Final Infrastructure Upgrades Plan

Unexploded Ordnance (UXO) Model Cleanup
Kaho'olawe Island, Hawaii

PACDIV Contract No. N62742-93-D-0610, Delivery Order No. 0015
OHM Project No. 17760
August 31, 1995

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1.0 ELECTRICAL UPGRADES

a. Introduce 150 kW generator to boost power output.

b. Fuel supply system to be installed to include the two existing 60 kW generators and the new 150 kW generator all to be tied into existing 1200 gal diesel storage tank.

c. Boost power output from generators to 480 volts, install stepdown transformers at strategic locations to accommodate individual power needs throughout Base Camp.

d. Supply new R.O. unit with 480 3 phase power supply next to existing R.O. unit.

e. Supply shower trailer with electrical power.

f. Supply 3 office trailers with electrical power.

g. Supply AC units with power, pulling new wire from breaker panels in the buildings using existing electrical conduit, install receptacles at AC unit locations. Overhead lines from generators to first pole will be replaced with heavier gauge to accommodate increased power output.

2.0 AC INSTALLATION (WINDOW TYPE)

a. Install 2 each AC units at buildings 10, 11, 12.

b. Install 1 each AC units at Buildings 5, 6, 13, 14, 15, and 29.

c. Existing small window AC units that are replaced will be relocated to Building 4, and an addition one to Building 14. Other available replacements will be utilized as necessary.

3.0 REVERSE OSMOSIS UNIT INSTALLATION

a. Install 9000 gal per day R.O. unit to be housed in storage container.

b. Install inffluent water supply line using existing water recovery system wherever applicable. This system will be fully automatic, using float switches to shut down pumps when tanks are full, restarting when level drops below desired limit.

c. Install brine reject leach field along the edge of the ocean behind latrine, using approximately 300 linear feet of perforated PVC.

d. Connect new water treatment system with existing water storage tanks. System will be fully automatic, when storage tanks are full the system will shut down.

e. Install chlorine injection pump, injection system will be fully automatically predetermined amounts of chlorine per every gallon.

f. Connect water lines from water storage tanks to buildings which have water needs. Which will include Sea Bees hut, Navy EOD hut, and OIC hut.

g. Install valve at potable water storage area diverting water to construction storage area whenever needed.

h. Install 11000 gal storage tank to compliment 2 existing 6000 gal storage tanks. Supply from R.O. unit will feed one tank which in turn will feed the other two tanks by spilling over into them through pipe connections at the tops of each tank. Each tank will be tied separately into supply line to the huts, flow from each tank will be controlled by valves at each tank.

4.0 SELF COMPOSTING TOILETS

a. Install six single seater Trail Head self composting toilets at Base Camp.

b. Install four single seater Trail Head toilets at Hakioawa area.

c. A twenty linear feet leaching trench will accompany each installation.

Note: Toilets are completely modular, construction will be performed on location. Toilets will not be completely maintenance free, approximately every 300 uses one gallon of wood mulch must be introduced into the holding tank to facilitate the composting process.

5.0 SHOWER FACILITY

a. Install one twenty-eight foot shower facility with 9 shower stalls 7 men 2 women. Each stall has it's own private changing area with stool. The trailer will be equipped with a thirty gallon hot water heater.

Note: Due to the size of the hot water heater conservation will be greatly appreciated.

b. Grey water will be captured outside the shower facility and pumped to our construction water storage area, diluted and then used for compaction and dust control.

6.0 OFFICE TRAILERS

a. Install one 10'x32' office trailer, to include seven desks, three tables, five file cabinets, and sixteen chairs. This trailer will act as OHM's command center for all operations on Kaho'olawe under this contract.

b. Install one 8'x24' office trailer to accommodate PACDIV, and ROICC respectively with there needs, to include four desks, four file cabinets, one work table and six chairs.

c. Install one 8'x16' office trailer to accommodate KIRC needs during this contract, to include two desks, two file cabinets, one work table with six chairs.

7.0 COMMUNICATIONS NETWORK

a. Installation of a telephone system capable of a minimum of eight phone lines in the Base Camp area. This system will furnish OHM, PACDIV, ROICC, and KIRC command centers with voice and fax capabilities for the duration of this contract. This system will be able to accommodate future lines if the need arises.

b. Installation of a radio network capable of total island coverage. The system will involve over seventy radios on one network encompassing three frequencies. One frequency will be solely devoted to emergency logistics and coordination only, the other two frequencies will be for command and control of all UXO clearance operations, infrastructure, to include road and Base Camp upgrades and operations. Radios on our network will be furnished to PACDIV, ROICC, and KIRC representatives for the completion of this contract.

8.0 FUEL TANKS

Two double walled self contained above ground fuel tanks will be installed to provide additional storage for diesel fuel and MOGAS. Presently, these will be leased from the fuel supplier for the duration of this Model Cleanup Project. The area where these fuel tanks are going to be located will be appropriately lined and bermed.

9.0 ROADWAY IMPROVEMENTS

Limited improvements to present roads will be performed in order to model environmental protection and to mitigate erosion. Modeling may include crushed rock base and subbase in severely eroded sections, installation of culverts to control drainage and the improvement of the drainage patterns along the shoulders of the roads within the boundaries of the staked out areas. All drainage improvements will be engineered to minimize the erosive potential of any runoff. In addition, selected sections of roadway will be constructed to model gulley

control and stabilization strategies in existing gullies along the roadways.

Contractor will work with the Navy Technical Representative to develop the field design of the roadway as work progresses. This methodology was agreed to during the partnering session within Team B.

10.0 CONEX STORAGE CONTAINERS - HAKIOAWA

Two 10'x10' storage containers will be installed at Hakioawa to support UXO operations in that area. These will remain in order to support maintenance of revegetation efforts after completion of this project.

11.0 GALLEY EXHAUST HOOD

A stainless steel exhaust hood will be installed in the galley area in order to meet fire code requirements. The exhaust hood will include a dry chemical fire extinguishing system.