



**Above:** A walkway leads through a row of PG&E electric towers. The Dumbarton Bridge is in the background.

**Left:** PG&E's Ravenswood Substation located along Bayfront Expressway could be seriously impacted by rising sea level without new protections.

# Stemming the tide

Story by Renee Batti | Photos by Michelle Le

Creek JPA  
steps up to tackle  
threat  
of rising  
bayside water

**G**overnment bureaucracies are not known as fleet-footed actors. In fact, the phrase “glacial speed” is often used to describe their pace, whether it be in finding solutions to complex problems or in completing public projects.

Many believe the change in sea level is also glacially slow — a view easily refuted by historical data: According to a National Geographic Magazine report, sea level rose about 8 inches from the first year A.D. to 1880, and about the same amount from 1880 to 2013 — only 133 years compared with nearly two millennia. And the same study predicted sea level to surge another 30 inches through 2100.



Given the slow pace of public agencies and the accelerated speed of sea level rise, the question must be asked: Can Bay Area counties respond quickly enough to mitigate damage to communities, to infrastructure, to homes and businesses imperiled by future levels of ocean and bay waters?

Leaders of a local public agency created 15 years ago to protect Menlo Park, East Palo Alto and Palo Alto from the threat of San Francisquito Creek flooding have been nervously observing the general lack of action by local and regional agencies, and their

concern has led to an ambitious effort to address the rise of bay water in southern San Mateo County.

The San Francisquito Creek Joint Powers Authority (JPA) launched the effort, dubbed the SAFER Bay Project, after securing state grant money and contributions from local towns, and from one of the largest private companies threatened by rising sea level in the south county — Facebook in Menlo Park.

The money is funding a feasibility study, project design, and an environmental impact report for a project that will include an expanse of new

levees and other flood-control measures, according to Len Materman, the JPA's executive director.

The SAFER Bay project is an extension of the work the JPA has been engaged in since its founding after the 1998 El Nino storms caused the creek, which divides San Mateo and Santa Clara counties, to overflow, damaging some 2,800 parcels on both sides. It's a logical extension, Mr. Materman says, given the overlap of properties in both the creek and the bay floodplains. There are 8,400 properties in those floodplains (the bay floodplains in question end around

See page 27

# Stemming the tide

continued from page 25

Marsh Road); 2,200 parcels are in both floodplains.

Another reason to get involved: Although the Santa Clara Valley Water District (SCVWD), which is part of the five-member JPA, is working on an effort to stem bayside flooding in the South Bay, known as the Shoreline project, public agencies in San Mateo County have been slower to act.

“That’s why the JPA got involved,” Mr. Materman told an audience at a January presentation hosted by the League of Women Voters of South San Mateo County. “In Santa Clara County, there’s one agency (SCVWD), but in San Mateo County, it’s piecemeal.”

In an interview with the Almanac, Mr. Materman said his agency first considered extending its work when East Palo Alto officials came to him asking for support on a project related to bay flooding.

“We did research, and with the strong support of (East Palo Alto), proposed a grant from the state,” he said. The Department of Water Resources granted about \$1.32 million for a project, and other money was raised. Both East Palo Alto and Menlo Park contributed, as did the U.S. Department of Fish and Wildlife and the California Coastal Conservancy.

Mr. Materman said the JPA is pursuing funding from private companies that are threatened by the rising bay waters. Facebook, he said, got on board quickly, with a \$275,000 contribution.

The JPA also is seeking funds from PG&E, which has a substation near Facebook. Called the Ravenswood Substation, it is the nexus between power lines up and down the Peninsula and lines across the bay, and could be seriously impacted by rising water, Mr. Materman said.

The feasibility study, which will produce a recommended alternative for a flood-control project, is expected to be done this summer. Then the JPA will take the plan to the cities and communities that would be affected to gather feedback, Mr. Materman said. Next steps: design work will begin in tandem with an environmental impact study, he said.

Those phases are expected to cost about \$2 million, which has already been raised. Paying for the massive project itself is another matter. “A special district might have to be created to ask voters to fund the project,” Mr. Materman said at the League of Women Voters’ presentation. But that wouldn’t happen for at least three more years, he added.

Convincing regional residents to tax themselves to pay for the project might not be a hard-sell. Residents living in designated floodplains now are required to buy flood insurance, which collectively amounts to about \$6.5 million annually, according to a JPA report.

According to a study released by Will Travis, formerly head of the Bay Conservation and Development Commission, San Mateo County is the single



**PG&E's Ravenswood Substation** is critical to the delivery of power to the Peninsula and a large area in the East Bay. It is at risk from rising sea level.

most vulnerable county in the state when it comes to economic damage due to sea-level rise. And it’s tied with Orange County in terms of the number of people affected.

## Challenges

With studies still in progress, specifics of the project are uncertain. But what is certain is that there will be challenges. They include setting a northern boundary for the work, a decision that will be based both on logistical concerns and on Redwood City’s participation in the project. Mr. Materman said one possibility is ending the project near Marsh Road, and another is to “take advantage of an existing levee between Marsh

and Woodside Road.”

Another challenge is how to design a levee or other structure close to University Avenue, near the Dumbarton Bridge, that won’t damage the \$4 billion pipeline being built by the San Francisco Public Utilities Commission as part of its Hetch Hetchy project. The pipeline will be underground, “but not deep,” Mr. Materman said, “so we’ll have to work closely with the PUC on that one.”

The JPA is looking at options for levees, including a horizontal structure considered more ecology-friendly. Mr. Materman said such a levee hasn’t yet been built in the state, but there are two pilot projects — one in the North Bay, another in the East

Bay — that are in the design phase. He said a horizontal levee might have better flood-control capability because on the bay side, it would have “a very gradual slope, (which would reduce) wave energy and erosion,” making a lower levee possible.

Tide gates also are being studied, including a type that relies on technology to monitor the water level and trigger the raising of a levee when needed. ■

**On the cover:** The SAFER Bay Project is focusing on the south San Mateo County bayfront, threatened by rising sea level. This view is from the frontage road along Bayfront Expressway, with the Dumbarton Bridge in the background.