emergency information, safety equipment checklist, and required PPE.
2. The safety plan shall be prepared/developed by a qualified individual who is trained and knowledgeable on the current standard practice and principles of occupational safety, health, and the related work activities within this project. The credentials of the responsible person preparing the safety plan shall be submitted to the State.

(E) FALL PROTECTION PLAN.

1. The fall protection plan shall be prepared, developed, signed, and certified by a person who is qualified and knowledgeable about the fundamental principles of occupational safety and health and work activities to be performed. The plan shall be complete with all Federal, State, and local regulations. Cost involved in the development of the Fall Protection Plan shall be incidental to the cost of maintenance of landscaped areas.

2. The State reserves the right to require the Contractor to submit a copy of the certificate of training of the person who prepared the Fall Protection Plan. The Contractor shall submit and discuss his Fall Protection Plan, as applicable.

10.9 CONTRACTOR'S RESPONSIBILITY FOR DAMAGE TO PROPERTY

The Contractor is responsible for replacement or repair of any damaged equipment or State-owned property. Any damage caused by the Contractor as a result of his or her maintaining of landscaped areas operations including but not limited to damaged plants, broken sidewalk, guardrails, traffic signs, pavement markers, asphalt, concrete swales, curb, rutted lawn, broken water shut-offs, wire damage, building damage, damaged utilities (underground, on ground or overhead) and other non-contractual in the project area whether in public or private property shall be remedied or replaced by the Contractor in accordance with Section 107.12(A) Contractor's Responsibility for Damage to Property to the satisfaction of the State and or the injured party.

10.10 PRE-START MEETING

Pre-start meeting shall be done at the requested of the District Engineer or his authorized representative. The Contractor shall contact the Engineer to schedule the pre-start meeting no later than three (3) working days prior to the Notice to Proceed date. This meeting will include the Engineer, his authorized representative and other personnel as deemed necessary by the Engineer. The Contractor shall include the Lead Maintenance Person/Highway Maintenance Supervisor and main contact personnel for this project. The Contractor shall be prepared to discuss and submit the following.

- (A) Equipment quantities and location.
- (B) Coordination of access to the working areas as applicable.
- (C) List of required and applicable equipment, vehicles, materials, and supplies.
- (D) Personnel employed under this contract with applicable license and certification.
- (E) List of trained traffic control personnel.
- (F) Point of Contact phone number and email address.
- (G) Verification of quantities in the Proposal Schedule and boundaries of right-of-way areas.

10.11 TERM OF CONTRACT

The term of this contract shall be for twelve (12) months from the date indicated in the Notice to Proceed from the Department than succeeding contract extension amendments.

10.12 OPTION TO EXTEND TERM

This contract may be extended to four (4) additional twelve (12) month periods or parts thereof without the necessity for re-bidding upon mutual agreement between the State and the Contractor in writing provided the contract price for the extended period shall remain equal to the initial bid

price or as increased as specified in the Escalation Clause section. The entire term of contract, including extensions, shall not exceed sixty (60) months.

10.13 ESCALATION CLAUSE

At the beginning of each contract term, the cost of **Bid Item Nos. 1 through 6** will be automatically increased by the annual percent change used by the U.S. City Average, Consumer Price Index for all Urban Consumers (CPI-U) from the previous calendar year (annual percent change from the previous December). Increase will be capped at 5% per twelve (12) month period. Price adjustments shall be made only at the time of extension of the contract.

10.14 BASIS FOR PAYMENT

The Contractor's bid price shall be full compensation for furnishing all labor, materials, tools, equipment, vehicles, communication cost, taxes, insurance, overhead, travel, and incidental costs necessary for this project.

Incidental cost includes, but not limited to vehicle logos, employee uniforms, disposal of rubbish and litter, closing of lane/traffic control, traffic control plan, personnel protective equipment, mandatory training, certification of safety plan, and notifications to property owners or utility companies.

(A) **Monthly Earnings** are computed as follows:

1. For **Bid Items No. 1 through 3**, monthly earnings shall be per unit bid prices as specified in the Proposal Schedule.
2. For **Bid Item No. 6 Litter Collection**, the Contractor shall notify the State before commencing with work in accordance with Section 10.5(K).
3. For **Bid Item No. 7 Pesticide and Herbicide**, work shall be used only at the discretion of the State for pesticide and/or herbicide application within the project area.

(B) For **Bid Item No. 9 Miscellaneous Work**, work shall be used only at the discretion of the State for miscellaneous work within the scope of work and within the project area. The amount shall be negotiated in a manner similar to Section 4.5 Price Adjust, and if approved, will be paid by the respective allowance.

1. Application of Fertilizer.

(C) **Deductions** (as applicable):

1. If the Contractor fails to maintain the designated landscape areas satisfactorily as required within Section 10 Maintenance of Landscape Areas, a deduction from

the monthly earnings will be made as follows and a report for with substantiating evidence and explanation shall be filed by the State.

- a. Deduction = Percent (%) estimated by the State and shall not be paid to the Contractor.
 2. Liquidated Damages – This amount, if any, shall be retained by the State and shall not be paid to the Contractor.
 3. Retainage – computed as specified in Section 9.2 Retainage. Refer to Section 9.2 Retainage/Deduction from Payment, for retainage invoicing procedures.
 4. Liquidated Damages – computed as specified in the Special Provisions. The amount shall be retained by the State and shall not
- (D) **Monthly Payments.** The total monthly payments payable to the Contractor for maintenance of landscaped areas shall be the applicable **Monthly Earnings** in Section 10.14(A), plus applicable **Miscellaneous Work** in Section 10.14(B), minus the applicable **Deductions** in Section 10.14(C).

Refer to Section 9.4 Progress Payments for the required information on monthly invoices.

SECTION 11 – MAINTENANCE OF IRRIGATION SYSTEM

11.1 DESCRIPTION

The work shall consist of furnishing labor, materials, tools equipment, vehicles, communication costs, taxes, insurance, overhead, travel, and incidental cost necessary for maintaining the irrigation system.

- (A) **Limits of work.** The irrigation system includes all appurtenances and/or components, from and including the remote-control valves to the sprinkler heads. The work include maintenance, repairing leakages, inspecting the irrigation system and submitting required reports as specified in the Specifications.
- (B) Current Operational Irrigation System(s):
1. At the date of bidding, the overall irrigation system is **twenty (20%) operational**.
 2. The Contractor is required to maintain and inspect the operational irrigation system(s) as specified in these Specifications. The State may task the contractor to perform discretionary services to the operational irrigation system(s) as miscellaneous work and paid for under **Bid Item No. 9 Miscellaneous Work**.
 3. The as-built Irrigation Plan in full scale is available for review at the Oahu District Office by making an appointment.
- (C) Current Non-operational Irrigation System(s):
1. At the date of bidding, the overall irrigation system is **eighty (80%) non-operational**:
 2. To obtain the exact location and additional information regarding non-operational irrigation system(s), the Bidder/Contractor should call the Oahu-District Office.
 3. The Contractor is not required to maintain non-operational irrigation systems; however, the State may task the Contractor to perform discretionary services as miscellaneous work and paid for under **Bid Item No. 9 Miscellaneous Work**.
 4. Once the irrigation system(s) becomes operational in the future within the contract period, the State may request the Contractor to perform maintenance and inspection services.
- (D) Upon approval of the State, replacement parts will be ordered by the Contractor and paid for by the State under **Bid Item No. 8 Replacement Parts**. The Contractor shall submit invoices of all authorized parts to the State for payment.

(E) The Contractor shall start repairing any damages of the irrigation system within forty-eight (48) hours of detection or from the time of notification by the State maintenance inspector or the public.

1. Within thirty (30) days after the Notice to Proceed date, the Contractor shall provide a written itemized report of all irrigation components to the State that need to be replaced including but not limited to backflow preventers, controllers, valves and sprinkler heads. **All components not listed in the report are the responsibility of the Contractor to replace at the Contractor's cost.**
2. Within thirty (30) days after the Notice to Proceed date, the Contractor shall submit the "Irrigation Controller Schedule" for all controllers and shall be submitted with the itemized report as specified above.
3. Prior to sixty (60) days to the end of the contract the Contractor and State shall perform a comprehensive inspection of all irrigation components to assure proper coverage and good working order. As the Contractor is the steward of maintaining the system, all components not functioning properly shall be replaced within thirty (30) days of the inspection solely at the Contractor's cost.

11.2 COORDINATION OF WORK

Refer to Section 10.2 Coordination of Work.

11.3 QUALIFICATION OF BIDDERS

The Contractor may be asked to provide documentation of licenses, certifications, and other required documents listed in the subsections below. Requested documents shall be received by the Project Manager no later than seven (7) days from the date of receipt of the written request from the State. Failure to submit requested documents may result in the rejection of bid or termination of contract by the Department of Transportation.

Attention is directed to the provisions of Chapter 444, Contractors, of the Hawaii Revised Statutes, regarding the licensing of contractors in the State.

(A) Contractor's Personnel Qualifications

1. **Lead Irrigation Person** – The Contractor shall have a valid Certified Landscape Technician with Exterior Irrigation in good standing. The CLT Exterior/Irrigation person shall have a minimum of one (1) year experience in supervising personnel performing irrigation work or at least two (2) years of experience in all phases of sprinkler maintenance and installation.

- a. The CLT Exterior/Irrigation shall be always present on-site during any irrigation work for this project. Liquidated Damages may be incurred if a CLT is not present.
 - b. A list of employed CLT Exterior/Irrigation with their certification shall be provided to the State.
2. **Sprinkler Technician** – The Contractor shall have a sprinkler technician capable of reading plans and have at least one (1) year experience in all phases of a sprinkler system installation and maintenance. A list of employed sprinkler technician and their work experience similar to the scope of this project shall be provided.

11.4 INSPECTION OF DETAILED PLANS AND EQUIPMENT DATA

Detailed plans in full scale and limited manufacturer's catalog cuts and maintenance manuals for the Irrigation System will be made available for inspection at the Oahu District Office from the first day of advertising for bids up to and including the day of bid opening. Copies in reduce scale is found in the Appendices.

11.5 SCOPE OF WORK

All work shall conform to the best irrigation practices including but not limited to the manufacturer's maintenance standards, the most current requirements of Section 616, Irrigation System of the Standard Specifications and Chapter 12, Irrigation System of the HMSLM.

(A) Maintenance and Inspection of Irrigation System (routine/preventive)

1. As a minimum, perform the maintenance task as listed in Appendix D Irrigation System Maintenance Task, Frequency, Checklist, and Report, of the Appendices.
2. If any procedure in this Specification is found to contradict any manufacturer's recommendation contained in the Operations and Maintenance Manual, the Contractor shall immediately bring such contradiction to the State who shall determine which of the procedures shall be followed.
3. The Contractor shall record all maintenance performance, malfunctions, and corrective actions taken on the irrigation system in performing its work under this contract. The Contractor shall utilize the form in Appendix E Irrigation Trouble Call/Equipment Service Maintenance Report. The State may modify this form as necessary.
4. No later than thirty (30) calendars after each twelve (12) month period, the Contractor shall submit annual reports of system status based on their assessment of preventive maintenance to the State. The report shall include as a minimum:

- a. An assessment of system adequacy, and
 - b. Recommendations for equipment replacement.
5. All routine/preventive maintenance work shall be completed within seven (7) working days of the schedule maintenance date and shall be performed during regular working hours.
6. Maintenance work shall be accomplished at the following schedule, as applicable:

Required maintenance task	Required completion date
Weekly	First three (3) days of the week
Monthly	During the last week of the month
Annual	Month of May
Years ending in "0" or "5"	Month of January

7. The Contractor shall prepare a schedule to satisfy the prescribe schedule in the Operations and Maintenance Manual of each equipment covered in this contract and submits to the State as specified under Section 11.8 Submittals/Reports Summary.

(B) IRRIGATION CONTROLLER

All run times should consider sprinkler rates, precipitation rates, soil conditions, microclimate conditions, evapotranspiration, and consideration of slope. Before scheduling run times, the site should be walked and planted areas inspected to observe plant stress and health. Soil moisture levels should be inspected throughout planted areas, and appropriate adjustments made to the irrigation schedule. Irrigation scheduling will be performed to encourage deep roots, including deep watering through use of multiple repeat cycles. On slopes, short irrigation cycles should be repeated to minimize water runoff. Soil probing shall be used to determine soil moisture depth, overall moisture levels and the need to adjust irrigation schedules. Soils will be allowed to dry to a 50% moisture depletion level between irrigations to avoid root-rot and allow adequate air to be present in the soil.

Irrigation cycles are to run only between the hours of 9:00 P.M. to 6:00 A.M. Watering times should be adjusted, where needed, to eliminate irrigation during heavy commuter hours. A proposed quarterly schedule of watering shall be provided to the State thirty (30) after the notice to proceed date. The frequency and duration shall be set to adequately irrigate plants and turf without causing significant surface runoff or ponding. Each time the schedule is changed due to seasons or any other reason, a revised schedule shall be provided to the State. Controller enclosures are to remain locked

(C) IRRIGATION VALVES

Each valve should be inspected monthly to correct the following conditions: stuck valves, and broken risers, laterals, or mains. Contractor shall list and report all irrigation system damages to the State with the cost estimate of repair/replacement. Each valve should be inspected monthly to correct the following conditions: stuck valves, and broken risers, laterals, or mains. Contractor shall list and report all irrigation system damages to the State with the cost estimate of repair/replacement. Irrigation system pressure shall be checked and adjusted at least monthly to insure efficient operation of irrigation systems. On slopes where no vehicles traverse, plastic valve boxes are acceptable. On flat areas, concrete valve boxes with metal covers are required. Contractor shall maintain the bottom of all valves, a minimum 1" above gravel base. Contractor shall remedy all valves not 1" above gravel base by excavating all dirt from valve box to a depth of 4" below the bottom of the valve and installing filter fabric and a 3" layer of number three gravel.

(D) SPRINKLER HEADS

Inspect all sprinkler heads for misaligned irrigation heads, clogged or obstructed heads, missing or vandalized heads, low-head drainage conditions, overspray onto hardscaped areas, poor coverage or uniformity. If the irrigation is not adequate to provide uniform coverage, the Contractor agrees to upgrade the system to achieve site efficiency. To clear clogs, remove internal assembly, clean screen filter, tired fine wire through orifice of nozzle, and reassemble head. Run test to confirm that clog has been cleared. Do not attempt to clean plastic nozzles by slicking knife blades or wire into the openings. The plastic will be scratched, and the pattern will be ruined.

(E) MONTHLY IRRIGATION REPORT

Develop and maintain a site log, which should contain the following information: monthly water consumption data, broken components, repairs areas of vandalism, and other site information. Submit this report with monthly invoice.

(F) BATTERY POWERED CONTROLLERS/VALVES

Battery powered controllers/valves shall be tested each month to check that the batteries are operating. Dead batteries shall be replaced immediately at the Contractor's cost.

(G) RAIN SENSOR

Rain sensor switches prevent irrigation systems from running when it is raining, or when it has recently rained. Maintain rain sensor free of debris and insects on the screen and funnel.

(H) DRIP IRRIGATION

Drip lines and spray heads shall be randomly checked on an ongoing basis such that the entire system is checked each month. Malfunctioning systems will be corrected immediately. Methods of detection include visual sightings of water on adjacent hardscape and property, soil probing, meter monitoring and specific line observations.

(I) MANUAL WATERING

When breakdowns or malfunctions exist, the Contractor shall hand water the same schedule as the irrigation controller to maintain all plant material in a healthy condition unless State determines otherwise. Do not wait for approval to begin hand watering if it is required to save the plantings. Failure of the irrigation system to provide full and proper coverage shall not relieve the landscape maintenance Contractor of the responsibility to provide adequate irrigation. It is the Contractor's responsibility to make sure that the irrigation system is maintained and operates properly. Plants which die due to irrigation failure will be considered to have died due to the contractor's negligence and shall be replaced at the Contractor's expense in the amount as specified in Section 8.6 Liquidated Damages.

(J) WEEKLY INSPECTIONS

The Contractor shall check the entire irrigation system weekly for items such as dry spots and missing or malfunctioning irrigation components. Check for leaking valves, water running across pavement, water standing in puddles, or any other condition which hampers the correct operation of the system or the public safety. The Contractor shall carefully observe plant materials for signs of wilting, indicating a lack of water. Plants which die due to irrigation failure will be considered to have died due to the Contractor's negligence and shall be replaced at the Contractor's expense.

(K) IRRIGATION SYSTEM ANNUAL COMPREHENSIVE INSPECTION

The Contractor and the State shall perform a comprehensive annual inspection of the entire irrigation system annually.

1. For the purposes of contract extension, on the second Monday on the fourth month after the Notice to Proceed date and the fourth month from the beginning of each contractual term for each contract renewal, as applicable.
2. For contract closing, sixty (60) days to the end of the contract.
3. The irrigation System Annual Comprehensive Inspection shall include the following:
 - a. Irrigation equipment and component inventory

- b. Each valve shall be individually operated and checked for any deficiencies.
- c. The Contractor shall start repairing any damages of the sprinkler system within forty-eight (48) hours of detection of from the time of notification by the State maintenance inspector.

(L) Trouble Calls

The Contractor is subject to be called by the State in case of, but not limited to, the following:

- mechanical/electrical failure,
- malfunction of the irrigation system
- leakage and damages caused by, but not limited to, vehicular traffic.

The number of personnel used to perform repair work on trouble calls by the contractor shall be fully justified and approved by the State before starting the said repair work. The Contractor shall have adequate personnel, supervisors, and equipment necessary to perform trouble calls. The Contractor shall present his completed “Irrigation Trouble Call/Equipment Service Maintenance Report” to the State for certification at the end of each day or each job, whichever is earlier.

1. Trouble Calls During Regular Working Hours.

- a. The Contractor shall respond within one (1) hour to the job site. The Contractor shall be charge liquidate damages as specified in Section 8.6 Liquidated Damages if the Contractor fails to respond within the specified time.
- b. Trouble call during regular working hours shall be paid for based on the hourly bid price in the Contractor’s proposal for **Bid Item No. 5 Irrigation Trouble Call work, Regular working hours – per man-hour, Sprinkler Technician** multiplied by the time spent at the job site to complete the repair work.
- c. Time spent at the job site to complete the repair work during regular working hours shall be taken to the closest one-quarter (1/4) of one (1) hour and any fraction of a one-quarter (1/4) of one (1) hour shall be considered a full one-quarter (1/4) of one (1) hour.

- 2. In order for the Contractor to receive payment, all completed “Irrigation Trouble Call/Equipment Service Maintenance Report” during regular working hours shall be certified and signed by the Engineer or his authorized representative.

(M) Materials, Supplies, Equipment, Facilities, and Utilities

1. The Contractor shall furnish the following:
 - a. All necessary supplies, materials, and equipment required to maintain the irrigation system.
 - b. Batteries for battery-powered controllers/valves.
2. The State shall furnish the following:
 - a. The current irrigation system, including all accessories as described in Section 11.1 Description.
 - b. Electrical power to power the irrigation system.
 - c. Water to irrigate the landscape areas.
 - d. Applicable keys to the irrigation controller cabinets, as applicable.

(N) Replacement Parts

1. Minor Replacement Parts
 - a. “Minor Replacement Parts” shall mean repairs that will require a system to be shut down for no more than four (4) hours and cost to maintain and/or replace parts equal to or less than \$200.00.
 - b. Cost of new parts and materials and labor for removing old part(s) and replacing new part(s) based on normal wear and tear and included as part of preventive maintenance based on industry/manufacturing standards or the contractor’s own commercial policies and pricing practices shall be considered incidental to the cost of **Bid Item No. 4 Maintenance and Inspection of Irrigation System, routine/preventive**. No additional payment will be made by the State.
2. Major Replacement Parts
 - a. “Major Replacement” shall mean repairs that will be require a system to be shut down for more than four (4) hours or cost work and replacement parts is more than \$200.00.
 - b. The Contractor is not authorized to commence on any major repair work more than \$200.00 without written authorization from the State. The

Contractor shall immediately notify the State when a major repair/replacement is required or planned. The Contractor shall submit a written cost estimate for labor, materials and/or equipment to the State as expeditious as possible for approval. The State reserves the right to solicit competitive bids and have work done by the lowest bidder.

- c. All major repairs/replacement shall be negotiated separately in a manner similar to Section 4.5 Price Adjustment and shall be paid by the corresponding labor hour under **Bid Item No. 5 Irrigation Trouble Call work, Regular working hours – per man-hour, Sprinkler Technician,** and/or allowed under **Bid Item No. 8 Replacement Parts,** as applicable.
 - d. The Contractor shall be reimbursed for the cost of the new parts including shipping plus fifteen percent (15%) for overhead, profit, taxes and other incidental expenses. The Contractor shall substantiate its charges by submitting original billing as requested by the State.
 - e. Due care will be exercised to prevent physical damage to the equipment.
 - f. The Contractor shall submit a list of parts ordered but not received within thirty (30) days and explain in writing what parts are not received on the first day of each month.
3. **Replacement Parts for Damage Caused by Motorists.** Cost of new parts, materials, and labor for removing old part(s) and replacing new part(s) for damages caused by motorists shall be paid by the corresponding labor hour under Irrigation Trouble Call work, Regular working hours – per man-hour, Sprinkler Technician, in the Proposal Schedule, as applicable.
4. The Contractor shall make all materials salvageable for reuse.
- a. Salvageable materials damaged through the Contractor's negligence shall be replaced at the Contractor's expense. Materials will be subject to inspection at any time. Failure of the State's inspector to note faulty material or workmanship during maintenance or installation will not relieve the Contractor of the responsibility for removing or replacing such materials and restoring the system to working order at the Contractor's expense.
 - b. Replacement of irrigation system components shall be made with materials of the same manufacture and model as the original equipment. Substitutions of materials other than original equipment will be approved only when the original equipment has been discontinued and is no longer available for purchase at any location. The substituted equipment must be

completely compatible with the original and must be approved in advance by the State. All repairs to the system shall be identical to the original installation, unless approved otherwise in advance by the State. If a change to the installation will result in lower future maintenance costs, less frequent breakage, or an increase in public safety, Contractor shall request authorization to make the change from the State.

(O) Miscellaneous Work and Requirements

The State may request the Contractor to provide discretionary services that are mentioned below and be paid by allowance in **Bid Item No. 9 Miscellaneous Work** and be negotiated.

1. **Upgrades.** Upgrade work requires authorization by the State. Upgrade work may include but is not limited to the following:
 - a. Installation of new controller equipment.
 - b. Replacement of non-operative equipment/component.
 - c. Enhancing equipment as warranted or needed.
 - d. Install, modify, or upgrade devices as needed
2. The Contractor shall clean respective areas after maintenance service. Materials and equipment brought in by the Contractor for servicing shall be removed by the contractor when work is completed. Equipment and components that are service shall be wiped down and free of oil, grease, dirt, and handprints upon completion of service.
3. The Contractor shall immediately report hazardous conditions and items that requires repair to the State.
4. The Contractor shall be held accountable for any damage cause to fixtures, landscaping, pavements, or other features resulting from work for this project. Property damaged by action of the Contractor or the Contractor's employees shall be replaced at the Contractor's expense and the replacement shall be approved by the State.

Miscellaneous work, if approved by the State, shall be paid by **Bid Item No. 9 Miscellaneous Work**.

(P) Traffic Control/Closing of Lanes

Refer to Section 10.5(P) TRAFFIC CONTROL/CLOSING LANES.

(Q) Warranty

1. Commercial Warranties
 - a. The Contractor shall be responsible for executing all manufacturer's commercial warranties on State-government equipment parts and systems under this contract. The Contractor shall report to the State any difficulty in exercising manufacturer warranties and request assistance when necessary.
 - b. The Contractor shall maintain a file of the original warranties on new Equipment/component installed and maintain a list of manufacturer's telephone numbers and points of contact for all warranted equipment. A copy of the list shall be provided to the State thirty (30) days after the notice to proceed date and when new equipment is added, or old warranties expire. This file shall be turned over to the State upon completion or termination of this contract. These warranties shall list the "State of Hawaii, Department of Transportation" as the equipment owner.
 - c. State-government equipment installed by the Contractor that fails within a warranty period due to Contractor's poor workmanship, or by not following the manufacturer's installation, operation, and/or maintenance instruction shall be replaced or repaired at the Contractor's expense.
 - d. Labor warranty shall be a full thirty (30) calendar days on all items of equipment provided by the Contractor which period shall commence upon completion and acceptance by the State.
2. Warranted Equipment/Component
 - a. Warranted equipment and component parts shall not be repaired, removed, or replaced by the Contractor while under warranty by the manufacturer or by the installer.
 - b. All defect in workmanship or material, defective parts or improper installation found by the Contractor shall be reported in writing to the State. The Contractor shall have the knowledge of the equipment and component that are covered by the original warranty and duration of the warranty.
 - c. The Contractor shall perform all preventive maintenance and inspection as prescribed by the manufacturer.

11.6 SAFETY AND ACCIDENT PREVENTION

Refer to Section 10.8 SAFETY AND ACCIDENT PREVENTION.

11.7 WORK SCHEDULE

Refer to Section 10.6 WORK SCHEDULE.

11.8 SUBMITTAL/REPORTS SUMMARY

The Contractor shall submit the following submittals/reports as a hard copy or in a format as requested by the State:

Item	Submittals/Reports	Required	Frequency	Submit to
1	List of personnel employed under the contract along with individual qualifications.	Prior to award and three (3) working days prior to the Notice to Proceed date.	As revised	Project Manager, Construction and Maintenance Branch, Highways Division and the District Engineer or authorized representative (Point of Contact).
2	Work schedule, Proposed schedule for routine and preventative maintenance.	During the Pre-start meeting.	As revised by the Engineer	The District Engineer or authorized representative (Point of Contact).
3	Irrigation controller schedule of watering.	One (1) month after the Notice to Proceed date.	As required	The District Engineer or authorized representative (Point of Contact).
4	Monthly Irrigation Report.	Submit with the monthly invoice.	Monthly	The District Engineer or authorized representative (Point of Contact).
5	Parts requirements and maintenance record system and other essential information.	During pre-start meeting.	As required	The District Engineer or authorized representative (Point of Contact).

Item	Submittals/Reports	Required	Frequency	Submit to
6	<u>Irrigation Weekly Service Maintenance Report.</u>	Submit with the monthly invoice.	Weekly	The District Engineer or authorized representative (Point of Contact).
7	<u>Irrigation Monthly Service Maintenance Report.</u>	Submit with the monthly invoice.	Monthly	The District Engineer or authorized representative (Point of Contact).
8	<u>Irrigation Annual Service Maintenance Report.</u>	Submit with the monthly invoice.	Annually	The District Engineer or authorized representative (Point of Contact).
9	<u>Irrigation Service Maintenance Report for years ending in "5" or "0".</u>	Month of January, Submit with the monthly invoice.	For years ending in "5" or "0"	The District Engineer or authorized representative (Point of Contact).
10	<u>Irrigation Annual Report.</u>	No later than thirty (30) calendar days after each one (1) year contractual period. Submit with the monthly invoice.	Annually	Project Manager, Construction and Maintenance Branch, Highways Division and the District Engineer or authorized representative (Point of Contact).

11.9 PRE-START MEETING

Refer to Section 10.10 PRE-START MEETING.

11.10 CONTRACTOR EVALUATION FORM

The Contractor shall be evaluated on the performance for preventive maintenance for the entire irrigation system including the irrigation controllers, and respective inspection reports. Refer to Appendix I Contractor Performance Rating.

11.11 BASIS FOR PAYMENT

The Contractor's bid price shall be full compensation for furnishing all labor, technical knowledge and skills, materials, tools, equipment, vehicles, communication cost, taxes, insurance, overhead, travel, and incidental costs necessary for maintenance and inspection of the irrigation system as specified in this contract.

Incidental costs include, but are not limited to the following:

1. Batteries for battery powered controllers/valves.
2. Components not listed in the itemized report. These components include but are not limited to backflow preventers, controllers, valves and sprinkler heads.

3. Components not functioning properly sixty (60) days prior to contract closing. These components include but are not limited to backflow preventers, controllers, valves and sprinkler heads.

An annual estimated cost shall be provided to maintain the irrigation system.

(A) **Monthly Earnings** are computed as follows:

1. For **Bid Item No. 4 Maintenance and Inspection of Irrigation System, routine/preventive**, monthly earnings shall be per unit bid price as specified in the Proposal Schedule.
2. For **Bid Item No. 5 Irrigation Trouble Call work, Regular working hours – per man-hour, Sprinkler Technician**, monthly payments shall be made based on the actual number of services performed and the applicable unit price.
3. For **Bid Item No. 8 Replacement Parts**, the Contractor shall be reimbursed for the cost of the new part in accordance with Section 11.5(N)2.d.

(B) For **Bid Item No. 9 Miscellaneous Work**, work shall be used at the discretion of the State for miscellaneous work within the scope of work and within the project area. The amount shall be negotiated in a manner similar to Section 4.5 price adjustment, and if approved, will be paid by the respective allowance.

(C) **Deductions** (as applicable):

If the Contractor fails to maintain the designated irrigation system satisfactorily as required within Section 11 Maintenance and Inspection of Irrigation system, a deduction from the monthly earnings will be made as follows and a report for with substantiating evidence and explanation shall be filed by the State.

Deduction = Percent (%) estimated by the State and shall not be paid to the Contractor.

1. Liquidated Damages – The amount, if any, is to be computed as specified in the Special Provisions and shall be retained by the State and shall not be paid to the Contractor.
2. Retainage – computed as specified in Section 9.2 Retainage. Refer to Section 9.2 Retainage/Deduction from Payment for retainage invoicing procedures.

(D) **Monthly Payments.** The total monthly payments payable to the Contractor for maintenance and inspection of the irrigation system shall be the applicable **Monthly Earnings** in Section 11.11(A), plus the applicable **Miscellaneous Work** in Section 11.11(B), minus the applicable **Deductions** in Section 11.11(C).

Refer to Section 9.4 Progress Payments for the required information on monthly invoices.

It is the sole responsibility of the Contractor to ensure the proper operations of the irrigation system.

STATE OF HAWAII
DEPARTEMENT OF TRANSPORTATION
HIGHWAYS DIVISION
HONOLULU, HAWAII

APPENDICES

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- Appendix B Invasive Plant Removal
- Appendix C Maintenance of Landscaped Areas Task and Frequency Matrix
- Appendix D Maintenance of Irrigation System Task, Frequency, Checklist and Report
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- Appendix D2 Sample – Irrigation Control Schedule
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- Appendix F Location Plan
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APPENDICES (continuation)

Project No. I-H3-1(75), Unit VI (Landscape Irrigation Plan, Kaneohe Interchange)

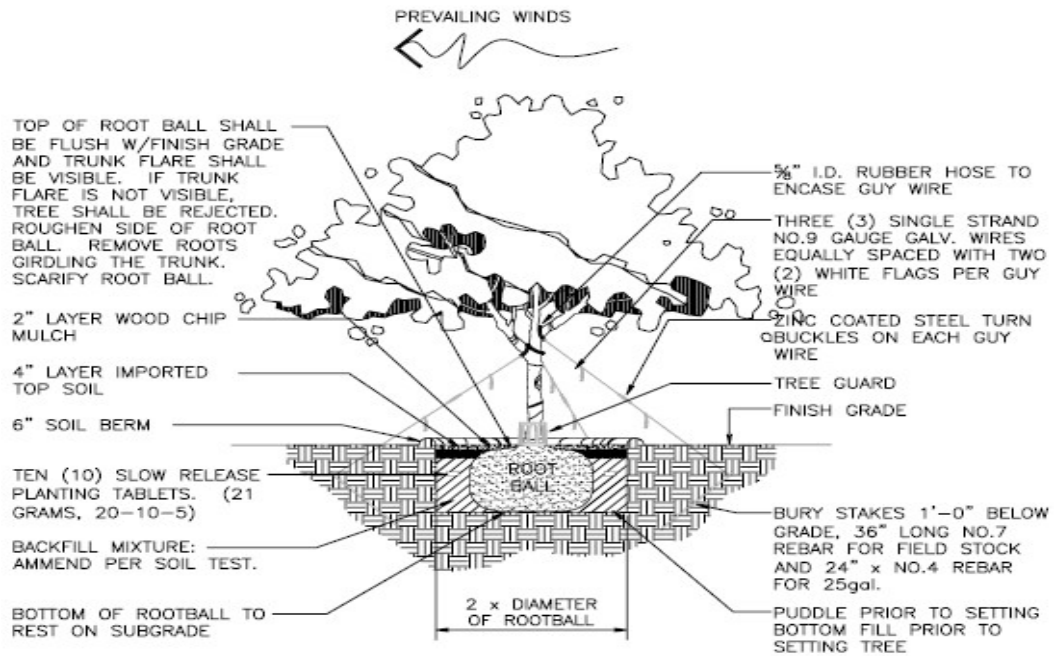
Project No. I-H3-1(75), Unit VI (Landscape Plan, Halekou Interchange)

Project No. I-H3-1(75), Unit VI (Details, Plant List and Notes, Kaneohe/Halekou Interchange)

Project No. S-0630(7) (Sprinkler System, Kailua Interchange)

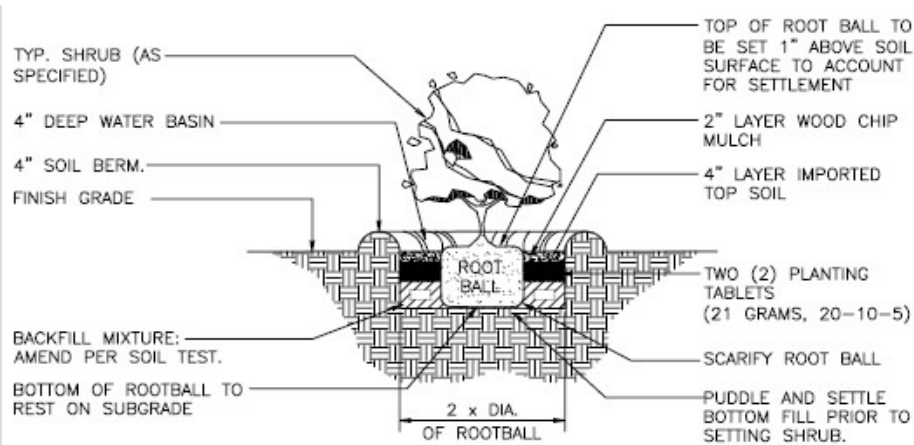
Appendix F2	Summary of Required Annual Inspections
Appendix G	Application & Permit for the Occupancy & Use of State Highway Right-Of-Way
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APPENDIX A TREE AND SHRUB PLANTING DETAIL



NOTE:
TRUNK MUST BE PROTECTED FROM ROPE SLING BURNS AND ABRASIONS DURING MOVING. TREE SHALL BE PLUMB. IF TREE IS LEANING AT THE END OF THE PLANT ESTABLISHMENT PERIOD, THE TREE SHALL BE REJECTED.

CONTAINER
② TREE PLANTING DETAIL
SCALE: N.T.S.



⑨ SHRUB PLANTING DETAIL
SCALE: N.T.S.

**APPENDIX B
INVASIVE PLANT REMOVAL**

INVASIVE PLANT	REMOVAL INSTRUCTIONS
Guinea Grass [<i>Panicum maximum</i>]	Susceptible to glyphosate, including drizzle application. Cut grass over 24" to 6" above grade and apply glyphosate (i.e. RoundUp). Young plants are susceptible to selective grass killers.
Sleeping Grass [<i>Mimosa pudica</i>]	Very Sensitive to picloram (0.25 lb/acre), sensitive to triclopyr (1 lb/ acre)
Wiregrass [<i>Eleusine indica</i>]	Sensitive to MSMA
Kyllinga [<i>Cyperus brevifolius</i>]	Remove by hand. Few herbicides are effective in controlling nutsedge, either because of lack of selectivity to other plants or lack of uptake.
California Grass [<i>Brachiaria mutica</i>]	Drizzle application of glyphosate at 1 lb/acre.
Maile Pilau [<i>Paederia foetida</i>]	If the Maile Pilau vine is not climbing over desirable vegetation, apply direct application to foliage with triclopyr herbicide and cut stem/stump at the ground and apply herbicide and follow-up at least once with a second application. If Maile Pilau is climbing over desirable vegetation, cut the stump and apply triclopyr herbicide (i.e., Garlon 4, etc.), and follow-up at least once with a second application. Exercise caution when removing the climbing Maile Pilau plant from the desirable vegetation.
Ivy Gourd [<i>Coccoloba grandis</i>]	Except for bagging fruits, physical control is not recommended. Grubbing or hand pulling generally does not kill the plant; rather, it breaks up into multiple plantlets which can grow back from roots or stems that touch the ground. Ivy gourd plants have responded well to a thin-line basal bark application of 100% Garlon 4 (triclopyr). If there are multiple stems, apply multiple times. Make sure to apply the triclopyr to each section that touches the ground. Leave the plants in place. Do not pull plants out of the trees or off of walls or fences, as this multiplies the number of plants and prevents translocation of the herbicide. The cut stump method is not recommended as it will lead to multiplying plants and prevents translocation of herbicide to the rest of the vine.
Mysore Thorn/ Cat's claw [<i>Caesalpinia decapetala</i>]	Cat's Claw is extremely prickly and attempts at physical control must be done carefully. This plant is sensitive to foliar applications of glyphosate and triclopyr, and to soil applications of tebuthiuron. Adequate coverage of Cat's Claw foliage in dense infestations is difficult. Timely repeat applications (every 3-9 months) of triclopyr ester at 0.25 lb/acre allows gradual reductions and opening of the canopy and eventual control. This strategy not only stresses the Cat's Claw over a longer period but also controls newly germinated Cat's Claw
Shoebuttan [<i>Ardisia elliptica</i>]	Small numbers of seedlings and shrubs can be eliminated by pulling and grubbing. A broadcast spray of glyphosate (i.e., Roundup) is effective in killing dense stands of seedlings but will also kill native plants. Larger plants can be killed by applying a basal spray of triclopyr (i.e., Garlon 4) mixed with an oil diluent.

APPENDIX C
MAINTENANCE OF LANDSCAPED AREAS TASK AND FREQUENCY MATRIX

Section 10.5	TASK	MONTH												ANNUAL TOTAL
		J	F	M	A	M	J	J	A	S	O	N	D	
(A)	Mowing.	2	2	2	2	2	2	2	2	2	2	2	2	24
(B)	Edging and trimming of grass.	2	2	2	2	2	2	2	2	2	2	2	2	24
(C)	Weeding.	2	2	2	2	2	2	2	2	2	2	2	2	24
(D)	Edging and trimming of vines and ground cover.	2	2	2	2	2	2	2	2	2	2	2	2	24
(E)	Caring and Trimming of Shrubs.	1	1	1	1	1	1	1	1	1	1	1	1	12
(F)	Caring and Trimming (Sight Distance/Clear Zones/Clear Space) of Trees.	In accordance with the Specifications.												
(F)1.a	Mulching.													As requested.
(G)	Controlling vegetation intrusion along right-of-way.	2	2	2	2	2	2	2	2	2	2	2	2	24
(H)	Watering.	In accordance with the Specifications.												
(I)	Fertilizing.	In accordance with the Specifications.												As determined by the Engineer.
(J)	Spraying pesticide & herbicide.	In accordance with the Specifications.												As needed.
(K)	Clearing gutters, swales and ditches.	2	2	2	2	2	2	2	2	2	2	2	2	24
(L)	Plantings requiring additional special tasks.	In accordance with the Specifications.												
(M)	Invasive plant removal.	2	2	2	2	2	2	2	2	2	2	2	2	24
(N)1	Removal of debris and litter on roadways, which originate from landscape maintenance work (i.e., paper, cans, bottles, cigarette butts, tree limbs, palm leaves, etc.), including waste material resulting from the work activities.	Required after any work activity.												
(N)2	General clean up. Removing and disposing rubbish and debris and litter (i.e., paper, cans, bottles, cigarette butts, tree limbs, palm leaves, etc.)													156 (3 times per week)
(O)	Reporting of Hazardous Conditions and Damages to Landscaped Areas.													As needed.
(P)	Traffic Control/Closing of Lanes.													As needed.
(Q)	Landscaped Areas Comprehensive Annual Inspection.	In accordance with the Specifications.												1

APPENDIX D

MAINTENANCE OF IRRIGATION SYSTEM TASK, FREQUENCY, CHECKLIST AND REPORT

All routine/preventive maintenance tasks shall be in accordance with the manufacture’s maintenance manual. All equipment/component that requires a replacement shall be approved by the Engineer.

IRRIGATION SYSTEM COMPONENTS/TASK		FREQUENCY	Technicians Initial and Date after completion of task.	
			Date	Initial
A. ELECTRIC VALVE				
1	CHECK FLOW CONTROL ON EACH VALVE FOR PROPER ADJUSTMENT. ADJUST AS NEEDED BASED ON HEAD OPERATIONS.	Monthly		
2	CHECK FOR VALVE WEEPING AT THE HEADS, REPLACE VALVE AS NEEDED AND IF APPROVED BY THE ENGINEER.	Monthly		
3	CHECK THE CONDITION OF WIRE SPLICES. REPLACE AS NEEDED AND IF APPROVED BY THE ENGINEER.	Monthly		
4	CHECK FOR LEAKS AT ALL THREADED CONNECTIONS. TIGHTEN AS NEEDED.	Monthly		
5	CERTIFY PERFORMANCE OF MONTHLY SERVICE AND REPORT ALL DISCREPANCIES. SUBMIT CERTIFICATION AND THIS COMPLETE CHECKLIST WITH MONTHLY INVOICE.	Monthly		
6	CHECK EACH VALVE OHM READING FROM THE CONTROLLER AND RECORD FOR FUTURE REFERENCE (20-60 OHMS IS NORMAL). IF THE OHM READINGS DECREASE SIGNIFICANTLY FROM ONE YEAR TO THE NEXT, REPLACE SOLENOID EVEN IF IT STILL OPERATES. CONFIRM THAT THIS IS A SOLENOID PROBLEM AND NOT WIRING OR CONNECTION ISSUE.	Annually		
7	UNSCREW THE SOLENOID AND CHECK PLUNGER FOR SMOOTH OPERATIONS, CHECK SOLENOID AND PLUNGER FOR RUST OR CORROSION. REPLACE IF RUST OR CORROSION PRESENT AND IF APPROVED BY THE ENGINEER.	Annually		
8	CHECK WIRE LEADS FOR CRACKS OR EXPOSED WIRES.	Annually		
9	CHECK WIRE SPLICES. ENSURE THAT THE SPLICES ARE GOOD AND ARE STILL WATERPROOF. REPLACE AS NEEDED AND IF APPROVED BY THE ENGINEER.	Annually		
10	IF VALVES ARE A “DIRTY WATER” VALVE, CHECK AND CLEAN SCREEN/FILTER. REPLACE AS NEEDED AND IF APPROVED BY THE ENGINEER.	Annually		
11	CERTIFY PERFORMANCE OF ANNUAL SERVICES AND REPORT ALL DISCREPANCIES. SUBMIT CERTIFICATION AND THIS COMPLETE ANNUAL CHECKLIST WITH MONTHLY INVOICE.	Annually		
12	SUBMIT A RECOMMENDATION TO THE ENGINEER AND IF APPROVED REPLACE ALL SOLENOIDS, DIAPHRAGMS, SEAT, SPRING, WIRE SPLICES, AND CHECK AND CLEAN ALL PORTS AND SCREENS.	Month of January in years ending in “5” or “0”		

APPENDIX D

MAINTENANCE OF IRRIGATION SYSTEM TASK, FREQUENCY, CHECKLIST AND REPORT

All routine/preventive maintenance tasks shall be in accordance with the manufacturer’s maintenance manual. All equipment/component that requires a replacement shall be approved by the Engineer.

IRRIGATION SYSTEM COMPONENTS/TASK		FREQUENCY	Technicians Initial and Date after completion of task.	
			Date	Initial
B. SPRAY HEAD AND ROTOR HEAD MAINTENANCE				
1	CHECK THE BODY FOR CRACKS AND LEAKS WHERE THE STEM RISES FROM THE BODY.	Weekly		
2	CHECK LEAKS COMPING UP FROM BELOW THE HEAD. REPAIR AS NEEDED.	Weekly		
3	CHECK THAT THE NOZZLE IS NOT CLOGGED OR SEMI-CLOGGED. UNCLOG OR REPLACE. CLEAN THE FILTER FOR SPRAY HEAD.	Monthly		
4	ON SPRAY HEADS THAT APPREAR CLOGGED, CHECK THE FILTER UNDER THE NOZZLE AND ADJUST ARC AS NECESSARY. REPLACE AS NEEDED AND IF APPROVED BY THE ENGINEER.	Weekly		
5	PRUNE OBSTRUCTING PLANTS ON ALL SPRINKLER HEADS.	Weekly		
6	CERTIFY PERFORMANCE OF WEEKLY SERVICE REPORT ALL DISCREPANCIES. SUBMIT CERTIFIED AND THIS COMPLETED CHECKLIST WITH MONTHLY INVOICE.			
7	ON ROTOR HEADS CHECK VISUALLY FOR TOO HIGH OR TOO LOW PRESSURE. ADJUST VALVE FLOW CONTROL OR PRESSURE REGULATOR AS NEEDED.	Monthly		
8	CERTIFY PERFORMANCE OF WEEKLY SERVICE AND REPORT ALL DISCREPANCIES, SUBMIT CERTIFICATION AND THIS COMPLETED CHECKLIST WITH MONTHLY INVOICE.	Monthly		
9	ON ROTOR HEADS, CHECK RADIUS OF HEAD COVERAGE, MAKE SURE THE SET ADJUSTMENT IS NOT SET INCORRECTLY.	Monthly		
10	CERTIFY PERFORMANCE OF MONTHLY SERVICE AND REPORT ALL DISCREPANCIES. SUBMIT CERTIFICATION AND THIS COMPLETED CHECKLIST WITH MONTHLY INVOICE.	Monthly		
11	REPLACE THE FILTERS UNDER THE NOZZLES AND AT THE BASE OF ALL HEADS.	Annually		
12	REPLACE WORN NOZZLES AND/OR NOZZLES THAT CANNOT EASILY BE UNPLUGGED.	Annually		
13	CHECK THAT THE CORRECT NOZZLES IS IN PLACE AND HAS BEEN INADVERTENTLY CHANGED DURING THE YEAR. ON ROTOR HEADS CHECK FOR MATCHED PRECIPITATION RATE AND REPLACE AS NECESSARY.	Annually		
14	CHECK STEM SEAL AND REPLACE IF LEAKING AND IF APPROVED BY THE ENGINEER.	Annually		
15	CHECK LOW OR TILTED HEADS AND RAISE AND/OR STRAIGHTEN AS NEEDED.	Annually		
16	CHECK FOR LOW HEAD DRAINAGE AND REPLACE LOW HEADS WITH HEADS WITH IN-HEAD CHECK VALVES.	Annually		

APPENDIX D

MAINTENANCE OF IRRIGATION SYSTEM TASK, FREQUENCY, CHECKLIST AND REPORT

All routine/preventive maintenance tasks shall be in accordance with the manufacturer’s maintenance manual. All equipment/component that requires a replacement shall be approved by the Engineer.

IRRIGATION SYSTEM COMPONENTS/TASK		FREQUENCY	Technicians Initial and Date after completion of task.	
			Date	Initial
B. SPRAY HEAD AND ROTOR HEAD MAINTENANCE (CONTINUATION)				
17	ON SPRAY HEADS, USE A PRESSURE GAUGE WITH ADAPTER AND CHECK PRESSURES AT THE BEGINNING, MIDDLE, AND END OF EACH ZONE. ADJUST PRESSURE AS NEEDED AND WHERE AVAILABLE. IF A PSI VARIATION IS GREATER THAN 10% EXISTS FROM THE HEAD COMPARED TO THE LAST HEAD IN THE ZONE, CONSIDER PSI REGULATING NOZZLES OR HEADS FOR REPLACEMENT IF NOT CURRENTLY IN USE.	Annually		
18	ON ROTOR HEADS, USING PITOT TUBE, CHECK PRESSURE AT THE BEGINNING, MIDDLE, AND END OF ZONE. ADJUST PRESSURE AS NEEDED AND WHERE AVAILABLE. IF A PSI VARIATION IS GREATER THAN 10% EXISTS FROM THE HEAD COMPARED TO THE LAST HEAD IN THE ZONE, CONSIDER PSI REGULATING HEADS FOR REPLACEMENT, IF NOT CURRENTLY IN USE. IF PRESSURE REGULATING ROTOR HEADS ARE NOT AVAILABLE, CONSIDER MAKING NOZZLE CHANGES TO BETTER REGULATE PRESSURE.	Annually		
19	ON ROTOR HEADS, CHECK ROTATION SPEED. ALL HEADS OF THE SAME TYPE FROM THE SAME MANUFACTURER SHOULD ROTATE AT THE SAME SPEED.	Annually		
20	ON ROTOR HEADS, CHECK STEM SEAL AND REPLACE IF LEAKING.	Annually		
21	ON ROTOR HEADS, CHECK FOR LOW OR TILTED HEADS AND RAISE AND/OR STRAIGHTEN AS NEEDED.	Annually		
22	CERTIFY PERFORMANCE OF ANNUAL SERVICE AND REPORT ALL DISCREPANCIES. SUBMIT CERTIFICATION AND THIS COMPLETED CHECKLIST WITH MONTHLY INVOICE.	Annually		
23	PERFORM A CATCH CAN TEST TO DETERMINE THE ZONE DISTRIBUTION UNIFORMITY (DU).	Month of January in years ending in "5" or "0"		
24	IF APPROVED BY THE ENGINEER, REPLACE ALL NOZZLES, FILTERS, AND STEM SEALS AND REPLACE ENTIRE SPRAY OR ROTOR HEAD IF PARTS EXCEED ENTIRE HEAD.	Month of January in years ending in "5" or "0"		
25	CHECK HEAD LOCATIONS AND MOVE AS NEEDED BASED ON CURRENT LANDSCAPE CONFIGURATION AND PLANT GROWTH.	Month of January in years ending in "5" or "0"		
26	TIGHTEN ALL CONNECTIONS WHERE THE HEAD CONNECTS TO THE UNDERGROUND PIPING.	Month of January in years ending in "5" or "0"		

APPENDIX D

MAINTENANCE OF IRRIGATION SYSTEM TASK, FREQUENCY, CHECKLIST AND REPORT

All routine/preventive maintenance tasks shall be in accordance with the manufacture’s maintenance manual. All equipment/component that requires a replacement shall be approved by the Engineer.

IRRIGATION SYSTEM COMPONENTS/TASK		FREQUENCY	Technicians Initial and Date after completion of task.	
			Date	Initial
C. VALVE BOX				
1	TRIM INTRUDING GRASS AROUND BOX COVER.	MONTHLY		
2	CERTIFY PERFORMANCE OF WEEKLY SERVICE AND REPORT ALL DISCREPANCIES. SUBMIT CERTIFICATION AND THIS COMPLETED CHECKLIST WITH MONTHLY INVOICE.	MONTHLY		
3	CHECK LID FOR DAMAGE. REPLACE IF CRACKED OR BROKEN.	ANNUALLY		
4	CHECK FOR VALVE BOX SETTLING, RAISE, AND LEVEL BOX IF NOT AT FINISH GRADE.	ANNUALLY		
5	CHECK FOR DIRT INTRUSION. CLEAN OUT ALL DIRT IN BOX.	ANNUALLY		
6	CERTIFY PERFORMANCE OF ANNUAL SERVICE AND REPORT ALL DISCREPANCIES. SUBMIT CERTIFICATION AND THIS COMPLETED CHECKLIST WITH MONTHLY.	ANNUALLY		
7	IF APPROVED BY THE ENGINEER, REPLACE BOX IF WARPED OR DAMAGED IN ANY WAY. REINSTALL BOX TO FINISH GRADE.	Month of January in years ending in “5” or “0”		
8	IF APPROVED BY THE ENGINEER, REPLACE LANDSCAPE FABRIC AND GRAVEL IN BOX.	Month of January in years ending in “5” or “0”		
9	CERTIFY PERFORMANCE OF “5” OR “0” SERVICE AND REPORT ALL DISCREPANCIES. SUBMIT CERTIFICATION AND THIS COMPLETED CHECKLIST WITH MONTHLY INVOICE.	Month of January in years ending in “5” or “0”		

APPENDIX D

MAINTENANCE OF IRRIGATION SYSTEM TASK, FREQUENCY, CHECKLIST AND REPORT

All routine/preventive maintenance tasks shall be in accordance with the manufacture's maintenance manual. All equipment/component that requires a replacement shall be approved by the Engineer.

IRRIGATION SYSTEM COMPONENTS/TASK		FREQUENCY	Technicians Initial and Date after completion of task.	
			Date	Initial
D. WIRING				
1	CHECK WIRE CONNECTIONS AT THE CONTROLLER AND AT THE VALVE BOX. TIGHTEN AND/OR REPLACE AS NEEDED.	MONTHLY		
2	CHECK FOR STRESS OR TIGHTNESS ON THE WIRES AND SPLICES IN THE VALVE BOX. REPAIR AS NEEDED.	MONTHLY		
3	CERTIFY PERFORMANCE OF MONTHLY SERVICE AND REPORT ALL DISCREPANCIES. SUBMIT CERTIFICATION AND THIS COMPLETED CHECKLIST WITH MONTHLY INVOICE.	MONTHLY		
4	MAKE SURE ALL WIRES ARE LABELED WITH CONTROLLER AND ZONE NUMBERS, CHECK AND REPLACE ANY FADED OR MISSING LABELS.	ANNUALLY		
5	CHECK EVERY SPLICE BOX AND CHECK THAT ALL SPLICES ARE SOUND AND WATERPROOF, REPLACE ALL DAMAGED OR COMPROMISED SPLICES.	ANNUALLY		
6	IDENTIFY, LABEL, AND OHM-OUT ALL EXTRA AND UNUSED WIRES SO THEY CAN BE USED IF NEEDED, IF OTHER WIRES FAIL.	ANNUALLY		
7	CERTIFY PERFORMANCE OF ANNUAL SERVICE AND REPORT ALL DISCREPANCIES. SUBMIT CERTIFICATION AND THIS COMPLETED CHECKLIST WITH MONTHLY INVOICE.	ANNUALLY		
8	IF APPROVED BY THE ENGINEER, REPLACE ALL SPLICES IN ALL VALVE BOXES AND JUNCTION BOXES.	Month of January in years ending in "5" or "0"		
9	CHECK AND RE-LABEL ALL WIRES.	Month of January in years ending in "5" or "0"		
10	CERTIFY PERFORMANCE OF "5" OR "0" SERVICE AND REPORT ALL DISCREPANCIES. SUBMIT CERTIFICATION AND THIS COMPLETED CHECKLIST WITH MONTHLY INVOICE.	Month of January in years ending in "5" or "0"		

APPENDIX D

MAINTENANCE OF IRRIGATION SYSTEM TASK, FREQUENCY, CHECKLIST AND REPORT

All routine/preventive maintenance tasks shall be in accordance with the manufacture’s maintenance manual. All equipment/component that requires a replacement shall be approved by the Engineer.

IRRIGATION SYSTEM COMPONENTS/TASK		FREQUENCY	Technicians Initial and Date after completion of task.	
			Date	Initial
E. CONTROLLER				
1	CHECK THAT THE CORRECT IRRIGATION SCHEDULE IS SELECTED SINCE SOME CONTROLLERS REVERT TO THE FACTORY DEFAULT PROGRAM WHEN THERE IS LOSS OF POWER.	MONTHLY		
2	VERIFY THAT THE CONTROLLER HAS ALL THE SEASONAL SCHEDULES PROGRAMMED.	MONTHLY		
3	MANUALLY TEST RAIN SWITCH. REPLACE RAIN SWITCH IF NOT FUNCTIONING.	MONTHLY		
4	CHECK AND REPLACE BACKUP BATTERY AS APPLICABLE AND NECESSARY.	MONTHLY		
5	CERTIFY PERFORMANCE OF MONTHLY SERVICE AND REPORT ALL DISCREPANCIES. SUBMIT CERTIFICATION AND THIS COMPLETED CHECKLIST WITH MONTHLY INVOICE.	MONTHLY		
6	RECORD STANDARD WATERING SCHEDULES AND LAMINATE AND KEEP INSIDE CONTROLLER. UPDATE MAINTENANCE DRAWINGS TO REFLECT CURRENT SCHEDULE.	ANNUALLY		
7	CLEAN ALL INSCECTS IN CONTROLLER AND INSTALL MOTH BALLS IN CLOTH BAGS.	ANNUALLY		
8	CHECK THAT CONTROLLER ENCLOSURE IS SECURED AND WATERPROOF, REPAIR WATER-PROOFING AS NECESSARY TO ENSURE ENCLOSURE IS WATERPROFF. IF APPROVED BY THE ENGINEER. REPLACE ENCLOSURE IF LOCK IS NOT REPAIRABLE.	ANNUALLY		
9	IF RAIN SWITCH IS ELECTRONIC. THEN REPLACE BATTERY AT THE CONTRACTOR'S COST.	ANNUALLY		
10	CERTIFY PERFORMANCE OF ANNUAL SERVICE AND REPROT ALL DISCREPANCIES. SUBMIT CERTIFICATION AND THIS COMPLETED CHECKLIST WITH MONTHLY INVOICE.	ANNUALLY		
11	SUBMIT RECOMMENDATION TO THE ENGINEER AND IF APPROVED. REPLACE ENTIRE CONTROLLER IF NOT FULLY FUNCTIONAL.	Month of January in years ending in "5" or "0"		
12	REPLACE ALL RAIN SWITCHES AND SENSORS.	Month of January in years ending in "5" or "0"		
13	CERTIFY PERFORMANCE OF "5" OR "0" SERVICE AND REPORT ALL DISCREPANCIES. SUBMIT CERTIFICATION AND THIS COMPLETED CHECKLIST WITH MONTHLY INVOICE.	Month of January in years ending in "5" or "0"		

APPENDIX D

MAINTENANCE OF IRRIGATION SYSTEM TASK, FREQUENCY, CHECKLIST AND REPORT

All routine/preventive maintenance tasks shall be in accordance with the manufacture’s maintenance manual.
 All equipment/component that requires a replacement shall be approved by the Engineer.

IRRIGATION SYSTEM COMPONENTS/TASK		FREQUENCY	Technicians Initial and Date after completion of task.	
			Date	Initial
F. RAIN SENSOR				
1	REMOVE DEBRIS.	MONTHLY		
2	CERTIFY PERFORMANCE OF MONTHLY SERVICE AND REPORT ALL DISCREPANCIES. SUBMIT CERTIFICATON AND THIS COMPLETED CHECKLIST WITH MONTHLY INVOICE.	MONTHLY		

IRRIGATION SYSTEM COMPONENTS/TASK		FREQUENCY	Technicians Initial and Date after completion of task.	
			Date	Initial
G. SITE INSPECTION				
1	ANNUAL COMPREHENSIVE INSPECTION, SUPPLEMENTAL IRRIGATION SYSTEM MAINTENANCE.	ANNUALLY		
2	CERTIFY PERFORMANCE OF ANNUAL SITE INSPECTION AND REPORT ALL DISCREPANCIES. SUBMIT CERTIFICATION AND THIS COMPLETED CHECKLIST WITH MONTHLY INVOICE.	ANNUALLY		

APPENDIX D1
SUPPLEMENTAL IRRIGATION SYSTEM MAINTENANCE INFORMATION

- (A) IRRIGATION CONTROLLER. All run times should take into account sprinkler rates, precipitation rates, soil conditions, microclimate conditions, evapotranspiration, and consideration of slope. Before scheduling run times, the site should be walked and planted areas inspected to observe plant stress and health. Soil moisture levels should be inspected throughout planted areas, and appropriate adjustments made to the irrigation schedule. Irrigation scheduling will be performed to encourage deep roots, including deep watering through use of multiple repeat cycles. On slopes, short irrigation cycles should be repeated to minimize water runoff. Soil probing shall be used to determine soil moisture depth, overall moisture levels and the need to adjust irrigation schedules. Soils will be allowed to dry to a 50% moisture depletion level between irrigations in order to avoid root-rot and allow adequate air to be present in the soil.

Irrigation cycles are to run only between the hours of 9:00 p.m. to 6:00 a.m. Watering times should be adjusted, where needed, to eliminate irrigation during heavy commuter hours. A proposed quarterly schedule of watering shall be provided to the Engineer thirty (30) days after the notice to proceed date. The frequency and duration shall be set to adequately irrigate plants and turf without causing significant surface runoff or ponding. Each time the schedule is changed due to seasons or any other reason, a revised schedule shall be provided to Engineer.

Controller enclosures are to remain locked and vandalism to enclosure shall be repaired within ten business days. Controllers are to be maintained free of insects and geckos. Contractor may employ moth balls. Keep solar-operated controller lenses clean of dirt and debris.

Refer to Appendix D2 Sample Irrigation Controller Schedule of the Appendices, for the required information.

- (B) SPRINKER HEADS. Each valve should be inspected monthly to correct the following conditions: stuck valves, and broken risers, laterals or mains. Contractor shall list and report all irrigation system damages to the Engineer with the cost estimate of repair/replacement. Irrigation system pressure shall be checked and adjusted at least monthly to insure efficient operation of irrigation systems. On slopes where no vehicles traverse, plastic valve boxes are acceptable. On flat areas, concrete valve boxes with metal covers are required. Contractor shall maintain the bottom of all valves, a minimum 1" above gravel base. Contractor shall remedy all valves not 1" above gravel base by excavating all dirt from valve box to a depth of 4" below the bottom of the valve and installing filter fabric and a 3" layer of number three gravel.
- (C) SPRINKLER HEADS. Inspect all sprinkler heads for misaligned irrigation heads, clogged or obstructed heads, missing or vandalized heads, low-head drainage conditions, overspray onto hardscaped areas, poor coverage or uniformity. If the irrigation is not adequate to provide uniform coverage, the Contractor agrees to upgrade the system to

APPENDIX D1
SUPPLEMENTAL IRRIGATION SYSTEM MAINTENANCE INFORMATION

achieve site efficiency. To clear clogs, remove internal assembly, clean screen filter, thread fine wire through orifice of nozzle, and reassemble head. Run test to confirm that clog has been cleared. Do not attempt to clean plastic nozzles by sticking knife blades or wire into the openings. The plastic will be scratched and the pattern will be ruined.

- (D) MONTHLY IRRIGATION REPORT. Develop and maintain a site log, which should contain the following information: monthly water consumption data, broken components, repairs areas of vandalism, and other site information. Submit this report with monthly invoice.
- (E) BATTERY POWERED CONTROLLERS/VAL YES. Battery powered controllers/valves shall be tested each month to check that the batteries are operating. Dead batteries shall be replaced immediately at the Contractor's cost.
- (F) RAIN SENSOR. Rain sensor switches prevent irrigation systems from running when it is raining, or when it has recently rained. Maintain rain sensor free of debris and insects on the screen and funnel.
- (G) DRIP IRRIGATION. Drip lines and spray heads shall be randomly checked on an ongoing basis such that the entire system is checked each month. Malfunctioning systems will be corrected immediately. Methods of detection include visual sightings of water on adjacent hardscape and property, soil probing, meter monitoring and specific line observations.
- (H) MANUAL WATERING. When breakdowns or malfunctions exist, the Contractor shall hand water the same schedule as the irrigation controller to maintain all plant material in a healthy condition unless Engineer determines otherwise. Do not wait for approval to begin hand watering if it is required to save the plantings. Failure of the irrigation system to provide full and proper coverage shall not relieve the landscape maintenance Contractor of the responsibility to provide adequate irrigation. It is the Contractor's responsibility to make sure that the irrigation system is maintained and operates properly. Plants which die due to irrigation failure will be considered to have died due to the contractor's negligence and shall be replaced at the Contractor's expense in the amount as specified in Section 8.6 Liquidated Damages, of the Special Provisions.
- (I) WEEKLY INSPECTION. The Contractor shall check the entire irrigation system weekly for items such as dry spots and missing or malfunctioning irrigation components. Check for leaking valves, water running across pavement, water standing in puddles, or any other condition which hampers the correct operation of the system or the public safety. The Contractor shall carefully observe plant materials for signs of wilting, indicating a lack of water. Plants which die due to irrigation failure will be considered to have died due to the Contractor's negligence and shall be replaced at the Contractor's expense.

APPENDIX D1
SUPPLEMENTAL IRRIGATION SYSTEM MAINTENANCE INFORMATION

- (J) IRRIGATION SYSTEM ANNUAL COMPREHENSIVE INSPECTION. The Contractor and the Engineer shall perform a comprehensive annual inspection of the entire irrigation system annually.
1. For purposes of contract extension, on the second Monday on the fourth month after the Notice to Proceed date and the fourth month from the beginning of each contractual term for each contract renewal, as applicable.
 2. For purposes of contract closing, sixty (60) days to the end of the contract as specified in Section 11.1(E)3.
 3. The Irrigation System Annual Comprehensive Inspection shall include the following:
 - a. An irrigation inventory.
 - b. Each valve shall be individually operated and checked for any deficiencies.
 - c. The Contractor shall start repairing any damages of the sprinkler system within forty-eight (48) hours of detection or from the time of notification by the State maintenance inspector.

**APPENDIX D2
SAMPLE – IRRIGATION CONTROLLER SCHEDULE**

Project No: H3(IJ)-01-23C

Contract No.: _____

Date: _____

Project Title: Maintenance of Landscaped Areas and Maintenance and Inspection of Irrigation System, H-3 Freeway, Halekou Interchange to Kailua Interchange, District of Koolaupoko, Island of Oahu

Contractor: _____

Controller No.	Valve No.	Valve Location			Irrigation Duration (Minutes, Hours)	Program				Daily Start Time				
			Weekly	Cyclical		1	2	3	4	1	2	3	4	
	1		M,T,W,Th,F,Sat,Sun											
	2		M,T,W,Th,F,Sat,Sun											
	3		M,T,W,Th,F,Sat,Sun											
	4		M,T,W,Th,F,Sat,Sun											
	5		M,T,W,Th,F,Sat,Sun											
	6		M,T,W,Th,F,Sat,Sun											
	7		M,T,W,Th,F,Sat,Sun											
	8		M,T,W,Th,F,Sat,Sun											
	9		M,T,W,Th,F,Sat,Sun											

Remarks: _____

Printed Name of Submitter: _____

Signature of Submitter: _____

APPENDIX E

SAMPLE – IRRIGATION TROUBLE CALL/EQUIPMENT SERVICE MAINTENANCE REPORT

Date: _____

Sheet No.: _____

Project No.: **H3(IJ)-01-23C**

Contract No.: _____

Project Title: MAINTENANCE OF LANDSCAPED AREAS AND MAINTENANCE AND INSPECTION OF IRRIGATION SYSTEM, H-3 FREEWAY, HALEKOU INTERCHANGE TO KAILUA INTERCHANGE, DISTRICT OF KOOLAUPOKO, ISLAND OF OAHU.

Contractor: _____

Location (i.e., mile post no, etc.) _____

Date of Service Call: _____

Name of Person(s) Making Call: _____

Time In, Time Out at Site: _____

Person(s) Contacted: _____

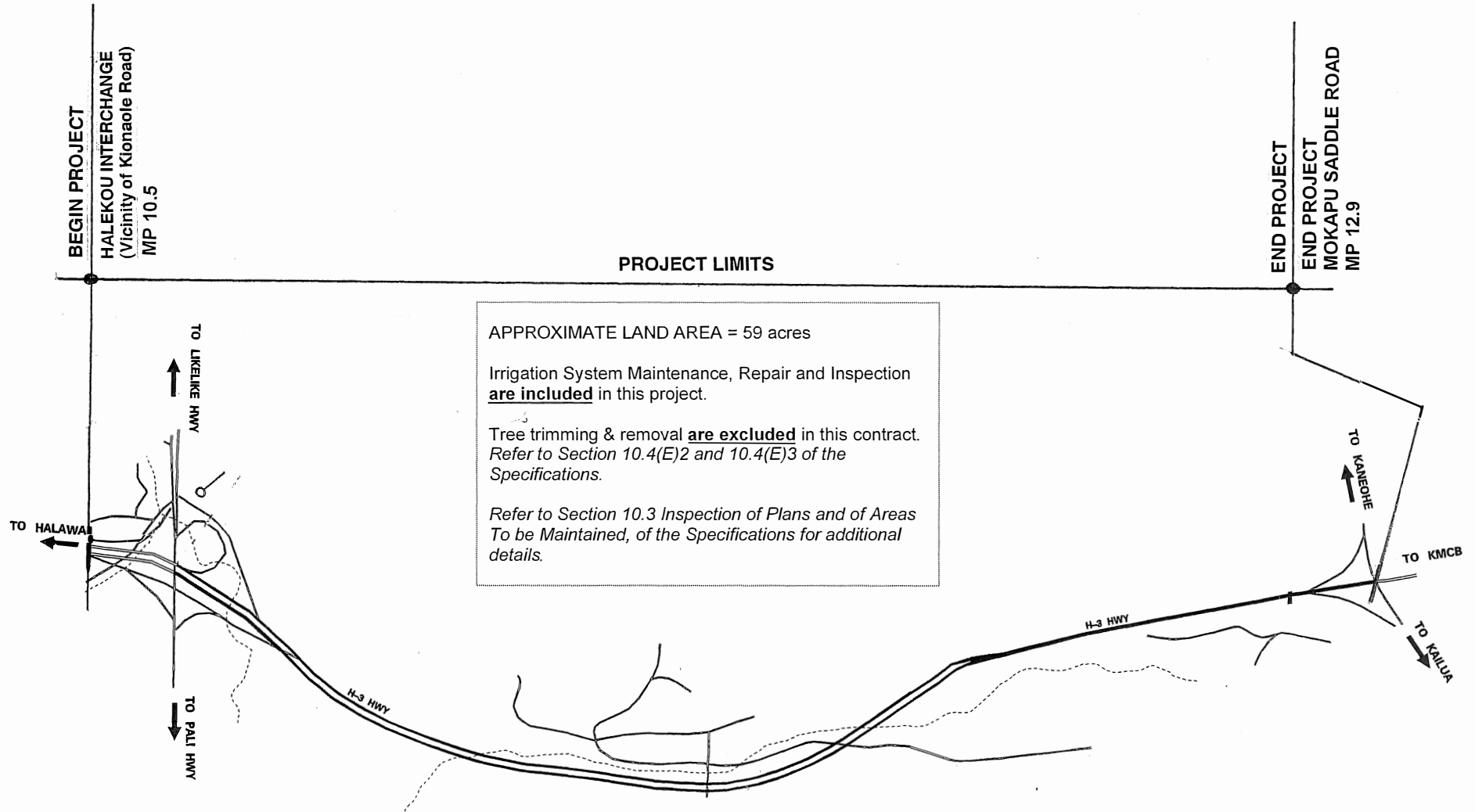
Name of Service Call – (Routine Maintenance or Emergency – Explain) _____

Equipment Readings and Maintenance Performed (Listed all items serviced): _____

Remarks and Recommendation: _____

Printed Name of Submitter: _____ Signature of Submitter.: _____

Appendix F



LOCATION PLAN
PROJECT NO. H3(IJ)-01-23C
NOT TO SCALE
F-1

Appendix F1

INDEX TO DRAWINGS	
SHEET NO.	DESCRIPTION
1	TITLE SHEET
2 - 6	TYPICAL ROADWAY SECTIONS
7 - 23	SHEET KEY MAP AND PLAN & PROFILE
24 - 28	BORING LOGS
29 - 31	INTERSECTION DETAILS & GRADES
32 - 40	SUPERELEVATION DIAGRAMS
41 - 61	MISCELLANEOUS, TYPICAL & STANDARD ROADWAY DETAILS
62 - 67	CONSTRUCTION SEQUENCE PLANS & DETAIL
68	SURCHARGE PLAN
69	SEDIMENT CONTROL PLAN
70 - 71	UNDERDRAIN PLAN
72 - 130	DRAINAGE PLANS & DETAILS
131 - 136	WATER SYSTEM PLANS
137 - 154	ELECTRIC & TELEPHONE PLANS & DETAILS
155 - 168	HIGHWAY LIGHTING PLANS & DETAILS
169 - 170	HAWAII LOA COLLEGE FORCE MAIN
171	INDEX TO BRIDGE DRAWINGS & LOCATION PLAN
172 - 201	BRIDGE NO. 1 & NO. 2, PLANS & DETAILS
202 - 221	BRIDGE NO. 3, PLANS & DETAILS
222 - 233	KAMOŌALII STREAM BRIDGE, PLANS & DETAILS
234	TYPICAL BRIDGE DETAILS
235 - 240	STANDARD BRIDGE DETAILS
241 - 268	TRAFFIC SIGNING, PAVEMENT MARKINGS PLANS & DETAILS
269 - 272	LANDSCAPING PLANS & DETAILS
273 - 275	SPRINKLER SYSTEM
276 - 328	CROSS SECTIONS

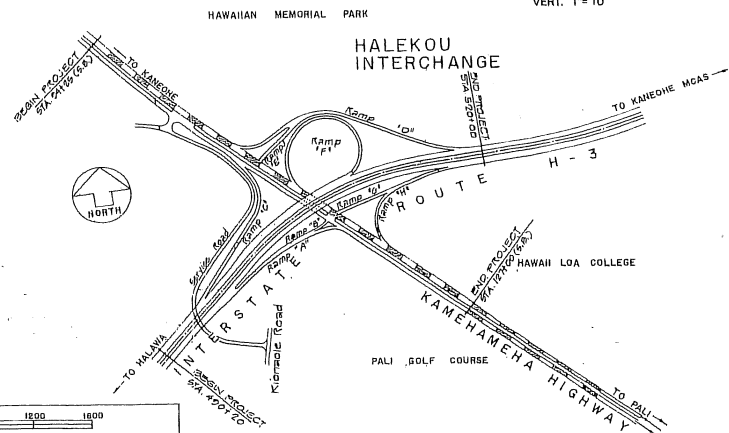
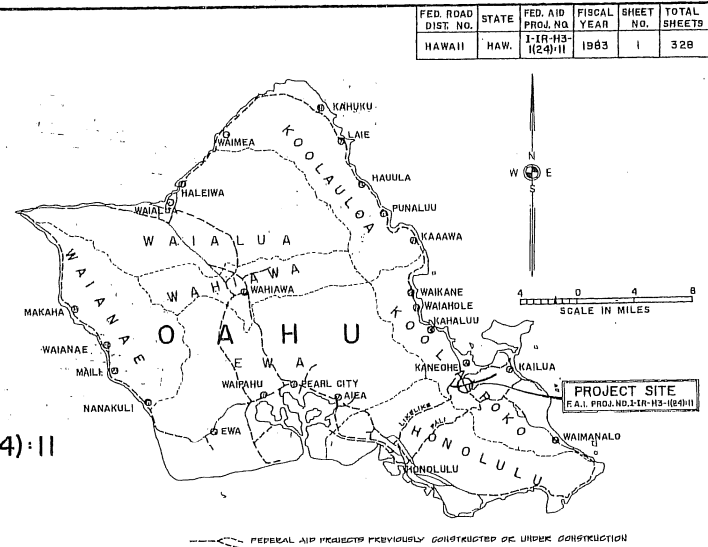
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
HONOLULU, HAWAII

**PLANS FOR
CONSTRUCTION OF A PORTION OF
INTERSTATE ROUTE H-3
HALEKOU INTERCHANGE**

FEDERAL AID INTERSTATE PROJECT NO. I-IR-H3-I(24)-II

DISTRICT OF KOOLAUPOKO
ISLAND OF OAHU

SCALES:
PLANS 1" = 50'
PROFILES HORIZ. 1" = 50'
VERT. 1" = 10'
DETAIL ROADWAY PLANS 1" = 50'
CROSS SECTIONS - HORIZ. 1" = 50'
VERT. 1" = 10'



DESIGN DESIGNATION

CURRENT ADT (1983)	20,787
FUTURE ADT (1993)	25,837
DESIGN ADT (2003)	31,776
DHV	2,560
D	67/33
T	2.0%
T24	3.5%
V	60 MPH

APPROVED: *[Signature]* 4-9-12
DATE

OCT. 1988 DATE
ALBERT YAMAGUCHI 548-4125 PHONE
P. S. & E. BY
ALBERT YAMAGUCHI
REDESIGNED BY

LAYOUT PLAN	
GROSS LENGTH OF PROJECT	0.564 MI.
LENGTH OF STRUCTURES	0.039 MI.
NET LENGTH OF ROADWAY	0.525 MI.

— FEDERAL AID INTERSTATE PROJECT COVERED UNDER THIS CONTRACT
— FEDERAL AID PROJECT PREVIOUSLY CONSTRUCTED

12/22/82	PROJECT NUMBER AMENDED PER ADDENDUM NO. 1
DATE	REVISION

DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
APPROVED: *[Signature]* 11/12/82
DIVISION ADMINISTRATOR DATE

DEPARTMENT OF TRANSPORTATION
STATE OF HAWAII
APPROVED: *[Signature]* 11/12/82
DIR. OF TRANSPORTATION DATE

Appendix F1 (continuation)

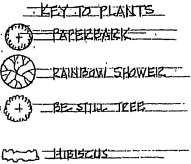
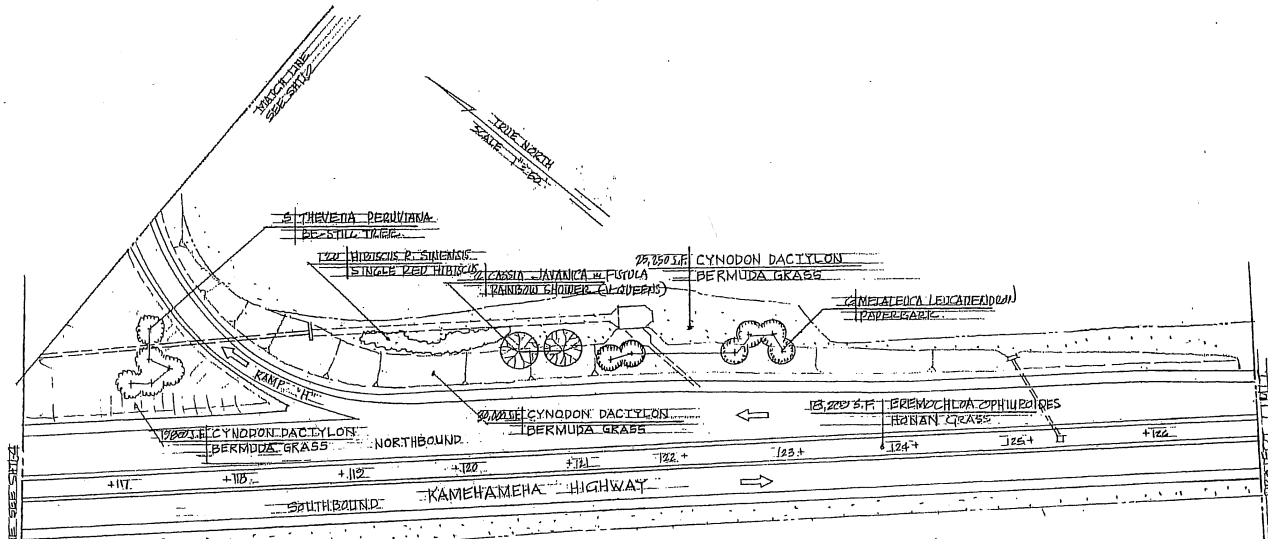
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	F13-1(4)11	1983	269	328

GENERAL PLANTING NOTES

1. TREES W/ TRUNK DIAMETER OF 4" OR GREATER WHEN FULLY GROWN SHALL NOT BE LOCATED CLOSER THAN 30' FROM THE EDGE OF PAVEMENT EXCEPT WHERE THERE IS GUARDRAIL OR OTHER INTERVENING BARRIER.
2. CONTRACTOR SHALL EXERCISE CAUTION WHEN PLANTING TREES NEAR DRAIN LINES OR UNDERGROUND UTILITIES TO PREVENT FUTURE DAMAGE TO ROOT SYSTEMS.
3. ALL AREAS TO BE PLANTED WITH HONAN GRASS OR WEDELIA SHALL BE GIVEN 6" DE TOP SOIL, OR AS DIRECTED BY THE ENGINEER.

TOTAL PLANT LIST (SHTS 1-1074)

QTY	BOTANICAL NAME	COMMON NAME	SIZE & ZONE
44	CASSIA JAVANICA x PISTILIA	RAINBOW SHOWER (QUEENS)	10-15 FT. 22 GAL.
109	MELALEUCA LEUCADENDRON	PAPERBARK	10-15 FT. 18 GAL.
19	SYMPLOCA PANANICATA	MEDICAL TUP (BEEC YEARD)	12-14 FT. 22 GAL.
13	ALBUQUERQUIA	ROCK	12-14 FT. 22 GAL.
11	THEVENIA PERUVIANA	KAMANI	17-18 FT. 22-24 GAL.
44	THEVENIA PERUVIANA	BE-STILL TREES	8-10 FT. 10 GAL.
1240	HIBISCUS R. SINENSIS	SINGLE WHITE HIBISCUS	4-6 FT. 5 GAL.
4885	HIBISCUS R. SINENSIS	SINGLE RED HIBISCUS	4-6 FT. 5 GAL.
46	ACACIA CONFUSA	FORMOSAN KOA	8-10 FT. 10 GAL.
3225	ALBIZIA LEBNOPSIS	ALABAMA	3-4 FT. 1 GAL.
20000 S.F.	WEDELIA TRILOBATA	WEDELIA	ROOTED CUTTINGS @ 6" C
251325 S.F.	CYNODON DACTYLON	BERMUDA GRASS	HYDRO-MULCH @ 2500 S.F.
124122 S.F.	BREMCHLOA ZPHIROIDES	HONAN GRASS	OPTION @ 6" S.F.



PLANT LIST THIS SHEET		
BOTANICAL NAME	COMMON NAME	QUANTITY
CASSIA JAV. PISTILIA	RAINBOW SHOWER (QUEENS)	44
MELALEUCA LEUCADENDRON	PAPERBARK	109
HIBISCUS R. SINENSIS	SINGLE RED HIBISCUS	1240
THEVENIA PERUVIANA	BE-STILL TREE	44
CYNODON DACTYLON	BERMUDA GRASS	951325 S.F.
BREMCHLOA ZPHIROIDES	HONAN GRASS	124122 S.F.

DESIGNED BY	DATE
DRAWN BY	DATE
CHECKED BY	DATE
APPROVED BY	DATE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

LANDSCAPE PLAN

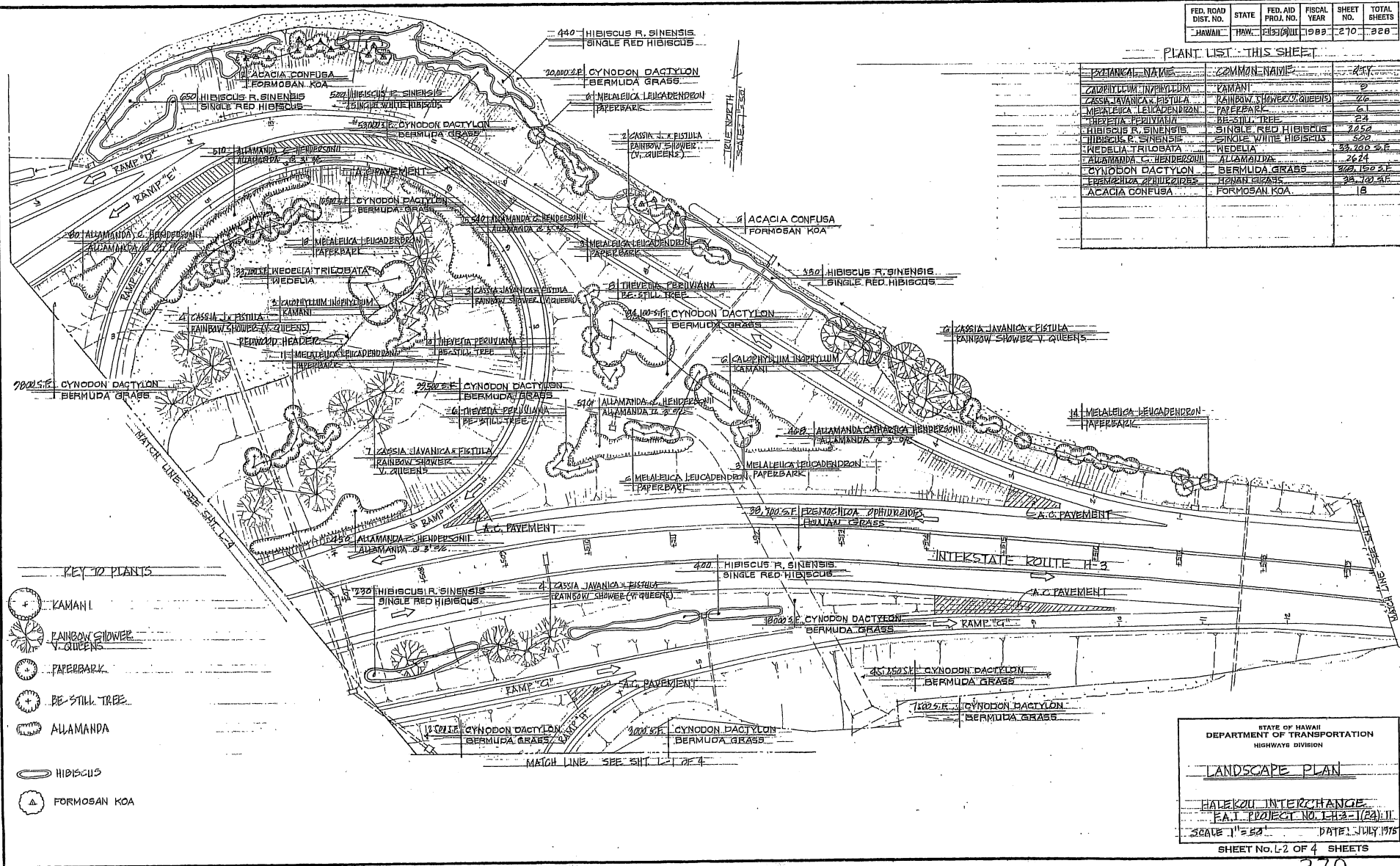
HALEKOU INTERCHANGE
P.A.T. PROJECT 1-13-1(4)11
SCALE: 1"=60' DATE: JULY, 1975
SHEET NO. 1 OF 4 SHEETS

Appendix F1 (continuation)

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	F1330011	1988	270	328

PLANT LIST - THIS SHEET

PLANTAL NAME	COMMON NAME	QTY
ZALAPHYLLUM INPAHYLLUM	KAMANI	2
CASSIA JAVANICA x FISTULA	RAINBOW SHOWER V. QUEENS	26
MELALEUCA LEUCADENDRON	PAPERBARK	61
THECOSTA PERUVIANA	BE STILL TREE	24
HIBISCUS R. SINENSIS	SINGLE RED HIBISCUS	2152
HIBISCUS F. SINENSIS	SINGLE WHITE HIBISCUS	522
NEDELIA TRILOBATA	NEDELIA	23,720 S.F.
ALAMANDA C. HENDERSONII	ALAMANDA	2624
CYNODON DACTYLON	BERMUDA GRASS	302,150 S.F.
EBBERMELIA ZPHIRAZIDES	HONAN GRASS	28,720 S.F.
ACACIA CONFUSA	FORMOSAN KOA	18



KEY TO PLANTS

- KAMANI
- RAINBOW SHOWER V. QUEENS
- PAPERBARK
- BE STILL TREE
- ALAMANDA
- HIBISCUS
- FORMOSAN KOA

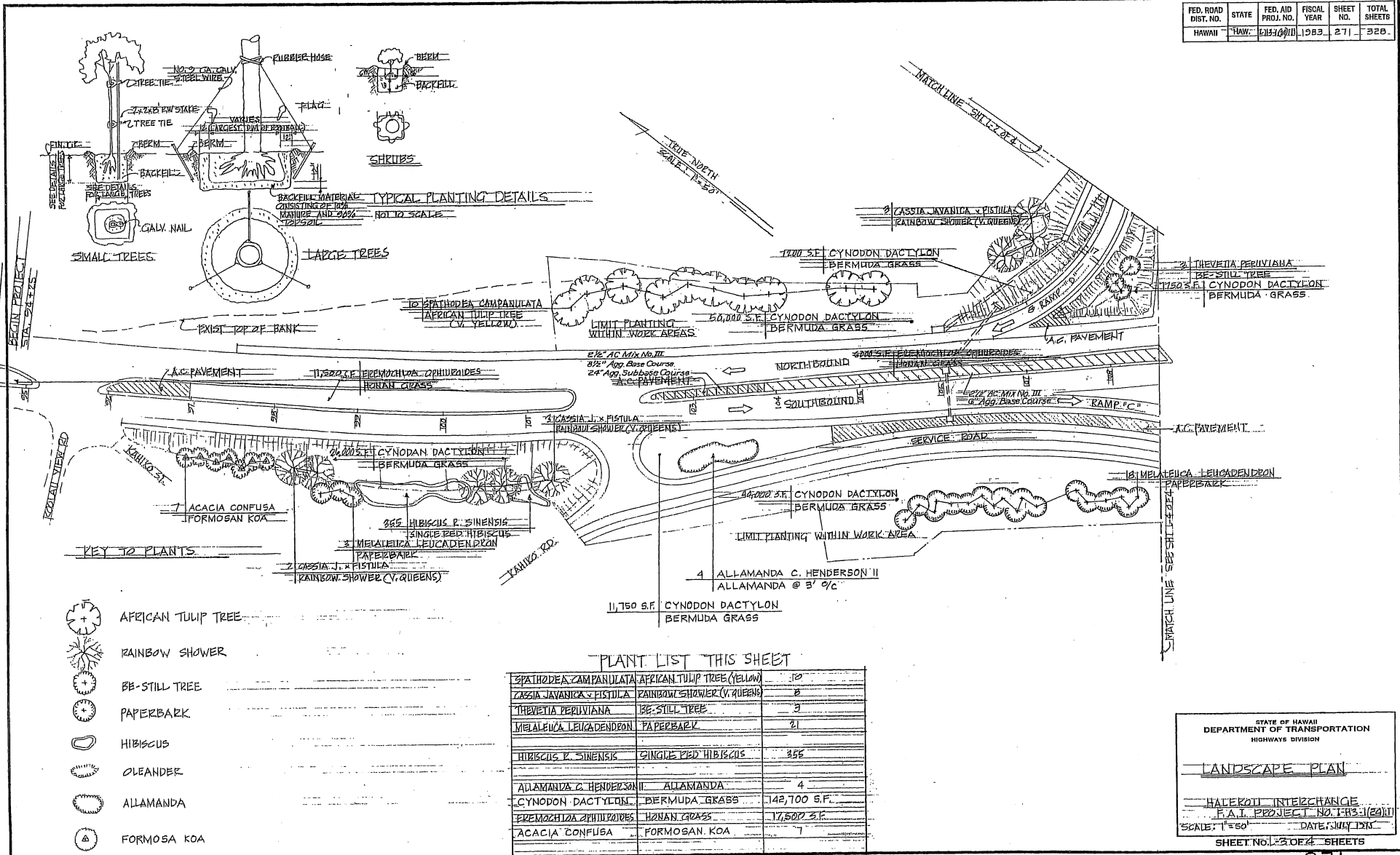
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

LANDSCAPE PLAN

HALEKOU INTERCHANGE
P.A.T. PROJECT NO. IHP-1(2A) II
SCALE 1" = 50' DATE: JULY 1978
SHEET No. L2 OF 4 SHEETS

Appendix F1 (continuation)

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAWAII	101-01-0010	1981	271	326



DESIGNED BY	DATE
DRAWN BY	DATE
CHECKED BY	DATE
APPROVED BY	DATE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

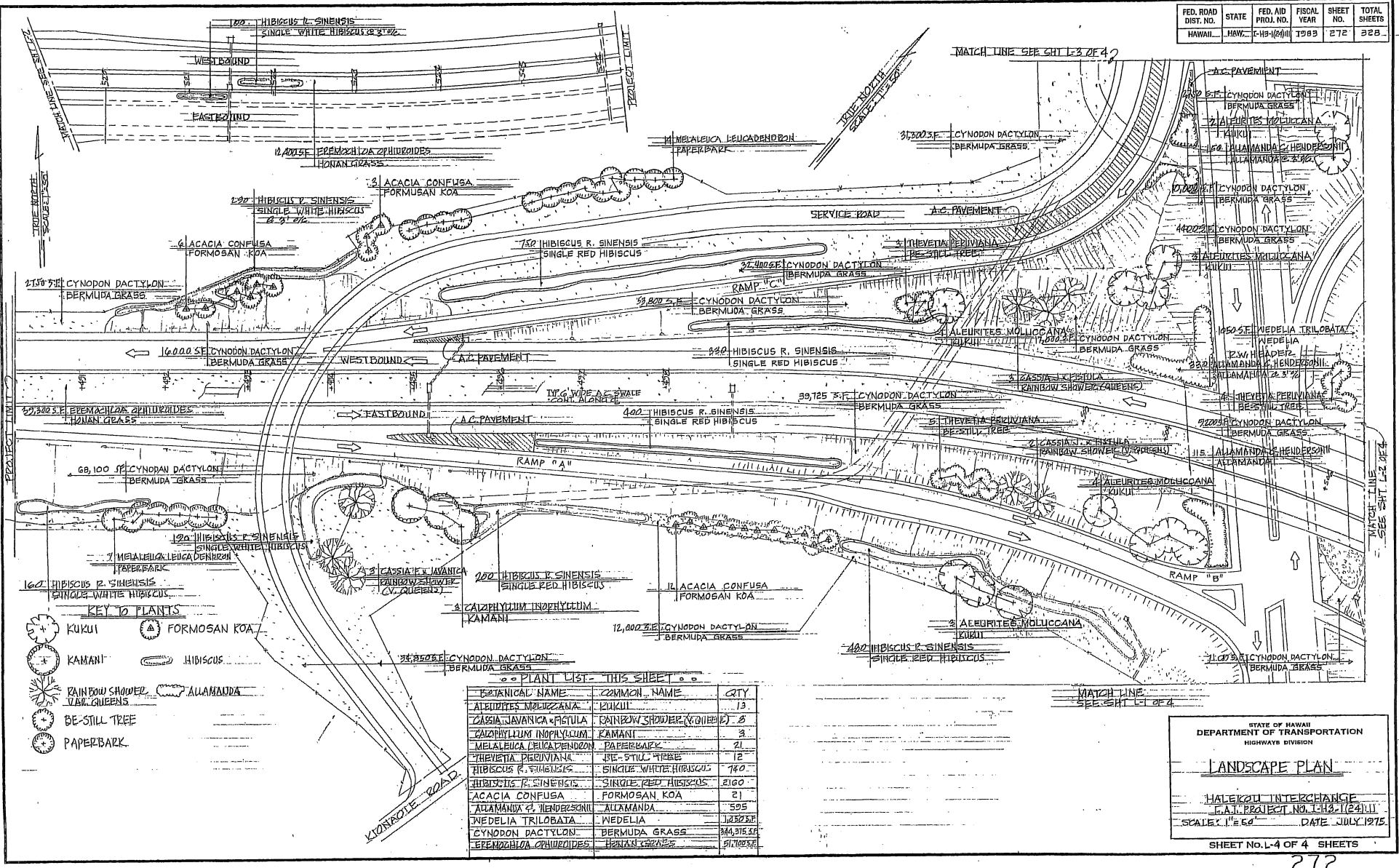
LANDSCAPE PLAN

HALEKANI INTERCHANGE
F.A.I. PROJECT NO. 1-1-1011
SCALE: 1"=50' DATE: JUN 1981

SHEET NO. 271 OF 326 SHEETS

Appendix F1 (continuation)

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	1-HB-64(II)	1983	272	328



KEY TO PLANTS

- KUKUI
- FORMOSAN KOA
- KAMANĪ
- HIBISCUS
- RAINBOW SHOWER VAR. QUEENS
- ALUAMANDA
- BE-STILL TREE
- PAPERBARK

PLANT LIST - THIS SHEET

BOTANICAL NAME	COMMON NAME	QTY
ALUURITES MOLUCCANA	KUKUI	13
CASSIA JAVANICA & PISTULA	RAINBOW SHOWER (V. QUEENS)	3
CAZAPHYLLUM INOPHYLLUM	KAMANĪ	3
MELALEUCA LEUCADENDRON	PAPERBARK	21
THEVETIA PERUVIANA	BE-STILL TREE	12
HIBISCUS R. SINENSIS	SINGLE WHITE HIBISCUS	740
HIBISCUS R. SINENSIS	SINGLE RED HIBISCUS	2160
ACACIA CONFUSA	FORMOSAN KOA	21
ALUAMANDA & HENDERSONII	ALUAMANDA	595
NEDELIA TRILOBATA	NEDELIA	32325
CYNODON DACTYLON	BERMUDA GRASS	344,315.32
EPENACILIA ZEPHYROIDES	HAWAIIAN GRASS	51,709.52

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

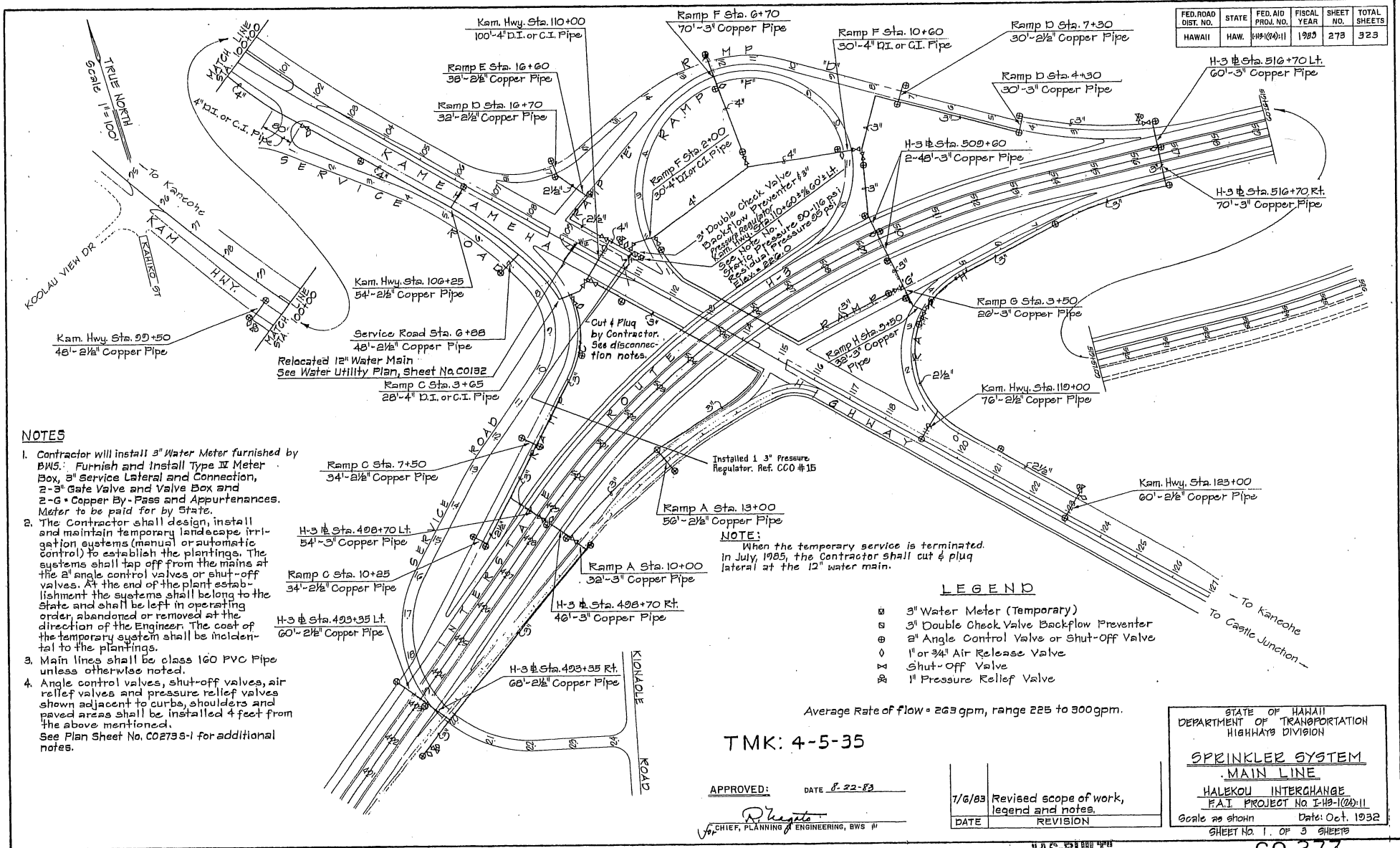
LANDSCAPE PLAN

HALEKANI INTERCHANGE
E.A.T. PROJECT NO. 1-HB-1(24)II
SCALE: 1" = 50' DATE: JULY 1975

SHEET NO. L-4 OF 4 SHEETS

Appendix F1 (continuation)

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HA-00011	1983	273	323



- Contractor will install 3" Water Meter furnished by BWS. Furnish and Install Type IV Meter Box, 3" Service Lateral and Connection, 2-3" Gate Valve and Valve Box and 2-6" Copper By-Pass and Appurtenances. Meter to be paid for by State.
- The Contractor shall design, install and maintain temporary landscape irrigation systems (manual or automatic control) to establish the plantings. The systems shall tap off from the mains at the 2" angle control valves or shut-off valves. At the end of the plant establishment the systems shall belong to the State and shall be left in operating order, abandoned or removed at the direction of the Engineer. The cost of the temporary system shall be incidental to the plantings.
- Main lines shall be class 160 PVC Pipe unless otherwise noted.
- Angle control valves, shut-off valves, air relief valves and pressure relief valves shown adjacent to curbs, shoulders and paved areas shall be installed 4 feet from the above mentioned. See Plan Sheet No. C0273S-1 for additional notes.

NOTE:
When the temporary service is terminated in July, 1985, the Contractor shall cut & plug lateral at the 12" water main.

LEGEND

- ⊗ 3" Water Meter (Temporary)
- ⊕ 3" Double Check Valve Backflow Preventer
- ⊖ 2" Angle Control Valve or Shut-Off Valve
- ⊙ 1" or 3/4" Air Release Valve
- ⊗ Shut-Off Valve
- ⊗ 1" Pressure Relief Valve

Average Rate of flow = 263 gpm, range 225 to 300 gpm.

TMK: 4-5-35

APPROVED: DATE 8-22-83
R. [Signature]
CHIEF, PLANNING & ENGINEERING, BWS

7/6/83	Revised scope of work, legend and notes.
DATE	REVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

**SPRINKLER SYSTEM
MAIN LINE**

HALEKOU INTERCHANGE
F.A.I. PROJECT NO. I-19-1(24)-11

Scale as shown Date: Oct. 1982
SHEET No. 1 OF 3 SHEETS

"A.S. BUILT"

C.O. 273

Appendix F1 (continuation)

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HB-1(24):11	1983	C.O. 273S-1	328

WATER NOTES FOR INSTALLATION OF SERVICE LATERALS WITH TEMPORARY METERS 3 INCHES & LARGER

5. Unless otherwise specified, all materials and construction of water system facilities and appurtenances shall be in accordance with the STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, dated 1976, as amended, of the Hawaii Highways Division, Department of Transportation.
6. The BWS Standard Details, Figures 1 to 62 inclusive, bound in the "Water System Standards" of the BWS, dated March 1971, as amended, are applicable to this Project.
7. Nuts and bolts for flanged connections within meter boxes shall be bronze or stainless steel except at coupling adaptors where "Cor-ten" (U.S. Steel) or "Mayari" (Bethlehem Steel) may be used. Flanged connections outside of meter box may use "Cor-ten" or "Mayari" type nuts and bolts.
8. Lines and grades to include stakeout, fittings, concrete reaction blocks, etc., of the new lateral shall not be the responsibility of the Board of Water Supply.
9. Unless otherwise specified, connections to existing water mains shall be done by the Contractor, with the BWS inspector coordinating the work. For details, contact BWS Planning and Engineering Division, Engineering Branch, Construction Section.
10. All meter boxes and valve boxes/manholes including frames and covers shall be furnished, installed and paid for by the Contractor.
11. Test pressure shall be prevailing line pressure, joints left exposed for 24 hours to check for leaks prior to backfill.
12. The Contractor shall chlorinate the entire inside surface of each pipe and fitting with disinfection solution of 5 ounces of sodium hypochlorite mixed with 10 gallons of water.
13. The Contractor shall notify BWS Planning and Engineering Division, Construction Section, one week prior to commencing work on the water system.
14. In the event that pipes other than copper are to be used, the plans shall be resubmitted for approval.
15. The Contractor shall pick up meter at BWS storeroom, deliver to job site and install. BWS inspector shall arrange for the pick up.
16. Valve I.D. tags shall be affixed on the underside of all new manholes and valve box covers. See details.
17. The Contractor shall be responsible for the meter from the time of pick up to the time the project is accepted by BWS. All water used through the meter shall be paid for by the Contractor.
18. Distance from meter dial to bottom of meter box cover shall be a minimum of 6 inches and a maximum of 12 inches.
19. The Contractor shall cut and plug all existing unused laterals at the main whether or not shown on the plans. Meter and valve boxes to be or already abandoned shall be demolished or removed and properly disposed of. C.I. frames and covers shall be cleaned and salvaged and delivered to the appropriate BWS corporation yard. The damaged areas shall be repaired to an equal or better condition than the immediate area. All work shall be done at the expense of the Contractor.
20. The Contractor shall furnish and install additional fittings if necessary to meet field conditions.
21. All cast iron (gray or ductile) water pipes, fittings and valves shall be enclosed in plastic material in accordance with ANSI Specifications A21.5 - 1972 or AWWA Specifications C105-72 Polyethylene encasement for gray and ductile cast iron piping for water and other liquids.
22. For meters 3" and larger (compound, turbine, & detector check), the Contractor shall notify Customer Service Division in writing no later than 120 days prior to withdrawing meter from BWS Storeyard. Such notice shall indicate the number, size and type of meter (compound or detector check) and approximate month and year meter is anticipated to be drawn out.
23. Reapproval shall be required if this project is not under construction within a period of one year. (See Rules and Regulations of the Board of Water Supply).
24. Board of Water Supply approval of these plans does not constitute a water commitment. Availability of water will be determined when building permit is presented to the Department. Water commitment will depend upon the status of the water system at that time.
25. The project shall be subject to the Board of Water Supply's Cross-Connection Control requirements prior to issuance of the Building Permit.
26. Any adjustments to the existing water system required during construction to meet requirements of BWS Standards, whether shown on the plans or not, shall be done by the Contractor at no cost to the Board.

DISCONNECTION OF TEMPORARY METER

1. The Contractor shall cut and plug the 3" lateral and bypass at the 12" water main, disconnect the water meter, and return meter to BWS storeroom (all under supervision of BWS Inspector).
- ~~2. Payment for disconnecting the temporary meter, cutting & plugging and returning meter will not be paid for separately but shall be considered to be incidental to Pay Item C.O. 273S.~~

DESIGNED BY	DATE
CHECKED BY	DATE
APPROVED BY	DATE
IN CHARGE	DATE

APPROVED: _____ DATE: 6-22-83

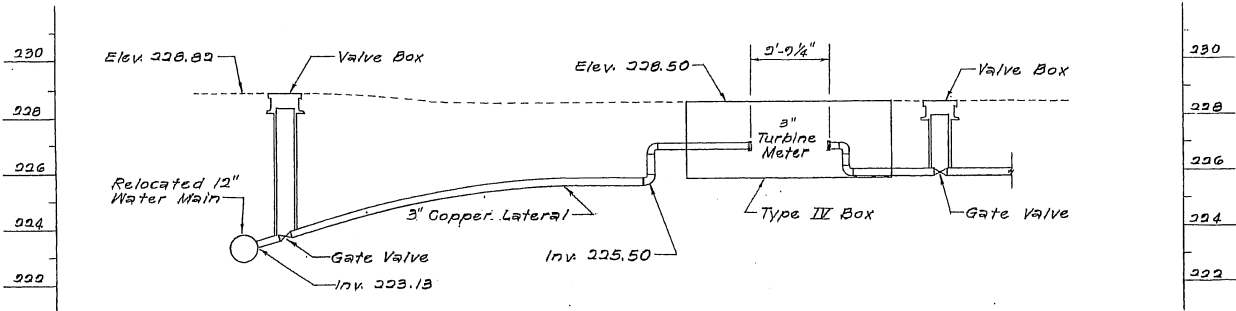
R. H. ...
CHIEF, PLANNING & ENGINEERING, BWS 14

STATE OF HAWAII DEPARTMENT OF TRANSPORTATION LAND TRANSPORTATION FACILITIES DIVISION
<u>SPRINKLER SYSTEM</u>
<u>NOTES</u>
<u>HALEKOU INTERCHANGE</u>
<u>F.A.I. PROJECT NO. I-HB-1(24):11</u>
Date: <u>June, 1983</u>
SHEET NO. 1A OF 3 SHEETS

C.O. 273S-1

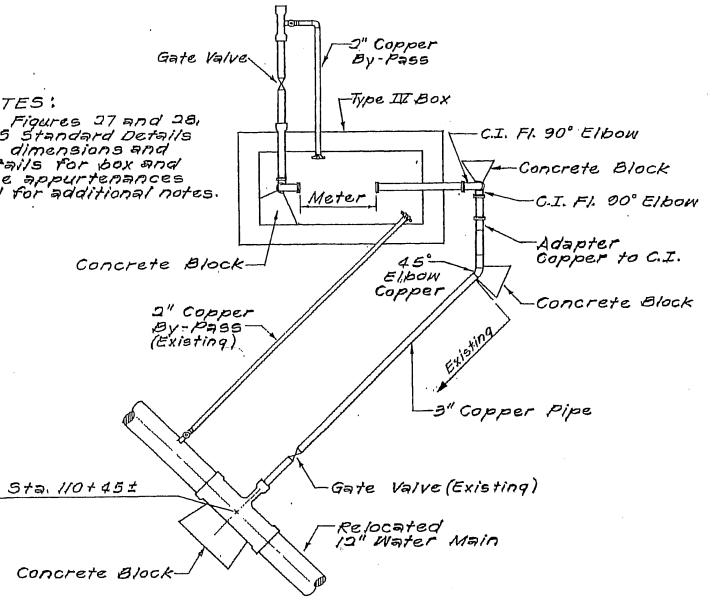
Appendix F1 (continuation)

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-43-1(04):11	1983	27 OF 279	328



PROFILE OF 3" SERVICE LATERAL
Scale: 1/2" = 1'-0"

NOTES:
See Figures 27 and 28, BWS Standard Details for dimensions and details for box and pipe appurtenances and for additional notes.



PLAN
3" LATERAL CONNECTION AT N.B. KAMEHAMEHA HIGHWAY STA. 110+45±
Scale: 1/2" = 1'-0"

APPROVED: _____ DATE: 8-22-83
R. [Signature]
 CHIEF, PLANNING & ENGINEERING, BWS

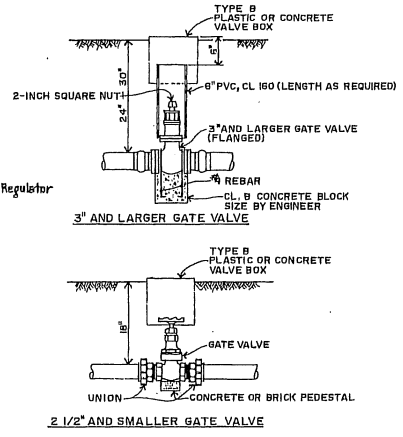
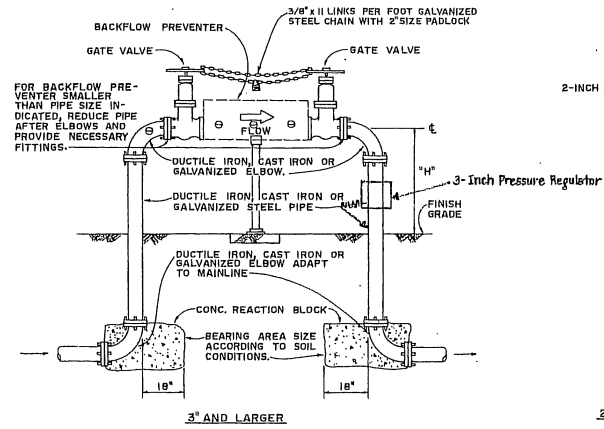
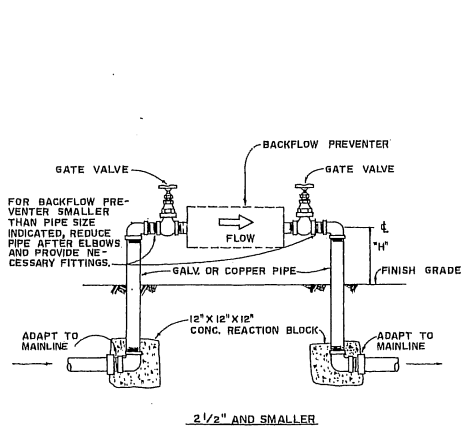
STATE OF HAWAII
 DEPARTMENT OF TRANSPORTATION
 LAND TRANSPORTATION FACILITIES DIVISION
SPRINKLER SYSTEM
 HALEKOU INTERCHANGE
 F.A.I. PROJECT No. I-43-1(04):11
 Scale: 1/2" = 1'-0" Date: June, 1983
 SHEET NO. 15 OF 3 SHEETS

C.O. 2735-2

ORIGINAL SURVEY PLANNED BY: _____
 DRAWN BY: _____
 CHECKED BY: _____
 IN CHARGE: _____
 DATE: _____

Appendix F1 (continuation)

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	IHS-124(H)	1982	274	328

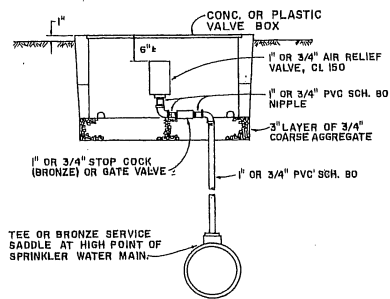


BACKFLOW PREVENTION UNIT DETAIL

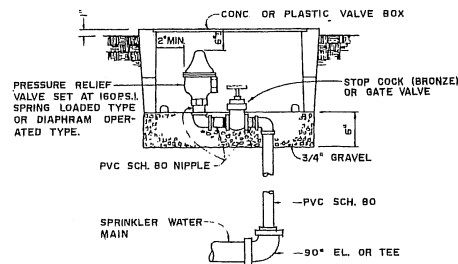
NOTES:

- ONLY ONE TYPE OF PIPE AND FITTINGS SHALL BE USED.
- BACKFLOW PREVENTION UNIT SHALL BE PRIME COATED AND PAINTED WITH TWO COATS OF DARK GREEN ENAMEL PAINT TO THE FINISH GRADE.
- DUCTILE IRON, CAST IRON OR GALVANIZED PIPE BELOW FINISH GRADE SHALL BE PAINTED WITH TWO COATS OF ASPHALT PAINT.
- THERE SHALL BE NO OBSTRUCTION WITHIN A DISTANCE OF TWO (2) FEET SURROUNDING THE BACKFLOW PREVENTION UNIT.
- THE BACKFLOW PREVENTER SHALL BE APPROVED IN ACCORDANCE WITH AMERICAN WATER WORKS ASSOCIATION STANDARD C-506-75.

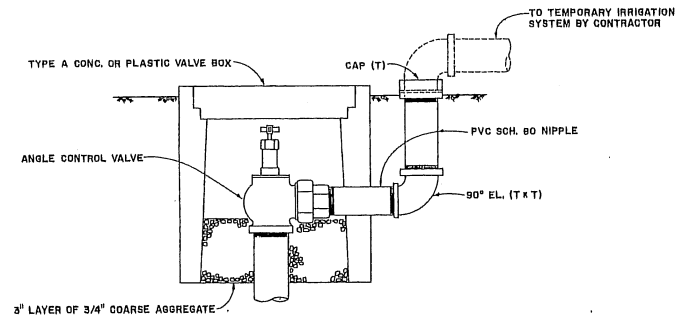
SIZE OF PIPE	"H"
3/4" - 1 1/2"	18"
2" - 3"	24"
4" - 6"	30"



TYPICAL INSTALLATION DETAIL FOR AIR RELIEF VALVES



PRESSURE RELIEF VALVE ASSEMBLY DETAIL



ANGLE CONTROL VALVE DETAIL

APPROVED FOR CROSS-CONNECTION CONTROL REQUIREMENTS.
 DATE: 8/10/82
 BOARD OF WATER SUPPLY

STATE OF HAWAII
 DEPARTMENT OF TRANSPORTATION
 HIGHWAYS DIVISION

**SPRINKLER SYSTEM
 DETAILS**

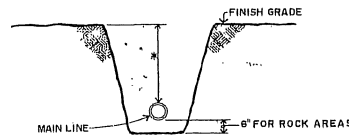
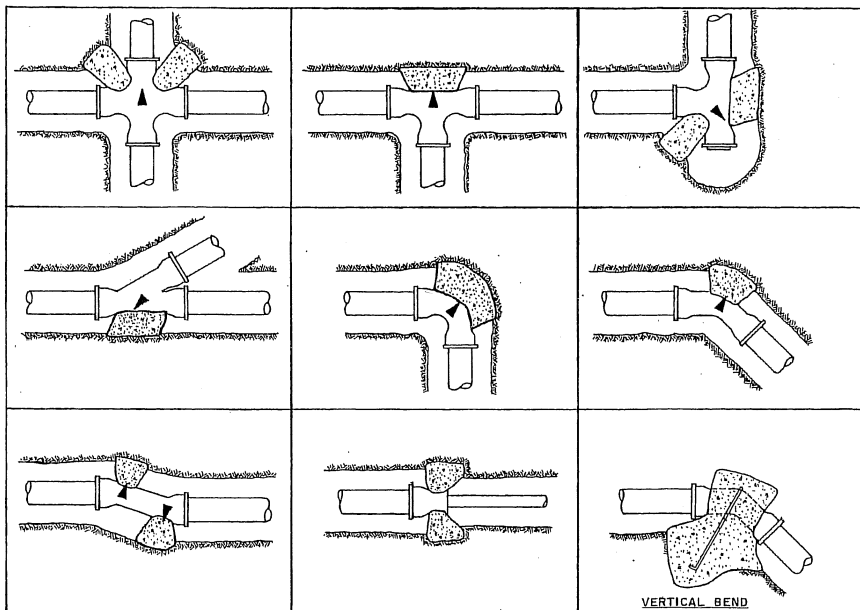
HALEKOU INTERCHANGE
 F.A.I. PROJECT NO. I-H3-(24):11

SCALE: NOT TO SCALE DATE: OCT. 1982
 SHEET NO. 2 OF 3 SHEETS

"AS-BUILT"

Appendix F1 (continuation)

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	2-H3-(24)H	1989	275	328



*SEE TABLE BELOW

	MINIMUM COVER
SPRINKLER MAINS	
1/2" TO 2 1/2"	18"
3" OR 4"	24"
OVER 4"	30"

TRENCH DETAIL

NOTE: PIPES UNDER ROADWAY SHALL HAVE MINIMUM COVER OF 36 INCHES AND SHALL NOT BE IN THE ROADWAY STRUCTURE.

SPRINKLER MAINS

THRUST AT FITTINGS, LBS. AT 100 PSI
8 1/2 PSI AWWA WATER HAMMER

PIPE SIZE	90° EL	45° EL	TEE
2 1/2"	1,725	930	1,220
3"	2,550	1,380	1,880
4"	4,230	2,290	3,000
6"	9,150	5,000	6,470

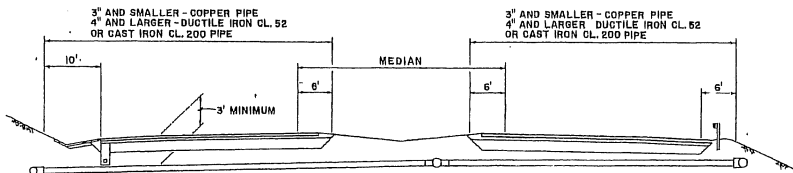
SPRINKLER LATERALS

THRUST AT FITTINGS, LBS. AT 100 PSI

PIPE SIZE	90° EL	45° EL	TEE
1 1/2"	415	225	295
2"	645	350	455
2 1/2"	935	510	660
3"	1395	755	985

GENERAL NOTES:
 1. SIZE OF BLOCK AND STEEL REQUIREMENTS TO BE DETERMINED BY THE ENGINEER.
 2. MINIMUM DISTANCE BETWEEN PIPE AND UNDISTURBED GROUND FOR REACTION BLOCK SHALL BE 18".
 3. CONCRETE SHALL BE CLASS 'B'.

TYPICAL THRUST BLOCK DETAILS



TYPICAL IRRIGATION MAIN ROADWAY CROSSING

ORIGINAL SURFACE EXISTING TH...
 DRAWN BY...
 CHECKED BY...
 DATE...

STATE OF HAWAII
 DEPARTMENT OF TRANSPORTATION
 HIGHWAYS DIVISION

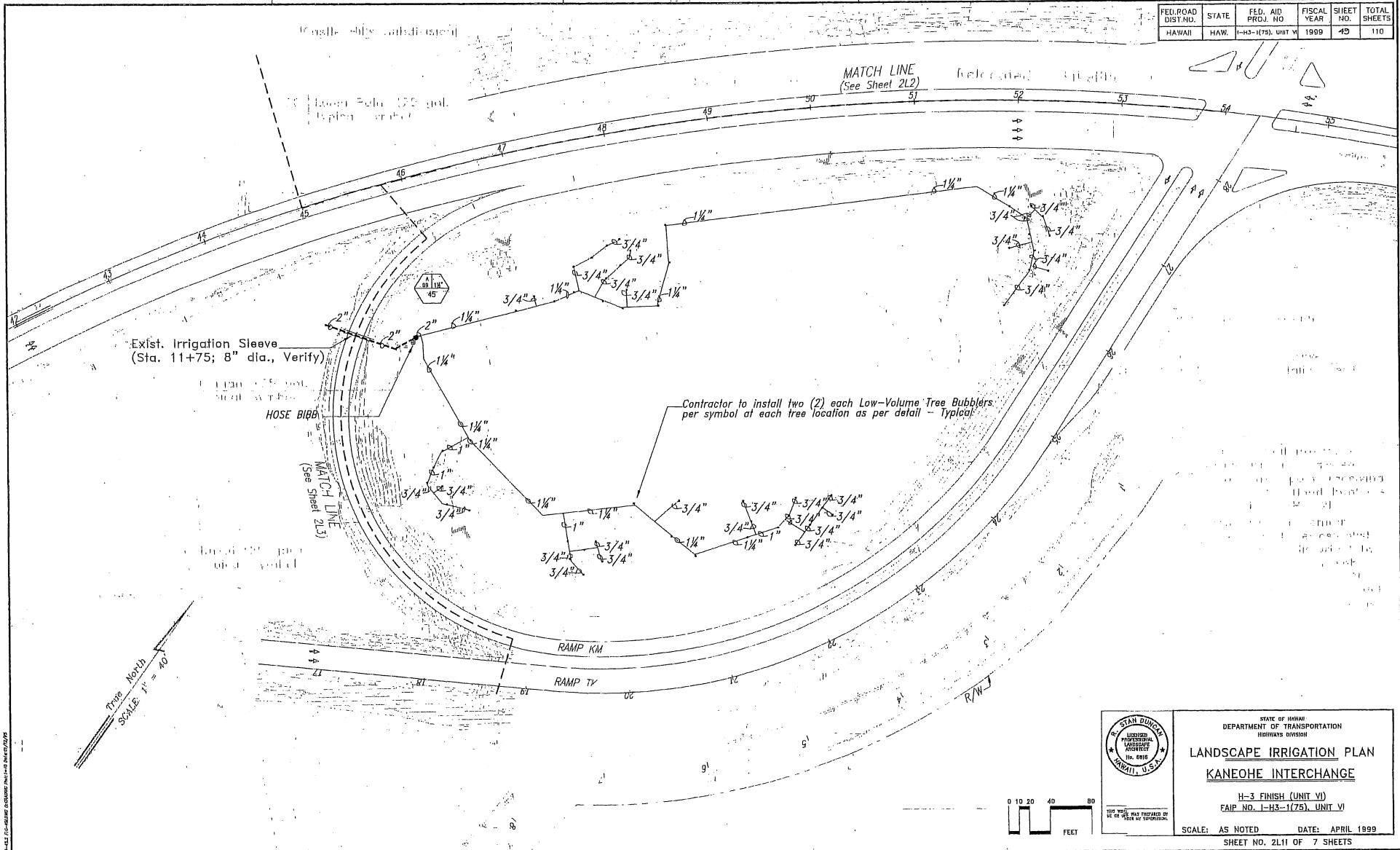
SPRINKLER SYSTEM DETAILS

HALEKOU INTERCHANGE
 F.A.I. PROJECT NO. I-H3-(24)11

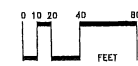
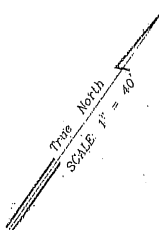
SCALE: NOT TO SCALE DATE: OCT. 1982
 SHEET No. 3 OF 3 SHEETS

Appendix F1 (continuation)

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	1-H3-1(75) UNIT VI	1999	49	110



DESIGNED BY	DATE
CHECKED BY	
APPROVED BY	
DATE	



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

LANDSCAPE IRRIGATION PLAN
KANEOHE INTERCHANGE

H-3 FINISH (UNIT VI)
FAIP NO. 1-H3-1(75) UNIT VI

SCALE: AS NOTED DATE: APRIL 1999
SHEET NO. 2L11 OF 7 SHEETS

Appendix F1 (continuation)

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	1-H3-1(75). UNIT VI	1999	51	110

Controller A:
Contractor to install a Leit 8000 series, 10-Station Solar powered Irrigation Controller with Rain Sensor at approximate location shown per manufacturers specifications & detail.

IMPORTANT NOTE:
All Control wire shall be a minimum of #12 UF size

Contractor to install two (2) each Low-Volume Tree Bubblers per symbol at each tree location as per detail - Typical

Exist. Irrigation Sleeve (Sta. 38+50; 8" dia., Verify)

1/2" Wilkins Model 500 PRV (Set 45 PSI)

HOSE BIBB (TYPICAL)

1/2" Wilkins Model 500 PRV (Set 45 PSI)

Exist. Irrigation Sleeve (Sta. 11+00; 8" dia., Verify)

1/2" Filter (150 mesh)
1/2" Reduced Pressure Backflow Prevention Unit

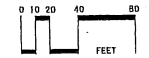
Irrigation P.O.C. is an existing 2" service at approximate location shown. Contractor shall verify minimum pressure before meter exceeds 110 psi. General Contractor to furnish & install a temporary water meter (1/2" minimum) and install all downstream piping as shown, noted or required.
Estimated Peak flow: 45 gpm or 105 fixture units
Estimated Daily Demand (10 gallons per Tree): 4,040 GPD

True North
SCALE: 1" = 40'

MATCH LINE STA. 36+00 (See Sheet 21.4)

MATCH LINE STA. 42+00 (See Sheet 21.2)

MATCH LINE (See Sheet 21.1)



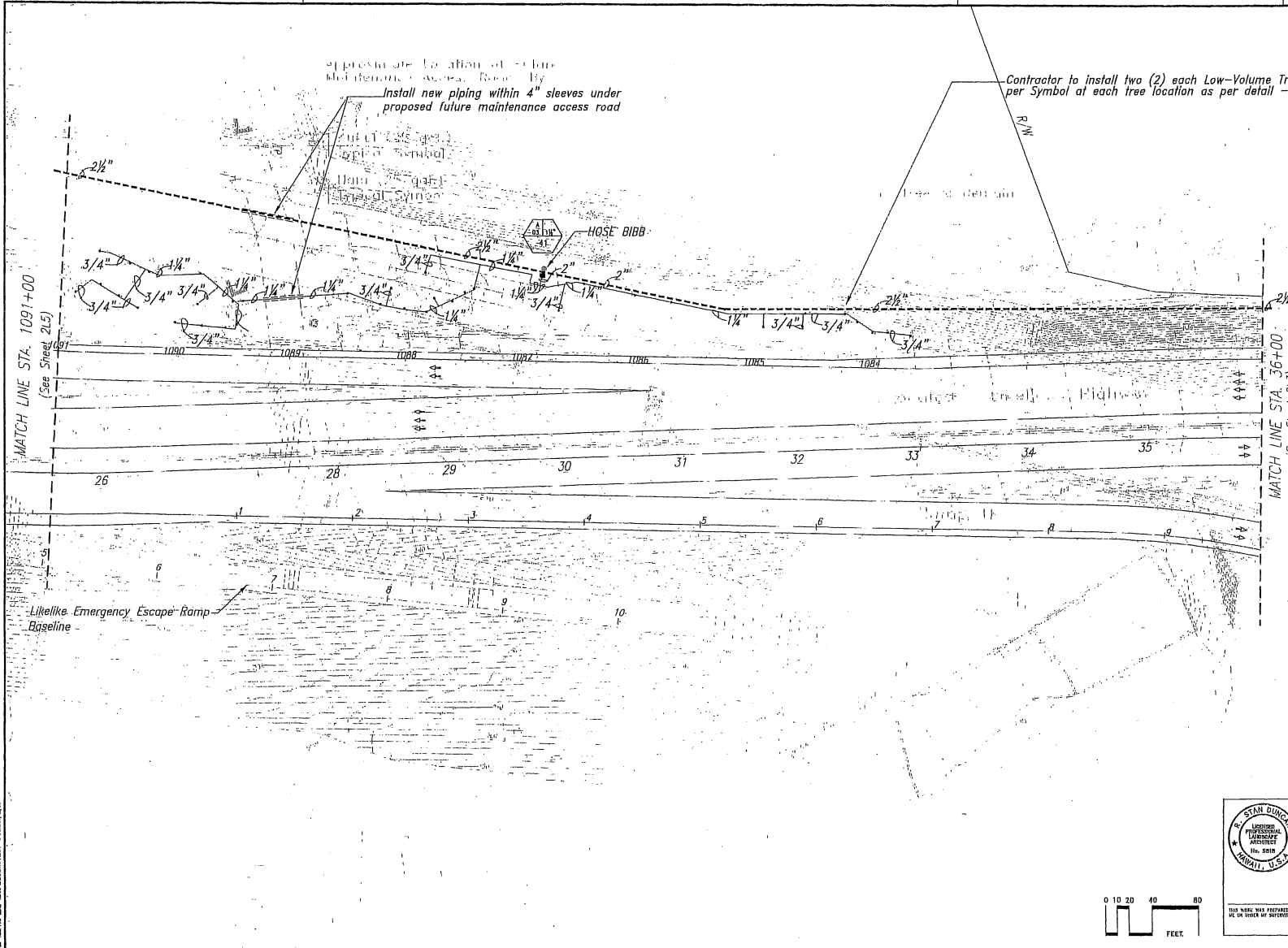
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
LANDSCAPE IRRIGATION PLAN
Kaneohe Interchange
H-3 FINISH (UNIT VI)
FAIP No. 1-H3-1(75). UNIT VI
SCALE: AS NOTED DATE: APRIL 1999
SHEET NO. 21.3 I OF 7 SHEETS

"AS-BUILT"

11-1-1999 10:00 AM

Appendix F1 (continuation)

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	1-H3-(175), UNIT VI	1999	52	110

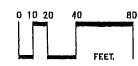


Install new piping within 4" sleeves under proposed future maintenance access road

Contractor to install two (2) each Low-Volume Tree Bubblers per Symbol at each tree location as per detail - Typical

True North
SCALE: 1" = 40'

DESIGNED BY	DATE
DRAWN BY	DATE
CHECKED BY	DATE
APPROVED BY	DATE



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

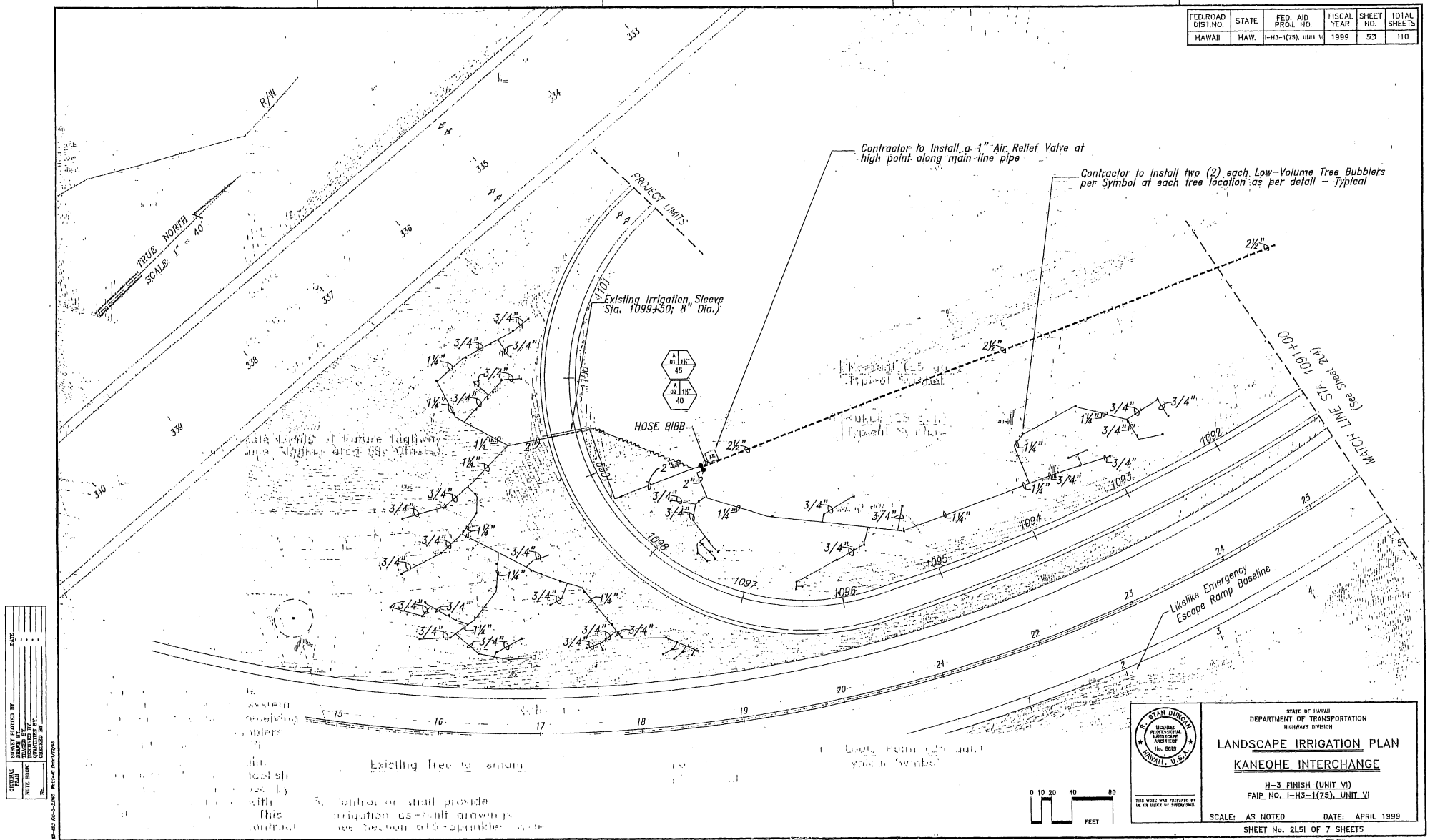
LANDSCAPE IRRIGATION PLAN
KANEOHE INTERCHANGE

H-3 FINISH (UNIT VI)
FAIP NO. 1-H3-(175), UNIT VI

SCALE: AS NOTED DATE: APRIL 1999
SHEET NO. 24A OF 7 SHEETS

Appendix F1 (continuation)

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	H-3-1(75), UNIT VI	1999	53	110



DESIGNED BY	DATE
DRAWN BY	
CHECKED BY	
IN CHARGE BY	
PROJECT NO.	
SHEET NO.	

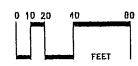


STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

LANDSCAPE IRRIGATION PLAN
KANEOHE INTERCHANGE

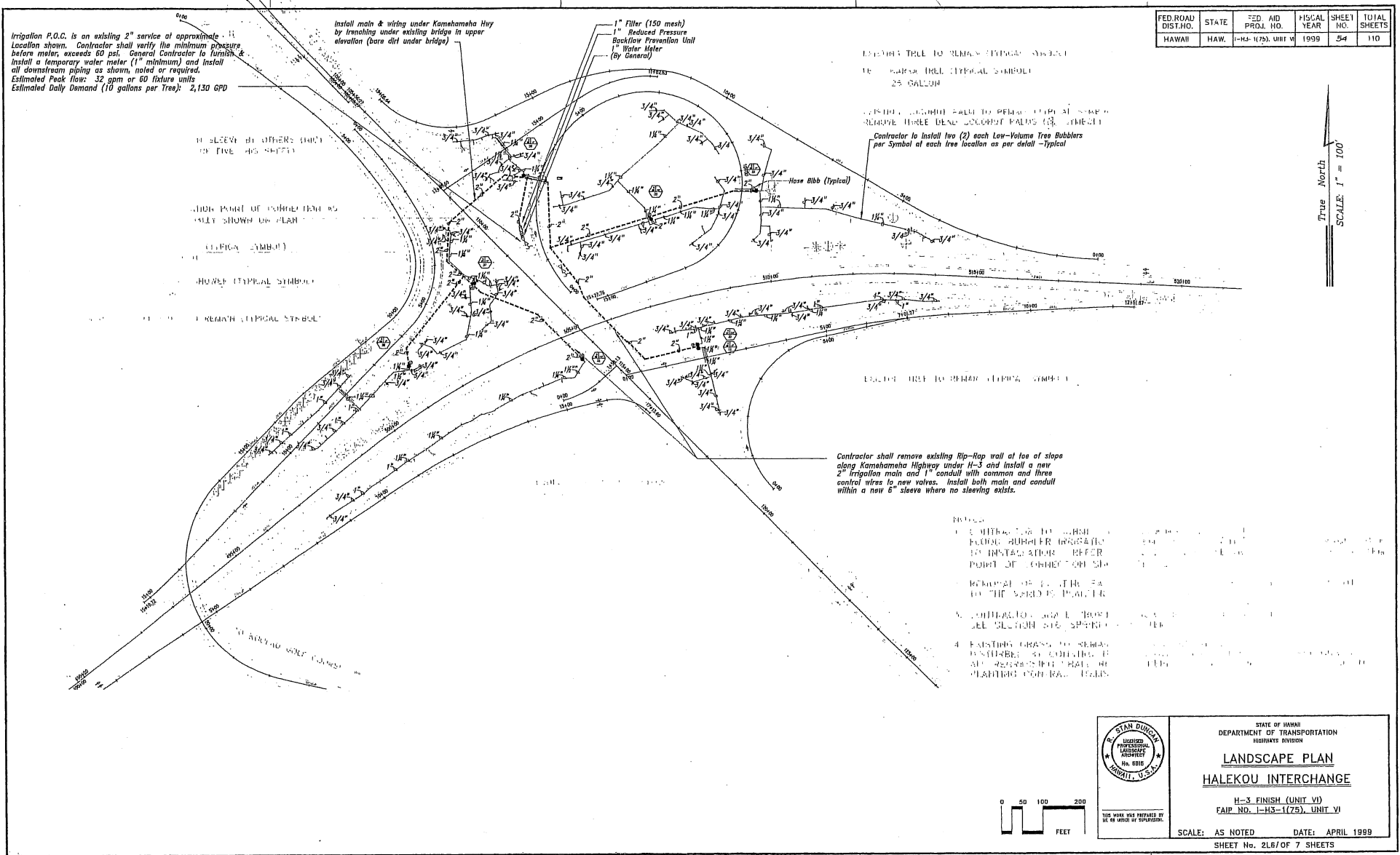
H-3 FINISH (UNIT VI)
FAIP NO. H-3-1(75), UNIT VI

SCALE: AS NOTED DATE: APRIL 1999
SHEET No. 2LSI OF 7 SHEETS



"AS-BUILT"

Appendix F1 (continuation)



Irrigation P.O.C. is on existing 2" service at approximate location shown. Contractor shall verify the minimum pressure before meter, exceeds 60 psi. General Contractor to furnish & install a temporary water meter (1" minimum) and install all downstream piping as shown, noted or required. Estimated Peak flow: 32 gpm or 60 fixture units. Estimated Daily Demand (10 gallons per Tree): 2,130 GPD

Install main & wiring under Kamehameha Hwy by trenching under existing bridge in upper elevation (bare dirt under bridge)

1" Filter (150 mesh)
1" Reduced Pressure Backflow Prevention Unit
1" Water Meter (By General)

EXISTING TREE TO REMAIN (TYPICAL SYMBOL)
TO BE REMOVED TREE (TYPICAL SYMBOL)
25 GALLON

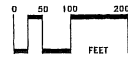
EXISTING TREE TO BE REMOVED (TYPICAL SYMBOL)
REMOVE THREE DEAD LOCUST PALMS (3) (TYPICAL)
Contractor to install two (2) each Low-Volume Tree Bubblers per Symbol of each tree location as per detail - Typical

Contractor shall remove existing Rip-Rap wall at toe of slope along Kamehameha Highway under H-3 and install a new 2" irrigation main and 1" conduit with common and three control wires to new valves. Install both main and conduit within a new 6" sleeve where no sleeving exists.

FED. ROAD DISTRICT	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	1-H3-1(75). UNIT VI	1999	54	110

True North
SCALE: 1" = 100'

DESIGNED BY	DATE
DRAWN BY	DATE
CHECKED BY	DATE
APPROVED BY	DATE
PROJECT NO.	
SHEET NO.	
TOTAL SHEETS	



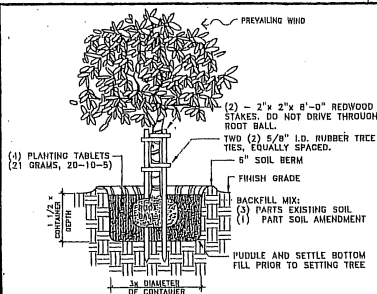
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
LANDSCAPE PLAN
HALEKOU INTERCHANGE

H-3 FINISH (UNIT VI)
FAIP NO. 1-H3-1(75). UNIT VI

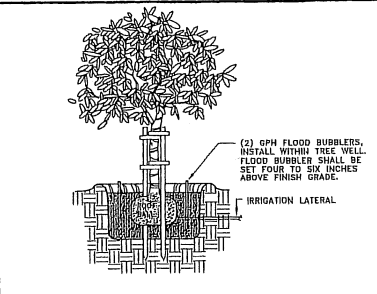
SCALE: AS NOTED DATE: APRIL 1999

SHEET No. 2L6/OF 7 SHEETS

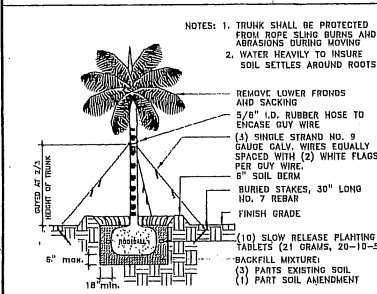
Appendix F1 (continuation)



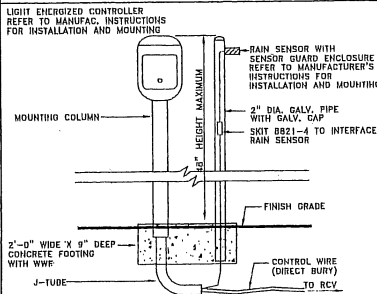
1 DOUBLE TREE STAKING DETAIL
NOT TO SCALE



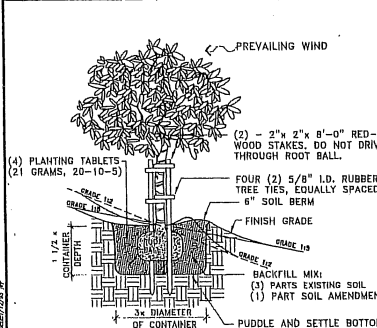
4 FLOOD BUBBLER DETAIL
NOT TO SCALE



2 PALM PLANTING DETAIL
NOT TO SCALE



5 LIGHT-ENERGIZED CONTROLLER WITH RAIN SENSOR DETAIL
NOT TO SCALE



3 DOUBLE TREE STAKING ON SLOPE
NOT TO SCALE

PLANT NOTES:

- CONTRACTOR SHALL FIELD VERIFY ALL PLANT QUANTITIES AND DIMENSIONS PRIOR TO INSTALLATION.
- CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING AND PROTECTING ALL EXISTING UTILITIES.
- CONTRACTOR SHALL NOTIFY AND MEET WITH THE ENGINEER PRIOR TO INSTALLATION FOR VERIFICATION AND TO ENSURE INTENT OF DESIGN IS MET.
- CONTRACTOR SHALL NOTIFY THE ENGINEER OF ANY DISCREPANCIES IN PLANT LOCATIONS OR INSUFFICIENT PLANT QUANTITIES DUE TO DIFFERENCES IN PLAN AND EXISTING FIELD CONDITIONS.
- CONTRACTOR SHALL NOTIFY THE ENGINEER 30 DAYS PRIOR TO PLANTING OPERATIONS FOR ACCEPTANCE OF ALL PLANT MATERIAL AT PLACE OF GROWTH. ALL PLANT MATERIAL NOT ACCEPTED BY THE ENGINEER WILL BE SUBJECT TO REJECTION.

IRRIGATION EQUIPMENT SCHEDULE	
DESCRIPTION	
REDUCED PRESSURE PRINCIPLE BACKFLOW PREVENTER	FEBCO 825Y, BUCKNER 2400 SERIES, OR RAINBIRD RPA SERIES
GATE VALVE	NIBCO T-113, HAMMOND 606, OR CHAMPION 4000
PHOTOVOLTAIC CONTROLLER	SOLATROL LEIT 8000 OR APPROVED EQUAL
REMOTE CONTROL VALVE (RCV)	RAINBIRD PESB-PRS-B, TORO 252 SERIES, OR HUNTER ICV-FS-AS SERIES
IRRIGATION MAINLINE	SCHEDULE 40 PVC
IRRIGATION LATERAL	SCHEDULE 40 PVC
FLOOD BUBBLER	RAINBIRD 1300A-F, TORO 500, OR HUNTER PCB

PLANT LIST FOR KANEHOE INTERCHANGE						
QUANTITY	COMMON NAME	BOTANICAL NAME	SIZE	HEIGHT	REMARKS	
T R E E S						
40	KAMANI	Calophyllum inophyllum	25 gal.	8'-10'	2" caliper minimum	
166	KUKUI	Aleurites maluccana	25 gal.	8'-10'	2" caliper minimum	
135	HALA	Pandanus tectorius	25 gal.	6'-8'	3" cal., multiple branch	
P A L M S						
63	LOULU PALM	Pritchardia spp.	25 gal.	2'-3'	Trunk Height	

PLANT LIST FOR HALEKOU INTERCHANGE						
QUANTITY	COMMON NAME	BOTANICAL NAME	SIZE	HEIGHT	REMARKS	
T R E E S						
43	RAINBOW SHOWER	Cassia javanica x. C. fistula	25 gal.	8'-10'	2" caliper minimum	
16	NARRA	Pterocarpus indicus	25 gal.	8'-10'	2" caliper minimum	
9	KUKUI	Aleurites maluccana	25 gal.	8'-10'	2" caliper minimum	
P A L M S						
143	LOULU PALM	Pritchardia spp.	25 gal.	2'-3'	Trunk Height	

DESIGNED BY: _____
 CHECKED BY: _____
 DATE: _____



STATE OF HAWAII
 DEPARTMENT OF TRANSPORTATION
 HIGHWAYS DIVISION
DETAILS, PLANT LIST AND NOTES
 KANEHOE / HALEKOU IZC
 H-3 FINISH (UNIT VI)
 FAIP NO. I-H3-1(75), UNIT VI
 SCALE: AS NOTED DATE: APRIL 1999
 SHEET No. 217 OF 7 SHEETS

Appendix F1 (continuation)

ESTIMATED QUANTITIES

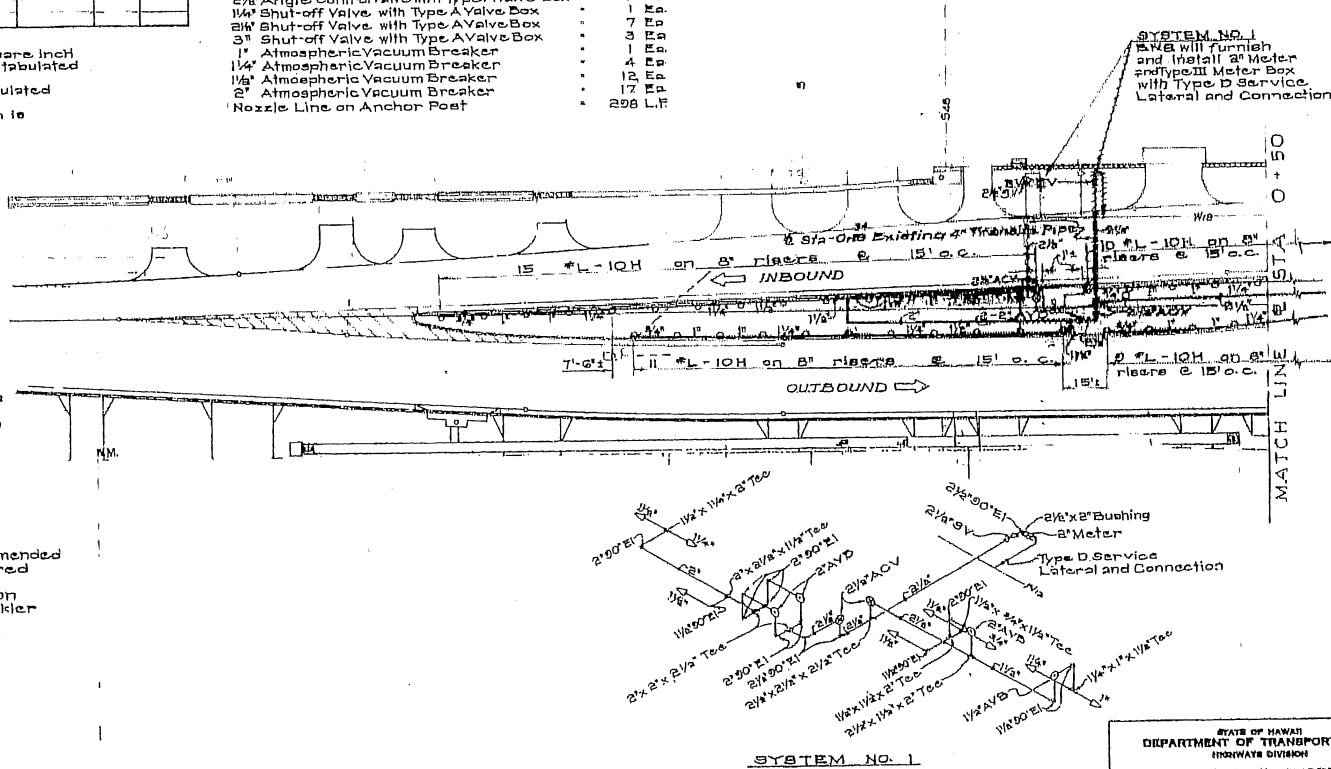
Struct. Ex.	•	288 C.Y.
1/2" Galv. Steel Pipe	•	458 L.F.
1/2" Pipe	•	50 L.F.
3/4" Pipe	•	1194 L.F.
1" Pipe	•	1496 L.F.
1 1/4" Pipe	•	2106 L.F.
1 1/2" Pipe	•	2340 L.F.
2" Pipe	•	796 L.F.
2 1/2" Pipe	•	1454 L.F.
3" Pipe	•	456 L.F.
ST-5 Sprinkler Head	•	51 Ea.
L-10 Sprinkler Head	•	143 Ea.
S-10 Sprinkler Head	•	157 Ea.
J-30 Sprinkler Head	•	94 Ea.
1 1/4" Angle Control Valve with Type A Valve Box	•	4 Ea.
1 1/2" Angle Control Valve with Type A Valve Box	•	8 Ea.
2" Angle Control Valve with Type A Valve Box	•	5 Ea.
2 1/2" Angle Control Valve with Type A Valve Box	•	6 Ea.
1 1/4" Shut-off Valve with Type A Valve Box	•	1 Ea.
3" Shut-off Valve with Type A Valve Box	•	7 Ea.
1" Atmospheric Vacuum Breaker	•	3 Ea.
1 1/4" Atmospheric Vacuum Breaker	•	4 Ea.
1 1/2" Atmospheric Vacuum Breaker	•	12 Ea.
2" Atmospheric Vacuum Breaker	•	17 Ea.
Nozzle Line on Anchor Post	•	298 L.F.

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	5-6630(2)	1970	60153-1	153

LEGEND AND SPRINKLER HEAD SPECIFICATIONS						
NUMBER	SYMBOL	TYPE	PRESSURE	COVERAGE	FLOW	NOZZLE
ST-5	○	Lawn Strip	30	4' x 14'	1.5	1/2" L.F.B.
L-10*	○	Lawn, Full Circle, 2" Pop-Up min.	20	12' Radius	4.0	1/2" L.F.B.
L-10H	○	Lawn, Half Circle, 2" Pop-Up min.	20	12' Radius	2.5	1/2" L.F.B.
S-10*	●	Shrubbery, Full Circle	20	10' Radius	3.2	1/2" L.F.B.
S-10H	●	Shrubbery, Half Circle	20	10' Radius	2.5	1/2" L.F.B.
J-30P	○	Jet Sprinkler, Full Circle	30	26' Radius	3.0	1/2" L.F.B.
J-30F	○	Jet Sprinkler, Part Circle	30	27' Radius	3.3	1/2" L.F.B.
		Nozzle 1/2" x 1/4" N.F. Male Thread	25	8' Radius	0.8	
	□	Water Meter & Meter Box				
AV	⊘	Shut-Off Valve w/Type A Valve Box				
AVB	○	Atmospheric Vacuum Breaker				
ACV	⊘	Angle Control Valve w/Type A Valve Box				

- LEGEND NOTES:**
- *PRESSURE is the operating pressure in pounds per square inch. This value must not be exceeded when operating at the tabulated flow and radius.
 - *RADIUS OF COVERAGE is the minimum radius at the tabulated pressure.
 - *FLOW is the maximum flow, in gallons per minute, which is discharged at the tabulated pressure.

- GENERAL NOTES:**
- The Contractor shall notify the Board of Water Supply for the connections to the water mains. Board of Water Supply will furnish and install service laterals and connections, meter and meter boxes, to be paid for by the State. The Contractor shall excavate and backfill.
 - The atmospheric vacuum breakers shall be installed a minimum of 6" above the highest sprinkler head of the battery of sprinklers served and on the discharge side of the valve.
 - Final location of meters, valves, and vacuum breakers shall be determined by the Engineer.
 - Unless otherwise called for or directed by the Engineer the center line of the feeder pipe shall be located 3/4" from the back of curbs or 4 1/2" from the fence line, guard rail or edge of slope.
 - Parallel sprinkler lines shall be laid in a common trench where possible.
 - The Contractor shall determine if existing utilities will be in the way of sprinkler lines and shall route sprinkler lines around or keep clear of the utilities.
 - Pipes under roadway through existing transit pipe shall be copper pipe, PVC pipe or galvanized steel pipe, at the contractor's option.
 - Sprinkler heads shall be installed with screens in the riser or base of the sprinkler head as recommended by the manufacturer. Screens will not be required for nozzle heads.
 - Existing structures affected during construction shall be restored. (Cost to be incidental to sprinkler installation)
 - Galvanized steel pipe shall be used for sprinkler lines installed above ground.



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAY DIVISION
SPRINKLER SYSTEM

**MOKAPEL SADDLE ROAD
KANEIHE BAY DR. TO KAILUA INTERCHANGE
F.A.S. PROJECT NO. S-0630(7)**

Scale: 1"=20' Date: July 1978

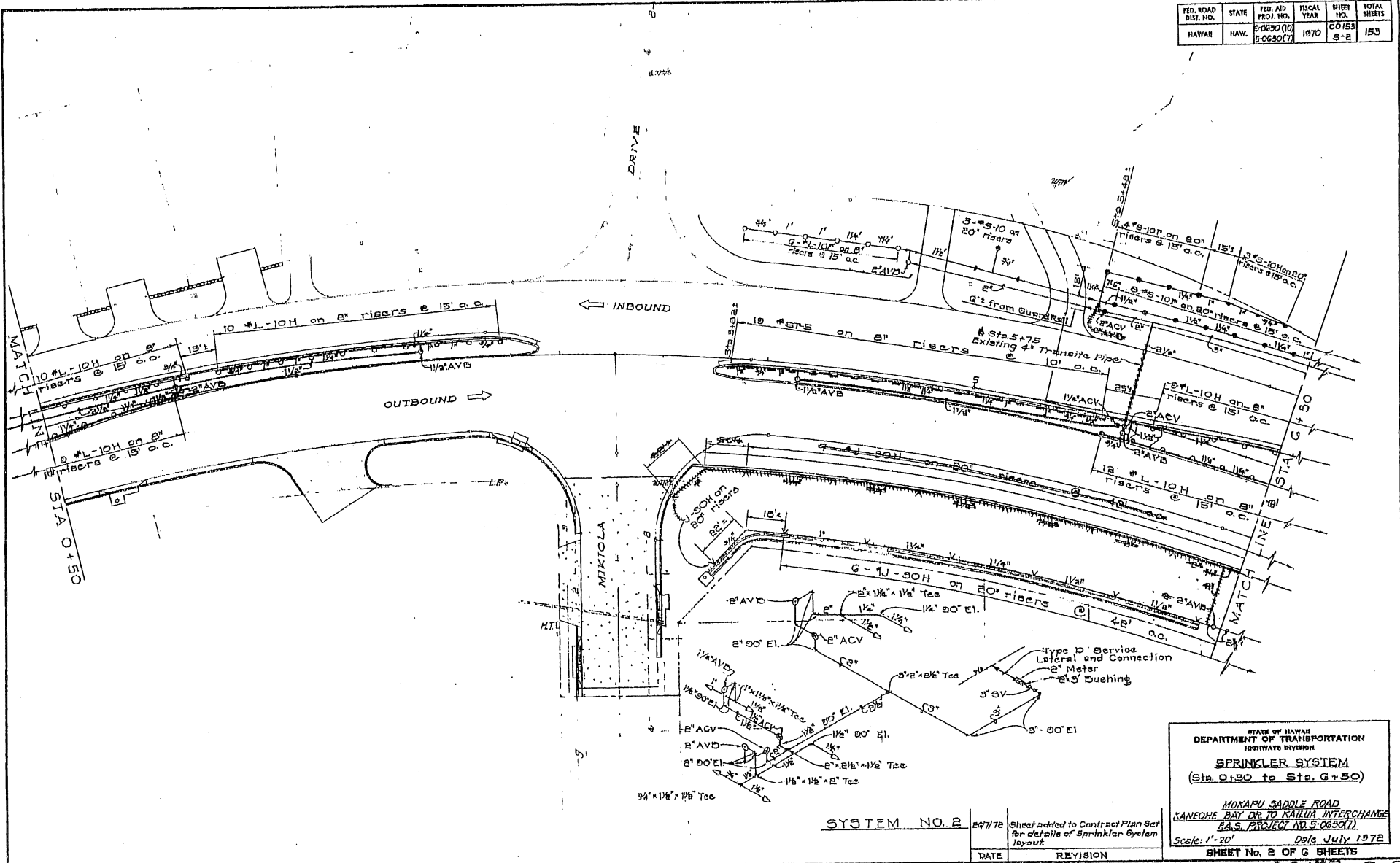
SHEET NO. 1 OF 6 SHEETS

29778	Sheet added to Contract Plan Set for details of Sprinkler System layout.
DATE	REVISION

C0153 S-1

Appendix F1 (continuation)

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	00630(10) S-0630(7)	1970	C0153 S-2	153



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

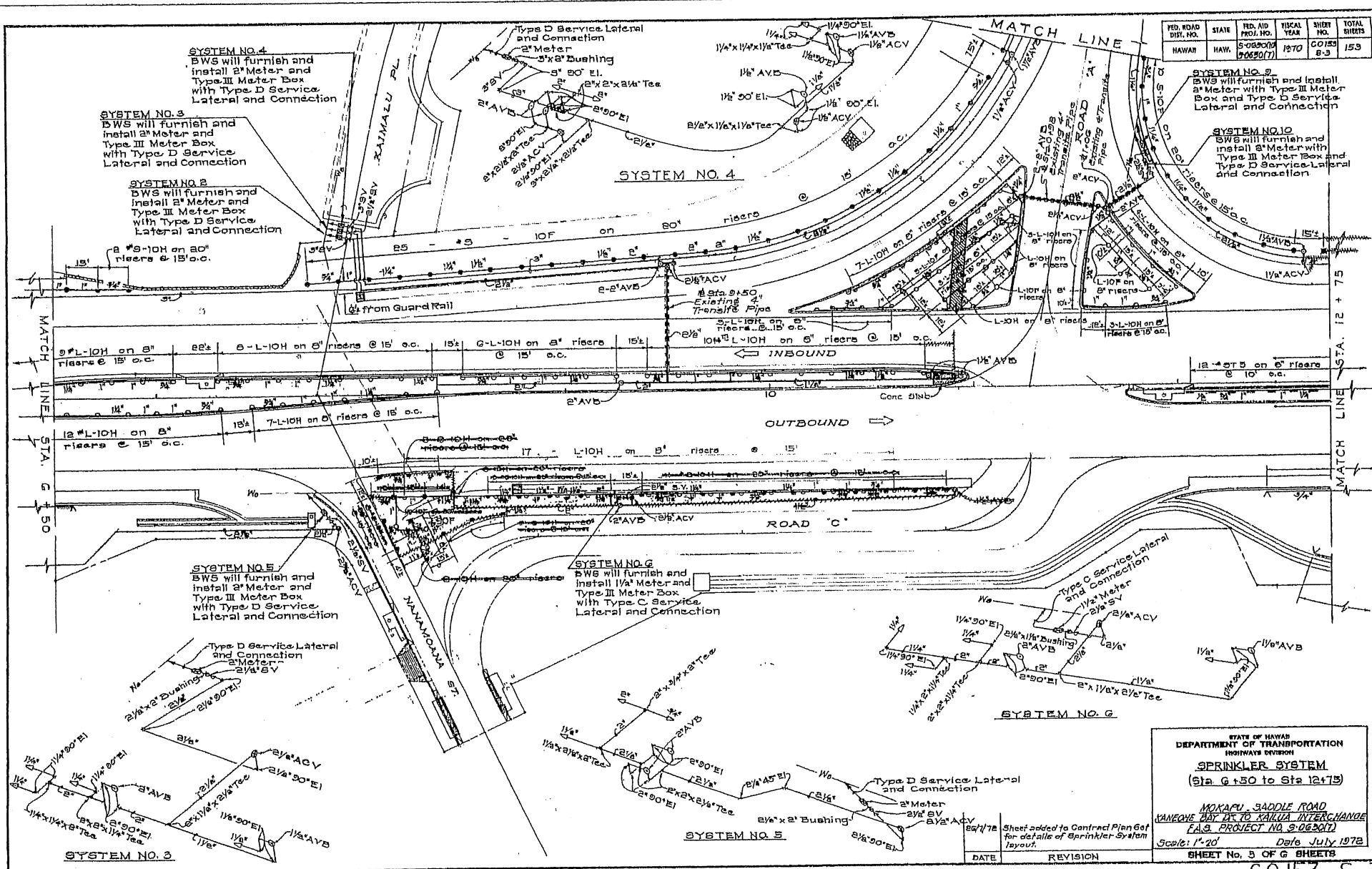
SPRINKLER SYSTEM
(Sta. 0+80 to Sta. 0+50)

MONAPE SADDLE ROAD
KANEHOE BAY DR. TO KAILUA INTERCHANGE
(E.S. PROJECT NO. S-0630(7))
Scale: 1" = 20' Date: July 1972

DATE	REVISION
09/7/72	Sheet added to Contract Plan Set for details of Sprinkler System layout

C0153 S-2

Appendix F1 (continuation)



FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAWAII	5-06207A (96207)	1970	60129	153

SYSTEM NO. 9
BWS will furnish and install 2" Meter with Type III Meter Box and Type D Service Lateral and Connection

SYSTEM NO. 10
BWS will furnish and install 2" Meter with Type III Meter Box and Type D Service Lateral and Connection

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

SPRINKLER SYSTEM
(Sta. G+50 to Sta. 12+75)

MOKAPE SADDLE ROAD
KANEHE BAY TO KAILUA INTERCHANGE
F.A.S. PROJECT NO. 2-06207

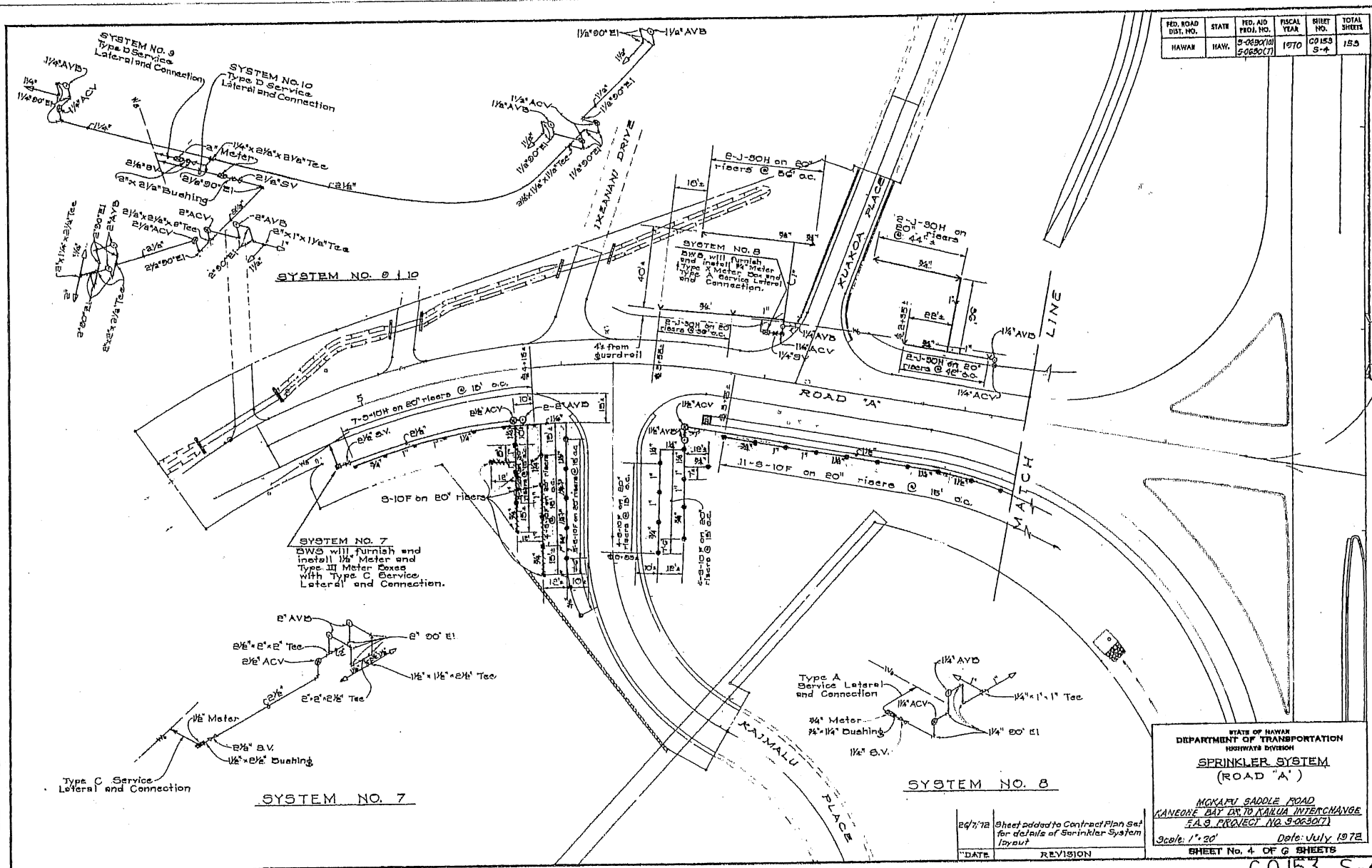
Scale: 1"=20' Date: July 1972

SHEET No. 3 OF 6 SHEETS

DATE	REVISION
8/27/72	Sheet added to Contract Plan 601 for details of Sprinkler System layout.

C0153 S-3

Appendix F1 (continuation)



FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	5-0630(1)	1970	00153 S-4	153

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAY DIVISION

**SPRINKLER SYSTEM
(ROAD "A")**

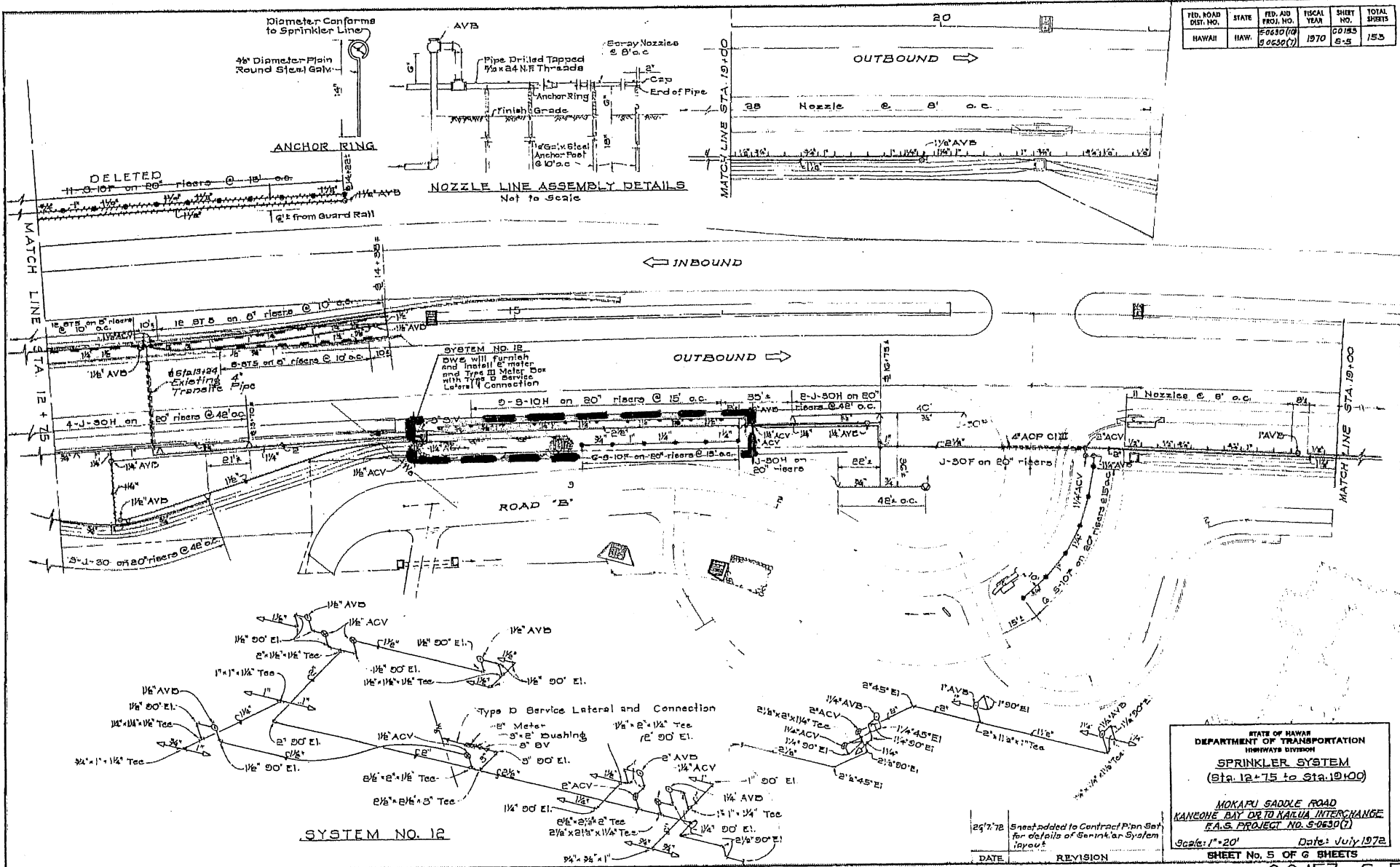
MOANU SADDLE ROAD
KANEIHE BAY EX. TO KAHUA INTERCHANGE
I.A.S. PROJECT NO. 5-0630(1)

Scale: 1" = 20' Date: July, 1978

SHEET No. 4 OF 6 SHEETS

C0153 S-4

Appendix F1 (continuation)



FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAWAII	50630(10) 50630(7)	1970	50153	153

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

SPRINKLER SYSTEM
(Sta. 12+75 to Sta. 19+00)

KOHAU SADDLE ROAD
KANEONE BAY DR TO KAILUA INTERCHANGE
F.A.S. PROJECT NO. 5-0630(7)

Scale: 1"=20' Date: July 1972

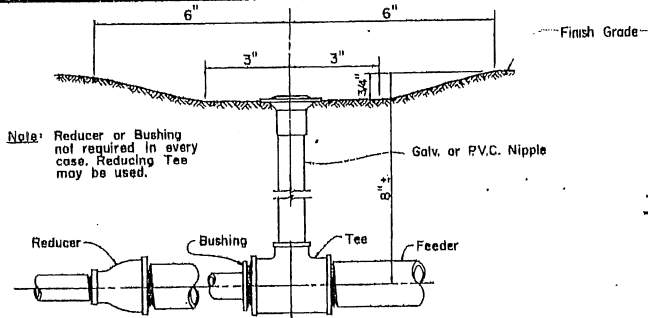
SHEET No. 5 OF 6 SHEETS

(LEGEND)
INDICATES OPERATIONAL
IRRIGATION SYSTEM (Kahinani
Place)

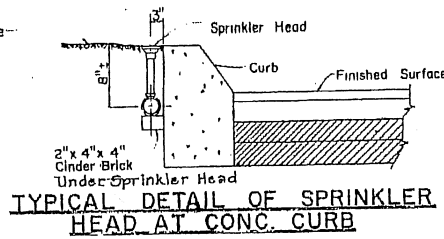
C0153 S-5

Appendix F1 (continuation)

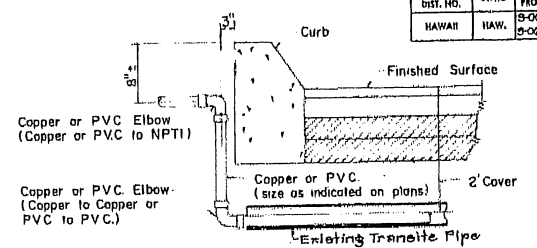
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
	HAWAII	S-065009 S-0620(7)	1970	C0153 S-6	153



Note: Reducer or Bushing not required in every case. Reducing Tee may be used.

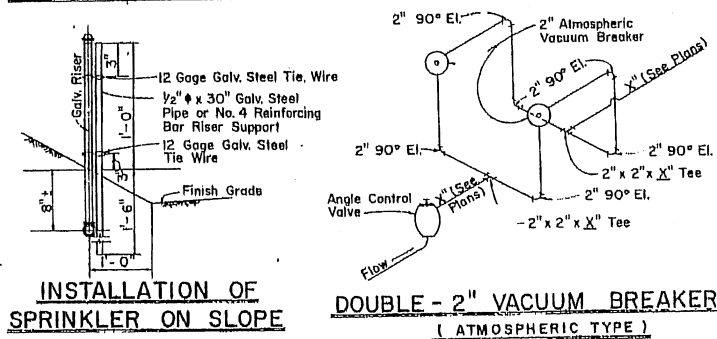


TYPICAL DETAIL OF SPRINKLER HEAD AT CONC. CURB



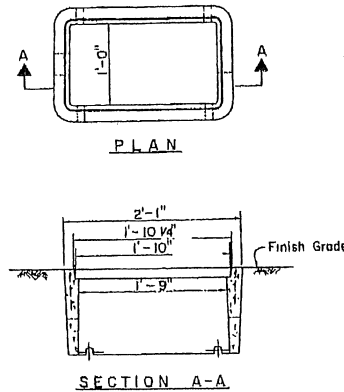
TYPICAL DETAIL OF ROADWAY CROSSING

CONNECTION OF SPRINKLER HEAD TO FEEDER



INSTALLATION OF SPRINKLER ON SLOPE

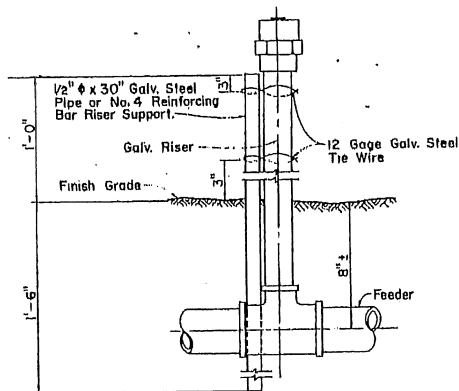
DOUBLE - 2" VACUUM BREAKER (ATMOSPHERIC TYPE)



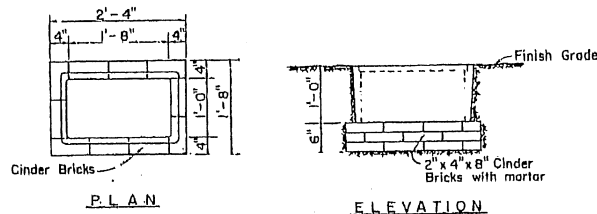
TYPE "A" VALVE BOX

GENERAL NOTES

1. Type "A" Valve Box and Pressure Regulator Box is similar to a Honolulu Board of Water Supply Type "X" Meter Box. However, instead of the words "Board of Water Supply" and "Water Meter" on the Cast Iron Covers, imprint the words "Sprinkler Valve" on the Valve Box Cover and "Pressure Regulator" on the Pressure Regulator Box Cover.
2. Locate the sprinkler valve at a sufficient depth in the Valve Box to make it operable with the cover in place.
3. Side openings in the Brick wall for the Pressure Regulator Box shall be provided to correspond to the location of the regulator inlet and outlet.
4. Riser less than 20" will not require support.
5. Riser support will be considered incidental to the various items of the sprinkler system.



DETAIL OF SPRINKLER HEAD ON RISER



PRESSURE REGULATOR BOX

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

SPRINKLER SYSTEM

Not to Scale
SHEET No. 6 OF 6 SHEETS DH 18

**APPENDIX F2
SUMMARY OF REQUIRED ANNUAL INSPECTIONS**

Type of Inspection	Required for contract extension	Required for contract closing	Include the following
	2 nd Monday on the 4 th month after the Notice to Proceed date and 2 nd Monday on the 4 th month from the beginning of each contract term.	Sixty (60) days prior to the end of the last term of the contract [i.e., after four (4) contract extensions, etc.]	
Comprehensive Annual Inspection (Landscaped Areas)	X	X	<ul style="list-style-type: none"> (a) Plant inventory, (b) Plant list comparison and replacement list, (c) Liquidated damages assessed, (d) Soil tests of troubled planting areas, (e) Fertilization schedule review, (f) Herbicide schedule review, (g) Invasive species, (h) Discretionary fund projects for coming year, (i) Professional credential review and (j) Maintenance sustainability recommendations.
Comprehensive Annual Inspection (Irrigation System)	X	X	<ul style="list-style-type: none"> (a) Irrigation inventory, (b) Each valve shall be individually operated and checked for any deficiencies, (c) The Contractor shall start repairing any damages of the sprinkler system within forty-eight (48) hours of detection or from the time of notification by the State maintenance inspector.

APPENDIX G

DOT 4-689 (HWY-CM 6/15)

APPLICATION & PERMIT FOR THE OCCUPANCY & USE OF STATE HIGHWAY RIGHT-OF-WAY

Application date _____, 20____

POLICE CHECKLIST: ITEMS 1 THRU 5.

Pursuant to the provisions of Chapter 264, Hawaii Revised Statutes as amended, application is hereby made to perform the following work, activity, or event, upon the state highway described below and at the location(s) specified below and at no other place.

1. Name of Highway _____ Route # /Section _____

2. Locations or limits on said highway _____

3. Description of work, activity, or event to be performed

- Engineering Survey Maintenance Inspection Landscaping Other

4. Dates between which work, activity, or event will be performed: _____

5. General Conditions

- a. No digging or disturbing of the highway will be permitted under this permit.
b. The work, activity, or event may be performed only during off-peak hours unless otherwise approved in writing.
c. All lanes shall be open to traffic during the hours from 6:00 AM to 8:30 AM, during the hours of 3:00 PM to 6:00 PM, and when no work is being done under this permit.
d. Parking permitted only in designated areas for vehicles actively engaged in, or loading or unloading materials for, the specified work, activity, or event.

6. Special Conditions and/or Restrictions _____

7. Submittals Required

- a. Traffic Control Plan (whenever there are lane closures)
b. Approved Landscaping Plan: It is agreed that upon final acceptance of the approved landscape work by the State, all improvements placed on said premises shall be and remain the property of the State and may be removed or otherwise disposed of by the State at any time.
c. Proof of State Indemnity
Certificate of Insurance naming State of Hawaii as an additional insured, having minimum coverages for Bodily Injury or Death Per Person; Bodily Injury or Death Per Accident; and Property Damages Per Accident of:
\$100,000, \$300,000, and \$500,000 respectively; or
combined single limit of \$500,000
Certificate attached or with Permit No.
Federal Non-Liability Clause (See Item 11 on the back of this permit)
Waived
d. Permit Fee \$_____ (make check payable to Dept. of Transportation, State of Hawaii)

The applicant hereby agrees that any agreement heretofore made or hereafter to be made, and the covenants and conditions stated on the reverse side hereof shall be binding upon him, his heirs, personal representatives, successors, contractors, and assigns.

APPLICANT: _____ (Name or owner, whether individual firm, partnership, corporation, governmental agency, etc)

ADDRESS: _____

TELEPHONE NUMBER: _____

(Print Name & Title of Applicant or Authorized Rep.)

(Signature)

PERMIT NO. _____ DATE _____, 20____

Permission to perform the above described work, activity, or event at the location(s) stated and between the dates set forth in said application is hereby granted. The applicant shall notify the issuing office in writing at least 24 hours before commencing work.

Director of Transportation or Authorized Representative

OAHU 831-6712 HAWAII 933-8866 MAUI 873-3535 KAUAI 274-3111

APPENDIX H
SAMPLE – NOTICE TO PROCEED LETTER FOR MISCELLANEOUS WORK

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
OAHU DISTRICT
727 KAKAI STREET
HONOLULU, HAWAII 96819

Landscaped Services
1234 Any Street
Honolulu, Hawaii 12345

Dear Colleagues:

Subject: Maintenance of Landscaped Areas and Maintenance and Inspection of Irrigation System, H-3 Freeway, Halekou Interchange to Kailua Interchange, District of Koolaupoko, Island of Oahu, Project No. H3(IJ)-01-23C, Contract No. _____

In accordance with the contract, you are hereby given notice to proceed with miscellaneous work at the agreed upon price of \$3,000.00, including State tax, to plant three (3) each coconut trees along H-3 Freeway adjacent to Name Park.

The funds will be paid from the “Allowance” for Miscellaneous Work.

Sincerely,

Mike Medeiros
Oahu District Engineer

Enclosure (attach price quotation, etc.)

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

Maintenance of Irrigation System

Item	11.5	TASK DESCRIPTION (Reference Section 11.5, SCOPE OF WORK)	MEETS SPECIFICATIONS		REMARKS
			YES	NO	
27.	(A)	Maintenance and inspection of irrigation system (routine/preventive)			
28.	(B)	Irrigation controller.			
29.	(C)	Irrigation valves.			
30.	(D)	Sprinkler heads.			
31.	(E)	Monthly irrigation report.			
32.	(F)	Battery powered controller/valves.			
33.	(G)	Rain sensor.			
34.	(H)	Drip irrigation.			
35.	(I)	Manual watering.			
36.	(J)	Weekly inspection.			
37.	(K)	Irrigation system annual comprehensive inspection.			
38.	(L)	Trouble calls.			
39.	(N)	Replacement parts.			
40.	(O)	Miscellaneous work and requirements.			
41.	(P)	Traffic control/closing of lanes.			

APPENDIX J
SAMPLE – RECORD OF HERBICIDE APPLICATION
(LANDSCAPING WORK)

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

Pursuant to Sections 10.5(J), the Contractor shall submit a copy of this record weekly or as requested by to the Engineer - Oahu District representative (point of contact).

Project No.: H3(IJ)-01-23C Contract No. _____ Date applied: _____ Sheet No. _____

Project Title: Maintenance of Landscaped Areas and Maintenance and Inspection of Irrigation System, H-3 Freeway, Halekou Interchange to Kailua Interchange, District of Koolauapoko, Island of Oahu

A. ROUTE LOCATION (*i.e., H-3 Freeway, Kamehameha Exit, etc.*) _____
From milepost: _____ To milepost: _____ **Median/Shoulder/Drainage area** (*circle as applicable*)
Other location description: _____

B. HERBICIDE APPLICATION
Is applicator trained in accordance with Section 10.8(C)1? (*yes or no*) _____ (*If no, DO NOT SPRAY*)
Applicator License number (*if applicable*): _____
Herbicide name brand: _____ Active Ingredient: _____ Surfactant name brand/amount: _____
Chemical rate/amount: _____ Total amount of mixed herbicide used (gallons): _____
Application method(s) (*check as applicable*): Backpack sprayer and spray nozzle _____ Backpack sprayer and wick applicator _____
 Boom sprayer _____ Other (describe): _____

C. WEATHER CONDITIONS
Time of day: _____ Temperature range: _____
Wind speed and direction: _____ (*High wind, DO NOT SPRAY*)
Sky (*circle as applicable*) CLEAR CLOUDY OVERCAST
Rain expected today (*yes or no*): _____ (*If yes, DO NOT SPRAY*) Raining (*yes or no*): _____ (*If yes, DO NO SPRAY*)
Rain not expected today: _____

D. NOTES AND RECOMMENDATIONS: _____

E. CERTIFICATION: I hereby certify that the product was used in accordance with the manufacturer's recommendation and in compliance with all federal, State and local laws and regulations.

Contractor (*name of company*): _____
Printed Name of Applicator: _____ Applicator's signature: _____

Appendix K
SAMPLE – MONTHLY INVOICE

Landscaping Service

1234 Any Street, Honolulu, Hawaii 12345 Phone (808) 123-1234 Fax (808)-123-1234 Email: name@email.com

Bill To: District Engineer – Oahu District
Highways Division
Department of Transportation
727 Kakoi Street
Honolulu, Hawaii 96819

Date: _____
Invoice No.: _____
Contract No.: _____
Purchase Order No.: _____
Project No.: **H3(IJ)-01-23C**

Project Title: Maintenance of Landscaped Areas and Maintenance and Inspection of Irrigation System, H-3 Freeway, Halekou Interchange to Kailua Interchange, District of Koolau, Island of Oahu

Periods Covered: (full pay period, head-to-tail format, first pay period from the NTP date to following month similar to this sample): **December 1, 2022, through December 31, 2022.**

Bid Item No.	Description	Qty	Unit	Unit Price	Amount
1	Maintenance of Landscaped Areas	1	Month	\$ _____	\$ _____
2	Caring and Trimming of Shrubs	1	Month	\$ _____	\$ _____
3	Caring and Trimming of Trees (Sight Distance/Clear Zones/Clear Space)	1	Month	\$ _____	\$ _____
4	Maintenance and Inspection of Irrigation System, routine/preventive	1	Month	\$ _____	\$ _____
5	Irrigation Trouble Call work, Regular working hours – per man-hour, Sprinkler Technician	8	Man-hour	\$ _____	\$ _____
6	Littler Collection	4	Week	\$ _____	\$ _____
7	Pesticide and Herbicide		Allowance	\$ _____	\$ _____
8	Replacement PartS		Allowance	\$ _____	\$ _____
9	Miscellaneous Work		Allowance	\$ _____	\$ _____
Subtotal					\$ _____
Less Deductions					\$ _____
Subtotal					\$ _____
Less 5% retainage from payment					\$ _____
Total Amount Due					\$ _____

I certify that services requested under the contract have been performed by Landscaping Services in accordance with the contract.

Signature
First J. Name
President
Landscaping Services

**APPENDIX L
CERTIFIED PAYROLL REPORT (SAMPLE)**

STATE OF HAWAII		CERTIFIED PAYROLL REPORT															DAGSECP v1.0_06/10					
DEPARTMENT OF ACCOUNTING AND GENERAL SERVICES																	REPORT SUBMISSION DATE: 26-Aug-05					
Public Works Division																						
Name is of: Contractor: <input type="checkbox"/>		Subcontractor: <input type="checkbox"/>		<input type="checkbox"/>		THIS IS AN AMENDED FORM PAYMENTS MADE ON SAME DAY TO ALL EMPLOYEES																
NAME: <input type="text"/>																						
PAYROLL NO.	FOR WEEK ENDING	PROJECT AND LOCATION										PROJECT NO.	VENDOR CODE									
34	June 29, 2005	CHERRY COURTHOUSE, FIX ROTTEN TREES										99-99-9999	000003-98									
NAME, NO ADDRESS, AND LAST 4 DIGITS OF SOCIAL SECURITY NUMBER OF EMPLOYEE	<small>NO. OF WITHDRAWALS EXEMPTIONS</small>	<small>WORK CLASSIFICATION</small>	<small>OT OR CRIST.</small>	DAY AND DATE							<small>TOTAL HOURS</small>	<small>RATE OF PAY</small>	<small>GROSS AMOUNT EARNED</small>	TOTAL DEDUCTIONS							<small>NET WAGES PAID FOR WEEK</small>	<small>DATE PAID TO EMPLOYEE</small>
				S	M	T	W	TH	F	S				FICA	FED. WITH- HOLDING TAX	STATE WITH- HOLDING TAX	MEDICARE	OTHER DEDUC.	TOTAL DEDUCT			
				HOURS WORKED EACH DAY																		
Jack Sprat XXX-XX-9999		Runner	S	7.00	7.00	7.00	7.00	8.00	8.00	9.00	53.00	\$30.00	\$1,590.000	\$3.00	\$2.00	\$2.00	\$1.00	\$2.00	\$10.00	\$4,100.000	17-Jun-05	
			O	8.00	8.00	8.00	8.00	8.00	8.00	8.00	56.00	\$45.00	\$2,520.000									
			T	15.00	15.00	15.00	15.00	16.00	16.00	17.00	109.00		\$4,110.000									
Leap Frog xxx-xx-5678		Jumper	S	2.00			6.00			4.00	12	\$20.00	\$240.000	\$4.00	\$5.00	\$6.00	\$6.00	\$3.00	\$24.00	\$216.000		
			O								0	\$30.00	\$0.000									
			T	2.00	0.00	0.00	6.00	0.00	0.00	4.00	12.00		\$240.000									
			S								0		\$0.000						\$0.00	\$0.000		
			O								0	\$0.00	\$0.000									
			T	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		\$0.000									
			S								0		\$0.000						\$0.00	\$0.000	27-Jan-05	
			O								0	\$0.00	\$0.000									
			T	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		\$0.000									
			S								0		\$0.000						\$0.00	\$0.000		
			O								0	\$0.00	\$0.000									
			T	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		\$0.000									
			S								0		\$0.000						\$0.00	\$0.000		
			O								0	\$0.00	\$0.000									
			T	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		\$0.000									

Appendix M
Sample – Satisfactory Evidence by Affidavit for Final Payment

Landscaping Services

1234 Any Street, Honolulu, Hawaii 12345 Phone: (808) 123-1235 Email: name@email.com

Date:

State of Hawaii
Department of Transportation
869 Punchbowl Street
Honolulu, Hawaii 96813-5097

Dear Sir/Madam:

Pursuant to Section 9.5 Final Payment, of the Specifications, I hereby certify that all debts resulting from Contract No. _____, Project No. H3(IJ)-01-23C, Project Title: MAINTENANCE OF LANDSCAPED AREAS AND MAINTENANCE AND INSPECTION OF IRRIGATION SYSTEM, H-3 FREEWAY, HALEKOU INTERCHANGE TO KAILUA INTERCHANGE, DISTRICT OF KOOLAUPOKO, ISLAND OF OAHU, have been fully paid or satisfactorily secured.

Cordially,

First J. Name
President
Landscaping Services

Subscribed and sworn to me
This _____ day of _____, 20__

Notary Public, First Judicial Circuit,
State of Hawaii

My Commission Expires: _____



*The bidder shall refer to Sections 10.3(E) Schedule of Submitting Required Documents **and be familiar with the requirements** prior to submitting their bid. The bidder, starting with the lowest bidder, is required to submit specific documents.*

***Failure by the bidder to submit:** The bidder may be considered non-compliant with the requirements of the Specifications if the bidder fails to submit the specified documents no later than seven (7) working days from the date of receipt of the written request from the State. This failure may result in bid rejection.*

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
HONOLULU, HAWAII

PROPOSAL

PROPOSAL TO THE STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

PROJECT: MAINTENANCE OF LANDSCAPED AREAS AND
MAINTENANCE AND INSPECTION OF IRRIGATION
SYSTEM, H-3 FREEWAY, HALEKOU INTERCHANGE
TO KAILUA INTERCHANGE, DISTRICT OF
KOOLAUPOKO, ISLAND OF OAHU

PROJECT NO.: H3(IJ)-01-23C

CONTRACT TIME: Twelve (12) months from date indicated in the Notice to
Proceed from the Department with options to extend as
provided for in Section 10.12 of the Specifications.

LIQUIDATED DAMAGES: Refer to Section 8.2 Liquidated Damage, of the Special
Provisions and Section 10.14 Basis of Payment, of the
Specification for applicable deductions.

ELECTRONIC SUBMITTAL: The Proposal and supporting documents shall be submitted
through the State of Hawaii eProcurement System
(HIePRO). See the Notice to Bidder for additional
information.

NOTE: PERFORMANCE BOND IS REQUIRED FOR THE
FIRST YEAR OF THIS PROJECT.

BID AND PAYMENT BONDS ARE NOT REQUIRED
FOR THIS PROJECT.

Director of Transportation
AliiAIMoku Hale
869 Punchbowl Street
Honolulu, Hawaii 96813

Dear Sir:

The undersigned bidder declares the following:

1. It has not, either directly or indirectly, entered into any agreement, participated in any collusion, or otherwise taken any action in restraint of free competitive bidding in connection with this proposal.
2. It has not been assisted or represented on this matter by any individual who has, in a State capacity, been involved in the subject matter of this contract within the past two years.
3. It has not and will not, either directly or indirectly offered or given a gratuity (i.e. an entertainment or gift) to any State or County employee to obtain a contract or favorable treatment under a contract.

The undersigned bidder further agrees to the following:

1. If this proposal is accepted, it shall execute a contract with the Department to provide all necessary labor, machinery, tools, equipment, apparatus and any other means of construction, to do all the work and to furnish all the materials specified in the contract in the manner and within the time therein prescribed in the contract, and that it shall accept in full payment therefore the sum of the unit and/or lump sum prices as set forth in the attached proposal schedule for the actual quantities of work performed and materials furnished and furnish satisfactory security in accordance with Section 103D-324, Hawaii Revised Statutes, within 10 days after the award of the contract or within such time as the Director of Transportation may allow after the undersigned has received the contract documents for execution, and is fully aware that non-compliance with the aforementioned terms will result in the forfeiture of the full amount of the bid guarantee required under Section 103D-323, Hawaii Revised Statutes.

Matls. & Serv.
r12/2020

2. That the quantities given in the attached proposal schedule are approximate only and are intended principally to serve as a guide in determining and comparing the bids.
3. That the Department does not either expressly or by implication, agree that the actual amount of work will correspond therewith, but reserves the right to increase or decrease the amount of any class or portion of the work, or to omit portions of the work, as may be deemed necessary or advisable by the Director of Transportation, and that all increased or decreased quantities of work shall be performed at the unit prices set forth in the attached proposal schedule except as provided for in the specifications.
4. In case of a discrepancy between unit prices and the totals in said Proposal Schedule, the unit prices shall prevail.
5. Agrees to begin work within 10 working days after the date of notification to commence with the work, which date is in the notice to proceed, and shall finish the entire project within the time prescribed.
6. The Director of Transportation reserves the right to reject any or all bids and to waive any defects when in the Director's opinion such rejections or waiver will be for the best interest of the public.

Receipt is hereby acknowledged and complete examination is hereby expressly guaranteed of the following listed items: the specifications, the notice to bidders, the special provisions, if any, the proposal, the plans, if any, and the contract form.

The undersigned acknowledges receipt of any addendum, issued by recording in the space below the date of receipt.

Addendum No. 1 _____ Addendum No. 3 _____

Addendum No. 2 _____ Addendum No. 4 _____

The undersigned hereby certifies that the bid prices contained in the attached proposal schedule have been carefully checked and are submitted as correct, final and are net prices.

Bidder (Company Name)

By _____
Authorized Signature

Print Name and Title

Business Address

Business Telephone Email

Date

Contact Person (If different from above)

Phone: _____ Email: _____

*Hawaii General Excise Tax License No. _____

NOTE:

If bidder is a CORPORATION, the legal name of the corporation shall be set forth above, the corporate seal affixed, together with the signature(s) of the officer(s) authorized to sign contracts on behalf of the corporation. Please attach to this page current (not more than six months old) evidence of the authority of the officer(s) to sign on behalf of the corporation.

If bidder is a PARTNERSHIP, the true name of the partnership shall be set forth above with the signature(s) of the general partner(s) authorized to sign contracts on behalf of the partnership. Please attach to this page current (not more than six months old) evidence of the authority of the partner(s) to sign on behalf of the partnership.

If bidder is an INDIVIDUAL, the bidder's signature shall be placed in the space provided therefore on page PF-4.

If signature is by an agent, other than an officer of a corporation or a partner of a partnership, a POWER OF ATTORNEY must be on file with the Department prior to the opening of bids or submitted with the bid; otherwise, the bid may be rejected as irregular and unauthorized.

*Bidder will be considered an out-of-state vendor if Hawaii General Excise Tax License No. is not indicated. See Section 2.8 Out-of-State Bidders of the Specifications.

PROPOSAL SCHEDULE
FOR
MAINTENANCE OF LANDSCAPED AREAS AND MAINTENANCE AND INSPECTION
OF IRRIGATION SYSTEM, H-3 FREEWAY, HALEKOU INTERCHANGE TO KAILUA
INTERCHANGE, DISTRICT OF KOOLAUPOKO, ISLAND OF OAHU
PROJECT NO. H3(IJ)-01-23C

Bid Item No.	Description	QTY (a)	Unit	Unit Price (b)	Amount (a x b)
1	Maintenance of Landscaped Areas	12	Month	\$ _____	\$ _____
2	Caring and Trimming of Shrubs	12	Month	\$ _____	\$ _____
3	Caring and Trimming of Trees (Sight Distance/Clear Zones/Clear Space)	12	Month	\$ _____	\$ _____
4	Maintenance and Inspection of Irrigation System, routine/preventive	12	Month	\$ _____	\$ _____
5	Irrigation Trouble Call work, Regular working hours – per man-hour, Sprinkler Technician	50	Man-Hour	\$ _____	\$ _____
6	Litter Collection	52	Week	\$ _____	\$ _____
7	Pesticide and Herbicide	Allowance			\$ 2,000.00
8	Replacement Parts	Allowance			\$ 20,000.00
9	Miscellaneous Work	Allowance			\$ 50,000.00
TOTAL AMOUNT FOR COMPARISON OF BIDS					\$ _____

Notes:

1. Bids shall include all Federal, State, County and other applicable taxes and fees.
2. The TOTAL AMOUNT FOR COMPARISON OF BIDS will be used to determine the lowest responsible bidder.
3. Bidder shall complete all unit price and amounts. Failure to do so shall be grounds for rejection of bid.
4. In case of a discrepancy occurs between unit bid price and the bid price, the unit bid price shall govern.
5. The Bidder shall make no changes to the items. Bid submitted with changes to the item(s) are considered rejectable bids.

PROPOSAL SCHEDULE
FOR
MAINTENANCE OF LANDSCAPED AREAS AND MAINTENANCE AND INSPECTION
OF IRRIGATION SYSTEM, H-3 FREEWAY, HALEKOU INTERCHANGE TO KAILUA
INTERCHANGE, DISTRICT OF KOOLAUPOKO, ISLAND OF OAHU
PROJECT NO. H3(IJ)-01-23C

Notes (continuation):

6. Performance bond is required for the first year of this project.
7. **By submitting a proposal, the bidder acknowledges he has read and understands all the provisions of the Special Provisions, Specifications and is fully aware of all the conditions to be encountered in performing the work.**
8. Completed Proposal file shall be upload into HlePRO prior to bid opening date and time. All other required confidential or proprietary document shall be uploaded separately.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HONOLULU, HAWAII

FORMS

Contents:

Sample Contract

Performance Bond (Surety)

Performance Bond

Certificate of Performance Services

SAMPLE

C O N T R A C T

THIS AGREEMENT, made this _____ day of _____, by and between the STATE OF HAWAII, by its Director of Transportation, hereinafter referred to as “STATE”, and << CONTRACTOR >>, <<STATE OF INCORPORATION>> whose business/post office address is <<ADDRESS>>, hereinafter referred to as “CONTRACTOR”;

WITNESSETH: That for and in consideration of the payments hereinafter mentioned, the CONTRACTOR hereby covenants and agrees with the STATE to furnish, perform and/or deliver and pay for all labor, supplies, materials, equipment and services called for in “<<PROJECT NAME AND NO>>”, or such a part thereof as shall be required by the STATE, the total amount of which labor, supplies, materials, equipment and services shall be computed at the unit and/or lump sum prices set forth in the attached proposal schedule and shall be the sum of <<BASIC>>----- DOLLARS (\$<<BASIC_NUMERIC>>) as follows:

TOTAL FOR COMPARISON OF BIDS.....\$<<BASIC_NUMERIC>>

which sum shall be provided from State funds, all in accordance with the specifications, the special provisions, if any, the notice to bidders, the instructions to bidders, the proposal and plans, if any, for << PROJECT NO ONLY >> on file in the office of the Director of Transportation. These documents, together with all alterations, amendments, and additions thereto and deductions therefrom, are attached hereto or incorporated herein by reference and made a part of this contract.

The CONTRACTOR hereby covenants and agrees to furnish, perform and/or deliver all labor, supplies, materials, equipment and services as provided herein for a period of <<WORKING DAYS>> from the date indicated in the Notice to Proceed from the State, with an option to extend for FOUR (4) additional ONE (1) YEAR periods subject to the terms specified in Section <<SECTION REFERENCING OPTION YEAR>> of the Specifications. The total term of this contract shall not exceed FIVE (5) YEARS.

For and in consideration of the covenants, undertakings and agreements of the CONTRACTOR herein set forth and upon the full and faithful performance thereof by the CONTRACTOR, the STATE hereby agrees to pay the CONTRACTOR the sum of <<BASIC>>----- DOLLARS (\$<<BASIC NUMERIC>>) in lawful money, such payment to be made, subject to such additions hereto or deductions therefrom heretofore or hereafter made, in the manner and at the time prescribed in the specifications and this contract.

An additional sum of <<EXTRAS>>----- DOLLARS (\$<<EXTRA NUMERIC>>) is hereby provided for extra work and shall be provided from State funds.

The CONTRACTOR further agrees to execute the attached Certification of Compliance for Final Payment form prior to payment of the final payment by the STATE.

All words used herein in the singular shall extend to and include the plural. All words used in the plural shall extend to and include the singular. The use of any gender shall extend to and include all genders.

IN WITNESS WHEREOF, the parties hereto have caused this instrument to be duly executed the day and year first above written.

STATE OF HAWAII

Director of Transportation

CONTRACTOR

(Seal)

Signature*

Title

*Signature must be acknowledged by a notary public.

PERFORMANCE BOND (SURETY)
(6/21/07)

KNOW TO ALL BY THESE PRESENTS:

That _____,
(Full Legal Name and Street Address of Contractor)

as Contractor, hereinafter called Principal, and _____

(Name and Street Address of Bonding Company)

as Surety, hereinafter called Surety, a corporation(s) authorized to transact business as a
surety in the State of Hawaii, are held and firmly bound unto the _____,
(State/County Entity)

its successors and assigns, hereinafter called Obligee, in the amount of _____

_____ DOLLARS (\$ _____), to which payment Principal and Surety bind themselves,
their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by
these presents.

WHEREAS, the above-bound Principal has signed a Contract with Obligee on
_____, for the following project: _____

hereinafter called Contract, which Contract is incorporated herein by reference and made a part
hereof.

NOW THEREFORE, the condition of this obligation is such that:

If the Principal shall promptly and faithfully perform, and fully complete the Contract in
strict accordance with the terms of the Contract as said Contract may be modified or amended
from time to time; then this obligation shall be void; otherwise to remain in full force and effect.

Surety to this Bond hereby stipulates and agrees that no changes, extensions of time, alterations, or additions to the terms of the Contract, including the work to be performed thereunder, and the specifications or drawings accompanying same, shall in any way affect its obligation on this bond, and it does hereby waive notice of any such changes, extensions of time, alterations, or additions, and agrees that they shall become part of the Contract.

In the event of Default by the Principal, of the obligations under the Contract, then after written Notice of Default from the Oblige to the Surety and the Principal and subject to the limitation of the penal sum of this bond, Surety shall remedy the Default, or take over the work to be performed under the Contract and complete such work, or pay moneys to the Oblige in satisfaction of the surety's performance obligation on this bond.

Signed this _____ day of _____, _____.

(Seal)

Name of Principal (Contractor)

*

Signature

Title

(Seal)

Name of Surety

*

Signature

Title

***ALL SIGNATURES MUST BE ACKNOWLEDGED
BY A NOTARY PUBLIC**

PERFORMANCE BOND

KNOW TO ALL BY THESE PRESENTS:

That we, _____
(full legal name and street address of Contractor)

as Contractor, hereinafter called Contractor, is held and firmly bound unto the

(State/County entity)

its successors and assigns, as Obligee, hereinafter called Obligee, in the amount

_____ DOLLARS \$ _____),
(Dollar amount of Contract)

lawful money of the United States of America, for the payment of which to the said Obligee, well and truly to be made, Contractor binds itself, its heir, executors, administrators, successors and assigns, firmly by these presents. Said amount is evidenced by:

- Legal Tender;**
- Share Certificate** unconditionally assigned to or made payable at sight to
Description: _____;
- Certificate of Deposit**, No. _____, dated _____ issued
by _____ drawn on
_____ a bank, savings
institution or credit union insured by the Federal Deposit Insurance Corporation or the
National Credit Union Administration, payable at sight or unconditionally assigned to
_____;
- Cashier's Check** No. _____, dated _____
drawn on _____ a
bank, savings institution or credit union insured by the Federal Deposit Insurance
Corporation or the National Credit Union Administration, payable at sight or
unconditionally assigned to _____;
- Teller's Check** No. _____, dated _____
drawn on _____ a
bank, savings institution or credit union insured by the Federal Deposit Insurance
Corporation or the National Credit Union Administration, payable at sight or
unconditionally assigned to _____;
- Treasurer's Check** No. _____, dated _____
drawn on _____ a
bank, savings institution or credit union insured by the Federal Deposit Insurance
Corporation or the National Credit Union Administration, payable at sight or
unconditionally assigned to _____;
- Official Check** No. _____, dated _____
drawn on _____ a
bank, savings institution or credit union insured by the Federal Deposit Insurance
Corporation or the National Credit Union Administration, payable at sight or
unconditionally assigned to _____;
- Certified Check** No. _____, dated _____
accepted by a bank, savings institution or credit union insured by the Federal Deposit
Insurance Corporation or the National Credit Union Administration, payable at sight or
unconditionally assigned to _____;

WHEREAS:

The Contractor has by written agreement dated _____ entered into a contract with Obligee for the following Project: _____

hereinafter called Contract, which Contract is incorporated herein by reference and made a part hereof.

NOW THEREFORE,

The Condition of this obligation is such that, if Contractor shall promptly and faithfully perform the Contract in accordance with, in all respects, the stipulations, agreements, covenants and conditions of the Contract as it now exists or may be modified according to its terms, and shall deliver the Project to the Obligee, or to its successors or assigns, fully completed as in the Contract specified and free from all liens and claims and without further cost, expense or charge to the Obligee, its officers, agents, successors or assigns, free and harmless from all suits or actions of every nature and kind which may be brought for or on account of any injury or damage, direct or indirect, arising or growing out of the doing of said work or the repair or maintenance thereof or the manner of doing the same or the neglect of the Contractor or its agents or servants or the improper performance of the Contract by the Contractor or its agents or servants or from any other cause, then this obligation shall be void; otherwise it shall be and remain in full force and effect.

AND IT IS HEREBY STIPULATED AND AGREED that suit on this bond may be brought before a court of competent jurisdiction without a jury, and that the sum or sums specified in the said Contract as liquidated damages, if any, shall be forfeited to the Obligee, its successors or assigns, in the event of a breach of any, or all, or any part of, covenants, agreements, conditions, or stipulations contained in the Contract or in this bond in accordance with the terms thereof.

The amount of this bond may be reduced by and to the extent of any payment or payments made in good faith hereunder.

Signed and sealed this _____ day of _____, _____.

(Seal) _____
Name of Contractor

Signature*

Title

*ALL SIGNATURES MUST BE ACKNOWLEDGED
BY A NOTARY PUBLIC

CERTIFICATE FOR PERFORMANCE OF SERVICES

The undersigned bidder does hereby certify that in performing the services required for MAINTENANCE OF LANDSCAPED AREAS AND MAINTENANCE AND INSPECTION OF IRRIGATION SYSTEM, H-3 FREEWAY, HALEKOU INTERCHANGE TO KAILUA INTERCHANGE, DISTRICT OF KOOLAUPOKO, ISLAND OF OAHU, PROJECT NO. H3(IJ)-01-23C, it will fulfill the following conditions:

1. All applicable laws of the Federal and State governments relating to workers' compensation, unemployment compensation, payment of wages, and safety will be fully complied with; and
2. The services to be rendered shall be performed by employees paid at wages or salaries not less than the wages paid to public officers and employees for similar work, with the exception of professional, managerial, supervisory, and clerical personnel who are not covered by Section 103-55, HRS.

I understand that failure to comply with the above conditions during the period of the contract shall result in cancellation of the contract, unless such noncompliance is corrected within a reasonable period as determined by the Director of Transportation. Payment in the final settlement of the contract or the release of bonds, if applicable, or both shall not be made unless the Director of Transportation has determined that the noncompliance has been corrected; and

I further understand that all payments required by Federal and State laws to be made by employers for the benefit of their employees are to be paid in addition to the base wage required by Section 103-55, HRS.

DATED at Honolulu, Hawaii, this ____ day of _____, 20__.

Name of Corporation, Partnership, or Individual

Signature and Title of Signer

NOTARY ACKNOWLEDGEMENT

Subscribed and sworn before me this
_____ day of _____

Notary signature
Notary public, State of _____
My Commission Expires: _____

Doc. Date: _____ #Pages: ____
Notary Name: _____ Circuit
Doc. Description: _____

Notary signature
Date _____

NOTARY CERTIFICATION