

1 Make this Section a part of the Standard Specifications:

2
3 **“SECTION 512 – SANDSAVERS AND SCOUR PROTECTION**

4
5
6 **512.01 Description.** This section describes the Sandsavers that will be used at
7 Wailua Beach to stabilize the eroding shoreline to protect the highway infrastructure
8 from daily ocean forces. The Sandsavers will be installed in an arch form at an
9 elevation of (-)4 feet mean sea level as shown on the plans. For the Sandsavers that
10 will be located in the water and tidal/wave runup zone, scour protection of the units
11 will be required. This protection will be attached to the base of the Sandsavers as
12 shown in the plans.

13
14 **512.02 Materials.** The Contractor shall use the Sandsavers from Granger Plastics.
15 The scour protection shall be made up of surge rock, geogrid with geotextile fabric,
16 polyethylene plate with stainless steel bolt attachment hardware. The Sandsavers
17 shall be clamped together with stainless steel straps.

18
19 **512.02a Sandsaver.** The Sandsavers shall be obtained from Granger
20 Plastics and filled with 2000 psi to 2500 psi concrete. Follow manufacturer’s
21 recommendations.

22
23 **512.02b Surge Rock.** All rock material shall conform to the following
24 requirements.

25
26 Individual rocks must be clean, sound, and free from organic material. Rock
27 must be free from cracks, seams, and other defects conducive to accelerated
28 weathering. The least dimensions of an individual rock fragment shall not be
29 less than one-third the greatest dimension of the fragment.

30
31 All rocks shall have a minimum bulk specific gravity of 2.50 and absorption
32 less than 6% when tested in accordance with ASTM D6473 or ASTM C127 as
33 applicable and shall be angular to subrounded in shape.

34
35 Rock soundness shall be tested in accordance with ASTM C88. Weight loss
36 shall be less than 10% after 5 cycles of testing with sodium sulfate. Soundness
37 testing shall be waived if material from the same source has been shown to
38 have a satisfactory service record of at least 5 years.

39
40 The contractor shall designate in writing the source from which rock material
41 will be obtained and provide information satisfactory to the engineer that the
42 material meets contract requirements. Rock from approved sources shall be
43 excavated, selected, and processed to meet the specified quality and grading
44 requirements at the time the rock is installed.

45
46 **512.02c Geogrid with Geotextile Fabric.** The geogrid and geotextile

47 fabric shall be Tensar InterAx FilterGrid (or approved equal). The material
48 shall be made of a coextruded, composite polymer sheet.

49
50 **512.02d Connection Plate.** The connection plate shall be Ultra High
51 Molecular Weight (UHMW) Polyethylene from Tivar Dockguard Mitsubishi
52 Chemical Group (or approved equal). Stainless steel SS316L anchor bolts and
53 washers will be used for connection as shown on the plans.

54
55 **512.02e Stainless Steel Strap.** The Sandsaver shall be clamped
56 together with stainless steel 317L 1/4" hard 3/4" wide straps and Alloy 400 3/4"
57 Earlokt buckle from BAND-IT (or approved equal).

58
59 **512.03 Construction.** The work shall consist of the construction of the Sandsavers
60 with attached scour protection, installed in an arch formation on the beach as shown
61 on the plans.

62
63 The Sandsavers shall be precast off-site at the manufacturer's facilities (ensure that
64 the inserts on the bottom of the units are installed so that the scour connection plate
65 can be installed as shown on the plans). The units will be shipped to the project site
66 empty. Once on site, the units will need to be filled with concrete and transported to
67 the project area. The InterAx FilterGrid (or approved equal) shall be attached to the
68 bottom of the Sandsaver, and the surge rocks installed and wrapped in the InterAx
69 FilterGrid (or approved equal) packet as shown on the plans. The Sandsaver blocks
70 shall be placed with heavy equipment to the position specified (as shown on the
71 plans), one at a time ensuring that the scour protection overlaps the adjacent scour
72 protection InterAx FilterGrid. The Sandsavers shall not be placed at a depth greater
73 than (-)4 ft MSL. Excavation will be required to install the Sandsavers beyond the
74 tidal/wash zones along the shoreline. The Sandsavers shall be placed abutting one
75 another and mechanically clamped together with stainless steel straps. The
76 Contractor shall make sure to place the Sandsaver within a 1.5-inch vertical/horizontal
77 tolerance of each other. The clamping device will not have any loose tails, snag
78 points, or potential for entanglement. The InterAx FilterGrid (or approved equal) shall
79 be overlapping with one another (as shown in the plans). The Sandsavers shall be
80 placed in a manner to prevent damage to all structures.

81
82 See the plans for specific locations and details.

83
84 **Submittals.**

85 **(A)** Submit (6) sets of material gradation for the surge rocks.

86
87 **(B)** Submit (6) sets of manufacturers cut sheets and product specifications
88 and shop drawings for Sandsavers, Geogrid with Geotextile Fabric,
89 Connection Plate with SS316L bolts, and Stainless Steel Straps.

90
91 **512.04 Measurement.** The Engineer will measure the Sandsaver and Scour
92 Protection per each in accordance with the contract documents. The anchor bolts and

93 washers, surge rocks, InterAx FilterGrid, and excavation and fill shall be incidental to
94 this item.

95

96 **512.05 Payment.** Payment is made at the contract unit price as specified above.
97 Such payment is considered full compensation for completion of the work.

98

99 The Engineer will pay for the following pay item when included in the proposal
100 schedule:

101

102

103

104

Pay Item

Pay Unit

105

106

Sandsaver and Scour Protection

Each”

107

108

109

END OF SECTION 512