

ARTICLE XIV – NEW WHEEL STOPS

14.1 GENERAL – The work to be done under this Article consists of furnishing all labor, materials, equipment and other expenses necessary to fabricate and install new metal pipe wheel stops at the storage yard, Kawaihae Harbor as indicated on the drawings and as specified.

14.2 MATERIALS

- A. Metal Pipe - Metal pipe shall be made of Schedule 80 hot-dipped galvanized steel conforming to the requirements of ASTM A53 Grade B. All damaged galvanized surfaces shall be repaired prior to painting.
- B. Reinforcing Steel - Reinforcing steel shall be Grade 40 conforming to Section 602 of the Standard Specifications.
- C. Concrete - Concrete shall be Class A, with 3,000 psi compressive strength at 28 days in accordance with Section 601 of the Standard Specifications.
- D. Cold Galvanizing Compound - Cold galvanizing compound shall be a single pack, premixed, ready-to-apply liquid organic zinc compound, "ZRC Cold Galvanizing Compound" or approved equal.

14.4 CONSTRUCTION

- A. Removal Work
 - 1. The Contractor shall remove existing concrete pile butts, jersey barriers, portable concrete bull rails, etc. from the project area as shown on the drawing to facilitate the new wheel stop installation work. The Contractor shall exercise caution to prevent damage to nearby structures, utilities and equipment in the project area. The removed materials shall be relocated to a storage area within Kawaihae Harbor as designated by the Harbors Division Hawaii District Manager. Unwanted removed materials shall be disposed of in a lawful manner away from the jobsite.
- B. New Wheel Stop Fabrication
 - 1. New wheel stops shall be fabricated in accordance with the project drawings. Exposed work shall be finished with even, close joints and neat connections. Profiles shall be true to detail, clean, straight and sharply defined. Steel shall be free from defects impairing strength, durability and appearance; of sufficient strength to adequately withstand required loads. Weld and grind permanent connections.
 - 2. Welding shall be performed in accordance with the AWS 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.

C. Concrete Footings for Wheel Stops

1. Holes for new wheel stop concrete footings shall be excavated in the locations and as shown in the project drawing. Concrete footings shall be placed on the driver side of the existing parking stall. The Contractor shall scan the project area for underground utilities/pipelines with electromagnetic and sonic equipment prior to excavation work and mark the ground surface where existing underground utilities/pipelines are discovered. The Contractor shall verify the locations of the concrete footings in the storage yard area and adjust the locations according to field conditions. The Contractor shall excavate holes according to the dimensions shown on the project drawing. Removed material shall be disposed of in a lawful manner away from the job site.
2. New concrete shall be placed into excavated holes in accordance with Section 503.03 of the Standard Specifications. Finish height of the new concrete footing shall match the existing grade of adjacent asphalt pavement. The base of the concrete footing shall be sloped as shown on the project drawing. The concrete shall be allowed to cure at least seven (7) days by moist curing or curing compound.

D. New Wheel Stop Installation

1. New metal pipe wheel stops with reinforcing steel shall be installed as shown in the project drawing. The orientation of the "T" section of the new wheel stop shall be perpendicular to the existing parking stall line. The Contractor shall set the new metal pipe at the finish height and angle as shown in the project drawing. No loads shall be placed on the new wheel stops until the concrete footings have been allowed to cure for a minimum of seven (7) days. The Contractor shall place blinking barricades at the work area until the footings are cured and open to traffic. Galvanized surfaces damaged during installation and all weld locations shall be touched up with a cold galvanizing compound.
2. New metal pipe wheel stop surfaces shall be prepared and painted as specified in Article XV - PAINTING of these specifications. New wheel stop surfaces damaged during installation shall be touched up with the new paint materials.

14.5 PAYMENT – Payment for new wheel stops shall be made as specified in Article X of these Specifications.