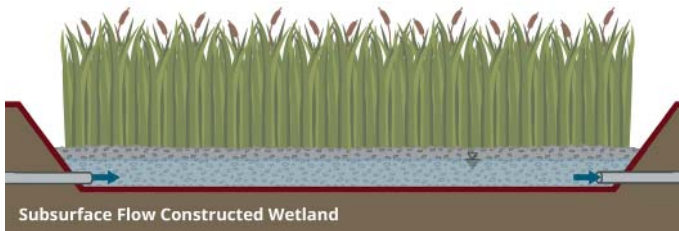
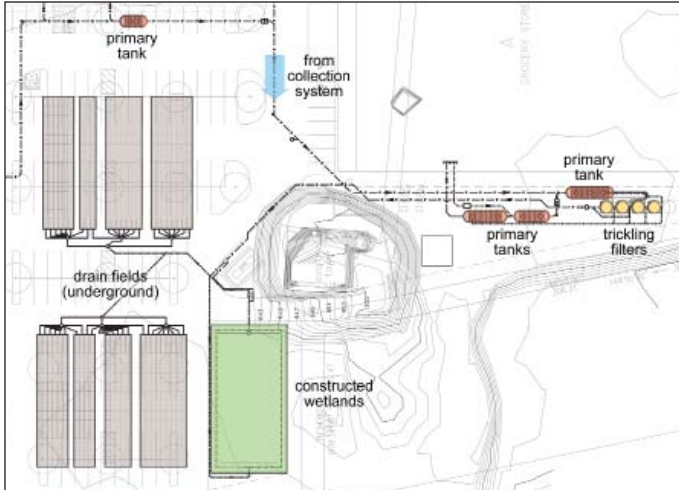


MERIDIAN PACIFIC, LTD.

Puna Kai Shopping Center Onsite Wastewater Treatment

Pāhoa, Hawaii



from top: Master plan detail;
Diagram of constructed wetland
type at Puna Kai; One plant species
planted in the wetland—parakeet
heliconia (*Heliconia psittacorum*)



Constructed wetlands help treat wastewater on site while providing ecological services like groundwater recharge and wildlife habitat to a community shopping center on the Big Island of Hawaii.

Designed to serve the community of Pāhoa, the Puna Kai shopping center is a new 100,000 sq ft retail/commercial facility in the District of Puna on the Big Island of Hawaii that features a local grocery store and restaurants on 10 acres, including ½ acre of new parkland. Without access to a nearby sanitary sewer, the project must capture, treat, and discharge all of its effluent on site. The facility is predicted to generate approximately 16,800 gallons per day of wastewater effluent that requires treatment prior to groundwater discharge. The owner was interested in the use of a natural-systems approach to managing water.

Biohabitats provided design, planning, and engineering

services to create a system that harnesses the power of nature to treat the wastewater and effluent using constructed wetlands in conjunction with trickling filter technology. Biohabitats worked closely with local consultant and frequent collaborator Roth Ecological Design to engineer a system that incorporates small-diameter collection, trickling filters, and constructed wetlands.

In addition to being an eco-friendly alternative to a typical wastewater treatment package approach, the system adds beauty, educational value, and wildlife habitat to the Puna Kai shopping center.

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