SPECIFICATIONS AND PROPOSAL

FOR

REPAIR WATER METERS AT PIER 1,

HILO HARBOR, HAWAII

JOB H. C. 50124

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HARBORS DIVISION

ARTICLE I - PROJECT DESCRIPTION

1.1 GENERAL - The work to be done on this project includes furnishing all labor, materials and equipment necessary to repair water meters at Pier 1 at Hilo Harbor, Hawaii.

Bidders are advised to examine the existing conditions at the proposed project site to familiarize themselves with the nature and extent of work involved and working conditions. Appointments may be made with the Harbors Division Project Engineer for clarification of the work involved or definition of the limits of the work.

Approximate repair locations are indicated on the plans. Actual methods of repair may vary from that indicated on the drawings. The Harbors Division Construction Engineer reserves the right to alter repair methods, sizes, and locations to suit field conditions.

1.2 SCOPE OF WORK - The work to be done includes, but is not necessarily limited to, the following major items of work:

A. Mobilization and demobilization.

B. Repair six (6) water meters and related appurtenances in hatches on Pier 1, Hilo Harbor, Hawaii.

1.3 HARBOR OPERATIONS AND WORK SCHEDULE - The Contractor shall coordinate its work so as to minimize interference with all harbor operations. The work schedule shall be coordinated with the Harbors Division Hilo District Manager and the Construction Engineer and shall be subject to their approval. All work shall be scheduled to minimize interference with any operations in the project area.

Shipping and dock activities by tenants will take precedence over the Contractor's activities. Vessels call at various days of the week. Cruise ships utilize the water hatches when in port, therefore, careful coordination with the Harbors Division and the users is critical for successful completion of the project. Phasing of the work will be required at no additional cost to the State. The exact scheduling of the work and restrictions on the Contractor's activities will be established at the pre-construction meeting. Vessel schedules can be found at hawaii.portcall.com.

Phasing and careful coordination of the work will be required to allow continuous use of the project location and adjacent areas. The Contractor shall be responsible for coordination with the tenants and the Harbors Division on a daily basis regarding scheduling of all work at no additional cost to the State.

All work shall be scheduled with the Harbors Division District Manager, Hilo Harbor Agent, and the Harbors Division Construction Engineer. The Contractor shall give the Harbors Division

District Manager and the Construction Engineer at least 2 weeks prior notice whenever its work will render a portion of the pier unusable.

Construction for this project is anticipated to start in June 2018.

1.4 HARBOR SECURITY - The Contractor shall submit required documentation of all Contractor and subcontractor's employees, their representatives, suppliers, manufacturers, and alike, and of all necessary vehicles needing access to the project site to the Harbors Division Construction Engineer and District Manager before starting work on the project. The documentation will include the following:

A. Authorized personnel's first name, middle initial(s), and last name by company name.

B. Vehicle(s) license plate number(s) by company name.

C. The Contractor may be directed to use a specified entrance to enter and exit the harbor. Upon every entry, each employee must present and possess a photo identification (ID) card.

D. All Contractor's and sub-contractor's employees, their representatives, suppliers, manufacturers, and authorized personnel needing access to the project site shall wear their photo ID card at all times.

E. Contractor's vehicles must be identified with a company logo and will be subject to search. Any employee's personal belongings will also be subject to search.

F. If the Contractor wishes to remove any fencing or open any locked gates, they shall coordinate with and request approval from the Harbors Division Construction Engineer and District Manager. If approval is granted, the Contractor shall then be responsible for securing open fencing or gate(s) immediately after entering, or posting security personnel to monitor ingress and egress. Inspections of vehicles and equipment moving through the access points will be done in accordance with current MARSEC level and directives.

G. If security personnel are required, the Contractor shall hire the same contract security that provides service to the State of Hawaii, Department of Transportation, Harbors Division. In the event that the security contract for Harbors changes, contractor must hire the new security contractor.

H. By the end of each day, the Contractor shall re-erect and restore all fencing/barrier/perimeter security measures to the satisfaction of the Harbors Division Construction Engineer and the District Manager. Electricity and lighting shall also be restored and in satisfactory working order, to no less than pre-construction conditions, by the end of each day, to the satisfaction of the Construction Engineer and District Manager.

I. Under no circumstances shall perimeter security be compromised. If determined by the State, and solely by the State, that the contractor has left the project site in a condition that compromises security of the harbor, the State reserves the right to make the necessary arrangements to provide and enhance perimeter security, including restoration of electrical power and lighting, at the sole expense of the Contractor.

J. At times, the maritime security level for the State of Hawaii and/or the general color-coded security level for State of Hawaii may be temporarily elevated. In these events, the contractor may be prohibited to access the project site and may be required to stop work as directed by either the Harbors Division Construction Engineer or District Manager. The Harbors Division will consider impacts to the work and schedule as a result of prolonged work stoppages.

K. Maritime Security Awareness training is mandatory for all personnel entering the Harbor facility. The Contractor shall be responsible to ensure all of its employees, representatives, subcontractors, vendors, and all alike, requiring access to the harbor area for this project, have been trained and possess the required maritime security card before entering the Harbor's property. Prior to starting work on this project, the Contractor shall provide a list of names (full legal name) and birth dates of all employees, representatives, subcontractors, vendors, and all alike, as well as their vehicles license number, year, make, color and model that will be entering the project site, together with a letter attesting that all personnel have received this training to the Harbors Division District Manager and Construction Engineer. All employees, representatives, subcontractors, vendors, and all alike, shall wear their respective company's identification card bearing the company's name, the individual's first and last name, and middle initial(s), and a recent photograph of the individual on the front of the identification card at all times while on Harbor's property.

With the possible exception of Item J above, all other requirements indicated shall be considered incidental to the project and shall be provided by the contractor at no cost to the State.

The Contractor's personnel requiring unescorted access to secure areas of maritime facilities will be required to obtain a Transportation Worker Identification Credential (TWIC). The project area has been deemed to be within a secured area. TWIC was established by Congress through the Maritime Transportation Security Act and is administered by the Transportation Security Administration (TSA) and U.S. Coast Guard. To obtain a TWIC, the applicant must provide biographic and biometric information such as fingerprints, sit for a digital photograph and successfully pass a security threat assessment conducted by TSA. The Contractor will be responsible to obtain and pay for all costs associated in providing their appropriate employees with TWIC. Information regarding TWIC is available on the TSA website at http://www.tsw.dhs.gov/what_we_do/layers/twic/index/shtm.

1.5 STORAGE AREA - Arrangements for work and storage areas shall be made with the Harbors Division District Manager and the Construction Engineer. The Contractor shall be

responsible for maintaining the work and storage areas and, if necessary, shall restore these areas to their original condition at no cost to the State in the event any damage results from its operations.

1.6 LIABILITY AND RESPONSIBILITY - The Contractor shall provide, erect and maintain warning signs, lights, barricades, fences, watchmen and/or all other means as necessary to prevent unauthorized persons from wandering onto the job site where they may suffer injury or create a hazard to the construction operations or the work in progress. The Contractor shall also take all reasonable precautions for safety in its operations and to prevent injury to its employees and to others at the job site.

The Contractor shall be responsible for any and all damages to harbor facilities caused by its operations. The Contractor shall, at its own expense, make prompt restitution for damages to the harbor facility caused by its operations or negligence. The Contractor shall hold the State harmless from all claims for loss or injury.

Hawaii One Call. The Contractor shall comply with the Hawaii One Call law, HRS Section 269E-4. This includes, but is not limited to, coordination with the Hawaii One Call Center (HOCC) for any work involving excavation at least five (5) working days but not more than twenty-eight (28) calendar days prior to commencing excavation. The contractor shall provide to HOCC a description of the excavation site that may include the county, place, address and measurements as needed. HOCC contact information: telephone 811; website http://www.digsafelyhawaii.com.

The Contractor shall remove defective work and replace the required work at no cost to the State.

The Contractor shall verify conditions in the field prior to ordering any materials. The existing conditions are based on the best available information. The Contractor shall make no claim for extra compensation should actual existing conditions differ from those shown on the plans and specifications.

1.7 PERMITS - The Contractor will require permits for all welding and burning operations, if welding is contemplated. The Contractor shall obtain the required work permits from the Harbors Division District Manager.

A Building Permit from the City and County of Hawaii will not be required for this project.

1.8 BEST MANAGEMENT PRACTICES - The Contractor must follow standard best management practices for air pollution, water pollution, noise and solid waste control, as required by Federal, State and County regulations, to protect the environment from the effects of construction activity, including prohibiting any construction debris or other deleterious materials to fall, flow or otherwise enter the water.

The Contractor shall submit a best management practices (BMP) plan to the Construction Engineer before work is started. The plan shall describe and detail all methods and procedures to be used to prevent air and water pollution, including preventing any materials, wastes and debris from entering the water to the satisfaction of the Harbors Division and the State of Hawaii Department of Health (DOH). The Contractor shall revise the plan should it be determined by the Construction Engineer and DOH that the plan is insufficient to prevent pollution of the waters at no additional cost to the State.

1.9 APPROVED EQUAL - The term "approved equal" as used in these specifications refers to the use of alternate equipment, articles or materials of equal quality and characteristics for the purpose intended. An approved equal will be permitted, upon approval of the Director prior to bid opening, in accordance with the General Provisions.

1.10 STANDARD SPECIFICATIONS - The term "Standard Specifications" as used in these Technical Provisions of these Specifications, shall mean the "Hawaii Standard Specifications for Road and Bridge Construction, 2005, Department of Transportation Highways Division, Honolulu, Hawaii."

1.11 AS BUILT DRAWINGS - The Contractor shall keep one set of drawings at the job site and make all field changes thereon. After completion of the project, two (2) full-size sets of drawings marked up with all the field changes shall be submitted to the Construction Engineer.

1.12 PAYMENT - Payment shall be made as specified below. Such payment shall include furnishing all labor, material, equipment and other expenses required to complete each item in accordance with the plans and specifications. The Best Management Practices (BMP) plan, including temporary water pollution, dust, and erosion measures shall be considered incidental to the pay items below.

Item 1 - Mobilization and Demobilization. Payment shall be made at the lump sum price bid in the Proposal Schedule. Sixty percent (60%) of the lump sum bid price will be paid to the Contractor upon completion of mobilization at the work site and approval of the BMP plan. The remaining forty percent (40%) will be included in the final payment under this contract. Such payment shall include preparation of the BMP plan, setting up and removing all plant equipment and materials at the job site, providing temporary barricades as required for Harbor operations during construction, cleaning up the job site and all other incidental work required to complete this item.

Item 2 – Repair Water Meters and Related Appurtenances (6 Total). Payments shall be made at the unit price bid in the Proposal Schedule. Such payment shall include piping/water meter and related appurtenances removal work; furnishing and installing new water meters, strainers, piping, and related appurtenances; properly disposing or salvaging of all materials removed; all testing required; and all other incidental work required to complete this item.

ARTICLE II - MOBILIZATION AND DEMOBILIZATION

2.1 GENERAL - The work consists of furnishing at the job site, plant, equipment, materials, labor and appliances and performing all work in connection with mobilization and demobilization for the job in accordance with this article of the specifications.

2.2 DESCRIPTION

A. Mobilization shall include setting up, ready for use, all plant, equipment and necessary materials at the job site.

B. Providing temporary barricades as required for Harbor operations during construction.

C. Demobilization shall include the removal of all the Contractor's plant and equipment and surplus material from the job site. The cleanup of the job site, satisfactory to the Construction Engineer, shall also be included in this article.

2.3 PAYMENT - Payment for Mobilization and Demobilization shall be made as described in Article I of these Specifications.

ARTICLE III – TEMPORARY WATER POLLUTION, DUST, AND EROSION CONTROL

3.1 DESCRIPTION - This section is required for all work, including the Contractor's storage sites. It describes the following:

A. A detailed site-specific Best Management Practice (BMP) Plan including diagrams and narratives; constructing, maintaining, and repairing temporary water pollution, dust, and erosion control measures at the project site including local material sources, work areas and access roads; removing and disposing of wastes and hazardous wastes; and control of fugitive dust (defined as uncontrolled emission of solid airborne particulate matter from any source other than combustion). Additionally, all projects at Honolulu, Kalaeloa Barbers Point, and Kahului Harbors are subject to State of Hawaii, Department of Transportation (HDOT) Harbors Division, Storm Water Management Plan (SWMP) requirements, unless exempted, and are subject to Harbors BMP inspections. If any requirement conflicts with those administered by State of Hawaii, Department of Health (HDOH), the contractor shall follow the more stringent requirement.

B. Compliance with applicable federal and other state permit conditions.

C. Work associated with dewatering and hydrotesting activities and compliance with conditions of the NPDES general permit coverage authorizing discharges associated with construction activity dewatering and hydrotesting.

3.2 GENERAL REQUIREMENTS - In order to provide for the control of water pollution, dust, and erosion arising from the construction activities of the Contractor and his subcontractors in the performance of this contract, the work performed shall comply with all applicable federal, state, and local laws and regulations concerning water pollution control including, but not limited to, the following regulations:

D. State of Hawaii, HDOH Hawaii Administrative Rules (HAR) Chapter 11-54 – Water Quality Standards and Chapter 11-55 – Water Pollution Control.

E. For projects at Honolulu, Kalaeloa Barbers Point, and Kahului Harbors ONLY, HDOT Harbors Division, Storm Water Management Plan.

F. For projects at Honolulu, Kalaeloa Barbers Point, and Kahului Harbors ONLY, City and County of Honolulu (CCH), Rules Relating to Soil Erosion Standards and Guidelines.

G. For projects at Honolulu, Kalaeloa Barbers Point, and Kahului Harbors ONLY, CCH, Storm Water BMP Manual for Construction.

H. 40 CFR Part 110, Environmental Protection Agency (EPA) Discharge of Oil.

I. 40 CFR Part 117, EPA Determination of Reportable Quantities for Hazardous Substances.

J. 40 CFR Part 261, EPA Identification and Listing of Hazardous Waste.

K. 40 CFR Part 302, EPA Designation, Reportable Quantities, and Notification.

L. 49 CFR Part 171, U.S. Department of Transportation Hazardous Materials Regulations.

3.3 MATERIALS - Materials shall conform to the following when applicable:

A. Slope Drains**.** Slope drains may be constructed of pipe, fiber, mats, erosion control fabric, geotextiles, rubble, Portland cement concrete, bituminous concrete, plastic sheets, or other materials acceptable to the Construction Engineer.

B. Grass**.** Grass shall be quick growing species such as rye grass, Italian grass, or cereal grasses. Grass shall be suitable to the area and provide a temporary cover that will not compete later with permanent cover. Alternative grasses are allowable if acceptable to the Construction Engineer.

C. Fertilizer and Soil Conditions**.** Fertilizer and soil conditioners shall be a standard commercial grade acceptable to the Construction Engineer.

D. Silt Fences**.** Silt fences shall be synthetic filter fabric mounted on posts and embedded in compacted ground in compliance with American Society for Testing and Materials (ASTM) D6462, Standard Practice for Silt Fence Installation.

E. Berms**.** Berms shall be gravel or sand wrapped with geotextile material. Alternate materials are allowable if acceptable to the Construction Engineer.

F. Alternate materials or methods to control, prevent, remove, and dispose of pollution are allowable if acceptable to the Construction Engineer.

3.4 CONSTRUCTION

A. Preconstruction Requirements.

1. Temporary Water Pollution, Dust, and Erosion Control Meeting. The contractor shall be required to submit a site-specific BMP Plan to the Construction Engineer and address all comments by the Construction Engineer. After the Plan is accepted in writing by the Construction Engineer, the Contractor shall schedule a meeting with the Construction Engineer before the start of construction work to discuss the sequence of

work, and plans and proposals for water pollution, dust, and erosion control.

2. Temporary Water Pollution, Dust, and Erosion Control Submittals. The Contractor shall submit the site-specific BMP Plan for approval by the Construction Engineer prior to the start of work.

   a. Written site-specific BMP Plan shall include the following as applicable:

      1) Identification of potential pollutants and their sources and other factors that may cause water pollution, dust, and erosion.

      2) A list of all material and heavy equipment to be used during construction. Vehicles and equipment shall be well maintained and free from any type of fluid leaks.

      3) Construction schedule.

      4) Name(s) of specific individual(s) designated responsible for water pollution, dust and erosion controls on the project site. Include home, business, and cellular telephone numbers, fax numbers, and e-mail addresses.

      5) Descriptions of the methods and devices used to eliminate certain pollutants (e.g., wastewater, fuels, solvents, detergents, toxic or hazardous substances) from discharging into state waters and drainage systems, and provide details of BMP to be installed or utilized. Indicate approximate dates when BMP will be installed and removed.

      6) Description of maintenance and subsequent removal of any BMPs.

      7) Method(s) of removal and disposal of solid and regulated hazardous wastes encountered or generated during construction. The Contractor is advised to procure regulated hazardous materials on an as-needed basis, as feasible. All excess regulated hazardous materials at the conclusion of this project shall remain the property of the Contractor and shall be removed from HDOT Harbors Division property upon the completion of the project.

8) Method(s) of removing and disposing concrete and asphalt pavement cutting slurry, concrete curing water, and hydrodemolition water.

9) Method(s) of containing, removing and disposing of demolition dust and debris to minimize the discharge of these pollutants into state waters and drainage systems.

10) Spill kit contents and location.

11) Fugitive dust control, including dust from grinding, sweeping, or brooming off operations or combination thereof.

12) Method(s) of storing and handling of regulated hazardous materials (e.g. oils, paints) and other products used for the project. Safety Data Sheets (SDS) for all regulated hazardous materials used during construction activities shall be kept on-site throughout the duration of the project and readily available upon inspection. All containers of regulated hazardous materials should be provided with secondary containment during storage. Regulated hazardous materials not specifically needed in the execution of this project shall not be brought or stored on site. As feasible, the Contractor is encouraged to use products that do not contain any regulated constituents. The use of green products is encouraged.

13) Method(s) of concrete washout/waste control.

14) Method(s) of managing material stockpiles to minimize erosion and dust.

15) Good housekeeping practices.

    a) Minimize tracking of sediment offsite from project entrances and exits.

    b) Litter management. The Contractor shall have a comprehensive housekeeping policy and shall actively enforce housekeeping requirements. Housekeeping items include, but are not limited to, cups, cans, bottles and other forms of lightweight litter, unattended containers of hazardous materials, concrete debris (e.g. dust, chips, and other sweepings), and discarded articles of disposable

Personal Protective Equipment (e.g., earplugs, dust masks, and gloves). Employees who are specifically tasked with housekeeping duties shall be identified by name.

c) The Contractor should provide and maintain covered waste receptacles. No construction debris or other refuse that is generated as a result of project activities is to be disposed in HDOT Harbors Division-owned waste receptacles.

16) Provide plan(s)/drawing(s) showing location of followings when applicable:

a) Boundaries of the property and the locations where construction activities will occur, including:

i. Locations where earth-disturbing activities will occur (noting any sequencing of construction activities);

ii. Approximate slopes and drainage patterns with flow arrows before and after the construction;

iii. Locations where sediment, soil, or other construction materials will be stockpiled;

iv. Locations of any contaminated soil or contaminated soil stockpiles;

v. Locations of any crossings of state waters;

vi. Designated points on the site where vehicle will exit onto paved roads;

vii. Locations of structures and other impervious surfaces upon completion of construction; and

viii. Locations of construction support activity areas covered by the permit.

b) Locations of all state waters, including wetlands and indicate which water bodies are listed as impaired.

c) The boundary lines of any natural buffers.

d) Topography of the site, existing vegetative cover, and features (e.g., forest, pasture, pavement, structures), and drainage pattern(s) of storm water onto, over, and from the site property before and after major grading activities.

e) Storm water discharge locations, including locations of any storm drain inlets on-site and in the immediate vicinity of the site to receive storm water runoff from the project; and locations where storm water will be discharging to state waters (including wetlands).

f) Locations of all potential pollutant-generating activities.

g) Locations of storm water control measures; and

h) Locations where chemicals will be used and stored.

17) Procedures for notification of appropriate facility personnel, emergency response agencies, and regulatory agencies where a leak, spill, or other release containing a hazardous substance or oil in an amount equal to or in excess of a reportable quantity established under either 40 CFR Parts 110, 117, or 302, occurs during a 24-hour period. Contact information must be in locations that are readily accessible and available.

18) The Contractor shall date and sign the site-specific BMP Plan.

b. The Contractor shall keep the approved Plan on-site or an easily accessible location throughout the duration of the project. Revisions to the Plan shall be included with the original plan. Modify contract documents to conform to revisions. Include actual date of installation and removal of BMP. Obtain written acceptance by the Construction Engineer before revising BMP. An updated Plan shall be kept on-site throughout the remainder duration of the project.

The Contractor shall follow guidelines in the "*The City and County of Honolulu Storm Water Best Management Practice Manual – Construction*," (dated November 2011) in developing, installing, and maintaining BMP for the project. Additionally, the Contractor shall follow City and County of Honolulu *Rules Relating to Soil*

Erosion Standards and Guidelines (dated April 1999) **for all projects at Honolulu, Kalaeloa Barbers Point, and Kahului Harbors**, and use respective Soil Erosion Guidelines for other Maui, Kauai and Hawaii County projects. Information can be found at the respective County websites.

B. Construction Requirements are as follows.

1. No work shall be allowed to begin until submittals detailed in Subsection 3.4.A.2 – Temporary Water Pollution, Dust, and Erosion Control Submittals are completed and accepted in writing by the Construction Engineer. The Contractor shall prevent pollutants from entering state waters. These efforts shall address areas such as those that drain to water, are over water, or drain to storm drains in the area of the project site. The Contractor shall design, operate, implement, and maintain the Plan to ensure that discharges associated with construction activities will not cause or contribute to a violation of applicable state water quality standards.

2. All projects at Honolulu, Kalaeloa Barbers Point, and Kahului Harbors are subject to HDOT Harbors Division SWMP requirements for construction at those harbors unless the project meets a specified exemption class. The requirements include, but are not limited to, construction site BMP initial, recurring (i.e. every two weeks from October through March and every two months otherwise), and final inspections at the frequencies outlined in the SWMP. No grading or land disturbance activities are allowed until the initial BMP inspection is completed and required BMPs are found to be properly installed.

3. Address all comments received from the Construction Engineer.

4. Modify and resubmit plans and construction schedules to correct conditions that develop during construction which were unforeseen during the design and pre-construction stages.

5. Coordinate temporary control provisions with permanent control features throughout the construction and post-construction period.

6. BMP shall be in place and operational until the construction is completed and accepted by Harbors.

7. Install and maintain either or both stabilized construction entrances and wheel washes to minimize tracking of dirt and mud onto roadways. Restrict traffic to stabilized construction areas only. Clean dirt, mud, or other material tracked onto the road immediately. Modify stabilized construction entrances to prevent mud from being tracked onto roadways.

8. Chemicals may be used as soil stabilizers for either or both erosion and dust control if acceptable to the Construction Engineer.

9. Cover exposed surface of materials completely with tarpaulin or similar device when transporting aggregate, soil, excavated material or material that may be a source of fugitive dust.

10. Cleanup and remove any pollutant that can be attributed to the Contractor.

11. Install or modify BMP due to change in the Contractor's means and methods, or for omitted condition that should have been allowed for in the accepted site-specific BMP Plan or a BMP that replaces an accepted site-specific BMP that is not satisfactorily performing.

12. Properly maintain BMP.

13. Remove, replace or relocate any BMP that must be removed, replaced or relocated due to potential or actual flooding, or potential danger or damage to the project or public.

14. The Contractor's designated representative specified in Subsection 3.4.A.2.a.(4) shall address any BMP concerns brought up by the Construction Engineer within 24 hours of notification, including weekends and holidays. Should the Contractor fail to satisfactorily address these concerns, the Construction Engineer reserves the right to employ outside assistance or use the Construction Engineer's own labor forces to provide necessary corrective measures. The Construction Engineer will charge the Contractor such incurred costs plus any associated project engineering costs. The Construction Engineer will make appropriate deductions from the Contractor's monthly progress estimate. Failure to apply BMP shall result in either or both the establishment and increase in the amount of retainage due to unsatisfactory progress or withholding of monthly progress payment. Continued failure to apply BMP may result in one or more of the following: The Contractor being fully responsible for all additional costs incurred by HDOT Harbors Division including any fines levied by HDOH, suspension of the Contract, or cancellation of the Contract.

C. Hydrotesting Activities. If work includes removing, relocation or installing waterlines, and the Contractor elects to flush waterline or discharge hydrotesting effluent into state waters or drainage systems, obtain a Notice of General Permit Coverage (NGPC) authorizing discharges associated with hydrotesting waters from the HDOH Clean Water Branch (CWB). If a permit is required, prepare and submit permit application (CWB-Notice of Intent (NOI) Form F) to the HDOH CWB.

Do not begin hydrotesting activities until the HDOH CWB has issued a NGPC. Hydrotesting operations shall be in accordance with conditions in the NGPC. Submit a copy of the NPDES Hydrotesting Waters Application and Permit to the Construction Engineer.

D. Dewatering Activities. If excavation of backfilling operations require dewatering, and the Contractor elects to discharge dewatering effluent into state waters or existing drainage systems, obtain an NGPC authorizing discharges associated with construction activity dewatering from the HDOH CWB. If a permit is required, prepare and submit permit application (CWB-NOI Form G) to the HDOH CWB.

Do not begin dewatering activities until the HDOH-CWB has issued an NGPC. Conduct dewatering operations in accordance with the conditions in the NGPC. Submit a copy of the NPDES Dewatering Application and Permit to the Construction Engineer.

3.5 PAYMENT - Payment for Temporary Water Pollution, Dust and Erosion Control will not be measured and paid for separately but shall be considered incidental to the items described in Article I of these Specifications.

No progress payment will be authorized until the Construction Engineer accepts in writing the site-specific BMP Plan or when the Contractor fails to maintain the project site in accordance with the accepted BMP Plan.

The Contractor shall reimburse the State of Hawaii within 30-day for the full amount of all outstanding costs incurred by the State of Hawaii for all citations or fines received as a result of the Contractor's non-compliance with regulations.

ARTICLE IV – PLUMBING WORK

4.1 GENERAL

A. Description: Provide all labor, materials, equipment, services and related work to complete all plumbing work as shown on the drawings and as specified. The work shall include the following:

1. Proper removal and disposal of existing piping and appurtenances in six (6) hatches on Pier 1, Hilo Harbor, Hawaii. Salvage any items as directed by the Harbors Division.

2. Install Domestic cold water piping, water meters, and related appurtenances in the six (6) hatch locations.

3. Chlorination and Disinfection of affected water supply system.

4. Manufacturer's literature, shop drawings, and record drawings.

4.2 GENERAL REQUIREMENTS

A. It is the intent of the plans and specifications to provide a complete installation. Should there be omissions or discrepancies in the plans and specifications, the Contractor shall call the attention of the Harbors Division Construction Engineer to such omissions and discrepancies in advance of the date of bid opening so that the necessary corrections can be made. Otherwise the Contractor shall furnish and install the omissions or discrepancies as if the same were specified and provided for.

1. Standards:

a. All work shall be done in accordance with the latest edition of the Uniform Plumbing Code and applicable ordinances of the County of Hawaii.

b. Work shall comply with applicable regulations of the State of Hawaii Health Department.

c. Contractor shall obtain all permits, licenses, and certificates and pay for all fees.

2. Approval of Materials, Fixtures and Equipment: As soon as practicable and within 30 days after award of contract and before commencement of installation of any materials and equipment, a complete schedule of the materials and equipment proposed for installation shall be submitted for

the approval of the Harbors Division Construction Engineer. The schedule shall include catalogs, cuts, diagrams, drawings and such other descriptive data as may be required by the Harbors Division Construction Engineer. No consideration will be given to partial lists submitted from time to time. Any scheduled materials, fixtures and equipment not conforming to the specifications may be rejected.

3. Drawings: The drawings and specifications are intended to cover the complete installation of systems to function as described. The omission of reference to any necessary item of labor or material shall not relieve the Contractor from providing such labor or material. Drawings do not attempt to show exact details of piping and ductwork. Provide offsets as necessary to avoid local obstructions or interferences with other trades.

   a. Contract Drawings: Mechanical plans are essentially diagrammatic, showing locations of pipes and other mechanical equipment. Where locations are not dimensioned, they are approximate, and before installing, Contractor shall study existing conditions and make installation in most logical manner.

   b. Shop Drawings: The Contractor shall submit 6 copies of shop drawings and brochures or catalog cuts of equipment for review and reply prior to start of work. The Contractor shall show the entire work with inverts, sleeves and dimensions. Contractor shall check project drawings to avoid interferences with structural features and with work of other trades. No plumbing or piping work shall commence until plans have been reviewed by the Harbors Division Construction Engineer. Any deviations from the shop drawings shall require prior approval by the Harbors Division Construction Engineer.

   c. Record Drawings: The Contractor shall keep at the job site a complete, neat and accurate record of all approved deviations from the contract drawings, shop drawings and specifications, indicating the work as actually installed. These changes shall be recorded on prints of the drawings affected and the shop drawings. Two (2) copies of reproducible as-builts shall be submitted to the Harbors Division Construction Engineer after final acceptance.

4.3 WARRANTY AND CERTIFICATE

A. Warranty: All work and materials executed under this section shall be under warranty to be free from defects of materials and workmanship for one (1) year from date of final acceptance of project as a whole by the Harbors Division Construction Engineer. All work of repair and replacement required, including

other work damaged by this work's defects shall be performed without cost to the Owner.

B. Certificates: Furnish certificates for evidence of proper performance or compliance with code for the following:

1. Sterilization of domestic water piping and related appurtenances.

2. Water leak testing of domestic water piping and related appurtenances.

4.4 MATERIALS

A. All materials shall be new and of the best quality available in their respective kinds, free from all defects and shall be of the make and types specified or approved equal.

B. Domestic Water Piping:

1. Piping: Copper tubing, ASTM B88, Type K, with ANSI B16.18 or B16.22 solder joint fittings.

C. Miscellaneous Materials:

1. Nipples: Nipples shall be the same material as the piping in which installed.

2. Unions: Unions shall be brass or bronze, either threaded or with solder joint ends, for use in copper tubing.

3. Solder: 95-5 tin antimony or 10% silver solder.

4. Vertical Pipe Support: Channel, pipe clamp, and support hardware shall be manufactured of 316L stainless steel.

5. Epoxy Adhesive: Simpson high strength epoxy tie anchoring adhesive, or approved equal.

6. Dielectric Fittings: Dielectric union with galvanized or plated steel female pipe threaded end and copper solder-joint end. Union shall have a water-impervious insulation barrier capable of limiting galvanic current to one percent of the short-circuit current in a corresponding bimetallic joint and, when dry, shall also be able to withstand a 600-volt breakdown test.

7. Water Meters: 3” Turbine meter conforming to AWWA C701. Main case is corrosion-resistant, lead free, high copper alloy. Flanged inlet and

outlet. Water meter shall at a minimum operate up to 450 gpm. Neptune HP or approved equal.

8. Strainers: 3" Strainer conforming to NSF/ANSI 61. Lead free, high copper alloy. Compatible with water meter. Neptune or approved equal.

4.5 INSTALLATION AND WORKMANSHIP

A. All workmanship shall be of the highest standard. Vertical piping lines shall be plumbed. Galvanized sheet metal thimbles shall be provided where pipes pass through masonry, and cutting shall be avoided as much as possible. Exposed pipe, where indicated, shall be run parallel with walls.

B. The installation shall comply with the latest accepted edition of the Plumbing Code, the Fire Marshal's regulations of the State of Hawaii, the regulations of the Department of Health of the State of Hawaii and all other applicable codes.

C. The Contractor shall obtain and pay for all permits and licenses for the work. At completion, transmit to the Harbors Division Construction Engineer, applicable certificates of inspections.

4.6 CUTTING AND REPAIRING

A. The work shall be carefully laid out in advance providing sleeves, templates or details for chases and openings to be left in the walls, floors, structural members or partitions. Any access cutting of construction will not be permitted. Cutting shall be carefully done, and damage to buildings, piping, wiring or equipment as a result of cutting for installation shall be repaired by skilled mechanics of the trade involved at no additional expense to the State. Written permission from the Harbors Division Construction Engineer representative shall be obtained before any cutting is done.

4.7 PROTECTION TO FIXTURES, MATERIALS AND EQUIPMENT

A. Pipe openings shall be closed with caps or plugs during installation. Fixtures and equipment shall be tightly covered and protected against dirt, water and chemical or mechanical injury. Upon completion of all work the fixtures, materials and equipment shall be thoroughly cleaned, repainted as required, adjusted and operated.

4.8 CHLORINATION

A. Domestic cold water line system shall be sterilized with chlorine before acceptance of the work. Dosage of chlorine shall be not less than 50 ppm. Chlorinating material shall be introduced into the water lines in a manner approved by the Harbors Division Construction Engineer. After a contact period of not less than twenty four (24) hours the system shall be flushed with clean water until the residual chlorine content is not greater than 0.2 ppm. All valves in the lines being sterilized shall be opened and closed several times during the contact period. A certificate shall be furnished to the Harbors Division Construction Engineer evidencing proper performance of sterilizations.

B. All flushed water from chlorination shall be routed to a sanitary sewer. Flushed water is not allowed to discharge into the ocean.

4.9 PIPE INSTALLATION

A. All copper water piping joints shall be 95-5 soldered or 10% silver solder.

B. All piping shall be inspected inside and out before installation and no obstructions shall be allowed. Pipe ends shall be taper reamed to full I. D. and all burrs removed.

C. All exposed piping shall be carefully handled to avoid excessive tool marking and polished fittings shall be handled with extra care so that tool marks do not show. All exposed piping shall be in one length, where possible.

D. Anchor piping with approved clamps or adjustable hangers spaced in accordance with the Plumbing Code. Straps for copper tubing shall be 316 stainless steel. Where copper contacts ferrous material, wrap with two layers of plastic tape.

E. Provide dielectric unions where copper piping is connected to ferrous pipe.

F. Anchor bolts shall be only installed in sound concrete.

4.10 TESTING AND INSPECTION

A. Contractor shall furnish all equipment for tests and any required retests and pay for all cost of repairing any damage resulting from such tests. Contractor shall adjust systems until they are approved. Tests shall be performed in the presence of, and to the satisfaction of, the Harbors Division Construction Engineer and inspector of the official agency involved.

B. Water piping system shall be tested in accordance with the Plumbing Code. Water piping system shall be tested at 150 psi for 15 minutes. Discharge shall be

collected and the testing report shall be sent to the Harbors Division Construction Engineer.

C. After the completion of construction, the Contractor shall confirm the performance of the water meters by comparing the meter readings with an external flow meter. The flow meter equipment and testing shall be provided by the Contractor at no additional cost to the State. The test reports shall be sent to the Harbors Division Construction Engineer.

4.11 CLEAN UP

A. Debris shall not be allowed as a result of this work. Upon completion of this work, remove all debris and excess materials, tools, etc., resulting from this work from the job site and leave the location of this work broom-cleaned in an acceptable manner as approved by the Harbors Division Construction Engineer. All work including plumbing fixtures, traps and mechanical equipment shall be thoroughly cleaned and ready for use.

4.12 PAYMENT

Payment for Plumbing Work shall be made as described in Article I of these Specifications.

ARTICLE V – MATERIAL SUBMITTALS AND SHOP DRAWINGS

5.1 GENERAL - This Article consists of a list of materials and shop drawings required for this project. As soon as possible after award of the contract, the Contractor shall submit for approval, the required material submittals and shop drawings to the Harbors Division Construction Engineer at 79 S. Nimitz Highway, Honolulu, Hawaii 96813. The Material Submittals and Shop Drawings submitted by the Contractor shall include all items listed below. Material Submittals and Shop Drawings not submitted as a complete package will not be reviewed by the Harbors Division and will be sent back as a non-submittal. The Contractor shall promptly order its materials after approval of its submittals.

5.2 MATERIAL SUBMITTALS - The Contractor shall submit for review and approval six (6) copies of manufacturer's specifications for the following items.

A. Best Management Practices (BMP) Plan

B. Water Meters

1. Water Meters and Strainers

2. Plumbing Shop Drawings

5.3 PAYMENT - Payment for Material Submittals and Shop Drawings shall not be made separately but shall be considered incidental to the items described in Article I of these Specifications.

PROPOSAL TO THE STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HARBORS DIVISION

PROJECT: REPAIR WATER METERS AT PIER 1, HILO HARBOR, HAWAII

JOB NO: H. C. 50124

COMPLETION TIME: All work shall be completed within TWENTY (20) WORKING DAYS from the date indicated in the Notice to Proceed from the Department.

LIQUIDATED DAMAGES: One Hundred Five Dollars ($105.00) for each and every working day which the Contractor has delayed the completion of this project.

DESIGN PROJECT MANAGER:

MR. BRANDEN SUMIDA
DEPARTMENT OF TRANSPORTATION
HARBORS DIVISION
HALE AWA MOKU
79 S. NIMITZ HIGHWAY
HONOLULU, HAWAII 96813
PHONE: (808) 587-1873
FAX: (808) 587-1864

REPAIR WATER METERS AT PIER 1,

HILO HARBOR, HAWAII

JOB H. C. 50124

PROPOSAL SCHEDULE

Item No.	Item Description	Approximate Quantity	Unit	Unit Price	Amount Bid
1	Mobilization and Demobilization	1	L.S.	L.S.	$ _____
2	Repair Water Meters and Related Appurtenances (6 Total)	1	L.S.	L.S.	$ _____
		BASE BID (Sum of all items) $ _____			

NOTES:

Bid to include all Federal, State and local taxes.

Bids will be evaluated on the basis of the BASE BID. If the lowest BASE BID is less than, or approximately equal to the funds available for this project, an award will be made to the lowest responsible bidder.

If the lowest BASE BID exceeds the funds available for this project, the State reserves the right to negotiate with the lowest responsible bidder as permitted under Section 103D-302, Hawaii Revised Statutes, as amended, to reduce the scope of work and award a contract therefor."

Submission of Proposal is a warranty that the bidder has made an examination of the project site and is fully aware of all conditions to be encountered in performing the work and the requirements of the plans and specifications.

No additional compensation will be paid by the State for losses, including overhead and profit, resulting from reduced scope of work.

Contract time shall remain the same whether or not the overall scope of work is decreased.