

FINAL
PRELIMINARY ENGINEERING REPORT
for
HONOKAA LARGE CAPACITY CESSPOOL
CONVERSION PROJECT
Honokaa, Hawaii



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EXECUTIVE SUMMARY

The purpose of this report is to evaluate options of replacing Large Capacity Cesspools (LCC) in Honokaa to septic tanks or by expanding the existing Honokaa wastewater collection and treatment systems. EPA has mandated that all LCCs in Hawaii be replaced or converted by April 5, 2005.

In Honokaa town, there are 37 confirmed properties with LCC that will require upgrade. The County is considering the transfer of ownership of the existing State's Wastewater Treatment Facility and expanding the Honokaa collection system to sewer facilities with LCC. Presently the existing 56,100 gallons per day wastewater treatment plant serves a nursing home facility, health clinic, and two churches. However, the exact number of properties served is unknown. The treatment plant is owned and operated by Hale Ho'ola Hamakua Health Care Center (HCC), which is owned by the Hawaii Health System Corporation (HHSC).

A summary of the existing LCCs and wastewater system is as follows:

1. Large Capacity Cesspools:
 - a. 37 confirmed properties with LCCs within the Honokaa town.
 - b. There may be up to a total of 60 to 70 unconfirmed properties with LCC.
2. Honokaa WWTP Service Area:
 - a. Hale Ho'ola Hamakua Health Care Center
 - b. Two churches on lower Plumeria Street.
 - c. A few unknown properties downstream of the Health Care Center.
3. WWTP Collection system:
 - a. Owned by the HHSC.
 - b. 8,300 LF of 8 inch diameter PVC pipe.
4. WWTP Design:
 - a. Owned by the HHSC.
 - b. Two facultative stabilization ponds operated in series.
 - c. Design capacity: 56,800 gpd.
 - d. Design peak flow: 292,750 gpd.
 - e. Three seepage pits located below the Underground Injection Control line.

A summary of the evaluated options is as follows:

1. Alternative 1 – No Action:
 - a. No action performed.
 - b. EPA fines each property owner up to \$32,500 per day per LCC that “no action” is performed after April 5, 2005. To present day, fines can total over \$50M for the County alone.
 - c. The cost of the fines will exceed the cost of all alternatives under consideration.
2. Alternative 2 – Short Term:
 - a. Alternative 2a – Expand the existing Lehua Interceptor service area:

- i. A trunk sewer on Mamane Street is proposed. This trunk sewer will serve the properties adjacent and bordering Mamane Street. Majority of the schools would not be able to connect to this sewer.
 - ii. A second sewer line serving the County parks is proposed. This sewer line will also provide sewer service to those along its route.
 - b. The existing WWTP requires replacement or expansion to a design ADWF of 100,000 gpd.
 3. Alternative 2b – Expand the proposed Mamane trunk sewer tributary area:
 - a. A proposed trunk sewer on Pakalana is proposed. This trunk sewer will serve the schools located on Pakalana Street.
 - b. Various sewer lines within the Mamane trunk tributary area are proposed.
 - c. A new 200,000 gpd WWTP is required
 4. Alternative 2c – Replace LCCs with IWS:
 - a. No expansion of the existing collection, treatment and disposal system.
 - b. All owners of LCCs must replace cesspools with IWS.
 - c. Owners of LCC located makai of Mamane Street may not be able to install an IWS within their property since the physical space is not available. These owners will be dependant on a collection, treatment, and disposal system serving the community to comply with the USEPA regulations banning the use of LCCs.
 5. Alternative 3 – Ultimate Buildout:
 - a. Various sewers serving the entire Tributary Areas 1 through 4, including Haina town, are proposed.
 - b. A new 700,000 gpd WWTP is required.

Alternative 2b is the short term recommendation for the following reasons:

1. County desires to aid those in the Honokaa community with LCCs on their property.
 - a. Alternative 2a did not include all school properties.
 - b. Alternative 2c only would include County LCCs. All other owners of LCC must convert to septic tank systems or build their own treatment plant. Some properties along the Mamane Street may not have enough physical space to construct a septic tank system.
2. County will receives revenue from sewer user fees.

Alternative 2b is expected to cost over \$11 million for construction. Construction is expected to be complete by September 2010. The EPA deadline for completion is September 2010. The State Revolving Fund (SRF) loan is expected to fund the design and construction of this project.

The long term recommendation (50 years) is Alternative 3. However, this alternative is not required by any law to execute and is provided if the County desires to expand the wastewater system in the future. This expansion will depend on future funding for design and construction.