ARTICLE XIII – NEW SIDING

13.1 GENERAL - The work to be done under this Article consists of furnishing all labor, materials, equipment, and other expenses necessary to remove and dispose of the existing fiberglass and metal siding panels, metal bird screen and steel frame member; and install new metal siding, stainless steel bird screen and steel frame member at the Pier 2 Shed, Nawiliwili Harbor, Kauai.

The locations and sizes of the new metal siding panels as shown on the plan are approximate and are included for bidding purposes

13.2 SPECIAL CONDITIONS - The Contractor shall note that portions of the existing steel framing are suspected to have lead-containing paint. The Contractor may take samples to satisfy themselves as to the character, complexity and amount of work required in removing the material in accordance with all Federal and State regulations. The abatement work for these lead-containing paint metal framing is described in Article XII – Lead Paint Control Measures of these specifications.

13.3 MATERIALS

A. New Siding - Siding panels shall be roll formed factory finished panels meeting the following requirements:

1. Panels shall be fabricated from 24-gauge thick aluminum-zinc coated steel conforming to ASTM A 792, AZ50/55 coating, surface treated for maximum coating performance. Minimum net coverage of each panel shall be 34 inches. Panel profile shall be a corrugated configuration with a pitch of 2.67 inches and height of 0.875 inches. Panel lengths shall be for full length of installation; no splicing will be allowed. Panels shall be "Deep Corrugated" as manufactured by Kloeckner Metals, "Commercial - Rib (Pattem7)" as manufactured by HPM Building Supply or approved equal.

2. Coating system. The exterior surfaces of the panels shall be factory finished with a polyvinylidene fluoride (PVDF) paint system, Kynar 500, Durapon 70 or approved equal. Paint system shall be 70% PVDF and 30% acrylic, to a dry film thickness of 1.0 mils. The interior surfaces shall be factory finished with polyester backer to a dry film thickness of 1.0 mils. Exterior and interior colors shall match existing.

B. New Steel Frame - New steel frame member shall be fabricated from structural steel angles. Structural steel shall conform to the requirements of ASTM A 36 and shall be hot-dipped galvanized according to ASTM A525, G-90.

C. Flashing - New flashing shall be fabricated from structural quality steel sheets (0.024-inch thick, 24 Ga.) conforming to ASTM A 446, Grade A, hot-dip galvanized to conform to ASTM A 525, G-90.

D. Flat Bar - New flat bar at upper wall section shall be continuous and shall be fabricated from 0.25-inch-thick stainless steel flat bar annealed conforming to ASTM A 666, Type 304.

E. Metal Fasteners - Fasteners shall be Type 316 stainless steel, No. 14, hex head, with pre-assembled neoprene bonded sealing washers and have Type A point. Other fasteners shall be self-drilling, No. 5 point, hex washer head, with electro-plated zinc coating, hex washer head with pre-assembled neoprene bonded sealing washers. Fastener lengths shall be as recommended by the manufacturer.

F. Closure Strips - Closure strips shall be fabricated from closed cell semi-rigid cross-link polyethylene foam, a minimum one-inch wide, and shaped to match the panel profile, "WG-7 Closure," or approved equal.

G. Side Lap Sealant - Side lap sealant shall be 1/8-inch thick by 3/8-inch-wide closed cell polyvinyl chloride foam, with single-sided pressure sensitive adhesive, "Sealing Adhesive" or approved equal.

H. Caulking Compound - Caulking compound shall be a one-component, moisture curing, modified polyurethane sealant conforming to Federal Specification TT-S-00230C, Type II, Class A

I. EPDM Membrane - EPDM membrane shall be high performance elastomeric single ply non-reinforced membrane conforming to ASTM D 4637, Type I, with in-seam tape, "Mule-Hide .060" Standard Black EPDM Membrane" as manufactured by Mule-Hide Products, Co., Inc. or approved equal.

J. Bird Screen - Bird screen shall be stainless steel wire mesh, Type 316 stainless steel, 18-gauge wire, with ½" x ½" mesh openings. Bird screen shall be secured to existing steel members with new stainless-steel hardware sized to fit.

K. Pipe Downspout Straps - Downspout straps shall conform to the requirements of stainless steel, Type 316 ASTM A276.

13.4 CONSTRUCTION

A. Removal Work

1. The existing metal siding panels, metal bird screen, steel frame member, metal comer flashing, signs and other miscellaneous wall attachments shall be carefully removed so as not to damage the existing structure and

utilities in the building or vehicles or equipment at the project site. Existing signs shall be salvaged for reinstallation after the new siding is installed. The Contractor shall remove and dispose of the removed material in a lawful manner away from the project site. Existing utilities including electrical boxes, conduits, exhaust vent and pipe downspouts shall be temporarily supported to stabilize structures and prevent safety hazards to the general public and those working at or around the project area. The method of temporary supports shall be approved by the Harbors Division Construction Engineer.

2. The Contractor shall make every effort to enclose the portion of the siding repair area that is being repaired on that particular workday so that no repair areas are left open overnight. However, if the Contractor is unable to enclose that portion of the repair area at the end of the workday and finds it necessary to leave that portion of the repair area open, the Contractor shall provide protection from the weather for the contents of the structure including offices, equipment, etc.

B. New Steel Frame

1. New steel frame member shall be fabricated from structural steel angles and welded to the existing rigid frame as shown on the drawing. Structural steel shall conform to the requirements of ASTM A 36 and shall be hot-dipped galvanized according to ASTM A525, G-90. Structural steel work shall conform to AISC "Specifications for the Design, Fabrication and Erection of Structural Steel Buildings." Welding shall be performed in accordance with the ASW D1.1 using the methods and electrodes as recommended by manufacturers of the base metal alloys being used. Welds shall be made only by welders who have previously qualified by test prescribed in AWS D1.1 to perform the type of work required. Welds shall be cleaned immediately by chipping or wire brushing. Structural steel shall be painted in accordance with Article XIV – Painting of these Specifications.

C. New Metal Siding Panels

1. New metal siding to be installed on existing steel girts and new steel framing member and shall be installed with a new EPDM membrane material placed on the existing and new steel side surface. Prior to placing the new EPDM membrane material on the existing steel girt surface, the existing surfaces shall be thoroughly cleaned of all loose paint, grease, dirt, scale, rust and other foreign surfaces as recommended by the manufacturer. New EPDM membrane shall be attached to existing and new steel surface by the in-seam adhesive or approved mechanical fasteners.

2. New metal siding panels shall be installed by skilled workmen in accordance with the manufacturer's recommendations. The Contractor

shall exercise care so as not to damage the panels. All damaged panels as identified by the Construction Engineer shall be replaced with sound new panels.

3. The length of the siding panels shall be as shown on the drawing. Corrugated surfaces shall be laid in the vertical direction, starting at the end of the building opposite from the direction of the prevailing wind.

4. Panels shall be in full and firm contact with supports and with each other at side laps. Side laps shall be made in accordance with the manufacturer's recommendations. Closure strips shall be installed at locations shown on the drawing.

5. Fasteners shall be located on the crowns. Fasteners connecting metal panels to steel girts shall be installed at the first and last corrugation i.e., 33.5 inches on center. Fasteners at side laps shall be placed at 12-inches on center maximum. All panels shall be pre-drilled prior to installation.

D. Existing fire risers, fire riser steel enclosures and signs shall be fastened to the new corrugated metal siding with new stainless-steel fasteners. New Metal Corner Flashing.

1. New galvanized sheet metal corner flashing shall be fabricated to match as shown on the drawing. Contractor shall provide shop drawings of the new flashing for approval by the Construction Engineer. New flashing shall be installed in the same locations as shown on the drawing. Joints shall be caulked watertight with polyurethane caulking compound.

2. New metal flashing shall be prepared and painted as described in Article XIV - Painting of these specifications.

E. New Bird Screen

1. Existing vinyl-coated metal bird screen shall be carefully removed so as to not to damage the existing structure and utilities in the shed or vehicles or equipment at the project site. The Contractor shall remove and dispose of the removed material in a lawful manner away from the project site.

2. New stainless steel wire mesh shall be installed in the same location at the upper shed wall area. New wire mesh shall be secured to the existing and new steel members with new stainless-steel hardware. Access openings shall be provided for the existing fire sprinkler system.

F. New Pipe Downspout Straps

1. New stainless steel pipe downspout straps shall be fabricated as shown on the drawing. Straps shall be secured to the new metal siding with new stainless-steel fasteners and spaced accordingly.

13.5 PAYMENT - Payment for new steel frame, corrugated metal siding, bird screen and pipe downspout straps shall be made as described in Article X of these Specifications.