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'91 OCT -4 RE: Reply please refer to:  
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QUALITY:

To: Brian Choy, Director  
Office of Environmental Quality Control

From: John C. Lewin, M.D.  
Director of Health

Subject: ENVIRONMENTAL ASSESSMENT/NEGATIVE DECLARATION  
BOULDER REMOVAL PROJECT, WAIHANAU STREAM  
KALAUPAPA NATIONAL HISTORICAL PARK

We have determined that an Environmental Assessment/Negative Declaration, per the provisions of Chapter 343, Hawaii Revised Statutes, and Title 11, Department of Health, Chapter 200, is appropriate for the subject project at Waihanau Stream. This determination has been made because the proposed project, individually and/or cumulatively, will have no significant impacts on the environment. In this regard, provided herewith are the following items.

1. OEQC Form for Publication of EIS Documents in the OEQC Bulletin.
2. Four copies of the Environmental Assessment for the Boulder Removal, Waihanau Stream, Kalaupapa, Molokai.

Should you have any questions, please contact Dr. Robert Worth of our office at 586-4526.

Enc: OEQC Form  
Environmental Assessment (4)

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1991-10-23-MO-FBA

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\* BOULDER REMOVAL PROJECT  
WAIHANAU STREAM  
KALAUAPAPA NATIONAL HISTORICAL PARK, MOLOKAI, HAWAII

**ENVIRONMENTAL ASSESSMENT**

STATE OF HAWAII  
DEPARTMENT OF HEALTH

Prepared by  
GK & Associates  
for  
Edward K. Noda and Associates, Inc.

September 1991

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## 1.0 INTRODUCTION

### 1.1 PURPOSE AND CONTENT OF THIS DOCUMENT

This Environmental Assessment (EA) has been prepared to assess the potential environmental impacts that might result from the proposed action to remove a limited quantity of boulders from the dry bed of Waihanau Stream near Kalaupapa, Molokai, Hawaii. The lands from which the boulders would be removed are owned by the State of Hawaii and administered by the Department of Health. The property is identified as Tax Map Key (TMK) 6-1-03:02. The project would be funded by the State of Hawaii Department of Transportation. Use of either state lands or state funds triggers preparation of an EA as per Chapter 343, Hawaii Revised Statutes.

All of Kalaupapa peninsula, on the island of Molokai, is contained within the Kalaupapa National Historical Park and Historical Landmark. In addition, Kalaupapa peninsula is listed on the National Register of Historic Places.

The format chosen for this document follows the specifications of the State of Hawaii Environmental Impact Statement Rules (Chapter 200, Hawaii Administrative Rules). The sections below describe the project, alternatives to it, the existing environment, potential impacts and mitigating measures, and list the agencies consulted in preparation of the document. Attached as an appendix is a "Negative Declaration" of significant potential impacts for state agency use.

## 2.0 DESCRIPTION OF THE PROPOSED PROJECT

### 2.1 PURPOSE OF AND NEED FOR THE PROJECT

Waihanau Stream originates in the highlands south of Kalaupapa peninsula and bisects Waihanau Valley, entering the sea just south of the Kalaupapa Settlement on the western shore of the peninsula. Near the head end the stream is dammed and water diverted westward for use by the Department of Hawaiian Home Lands at Hoolehua and Kalamaula. Waihanau Stream is classified as a perennial stream, but due to the topside diversions the stream bed is usually dry through Kalaupapa. The stream bed near Kalaupapa is presently filled with boulders of various sizes which reportedly originated in upstream landslides. In times of heavy rainfall when flash flood conditions may exist in the lower portions of the stream, these boulders tend to migrate downstream, accumulating at certain topographic irregularities. In particular the boulders tend to accumulate at a bend in the stream bed southeast of the Settlement at about the 60-foot elevation. Such a previous accumulation resulted in the stream jumping its banks during a heavy flow period and flowing into the Settlement narrowly avoiding damage to patient homes and several structures. Subsequent to this event, some boulders were removed from the stream to contain flows within the banks, however boulders have once again accumulated to the point where nearby structures in the Settlement could be threatened by the stream leaving its banks during a high flow event.

The proposed action is therefore to remove a sufficient quantity of boulders from the stream bed to allow the stream to stay within its banks during a high flow event. The action is proposed now to improve stream flow prior to the onset of winter rains and to take advantage of a fortuitous combination of circumstances. The Department of Transportation, Airports Division, presently has mobilized on Kalaupapa a contractor with heavy equipment working on airport, wharf and roadway improvements. Furthermore, the contractor could substitute the boulders removed from the stream for those planned to be imported for a rock revetment at the airport. The proposed action would therefore benefit the community by removing a flood hazard, and at the same time save money for the contractor and ultimately for the state.

Because the project involves only removal of material, is outside navigable waters, and involves no discharge of fill material, a Permit from the Corps of Engineers is not required (Kanai, 1991).

## 2.2 TECHNICAL DESCRIPTION OF THE PROJECT

The project location is shown in Figure 1. Approximately 3,000 cubic yards of boulders would be removed from about 100 yards of the stream bed. The stream bed would be accessed by an existing jeep trail which leads to the stream bank and was used previously for a similar operation. No filling or modification of the stream banks would be required. A mobile crane would be used to lift boulders off the surface and load them into dump trucks. No alteration of the stream bed is planned, limiting disturbance or generation of fine sediment. All vehicles would remain within the stream banks during removal operations to avoid potential damage to archaeological sites and native vegetation. The boulders would be hauled to the airport using existing unpaved roadways skirting around the Settlement itself.

## 2.3 PROJECT SCHEDULE

The boulder removal would be done as soon as the necessary approvals can be secured. Periods of heavy rainfall could begin as early as September. Also, as the winter surf builds from the north, it becomes more difficult for barges to access Kalaupapa, removing the alternative source of boulders for the contractor.

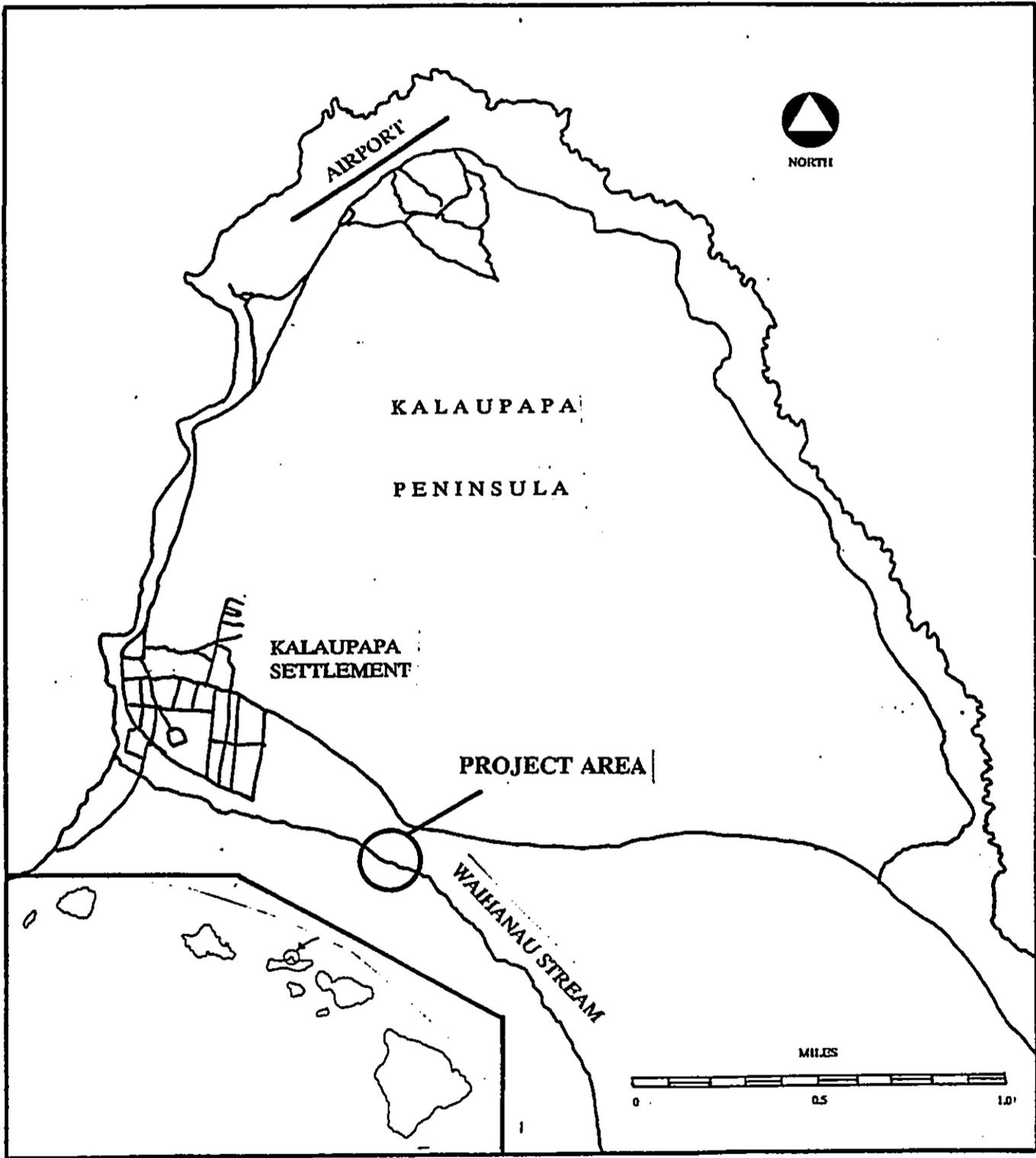
## 3.0 ALTERNATIVES

### 3.1 NO ACTION

The No Action Alternative would allow the existing flood hazard to remain through another rainy season. This could ultimately be the cause of flood damage to nearby historic structures in the Kalaupapa National Historical Park and Historical Landmark. Secondarily, the monetary savings which would be realized by the state as a result of its contractor having an on-site source of boulders would not be realized.

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FIGURE 1  
PROJECT LOCATION



### 3.2 DELAYED ACTION

The Delayed Action Alternative becomes in effect the same as the No Action Alternative. Delaying the action puts the community at risk from the next heavy rainfall and the opportunity to utilize heavy equipment presently on-site would be lost. The cost of on-going improvements would be greater as would the cost of delayed boulder removal.

### 4.0 ENVIRONMENTAL CONDITIONS, IMPACTS AND MITIGATION MEASURES

Initial scoping of potential impacts of the proposed action identified archaeological and botanical resources, air quality and ambient noise levels as being potentially adversely affected. This issues are addressed below as are other pertinent resources.

#### 4.1 SITE AND LAND USE

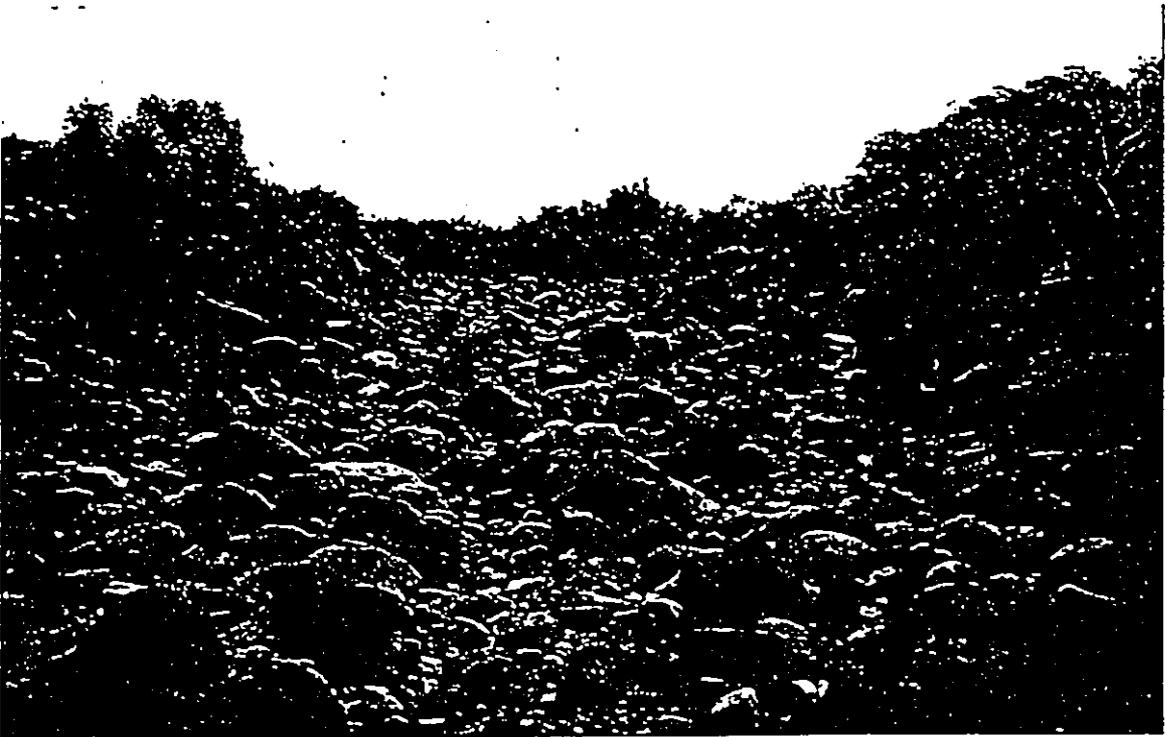
The proposed project area is located on the Kalaupapa peninsula on the island of Molokai. Although Molokai is part of Maui County for administrative purposes, Kalaupapa peninsula is a separate county, Kalawao County, administered by the State of Hawaii, Department of Health (DOH). A steep, virtually perpendicular cliff (pali) about 2,000 feet high separates the peninsula from the rest of the island (top side). Since 1865, Kalaupapa and Kalawao Settlements have served as an institution for victims of Hansen's Disease. When the National Park was established in 1980, former patients were guaranteed that they may remain at Kalaupapa for as long as they chose. Access to the Kalaupapa settlement and peninsula is via daily air service to the Kalaupapa Airport (except when weather curtails flights), freight barges and a steep trail down the pali. The Kalaupapa peninsula is a comparative flat leaf of lava about 2.25 miles long and 2.5 miles wide, projecting from the north coast of the island.

The Kalaupapa Settlement has a population of about 150, including slightly less than 100 former Hansen's Disease patients and about 50 non-patient workers. The Settlement has an inventory of nearly 400 buildings and structures, including approximately 70 households. Most of these buildings are included on the National Register of Historic Places.

FIGURE 2  
WAIHANAU STREAM BED IN PROJECT AREA



VIEW UPSTREAM



VIEW DOWNSTREAM

Lands in the area of the proposed project are owned by the state and administered by the Department of Health and are presently unutilized. Figure 2 reproduces photographs of the stream bed in the project area.

The impacts of removing boulders from the stream bed will be indirectly beneficial to preservation of structures in the Settlement. These benefits will erode in the long-term, as additional boulders migrate downstream and come to rest within the project area.

#### 4.2 GEOLOGY, PHYSIOGRAPHY AND SOILS

The geology and physiography of Kalaupapa peninsula are a result of volcanic activity of Kauhako Crater, the most recent (Pleistocene) shield volcano on Molokai. Kauhako Crater is about one half mile northeast of the project area. Its last eruption occurred in the late Pleistocene time (Stearns, 1967). In general, very little erosion has taken place on the peninsula. Flows from Kauhako Crater leveled out to form a relatively flat, slightly sloping terrace.

The soils within the project area are classified by the Soil Conservation Service (SCS, 1972) as stony alluvial land within the stream bed and as Haleiwa very stony silty clay loam, 0 to 15 percent slopes, in the access area. Descriptions of these soil types are as follows.

Stoney alluvial land consists of stones, boulders, and soil deposited by streams along the bottoms of gulches and on alluvial fans. In most places the slope is 3 to 15 percent. Elevations range from nearly sea level to 1,000 feet. The annual rainfall amounts to 15 to 200 inches.

This land type is suited to pasture in the dry areas and to pasture and woodland in the wet areas. The natural vegetation consists of kiawe, klu, ilima, piligrass, and lantana in the dry areas and guava, kukui, hilograss, and Christmas berry in the wet areas. Improvement of this land is difficult because of the stones and boulders.

Haleiwa very stony silty clay loam, 0 to 15 percent slopes, occurs on the Kalaupapa peninsula on Molokai. Runoff is slow to medium, and the erosion hazard is slight to moderate. There are many stones on the surface and in the profile. The stones make cultivation difficult.

This soil is used for pasture.

None of the lands in the project area are classified as Agricultural Lands of Significance to the State of Hawaii (ALISH), although some areas near the pali on Kalaupapa peninsula are classified as Prime Agricultural lands within the ALISH designation.

The proposed project would not cause impacts to the site's topography or physiography other than the obvious removal of boulders. Likewise, the proposed project would not impact the soils or agricultural potential of the area.

*Short-term construction-related impacts could occur during and after boulder removal.* By the nature of the operation, a minimal amount of soil could be disturbed. The first adequate rainfall of the season will tend to wash disturbed sediment downstream. The project area, however, is approximately 4,500 feet from the mouth of the stream. The stream bed between the project site and the ocean is also filled with boulders which will effectively trap the sediment before it can be discharged to the nearshore environment. Since only the top layer of boulders would be removed, the underlying stream bed would not be disturbed. No significant effect would be expected offshore of the stream mouth. Additional mitigation would be unnecessary.

#### 4.3 HYDROLOGY AND DRAINAGE

Median annual rainfall on Kalaupapa ranges from less than 25 inches along the shoreline to 75 inches in the valleys near the pali. Basal groundwater in windward Molokai is believed to be abundant but brackish and not suitable for potable water supplies. Surface waters, however, do offer some potential for potable water development on the peninsula, but costs are a limiting factor.

The proposed project would not affect present drainage patterns except by ensuring that flow in Waihanau Stream is contained within its banks. The impact would be indirectly beneficial to the Settlement.

The Department of Land and Natural Resources has authorized the removal of the boulders from the stream, effective September 13, 1991. The Army Corps of Engineers has no further requirements, as the stream bed is dry and the stream banks will not be affected.

#### 4.4 NATURAL HAZARDS - FLOODS

The Flood Insurance Rate Map (FIRM) for Kalaupapa indicates that certain coastal areas are within flood hazard zones. The project area, however, is within the C zone, which represents minimal flooding. During high stream flow periods however, the accumulation of boulders at certain points within the stream bed causes an overflow which sheet flows until it reaches a nearby jeep trail which directs it into the Settlement.

The impact of the proposed project will be beneficial in removing, at least in the short- to medium-term, this threat to safety, property and normal community functions.

#### 4.5 FLORA AND FAUNA

Several botanical surveys of various areas on Kalaupapa peninsula have been performed, most in conjunction with the National Park Service/University of Hawaii Cooperative Study Program. Kauhako Crater, the northeast coastal spray zone and areas that would be impacted by a new water line system have been botanically surveyed (Linney and Funk, 1986; Canfield, 1987; and Stemermann, 1982, respectively).

In general, the project area may be characterized as being within a scrub/brushland community consisting mostly (95 percent) of introduced species. The scrub/brushland vegetation includes koa-haole (*Leucaena leucocephala*), Christmas berry (*Schinus terebinthifolius*), lantana (*Lantana camara*), and various grasses including paspalum (*Paspalum* sp.) and Natal red-top (*Rhynchelytrum repens*).

There are no known endangered, threatened or candidate plant species found within the project area as listed by the U.S. Fish and Wildlife Service.

The proposed project would not require clearing of vegetation except along the presently overgrown jeep trail which would provide access to the stream. Consequently, no significant impacts would result, and specific mitigation measures are not warranted.

Two avifauna and feral mammal surveys of the airport area were performed in conjunction with that work. Many of the same species would be expected in the project area. The following characterizes the avifauna and feral mammals of the airport area.

The terrestrial wildlife in the airport area includes introduced and native species of land and seabirds, goats and, reportedly, several hundred axis deer that are seen on or near the runway at night. The principal species of birds inhabiting or frequenting the airport area include the following:

Resident Endemic (Native) Birds: None recorded during either survey. The Short-eared Owl (*Asio flammeus sandwichensis*) might occasionally be found at the airport as they forage over open lowlands as well as at higher elevation. In addition, the wetlands located between the town and the airport property contain sufficient water and food resources to support a small number of waterbirds. This wetland could be used by Black-necked Stilt (*Himantopus mexicanus knudseni*), American Coot (*Fulica americana alai*) and Common Moorhen (*Gallinula chloropus sandvicensis*).

Migratory Indigenous (Native) Birds: Pacific Golden Plover (*Pluvialis fulva*), Ruddy Turnstone (*Arenaria interpres*) and Wandering Tattler (*Heteroscelus incanus*). Two other species, Sanderling (*Calidris alba*) and Bristle-thighed Curlew (*Numenius tahitiensis*), may at times occur in the airport area, but none were recorded in the surveys conducted for the Master Plan and EA.

Seabirds: No seabirds were observed on the ground during the first survey, but three species, Great Frigatebird (*Fregata minor*), Red-footed Booby (*Sula sula*) and Wedge-tailed Shearwater (*Puffinus pacificus*), were observed flying overhead. During the second survey, two additional seabirds were recorded: Red-tailed Tropicbird (*Phaethon rubricauda*) and White-tailed Tropicbird (*Phaethon lepturus*). Both species were observed flying over the peninsula. Albatross (*Diomedea immutabilis*) have also been reported as occurring in the airport area.

Resident Indigenous (Native) Birds: None were recorded during either survey. Black-crowned night Heron (*Nycticorax nycticorax*) might occasionally forage in and around the airport area.

Exotic (Introduced) Birds: A total of 16 species of exotic birds were recorded during the first field survey and 12 species during the second survey conducted for the Master Plan and EA. The most numerous of these includes the Common Myna (*Acridotheres tristis*), Japanese White-eye (*Zosterops japonicus*),

House Finch (*Carpodacus mexicanus*), Zebra Dove (*Geopelia striata*) and Nutmeg Mannikin (*Lonchura punctulata*).

It is believed that mongooses, rats and mice also inhabit the airport area. All of these species, with the exception of the axis deer, are found throughout Hawaii. The axis deer is only found on Molokai. The deer population, which is estimated at about 200, can be found even in the inhabited areas of the Settlement during the night. There are no known endangered or threatened wildlife species inhabiting or frequenting the project area.

Records of the endemic and endangered Hawaiian Hoary Bat (*Lasiurus cinereus semotus*) are sketchy but the species likely occurs on Molokai (Tomich, 1986). Little is known of their natural history, distribution or ecological requirements. No bats were recorded during the two nights of observations for the airport project.

The proposed project would not significantly affect the fauna of the project area. A small amount of habitat in the stream and along the jeep trail would be disturbed, perhaps temporarily displacing some fauna. The amount of habitat so affected would be a very small proportion of similar adjacent habitat. No specific mitigation measures are warranted.

#### 4.6 ARCHAEOLOGICAL AND HISTORICAL RESOURCES

The entire Kalaupapa peninsula is known to be rich in archaeological and historical features. Several archaeological surveys have been conducted on the peninsula (Barrera, 1978; Pearson, et al., 1974; Somers, G., 1985; and Somers, C., 1971). A significant portion of the peninsula however, has not been surveyed. It has been reported that the 1836 population of the peninsula was 2,700 and probably much higher in pre-contact times (Somers, G., 1985). The known archaeological remains that exist on the ground are extensive, well preserved, largely unexplored and further evidence of a large Hawaiian population.

Behind the stream banks in the project area are a number of very well preserved rock walls and other features. To mitigate any potential disturbance of these sites and features, all work will be confined to within the stream banks. Access to the stream bed will be on the existing jeep trail only. An archaeologist will survey the area prior to boulder removal to insure that no archaeological sites or features are disturbed.

#### 4.7 SOCIOECONOMIC ENVIRONMENT

The existing socioeconomic characteristics of Kalaupapa generally reflect a tiny, rural community with a predominantly older population. The unique feature is the common personal histories of exile of the former Hansen's disease patient population, who were forcibly placed at Kalaupapa.

The present economy of the Settlement is based mainly on activities of the Hawaii State Department of Health which operates and maintains it. In addition, the National Park Service carries on activities in the Historical Park. A maximum of one hundred visitors can be admitted to Kalaupapa each day, although, at present, the average daily traffic is less than the legal visitor ceiling.

The Settlement has an inventory of nearly 400 buildings and structures, including approximately 70 households. Most of these buildings are included on the National Register of Historic Places.

Economic activities at the Kalaupapa Settlement are limited at present. Residents are employed by such government agencies as the State Department of Health (DOH), National Park Service (NPS) and State Department of Transportation (DOT) as well as non-government agencies. The one tour operation providing escorted tours of the Settlement and peninsula for visitors arriving by air, mule or hiking, is operated by a resident. The Kalaupapa Store, which is operated by DOH and provides basic supplies and Rea's are the only two retail outlets at Kalaupapa.

The proposed project will serve to protect nearby structures from potential flooding, and therefore will have positive impacts on the economic environment of the community. The social environment of the community is unique by its very nature. This was recognized in planning for the ongoing improvements to the airport, wharf and roadways in that extensive measures for mitigation of potential impacts to the life style of Kalaupapa residents were incorporated into the construction documents and agreed to by the contractor. Accomplishing this boulder removal project now, with personnel and equipment that are on-site anyway, is in effect a mitigation of potential future social impacts associated with another mobilization.

#### 4.8 CLIMATE, METEOROLOGY AND AIR QUALITY

The climate of Kalaupapa is fairly typical of Hawaii. Average rainfall on Kalaupapa varies from about 25 to 75 inches per year, with the December through March period being the wettest. Average temperatures on Kalaupapa range from lows of 60 °F to highs of about 85 °F. The lowest temperature recorded was 58 °F and the highest 95 °F. Surface winds are generally northeast trades with the mean wind speed being about 18 knots. Average relative humidity ranges between about 55 and 90 percent.

The proposed project would not impact the climate or meteorological conditions of the project area or Kalaupapa peninsula.

An air quality study for the airport project was prepared in 1989 (Root and Neal). The purpose of the study was to describe existing air quality in the airport area and to make a preliminary assessment of the potential short- and long-term direct and indirect air quality impacts that could result from the proposed airport improvements.

National Ambient Air Quality Standards (AAQS) and State of Hawaii AAQS are summarized in Table I. AAQS have been established for six pollutants including particulate matter, sulfur dioxide, nitrogen dioxide, carbon monoxide, ozone and lead. National AAQS are stated in terms of primary and secondary standards. National primary standards are designed to protect the public health with an "adequate margin of safety." National secondary standards, on the other hand, define levels of air quality necessary to protect the public welfare from "any known or anticipated adverse effects of a pollutant." Kalaupapa Peninsula is classified as a Class II area, and therefore, Prevention of Significant Deterioration (PSD) regulations are applicable.

In contrast to the national AAQS, Hawaii State AAQS are given in terms of a single standard that is designed "to protect public health and welfare and to prevent the significant deterioration of air quality." State of Hawaii AAQS are in some cases considerably more stringent than comparable national AAQS. In particular, the State of Hawaii 1-hour AAQS for carbon monoxide is one quarter the comparable national limit.

TABLE I  
SUMMARY OF STATE OF HAWAII AND NATIONAL  
AMBIENT AIR QUALITY STANDARDS (AAQS)

| POLLUTANT<br>(Units)  | AVERAGING<br>TIME   | MAXIMUM ALLOWABLE CONCENTRATION |                       |                    |
|---|---------------------|---------------------------------|-----------------------|--------------------|
|   |                     | NATIONAL<br>PRIMARY             | NATIONAL<br>SECONDARY | STATE OF<br>HAWAII |
| Suspended<br>Particulate Matter<br>( $\mu\text{g}/\text{m}^3$ ) | Annual              | --                              | --                    | 60 <sup>a</sup>    |
|   | 24 Hours            | --                              | --                    | 150 <sup>b</sup>   |
| Particulate Matter <sup>c</sup><br>( $\mu\text{g}/\text{m}^3$ ) | Annual              | 50                              | 50                    | --                 |
|   | 24 Hours            | 150 <sup>b</sup>                | 150 <sup>b</sup>      | --                 |
| Sulfur Dioxide<br>( $\mu\text{g}/\text{m}^3$ )                  | Annual              | 80                              | --                    | 80                 |
|   | 24 Hours            | 365 <sup>b</sup>                | --                    | 365 <sup>b</sup>   |
|   | 3 Hours             | --                              | 1,300 <sup>b</sup>    | 1,300 <sup>b</sup> |
| Nitrogen Dioxide<br>( $\mu\text{g}/\text{m}^3$ )                | Annual              | 100                             | 100                   | 70                 |
|   | 8 Hours             | 10 <sup>b</sup>                 | --                    | 5 <sup>b</sup>     |
| Carbon Monoxide<br>( $\text{mg}/\text{m}^3$ )                   | 1 Hour              | 40 <sup>b</sup>                 | --                    | 10 <sup>b</sup>    |
|   | 1 Hour              | 235 <sup>b</sup>                | 235 <sup>b</sup>      | 100 <sup>b</sup>   |
| Ozone ( $\mu\text{g}/\text{m}^3$ )                              | 1 Hour              | 235 <sup>b</sup>                | 235 <sup>b</sup>      | 100 <sup>b</sup>   |
| Lead ( $\mu\text{g}/\text{m}^3$ )                               | Calendar<br>Quarter | 1.5                             | 1.5                   | 1.5                |

<sup>a</sup> Geometric Mean

<sup>b</sup> Not to be exceeded more than once per year

<sup>c</sup> Particles less than or equal to 10 microns aerodynamic diameter

Although there are no existing air quality data for the Kalaupapa area, present air quality in the project area can be assumed to be nearly pristine due to its remote location, the lack of air pollution sources on the peninsula, and the windward location of the project site with respect to the northeast tradewinds.

Occasional minor impacts may occur from natural, agricultural and/or vehicular sources. Natural sources of air pollutants which could affect the project area include the ocean (sea spray), plants (aero-allergens), wind-blown dust, and perhaps distant volcanoes on the Island of Hawaii. Dust and smoke from agricultural tilling and burning in the area may reduce air quality periodically, and tailpipe emissions as well as fugitive dust from the few motor vehicles in Kalaupapa may slightly affect air quality near roadways. These potential minor emissions do not represent significant air quality impacts.

Short-term direct and indirect impacts on air quality could potentially occur during project operations. For this project, there are two potential sources of air pollution emissions which could directly result in short-term air quality impacts during project operations: 1) fugitive dust from vehicle movement and boulder removal, and 2) exhaust emissions from on-site heavy equipment.

Fugitive dust emissions may arise from dislodging and lifting the boulders. The emission rate for fugitive dust is nearly impossible to estimate accurately because of its elusive nature and because the potential for its generation varies greatly depending upon the type of soil at the site, the amount and type of dirt-disturbing activity taking place, the moisture content of exposed soil in work areas, and the wind speed. The EPA has provided a rough estimate for uncontrolled fugitive dust emissions from construction activity of 1.2 tons per acre per month under conditions of "medium" activity. Uncontrolled fugitive dust emissions in the project area would probably be less than this level. State of Hawaii Air Pollution Control Regulations require that visible emissions of fugitive dust from construction activity be essentially nil. Adherence to those regulations will serve to mitigate any potentially significant short-term fugitive dust air quality impacts.

On-site mobile construction equipment will also emit some air pollutants in the form of engine exhausts. Nitrogen oxides emissions from diesel engines can be relatively high compared to gasoline-powered equipment, but the standard for nitrogen dioxide is set on an annual basis and is not likely to be violated by short-term construction equipment

emissions. Carbon monoxide emission from diesel engines, on the other hand, are very low and should be relatively insignificant.

#### 4.9 NOISE

A noise measurement and impact assessment study was conducted for the airport project by Darby & Associates (1989). At present, the residents within Kalaupapa Settlement experience sounds primarily generated by surf, wind in foliage and birds. Traffic movement and resulting noise are minimal. Ambient sound measurements, taken within the settlement (Wilcox House) during a relatively high wind condition (15 to 20 knots) indicate a Day-Night Average Sound Level (Ldn) of 64.8 dB. Sound levels in noise sensitive areas outside of the Settlement indicate ambient sound levels of between 47 and 52 dB(A). Air traffic causes no significant noise impacts within Kalaupapa Settlement. No noise sensitive land uses exist in the project area.

Short-term noise increases will be experienced in the immediate vicinity of the project due to heavy equipment operation. These noises do not constitute a significant impact due to their minor, temporary nature and the lack of noise sensitive land uses in the affected area. Operations will be limited to daytime hours.

#### 5.0 LIST OF AGENCIES CONSULTED

The following agencies, organizations and individuals were consulted in preparation of the EA.

##### FEDERAL AGENCIES

U.S. Department of the Army, Corps of Engineers  
U.S. Department of the Interior, National Park Service

##### STATE AGENCIES

Department of Health  
Department of Land and Natural Resources  
Department of Transportation

## 6.0 LIST OF REFERENCES

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APPENDIX A

NOTICE OF DETERMINATION  
NEGATIVE DECLARATION FOR THE PROPOSED  
BOULDER REMOVAL PROJECT  
KALAUPAPA NATIONAL HISTORICAL PARK, MOLOKAI, HAWAII

A. Proposing Agency

State of Hawaii, Department of Health

B. Approving Agency

State of Hawaii, Department of Health

C. Description of the Proposed Action

Approximately 3,000 cubic yards of boulders would be removed from about 100 yards of Waihanau Stream bed. The stream bed would be accessed by an existing jeep trail. No filling or modification of the stream banks would be required. A mobile crane would be used to lift boulders off the surface and load them into dump trucks. The stream bed itself would not be affected, limiting disturbance or generation of fine sediment. All vehicles would remain within the stream banks during removal operations to avoid potential damage to archaeological sites and native vegetation. The boulders would be hauled to the airport using existing unpaved roadways skirting around the Settlement itself.

D. Determination

The proposed project would not have a significant effect on the environment. No endangered, threatened or candidate species, floodplains, wetlands, historic properties or other unique environmental resources would be adversely affected. The "Significance Criteria," Section 12 of Hawaii Administrative Rules Title 11, Chapter 200, "Environmental Impact Statement Rules," were reviewed and analyzed. Based on the analysis, the following were concluded:

1. no irrevocable commitment to loss or destruction of any natural or cultural resource would result;
2. the action would not curtail the range of beneficial uses of the environment;
3. the proposed action does not conflict with the state's long-term environmental policies or goals and guidelines;
4. the economic or social welfare of the community or state would not be substantially affected;

5. the proposed action does not substantially affect public health;
6. no substantial secondary impacts, such as population changes or effects on public facilities, are anticipated;
7. no substantial degradation of environmental quality is anticipated;
8. the proposed action does not involve a commitment to larger actions, nor would cumulative impacts result in considerable effects on the environment;
9. no rare, threatened or endangered species or their habitats would be affected;
10. air quality, water quality or ambient noise levels would not be detrimentally affected;
11. the project would not affect environmentally sensitive areas, such as flood plains, tsunami zones, erosion-prone areas, geologically hazardous lands, estuaries, fresh waters or coastal waters.

**E. Reasons Supporting Determination**

The Environmental Assessment (EA) for the proposed action and the results of the coordination undertaken with affected agencies and parties are attached to support the determination of a Negative Declaration.

**F. Name, Address and Phone Number of Contact Person**

Dr. Robert M. Worth, M.D., Ph.D., Acting Chief  
 Hansen's Disease Institution Branch  
 State of Hawaii, Department of Health  
 1250 Punchbowl Street  
 Honolulu, Hawaii 96813  
 - Tel.: (808) 586-1788

**RECEIVED AND ACCEPTANCE RECOMMENDED**

By \_\_\_\_\_

\_\_\_\_\_ Date

**CONCURRENCE**

By \_\_\_\_\_

\_\_\_\_\_ Date