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COMMISSION ON WATER RESOURCE MANAGEMENT
P.O. BOX 821
HONOLULU, HAWAII 96809

March 4, 2019

RECEIVED

SDWP.4950.6

MAR 06 2019

Division of Aquatic Resources
DAR 5879

TO: Aha Moku Advisory Council
Aquatic Resources
Engineering Division
Forestry and Wildlife
Historic Preservation
Land Division
State Parks

FROM: M. Kaleo Manuel, Deputy Director *MK*
Commission on Water Resource Management

SUBJECT: East Maui Irrigation Company Application for a Stream Diversion Works Permit for Abandonment (SDWP.4950.6), Category 3 Diversions, Honopou, Hanehoi (Puolua), and Pi'ina'au (Palauhulu) Streams, East Maui, Hawai'i, Tax Map Keys: (2) 1-1-002:002; 2-9-003:042; 2-9-004:038 and 039; 2-9-006:028 and 033; 2-9-009:019; 2-9-014:001; 2-9-014:009

We would appreciate your review and comment on the subject permit application within 30 days from the date of this memo. The project proposes to abandon 11 diversions on the subject streams. The application is available for review at <http://dlnr.hawaii.gov/cwrmsurfacewater/review/>. If you have any questions, contact Rebecca Alakai at 587-0266, or rebecca.r.alakai@hawaii.gov.

Response:

- We have no objections
- Not subject to our regulatory authority and permit
- Comments attached
- Additional information requested
- Extended review period requested

Contact Person: *Brian Neilson* Date: 3/20/19
Brian Neilson DAR Administrator

FILE ID: SDWP 4950.6
DOC ID: 2/380

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GOVERNOR OF
HAWAII



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
DIVISION OF AQUATIC RESOURCES
1151 PUNCHBOWL STREET, ROOM 330
HONOLULU, HAWAII 96813

Date: March 7, 2019
DAR # 5879

SUZANNE D. CASE
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KAIKOLA (W. ISLAND) RESERVE COMMISSION
LAND
STATE PARKS

MEMORANDUM

TO: Brian J. Neilson
Acting DAR Administrator

FROM: Skippy Hau, Aquatic Biologist

SUBJECT: East Maui Irrigation Company Application for a Stream Diversion Works Permit for Abandonment (SDWP.4950/6). Category-3 Diversions, Honopou, Hanehoi (Puolua), an Piina'au (Palauhulu Stream,

Request Submitted by: M. Kaleo Manuel, Deputy Director

Location of Project: East Maui, Hawai'i, TMK (2)1-1-002:002; 2-9-003:042; 2-9-004:038 and 0.


Brief Description of Project:

Selected diversions on Honopou, Hanehoi, and Piinau Streams will be sealed by bolting plates over intake grate or openings will be sealed with concrete. The application seems to consistently use a stream overpass of various ditches without specifications. The stream will be allowed to flow over the irrigation ditch. If too small, overflow water will enter the ditch system. In several locations, a secondary option proposes to replace a section of the irrigation ditch with concrete pipe or box culvert and restoration of a natural stream over the irrigation ditch.

Comments:

No Comments Comments Attached

Thank you for providing DAR the opportunity to review and comment on the proposed project. Should there be any changes to the project plan, DAR requests the opportunity to review and comment on those changes.

Comments Approved:  Date: 3/20/19
Brian J. Neilson
Acting DAR Administrator

DAR# 5879

Comments

As described previously, the removal of sluice gates is fully supported. However, there is no proposed removal of stone walls and dams which were built over time, to funnel water towards the intakes. If the gratings are sealed with metal or concrete, will diversions be inspected in the future to insure water is continuously flowing downstream?

We still recommend concrete dam and wall removal and the restoration of natural stream habitat. Will pipes (metal and plastic) and other objects that help transport water to diversions and ditches be removed?

Shouldn't diversion structures on State land be totally removed?

Prior to phase IV proposed improvements to use box culverts to protect irrigation ditches, we strongly support the restoration of each stream to flow naturally over the box culverts. There were several streams which continue to flow directly into irrigation ditches. For example, during our Honopou and Kolea stream surveys, we found the smaller stream directly flowing into the irrigation ditch. Only during flooding will water flow over the ditch and go downstream.

Will these diversion structures be evaluated for high stream flows?

SDWP_4950_6

(P.29) Honopou long strainer at Lowrie Ditch L-15. It appears the Lowrie Ditch is being given priority over the stream. The 24-inch concrete pipe replaces a plastic pipe currently transporting water downstream. The stream should flow naturally and not be piped over the proposed box culvert/ditch.

Site Photographs - Honopou Stream Diversions

Photo 2. The typical stream overpass will allow most of the water during high flows to overflow into the ditch. Instead of maintaining the natural stream, it will maintain flow in the irrigation ditch. It will continue to maintain a minimal flow from mauka to makai.

(P.30) Photo 3. Honopou siphon at Lowrie Ditch (L-16). Stream flow going into ditch.

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Photo 4. Honopou at Haiku Ditch (H-8). Will the barrier be removed which increases the height of the water to flow over the metal section? It might be better to lower the elevation on the Hana side of the pool and allow a continuous flow over the concrete portion by the pipes. Please remove all of the pipes and lower that side of the diversion.

(P.33) Figure 2. This structure does not restore the natural stream but maintains the Lowrie Ditch and the access road. This "concrete intake" is similar to the concrete walls and dams that should be removed where "sluice gates were removed." If this structure is approved, the flow from the pipe must flow on the ground and not above the stream. The pipes transporting water downstream pours into the lower stream (see attached photo). If water is allowed to flow out of the pipe, migrating opae or 'o'opu cannot jump through the pipe.

(P.34) Figure 3. The proposed concrete pipe will not help upstream migration of native animals. These modifications maintain the integrity of the existing irrigation ditch system. The pipe appears to flow under the access road. Will water flow into a natural stream bottom?

(P.35) Figure 4. The proposal for a concrete overpass ditch appears to be better but these sketches do not reveal the true building specifications and conditions. I would like more information. The two lines without descriptions is indescribable.

(P.36) Figure 5. This also appears to be an incomplete sketch with not enough details. We also lack scale or the amount of water that is flowing in the stream. I strongly recommend that a weir similar to the one in (Pi'ina'au) Palauhulu weir (see photo) which is used to transport water to the Keanae peninsula is strongly recommended. The water is allowed to flow continuously and stream animals can successfully migrate upstream. Allowing water to flow by the stonewall (Hana side) would seem to be optimal.

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(P.44) Photo 5. Where is the ditch and where is the stream?

Photo 6. Appears to be the same photo identified as typical stream overpass. The size of the overpass should be appropriately sized for the amount of stream flow.

(P.45) Photo 7. Hanehoi West #1 at Lowrie Ditch. Could a box culvert be used to encase the ditch? It would be appropriate to allow the stream to flow naturally over the ditch. This appears to be a larger stream which likely has a higher flow during heavy storms.

Photo 8. Hanehoi small intake. Is the photo of Hanehoi stream above the irrigation ditch?

(P.46) Photo 9. Puolua (Huelo) at New Hamakua Ditch. This appears to be a smaller trickle that could be transported by a stream overpass. There appears to be less stream habitat and smaller flow.

Photo 10. Puolua (Huelo) at Lowrie Ditch. This appears to be wider and may have higher storm flows. Could a box culvert over the ditch be considered?

(P.47) Photo 11. Hanehoi West #2 at Lowrie Ditch. This is upstream. What does the ditch look like?

(P.49) Figure 6. East Hanehoi at Lowrie Ditch(L-5a). There is inadequate information/specifications for the stream overpass.

(P.50) Figure 7. Hanehoi West #1 at Lowrie Ditch. Need a description of ditch (L-5b).

(P.51) Figure 8. Hanehoi small intake at Lowrie Ditch. Need more information description (L-5c).

(P.52) Figure 9. Puolua (Huelo) at New Hamakua Ditch.(NH-17a). Need specifications.

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(P.53) Figure 10. Puolua (Huelo) at Lowrie Ditch (Hanehoi Roseapple) (L-7a). It appears that a box culvert for the ditch might be easier than trying to build an overpass for stream.

(P.54) Figure 11. Puolua (Huelo) at Lowrie Ditch (pipeline preferred). How much flow? Has flow been measured during storm conditions?

(P.55) Figure 12. Puolua Proposed concrete intake over Lowrie Ditch (preferred). Need more information about the access road and downstream habitat conditions.

(P.56) Figure 13. Secondary option. I prefer this option and believe high flows can address the heavy flooding. Depending on the width of the stream, would a box culvert also be considered? We support natural stream bottoms.

(P.57) Figure 14. (L-7a) Secondary option.

(P.58) Figure 15. (L-7b) More information is needed.

(P.65) Photo 12. Hauolo Ditch (K-30b) Where does the stream naturally flow? The Hauolo small diversion (one of four) should be fully explained. Can the four diversions be shown on a map?

Photo 13. Hauolowahine runoff by pad at Koolau Ditch (K-30d). If "runoff" pad, an overpass might be appropriate.

(P.66) Photo 14. This appears to be the same photo. Please show what the location actually looks like. I am unclear as to what the flow will be like during storm conditions. Water appears to insure that excess water will overflow into the ditch and a minimal flow will be allowed to go downstream.

There isn't enough information to conclude that the same small stream overpass structure is adequate to restore mauka to makai flows in the different streams.