

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
MAUI	HAW.	ER-20(006)	2018	16	16

STRUCTURAL NOTES:

1. General:

- A. Workmanship and materials shall conform to the AASHTO LRFD Bridge Design Specification, 8th Edition, 2017 including its subsequent interim specifications, AASHTO A Policy on Geometric Design of Highway and Streets 2004 and subsequent revisions, Hawaii Department of Transportation, Highways Division, Design Branch, Design Criteria for Bridges and Structures, dated January 8, 2018, Manual on Uniform Traffic Control Devices 2004 and the Hawaii Standard Specifications for Bridge and Road Construction, 2005 as modified by the State of Hawaii Department of Transportation.
- B. The Contractor shall take field measurements and verify field conditions and shall compare such field measurements and conditions with the drawings before commencing the work. Report in writing to the Engineer all inconsistencies or omissions.
- C. The Contractor shall be responsible for methods of construction, workmanship and job safety. The Contractor shall provide temporary shoring and bracing as required for stability of structural members and systems.
- D. Details noted as typical on structural drawings shall apply in all conditions unless specifically shown or noted otherwise.
- E. The Contractor shall be responsible for coordinating the work of all trades.
- F. The Contractor shall be responsible for protection of the adjacent properties, retaining walls, structures, streets, and utilities during the construction period. Any damage or deteriorated property shall be restored to the same or better condition at no cost to the State.

2. Foundation:

- A. Foundation, soil anchors and micropiles are designed based on geotechnical investigation by Kokua Geotech LLC, dated December 4, 2018.
- B. Contractor shall provide for design and installation of all cribbing, sheeting, and shoring necessary for personnel safety and to preserve excavations and earth banks, and adjacent structures and property for damage.
- C. Unless noted otherwise, backfill shall be Type A structure backfill in accordance to Section 703.20, the 2005 State of Hawaii Standard Specifications. Backfill shall be placed in uniform lifts of no more than 8 inches in loose thickness and uniformly compacted to at least 95 percent relative compaction.

3. Concrete:

- A. Concrete shall be normal weight concrete and shall have minimum 28-day compressive strength of 4000 psi.
- B. All inserts, anchor bolts, plates, etc. embedded in concrete shall be hot-dip galvanized unless otherwise noted.
- C. Conduits, pipes, and sleeves passing through a wall not conforming to typical details shall be located and submitted to the Engineer for approval.
- D. Concrete delivery tickets shall record all free water in the mix: at batching by plant, for consistency by driver, and any additional request by Contractor if permitted by mix design.
- E. Reinforcing bars, anchor bolts, inserts and other items to be cast in the concrete shall be secured in position prior to placement of concrete.

4. Reinforcing Steel:

- A. Reinforcing steel shall be deformed bars conforming to ASTM A615, Grade 60.
- B. Welded reinforcing steel shall be low-alloy deformed bars conforming to ASTM A706.
- C. Welded wire fabric shall conform to ASTM A185, galvanized.
- D. Clear concrete cover for reinforcing bar shall be 3", unless otherwise noted.
- E. Reinforcing steel shall be spliced where indicated on plans. Provide lap splice length per typical details and schedule, unless otherwise noted.
- F. Welded wire fabric shall be lapped 8 inches or one full mesh plus 2 inches, whichever is greater.
- G. Mechanical splice connectors shall develop in tension 125 percent of the specified minimum yield strength of reinforcing bars.
- H. Bar bends and hook shall be "standard hooks" in accordance with AASHTO 5.10.2.3
- I. Minimum reinforcement bend diameters shall comply with AASHTO 5.10.2.3

ORIGINAL PLAN	DATE
DESIGNED BY	
CHECKED BY	
NOTED BY	
No.	

LEGEND FOR AS-BUILT POSTINGS	
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==	Double line for as-built deletion
Roadway	Text for as-built posting

STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION
<u>Structural Notes</u>
EMERGENCY REPAIRS AT PIINAU BRIDGE HANA HIGHWAY, NEAR MILEPOST 17.0 PROJECT NO. ER-20(006), UNIT 1 Scale: As Noted      Date: September 2018
SHEET No. 5-1    OF 16    SHEETS