

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HARBORS DIVISION
OAHU DISTRICT

SPECIFICATIONS & TECHNICAL PROVISIONS

FURNISHING AND INSTALLATION OF SECURITY FENCING OF SECURITY FENCING AT KALAELOA BARBERS
POINT HARBOR STORAGE LOT ON THE ISLAND OF OAHU, HAWAII.

PROJECT NO:
DOT-HAR-O-19-15

PROJECT DESCRIPTION

GENERAL – The work to be done on this project consists of furnishing all labor, materials, equipment and other expenses required to install security fencing with a vehicle gate at Kalaeloa Barbers Point Harbor, Oahu, Hawaii. The work consists of, but is not limited to, the following:

- A. Removing existing vegetation along proposed fence line.
- B. Installing new footings, and new fence.
- C. Installing new vehicle gate.
- D. Provide temporary barricades for project area during construction.

Any items not specified herein but necessary for the completion of the system shall be considered incidental and shall be furnished and installed complete in place.

Prospective bidders are advised to visit the project area to familiarize themselves with the extent of work involved. Appointments may be made with the Project Manager for clarification of work involved and the character and quality of materials specified.

The fence and gate to be installed on this project provides security for the new expansion yard at Kalaeloa Barbers Point Harbor.

PORT OPERATIONS – The Contractor shall coordinate his work so as to minimize interference with port operations. Interference from daily Harbor operations may occur. Harbor operations shall always have first priority, at no cost to the State.

The Contractor shall schedule its operations with the Project Manager or authorized designee. The exact scheduling and sequencing of the work and restrictions on the Contractor's activities will be established at the pre-construction meeting.

Arrangements for work and storage areas shall be made with the Project Manager. The Contractor shall be responsible for maintaining the work and storage areas and if necessary shall restore these areas to their original condition at its own expense in the event that any damage results from its operations.

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

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

The Contractor shall ensure that no debris, petroleum products or other deleterious materials be allowed to fall, flow, or leach, or otherwise enter the harbor or storm drain system. Any oil spills shall be immediately removed to the satisfaction of the Harbors Division. All drain inlets shall be protected during construction.

The Contractor shall comply with all applicable Federal, State and County laws and regulations.

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.

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 Contract shall provide to measurements as needed. HOCC contact information: telephone 811; website <http://www.digsafelyhawaii.com>.

APPROVED EQUAL – The term “approved equal” as used in these specifications means an equal product or material approved by the Project Manager prior to bid opening.

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

MATERIALS SUBMITTALS – The Contractor shall submit for review three (3) copies of the following items:

- A. All fencing materials – fabric, posts, rails, tension wires, tie wires, barb wire, hardware, gate, etc.
- B. Concrete mix design
- C. Paint

After award of the contract, the Contractor shall furnish the required shop drawings and material submittals, obtain acceptance of the materials proposed to use on the project, and order the materials.

BEST MANAGEMENT PRACTICES – The Contractor must follow Standard Best Management Practices (BMPs) for air pollution, water pollution, noise and solid waste control, as required by Federal, State and County regulations, to protect the environment from effects of construction activity, including prohibiting any construction debris or other deleterious materials to fall, flow or otherwise enter harbor waters.

The Contractor shall submit a site-specific BMP plan to the Project Manager before work is started. The plan shall satisfy the (applicable) requirements of ARTICLE XII – TEMPORARY WATER POLLUTION, DUST, AND EROSION CONTROL. This plan shall describe and detail the methods and procedures to be used to prevent air and water pollution including preventing any materials, wastes, and debris from entering any adjacent storm drain system and the harbor to the satisfaction of the Harbors Division and the State of Hawaii Department of Health (DOH). The Contractor shall revise the BMP plan – at no additional cost to the State – should it be determined by the Project Manager that the plan is insufficient to prevent pollution.

The Contractor shall remove all debris resulting from their work. The Contractor agrees to reimburse the State for all costs expended in performance of the above work if required for public health and safety or made necessary by non-performance by the Contractor.

PERMITS – A permit will be required for all work on Harbors Division property. The Contractor shall obtain and submit a work permit to the Oahu District Manager. Work permit application can be obtained online at <https://hidot.hawaii.gov/harbors/files/2019/01/WPIHW-Digital-ID.pdf>.

AS-BUILT DRAWING – The Contractor shall keep one (1) set of drawings at the job site and make all field changes thereon. After completion of the project, one (1) set of full size drawings and an electronic copy marked up with all the field changes shall be submitted to the Project Manager.

HARBOR SECURITY – The Contractor shall submit required documentation of all contractor and sub-contractor's employees, their representatives, suppliers, manufacturers, and alike, and of all necessary vehicles needing access to the project site to the Project 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. If security personnel are required, they shall be an employee of an established security guard company doing business in the State of Hawai'i for at least the past six (6) months. Each guard providing security services for the project shall have, at a minimum, been successfully trained in accordance with Maritime Transportation Security Act of 2002 and 33 Code of Federal Regulations. Copies of proof of successful training shall be furnished by the Contractor.

In addition, for each work day, Harbors security procedures will be as follows:

- D. All Contractor's and sub-contractor's employees, their representatives, suppliers, manufacturers, and authorized personnel needing access to the project site shall always have a photo ID card on their persons.
- 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 Project Manager. If required, the Contractor shall then be responsible for securing open fencing or gate(s) immediately after entering or posting a security guard to monitor ingress and egress.
- G. This project is outside of the Facility Security Plan and will not require TWIC and Proof of Maritime Security Awareness training in the project area.

PAYMENT – Payment will be made as specified below. Such payment shall include furnishing all labor, material, equipment, and other expenses required to complete the work in accordance with the plans and specifications. Best management practices shall be considered incidental to the pay items below.

- A. Item 1 – Fence installation. Payment shall be made at the lump sum price bid in the Proposal Schedule for Fence Installation. Such payment shall include furnishing all labor, material, equipment and other expenses required for coring for new fence and gate post footings; placing new fence posts and concrete footings; placing new gate posts and concrete footings; installing new fencing and associated hardware; maintenance, monitoring and removal of BMP; and other incidental work required to complete this item.
- B. Item 2 – Painting. Payment shall be made at the lump sum price bid in the Proposal Schedule for Painting. Such payment shall include furnishing all labor, material, equipment and other

expenses required for surface preparation and painting and/or touch-up of all Galvanized and Steel exterior surfaces of the new posts, top rails, braces, barb arms and fittings for fencing and gate; and other incidental work required to complete this item.

- C. Item 3 – Gate Installation. Payment shall be made at the lump sum price bid in the Proposal Schedule for Gate Installation. Such payment shall include furnishing all labor, material, equipment and other expenses required for installing new gate and associated hardware.

MATERIALS – All materials shall be Hot-Dipped Galvanized and Stainless Steel 316 unless otherwise specified.

- A. Chain link fabric for fence shall be PVC coated over a Zinc coated Steel wire. The wire used in the fabric shall be No. 9 gauge with a Zinc coating of 0.30 ounces per square foot minimum. Mesh size shall be 2 inches. The PVC coating shall be applied by thermal fusion bonding and shall have a minimum thickness of 10 mils. The color of the PVC coating shall be dark green. The minimum breaking strength of the PVC coated wire shall be 1,200 pounds. The mesh shall be woven with twisted and barbed salvage to both top and bottom. Fabric shall comply with ASTM F-668 Class 2.B.
- B. Posts, top rails and braces shall be fabricated from Schedule 40 Galvanized Steel pipe conforming to ASTM F-1083. All Steel pipe shall be coated on the outside with PVC. The PVC coating shall be applied by the thermal fusion method and shall be a minimum of 10 mils thick. The color of the coating shall be dark green. All posts shall be of a total length of not less than the depth of the concrete footing plus the height above ground and as specified on the drawings.
- C. Posts, bottom rails, and wing fence frame close to the revetment shall be fabricated from Schedule 40 Stainless Steel Type 316 pipe conforming to ASTM A312. All Stainless Steel posts shall be of a total length of not less than the depth of the concrete footing plus the height above ground and as specified on the drawings. Stainless Steel posts on revetment shall be mounting using both Type 316 Stainless Steel mounting flanges and anchor bolts.
- D. Fittings shall be pressed Steel or Cast Iron with PVC coated or painted, if damaged or requires touch-up, as described in **PAINTING**. All posts shall be fitted with approved tops and barb arms designed to fit securely over the posts, and the top rail shall pass through the base of these tops. All components of the fence except for the mount flanges, barbs, bolts, washers and nuts shall be painted as described in **PAINTING**. Fittings and accessories shall comply with ASTM F-626. Anchor bolts, bolts, washers and nuts shall be Type 316 Stainless Steel.
- E. Barbed wires shall consist of four 12 ½ gauge Galvanized wire with 14 gauge 4-point barbs spaced approximately 5 inches apart. Strands (except barbs) shall be coated with a 10-mil minimum thickness PVC coating. Barbed wire shall conform to the requirements of ASTM A-121.
- F. Tension wire shall be No. 9 gauge Galvanized Steel wire with a 0.30 ounces per square foot minimum weight of zinc coating. The wire shall be coated with a 10-mil minimum thickness PVC coating. The tie wires shall be spaced on line posts at intervals of approximately 12 inches, and on top rails, brace rails and tension wires at intervals of approximately 24 inches.
- G. Tie wire shall be No. 9 gauge Galvanized Steel wire with a 0.30 ounces per square foot minimum weight of zinc coating. The wire shall be coated with a 10-mil minimum thickness PVC coating.

The tie wires shall be spaced on line posts at intervals of approximately 12 inches, and on top rails, brace rails and tension wires at intervals of approximately 24 inches.

- H. Reflective markers on fencing and posts shall be installed in accordance with Hawaii Standard Specifications for Road and Bridge Construction, 2005 Department of Transportation, Highways Division, Honolulu, Hawaii.
- I. Concrete for fence and gate post footings shall be Class D, (1500 psi) in accordance with Section 601 of the Standard Specifications.
- J. Materials for gate post footings width and depth shall in accordance with Section 607 of the Standard Specifications.

CONSTRUCTION – Any sand, dirt, rocks, vegetation and other debris shall be properly removed and disposed from the fence line by the contractor so that the fence can be installed level. All removed materials and vegetation shall be properly disposed of by the Contractor away from the project site.

The fence materials shall be shipped, stored and installed in a manner to avoid nicks or other damage to the PVC coating. The fence shall be inspected for damage by the Project Manager. If any damage to the PVC coating is found, the Contractor shall repair the damage per manufacturers recommendation and to the satisfaction of the Project Manager.

The new concrete footings shall be constructed in accordance with Section 503 of the Standard Specifications except as modified in these specifications and on project drawings. No live loads shall be permitted on the new concrete footings until the concrete has been allowed to properly cure for a minimum of seven (7) days. The project area shall remain barricaded from traffic for the duration of the curing project.

The new chain link fabric, tension wires, eye tops with barb arms, and barbed wires shall be installed using new tie wires and new rails. Installation shall include new connecting hardware such as tension bars, tension bands, bolts, washers, nuts, etc.

The new chain link fence shall be constructed in accordance with Section 607 of the Standards Specifications except as modified in these specifications and on the project drawings.

All miscellaneous uncoated fence members, except for Stainless Steel, shall be painted, as described in **PAINTING**, with an epoxy two-part paint system.

PAINTING – The work to be done under this section consists of surface preparation and painting of the exterior surfaces of the new fence at Kalaeloa Barbers Point Harbor. The work includes, but is not limited to, preparing and painting the following surfaces:

- A. All exterior surfaces; except for Stainless Steel and PVC coated surfaces, of the new fence including posts, top rails, braces, barb arms, eye tops, post caps, truss rods and tighteners, tension bars, tension bands, pivot arm, collars, and other required fittings.
- B. For aged coatings on existing surfaces or damaged areas, abrading or feathering edges of intact coating may be required prior to pretreatment per manufactures recommendation.

All paints shall e delivered to the site in the manufacture’s sealed containers. Each container shall be labeled by the manufacturer with the label showing name, brand, type of paint, color of paint, and the

manufacturer's instructions for reducing consistency. The painting materials shall be the following or approved equal:

- A. Pretreatment – Pretreatment for new and existing Galvanized surface to be painted or touched up shall be galvarep or approved equal.
- B. Prime Coat – The prime coat shall be a two component, zinc primer, flat finish, capable of being applied at a dry film thickness of 4-mils per coat, "Dimetcote 302H" as manufactured by PPG or approved equal.
- C. Finish Coat – The finish coat shall be a high performance, two component, High-solid epoxy polysiloxane paint, high gloss finish, capable of being applied at a dry film thickness of 5-mils per coat, "PSX-700" as manufactured by PPG or approved equal. Color shall be dark green to match the color of the PVC coated fence fabric.

The contractor shall submit for acceptance three (3) copies of catalog cuts of the painting materials it proposes to furnish for this project.

All existing metal surfaces to be painted shall be thoroughly cleaned of grease, dirt, and other foreign material by the use of chemical cleaning. Surface preparation shall conform to SSPC-SP-1, Chemical Cleaning. Rinse surface thoroughly and allow to dry. Following that, surface preparation for intact paint shall conform to SSPC-SP-2, Hand Tool Cleaning. Surface preparation for open rusted areas shall conform to SSPC-SP-3, Power Tool Cleaning.

All new metal surfaces to be painted shall be thoroughly cleaned of all dirt, oil, grease and other foreign material by the use of chemical cleaning. Surface preparation shall conform to SSPC-SP-1, Chemical Cleaning.

All metal surfaces shall be painted with one (1) pre-treatment coat of the material specified in the "A. Pretreatment" of this section, one (1) prime coat of the material specified in "B. Prime Coat" and two (2) finish coats of the material specified in "C. Finish Coat".

All new surfaces, except for Stainless Steel and PVC surfaces, to be painted or surfaces to be touched up shall be properly prepared prior to painting and shall be inspected for approval by the Project Manager before painting will be allowed.

Prime and finish coats shall be applied by brush or roller. No spraying shall be allowed.

The time interval between each coat of paint shall be as recommended by the manufacturer.

The prime coat for the metal surfaces shall be applied at a rate to produce a dry film thickness of at least 4-mils. The finish coat shall be applied at a rate to produce a dry film thickness of 5-mils per coat. The total dry film thickness of the two-coat system shall be at least 10-mils.

Finish work shall be uniform and of approved color. The finish coat shall be completely cover, be smooth and be free from runs, sags, drops, waves, laps or brush marks. Edges of painting adjoining other surfaces or materials shall be sharp and clean without overlapping.

All completed work shall be inspected by the Project Manager. Contractor will take corrective actions and responsibilities at no cost to the State.

CLEAN UP – All paint, oil, etc. shall be cleaned off of pavement, colors, fixtures, walls or any portion of nearby structures where paint has splashed or been spilled.

All unused rags, waste and empty containers shall be removed from the work area at the end of each work day and precautions shall be taken to avoid the danger of fire.

The Contractor shall maintain the jobsite in a neat and orderly condition during the progress of the work. Upon completion, the Contractor shall remove all surplus materials, debris, equipment, tool, etc. belonging to it and leave the premises in a neat and orderly condition.

PERFORMANCE BOND – Performance bond required should bid exceed \$50,000.00.