

Division of Boating and Ocean Recreation

State of Hawaii
DEPARTMENT OF LAND AND NATURAL RESOURCES
DIVISION OF BOATING AND OCEAN RECREATION
ENGINEERING BRANCH
Honolulu, Hawaii

BOARD OF LAND AND NATURAL RESOURCES

Dawn N.S. Chang
Chairperson

CONTRACT SPECIFICATIONS AND PLANS

Job No. B00CH80A
Pohoiki Boat Ramp Excavation and Dredging of Volcanic Debris
Puna, Island of Hawaii, Hawaii

June 2024

State of Hawaii
DEPARTMENT OF LAND AND NATURAL RESOURCES
ENGINEERING DIVISION
Honolulu, Hawaii

CONTRACT SPECIFICATIONS AND PLANS

Job No. B00CH80A
Pohoiki Boat Ramp Excavation and Dredging of Volcanic Debris
Puna, Island of Hawaii, Hawaii

Approved: _____



EDWARD R. UNDERWOOD
Administrator
Division of Boating and Ocean Recreation

Approved: _____



FINN MCCALL, P.E.
Engineering Branch Head
Division of Boating and Ocean Recreation

June 2024

CONTENTS

NOTICE TO BIDDERS	iii
INFORMATION AND INSTRUCTIONS TO BIDDERS	I-1
SPECIAL PROVISIONS.....	SP-1
TECHNICAL SPECIFICATIONS	S-1
PROPOSAL (Bound Separately)	P-1
PLANS (Bound Separately)	

DEPARTMENT OF LAND AND NATURAL RESOURCES INTERIM GENERAL
CONDITIONS, DATED OCTOBER 1994. (Bound separately)

NOTICE TO BIDDERS

(Chapter 103D, HRS)

COMPETITIVE SEALED BIDS for Job No. B00CH80A, Pohoiki Boat Ramp Excavation and Dredging of Volcanic Debris, Puna, Island of Hawaii, Hawaii may be submitted to the Department of Land and Natural Resources, Division of Boating and Ocean Recreation (DOBOR), Engineering Branch on the specified date and time through the State of Hawaii e-Procurement System (HIePRO). HIePRO is accessible through the State Procurement Office website at www.spo.hawaii.gov.

The Department of Land and Natural Resources Interim General Conditions dated October 1994, as amended is available on request; and the General Conditions – AG008, latest revision shall be made a part of the specifications. Electronic copies of the General Conditions is available on the HIePRO site.

The project is located at Pohoiki Boat Ramp, Puna, Island of Hawaii, Hawaii.

The purpose of this Invitation for Bids (IFB) is to award to a Contractor work that shall generally consist of excavation and dredging of accumulated volcanic debris from the boat ramp entrance channel, placement of volcanic debris in a designated stockpile area, and appurtenant work as show in the plans and in accordance with project specifications and permitting documents.

Due to the nature of work contemplated, bidders must possess a valid State Contractor's license, Classification "A".

The estimated cost of construction is \$5,400,000.

Permitting Notes:

DOBOR has submitted all required permit applications for the project, but various permit approvals are still pending. Notice to Proceed for construction will be contingent on receipt of all required permit approvals and may be delayed up to 365 calendar days past the bid deadline.

As a condition for award of the contract and final payment, the vendor shall provide proof of compliance with the requirements of 103D-310(c) HRS. Proof of compliance/documentation is obtained through Hawaii Compliance Express (HCE). Vendors shall register in Hawaii Compliance Express (HCE), a program separate from HIePRO. The annual subscription fee to utilize the HCE service is currently \$12.00. Allow 2 weeks to obtain complete compliance status after initial registration. It is highly recommended that vendors subscribe to HCE prior to responding to a solicitation. The vendor is responsible for maintaining compliance. If the vendor does not maintain timely compliance in HCE, an offer otherwise deemed responsive and responsible may not be awarded.

The award of the contract, if it be awarded, will be subject to the availability of funds.

The Engineering Branch Head is responsible for administering and overseeing the Contract, including monitoring and assessing contractor performance.

In accordance with Act 174, SLH 2022, Hawaii Products Preference shall not apply to solicitations for public works construction. Therefore, the Hawaii Products Preference shall not apply to this project.

Should there be any questions, please use the question and answer section of the HIePRO solicitation.

INFORMATION AND INSTRUCTIONS TO BIDDERS

CONTENTS

		<u>Page</u>
A	Project Location and Scope of Work	I-2
B	Sealed Proposals	I-2
C	General Conditions	I-2
D	Proposal Form	I-2
E	Omissions or Erasures	I-2
F	Notice of Intent to Bid and Questionnaire	I-2
G	Bid Security	I-2
H	Contractor's License Required	I-2
I	Irregular Bids	I-3
J	Withdrawal of Bids	I-3
K	Successful Bidder to File Performance and Payment Bonds	I-3
L	Number of Executed Original Counterparts of Contract Documents	I-3
M	Change Orders	I-3
N	Wages and Hours	I-3
O	Permits	I-3
P	Property Damage	I-4
Q	Time	I-4
R	Bidder's Responsibility to Provide Proper Superintendence	I-4
S	Liquidated Damages	I-4
T	Hiring of Local Labor	I-4
U	Water and Electricity	I-4
V	Public Convenience and Safety	I-5
W	Work to be Done Without Direct Payment.....	I-5
X	As-Built Drawings	I-5
Y	Asbestos Containing Materials	I-5
Z	Worker Safety	I-5
AA	Toilet Facilities	I-5
BB	Signs	I-5
CC	Field Office for Department	I-6
DD	Quantities	I-6
EE	Other Health Measures	I-6
FF	Hawaii Business Requirement	I-6
GG	Compliance With §3-122-112 HAR	I-6

INFORMATION AND INSTRUCTIONS TO BIDDERS

- A. PROJECT LOCATION AND SCOPE OF WORK: The project location and scope of work shall be as generally described in the Notice to Bidders.
- B. SEALED PROPOSALS: **Not applicable. See D. PROPOSAL FORM.**
- C. GENERAL CONDITIONS: The Department of Land and Natural Resources Interim General Conditions dated October 1994, as amended, shall be made a part of these contract specifications and are referred to hereafter as the General Conditions.
- D. PROPOSAL FORM: **The Bidders shall fill out and upload the electronic copy of the proposal form to the HiePRO website when submitting the bid. Bid Proposals shall not be mailed, faxed or delivered to the State, unless requested to do so after the designated closing date. The successful Bidder shall fill out and print a hard copy of the proposal form, sign and submit the form with the contract award package.**
- E. OMISSIONS OR ERASURES: Any proposal which contains any omission or erasure or alteration not properly initialed, or conditional bid, or other irregularity may be rejected by the Board of Land and Natural Resources (Board).
- F. NOTICE OF INTENT TO BID AND QUESTIONNAIRE:
A Notice of Intent to Bid is not required for this project. In compliance with HRS Section 103D-310, the lowest responsive and responsible bidder may be required to complete a standard questionnaire. When required, the completed questionnaire shall be submitted to the Chief Engineer for evaluation. Failure to furnish the requested information within the time allowed may be grounds for a determination of non-responsibility, in accordance with HRS Section 103D-310 and HAR Section 3-122-108.
- G. BID SECURITY: A bid security will be furnished by each bidder as provided in sub-section 2.7 of the General Conditions. The successful bidder's bid security will be retained until Contract execution and furnished a performance and payment bond in an amount equal to one hundred percent (100%) of the total Contract price, including an amount estimated to be required for extra work, is furnished. **No bid security is required for bids less than \$50,000.**
- The Board reserves the right to hold the bid securities of the four lowest bidders until the successful bidder has entered into a contract and has furnished the required performance bond. All bid securities will be returned in accordance with sub-section 3.5 of the General Conditions.
- Should the successful bidder fail to enter into a contract and furnish a satisfactory performance bond within the time stated in the proposal, the bid security shall be forfeited as required by law.
- H. CONTRACTOR'S LICENSE REQUIRED: The Board will reject all bids received from contractors who have not been licensed by the State Contractors License Board in accordance

with Chapter 444, HRS; Title 16, Chapter 77, Hawaii Administrative Rules; and statutes amendatory thereto. This project will require a Class "A" contractor's license.

- I. IRREGULAR BIDS: No irregular bids or propositions for doing the work will be considered by the Board.
- J. WITHDRAWAL OF BIDS: No bidder may withdraw his bid between the time of the opening thereof and the award of contract.
- K. SUCCESSFUL BIDDER TO FILE PERFORMANCE AND PAYMENT BONDS: The successful bidder will be required to file performance and payment bonds each; in the amount equal to the total contract price, including amounts estimated to be required for extra work, as provided in sub-section 3.6 of the General Conditions. **Performance and payment bonds are not required for bids less than \$50,000.**
- L. NUMBER OF EXECUTED ORIGINAL COUNTERPARTS OF CONTRACT DOCUMENTS: If requested by the Board, six copies of the Contract, performance and payment bonds shall be executed. **For contracts less than \$50,000, the State reserves the right to contract the work under a purchase order.**
- M. CHANGE ORDERS: No work of any kind in connection with the work covered by the plans and specifications shall be considered as change order work, or entitle the Contractor to extra compensation, except when the work has been ordered in writing by the Chief Engineer (Engineer) and in accordance with sub-section 4.2 of the General Conditions.

The Contractor shall clearly identify and inform the Engineer in writing of any deviations from the contract documents at the time of submission and shall obtain the Engineer's written approval to the specified deviation prior to proceeding with any work.

- N. WAGES AND HOURS: In accordance with sub-sections 7.3 to 7.9 of the General Conditions relative to hours of labor, minimum wages and overtime pay, the current minimum wage rates promulgated by the Department of Labor and Industrial Relations (DLIR) shall be paid to the various classes of laborers and mechanics engaged in the performance of this contract on the job site. The minimum wages shall be increased during the performance of the contract in an amount equal to the increase in the prevailing wages for those kinds of work as periodically determined by the DLIR.

The Department of Land and Natural Resources will not recognize any claim for additional compensation because of the payment by the Contractor of any wage rate in excess of the said minimum wage rates. The possibility of wage increase is one of the elements to be considered by the Contractor in determining his bid, and will not, under any circumstances, be considered as the basis of a claim against the Department under this Contract.

No work shall be done on Saturdays, Sundays, legal State holidays, and/or in excess of eight (8) hours each day without the written consent of the Engineer. Should permission be granted to work at such times, the Contractor shall pay for all inspection administrative costs thereof. No work shall be done at night unless authorized by the Engineer.

- O. PERMITS: Where applicable, the Contractor shall procure all required project permits and

pay the required fees, including hiring consultants and payment thereto for services related to obtaining required permits if required. In all cases, the Contractor shall give all notices necessary and incident to the due and lawful prosecution of the work.

- P. PROPERTY DAMAGE: It shall be the responsibility of the contractor to respect State property and to prevent damage to existing improvements. The Contractor will be responsible for damages resulting from construction operations. Immediately upon discovery, the Contractor shall repair such damage to the satisfaction of the Engineer.

All trees and shrubbery outside the excavation, embankment or construction limits shall be fully protected from injury.

- Q. TIME: The time of completion is specified in the Proposal. It is the Board's intention to insist the Contractor diligently prosecute the work to completion within the specified time.

Prospective bidders are reminded that the State has the option to proceed with or abandon a project depending on whether the project can be completed for occupancy in the specified time.

It is the bidder's responsibility to check the availability of all materials before bidding. The bidder shall select sub-contractors and suppliers who can warrant availability and delivery of all specified or qualified materials to assure project completion within the specified time.

The successful bidder must assume all risks for completing the project by the specified date. There shall be no extension of time for any reason except for delays caused by acts of God, labor disputes involving unions, or actions of the State. If for any reason the project falls behind schedule, the Contractor shall at its own cost, take necessary remedial measures to get the project back on schedule, i.e., working overtime, air freighting all materials, etc. In addition, if the Contractor fails to fully complete the project by the completion date, Contractor will be required to make the facility usable at its own cost.

- R. BIDDER'S RESPONSIBILITY TO PROVIDE PROPER SUPERINTENDENCE: The successful low bidder shall designate in writing to the Engineer the name of its authorized superintendent (Superintendent), who will be present at the job site whenever any work is in progress. The Superintendent shall be responsible for all work, receiving and implementing instructions from the Engineer in a timely manner. The cost for superintendence shall be considered incidental to the project.

If the Superintendent is not present at the site of work, the Engineer shall have the right to suspend the work as described under sub-section 5.5 c. and 7.20 - Suspension of Work of the General Conditions.

- S. LIQUIDATED DAMAGES: Liquidated damages in the amount specified in the Proposal will be assessed for each and every calendar day from and after the expiration of the time period stated in the Contract for the completion of the project.

- T. HIRING OF LOCAL LABOR: The Contractor shall hire local labor whenever practicable.

- U. WATER AND ELECTRICITY: The Contractor shall make all necessary arrangements and

pay all expenses for water and electricity used in the construction of this project.

- V. PUBLIC CONVENIENCE AND SAFETY: The Contractor shall conduct construction operations with due regard to the convenience and safety of the public at all times. No materials or equipment shall be stored where it will interfere with the safe passage of public traffic. The Contractor shall provide, install, and maintain in satisfactory condition, all necessary signs, flares and other protective facilities and shall take all necessary precautions for the protection of the work and the convenience and safety of the public. The Engineer shall have the right to suspend the performance of the work in accordance with sub-section 7.20 - Suspension of Work of the General Conditions.

- W. WORK TO BE DONE WITHOUT DIRECT PAYMENT: Whenever the contract that the Contractor is to perform work or furnish materials of any kind for which no price is fixed in the contract, it shall be understood that the Contractor shall perform such work or furnish said materials without extra charge or allowance or direct payment of any sort. The cost of performing such work or furnishing said material is to be included by the Contractor in a unit price for the appropriate item unless it is expressly specified that such work or material is to be paid for as extra work.

- X. AS-BUILT DRAWINGS: As-built drawings, the intent of which is to record the actual in-place construction so that any future renovations or tie-ins can be anticipated accurately, shall be required. All authorizations given by the Engineer to deviate from the plans shall be drawn on the job site plans. All deviations from alignments, elevations and dimensions which are stipulated on the plans shall be recorded on the as-built drawings. Final as-built drawings shall be submitted to the Engineer by the Contractor at the end of the project in both hard copy and electronic copy in Adobe PDF format on CD ROM.

- Y. ASBESTOS CONTAINING MATERIALS: The use of asbestos containing materials or equipment is prohibited. The Contractor shall insure that all materials and equipment incorporated in the project are asbestos-free

- Z. WORKER SAFETY: The Contractor shall provide, install and maintain in satisfactory condition all necessary protective facilities and shall take all necessary precautions for the protection and safety of its workers in accordance with the Occupational Safety and Health Standards for the State of Hawaii. The Engineer shall have the right to suspend the performance of the work in accordance with sub-section 7.20 - Suspension of Work of the General Conditions.

- AA. TOILET FACILITIES: All toilet facilities constructed at the project site shall be in accordance with the Public Health Regulations of the State Department of Health (DOH). All necessary precautions shall be observed at the project site. The use of sanitary facilities shall be strictly enforced and workers violating these provisions shall be promptly discharged. There are no public toilet facilities available at the project site.

- BB. SIGNS: Whenever the project involves closing or obstructing any public thoroughfare, the Contractor shall provide traffic signs conforming to the applicable provisions of the current edition of the "Manual on Uniform Traffic Control Devices for Streets and Highways", published by the Federal Highway Administration as directed by the Engineer for the purpose of diverting or warning traffic prior to the construction area. All traffic signs shall bear

proper wording stating thereon the necessary information as to diverting or warning traffic.

- CC. FIELD OFFICE AREA FOR DEPARTMENT: **A field office for DLNR personnel is not required for this project.**
- DD. QUANTITIES: All bids will be compared on the basis of quantities of work to be done as shown in the Proposal; the quantities shown in the Unit Price items are estimated, being given as a basis for comparison of bids. The Board reserves the right to increase or decrease the quantities given under the items or delete items entirely as may be required during the progress of the work.
- EE. OTHER HEALTH MEASURES: Forms of work site exposure or conditions which may be detrimental to the health or welfare of workers or of the general public shall be eliminated or reduced to safe levels as required by the DOH codes, standards, and regulations. Suitable first aid kits and a person qualified to render first aid, as specified in the DOH regulations, shall be provided at all times when work is scheduled.
- FF. HAWAII BUSINESS OR COMPLIANT NON-HAWAII BUSINESS REQUIREMENT: Bidders (Contractors) shall be incorporated or organized under the laws of the State or be registered to do business in the State as a separate branch or division that is capable of fully performing under the contract, as stipulated in §3-122-112 HAR.
- GG. COMPLIANCE WITH §3-122-112 HAR:
As a condition for award of the contract the contractor shall be in compliance with the following requirements:
- A. **TAX CLEARANCE REQUIREMENTS (HRS Chapter 237)**: Bidder shall obtain a tax clearance certificate from the Hawaii State Department of Taxation (DOTAX) and the Internal Revenue Service (IRS). The certificate is valid for six months from the most recently approved stamp date on the certificate; the certificate must be valid on the date received by the Department.
 - B. Department of Labor (DLIR) “**Certificate of Compliance**”. (HRS Chapter 383 - Unemployment Insurance, Chapter 386 - Workers’ Compensation, Chapter 392 - Temporary Disability Insurance, and 393 – Prepaid Health Care): Bidder shall obtain a certificate of compliance from the Hawaii State Department of Labor and Industrial relations (DLIR). The certificate is valid for six months from the date of issue; certificates must be valid on the date received by the Department.
 - C. Department of Commerce and Consumer Affairs (DCCA), Business Registration Division (BREG) “**Certificate of Good Standing**”. Bidder shall obtain a certificate of good standing issued by the Department of Commerce and Consumer Affairs (DCCA), Business Registration Division (BREG). The certificate of good standing is valid for six months from the date of issue; certificates must be valid on the date received by the Department.

COMPLIANCE, DOCUMENTATION AND HAWAII COMPLIANCE EXPRESS

As a condition for award of the contract and as proof of compliance with the following requirements of 103D-310(c) HRS:

Vendors are required to be compliant with all appropriate state and federal statutes. Proof of compliance (compliance documentation) is required. See the HIePRO Buyer FAQ on the State Procurement website for more information.

Proof of compliance/documentation is obtained through Hawaii Compliance Express (HCE). Vendors shall register in Hawaii Compliance Express (HCE), a program separate from HIePRO. The annual subscription fee to utilize the HCE service is currently \$12.00.

Allow 2 weeks to obtain complete compliance status after initial registration. It is highly recommended that vendors subscribe to HCE prior to responding to a solicitation.

The vendor is responsible for maintaining compliance. If the vendor does not maintain timely compliance in HCE, an offer otherwise deemed responsive and responsible may not be awarded.

SPECIAL PROVISIONS

Amend INTERIM GENERAL CONDITIONS, dated October 1994, as follows:

Section 2 – Proposal Requirements and Conditions

1. **AMEND** Section 2.1 Qualification of Bidder with the following:

Written Notice of Intent to Bid or Offer: A written Notice of Intent to Bid is not required for the Solicitation.

Standard Qualification Questionnaire: Bidders may be required to complete a standard qualifications questionnaire. When requested, the information shall be furnished within two working days or longer at the discretion of the Engineer. Failure to furnish the requested information within the time allowed may be grounds for a determination of non-responsibility, in accordance with HRS Section 103D-310 and HAR Section 3-122-108.

Hawaii Business or Compliant Non-Hawaii Business Requirement: Bidders shall be incorporated or organized under the laws of the State or be registered to do business in the State as a separate branch or division that is capable of fully performing under the contract, as stipulated in §3-122-112 HAR. A certified letter is not required prior to bid opening.

Compliance with §3-122-112 HAR: As a condition for award of the contract and as proof of compliance with the requirements of 103D-310(c) HRS, the apparent low bidder shall furnish the required documents to the Department. If the valid required certificates are not submitted on a timely basis for award of a contract, a bidder otherwise responsive and responsible may not receive the award. Bidder is responsible to apply for and submit the following documents to the Department.

- A. Tax Clearance (HRS Chapter 237): Bidder shall obtain a tax clearance certificate from the Hawaii State Department of Taxation (DOTAX) and the Internal Revenue Service (IRS). The certificate is valid for six months from the most recently approved stamp date on the certificate; the certificate must be valid on the date received by the Department.
- B. Department of Labor (DLIR) “Certificate of Compliance”. (HRS Chapter 383 - Unemployment Insurance, Chapter 386 - Workers’ Compensation, Chapter 392 - Temporary Disability Insurance, and 393 – Prepaid Health Care): Bidder shall obtain a certificate of compliance from the Hawaii State Department of Labor and Industrial relations (DLIR). The certificate is valid for six months from the date of issue; certificates must be valid on the date received by the Department.
- C. Department of Commerce and Consumer Affairs (DCCA), Business Registration Division (BREG) “Certificate of Good Standing”. Bidder shall obtain a certificate of good standing issued by the Department of Commerce and Consumer Affairs (DCCA), Business Registration Division (BREG). The certificate of good standing is valid for six months from the date of issue; certificates must be valid on the date received by the Department.

Hawaii Compliance Express. Alternately, instead of separately applying for these certificates at the various state agencies, bidder may choose to use the Hawaii Compliance Express (HCE), which allows businesses to register online through a simple wizard interface at <http://vendors.hawaii.gov> to acquire a “Certificate of Vendor compliance” indicating that bidder’s status is compliant with requirements of §103D-310(c), HRS, shall be accepted for contracting and final payment purposes.

Bidders that elect to use the new HCE services will be required to pay an annual fee of \$15.00 to the Hawaii Information Consortium, LLC (HIC). Bidders choosing not to participate in the HCE program will be required to provide the paper certificates as instructed in the previous paragraphs.

2. **ADD** Section 2.4a, Pre-Bid Conferences

Required Pre-bid Conferences: For construction and design-build projects with an estimated value of \$500,000 or more and solicited under the competitive sealed bid method (103D-302 HRS); and for construction and design-build projects with an estimated value of \$100,000 or more and solicited under the competitive sealed proposal method (103D-303 HRS); a pre-bid conference is required.

Other Pre-Bid Conferences: The Department may require a pre-bid conference for construction or design-build projects that are below the dollar threshold listed in above or when projects have special or unusual requirements.

Other Conditions: The Department may require the prospective Bidders to make a physical inspection of the project site and make attendance at the pre-bid conference a condition for submitting an offer.

Nothing stated at the pre-bid conference shall change the solicitation unless a change is made by written addendum.

3. **DELETE** Section 2.5, Addenda and Interpretations, in its entirety and replace with the following:

“Discrepancies, omissions, or doubts as to the meaning of drawings and specifications should be communicated using the question and answer section on the HIEPRO solicitation for interpretation and must be received in the time frame set in the HIEPRO solicitation. Any interpretation, if made and any supplemental instructions will be in the form of written addenda to the plans and specifications and made available prior to the offer due date. It shall be the prospective bidder’s sole responsibility to verify and obtain any said addenda. Failure of any bidder to receive any such addendum or interpretation shall not relieve such bidder from any obligation under his bid as submitted. All addenda so issued shall become part of the contract documents.”

Section 3 – Award and Execution of Contract

1. **AMEND** Section 3.3, Award of Contract, by deleting “sixty (60)” and replacing with “ninety (90)” in the first paragraph.

2. **AMEND** Section 3.3, Award of Contract, by adding the following after the first paragraph:

“If the contract is not awarded within the ninety (90) days, the Department may request the successful Bidder to extend the time for the acceptance of its bid. The Bidder may reject such a request without penalty; and in such case, the Department may at its sole discretion make a similar offer to the next lowest responsive and responsible bidder and so on until a bid is duly accepted or until the Department elects to stop making such requests.”

3. **AMEND** Section 3.9, Notice to Proceed, by replacing the last paragraph with the following:

In the event the Notice to Proceed is not issued within three hundred and sixty-five (365) days after the date of bid opening, the Contractor may submit a claim for increased labor and materials costs (but not overhead costs) that will be incurred after 365 days after the date of bid opening plus the contract time allowed for performance of the work. Such claims shall be accompanied with the necessary documentation to justify the claim. No payments will be made for escalation costs that are not fully justified as determined by the State.

4. **ADD** Section 3.10, Protests:

“3.10 PROTESTS—Pursuant to Section 103D-701, Hawaii Revised Statutes, an actual or prospective offeror who is aggrieved in connection with the solicitation or award may submit a protest. Any protest shall be submitting in writing to the Chairperson, Department of Land and Natural Resources, 1151 Punchbowl Street, Honolulu, Hawaii 96813, or designee as specified in the solicitation.

A protest shall be submitted in writing within five (5) working days after the aggrieved person knows or should have known the facts giving rise thereto; provided that a protest based upon the content of the solicitation shall be submitted in writing prior to the date set for receipt of offers. Further provided that a protest of an award or proposed award shall be submitted within five (5) working days after the posting of the award of the contract.

The notice of award, if any, resulting from this solicitation shall be posted on the HIePRO website.

Section 5 – Control of Work

AMEND Section 5.8 Value Engineering Incentive by deleting “\$100,000” and replacing with “\$250,000” in the first paragraph.

Section 6 – Substitution of Materials and Equipment

ADD the following to Section 6.3 Sub-paragraph b:

4. If the substitution meets all the requirements of the specifications and plans.

Section 7 – Prosecution and Progress

1. **DELETE** Section 7.2d in its entirety and replace with the following:

“d. INSURANCE REQUIREMENTS

1. **Obligation of Contractor** - Contractor shall not commence any work until it obtains, at its own expense, all required herein insurance. Such insurance must have the approval of the Department as to limit, form and amount and must be maintained with a company authorized by laws of the State to issue such insurance in the State of Hawaii. Coverage by a “Non-Admitted” carrier is permissible provided the carrier has a AM Best’s Rating of “A-VII” or better.
2. All insurance described herein will be maintained by the Contractor for the full period of the contract and in no event will be terminated or otherwise allowed to lapse prior to written certification of final acceptance of the work by the Department.
3. Certificate(s) of Insurance acceptable to the Department shall be filed with the Engineer prior to commencement of the work. Certificates shall identify if the insurance company is a “captive” insurance company or a “Non-Admitted” carrier to the State of Hawaii. The Best’s Rating must be stated for the “Non-Admitted” carrier. Certificates shall contain a provision that coverages afforded under the policies will not be canceled or changed until at least thirty (30) days written notice has been given to the Engineer by registered mail. The insurance policies shall name the State of Hawaii, its officers and employees as an additional insured and such coverage shall be noted on the certificate. Should any policy be canceled before final acceptance of the work by the Department, and the Contractor fails to immediately

procure replacement insurance as specified, the Department, in addition to all other remedies it may have for such breach, reserves the right to procure such insurance and deduct the cost thereof from any money due to the Contractor.

4. Nothing contained in these insurance requirements is to be construed as limiting the extent of Contractor's responsibility for payment of damages resulting from its operations under this contract, including the Contractor's obligation to pay liquidated damages, nor shall it affect the Contractor's separate and independent duty to defend, indemnify and hold the Department harmless pursuant to other provisions of this contract. In no instance will the Department's exercise of an option to occupy and use completed portions of the work relieve the Contractor of its obligation to maintain the required insurance until the date of final acceptance of the work.
5. All insurance described herein shall cover the insured for all work to be performed under the contract, all work performed incidental thereto or directly or indirectly connected therewith, including traffic detour work or other work performed outside the work area, and all change order work.
6. The Contractor shall, from time to time, furnish the Engineer, when requested, satisfactory proof of coverage of each type of insurance required or a copy of the actual policies covering the work. Failure to comply with the Engineer's request may result in suspension of the work and shall be sufficient grounds to withhold future payments due the Contractor and to terminate the contract for Contractor's default.
7. If the Contractor is self-insured, it shall furnish, upon the request and the satisfaction of the Engineer, any documentation to demonstrate the ability to self-insure itself. The Engineer, from time to time, can conduct an audit to determine the ability of the Contractor to be self-insured. Failure to comply with the Engineer's request will be considered a material breach of the contract, and at the discretion of the Engineer, may be sufficient grounds to terminate the contract, suspend any work or withhold future payments.
8. It is the responsibility of the Contractor to notify the Department of any changes to its insurance policies or if the Contractor receives a notice of cancellation of any of its insurance policies. The Contractor will immediately provide written notice to the Department should the insurance policies evidenced on its Certificate of Insurance form be cancelled, limited in scope, or not renewed upon expiration.
9. In addition, the Contractor's insurance policies shall contain the following clauses:
 - (a) The State of Hawaii is added as an additional insured with respect to operations performed for the State of Hawaii.
 - (b) It is agreed that any insurance maintained by the State of Hawaii will apply in excess of, and not contribute with, insurance provided by this policy.
- 10. Types of Insurance** - The Contractor shall purchase and maintain insurance described below which shall provide coverage against claims arising out of the Contractor's operations under the contract, whether such operations be by the Contractor itself or by the subcontractor or by anyone directly or indirectly employed by any of them or by anyone for whose acts any of them may be liable.
 - (a) **Worker's Compensation.** The Contractor and all subcontractors shall obtain worker's compensation insurance for all persons whom they employ or may 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.

- (b) Commercial General Liability. The Contractor shall obtain General Liability insurance with a limit of not less than \$1,000,000 per occurrence and \$2,000,000 aggregate. The commercial general liability insurance shall include the State 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.
- (c) 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. The State shall be 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.

Furthermore, the Contractor's commercial general liability insurance and automobile liability insurance shall include coverage for bodily injury, sickness, disease or death of any person, arising directly or indirectly out of, or in connection with, the performance of work under this contract.

The Contractor's property damage liability insurance shall provide for all damages arising out of injury to or destruction of property of others including the Department's, arising directly or indirectly out of or in connection with the performance of the work under this contract including explosion or collapse.

The Contractor shall either:

- i. Require each of its subcontractors to procure and to maintain during the life of its subcontract, subcontractors' comprehensive general liability, automobile liability and property damage liability insurance of the type and in the same amounts specified herein; or
- ii. Insure the activities of its subcontractors in its own policy.

The Contractor will be permitted, in cooperation with insurers, to maintain a self-insured retention for up to 25% of the per occurrence combined single limits of the commercial general liability and the automobile liability policies. The existence of the self-insured retention must be noted on the certificate of insurance coverage submitted to the Department or else it will be understood that the insurer is providing first dollar coverage for all claims. For all claims within the self-insured retention amount, the rights, duties and obligations between the Contractor and the Department shall be identical to that between a liability insurer and the Department, as an additional insured, as if there was no self-insured retention.

- (d) Builder's Risk Insurance. Unless included in the Specifications of this project, the Contractor shall not be required to provide builder's risk insurance. If required as noted in the Specifications, builder's risk insurance shall be provided during the progress of work and until final acceptance by the Department upon completion of the contract. It shall be "All Risk" (including but not limited to earthquake, windstorm and flood damage) completed value insurance coverage on all completed work and work in progress to the full replacement value thereof. Such insurance shall include the

Department as additional name insured. The Contractor shall submit to the Engineer for its approval all items deemed to be uninsurable. The policy may provide for a deductible in an amount of up to 25% of the amount insured by the policy. With respect to all losses up to any deductible amount, the relationship between the Contractor and the Department shall be that of insurer and additional insured as if no deductible existed”.

2. **DELETE** Section 7.16 in its entirety and replace with the following:

“RESPONSIBILITY FOR DAMAGE CLAIMS; INDEMNITY – The Contractor shall indemnify the State and the Department against all loss of or damage to the State’s or the Department’s existing property and facilities arising out of any act or omission committed in the performance of the work by the Contractor, any subcontractor or their employees and agents. Contractor shall defend, hold harmless and indemnify the Department and the State, their employees, officers and agents against all losses, claims, suits, liability and expense, including but not limited to attorneys’ fees, arising out of injury to or death of persons (including employees of the State and the Department, the Contractor or any subcontractor) or damage to property resulting from or in connection with performance of the work and not caused solely by the negligence of the State or the Department, their agents, officers and employees. The State or the Department may participate in the defense of any claim or suit without relieving the Contractor of any obligation hereunder. The purchase of liability insurance shall not relieve the Contractor of the obligations described herein.

The Contractor agrees that it will not attempt to hold the State and its Departments and Agencies and their officers, representatives, employees or agents, liable or responsible for any losses or damages to third parties from the action of the elements, the nature of the work to be done under these specifications or from any unforeseen obstructions, acts of God, vandalism, fires or encumbrances which may be encountered in the prosecution of the work.

The Contractor shall pay all just claims for materials, supplies, tools, labor and other just claims against the Contractor or any subcontractor in connection with this contract and the surety bond will not be released by final acceptance and payment by the Department unless all such claims are paid or released. The Department may, but is not obligated to, withhold or retain as much of the monies due or to become due the Contractor under this contract considered necessary by the Engineer to cover such just claims until satisfactory proof of payment or the establishment of a payment plan is presented.

The Contractor shall defend, indemnify and hold harmless the State and its Departments and Agencies and their officers, representatives, employees or agents from all suits, actions or claims of any character brought on account of any claims or amounts arising or recovered under the Worker’s Compensation Laws or any other law, by-law, ordinance, order or decree.

Section 8 – Measurement and Payment

1. **DELETE** Section 8.7a in its entirety and replace with the following:

- a. Tax Clearances from the State of Hawaii Department of Taxation and Internal Revenue Service, subject to section 103D-328, HRS, current within two months of issuance date indicating that all delinquent taxes levied or accrued under State Statutes against the contractor have been paid.

2. **ADD** Section 8.7d, Certificate of Compliance:

- d. A Certification from the Contractor affirming that the Contractor has, as applicable, remained in compliance with all laws as required by Section 103D-310, HRS, and Section 3-122-112, HAR. A

contractor making a false affirmation shall be suspended and may be debarred pursuant to section 103D-702, HRS.

1. Certification of Compliance for Final Payment, State Procurement Office Form-22. Must be Signed Original.

3. **ADD** Section 8.7e, Hawaii Compliance Express:

- e. In lieu of submitting the tax clearances from Taxation and IRS, and SPO Form -22, the Contractor may choose to use the Hawaii Compliance Express as described on page SP-1 of this Special Provisions.

TABLE OF CONTENTS

TECHNICAL SPECIFICATIONS	SECTION NO.
<i>DIVISION 1 - GENERAL REQUIREMENTS</i>	
General Specifications	01019
Standard References.....	01090
Submittals	01300
Mobilization and Demobilization	01505
Barricades	01530
Environmental Control.....	01570
Project Sign.....	01581
<i>DIVISION 2 - SITEWORK</i>	
Earthwork.....	02200
Demolition	02050
Dredging	02281
Planting	02950

SECTION 01019 – GENERAL SPECIFICATIONS

PART 1 – GENERAL

1.01 GENERAL REQUIREMENTS

Work shall consist of furnishing all labor, tools, materials, and equipment necessary and required to construct in place complete all work as indicated on the drawings and as specified herein.

1.02 GENERAL

- A. Construction Lines, Levels and Grades: The Contractor shall verify all lines, levels, and elevations indicated on the drawings before any clearing, excavation, or construction begins. Any discrepancy shall be immediately brought to the attention of the Engineer, and any change shall be made in accordance with the Engineer's instruction. The Contractor shall not be entitled to extra payment for failing to report the discrepancies before proceeding with any work whether within the area affected or not.
- B. Examination of Premises: The Contractor shall contact the Engineer and obtain permission before visiting the site.
- C. Notices: The Contractor shall notify the Engineer at least three (3) working days before starting any work.
- D. Conditions at Site: Every person bidding on this project is expected to visit the site and examine the conditions and satisfy himself as to the character and amount of the work to be performed as indicated on the Drawings and called for by the Specifications. No additional cost will be granted because of the lack of knowledge of such conditions.
- E. Disruption of Utility Services: All work related to the temporary disconnection of electrical systems shall be pre-arranged with the Engineer so that any disruption of such services will be kept to a minimum. In the event temporary power hook-up is required, the Contractor shall provide the necessary services.
- F. Contractor's Operations: The Contractor must employ, insofar as possible, such methods and means of carrying out the work so as not to cause any interruption or interference with the facility's operations. Where the Contractor's operations would result in interruptions which would hamper the operations of the facilities, the Contractor shall rearrange the schedule of work accordingly.

G. Parking Policy for Contractor:

1. The Contractor and its employees will not be allowed to park in zones assigned to facility personnel. Parking shall be coordinated with the Engineer.
2. Areas to be used by the Contractor shall be as designated by the Engineer. Any lawn and pavement damaged by the Contractor shall be restored as instructed by the Engineer at no cost to the State.

H. Toilet Accommodations: The Contractor may use the existing toilet facilities if so designated by the Engineer; however, it is the Contractor's responsibility to keep same clean and in a sanitary condition at all times. Should the Contractor not maintain the sanitary facilities in a clean and sanitary condition, the Engineer may revoke use of the onsite facilities. The contractor shall then be responsible to provide their own sanitary facilities at no additional cost to the State.

I. Protection of Property: The Contractor shall continually maintain adequate protection of all its work from damage and shall protect all property, including but not limited to buildings, equipment, furniture, grounds, vegetation, materials, and utility systems located at and adjoining the jobsite. The Contractor shall repair, replace, or pay the expense of repair of damages resulting from its operations.

J. Use of Power-Driven Equipment: The Contractor is cautioned to take all necessary safety precautions to protect the facility personnel and the public whenever power-driven equipment is used.

K. Safety: The Contractor shall carefully read and strictly comply with the requirements of the Hawaii Occupational Safety and Health Law, Chapter 396, Hawaii Revised Statutes, as amended, as applicable and made part of this Contract.

L. Clean Up Premises: The Contractor shall clean up and remove from the premises all debris accumulated from operations as necessary or as directed. See also Section 7.25 FINAL CLEANING UP of the GENERAL CONDITIONS.

M. Responsibility:

1. The State will hold the Contractor liable for all the acts of subcontractors and shall deal only with the prime Contractor in matters pertaining to other trades employed on the job. The Contractor shall be responsible for coordinating the work of all trades on the job.
2. Should the Contractor discover any discrepancy in the Drawings or Specifications, the Contractor shall immediately notify the Engineer before proceeding any further with the work; otherwise, the Contractor will be held responsible for any cost involved in correction of work placed due to such discrepancy.

N. Cooperation with Other Contractors: The State reserves the right at any time to contract for or otherwise perform other or additional work within the contract zone limits of this Contract. The Contractor of this project shall, to the extent ordered by the State, conduct its work so as not to interfere with or hinder the progress or completion of the work performed by other Contractors.

O. Division of the Work: The divisions and sections into which the Specifications are divided shall not be considered an accurate or complete segregation of work by trades. This also applies to all work specified within each Section.

P. Drawings and Specifications:

1. The Contractor shall not make alterations in the Drawings and Specifications. In the event the Contractor discovers any errors or discrepancies, the Contractor shall immediately notify the Engineer in accordance with the GENERAL CONDITIONS.
2. Where devices, items, or parts thereof are referred in the singular, it is intended that such reference shall apply to as many such devices, items or parts as are required to properly complete the work.
3. Specifications and Drawings are prepared in abbreviated form and include incomplete sentences. Omission of words or phrases such as “the Contractor shall”, “as shown on the drawings”, “a”, “an”, and “the” are intentional. Omitted words and phrases shall be provided by inference to form complete sentences.

Q. Required Submittals:

1. Required submittals as specified in the technical sections of these Specifications include one or more of the following: technical data; schedules of operations; Environmental Protection Plan; Sampling and Analysis Plan, and Post-Bathymetric Surveys.
2. The Contractor shall make a comprehensive list of the required submittals, by Specification Section, and submit this list to the Engineer within 15 days after Notice to Proceed.
3. As-Built Drawings: Since a Post-Bathymetric and site survey is required in this Contract, as-built drawings will not be required for this project.

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION (NOT USED)

PART 4 - MEASUREMENT AND PAYMENT (NOT USED)

END OF SECTION

SECTION 01090 – STANDARD REFERENCES

PART 1 – GENERAL

Wherever used in the project, the following abbreviations will have the meanings listed:

<u>Abbreviation</u>	<u>Company</u>
AA	The Aluminum Association Incorporated 1400 Crystal Drive, Suite 430 Arlington, VA 22202
AASHTO	American Association of State Highway and Transportation Officials 444 North Capitol Street, N.W., Suite 249 Washington, DC 20001
ACI	American Concrete Institute 38800 Country Club Drive Farmington Hills, MI 48331
ADAAG	Americans with Disabilities Act Accessibility Guidelines United States Access Board 1331 F Street, N.W., Suite 1000 Washington, DC 20004-1111
AEIC	Association of Edison Illuminating Companies PO Box 2641 Birmingham, AL 35291
AFBMA	Anti-Friction Bearing Manufacturer's Association 330 N Wabash Avenue, Suite 2000 Chicago, IL 60611
AGA	American Gas Association 400 N Capitol Street, N.W., Suite 450 Washington, DC 20001

<u>Abbreviation</u>	<u>Company</u>
AGMA	American Gear Manufacturers Association 1001 N Fairfax Street, Suite 500 Alexandria, VA 22314
AHRI	Air-Conditioning, Heating, and Refrigeration Institute (Formerly called: Air-Conditioning and Refrigeration Institute) 2111 Wilson Boulevard, Suite 500 Arlington, VA 22201
AISC	American Institute of Steel Construction 130 E Randolph Street, Suite 2000 Chicago, IL 60601
AISI	American Iron and Steel Institute 25 Massachusetts Avenue, N.W., Suite 800 Washington, D.C. 20001
AITC	American Institute of Timber Construction 7012 S Revere Parkway, Suite 140 Englewood, CO 80112
AMCA	Air Movement and Control Association, Inc. 30 West University Drive Arlington Heights, IL 60004
ANSI	American National Standards Institute, Inc. 25 W 43 rd Street, 4 th Floor New York, NY 10036
APA	American Plywood Association 7011 S 19 th Street Tacoma, WA 98466
API	American Petroleum Institute 1220 L Street N.W. Washington, DC 20005

<u>Abbreviation</u>	<u>Company</u>
ASCE	American Society of Civil Engineers 1801 Alexander Bell Drive Reston, VA 20191
ASCI	American Standard Code for Information Interchange American National Standards Institute 25 W 43 rd Street, 4 th Floor New York, NY 10036
ASE Code	American Standard Safety Code for Elevators, Dumbwaiter and Escalators American National Standards Institute 25 W 43 rd Street, 4 th Floor New York, NY 10036
ASHRAE	American Society of Heating, Refrigeration and Air Conditioning Engineers 1791 Tullie Circle N.E. Atlanta, GA 30329
ASME	American Society of Mechanical Engineers 2 Park Avenue New York, NY 10016
ASTM	American Society for Testing and Materials 100 Barr Harbor Drive, PO Box C700 West Conshohocken, PA 19428
AWC	American Wood Council (Formerly called: National Forest Products Association) 222 Catocin Circle, S.E., Suite 201 Leesburg, VA 20175
AWPA	American Wood Protection Association (Formerly called: American Wood Preservers Association) PO Box 361784 Birmingham, AL 35236

<u>Abbreviation</u>	<u>Company</u>
AWS	American Welding Society 8669 NW 36 th Street, Suite 130 Miami, FL 33166
AWWA	American Water Works Association 6666 West Quincy Avenue Denver, CO 80235
CBM	Certified Ballast Manufacturers 2120 Keith Building Cleveland, OH 44115
CMAA	Crane Manufacturers Association of American, Inc (Formerly called: Overhead Electrical Crane Institute – OEI) 8720 Red Oak Boulevard, Suite 201 Charlotte, NC 28217
CRSI	Concrete Reinforcing Steel Institute 933 N Plum Grove Road Schaumburg, IL 60173
CSA	Canadian Standards Association 178 Rexdale Boulevard Rexdale, Ontario, M9W IR3, Canada
DIS	Division of Industrial Safety California Department of Industrial Relations 2422 Arden Way Sacramento, CA 95825
EI	Edison Electric Institute 701 Pennsylvania Avenue N.W. Washington, DC 20004
EIA	Electronic Industries Association 2001 Eye Street Washington, DC 20006

<u>Abbreviation</u>	<u>Company</u>
EJMA	Expansion Joint Manufacturers Association, Inc. 25 N Broadway Tarrytown, NY 10591
EMA	Truck & Engine Manufacturers Association (Formerly called: Diesel Engine Manufacturer's Association) 333 W Wacker Drive Chicago, IL 60606
ESO	Electrical Safety Orders California Administrative Code, Title 8, Chapter 4, Subarticle 5 Office of Procurement, Publications Section P.O. Box 20191 8141 Elder Creek Road Sacramento, CA 95820
FEDSPEC	Federal Specifications General Services Administration Specification and Consumer Division Distribution Branch Washington Navy Yard, Bldg. 197 Washington, DC 20407
FHWA	Federal Highways Administration 1200 New Jersey Avenue, SE Washington, DC 20590
FEDSTDS	Federal Standards (See FEDSPEC)
FM	Factory Mutual Research 1151 Boston-Providence Turnpike Norwood, MA 02062
HEI	Heat Exchange Institute 1300 Sumner Avenue Cleveland, OH 44115
HI	Hydraulic Institute 6 Campus Drive, 1 st Floor North Parsippany, NJ 07054

<u>Abbreviation</u>	<u>Company</u>
IAPMO	International Association of Plumbing and Mechanical Officials 4755 E Philadelphia Street Ontario, CA 91761
IBC	International Building Code Published by International Code Council, Inc.
ICBO	International Conference of Building Officials 5360 South Workman Mill Road Whittier, CA 90601
ICEA	Insulated Cable Engineers Association PO Box 2694 Alpharetta, GA 30023
IEEE	Institute of Electrical and Electronics Engineers 3 Park Avenue, 17 th Floor New York, NY 10016
IES	Illuminating Engineering Society 120 Wall Street, 17 th Floor New York, NY 10015
ISA	The International Society of Automation (Formerly called: Instrument Society of America) 67 TW Alexander Drive PO Box 12277 Research Triangle Park, NC 27709
JIC	Joint Industrial Council 7901 Westpark Drive McLean, VA 22101
LPA	Laboratory Products Association (Formerly called: Scientific Apparatus Makers Association) 1114 Fairfax Place, Box 12 White Post, VA 22663

<u>Abbreviation</u>	<u>Company</u>
MILSPEC	Military Specifications Naval Publications and Forms Center 5801 Tabor Avenue Philadelphia, PA 19120
MUTCD	Manual on Uniform Traffic Control Devices for Streets and Highways (see FHWA)
MSS	Manufacturers Standardization Society of the Valve and Fittings Industry, Inc. 127 Park Street, NE Vienna, VA 22180
NAAMM	National Association of Architectural Metal Manufacturers 800 Roosevelt Road, Bldg. C, Suite 312 Glen Ellyn, IL 60137
NACE	National Association of Corrosion Engineers 15835 Park Ten Place Houston, TX 77084
NEC	National Electric Code National Fire Protection Association 1 Batterymarch Park Quincy, MA 02169
NEMA	National Electrical Manufacturers Association 1300 N 17 th Street, Suite 900 Arlington, VA 22209
NESC	National Electric Safety Code American National Standards Institute 25 W 43 rd Street, 4 th Floor New York, NY 10036
OSHA	Occupational Safety and Health Act U.S. Department of Labor San Francisco Regional Office 90 7 th Street, Suite 2650 San Francisco, CA 94103

<u>Abbreviation</u>	<u>Company</u>
PPIC	The Plumbing & Piping Industry Council, Inc. 510 Shatto Place, Suite 402 Los Angeles, CA 90020
SAE	Society of Automotive Engineers 400 Commonwealth Drive Warrendale, PA 15096
SBCC	Southern Building Code Congress 1116 Brown-Marx Building Birmingham, AL 35203
SMACNA	Sheet Metal and Air Conditioning Contractors' National Association 4201 Lafayette Center Drive Chantilly, VA 20151
TEMA	Tubular Exchanger Manufacturers Association, Inc. 25 N Broadway Tarrytown, NY 10591
UL	Underwriters Laboratories Inc. 207 East Ohio Street Chicago, IL 60611
UMC	Uniform Mechanical Code Published by IAPMO
UPC	Uniform Plumbing Code Published by IAPMO
USBR	Bureau of Reclamation U.S. Department of Interior Engineering and Research Center Denver Federal Center, Building 67 Denver, CO 80225
WWPA	Western Wood Products Association (Formerly called: West Coast Lumberman's Association – WCLA) 1500 SW First Avenue, Suite 870 Portland, OR 97201

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION (NOT USED)

END OF SECTION

SECTION 01300 – SUBMITTALS

PART 1 – GENERAL

1.01 SUBMITTALS

1. Required submittals shall be required for:
 - a. Any as called for in the Drawings or Specifications or by the Engineer.
 - b. Operations Plan
 - c. Sampling and Analysis Plan
 - d. Schedule
 - e. Pre- and Post-Bathymetric and Site Surveys
 - f. Environmental Protection Plan
 - g. Planting Media

1.02 BIDDER'S SPECIAL RESPONSIBILITY FOR COORDINATING CONTRACTUAL WORK AND SUBMITTALS

- A. The Contractor is responsible for the coordination of all contractual work and submittals.
- B. The Contractor shall have a rubber stamp made up in the following format:

CONTRACTOR NAME

PROJECT: _____

JOB NO: _____

THIS SUBMITTAL HAS BEEN CHECKED BY THIS GENERAL CONTRACTOR. IT IS CERTIFIED CORRECT, COMPLETE, AND IN COMPLIANCE WITH CONTRACT DRAWINGS AND SPECIFICATIONS. ALL AFFECTED CONTRACTORS AND SUPPLIERS ARE AWARE OF AND WILL INTEGRATE THIS SUBMITTAL INTO THEIR OWN WORK.

DATE RECEIVED _____

SPECIFICATION SECTION _____

SPECIFICATION PARAGRAPH _____

DRAWING NUMBER _____

SUBCONTRACTOR NAME _____

SUPPLIER NAME _____

MANUFACTURER NAME _____

CERTIFIED BY _____

- C. This stamp, filled in, should appear on the title sheet of each shop drawing, on a cover sheet of submittals in an 8 1/2" x 11" format or on the face of a cardstock tag (min. 3" x 6") tied to each sample. The tag on the samples should state what the sample is, so that if the tag is accidentally separated from the sample, it can be matched up again. The back of this tag will be used by the Engineer for his receipt, review, and log stamp and for any comments that relate to the sample.

- D. All submittals for materials, equipment, and shop drawings listed in the Contract documents, including dimensioned plumbing shop drawings, shall be required and shall be reviewed by the Engineer prior to any ordering of material and equipment.

- E. The approval of drawings, lists, prints, specifications, or other data shall in no way release the Contractor from his responsibility for the proper fulfillment of the requirements of this Contract nor for fulfilling the purpose of the installation nor from his liability to replace the same should it prove defective or fail to meet the specified requirements.

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION

3.01 LONG LEAD MATERIAL ITEMS

Long lead material items shall be processed immediately upon award of Contract or Notice to Proceed. Contractor shall be responsible for all costs due to delay of materials and project completion as a result of delay in the submittal process.

PART 4 - MEASUREMENT AND PAYMENT (NOT USED)

END OF SECTION

SECTION 01505 – MOBILIZATION AND DEMOBILIZATION

PART 1 - GENERAL

1.01 GENERAL REQUIREMENTS

Mobilization: Mobilization shall consist of the transporting, assembling, constructing, installing and making ready for use at the jobsite all the equipment, machinery, structures, utilities, materials, labor, and incidentals necessary to do the work covered by this Contract.

Demobilization: Demobilization shall consist of the dismantling and removal of the above-mentioned equipment, machinery, structures, utilities, materials, and incidentals, and cleaning up of the site to the satisfaction of the Engineer.

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION

3.01 GUIDELINES: If the Contractor utilizes private lands other than the sites provided by the State for mobilization purposes, the provisions of this section shall apply, and the mobilization and demobilization work on said private lands shall be in accordance with the agreement between the Contractor and the landowner.

Any and all additional mobilization or demobilization costs in excess of the maximum amounts specified in the Proposal shall be included in the appropriate prices bid in the Proposal. The Contractor shall not receive any compensation for mobilization and demobilization in addition to those specified in the Proposal.

All equipment, machinery, buildings, utilities, and incidentals mobilized and demobilized under this section shall remain the property of the Contractor.

PART 4 - MEASUREMENT AND PAYMENT

Mobilization and demobilization will not be measured for payment. Payment for completion of work required under this section, including all labor, materials, tools, equipment, and all incidentals necessary to accomplish the work, shall be the lump sum bid for mobilization and demobilization, not to exceed 10% of the total sum bid excluding the bid price of mobilization and demobilization.

END OF SECTION

SECTION 01530 – BARRICADES

PART 1 - GENERAL

1.01 GENERAL REQUIREMENTS

Description: This work shall consist of furnishing, installing and maintaining barricades in accordance with the requirements of the Contract.

Barricade application shall be provided for in the latest edition of the FHWA publication, Manual on Uniform Traffic Control Devices for Streets and Highways (MUTCD), as amended.

PART 2 - PRODUCTS

2.01 MATERIALS

- A. Lumber: Lumber for rails, frames and braces shall be dry, sound, undamaged, well-seasoned, and free from any defect which may impair their strength and durability.
- B. Hardware: Nails shall be galvanized wire nails. As many and as large a size as is practicable shall be used.
- C. Paints: Paints shall be exterior enamel paint of the best grade or first line as made by approved manufacturers.
- D. Sheet Reflecting Material: Sheet reflecting material shall conform to the applicable requirements of Subsection 750.07(C) of the “Standard Specifications for Road and Bridge Construction”, Hawaii Standard Specifications, 2005.
- E. Alternate Designs: Alternate barricade designs such as plastic molded barricades may be used subject to the Engineer’s acceptance. The Contractor shall submit shop drawings or catalog cuts for review.

PART 3 - EXECUTION

3.02 CONSTRUCTION REQUIREMENTS

- A. General: Barricades shall be constructed in a first-class, workmanlike manner in accordance with details shown on the plans and as specified herein.

Barricades shall be in good condition and accepted by the Engineer for use within the project limits. Barricade application and installation shall be as directed by the Engineer in accordance with the guidelines provided in the latest edition of the MUTCD, and any amendments or revisions thereof as may be made from time to time.

Sand bags or other appropriate weights shall be provided where required or as directed by the Engineer. Sand bags or other appropriate weights shall not be placed on any striped barricade rail.

Steady burn and/or flashing lamps shall be required on selected barricades used during hours of darkness. Locations shall be as directed by the Engineer. Lamps shall be attached on the barricade ends closest to the traveled way and shall be visible to the motorist.

Barricades furnished and paid for as provided herein may be used for temporary detours, construction phasing, or other temporary traffic control work.

Barricades furnished and paid for use in temporary detours or construction phasing may be used for permanent locations called for on the plans.

Upon completion of the construction work, barricades shall be left in place, relocated, or removed and disposed as directed by the Engineer. Barricades left in place or relocated to new permanent locations shall become the property of the State. Barricades directed to be removed and disposed of shall become the property of the Contractor.

- B. Painting: Wooden rails, frames, and braces shall be given a prime coat and 2 finish coats of new, white exterior enamel paint. Rail faces to be reflectorized may be left unpainted unless otherwise specified or directed.
- C. Reflectorization: Reflectorization of barricade rails shall be done in a first-class, workmanlike manner and the attachment of reflective sheeting shall be as shown on the plans, specified herein, or as directed and accepted by the Engineer.

Both vertical faces of each barricade rail shall be reflectorized. Wooden rails shall be reflectorized with one of the following:

1. Reflective sheeting specified in Subsection 750.07(C) of the “Standard Specifications for Road and Bridge Construction”, Hawaii Standard Specifications, 2005 on 0.063-inch sheet aluminum backing.

D. Color: Rails, frames, and braces shall be white.

The front and back faces of barricade rails shall have 6-inch wide alternating colored and white stripe sloping downward toward the traveled way at an angle of 45 degrees from the vertical. The colored stripes shall be either orange or red in accordance with the following requirements:

1. Orange and white stripes shall be used in the following conditions:
 - a. Construction work
 - b. Detours
 - c. Maintenance work
2. Red and white stripes shall be used in the following conditions:
 - a. On roadways with no outlet (i.e. dead-ends, cul-de-sacs)
 - b. Ramps or lanes closed for operational purposes
 - c. Permanent or semipermanent closure or termination of a roadway

- E. Maintenance: Barricades shall be kept in good condition throughout their usage during construction until the end of the Contract.
- F. The Contractor shall repair, repaint, clean, or replace the barricades as required and as directed by the Engineer to maintain their effectiveness and appearance.

The Constructor shall immediately replace all lost, stolen, or damaged barricades, lamps, sand bags, and other weights.

Barricades used during construction phasing, temporary detours, or other temporary traffic control work shall be cleaned and repaired as necessary prior to being relocated to a permanent location shown on the plans or as directed.

No extra payment will be made for any repair work, repainting, or cleaning of barricades. The Engineer shall determine the suitable condition of each barricade and shall determine when each barricade shall be repaired, repainted, or cleaned.

PART 4 - MEASUREMENT AND PAYMENT

Barricades will not be measured nor paid for separately, but shall be considered incidental to and included in the prices bid for the various items of work in this project.

END OF SECTION

SECTION 01570 – ENVIRONMENTAL CONTROL

PART 1 – GENERAL

1.01 GENERAL REQUIREMENTS

With the exception of those measures set forth elsewhere in these Specifications, environmental protection shall consist of the prevention of environmental pollution as the result of construction operations under this Contract. For the purpose of this specification, environmental pollution is defined as the presence of chemical, physical, or biological elements or agents which adversely affect human health or welfare; unfavorably alter ecological balances of importance to human life; affect other species of importance to man; or degrade the utilization of the environment for aesthetic and recreational purposes.

The control of environmental pollution and damage requires consideration of air, water, and land, and includes management of visual aesthetics, noises, solid waste, radiant energy and radioactive materials, as well as other pollutants.

Contractor shall provide and maintain, during the life of the Contract, environmental protection as defined; plan for and provide environmental protective measures to control pollution that develops during normal construction practice; and comply with Federal, State, and County regulations pertaining to the environment including, but not limited to, water, air, and noise pollution.

- A. The work under this section shall include the following:
1. Ensure that all required permits and certifications are obtained and are valid for the construction period. Permits and certifications may include, but are not limited to:
 - a. U.S. Army Corps of Engineers permit
 - b. State Department of Health, Section 401 Water Quality Certification
 - c. State Department of Health Noise Permit
 - d. Hawaii County Grading Permit
 - e. National Pollution Discharge Elimination System (NPDES) permit
 2. Provide all air and water quality testing and monitoring work required by the permits during construction.
 3. Provide all facilities, equipment, and structural controls for minimizing adverse impacts upon the environment during the construction period.

1.02 SUBMITTALS

Environmental Protection Plan: Within thirty (30) days after the award of the Contract, the Contractor shall submit an environmental protection plan. Prior to starting work, the Contractor shall meet with the Engineer to develop mutual understanding relative to compliance with this provision and administration of the Environmental Protection Plan and compliance with the U.S. Army Corps of Engineers permit and Section 401 Water Quality Certification. Approval of the Contractor's plan will not relieve the Contractor of his responsibility for adequate and continuing control of pollutants and other environmental protection measures as required by the permitting documents. The Environmental Protection Plan shall comply with the project Dredging Operation and Site-Specific Best Management Practices Plan (BMPP) to protect resources needing protection (i.e. landscape features, air and water quality, fish and wildlife, etc.); procedures to be followed to correct pollution of the environment due to accident or failure to follow the procedures set out in the Environmental Protection Plan; inspection and maintenance of pollution control measures; monitoring and photographic documentation of the worksite.

Daily Field Reports: Daily Field Reports (DFRs) shall be submitted to the Engineer on a weekly basis. DFRs shall identify the work activities, equipment and labor, condition of pollution control measures, monitoring, and photographic documentation of the worksite as appropriate.

1.03 DESCRIPTION OF WORK

Applicable Regulations: In order to provide for abatement and control of environmental pollution arising from the construction activities of the Contractor and his subcontractors in the performance of this Contract, the work performed shall comply with the intent of the applicable Federal, State, and local laws and regulations concerning environmental pollution control and abatement, including, but not limited to, the following regulations:

1. State of Hawaii, Department of Health, Administrative Rules, Title 11, Chapter 54, WATER QUALITY STANDARDS
2. State of Hawaii, Department of Health, Administrative Rules, Title 11, Chapter 55, WATER POLLUTION CONTROL
3. State of Hawaii, Department of Health, Administrative Rules, Title 11, Chapter 59, AMBIENT AIR QUALITY STANDARDS
4. State of Hawaii, Department of Health, Administrative Rules, Title 11, Chapter 60.1, AIR POLLUTION CONTROL

5. State of Hawaii, Department of Health, Administrative Rules, Title 11, Chapter 46,
COMMUNITY NOISE CONTROL

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION

3.01 ENVIRONMENTAL PROTECTION PLAN

- A. Before commencement of the work, the Contractor shall submit in writing a plan for implementing the requirements of this section, including training for his personnel during the construction period. Work shall not commence until acceptance of the plan by the Engineer. Acceptance of the Contractor's plan will not relieve the Contractor of his responsibility for adequate and continuing environmental controls specified herein.
- B. The Environmental Protection Plan shall contain the following items, as a minimum:
 1. The Contractor's plan for mitigation measures to control turbidity in the harbor basin, in the event that turbidity measurements exceed State Water Quality Standards.
 2. The name of the Contractor's designated individual responsible for all environmental monitoring and reporting. The individual's name and contact telephone numbers will also be provided to the U.S. Army Corps of Engineers, U.S. Fish and Wildlife Service (USFWS), U.S. Coast Guard, and National Marine Fisheries Service's Land Use Commission prior to construction activities.
 3. The Contractor's plan to inform employees about the endangered Hawaiian Monk Seal, Green Sea Turtle and Newell's Shearwaters.
 4. The Contractor's plan for fuel storage, spill prevention, and cleanup.
 5. The Contractor's plan for dust control measures.
- C. The Contractor shall be responsible for compliance with the Environmental Protection Plan and provisions of this section by all subcontractors and suppliers.

3.02 BEST MANAGEMENT PRACTICES PLAN (BMPP)

The Contractor shall comply with the Site-Specific Best Management Practices Plan (BMPP) included in the project permitting documents. The Contractor shall comply with the terms of the BMPP and make adjustments as necessary to ensure adequate protections are in place throughout the construction period.

In addition to compliance with the BMPP, the Contractor shall comply with the following:

1. The Contractor shall abide by all applicable Federal, State, and Local Environmental Protection Standards, Laws and Regulations, including the Best Management Practices plans incorporated or required by U.S. Army Corps of Engineers Nationwide Permits, and Hawaii Administrative Rules, Title 11 Department of Health, Chapter 55, Water Pollution Control.
2. To the extent practicable, work in the aquatic environment must be scheduled to avoid coral spawning and recruitment periods and sea turtle nesting and hatching periods. Coordinate with USFWS and National Marine Fisheries Service to identify these time periods.
3. The Contractor shall provide protective measures to capture all debris from demolition and construction activities and ensure that petroleum products or other deleterious materials are not allowed to enter the water.
4. The Contractor shall take measures to prevent sediment runoff from areas disturbed by construction activities from entering the water.
5. The Contractor shall install temporary sediment control filter at any affected drain inlets before any work commences. Sediment control filters shall remain until after completion of construction activities.
6. The Contractor shall use full-depth silt curtains to enclose the work area to control turbidity and reduce the anticipated effects of suspension of disturbed sediments during dredging work.
7. The Contractor will capture and dispose of all newly-generated wastes above water. Solid wastes shall be picked up and placed in containers that are regularly emptied. Site contamination shall be prevented when handling and disposing of all wastes. The project site shall be cleaned up at the end of each workday to prevent debris from entering the water.

8. No contamination of adjacent waters of the United States, including special aquatic sites, shall result from project-related activities. Special attention must be paid to fouling on barges, vessels, and equipment to minimize transport and potential introduction and spread of aquatic non-native species.
9. The Contractor shall ensure all tires of construction vehicles are cleaned off such that dirt or debris is not tracked off the construction site. Washing off tires with water will not be accepted unless the wash runoff is contained and does not enter State waters.
10. All project-related materials and equipment to be placed in any aquatic environment shall be inspected and cleaned of pollutants, organic matter, and invasive species prior to use in any aquatic environment.
11. Project-related materials shall not be stockpiled in the aquatic environment or in close proximity such that materials could be carried into waters by wind, rain, or high surf.
12. Fueling of project-related vehicles and equipment shall take place away from the water and a contingency plan to control petroleum products accidentally spilled during project activities shall be developed. Absorbent pads and containment booms shall be stored to facilitate the cleanup of accidental petroleum releases.
 - a. Oil or other hazardous substances shall be prevented from entering the ground, drainage area, or local bodies of water. All temporary fuel oil or petroleum storage tanks shall be contained to prevent accidental release. Fueling and lubrication of equipment and motor vehicles shall be conducted in a manner to protect against leaks or spills, lubricants and excess oil will be disposed in accordance with applicable Federal, State, and Local Regulations.
 - b. All equipment shall be inspected daily for leaks. Any leaks shall be corrected before equipment is used.
 - c. One spill kit each shall be kept on board the work barge and the landside staging area in case of accidental release of any petroleum products.
 - d. All major spills shall be reported to the National Response Center (Phone: 800-424-8802), United States Coast Guard (Phone: 808-842-2600), State Department of Health Hazard Evaluation and Emergency Response Office (Phone: 808-586-4249).

3.03 DREDGING AND EXCAVATION BEST MANAGEMENT PRACTICES

- A. The Engineer will notify the Contractor in writing of any observed noncompliance with the Contractor's Environmental Protection Plan. The Contractor shall, after receipt of such notice, inform the Engineer of proposed corrective action and take such action as appropriate.
- B. Heavy equipment will be operated from above and out of the water, except for the actual dredging apparatus (e.g. clamshell buckets, or the scoop and articulated arm of a backhoe, hydraulic head, etc.).
- C. Use of hydraulic dredging must include the installation of excluder devices adequate to prevent the entrainment or impingement of protected marine species such as sea turtles.
- D. The use of a trailing suction hopper dredge, or hopper dredge, is not authorized. There have been numerous observed mortalities of sea turtles associated with these vessel types.
- E. The use of dustpan dredges, which use high velocity water jets to loosen material before sucking it into their apparatus, is not authorized. This technique causes high turbidity and the effects of water velocities from water jets to ESA-listed species have not been evaluated.
- F. The portions of the equipment that enter the water will be clean and free of pollutants.
- G. Appropriate silt containment devices must be used and properly installed to avoid the potential degradation of adjacent habitats and aquatic vegetation.
- H. Dredged material must be deposited at upland sites, or at EPA designated ocean disposal sites, provided the sediment standards are met.

3.04 AIR POLLUTION CONTROL

- A. Emission: The Contractor shall not be allowed to operate equipment and vehicles that show excessive emissions of exhaust gases until corrective repairs or adjustments are made to the satisfaction of the Engineer.

B. Dust:

1. The Contractor, for the duration of the Contract, shall maintain all excavations, embankments, haul roads, permanent access roads, plant sites, waste disposal areas, borrow areas, and all other work areas within or outside the project limits free from dust which would cause a hazard to the work, or the operations of other contractors, or to persons or property. Industry-accepted methods of stabilization suitable for the area involved, such as sprinkling or similar methods, will be permitted. Chemicals or oil treating shall not be used.
2. The Contractor shall construct dust screens around all excavated material.

C. Burning shall not be permitted.

3.05 WATER POLLUTION CONTROL

- A. Water pollution control shall be in accordance with State of Hawaii, Department of Health, Administrative Rules, Title 11, Chapter 54, WATER QUALITY STANDARDS and in compliance with the Department of Health, Section 401 Water Quality Certification. Water quality monitoring shall be done in accordance with the Applicable Monitoring and Assessment Plan.
- B. Dredging Operations: The Contractor shall plan his dredging operations and perform all work necessary to minimize adverse impact or violation of the water quality standard. In the event that a turbidity plume and/or floating hydrocarbon (oil, gas) products are observed, in-water work shall be suspended so that appropriate corrective measures are taken. The Honolulu District Regulatory Branch of the U.S. Army Corps of Engineers (Telephone 808-835-4303) shall be notified as soon as practicable and the activity causing the plume will be modified by containment.
- C. Turbidity and siltation from project-related work shall be minimized and contained within the vicinity of the site through the appropriate use of effective silt containment devices and the curtailment of work during adverse tidal and/or weather conditions.
- D. Dredging and filling in the marine/aquatic environment shall be designed to avoid or minimize the loss special aquatic site habitat (beaches, coral reefs, wetlands, etc.) and the function of such habitat shall be replaced.
- E. No project-related materials (fill, revetment rock, pipe, etc.) should be stockpiled in the water (intertidal zones, reef flats, stream channels, wetlands, etc.) or on beach habitats.

- F. All debris removed from the marine/aquatic environment shall be disposed of at an approved upland or ocean dumping site.
- G. No contamination (trash or debris disposal, non-native species introductions, attraction of nonnative pests, etc.) of adjacent habitats shall result from project-related activities. This shall be accomplished by implementing a litter-control plan and developing a Hazard Analysis and Critical Control Point Plan to prevent attraction and introduction of non- native species.
- H. Fueling of project-related vehicles and equipment should take place at least 50 feet away from the water and a spill prevention, control, and countermeasure (SPCC) plan to control petroleum products accidentally spilled during the project shall be developed. Absorbent pads and containment booms shall be stored on-site, if appropriate, to facilitate the clean-up of accidental petroleum releases.
- I. Any under-layer fills used in the project shall be protected from erosion with stones (or core-loc units) as soon after placement as practicable.\
- J. Any soil exposed near water as part of the project shall be protected from erosion (with plastic sheeting, filter fabric etc.) after exposure and stabilized as soon as practicable (with native or noninvasive vegetation matting, hydroseeding, etc.).

3.06 NOISE CONTROL

- A. Noise shall be kept within acceptable levels at all times in conformance with State of Hawaii, Department of Health, Administrative Rules, Title 11, Chapter 46, COMMUNITY NOISE CONTROL. The Contractor shall obtain and pay for noise permits from the State Department of Health when the construction equipment or other devices emit noise at levels exceeding the allowable limits.
- B. Construction equipment shall be equipped with suitable mufflers to maintain noise within levels complying with applicable regulations.
- C. Starting up of construction equipment meeting allowable noise limits shall not be done prior to 6:45 a.m. without prior approval of the Engineer. Equipment exceeding allowable noise limits shall not be started up prior to 7:00 a.m.

3.07 SOLID WASTES

The handling of solid wastes shall be in compliance with the requirements stated in the BMPP.

- A. No burning of debris and/or waste materials shall be permitted.
- B. No burying of debris and/or waste material except for materials which are specifically indicated elsewhere in these specifications as suitable for backfill shall be permitted on the project site.
- C. Clean-up shall include the collection and removal of all waste paper and wrapping materials, cans, bottles, construction waste materials, and other objectionable materials. Frequency of clean-up shall coincide with rubbish producing events.
- D. Construction waste, such as crates, boxes, building materials, pipes, and other rubbish shall be reduced to a size approved by the Hawaii County. Large size objects shall be reduced to a size acceptable by the County Specifications for disposal in their landfills. Other areas or methods proposed by the Contractor will be allowed only if the Engineer determines that their effect on the environment is equal to or less than those described herein.

3.08 THREATENED AND ENDANGERED SPECIES

- A. The protection of threatened and endangered species shall be in compliance with the requirements in the U.S. Army Corps of Engineers Permit.

The following are Federally listed species with potential to occur in the Project area.

Mammals
‘ōpe‘ape‘a, Hawaiian Hoary Bat (<i>Lasiurus cinereus semotus</i>)
Seabirds
‘Akē‘akē, band-rumped storm petrel (<i>Oceanodroma castro</i>)
‘A‘o, Newell’s shearwater (<i>Puffinus auricularis newelli</i>)
‘Ua‘u, or Hawaiian petrel (<i>Pterodroma sandwichensis</i>)
Short-tailed Albatross (<i>Phoebastria (=Diomedea) albatrus</i>)
Waterbirds
‘Alae ke‘oke‘o, Hawaiian coot (<i>Fulica americana alai</i>)
Ae‘o, Hawaiian stilt (<i>Himantopus mexicanus knudseni</i>)
Koloa Maoli, or Hawaiian duck (<i>Anas wyvilliana</i>)
Other
Nēnē, Hawaiian goose (<i>Branta sandvicensis</i>)

Reptiles
Honu, Green sea turtle [Central North Pacific DPS] (<i>Chelonia mydas</i>) + proposed critical habitat
Honu‘ea, or Hawksbill sea turtle (<i>Eretmochelys imbricata</i>)
Plants
Hau Kuahiwi (<i>Hibiscadelphus giffardianus</i>)
Hilo (<i>Ischaemum Ischaemum byrone</i>)
Ihi (<i>Portulaca villosa</i>)
Loulu (<i>Pritchardia maideniana</i>)
Palapalai (<i>Microlepia strigosa var. mauiensis</i>)

B. ‘ōpe‘ape‘a Hawaiian hoary bat

1. Do not disturb, remove, or trim woody plants greater than 15 ft tall during the bat birthing and pup rearing season (June 1 through September 15).
2. Do not use barbed wire for fencing.

C. Nēnē, Hawaiian goose

1. Do not approach, feed, or disturb nēnē.
2. If nēnē are observed loafing or foraging within the project area during the breeding season (September 1 to April 30), halt work and have a qualified biologist familiar with the nesting behavior of nēnē survey for nests in and around the project area prior to the resumption of any work. Repeat surveys after any subsequent delay of work of 3 or more days (during which the birds may attempt to nest).
3. Cease all work immediately and contact the PIFWO for further guidance if a nest is discovered within a radius of 100 ft of proposed work, or a previously undiscovered nest is found within said radius after work begins. A 150 ft boundary will be clearly marked around the nest with guidance from a qualified biologist, and activities will remain outside the boundary.
4. In areas where nēnē are known to be present or observed during construction, post and implement reduced speed limits, and inform project personnel and contractors about the presence of endangered species on-site.

D. Hawaiian Seabirds

1. Fully shield all outdoor lights so the bulb can only be seen from below bulb height and only use when necessary.
2. Install automatic motion sensor switches and timer controls on all outdoor lights or turn off lights when human activity is not occurring in the lighted area.
3. Avoid nighttime construction during the seabird fledging period, September 15 through December 15.
4. Where fences extend above vegetation, integrate three strands of polytape into the fence to increase visibility.
5. For powerlines, guywires and other cables, minimize exposure above vegetation height and vertical profile.

E. Waterbirds

1. In areas where waterbirds are known to be present, post and implement reduced speed limits, and inform project personnel and contractors about the presence of endangered species on-site or nearby.
2. If water resources are located within or adjacent to the project site, incorporate the applicable BMPs regarding work in aquatic environments into the project design.
3. Cover containers in the work area with the potential for collecting/containing low standing water.
4. Have a biological monitor that is familiar with the species' biology conduct waterbird nest surveys where appropriate habitat occurs within 100 ft of the proposed project site prior to project initiation. Repeat surveys again within 3 days of project initiation and after any subsequent delay of work of 3 or more days (during which the birds may attempt to nest).
5. If a nest or active brood is found in the project area:

- a. Contact the PIFWO within 24 hours for further guidance.
- b. Establish and maintain a 100-foot buffer around all active nests and/or broods until the chicks/ducklings have fledged. Do not conduct potentially disruptive activities or habitat alteration within this buffer.
- c. Have a biological monitor that is familiar with the species' biology present on the project site during all construction or earth moving activities until the chicks/ducklings fledge to ensure that waterbirds and nests are not adversely impacted.

F. Sea Turtles

1. A qualified biologist or trained observer may be required on-site throughout excavation and dredging operations.
2. Do not remove native dune vegetation.
3. Have a qualified biologist familiar with sea turtles conduct a visual survey of the action area to ensure no basking sea turtles are present.
4. Remove any project-related debris, trash, or equipment from the beach or dune if not actively being used.
5. Do not stockpile project-related materials in the intertidal zone, reef flats, or stream channels.
6. If a basking sea turtle is found within the action area:
 - a. Cease all mechanical or construction actions within 100 feet until the animal voluntarily leaves the action area.
 - b. Cease all actions between the basking turtle and the ocean.
7. To avoid or minimize potential project impacts to sea turtles from light attraction, implement the following conservation measures:
 - a. Avoid nighttime work during the nesting and hatching season (May 1 to December 31).
 - b. Minimize the use of lighting and shield all project-related lights so the light is not visible from any beach or the water.

- c. If lights can't be fully shielded or if headlights must be used, fully enclose the light source with light filtering tape or filters.
- d. Incorporate design measures into the action or operation of buildings adjacent to the beach to reduce ambient outdoor lighting such as tinting or using automatic window shades for exterior windows that face the beach; reducing the height of exterior lighting to below three feet and pointed downward or away from the beach. In order to minimize light intensity, lighting sources will use low pressure sodium 18 watts, 35 watts and lighting sources that produce light of 580 nanometers or longer and, when possible, include timers and motion sensors.

G. Plants

1. Minimize disturbance outside of existing developed or otherwise modified areas.
2. When disturbance outside existing developed or modified sites is proposed, conduct a botanical survey for listed plant species within the project Action area (surveys should be conducted by a botanist with documented experience in identifying native plants); surveys should be conducted during an appropriate time period for the potentially occurring protected species, if possible; for example, "surveys should be conducted during the wettest part of the year (e.g., October to April)".
3. The boundary of the area occupied by listed plants should be marked with flagging by the surveyor; PIFWO recommends adherence to buffer distances in Table 1. However, where project activities will occur within the recommended buffer distances, additional consultation with PIFWO is required.
4. Where disturbed areas do not need to be maintained as an open area, restore disturbed areas using native plants as appropriate for the location.
5. Ensure that all equipment, personnel and supplies are properly checked and are free of contamination (i.e., weed seeds, organic matter, or other contaminants) before entering project areas.
6. Quarantines and/or management activities occurring on specific priority invasive species in the vicinity of a project should be adequately addressed, as required.
7. Buffer Distances: Follow the recommended buffer distances to minimize and avoid

potential adverse impacts to listed plants from the activities indicated below.

Action	Buffer Distance (feet (meters))		
	Grasses/Herbs/Shrubs and Terrestrial Orchids	Trees and Arboreal Orchids	
Walking, hiking, surveys	3 ft (1 m)	3 ft (1 m)	
Cutting and Removing Vegetation By Hand or Hand Tools (e.g., weeding)	3 ft (1 m)	3 ft (1 m)	
Mechanical Removal of Individual Plants or Woody Vegetation (e.g., chainsaw, weed eater)	3 ft up to height of removed vegetation (whichever greater)	3 ft up to height of removed vegetation (whichever greater)	
Removal of Vegetation with Heavy Equipment (e.g., bulldozer, tractor, “bush hog”)	2x width equipment + height of vegetation	820 ft (250 m)	
Use of Approved Herbicides (following label)	Ground-based Spray Application; hand application (no wand applicator; spot treatment)	10 ft (3 m)	Crown diameter
	Ground-based Spray Application; manual pump with wand, backpack	50 ft (15 m)	Crown diameter
	Ground-based Spray Application; vehicle-mounted tank sprayer	50 ft (15 m)	Crown diameter
	Aerial Spray (ball applicator)	250 ft (76 m)	250 ft (76 m)
	Aerial Application – herbicide ballistic technology (individual plant treatment)	100 ft (30 m)	Crown diameter
	Aerial Spray (boom)	Further consultation required	Further consultation required
Use of Insecticides (pollinators, seed dispersers)	Further consultation required	Further consultation required	
Ground/Soil Disturbance/Outplanting/Fencing (Hand tools; Small mechanized tools)	20 ft (6 m)	2x crown diameter	

Action		Buffer Distance (feet (meters))	
		Grasses/Herbs/Shrubs and Terrestrial Orchids	Trees and Arboreal Orchids
Ground/Soil Disturbance (Heavy Equipment)		328 ft (100 m)	820 ft (250 m)
Surface Hardening/ Soil compaction	Trails (e.g., human, ungulates)	20 ft (6 m)	2x crown diameter
	Roads/Utility Corridors, Buildings/Structures	328 ft (100 m)	820 ft (250 m)
Prescribed Burns		Further consultation required	Further consultation required
Farming/Ranching/Silviculture		820 ft (250 m)	820 ft (250 m)

3.09 HISTORICAL, ARCHAEOLOGICAL AND CULTURAL RESOURCES

There are no known historical, archaeological, or cultural resources within the Contractor's work area as defined on the plans. However, known historical, archaeological, or cultural resources are located near the project area. If items of apparent historical or archaeological interest are discovered in the course of any construction activities, they shall be left undisturbed, and the Contractor shall immediately report the find to the Engineer.

3.10 CONSERVATION MEASURES

- A. The Contractor shall ensure Federal Emergency Management Agency (FEMA) and USFWS Pacific Islands Fish and Wildlife Office (PIFWO) are provided reasonable access to the project to monitor the compliance with and effectiveness of approval conditions.
- B. The Contractor shall document and report to the Engineer all interactions with listed species. Should it become apparent that an ESA-listed species may be adversely affected by the project, all work must stop pending completion of consultation between FEMA and USFWS for the action and the reinitiating approval.

C. Constant vigilance shall be kept for the presence of ESA-listed species during all aspects of the Project. A Biological Monitor shall be on site to enforce conservation measures and buffer distances.

1. The Contractor shall retain and pay for the services of a qualified biologist knowledgeable of the species life cycles, and able to identify individuals in all life stages and their representative nests and eggs to survey the action area and areas adjacent to the authorized work area for ESA-listed species.
2. All personnel shall be briefed on the species with the potential to occur in the project area.
3. A qualified biologist shall consist of an environmental professional with at least a bachelor's degree in Biology, Ecology, Natural Resources, Environmental Sciences, or similar, and has multiple years of experience working with Federally listed species, their habitats, and Endangered Species Act implementation in Hawaii and/or the Pacific Islands.
4. The action area for the project encompasses all areas to be affected directly or indirectly by the project. This includes the project footprint and areas beyond the project footprint where stressors such as noise, night-time lighting, and changes in water quality, air quality, wind exposure, sunlight, or humidity may affect listed plants or animals as a result of project implementation.
5. Surveys shall be conducted including laydown and staging areas for individuals of ESA-listed species as well as their nests and eggs prior to the start of each work day and prior to resumption of work following any break of more than one half hour. Periodic additional surveys throughout the workday are strongly recommended following any breaks in action.
6. Any site at which species have been identified will have a biological monitor present during all work. The biological monitor shall have the authority to stop and resume work, and enforce buffer distances.
7. No one shall attempt to feed, touch (e.g., pet, relocate, etc.), or otherwise intentionally interact with any protected species.

- D. Project footprints must be limited to the minimum area necessary to complete the project and project work limits clearly defined.
- E. Sensitive resource areas, such as ESA-listed terrestrial plants and nests, within the action area must be visibly flagged; however, fencing with non-natural material and smaller than 3x3 inch mesh size, and loose-weave joints for projects on or near the coast or suitable waterbird habitat, is prohibited due to the ensnarement hazard potential that exists with this type of material.
- F. Project operations must cease under unusual conditions, such as large tidal events, heavy storms, and high surf conditions, with the exception of emergency protective measures implemented to preserve life and property resulting from such conditions.
- G. A storm water management plan, commensurate to the size of the project must be prepared and carried out, for any project that will produce any new impervious surface or a land cover conversion that will slow the entry of water into the soil, to ensure that that effects to water quality and hydrology are minimized.
- H. A pollution and erosion control plan for the project site and adjacent areas must be prepared and carried out. As a minimum, this plan shall include:
 - 1. Proper installation and maintenance of silt fences, booms, equipment diapers, and/or drip pans.
 - 2. A contingency plan to control and clean spilled petroleum products and other toxic materials.
 - 3. Appropriate materials to contain and clean potential spills will be stored at the worksite and be readily available.
 - 4. All project-related materials and equipment placed in the water will free of pollutants.
 - 5. Daily pre-work inspections of heavy equipment for cleanliness and leaks, with all heavy equipment operations postponed or halted until leaks are repaired and equipment cleaned.

6. Fueling of project-related vehicles and equipment will take place at least 50 feet away from water, preferably over an impervious surface.
 7. A plan will be developed to prevent trash and debris from entering the environment during the project.
 8. All construction discharge water (e.g., concrete washout, pumping for work area isolation, vehicle wash water, drilling fluids, etc.) must be treated prior to discharge or disposed of in an approved waste disposal facility.
-
- I. Erosion controls must be properly installed before any alteration of the area may take place. When erosion control is necessary selecting products with biodegradable netting (natural fiber, biodegradable polyesters) is preferred as well as netting with flexible, non-welded, rectangular mesh. Additional options exist that include open weave textile, rolled erosion control products with woven, natural fiber netting. Erosion control products that require UV-light to biodegrade, netting with square mesh, plastic mesh are not permitted. Actions with listed snail and plant habitat will also include dust barriers to reduce negative effects.
 - J. Construction barriers that prevent dust from traveling off site will be used where feasible for dust mitigation. These barriers will be free standing (rebar anchored). Barriers will be approximately 10 feet high. Final barrier shape to be determined in the field to adjust to survey findings and will accommodate a buffer distance if feasible. Barrier material shall be a High-density Polyethylene, with Ultraviolet protection, shade rate of 30-90 percent, weight of 55-240 grams per square meter, high strength, and easy fixing. The barrier will remain until the project actions have been fully completed. Removal of the barriers will be completed as a final project task.
 - K. Barriers to protect occupied habitat should be placed outside the buffer distance and no one should enter the protected habitat. Recommended minimum is 10 meters from the outmost individual detected during the survey. The survey biologist shall be present when barriers are installed.
 - L. Vegetation clearing shall be limited to that which is required for project completion. Indiscriminate clearing will not be permitted. Any clearing proposed within a project footprint will require a re-survey for listed species, including a 10-meter exterior buffer prior to vegetation removal.

- M. Temporary access roads shall avoid steep slopes of 15 degrees or steeper where grade, soil types, or other features suggest a likelihood of excessive erosion or failure; existing access routes must be utilized or improved whenever possible, in lieu of the construction of the construction of new access routes.
- N. All disturbed areas must be immediately stabilized in accordance with aforementioned erosion controls following cessation of activities in advance or any break in work longer than four (4) days.
- O. Drilling and sampling associated waste or spoils must be completely isolated and disposed of in an upland location and approved disposal site. Disposal sites will be previously permitted by USFWS PIFWO and subject to individual project compliance review based on the Acton Area.
- P. Authorized work must comply with all applicable general, activity- and species specific conditions.

3.11 INVASIVE SPECIES BIOSECURITY

- A. All work vehicles, machinery, and equipment are to be cleaned, inspected by its user, and found free of mud, dirt, debris and organisms prior to entry into and exit from the natural areas or native habitat.
 - 1. Vehicles, machinery, and equipment must be thoroughly pressure washed in a designated cleaning area (designated by the responsible land manager) and visibly free of mud, dirt, plant debris, insects, frogs (including frog eggs) and other vertebrate species such as rats, mice and non-vegetative debris. A hot water wash is preferred. Areas of particular concern include bumpers, grills, hood compartments, areas under the battery, wheel wells, undercarriage, cabs, and truck beds (truck beds with accumulated material (intentionally placed or fallen from trees) are prime sites for accidental transport of invasive species).
 - 2. The interior and exterior of vehicles, machinery, and equipment must be free of rubbish and food. The interiors of vehicles and the cabs of machinery must be vacuumed clean. Floor mats shall be sanitized with a solution of > 70% isopropyl alcohol or a freshly mixed 10% bleach solution.

3. Any machinery, vehicles, equipment, or other supplies found to be infested with ants (or other invasive species) must not enter natural areas or native habitat. Treatment is the responsibility of the equipment or vehicle owner and operator.
- B. Little Fire Ants – All work vehicles, machinery, and equipment are to be inspected for invasive ants prior to entering the natural areas or native habitat.
1. A visual inspection for little fire ants is to be conducted prior to entry into natural areas or native habitat.
 2. Any machinery, vehicles, equipment, or other supplies found to be infested with ants (or other invasive species) must not enter the project site until it is properly treated (<https://littlefireants.com/how-to-treat-for-little-fire-ants-for-homeowners/>) and re-tested. Infested vehicles must be treated following recommendations by the Hawai'i Ant Lab (<https://littlefireants.com/resource-center/>) or another ant control expert and in accordance with all State and Federal laws. Treatment is the responsibility of the equipment or vehicle owner.
 3. General Vehicle Ant Hygiene: Even the cleanest vehicle can pick up and spread little fire ant. Place MaxForce Complete Brand Granular Insect Bait (1.0 percent Hydramethylnon; https://labelsds.com/images/user_uploads/Maxforce%20Complete%20Label%201-5-18.pdf) into refillable tamper resistant bait stations. An example of a commercially available refillable tamper resistant bait station is the Ant Café Pro (<https://www.antcafe.com/>). Place a bait station (or stations) in the vehicle and note that larger vehicles, such as trucks, may require multiple stations. Monitor bait stations frequently (every week at a minimum) and replace bait as needed. If the bait station does not have a sticker to identify the contents, apply a sticker listing contents to the station.
 4. Gravel, building materials, or other equipment such as portable buildings should be baited using MaxForce Complete Brand Granular Insect Bait (1.0 percent Hydramethylnon; https://labelsds.com/images/user_uploads/Maxforce%20Complete%20Label%201-5-18.pdf) or AmdroPro (0.73 percent Hydramethylnon; <https://connpest.com/labels/AMDROPRO.pdf>) following label guidance.

5. Storage areas that hold field tools, especially tents, tarps, and clothing should be baited using MaxForce Complete Brand Granular Insect Bait (1.0 percent Hydramethylnon;
https://labelsds.com/images/user_uploads/Maxforce%20Complete%20Label%201-5-18.pdf) or AmdroPro (0.73 percent Hydramethylnon;
<https://connpest.com/labels/AMDROPRO.pdf>) following label guidance. Note: The authors' use of trade names is for descriptive purposes only and does not imply endorsement by the US Government. All pesticides must be applied in accordance with State and Federal laws.
- C. Base yards and staging areas inside and outside natural areas and native habitat must be kept free of invasive species.
1. Base yards and staging areas are to be inspected at least weekly for invasive species and any invasive found is to be removed immediately. The local land manager(s) will determine what species are to be targeted in these inspections and removal procedures. The local land manager will also ensure regulatory compliance with all activities. Land managers are to pay particular attention to where vehicles are parked overnight, keeping areas within 10-meters of vehicles free of debris. Parking on pavement and not under trees, while not always practical, is best.
 2. Project vehicles or equipment stored outside of a base yard or staging area, such as a private residence, are to be kept in a pest free area as defined by the onsite land or project manager.
- D. All cutting tools used in natural areas and native habitat must be sanitized to prevent the spread of the Rapid Ohi'a Death (ROD) fungus.
1. Avoid wounding 'ohi'a trees and roots with mowers, chainsaws, weed eaters, and other tools. If an 'ohi'a receives a minor injury like a small broken branch, then give the injury a clean, pruning-type cut (close to the main part of the trunk or branch) to promote healing, and then spray the entire wounded area with a pruning seal.
 2. All cutting tools, including machetes, chainsaws, and loppers must be sanitized to remove visible dirt and other contaminants prior to entry into natural areas or areas with native habitat, and when moving to a new project area within the native habitat area. Tools may be sanitized using a solution of >70% isopropyl alcohol or a freshly mixed 10% bleach solution. One minute after sanitizing, you may apply an oil-based lubricant to chainsaw chains or other metallic parts to prevent corrosion.

3. Only dedicated tools and chainsaws are to be used to sample known or suspected ROD infected trees.

4. Ohi'a firewood, logs, and parts are not to be transported. For State guidance see: www.hdoa.hawaii.gov .

NOTE: When using a 10 percent bleach solution, surfaces should be cleaned with a minimum contact time of 30 seconds. Bleach must be mixed daily and used within 24 hours, as once mixed it degrades. Bleach will not work to disinfect surfaces that have high levels of organic matter such as sawdust or soil. Because bleach is also corrosive to metal, a water rinse after proper sanitization is recommended to avoid corrosion.

E. For personnel working in the field:

1. Before going into the field, visually inspect and clean your clothes, boots, pack, radio harness, tools, and other personal gear and equipment, for seeds, soil, plant parts, insects, and other debris. A small brush is handy for cleaning boots, equipment and gear. Soles of shoes are to be sanitized using a solution of >70% isopropyl alcohol or a freshly mixed 10% bleach solution.

2. Immediately before leaving the field, visually inspect and clean your clothes, boots, pack, radio harness, tools, and other personal gear and equipment, for seeds, soil, plant parts, insects, and other debris.

3. Little fire ants nest in trees. If you are under a tree and that tree is bumped or somehow stressed, the threat response of the ants is to fall from the leaves and sting the person under the tree. If you are subject to an ant attack, do not panic. The ants are extremely small, but their stings are painful, so make sure you remove all ants from your body and clothing. The stings cause inch long welts that are itchy and painful, and can last for weeks. Treat stings as you would other insect stings. In some persons, stings can produce life threatening reactions. Stocking antihistamine in the first aid kit is a reasonable precaution.

4. Rat Lungworm disease is caused by a parasite that can infect humans who consume raw or undercooked infected snails or slugs or consume raw produce that contains a small infected snail or slug. Infection is rare but can be serious. Symptoms can include severe headache, neck stiffness, low grade fever, nausea, and vomiting anywhere from 1-6 weeks after exposure. The disease is not spread person to person.

Anyone who handles snails or slugs is to wear gloves and/or wash hands. Eating unwashed produce is discouraged.

F. Protocol for coconut rhinoceros beetle (CRB)

1. Never transport green waste between islands and minimize the creation, storage, and transport of green waste within island, this also includes:
 - a. Mulch, bark, compost
 - b. Soil of any kind
 - c. Potted plants of any kind
2. Additional consultation is recommended if the project involves transportation of materials, soil, equipment, vehicles, etc. between islands.
3. If felling or trimming palms, contact CRB Response for a free inspection ((808) 679-5244 or email at info@crbhawaii.org)
4. Keep green waste whole until it is ready to be treated and removed.
 - a. Chip green waste on site and transport it on the same day to a secure and managed green waste disposal site/facility.
 - b. For chipped green waste in high-risk areas, re-chip prior to movement outside the infested area, treat with pesticide (when applicable), heat treatment (>130 degrees F), spread and dry, or store in sealed durable containers.
5. Minimize accumulations of green waste by regularly treating mulch piles or depositing it in sealed green waste bins. In low-risk areas, we also recommend thinly spreading mulch (less than 2 inches deep) and allowing it to dry (no irrigation).
6. If injured or dying coconut palm trees are observed or if CRB are detected, contact CRB Response at (808) 679-5244 or email at info@crbhawaii.org or online at <https://www.crbhawaii.org/report>

3.12 ACTIVITIES THAT MAY RESULT IN DIRECT PHYSICAL IMPACT

- A. Before any equipment, anchor(s), or material enters the water or undisturbed habitats a qualified biologist will survey the action area to ensure that no ESA-listed species are present in the area where the equipment, anchor(s), or materials are expected to contact the substrate or disturb habitats. If practicable, the use of divers to visually confirm that the area is clear is preferred.
- B. Equipment operators will employ “soft starts” when initiating work each day and after each break of 30 minutes or more that directly impacts the substrates and vegetation. Buckets and other equipment will be operated in a slow and controlled manner for the first several cycles before achieving full operational impact strength or tempo.
- C. All objects lowered to the bottom shall be lowered in a controlled manner. This can be achieved by the use of buoyancy controls such as lift bags, or the use of cranes, winches, or other equipment that affect positive control over the rate of descent.

3.13 ACTIVITIES THAT MAY RESULT IN COLLISION WITH VESSELS

- A. When piloting vessels, vessel operators shall alter course to remain at least 100 meters (109 yards) from whales, and at least 50 meters (54.7 yards, 164 feet) from other ESA- listed marine animals.
- B. Reduce vessel speed to 10 knots or less when piloting vessels in proximity of ESA-listed marine mammals, sharks, and rays.
- C. Reduce vessel speed to 5 knots or less when piloting vessels in areas of known or suspected sea turtle activity.
- D. If despite efforts to maintain the distances and speeds described above, a marine mammal or turtle approaches the vessel, the vessel operator will put the engine in neutral until the animal is at least 15 meters (~50 feet) away, and then slowly move away to the prescribed distance.
- E. Marine mammals, sea turtles and other ESA-listed motile species shall not be encircled or trapped between multiple vessels or between vessels and the shore.

- F. FEMA and National Marine Fisheries Services (NMFS) will be notified within 48 hours of a vessel grounding or abandonment during the proposed action.

3.14 ACTIVITIES THAT MAY RESULT IN ENTANGLEMENT

- A. Temporary in-water tethers, as well as mooring lines for vessels and marker buoys shall be kept taut to the minimum length necessary and shall remain deployed only as long as needed to properly accomplish the required task.
- B. Mooring systems shall employ the minimum line length necessary to account for expected fluctuations in water depth due to tides and waves.
- C. Mooring systems shall be designed to keep the line as tight as possible, with the intent to eliminate the potential for loops to form.
- D. Mooring lines shall consist of a single line connected to the buoy float. No additional lines or material capable of entangling marine life may be attached to the mooring line or to any other part of the deployed system.
- E. Mooring systems shall be designed to keep the gear off the bottom, by use of a mid-line float when appropriate, with the intent to eliminate entanglement of the line on the substrate.
- F. Any permanent or long-term deployments shall include an inspection and maintenance program to reduce the likelihood of failures that may result in loose mooring lines lying on the substrate or hanging below a drifting buoy.
- G. Mooring systems, including those used for temporary markers, scientific sensor buoys, or vessel moorings, shall be completely removed from the marine environment immediately at the completion of the authorized work.

3.15 FOR ACTIVITIES THAT MAY RESULT IN EXPOSURE TO ELEVATED NOISE LEVELS

- A. Dredging, excavation, clearing, movement of large armor stones, and benthic core sampling shall not be undertaken if any ESA-listed marine animals are within 50 meters (54.7 yards, 164 feet) of the authorized work, and those operations will immediately shut- down if an ESA-listed marine animal enters within 50 meters (54.7 yards, 164 feet) of the authorized work. This condition is intended to ensure that no ESA-listed marine animals are exposed to

sound levels anywhere near the TTS threshold isopleths.

- B. Operation of buoy acoustic release systems shall cease when ESA-listed marine animals are within 250 meters (273 yards) (safety zone). It is further recommended that the permittee carefully survey the safety zone around the vessel/buoy from 30 minutes prior to activating the acoustic release, to 30 minutes following the end of transducer operations.
- C. Operations will immediately shut down should an ESA-listed animal (e.g., sea turtle) enter the action area within the mandatory 150-foot shut down range.
- D. Equipment operators will employ “soft starts” when initiating work to reduce initial sound pressure levels. The soft start method is intended to be a warning mechanism for fauna so that they can vacate the action area before maximum sound pressure levels are reached.

3.16 WATER COURSES AND COSTAL FEATURES

- A. No material will be discharged into special aquatic sites (i.e., wetlands, sanctuaries and refuges, mud flats, vegetated shallows, coral reefs, and riffle and pool complexes).
- B. Structures are limited to the current footprint only and will not extend towards the water.
- C. A project will involve no more than 500 linear feet of bank. Projects involving more than 500 linear feet of bank will require written approval from the Service or additional consultation, as directed by the Service.
- D. The maximum amount of material placed will not exceed the minimum needed for erosion protection.
- E. All material will be placed in a manner that will avoid erosion by normal or expected high flows.

3.17 SUSPENSION OF WORK

- A. The Engineer will notify the Contractor in writing of any observed noncompliance with the Contractor’s Environmental Protection Plan. The Contractor shall, after receipt of such notice, inform the Engineer of proposed corrective action and take such action as appropriate.
- B. Violation of any of the above requirements or any other pollution control requirements which may

be specified in the Specifications herein shall be cause for suspension of the work creating such violation. No additional compensation shall be due the Contractor for remedial measures to correct the offense. Also, no extension of time will be granted for delays caused by such suspensions.

- C. If no corrective action is taken by the Contractor within 72 hours after a suspension is ordered by the Engineer, the State reserves the right to take whatever action is necessary to correct the situation and to deduct all costs incurred by the State in taking such action from monies due the Contractor.
- D. The Engineer may also suspend any operations which he feels are creating pollution problems although they may not be in violation of the above-mentioned requirements.

3.10 FINES

The Contractor shall pay any fines due to violations of environmental regulations and permits as a result of his activities at no additional cost to the State.

PART 4 - MEASUREMENT AND PAYMENT

Payment for Environmental control shall be at the lump sum bid amount in the Proposal.

END OF SECTION

SECTION 01581 – PROJECT SIGN

PART 1 - GENERAL

1.01 GENERAL REQUIREMENTS

Furnish all labor, materials, and equipment necessary to construct and install the project sign as specified hereinafter.

1.02 SUBMITTAL

The Contractor shall provide the engineer with shop drawings of the project sign for review and approval prior to ordering the sign.

1.03 LETTER STYLE

Copy is centered and set in Adobe Type Futura Heavy. If this specific type is not available, Futura Demi Bold may be substituted. Copy should be set and spaced by a professional typesetter and enlarged photographically for photo stencil screen process.

1.04 ART WORK

Constant elements of the sign layout - frame, outline, stripe, and official state information - may be duplicated following drawing measurements, or be reproduced and enlarged photographically using a layout template if provided. The "STATE OF HAWAII" masthead should be reproduced and enlarged as specified, using the artwork provided.

1.05 TITLES

The specific major work of the project under construction is emphasized by using 3-3/4" type, all capitals. Secondary information such as location or buildings uses 2-1/4" type, all capitals. Other related information of lesser importance uses letter heights as indicated by the Engineer.

PART 2 - PRODUCTS

2.01 MATERIALS

A. Lumber:

1. Panel is 3/4" exterior grade high density overlaid plywood, with resin-bonded surfaces on both sides.
2. 4"x4" sign posts shall be Douglas Fir No. 1 or better.

B. Paint and Inks:

Screen print inks are matte finish. Paints are satin finish, exterior grade. References to Ameritone Color Key Paint are for color match only.

Color:	1.	1BL10A	Bohemian Blue
	2.	2H16P	Softly (White)
	3.	2VR2A	Hot Tango (Red)
	4.	1M52E	Tokay (Gray)

C. Concrete: Concrete shall be class b with a 2,500 psi, 28-day compressive strength.

PART 3 - EXECUTION

3.02 GENERAL

- A. The Project Sign shall be constructed with new materials as specified above.
- B. The Project Sign shall be installed at the location as designated by the Engineer.
The Project Sign shall be erected upon commencement of work.

PART 4 - MEASUREMENT AND PAYMENT

Project Sign shall be paid for at the lump sum bid amount in the Proposal

END OF SECTION

SECTION 02200

EARTHWORK

PART 1 - GENERAL

1.1 GENERAL REQUIREMENTS

This section covers the requirements for earthwork.

- A. It shall be the responsibility of the Contractor to examine the project site and determine for himself the existing conditions.
- B. Obvious conditions of the site existing on the date of the bid opening shall be accepted as part of the work, even though they may not be clearly indicated on the drawings and/or described herein or may vary therefrom.
- C. All debris of any kind accumulated from clearing shall be disposed of from the site, and the whole area left clean. The Contractor shall be required to make all necessary arrangements relative to the proposed place of disposal.

1.2 REMOVAL AND REPAIR WORK

A. General

The Contractor shall exercise every precaution to preserve and protect all structures, walkways or utility improvements which are to remain or be relocated. Portions of walkway and pavement which are to remain shall be saw-cut neat and true to line. Restore all pavement and curbs upon completion of the work.

1.3 SEQUENCE OF WORK

All sequence of work shall be subject to the approval of the Engineer.

1.4 PROTECTION

- A. Barricade: Erect temporary barricade to prevent people from entering into project area, to the extent as approved by the Engineer. Such barricade shall be as defined in Section 01530 - BARRICADES. The extent of barricades may be adjusted as necessary with the approval of the Engineer. This work shall be accomplished at no extra cost to the State of Hawaii.
- B. Take all precautions and safety measures as required to protect the State of Hawaii free and harmless from liability of any kind. Conduct operations with minimum interference to streets, driveways, sidewalks passages, etc.
- C. Adequate precautions shall be taken before commencing and during the course of the

work to ensure the protection of life, limb, and property.

- D. The Contractor shall protect from damage all surrounding structures, trees, plants, grass, walks, pavements, etc. Any damage will be repaired or replaced by the Contractor to the satisfaction of the Engineer.

1.5 PERMITS

Where applicable, the Contractor shall obtain and pay for necessary permits prior to the commencement of work.

1.6 MAINTAINING TRAFFIC

- A. The Contractor shall conduct operations with minimum interference to streets, driveways, sidewalks, traffic activities, etc.
- B. When necessary, the Contractor shall provide, erect and maintain lights, barriers, etc., as required by traffic and safety regulations with special attention to protection of life.

1.7 CONSTRUCTION LINES, LEVELS AND GRADES

- A. The Contractor shall verify all lines, levels and elevations indicated on the drawings before any clearing, excavation or construction begins. Any discrepancy shall be immediately brought to the attention of the Engineer and any changes shall be made in accordance with his instructions. The Contractor shall not be entitled to extra payment if he fails to report the discrepancies before proceeding with any work whether within the area affected or not.
- B. The laying out of base lines, establishment of grades and staking out the entire work shall be done by a licensed Surveyor or a licensed Civil Engineer, registered in the State of Hawaii. He shall be solely responsible for their accuracy. Erect and maintain substantial batter boards showing construction lines and levels.

1.8 CLEANUP

Clean up and remove all debris accumulated from construction operations from time to time, when as directed by the Engineer. Upon completion of the construction work and before final acceptance of work, remove all surplus materials, equipment, etc. and leave entire jobsite clean and neat.

PART 2 – PRODUCTS (NOT APPLICABLE)

PART 3 - EXECUTION

3.1 EXCAVATION

- A. Protective Measures

1. All excavation shall be protected and guarded against danger to life, limb and property.
2. Shoring, cribbing and logging, as required to safely preserve the excavations and earth banks, free from damages resulting from the work shall be provided and installed by the Contractor.
3. All excavations shall be kept free from standing water. The Contractor shall do all pumping and draining that may be necessary to remove water to the extent required in carrying on the work. Grading shall be controlled so that the ground surface is properly sloped to prevent water run-off into structural foundations and open trenching excavations.
4. The underground utilities lines traversing the construction area known to exist by the designer are indicated on the plans. Should any be encountered during excavation, the Contractor shall not disconnect same without authorization from the Engineer but shall inform the latter immediately of each discovery. The Engineer shall investigate and issue proper authorization for procedure.

B. General

1. Excavation shall be done to the lines and grades indicated. Concrete slabs, concrete curbs, asphaltic concrete pavement, etc., not indicated to remain shall be removed or broken up into pieces of sizes permitted in other paragraphs of this section. When incorporated in fill, broken up pieces shall be well mixed with finer materials filling all spaces between the pieces.
2. Excavation for footings, foundation, etc., shall have level beds on unfilled, undisturbed, firm bearing, with stepped level where necessary. Small soft spots shall be compacted to unyielding firmness.

If soil conditions are suitable and approved, footing cuts may be made to exact size of footing.
3. Structural excavations carried below specified level shall be filled with concrete to the proper level at the expense of the Contractor.
4. Excavated materials declared unusable by Engineer shall be removed from the site at the Contractor's expense.

3.2 BACKFILL (NOT APPLICABLE)

3.3 GRADING

1. Rough Grading: All areas shown on the plans to be graded shall be graded to finish grade. Contractor shall take the necessary precautions to prevent the

drainage of water into construction area.

2. Finish Grading: Grading shall conform with the ordinances of the applicable County issuing the Grading Permit and as amended.

END OF SECTION

SECTION 02050 – DEMOLITION

PART 1 - GENERAL

1.01 GENERAL REQUIREMENTS

Description: this work shall consist of the demolition and removal, or salvage, of items indicated in the plans or specified herein. All materials resulting from the demolition work, except as indicated on the plans to be salvaged or specified otherwise, shall become the property of the Contractor and shall be removed from the limits of the property.

1.02 PROTECTION

Protect existing improvements that are to remain in place, that are to be reused, or that is to remain the property of the State by temporary covers, shoring, bracing, and supports. Repair items damaged during performance of the work or replace with new to the satisfaction of the Engineer. Do not overload structural elements. Provide new supports or reinforcement for existing construction weakened by demolition, removal, and relocation work.

1.03 HAZARDOUS MATERIALS

The presence of hazardous materials including, but not limited to asbestos and lead based paint is not anticipated for this project. If, during the course of the initial site assessment and prior to any actual construction work, the Contractor considers that hazardous materials may be present, he shall conduct sampling and testing to determine whether those hazardous materials actually exist. Sampling and testing shall be in accordance with all State, Federal, and County codes, rules, and regulations and shall be paid for by the state.

If the test results indicate that hazardous materials exist at the site, the Engineer shall provide further direction to the Contractor on how to proceed with his work.

PART 2 – PRODUCTS (NOT USED)

PART 3 - EXECUTION

3.01 PREPARATION

Examine all areas prior to the start of demolition operations to assure that selected procedures are the most appropriate for accomplishing the work.

3.02 DEMOLITION

- A. Demolition and remove existing features as necessary to complete the work required for this project. Existing features that are required to be demolished and removed but not indicated on the plans shall be considered incidental to the work unless otherwise indicated by the Engineer.
- B. Where demolition results in the creation of voids or depressions at the ground surface, fill with similar surface materials and compact.

3.03 SAFETY

Work shall be done in accordance with safety provisions of the Manual of Accident Prevention in Construction, published by the Associated General Contractors of America and the Department of Labor and Industrial Relations, Occupational, Safety and Health Division (HiOSH).

3.04 DISPOSAL

All waste material shall be hauled to an appropriate off-site disposal area. The Contractor shall provide to the Engineer disposal receipts for all disposed materials.

3.05 REPAIR OF DAMAGES

Any work which is to remain, and which is damaged as a result of demolition work shall be restored to its original condition or as otherwise directed by the Engineer at no cost to the State.

3.06 CLEANUP

The Contractor shall remove and dispose of rubbish in a manner that will prevent spillage into the ocean or adjacent areas. Cleanup spillage from ocean and adjacent as necessary. The Contractor shall leave the premises clean, neat and orderly. The Contractor shall transport, haul, and dispose of all rubbish and waste materials in accordance with Federal, State, and County regulations.

PART 4 - MEASUREMENT AND PAYMENT

Demolition of existing features shall be paid at the lump sum bid amount in the Proposal.

END OF SECTION

SECTION 02281 - DREDGING

PART 1 - GENERAL

1.01 GENERAL REQUIREMENTS

Work shall consist of furnishing all labor, tools, materials, and equipment necessary and required to dredge to the lines and grades indicated on the plans and as specified herein. Work includes the installing of pollution controls, removing, transporting, dewatering, hauling, stockpiling, and disposal of the dredged material. All work areas are shown on the plans.

1.02 DEFINITION

- A. Excavation is defined as the removal of volcanic debris above 2 feet mean lower low water level (MLLW).
- B. Dredging is defined as the removal of volcanic debris below 2 feet MLLW.
- C. Hard material is defined as material requiring blasting or the use of special equipment for economical removal.

1.03 MATERIAL TO BE REMOVED

The material to be removed is loose sand, gravel, cobbles, and boulders. The removal of hard material not included as a part of the project.

1.04 SUBMITTALS

Operation Plan and Performance Schedule: Not later than thirty (30) days after the award of the Contract, the Contractor shall submit an operation plan and performance schedule for accomplishing the dredging work. No work shall commence until the operation plan and performance schedule have been submitted and approved by the Engineer. The operation plan and performance schedule shall include a plan and schedule of work; method of dredging, including schedule of all plant, equipment, auxiliaries and appurtenances; method of protection of surrounding structures, equipment and vessels; method of sweeping and sounding; and the method of stockpiling/disposal of excavated materials, including details for containment of the dredged materials.

Post-Dredging Bathymetric and Site Surveys: Refer to Part 4.02 within this section.

1.05 EXISTING CONDITIONS

The plans show soundings that were taken in May 2022. For bidding purposes, the material quantity to be removed is estimated to be approximately 40,000 cubic yards. The material consists primarily of sand, gravel, and cobbles. The areas to be dredged are indicated on the plans.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

3.01 GENERAL

Dredging shall consist of the excavation, removal, and disposal of every type of material encountered within the lines, slopes, elevations, and limits shown on the drawings. The Contractor shall dredge indicated areas to between -6 feet and -10 feet M.L.L.W.

The deposit of dredged material in unauthorized areas is forbidden. The Contractor shall be required to remove any misplaced material at his own expense. Return flow or runoff from dredged material deposited at the stockpile site shall not enter State waters.

3.02 SCHEDULE

The Contractor shall start and complete work in accordance with the detailed schedule approved by the Engineer.

3.03 PERMITS

The Contractor shall comply with all conditions and requirements of the project permits. Copies of all permits obtained will be provided to the Contractor prior to issuance of Notice to Proceed. The Contractor shall be responsible for obtaining all required permits not provided by the Engineer and pay for the necessary permit fees.

3.04 PLANT

The excavation and dredging equipment shall be of the type and size sufficient to meet the requirements of the work, and shall be kept at all times in safe and operational condition for efficient work. The dredging may be done using mechanical means such as clamshell or dragline. Contractor shall submit an operations plan and schedule as specified in Paragraph 1.01 SUBMITTALS. Upon completion of the work, promptly remove plant, including all temporary ranges, buoys, piles, and other markers or obstructions.

3.05 LIGHTS AND BUOYS

Each night, between sunset and sunrise and during periods of restricted visibility, provide lights for floating plants, ranges, and markers. Also, provide lights for buoys that could endanger or obstruct navigation. When night work is in progress, maintain lights from sunset to sunrise for the observation of dredging operations. Lighting shall conform to United States Coast Guard requirements for visibility and color.

3.06 RANGES, GAUGES AND LINES

Furnish, set, and maintain ranges, buoys and markers needed to define the work and to facilitate inspection. Establish and maintain gauges in locations observable from all parts of the work so that the depth may be determined. Suspend dredging when the gauges or ranges cannot be seen or followed. Survey lines, points, and elevations necessary for setting the ranges, gauges, and buoys are shown on the plans.

3.07 OVERDEPTH

Dredging shall follow, as closely as practicable, the lines indicated. To cover inaccuracies in the dredging process, material removed from within the areas to be dredged to a depth of not more than one (1) foot below indicated depth will be allowed at no cost to the State.

3.08 SIDE SLOPES

Dredging on side slopes shall follow, as closely as practicable, the lines indicated.

3.10 DISPOSAL OF DREDGED MATERIALS

The Contractor shall be responsible for transport and placement of the dredged material at the stockpile site.

Dredged material shall be removed from the water and hauled to the stockpile site. The dredged material shall be unloaded into watertight truck beds or other methods approved by the Engineer. The hauling route shall be periodically cleaned of sediment as directed by the Engineer. Return flow or runoff from dredged material deposited in the stockpile site shall not enter State waters. Dredged material shall remain the property of the State. Contractor shall provide security of the sites as specified in Section 01530 BARRICADES.

The Contractor shall use dredged material to fill existing voids and level the stockpiling site as necessary to transport and place dredged material. The remaining dredged material shall be placed in mounds in accordance with the parameters indicated in the plans. Mounds shall be accessible from at least one side at all times.

The Contractor shall follow the Sediment Sampling Program and submit test results of the dredged material to the State Department of Health, Solid and Hazardous Waste Branch for approval to be used as unrestricted fill.

Any damage to the existing area caused by the Contractor's operations shall be repaired by the Contractor to the satisfaction of the Engineer.

3.11 SEDIMENT SAMPLING AND ANALYSIS

A Sediment Sampling and Analysis Plan has not been prepared for this project. The Contractor shall prepare a Sediment Sampling and Analysis Plan for the project and obtain all applicable approvals of the plan from the State Department of Health, Solid and Hazardous Waste Branch, and Office of Hazard Evaluation and Emergency Response (HEER Office). The Contractor shall make any changes to the Sediment Sampling and Analysis Plan to the satisfaction of the Engineer at no additional cost to the State. The Contractor shall comply with all conditions required by the State Department of Health for sediment sampling and analysis. The Contractor shall perform and pay for all sampling, testing, and reporting required in the Sediment Sampling and Analysis Plan and by the State Department of Health.

3.12 SWEEPING AND FINAL ACCEPTANCE

As soon as practicable after completion of the dredging, the Contractor, at his expense, shall retain a licensed surveyor registered in the State of Hawaii to provide a post-dredge survey by sounding at 10-foot stations. Sweeping shall be done first and the area re-swept as necessary until the project depth is obtained.

Sweeping operations shall be carried out from the reference lines, control points, and benchmarks as indicated on the plans. Ranges required by the Contractor to carry out the

sweeping operations shall be set by the Contractor at his own expense. The Contractor's method and plan for accomplishing the sweeping operation shall be included in the Contractor's Operation Plan.

Should any shoals, lumps, or other lack of contract depth be disclosed by the examination, the Contractor will be required to remove same by dragging the bottom or by excavating, but if the bottom is soft and the shoal areas are small and form no material obstruction to navigation, the removal of such shoal may be waived at the discretion of the Engineer or his authorized representative.

Above ground areas within the grading limits shall be surveyed for verification of finish elevations and slopes.

The Engineer or his authorized representative will be notified when soundings are to be made, and will be permitted to accompany the survey party. When the entire dredging area is found to be in a satisfactory condition, it will be accepted finally. The soundings shall be taken by a Land Surveyor licensed in the State of Hawaii and experienced in hydrographic surveying. Final post-dredge surveys shall be submitted to the State on a full-size 24-inch by 36-inch reproducible vellum sheet at scale 1 inch= 40 feet, in AutoCAD format on CD, and in PDF format.

PART 4 - MEASUREMENT AND PAYMENT

4.01 PER UNIT PAYMENT UP TO 42,000 CUBIC YARDS

The material removed will be measured by cubic yard in place by means of soundings taken before and after dredging. The measurement and payment for the completion of work required under this Section, including all equipment, labor and material required to accomplish the work, shall be per cubic yard of the volcanic debris removal. No payment will be made for overdredging beyond the depths shown on the plans.

4.02 PAYMENT FOR POST-DREDGE BATHYMETRIC AND SITE SURVEY

Post-dredge bathymetric and site surveys will not be measured nor paid for separately, but shall be considered incidental to and included in the prices bid for the various items of work in this project.

4.03 PAYMENT FOR SEDIMENT SAMPLING PROGRAM

Sediment sampling program will not be measured nor paid for separately, but shall be considered incidental to and included in the prices bid for the various items of work in this project.

END OF SECTION

SECTION 02950 – PLANTING

PART 1 - GENERAL

1.01 GENERAL REQUIREMENTS

Work shall consist of furnishing all labor, tools, materials, and equipment necessary and required for the installation of shrubs at specified locations in accordance with the requirements of the contract.

1.02 REFERENCES

Standard Specifications for Public Works Construction, September 1986 (DPW Standard Specifications)

PART 2 - PRODUCTS

2.01 MATERIALS

- A. All materials shall be in accordance with Section 51 – Planting Trees, Shrubs, Ground Cover and Grass.
- B. Water: Water shall be potable.

PART 3 - EXECUTION

3.01 INSTALLATION

- A. Advanced Preparation of Planting Areas: Upon written notice from the Engineer, the Contractor shall proceed immediately with all work necessary to prepare the planting areas. The area within a 5-foot radius of each tree, shrub, or vine to be planted shall be clear of weeds, brush, rocks or other objectionable materials. Clearing of weeds and brush shall include the removal of the unwanted plants roots systems. Planting areas shall be graded to plan elevation before any planting is done.

Soil for shrubs, vines and ground cover planting areas shall be amended by adding a 2-inch layer of soil amendment. The soil amendment shall be tilled into the soil to a depth of not less than 6 inches until the soil is loose and fine textured. The soil shall be free from stones greater than 1/2 inches in diameter.

- B. Planting Time: Planting shall not be done at such times as the Engineer may deem inadvisable because of weather and other conditions.
- C. Plants and Tree Holes: Unless otherwise specified in the special provisions or shown on the plans, the diameter of each hole shall be at least 4 feet larger than the trunk of the tree at ground level, except that it need not be greater than the dimensions of the root system plus one foot. The depth of the hole shall be large enough to contain the ball of the root system plus specified planting soil and manure, except in subsoil condition where the tree or plant hole shall be increased in diameter and depth to the Engineer's satisfaction. But such increase will not be required in excess of one foot.

If coral, rock, or hard pan is encountered it shall be broken up to a depth of not less than 12 inches below the normal depth of the hole

D. Planting:

Materials shall not be ordered from the nursery or temporary nursery until after the tree or plant holes at the planting site have been properly excavated and prepared to receive the trees, shrubs, or vines. To insure the life of the plant it is most important that the actual planting operations proceed without delay to avoid undue evaporation and drying of roots while exposed to the air.

Any roots which are bruised or broken shall be pruned with a clean cut at the time of planting.

The depth to which plants shall be set shall be appropriate to the various types of material and the special requirements of each. In general, trees shall stand, after settlement of the backfill, about 3 to 4 inches deeper than they stood in the nursery or collecting field and for shrubs and vines the depth shall be about 2 inches.

All trees and shrubs shall be planted plumb. All planting and transplanting work shall be performed by experienced workmen.

After trees and shrubs are planted, a 2-foot wide area outside the pit shall be spaded or filled 8 inches deep around all plants. Planting soil shall be kept separate from subsoil and before backfilling shall be rendered loose and friable.

Backfill mix for trees and shrubs shall consist of one part soil amendment, one part manure and 3 parts soil by volume.

- E. Pruning of Plants: The pruning of plants shall conform to the best horticultural practices and shall be appropriate to the various types of plants and the special requirements of each.
- F. Surplus Excavated Material: Surplus material from subsoil excavations made for tree pits and holes for shrubs and vines shall be thinly scattered and leveled off with all lumps broken up fine so as to leave a neat, smooth appearance. In case the subsoil is of such character that it is not possible to blend it readily with the surface soil of the planting areas, the material shall be removed and disposed of as directed.
- G. Watering: All plants shall be watered within the same day of planting. Water shall be applied in a moderate stream until the backfill soil around and below the roots or ball of earth around the roots of each plant is thoroughly saturated. After the first watering, water shall be applied to all plants as often and in sufficient amount as conditions may require to keep the soil within the planting area in a moist condition throughout the planting and plant establishment periods.
- H. Planting Period: The Contractor shall replace at his expense all plants which fail to develop a healthy growth or those plants which are destroyed during a 90-day planting period.

All plants shall be grown in a vigorous, thriving condition by watering, cultivating, weeding and pruning as provided above, by applying pesticides if required and by other necessary operations, for a period, of not less than 90 days after completion of planting in designated areas.

Weeding shall be defined as the removal of undesirable plants and their root systems, except nut grass.

- I. Cleaning After Planting: All empty containers and debris accumulating from planting shall be removed from the project by the Constructor as soon as the planting is completed.

- J. Plant Establishment: Plant establishment is required for all plants until final acceptance, for a period of 9 months from the accepted completion date of the planting period. If provided for in the contract, this period may be shorter or longer depending on the type of plant or unusual conditions.

During the establishment period, all plants shall be grown in a vigorous, thriving condition by watering, fertilizing, cultivating, weeding and pruning as provided above, by applying pesticides if required and by other necessary operations. The Contractor shall replace at his expense, all plants which fail to develop a healthy growth or those plants which are injured, damaged or destroyed due to his operations. Dead or unsatisfactory plants shall be promptly removed from the project. The Contractor shall complete replacement as soon as possible, but in no case longer than 2 weeks after notice that the plant is not acceptable.

Surplus earth, rocks, boulders, papers, trash and debris which accumulate in the planted areas shall be removed and disposed of and the planted areas shall be cared for as to present a neat and clean condition at all times.

Days upon which no work is required, as determined by the Engineer, will be credited as one of the plant establishment days, regardless of whether or not the Contractor performs plant establishment work. Days when the Contractor fails to adequately perform plant establishment work including but not limited to watering, fertilizing, cultivating, weeding, replacing unsuitable plants, or rodent or other pest control, determined to be necessary by the Engineer, will not be credited as plant establishment days.

- K. Acceptance. The acceptability of the plant material furnished and planted as specified shall be determined at the end of the period of establishment during which the Contractor shall employ all possible means to preserve the plants in a healthy growing condition. A semi-final inspection by the Contractor and the Engineer will be held to determine the acceptability of the plant material 90 days before the end of the plant establishment period. All dead and unsatisfactory plants shall be replaced in kind or quantity and size with live healthy plants installed as originally specified. Alternative or substitute varieties of plants shall be used only if approved by the Engineer. A final inspection of all plant material will be held 90 days after the replacement planting has been completed.

PART 4 - MEASUREMENT AND PAYMENT

Payment for planting shall be paid at the lump sum bid amount in the Proposal.

END OF SECTION