



# University of Hawaii at Manoa

## Environmental Center

A Unit of Water Resources Research Center  
Crawford 317 • 2550 Campus Road • Honolulu, Hawaii 96822  
Telephone: (808) 956-7361

February 3, 1994  
RP:0154

Ms. Rae M. Loui  
Commission on Water and Resource Management  
Department of Land and Natural Resources  
P.O. Box 621  
Honolulu, Hawaii 96809

Dear Ms. Loui:

Stream Channel Alteration Permit  
Unnamed Stream  
Hanalei, Kauai

This project involves the construction of a culvert across an unnamed stream in Hanalei, Kauai, for a driveway crossing for the Reasor residence.

We have been assisted in this review by Terry Hunt, Anthropology; Dave Penn, Geography; and Chris Welch, Environmental Center.

### Comments

While the scope of the project appears modest, the potential impacts of the culvert construction on the environment cannot be evaluated from the meager information contained in the permit application and map.

We do not have the specific content requirements for a Stream Channel Alteration Permit at our disposal, however, we assume that those requirements would reflect the State Water Code policy statement (HRS 174C-2(c)) that calls attention to the need for, "adequate protection of traditional and customary Hawaiian rights, the protection and procreation of fish and wildlife, the maintenance of proper ecological balance and scenic beauty,...etc. Given the language of the HRS 174C-2(c), it does not appear that the present application contains sufficient information for compliance with the language or intent of the State Water Code and decision making on a stream channel alteration project.

We note an inconsistency between the application and accompanying materials. According to the letter from Mr. Warren Kanai, Operations Division of the Army Corps of Engineers, the stream is not an intermittent stream but is considered a "swale", therefore no Army permit is

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required. According to the "Application for Permit" the stream is "intermittent". This apparent inconsistency should be clarified in the permit application.

No information is provided in the permit as to the physical, hydrological, or biological characteristics of the unnamed stream or the area that will be directly affected by construction of the culvert. This information should be included in the permit application. Furthermore, there is good probability that archaeological artifacts are present in or around the swale. Any such artifacts could be disturbed by the heavy equipment needed to accomplish the culvert and driveway construction. We urge that a surface and subsurface archaeological inventory of the swale area be conducted and documented prior to construction. This will ensure that any sensitive cultural artifacts are adequately documented or preserved.

Aquatic or riparian resources that rely on this swale, if any, need to be identified and inventoried. Any potential degradation to the biotic environment needs to be addressed before alteration begins.

Hydraulic surveys of the existing drainage way should be done to compare with the proposed alterations. The capacity and water velocity characteristics of the drainage way might affect siltation to the coastal waters. Also, if mapped floodway characteristics of the area are changed by this culvert, it would require the Federal Emergency Management Agency/National Flood Insurance Program to be notified. For existing floodways FEMA maps should be consulted.

We note that the design of the end wall (sheet 2) does not indicate the use of any filter cloth or anchor stones at the seaward facing CRM walls. Because this end wall will be only a few feet landward of the 40 foot shoreline setback, it may be prudent to design the end wall for possible future attack from waves or runup. This would be particularly important if the shoreline is sand and subject to cyclic erosion that could reduce the 40 foot setback.

In conclusion, more information as to the environmental characteristics of the area should be included with the stream channel alteration permit so that informed decisions, and any attendant conditions, can be made prior to granting the permit.

Thank you for the opportunity to review and comment on this application.

Sincerely,



Jacquelin N. Miller  
Associate Environmental Coordinator

cc: OEQC  
GMP Associates, Inc.  
Roger Fujioka  
David Penn  
Terry Hunt  
Chris Welch