FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HWY-0-18-98	1999	2	12

GENERAL NOTES

1. The scope of work for this project consists of the construction of a vehicle wash pad and appurtenances including a reinforced concrete wash pad, wash water recycle system, steel catwalk and stairs, concrete structures, utilities, equipment, and all related earthwork, complete in place.

2. The Contractor is reminded of the requirements of Subsection 108.01 – Subletting of Contract, which requires him to perform work amounting to not less than 50 percent of the total contract cost less deductible items. Non-compliance with this Subsection may be grounds for rejection of the bid.

3. The Contractor's attention is directed to the following Sections of the Special Provisions: Subsection 107.13 – Public Convenience and Safety; Subsection 107.21 – Contractor's Responsibility for Utility Property and Services; and Section 645 – Traffic Control.

4. At the end of each day's work, the Contractor shall remove all equipment and other obstructions to permit free and safe passage of traffic.

5. The Contractor shall provide for access for pedestrians and vehicles to and from all existing adjacent activities at all times.

6. The existence and location of underground utilities, manholes, monuments and structures as shown on the plans are from the latest available data but the accuracy is not guaranteed. The encountering of other obstacles during the course of the work is possible. The Contractor shall be held liable for any damages incurred to the existing facilities and/or improvements as a result of his operations.

7. The Contractor shall verify all dimensions and existing conditions before commencing work. Any discrepancies and/or inconsistencies shall be reported to the Engineer for clarification.

8. Contractor shall be responsible for providing adequate temporary shoring and bracing of the structure for all loads imposed upon it during construction. Temporary shoring and bracing shall be considered incidental to the various contract items requiring such work.

9. All materials and workmanship shall conform with the current edition of the Hawaii Standard Specifications for Road and Bridge Construction, Special Provisions, and the standards of the Uniform Building Code, 1994 Edition.

Design Loads

Dead Load of Materials: Actual
Live Loads: Wash Pad: Standard HS20-44 Truck Wheel Loads
Catwalk: 100 psf Uniform
Wind: Basic Wind Speed = 80 mph (Exposure C), UBC 94.
Seismic: Zone 2A, UBC 94.

Foundation Notes

1. All subgrade preparation, excavation, filling and backfilling operations shall be monitored by the Project Engineer or his representative to verify that adequate compaction and soil bearing capacity has been obtained. Structure fill and backfill above Elev. +2.5 MSL shall be structure backfill material conforming to Section 206 and Section 703.20. Structure backfill below Elev. +2.5 MSL shall be well tamped, clean No. 3 fine gravel. A geotextile fabric conforming to Section 716.02 shall be placed at Elev. +2.5 MSL prior to placing backfill above that elevation.

2. Foundations shall rest on well compacted material. Soft spots or expansive clayey soil shall be removed 12" minimum below footing bottoms and base course for concrete slabs, and replaced with compacted select backfill material at 95% minimum relative compaction.

3. Allowable soil bearing pressure: 1,500 psf (assumed).

Concrete Notes

1. Concrete work shall conform to the "Building Code Requirements for Structural Concrete (ACI 318-95)" and the ACI Detailing Manual (ACI 315).

2. Concrete shall be normal weight with minimum design strength at 28 days as follows:

Location	Minimum 28 day Compressive Strength (f'c)	Minimum 28 day Flexural Strength (f'r)
Wash Pad Slab	–	600 psi
Other Structural Concrete	5,000 psi	–

Maximum water-cement ratio shall be 0.40. Slump shall be between 2" to 3" for slabs and between 3" to 4" for other areas. Maximum aggregate size shall be 1". A water reducing and/or water reducing and set retarding admixture conforming to ASTM C494 Type A or D shall be added to all concrete in accordance with manufacturer's instructions.

3. Reinforcing steel shall be deformed bars conforming to ASTM A615 Grade 60 except stirrups and ties which shall be Grade 40.

4. Lap all bars 40 bar diameters at splices. Stagger splices wherever possible unless shown otherwise.

5. Construction joints shall be located by the Contractor subject to approval by the Engineer. They shall be so located as to least impair the strength of the structure and to minimize shrinkage stresses and cracking.

6. Concrete cover to reinforcing steel shall conform to ACI 318-95 except as modified below:

At top surface of slabs, faces of walls, and column ties: 2"
At main reinforcing of columns and exposed surfaces of other members: 2-1/2".

7. Epoxy bonding agents shall conform to ASTM C881, Type IV or V, Class C, Grade as suitable for the use intended. All epoxies and epoxy grouts shall be mixed and applied in accordance with manufacturer's printed instructions. Submit manufacturer's product data and instructions for approval prior to using epoxies in the work.

Structural Steel Notes

1. Structural steel work shall conform to the "Specification for the Design, Fabrication, and Erection of Structural Steel for Buildings" by the AISC.

2. Structural steel shapes and plates shall conform to ASTM A36 and be galvanized after fabrication. Steel pipe shall conform to ASTM A53, Grade B and be galvanized.

3. Machine bolts and anchor bolts shall conform to ASTM A307 and be galvanized.

4. All welding shall be in accordance with the "Structural Welding Code (AWS D1.1)" of the American Welding Society and be performed by certified welders. Structural steel shall be fabricated and assembled in the shop to the fullest extent possible in order to minimize field welding. Field welding, where required, shall be subject to approval by the Engineer.

5. Galvanizing shall be accomplished after fabrication wherever possible. Damaged or abraded galvanizing shall be repaired as specified in Section 501 prior to painting.

6. Painting: Remove all mill scale, slag and other bond reducers and apply shop coat of approved primer to all steel surfaces not embedded in concrete and within 2" of any field welds. Paint damaged or abraded surfaces and field welds with the approved primer and apply two coats of finish paint.

RANDAL S. FUROMOTO
LICENSED PROFESSIONAL ENGINEER
No.6130-S
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.
Signature

ORIGINAL PLANS
SURVEY PLOTTED BY _____ DATE
DRAWN BY _____ " " " "
TRACED BY _____ " " " "
DESIGNED BY _____ " " " "
NOTE BOOK _____ QUANTITIES BY _____ " " " "
No. _____ CHECKED BY _____ " " " "

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

GENERAL NOTES

KEEHI BASEYARD WASHDOWN AREA
PROJECT NO. HWY-0-18-98

SCALE: AS NOTED DATE: OCT 1998

SHEET No. T1 OF 12 SHEETS

AS-BUILT