

## Corps' first multi-benefit project moves forward at Hamilton City

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SACRAMENTO, Calif. (April 25, 2011) - The U.S. Army Corps of Engineers Sacramento District is moving forward on a first-of-a-kind project in Hamilton City, Calif.

Slated to begin summer 2012, the Hamilton City Flood Damage Reduction and Ecosystem Restoration project focuses on measures that produce both flood risk reduction and ecosystem restoration benefits under the first successful application of Planning Civil Works Projects under the Environmental Operating Principles (EC 1105-2-404.) This Corps environmental sustainability guideline states projects should be formulated for multiple purposes whenever possible, subject to budgetary constraints.

"That's a big deal," said Corps project manager Tom Karvonen. "(The project) will not only greatly improve flood management for residents of Hamilton City, it will also restore their native habitats and natural floodplain."

### Story Highlights

- Hamilton City Flood Damage Reduction and Ecosystem Restoration project set to begin summer 2012
- First-of-a-kind project blends flood risk reduction and ecosystem restoration benefits
- Project includes construction of 6.8-mile setback levee and restoration of nearly 1,500 acres of habitat
- Nearly 85 percent of the land needed for the project worth around \$12 million is being donated by non-federal sponsor

The multi-benefit Hamilton City project was authorized by Congress in 2007 through the Water Resources Development Act, and will include construction of a 6.8-mile setback levee and restoration of about 1,500 acres of habitat along the river banks.

Additionally, President Barack Obama's Civil Works 2012 budget proposal allocates \$8 million towards the project, one of only two federally approved construction new-starts in the nation; the other federally approved construction new start is along the New Jersey coast.

There is a long history of flooding in this labor-based farming town of around 2,000 people, around 150 miles north of San Francisco. Portions of Hamilton City and surrounding areas were first flooded in 1974; then again in 1983, 1986, twice in 1995, 1997, and 1998. As a result, Hamilton City's residents have been evacuated or engaged in flood fighting six times in the past 30 years. As recently as late 2007, county officials had to perform emergency levee repair to a degraded levee.

The existing degraded levee, referred to by locals as the "J-levee," is privately owned and mostly made of earthen material susceptible to erosion. It curves around property lines bordering the Sacramento River, is more than 100 years old and has not been regularly maintained. The J-levee also does not meet U.S. Army Corps of Engineers or any other levee construction standards and could fail at river levels well below the top of the levee.

All of these issues complicate water-flow predictions for the project's hydrologists and engineers. They claim the current levee has a 10 percent chance of passing a 75-year storm event, while the new levee would have a 90 percent chance of passing the same event.

"It's all about the setbacks," Karvonen said referring to the 6.8 miles of setback levee replacing the J-levee.

Spreading the riverbanks apart will increase capacity in the Sacramento River, decrease river velocities and ease pressure from periodic flooding by allowing nearly 1,500 acres to essentially be 'recaptured' into the natural floodplain system.

Karvonen said these changes will reduce erosion and maintenance needs on the levee while allowing overbank flooding when necessary.

"The J-levee severs the connection between the river and floodplain-where water wants to naturally flow once it goes above the riverbanks," Karvonen said. "So, the majority of the old levee will be removed in order to reconnect the river to the natural floodplain, and only areas of the old levee with significant environmental benefits will be left in place."

The new levee would provide three distinct levels of flood risk reduction associated with three different average levee heights-performance that corresponds roughly to associated land use. From about two miles north of the city's main population, the levee would gradually decrease in height once it passes the community and travels in a southerly direction along the river.

Despite the large decreased flood risk for residents, the quantitative economic analysis wasn't enough to support government interest.

"Over the years one thing has remained constant in Hamilton City-flood risk," district section chief for civil works David van Rijn said. "However, successfully aligning flood risk management and ecosystem restoration together was key to moving this project forward."

Mr. van Rijn served as project manager on the Hamilton City project for five years before Karvonen took over in 2009, and was able to build key agency and stakeholder relationships during the design, to work through changing technical design issues.

Some of the current design changes are being handled by Sacramento District landscape architect Jim Lee and environmental manager Don Lash, currently working with Karvonen on the ecosystem restoration portion of Hamilton City. Together with project partners like the U.S. Fish and Wildlife Service, Lash and Lee are planning what vegetation should be planted and where.

One of the more well-known plantings under discussion are elderberry plants-the only suitable home for the valley elderberry longhorn beetle which has been listed as a federally threatened species since 1980.

Hamilton City and similar eco-restoration projects are a major reason for recent discussions of removing the beetle from the federal endangered species list, said Lee.

Along with a large number of mature elderberry plants, Hamilton City is surrounded by large plots of orchards, grasslands, woodlands and riparian forests that have been restored or are currently undergoing restoration. The Hamilton City project is a critical piece in connecting a variety of the surrounding restoration areas together and providing a continuous stretch of habitat instead of various intermittent patches.

"'Connectivity' is what we're striving for, so that species don't have to hop-scotch along the river banks between Butte County on the East and Glenn County on the West," said Bill Paris, the attorney representing Hamilton City's Reclamation District 2140. "It's one of the longest by-mile connections of restored habitat that I know of."

Having access to the land creating the "connectivity" Paris refers to, would not have been possible without the help of The Nature Conservancy (TNC), a non federal stakeholder on the project, and their efforts with the farming community and local land owners.

Gregg Werner, a senior project director for TNC said, "Through state grants and other donations, TNC has acquired 85 percent of the land needed for the project, and will ultimately deed it over to Reclamation District 2140. The land should amount to about \$12 million, and will be contributed on behalf of the non-federal sponsor as part of the sponsor's responsibility to pay for 35 percent for the project."

Lee Ann Grigsby-Puente is the president of Hamilton City's Reclamation District 2140 and said they are not only grateful for the land acquisitions being donated but also for being included in the president's budget.

"It took two decades of hard work involving elected officials from both parties to get the Hamilton City project where it is today," Grigsby-Puente said. "(But) further collaboration is needed to ensure that the president's funding proposal becomes reality."