

State of Hawaii
DEPARTMENT OF LAND AND NATURAL RESOURCES
ENGINEERING DIVISION
P.O. Box 373
Honolulu, Hawaii 96809

ADDENDUM NO. 1

TO

JOB NO. J45CM41A
IAO VALLEY STATE MONUMENT FLOOD REPAIRS
WAILUKU, MAUI, HAWAII

Dec 27, 2016

This addendum, as issued shall become part of the Contract Documents, for the subject project. The Plans and Specifications shall be amended as follows:

PRE-BID CONFERENCE

A pre-bid conference and site visit was held on December 15, 2016 at 10 a.m. at Iao Valley State Monument Parking Lot, Wailuku, Maui. See attached Minutes of Meeting.

PLANS

1. Sheet T-1;
 - a. Index; **ADD** the following sheets;

C-5	EROSION CONTROL DETAILS
S1.1A	BRIDGE PLAN AND ELEVATION
S2.1A	DEMOLITION PLAN AND SECTIONS
S3.2A	PIER SECTIONS
S3.3A	PIER SECTIONS
S3.5A	MICROPILE DETAILS

2. Sheet C-1;
 - a. Construction Notes; **DELETE** Notes 12, 13, 17.
 - b. Construction Notes; **ADD** Note 18.
 - c. Erosion Control Notes; **DELETE** Note 5.

3. Sheet C-2;
 - a. **ADD** Aggregate Filter Pouch at slope scaling west of pedestrian bridge.
 - b. **ADD** A.C. curb and Construction access.
 - c. **REVISE** Sand Bags.

4. Sheet C-3;
 - a. **ADD** A.C. curb and removal notes.
 - b. **REVISE** Sand Bags.

- c. **ADD** A.C. curb detail.
5. **ADD** Sheet C-5.
6. Sheet S0.1;
- a. Foundation Work; **ADD** Note B.
 - b. **ADD** Micropile Grout Notes.
7. Sheet S3.1;
- a. Section B; **REPLACE** 6 Inch Long, ½ Inch Dia. Anchor Bolt at 12 inch spacing with ASTM A706 #5 rebar, 4 feet long at 12 inch spacing.
8. Sheet S3.2;
- a. Detail 1; **ADD** ¼ Inch Gap between bottom new 4" x 6" x ¾" Plate and existing W18x65 bottom flange and adjust top 4" x 6" x ¾" Plate as shown.
9. Sheet S3.4;
- a. Section B; **REPLACE** 6 Inch Long, ½ Inch Dia. Anchor Bolt at 12 inch spacing with ASTM A706 #5 rebar, 4 feet long at 12 inch spacing.
10. **ADD** Sheet S1.1A.
11. **ADD** Sheet S2.1A.
12. **ADD** Sheet S3.2A.
13. **ADD** Sheet S3.3A.
14. **ADD** Sheet S3.5A.
15. Sheet G-1;
- a. **DELETE** Limits of Slope Protection Area Phase 1 and Phase 2 and **REPLACE** with revised limits.
16. Sheet G-2 through G-4;
- a. **DELETE** draft boring logs and **REPLACE** with final boring logs.

17. Sheet G-6;

- a. **ADD** dashed line connecting Approximate Location of Temporary Barricade to location of existing guardrail.
- b. **DELETE** Limits of Slope Protection Area Phase 1 and Phase 2 and **REPLACE** with revised limits.

18. Sheet G-7;

- a. **DELETE** “MIN. 30’ SETBACK” and **REPLACE** with “MIN. 30’ SETBACK FOR PEDESTRIANS AND VEHICLES FOR SAFETY CONSIDERATIONS”.
- b. **ADD** the following Notes:
 3. SHOTCRETE PLACEMENT SHALL BE PERFORMED PRIOR TO TOE PROTECTION INSTALLATION.
 6. CONCRETE KEY SHALL BE CONSTRUCTED AT A MAXIMUM OF 50 LINEAR FEET AT ONE TIME.
 7. CONCRETE KEY SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH AT 28 DAYS OF 4,000 PSI AND SHALL HAVE ANTI-WASH ADMIXTURE ADDED TO THE MIX.
 8. SCOUR LEVEL IS SIX (6) FEET BELOW EXISTING GROUND SURFACE FOR THE SLOPE TOE PROTECTION.
- c. **ADD** PHASE 1 – SLOPE PROTECTION detail.
- d. **ADD** PHASE 2 – SLOPE PROTECTION detail.

SPECIFICATIONS

19. Proposal

- a. **DELETE** PROPOSAL FORM in its entirety and **REPLACE** with the REVISED PROPOSAL FORM.

20. Section 02020 – Removal of Structures and Obstructions;

- a. **DELETE** The second paragraph in Subsection 3.1.D.1 in its entirety and **REPLACE** with the following;
When soft or swampy ground condition is encountered that cannot support weight of trucks or other hauling equipment, lower part of fill may be constructed with a working platform. Construct working platform by either placing successive loads of gravel, cobbles, and boulders in a uniformly distributed layer of thickness not

greater than necessary; or by using permeable separator with granular material of adequate thickness to support construction equipment at no extra cost to the State. Construct remainder of embankment in accordance with the contract documents.

- b. **DELETE** Subsection 3.1.D.2.a in its entirety and **REPLACE** with the following; Maximum Dry Unit Weight. Test for maximum dry unit weight in accordance with ASTM D 1557, Method C. Sample preparation of sensitive soils shall be designated by the Engineer. When oversized materials larger than 3/4 inch exceed 5 percent by weight of total sample, apply corrections to laboratory dry density in accordance with ASTM D 4718. When oversized materials larger than 3/4 inch exceed 30 percent, use compaction procedure specified in Subsection 02020 (D)(4) - Compaction of Embankments Without Moisture and Density Tests.
 - c. **DELETE** Subsection 3.1.D.2.b in its entirety and **REPLACE** with the following; Density of Soil In-Place. Test for soil in-place density in accordance with the Engineer.
 - d. **DELETE** The first paragraph in Subsection 3.1.D.3 in its entirety and **REPLACE** with the following; Compaction of Cut Areas and Embankments with Moisture and Density Tests. Prior to shaping and compacting, condition soil to moisture content within 2 percent above or below optimum moisture content determined in accordance with ASTM D 1557. Except as specified in Subsection 02020 (D)(4) – Compaction of Embankments Without Moisture and Density Tests, moisture condition embankment material and place in layers not to exceed 9 inches in loose thickness, and compact each layer of material as specified, before placement of next lift. Determine maximum density and relative compaction in accordance with Subsection 02020 (D)(2) – Relative Compaction Test.
21. Section 02200 – Clearing and Grubbing;
- a. **ADD** this section to the project specifications.
22. Section 02205 – Cut Slope Excavation;
- a. **DELETE** Subsection 3.1.B and **REPLACE** with the following: Clear and grub in accordance with Section 02200 – Clearing and Grubbing. Excavate cut slopes to the alignment, grades, and typical sections shown in the contract documents. Excavate so as not to disturb material outside limits of slopes or limits of grading.
23. Section 02207 – Slope Toe Protection;
- a. **DELETE** Subsection 3.1 and **REPLACE** with the following: Clear and grub in Accordance with Section 02200 – Clearing and Grubbing.
24. Section 03290 – Concrete Structures;

- a. **DELETE** The first 3 paragraphs in Subsection 3.1.L.2 in its entirety.
- b. **DELETE** The paragraphs 2-4 in Subsection 3.1.L.2.b in its entirety.

25. Section 03310 – Structural Concrete;

- a. **DELETE** The Table 03310-2 - Standard Methods in its entirety and **REPLACE** with the following;

TABLE 03310-2 – STANDARD METHODS	
Sampling Fresh Mixed Concrete	ASTM C 172-99
Mass Per Cubic Meter (Cubic Foot) Yield and Air Content (Gravimetric) of Concrete	ASTM C 138-01
Slump of Hydraulic Cement Concrete	ASTM C 143
Air Content of Freshly Mixed Concrete by the Pressure Method	ASTM C 231-97
Specific Gravity and Absorption of Fine Aggregate	ASTM C 128-01
Specific Gravity and Absorption of Coarse Aggregate	ASTM C 127-01
Temperature of Freshly Mixed Portland Cement Concrete	ASTM C 1064
Making and Curing Concrete Test Specimens in the Field	ASTM C 31
Compressive Strength of Molded Concrete Cylindrical Specimens	ASTM C 39(6 inch by 12 inch cylinders only)
Flexural Strength of Concrete (Using Simple Beam with Third-Point Loading)	ASTM C 78-02

- b. **DELETE** The first paragraph in Subsection 3.1.F in its entirety and **REPLACE** with the following;
 Consistency. Regulate quantity of water used in concrete mixes so that concrete consistency, as determined by ASTM C 143 test method, is within nominal slump range specified in Table 03310-3 - Slump for Concrete. If concrete slump exceeds nominal slump, adjust mixture of subsequent batches. If slump exceeds

maximum slump, the Engineer will reject concrete unless deemed satisfactory for its use.

26. Section 03361 – Shotcrete;

- a. **ADD** the following to Subsection 3.6;
All sampling and testing shall be performed by an independent testing agency and all test results submitted to the Engineer for approval. All cost of sampling and testing shall be borne by the contractor.

27. Section 03390 – Concrete Curing Materials and Admixtures;

- a. **DELETE** The Table 03390-1 - Curing Material Requirements in its entirety and **REPLACE** with the following;

TABLE 03390-1 - CURING MATERIAL REQUIREMENTS	
MATERIAL	SPECIFICATION
Liquid Membrane-Forming Compounds for Curing Concrete (Excluding Bridge Decks)	ASTM C 309-98a
Waterproof Paper for Curing Concrete	ASTM C 171-03
White Polyethylene Sheeting (Film) for Curing Concrete	ASTM C 171-03
Burlap Cloth Made from Jute or Kenaf	ASTM C 171-03

- b. **DELETE** The Table 03390-2 - Admixture Requirements in its entirety and **REPLACE** with the following;

TABLE 03390-2 - ADMIXTURE REQUIREMENTS	
TYPE	SPECIFICATION
Chemical Admixtures for Concrete	ASTM C 494
Air-Entraining Admixtures for Concrete	ASTM C 260-01
Calcium Chloride	ASTM C 98-05
Coal Fly Ash and Raw or Calcined Natural Pozzolan for Use as a Mineral Admixture in Concrete	ASTM C 618-03, except that loss on ignition shall not exceed 3 percent

- c. **DELETE** The second and third paragraph in Subsection 3.1.C in its entirety and **REPLACE** with the following;

Admixtures allowed are shown on the plans and are also Type A or Type F water reducing, Type B retarding, and Type D or Type G water reducing and retarding, in accordance with ASTM C 494, to economize on cement or facilitate construction.

If air-entraining admixture is specified in the contract documents or ordered in writing by the Engineer, quantity of admixture shall be as required to produce concrete with specified air content, when tested in accordance with ASTM C 231-97.

28. Section 03541 – Hydraulic Cement;

- a. **DELETE** The second and third paragraph in Subsection 1.1 in its entirety and **REPLACE** with the following;

Type I and Type II portland cement shall conform to ASTM C 150-02a and the 28-day compressive strength requirement cited in ASTM C 150-02a, Table 4.

Type IP portland-pozzolan cement shall conform to ASTM C 595-03.

29. Section 03604 – Micropiles;

- a. **ADD** this section to the project specifications.

30. Section 03840 – Aggregates;

- a. **DELETE** The Table 03840-1 - Physical Properties in its entirety and **REPLACE** with the following;

TABLE 03840-1 - PHYSICAL PROPERTIES		
Test	Method	Requirements
Sand Equivalent	ASTM D 2419	70 Minimum (a)
Soundness Sodium Sulfate (5 cycles)	ASTM C 88	10 Maximum (b)
Abrasion (500 Revolutions)	ASTM C 131	40 Maximum (c)
Organic Impurities	ASTM C 40	Not darker than the reference standard color (d)
Coal and Lignite	ASTM C 123	1 Maximum

Notes:

- (a) Sand equivalent (SE) requirement will be waived if material finer than No. 200 sieve does not exceed 5 percent when tested in accordance with ASTM C 117.
- (b) When material has satisfactory service record of at least five years, soundness test will be waived.
- (c) Parent material of fine aggregate manufactured by crushing shall have a loss by abrasion of less than 40 percent when tested in accordance with ASTM C 131.
- (d) Materials that fail to meet organic impurity color test will be accepted, provided relative strength at 7 and 28 days is more than 95 percent when tested in accordance with ASTM C 87.

- b. **DELETE** The Table 03840-5 - Physical Properties in its entirety and **REPLACE** with the following;

TABLE 03840-5 - PHYSICAL PROPERTIES		
Deleterious Substances and Physical Properties	Test Method	Maximum Allowable (percent)
Clay Lumps and Friable Particles	ASTM C 142	2.0
Materials Finer than No. 200 (75- μ m) Sieve	ASTM C 117	1.5
Lightweight Pieces (Less than 2.0 specific gravity SSD)	ASTM C 123	0.5
Absorption	ASTM C 127	6
Abrasion (500) Revolutions	ASTM C 131	40
Soundness (Sodium Sulfate)	ASTM C 88	12

- c. **DELETE** The third paragraph in Subsection 1.2 in its entirety and **REPLACE** with the following;

Coarse aggregate grading shall conform to appropriate size designation of ASTM D 448 when tested in accordance with ASTM C 136. Grading and material finer than No. 200 (75 μ m) sieve testing shall be part of the Quality Control Plan required in Section 03840, Subsection 1.1 - Fine Aggregate for Concrete.

- d. **DELETE** The first paragraph in Subsection 1.3 in its entirety and **REPLACE** with the following;
Aggregate for subbase shall consist of gravel, stone, basalt, or coral, or combination thereof, and shall be free of overburden, vegetable matter, and other deleterious substances. When tested in accordance with ASTM C 136, subbase shall conform to Table 03840-6 - Subbase Grading Requirements.
- e. **DELETE** The second and third paragraphs in Subsection 1.3 in its entirety and **REPLACE** with the following;
When tested in accordance with ASTM D 2419, SE value shall not be less than 25. A minimum SE of 20 shall be provided when material passing No. 4 sieve is entirely crushed coral limestone.
- When tested in accordance with ASTM D 4318 and ASTM C 127, subbase shall conform to Table 03840-7 - Subbase Plasticity Index.
- f. **DELETE** The Table 03840-8 - Filter material Test Requirements in its entirety and **REPLACE** with the following;

TABLE 03840-8 - FILTER MATERIAL TEST REQUIREMENTS		
Test	Test Method	Requirement
Los Angeles Abrasion	ASTM C 131 (Grading A)	10% Maximum @ 100 Rev. 40% Maximum @ 500 Rev.
Sand Equivalent	ASTM D 2419	35% Minimum
Plasticity Index	ASTM C 127	6% Maximum
Grading	ASTM C 136	Refer to Table 703.04-2

- g. **DELETE** The last paragraph in Subsection 1.5 in its entirety and **REPLACE** with the following;
SE shall be tested in accordance with ASTM D 2419. Structural backfill material A shall have minimum SE of 20. Structural backfill material B shall have SE equal to or greater than SE of surrounding soil in area to be backfilled.

31. Section 03870 – Miscellaneous;

- a. **REPLACE** AASHTO M 157 with the following;
ASTM C 94.

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ENGINEERING DIVISION



CARTY CHANG, P.E.
Chief Engineer