

Handout

Agenda Item 9

Date 8-1-19

The Las Gallinas Valley Reclamation Ponds



Double Duty

A COMPLEX OF PONDS AND WETLANDS AROUND A CALIFORNIA CLEAN-WATER PLANT PROVIDES A TREATMENT STEP FOR REUSE WATER AND HABITAT FOR BIRDS AND WILDLIFE

By Jeff Smith

Nearly three-fourths of the 400 acres that contain the Las Gallinas (California) Valley Sanitary District's secondary wastewater treatment plant provide habitat for wildlife, recreation for residents and a location for final treatment of reuse water.

A 10-acre saltwater marsh, 40 acres of storage ponds, 20 acres of irrigated landscaping, a 20-acre wildlife marsh and 200 acres of irrigated pasture create the multipurpose area between the 18 mgd (design) treatment facility and its outfall, Miller Creek, which leads to the San Francisco Bay.

Driven by the need to meet a nondischarge mandate between May and November, the district, in San Rafael, constructed the reclamation area over seven years. The project expanded the plant capacity by 2.9 mgd and gave operators a functional option during that time of year.

AN IDEAL HABITAT FOR BIRDS AND WILDLIFE

An ideal habitat and refuge for wildlife and birds was created with shoreline textures such as rocky segments, shallowly inundated areas for marsh plants, transitional areas with drier upland vegetation, and islands populated with trees and brush. The Audubon Society has cataloged more than 250 species of migratory and nonmigratory birds. Raptors, white-tailed kites, plovers, sandpipers, ducks and geese are just some of the birds that visit.

"It's a really popular destination for bird-watchers," says Mel Liebmann, plant manager. "And we've got otters, coyotes, black-tailed deer and lots of other wildlife that call this place home."

Five miles of public walking trails and gravel roads meander along the levee banks and berms of the pond areas and provide unobstructed views of the wetlands, San Pablo Bay and distant hills and mountain peaks.

EASY TO ENTER

Public access during daylight requires no permits or sign-ins. Benches provide rest stops for hikers and bikers. Parking is provided near the entrance restrooms and recycling cans are nearby. The trails connect to more than 350 miles of the planned 500-mile Bay Trail, a recreational corridor that will encircle San Francisco Bay and San Pablo Bay when completed.

During nondischarge months, a farmer uses some effluent to irrigate leased organic hay pasture. Some is stored in the ponds to accelerate evaporation and to supplement flow when recycled water demand peaks. The balance is pumped to neighboring water districts for landscape irrigation, car washes and other uses. At completion of a major upgrade, recycled water capacity will increase from 1.4 mgd to 5.4 mgd.

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MEL LIEBMANN

"We treat a portion of our effluent to Title 22 tertiary standards with ultrafiltration membrane filters and UV disinfection," says Joshua Binde, operations and maintenance supervisor. "Then we pump it a little more than 5 miles to the North Marin Water District."

Two 75 hp Weir Floway vertical turbine pumps (one lead and on standby) deliver the effluent through a 12-inch pipe to a 500,000-gallon storage tank. The pumps are controlled by a submersible pressure transducer in the distribution wet well and an ultrasonic level transmitter in the receiving reservoir. Once the recycled water storage tank reaches full capacity, the pumps shut down.

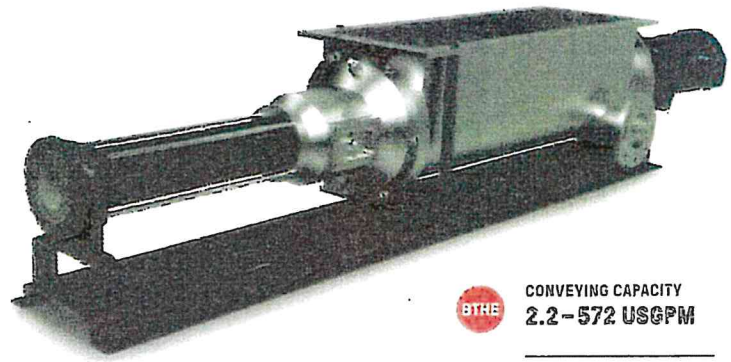
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The staff at the Las Gallinas Sanitary District includes, from left, Brian Exberger, Norman Rogers, Ralph Loveless, Greg Pease, Chris Gill, Milke Cortez, Rob Fernandes, Bob Buchholz, Chris Campbell, Joshua Binder, Kristina Kempf, Teri Lerch, Irene Huang, Manuel Cardenas, Mel Liebmann, Mike Prinz, Robert Ruiz and Sahar Golshani.



SUSTAINABLE ENERGY

Alternative fuels and affordable technologies save energy and help the district meet its goal of energy independence. A biogas energy recovery system provides fuel for some district vehicles. Two photovoltaic systems generate 850,000 kWh per year for plant use.

Vegetation maintenance of the wetland includes removal of invasive plants, such as water primrose, bulrush and other overgrown floating weeds. A recent project dredged a small portion of Miller Creek to protect the plant's outfall from sediment buildup. The affected levee banks have since been planted with a mix of native species to stabilize the slope and add habitat.

Community outreach and education are important parts to the district, Liebmann says. Tours of the facility are promoted to advise the public on

environmental and health issues related to sewers and wastewater treatment. School outreach includes field trips, class presentations and activities to promote special events, such as Wetlands Day.

A booth display at business conferences is significant, too. The district takes part in the Public Education Committee, a group of five county wastewater agencies that plan, promote and coordinate educational activities. f

Share Your Ideas

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