

Haena State Park Comfort Station, Kauai, HI

images top to bottom
View from the Na Pali Trail
Aerial of the State park
View of the Na Pali Bluffs

The Haena State Park is the gateway to the famed Na Pali trail along Kauai's northern shore. Due to popularity the park's comfort station has received increase use from hikers and tourists. Due to the increased demand, a new comfort station has been constructed and requires improvements to the existing sewage system.

The site is ecologically, culturally, and historically significant. The site was home to a native Hawaiian settlement inhabited between 1000 AD to 1800 AD. Hawaiian culture is, and has always been, tied to water; thus protection of water quality is of the utmost importance.

Natural Systems International (NSI) was contracted to design improvements to the existing wastewater system. Renovations include installation of a new septic tank, constructed wetlands for wastewater treatment, and groundwater infiltration gallery. System modifications will not only improve the quality of water that is to be discharged to the environment, but it shifts the treatment and disposal components away from the historical burial ground located on the site.

Design challenges include installation of a system on a culturally sensitive site, elevation considerations to ensure gravity-flow, and adherence to setbacks that protect natural wetlands on site.

NSI in collaboration with Strategic Solutions, Inc. of Hawaii, has proposed a zero-energy treatment system consisting of primary treatment, subsurface flow constructed wetlands and infiltration gallery. The system has no moving parts and is entirely power free (power is not available at the site and solar-power was ruled out due to vandalism concerns). Native Hawaiian plants will be used within the constructed wetlands cell.

Water characteristics and quality of the effluent leaving the system:

Design Flow: 3,600 gallons per day

Effluent Quality:

BOD < 30 mg/L; TSS < 30 mg/L

