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Ms. Laura McIntyre, Manager
Environmental Planning Office
Department of Health
State of Hawai'i
919 Ala Moana Blvd., Room 312
Honolulu, HI 96814

SUBJECT: Pre-Consultation Notice for Draft Environmental Assessment
Nā'ālehu Wastewater Transmission, Treatment and Disposal System
Job No. WW-4140, Wastewater Division, Department of Environmental
Management, County of Hawai'i

Dear Ms. McIntyre,

We are in the process of preparing the Draft Environmental Assessment for the subject project for the County of Hawai'i.

Enclosed for your information is a summary description of the overall project. The Nā'ālehu portion of the project will be completed in two construction contracts as follows:

- Construction of a new wastewater collection system within the County Right-of-Way in the former C. Brewer portion of Nā'ālehu town
- Construction of a wastewater new transmission main along Māmalahoa Highway and a new treatment and disposal facility on a portion of TMK 9-5-012:002

This Environmental Assessment will involve the transmission main and treatment and disposal facility only.

The pre-design construction cost estimate for the Nā'ālehu portion of the project is \$14.7 million. Construction of the collection system is anticipated to begin in early 2014 and continue for approximately twelve months. Construction of the transmission sewer and treatment and disposal facility is anticipated to begin in late 2014 and continue for approximately eighteen months.

We would appreciate any preliminary comments you may have regarding this project by September 21, 2013. You will receive a copy of the Draft Environmental Assessment for your review and comment once complete. Please contact either Lance Fukumoto or Wynn Miyamoto at (808) 944-1821 if you have any questions or concerns.

Regards,

A handwritten signature in cursive script, appearing to read "Lance Fukumoto".

Lance Fukumoto, P.E.
Project Engineer

Encl.

cc. Dora Beck, P.E., Wastewater Division, Department of Environmental Management,
County of Hawai'i

County of Hawai'i
Department of Environmental Management, Wastewater Division

**Nā'ālehu and Pāhala Villages Large Capacity Cesspool Conversion
PROJECT DESCRIPTION**

I. NEED FOR PROJECT

The purpose of this report is to update the treatment and disposal methods recommended in the 2007 Environmental Assessment (EA) for the Nā'ālehu and Pāhala Large Capacity Cesspool Conversion Projects. The previous EA included wastewater systems in both Nā'ālehu and Pāhala. However, this update will only cover Nā'ālehu. Any changes to the wastewater collection, treatment, and disposal system for Pāhala will be addressed in a separate update.

Per Federal regulations, all existing large capacity cesspools (LCCs) must be closed. The sewer system for the project area in Nā'ālehu, originally owned and operated by C. Brewer, is served by three existing LCCs. Per an agreement between C. Brewer and the County of Hawai'i, the County has taken over the sewer system and must close the existing LCCs.

The 2007 EA was completed for the County with the recommendation to construct a sewer collection system within the County Right-of-Way, construct a large capacity septic system (LCSS) on TMK 9-5-024:011, and clean the existing LCC on TMK 9-5-024:011 and convert it to a seepage pit. Subsequent investigations conducted in 2009 revealed problems with the proposed project for the following reasons:

- The EA failed to identify all the LCCs in use. The proposed site does not have sufficient space to fit both the treatment system and three seepage pits with proper setbacks and distances between units.
- The existing LCCs are in poor condition and are failing. Reusing the existing LCCs is not recommended.
- LCSSs produce poor effluent quality and are not considered a long term solution for a community-wide wastewater treatment system.
- An LCSS is an anaerobic process that is prone to odors and the proposed site is located in a residential area.

A larger treatment and disposal site is required and the existing EA needs to be updated. Following is a summary of the recommended improvements for this project. The project has been split into two construction contracts to expedite construction. The scope of the new project shall be as described below:

- Construction of a new collection system within the County Right-of-Way, in general conformance with the 2007 EA
- Construction of a new treatment and disposal facility on a portion of TMK 9-5-012:002, including:

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- Wastewater treatment plant sized for average daily flow of 80,000 gpd using a partial mix lagoon system with three concrete tanks.
 - Effluent disposal using leach fields and injection wells.
 - Connection of individual houses to the collection system.
 - Closure of the existing large capacity cesspools (LCCs).
 - Connection of the collection system to the new treatment and disposal site via a transmission main along Māmalahoa Highway.

The attached figures indicate the location of the work, as well as the proposed treatment plant layout.

II. TREATMENT AND DISPOSAL SITE

The proposed treatment and disposal site is located on the west side of TMK 9-5-012:002. The land is owned by the State Department of Land and Natural Resources (DLNR) and the proposed site will occupy a portion of the property (approximately 6 acres). DLNR is willing to turn over a portion of their property to the County to construct a treatment and disposal system.

An Archaeological Inventory Survey (AIS) was performed on the site and a petroglyph was discovered in the vicinity of the proposed treatment and disposal site. The layout of the proposed treatment and disposal site has been modified to keep the petroglyph off of the project site with a 100 foot buffer. Previous projects have proceeded with a 50-foot buffer around petroglyphs. There is an existing HELCO easement along the southern boundary of the western site.

A flora and fauna survey was also performed on the proposed treatment and disposal site. The survey did not find any endangered plants or animals on the site. The construction of a treatment and disposal system on the DLNR site will not have any negative affect any flora or fauna.

The proposed treatment and disposal site is close to Māmalahoa Highway for maintenance access. The site is not located in a residential area and will minimize public exposure. A minimum setback of 150 feet is recommended for the treatment site to the State Highway. The rest of the surrounding area is undeveloped agricultural land and a minimum 25 foot setback will be used.

Other Sites Considered

The following sites were also evaluated as potential treatment and disposal sites, but were eliminated from consideration.

Kawala Property

The County was offered a 12 acre portion of TMK 9-5-010:001, by Kawala, LLC. However, negotiations between Kawala and the County were not successful and the property could not be acquired. A preliminary archaeological investigation discovered the possibility of historical sites on the Kawala property. Due to the high probability of the presence of historical properties, the Kawala Property has been eliminated from consideration.

DLNR Property

The proposed treatment and disposal site only occupies a portion of the 150 acre DLNR property. Other portions of the DLNR property have also been investigated.

A preliminary archaeological study revealed that a portion of the DLNR property includes a famous bowling field named Kahua 'Olohū that was used for Makahiki festivals. An Archaeological Inventory Survey (AIS) has been performed and has identified approximate boundaries of the Kahua 'Olohū. Due to its significant cultural significance this site has been eliminated from consideration. The proposed treatment and disposal site is approximately 400 feet away from the Makahiki site.

A burial site in a lava tube was located to the east of the Makahiki site. This site has been eliminated from consideration.

Several petroglyphs and other artifacts were discovered between the Makahiki site and the burial site. This area has been eliminated from consideration.

The land on the south of the DLNR property is more rocky and sloping than the north portion of the property. There is a high probability of finding other archaeological sites on this portion of the property. It is not recommended to use the southern portion of the DLNR property for the treatment and disposal site.

County Park

Construction of a treatment or disposal system at Nā'ālehu Park would remove large portions of the park from service during construction. Following construction, facilities may be fenced and portions of the park temporarily removed from service for operations and maintenance work. Using Nā'ālehu Park for a treatment and disposal site poses a large inconvenience to the public and is not recommended.

Properties within Nā'ālehu Town

Acquisition of TMK 9-5-024:007 was considered due to its close proximity to the existing collection system. However, due to the close proximity to the failing cesspools and location in a residential area, this site was eliminated from consideration.

Alternate Properties

Several undeveloped properties in Nā'ālehu on the makai side of the Highway were investigated as potential treatment and disposal sites (TMK 9-5-011:001 and 009). Only properties on the makai side of the Highway were investigated because sewage could flow to these properties by gravity and would not require construction of a pump station. Preliminary archaeological research indicates that these undeveloped properties have potential archaeological sites. Due to

the high probability of encountering archaeological sites on these properties, pursuing these properties is not recommended.

III. TREATMENT AND DISPOSAL METHODS

With a larger treatment and disposal site available, alternate treatment methods were investigated that are more appropriate for a community-wide wastewater treatment system.

A partial mix lagoon system using three concrete basins is recommended for secondary treatment. Using concrete basins in lieu of earthen basins will reduce the footprint of the lagoons. Flow metering using a flume and preliminary treatment using an in-channel screen is also recommended. Lagoon Systems and Packaged Treatment Plants were investigated as potential treatment methods.

A combination of leach fields and injection wells are recommended for effluent disposal. The size of the effluent disposal facilities shall be confirmed with a geotechnical investigation. Infiltration basins, leach fields, injection wells, and ocean outfalls have been investigated as potential effluent disposal methods.





