

Marin County Flood Control and Water Conservation District

FLOOD CONTROL ZONE 1 ADVISORY BOARD MEETING

DECEMBER 8, 2016

STAFF REPORT

Item 1. Approval of Meeting Minutes: MAY 5, 2016 and SEPTEMBER 22, 2016

Recommended Action: Approve minutes.

Item 2. Open Time for Items Not on the Agenda

Comments will be heard for items not on the agenda (limited to three minutes per speaker).

Item 3. Grant Programs Progress

a. FEMA Hazard Mitigation Grant Program Funding (HMGP) – Home Elevation Grant Submittal:

The District completed the FEMA application in June to raise homes under the HMGP grant, and is currently under FEMA review. The District heard from Cal-OES that our grant has passed their initial screening and has been sent on to FEMA for final review and approval.

b. FEMA HMGP Grant - Deer Island Flood Detention Basin Levee Construction :

A grant application under the FEMA HMGP program was also submitted in June for \$3MD for levee construction as part of the Deer Island Flood Basin and is currently under FEMA review. The District heard that this grant application has not been recommended for forwarding to FEMA for funding. The reasons provided were an incomplete benefit to cost analysis (BCA). Note that staff submitted this grant prior to the design work currently in progress by S&W and therefore, without the up to-date information required for a complete BCA. However, this grant is on-going and staff is very well positioned to resubmit with a complete BCA when and if a new round of funding becomes available, and most of the upfront work has been done which will greatly reduce the preparation time for any resubmittal.

c. Flood Emergency Response Program (FERP) Grant:

The FERP Grant has been awarded by the Department of Water Resources (DWR) and a contract was signed in August 2016. The District has upgraded all nine (9) of its existing stream and rain gages to ALERT2 protocols and approximately ten (10) new rain/stream gages will be installed Countywide over the next two years. Two rain gages and one stream gage have been budgeted for Zone 1.

d. Local Levee Assistance Program Grant:

In March of 2015, the District applied for a Local Levee Assistance Program (LLAP) grant through the Department of Water Resources (DWR) to conduct geotechnical levee evaluations of the Novato Creek levees between state Highways 101 and 37.

The District received word that it has been awarded the grant. An Agreement template was sent to the District by the DWR last September and the District is in the process of reviewing and completing the Agreement for submittal to the DWR. It is anticipated that the Agreement should be ready for submittal by December 23, 2016.

Item 4. Zone Engineer's Report on Major Project Status

a. End-of-Year Creek and Facility Maintenance Review

1) Creek/Watershed Maintenance

The following activities were completed:

Marin County Flood Control and Water Conservation District

- All the designated Flood Control easements and properties were maintained for Fire Fuel Reduction Activity.
- Eleven (11) Creeks within Flood Control Zone-1 were inspected and vegetation maintenance for flow conveyance completed before the regulatory deadline of October 15th.
- A complete report of all the creek vegetation maintenance activities was completed and will be sent to the California Department of Fish & Wildlife by December 31, 2016.
- All trash racks were cleaned before, during and after storm events and will be monitored/maintained through the season.
- All calls to date from property owners with flood conveyance concerns, such trees or other obstructions in creeks, were addressed.
- Homeless encampment issues were addressed in collaboration with the Novato PD, the City of Novato Public Works and homeless outreach programs.
- The District introduced trash & recycling bins at Pacheco Pond parking lot in Compliance with the Regional Water Quality Control Board. The County Waste Management Division will take over the payments for the collection service in 2017.

2) Pump Maintenance

The pump maintenance completed in Zone-1 over the summer of 2016 is as follows:

- Standard maintenance on the diesel engine pump for Simmons Slough (Big Bertha).
- Standard maintenance on Pump No-1 at Lynwood Pump Station.
- Standard maintenance on Farmer's pump. Also, a new impeller was installed that will provide higher pump-volume capacity up to 3,500 GPM.

The Big Bertha diesel engine maintenance is done every year just prior to the rainy season. Pump No-1 at Lynwood is the smallest of the four and pumps to Duck Bill Pond. Although Farmer's pump was tested and found functional after re-installing, it has not pumped any water from Deer Island Basin, which is currently dry. The area it pumps will be monitored during and after upcoming storm events and once enough water has accumulated within the basin, the pump will be tested.

b. Novato Creek Sediment Removal – 2016

The project was awarded to Great Lakes Environmental Infrastructure (GLEI) for the amount of \$1,292,400.00. The entire project this cycle comprised four sub-projects as follows:

- Sediment removal from Novato and Warner Creeks and Arroyo Avichi.
- Construction of a new structural core levee along the northwest boundary of Deer Island Basin. The location of the levee was adjusted and reflected in the final plans to avoid existing sewer force-mains after consulting with the Novato Sanitary District.
- Construction of an ecotone levee within Deer Island Basin.
- Completion of the temporary erodible weir on the Novato Creek left bank levee downstream of the SMART trestle.

Work began on July 25, 2016 and all sediment removal, levee construction and weir construction work was completed on October 22, 2016. All other site work, to include erosion control installation, demobilization and site clean-up was completed on November 22, 2016. All work was completed on time and under-budget by about \$160,000. There

Marin County Flood Control and Water Conservation District

was one no-cost change order associated with the project for a time extension. There were no change order costs incurred above the bid amount.

Volume data for the amount removed during this cycle is not available at this time. The final surveys are being evaluated and will be reported at the next Advisory Board meeting. Storage sites of material removed include Gness Airport and Lynwood levee.

The new structural core levee was built using stored earthen material from past dredges. The majority of the earthen borrow came from the Gness Airport storage site (from past dredges). Initially for the levee base our geotechnical consultant recommended scarifying and re-compacting to 90% at a minimum 1-foot depth below the existing Deer Island Basin surface. They later recanted and recommended a 2 to 3-foot base layer depth, however, by that time the contractor had already prepared the base had placed two compacted lifts. The District will formulate a plan for reconditioning the base in the future.

The ecotone levee comprised of spreading a slurry mix of dredged muds and reclaimed water over about 2.3 acres. The primary source of the dredged muds was lower Novato Creek comprised of accumulated fine-grain material. Depths range from a few inches to about 1.5-feet. There were three broadcast methods attempted and only one of the three was determined feasibly effective. The three methods included the following:

- Concrete pump and boom
- Long-reach excavator mud “flinging”
- Slurry-mixing within a constructed earthen dammed tub and breach method

The tub slurry-mixing method was found to be the most effective. This method comprised building a rectangular-shaped tub using dredged mud walls about 5-feet high, then filling the tub with dredged mud and water. A bulldozer was used within the tub to combine and emulsify the mud and water. Once at the best viscosity for overland flow, the earthen dam was breached on the ecotone levee area side and the slurry flowed into the ecotone levee area. Additional pushing of the slurry by the dozer and a long-reach excavator aided in broadcasting the slurry onto the ecotone levee area.

The last part of the project comprised construction of the erodible weir on the Novato Creek levee left-bank about 300-ft downstream of the SMART trestle. This was supposed to be a part of the levee repair project completed last year, but at the time it was not feasible to complete. It was constructed per plan in about 3-days with the oversight of design engineer/consultant Hultgren-Tillis Engineers.

c. Deer Island Flood Basin Final Design Contract

In May 2016, the BOS awarded Schaaf and Wheeler (S&W) the contract to prepare a final design and plans and specifications for construction of the Deer Island Flood Basin overflow weir. The work is proceeding and an updated working hydraulic model using the new 2D USACE program HEC-RAS 5.0 has been developed. Three draft project deliverables were received in November 2016 (hydraulic design report, geotechnical data summary report and a draft wetlands alternatives evaluation report) and are under review by staff. As of the time of preparation of this staff report, the geotechnical alternatives design report has not been received. The preliminary weir design calls for an approximately 1,300 linear foot long weir to be constructed along the Novato Creek levee adjacent to Deer Island basin. We plan to present a more detailed presentation at the next Zone meeting.

Marin County Flood Control and Water Conservation District

d. Pacheco Pond Water Quality and Flood Storage Improvement Hydraulic Study

The District completed a hydrographic survey of Pacheco Pond in May 2016 in preparation of a modeling RFP to evaluate potential improvements to Pacheco Pond to improve flood capacity and water quality (reduce ongoing odor issues) while maintaining habitat values. Our plan is to add Pacheco Pond into the new hydraulic model being built by Schaaf and Wheeler (S&W) for main-stem Novato Creek as part of the Deer Island Flood Detention basin design project. However, given the status of the S&W hydraulic model which is still being developed, we now anticipate going out to bid in the first quarter of 2017.

e. Simmons Slough Pump (Big Bertha) Replacement Update

District funds were earmarked in the 2016-17 budget for a Simmons Slough temporary pumping system in the event that Big Bertha failed for this winter. To-date, Big Bertha has continued to operate successfully. Therefore, District staff are proposing to hold off on spending these funds for a manually operated temporary pumping system that may be more costly in the long term to maintain. District staff plans to look for a more permanent automated pumping replacement option would better serve the District. A joint Flood Control District and Novato Sanitary District (NSD) pumping system was evaluated in 2005 by Winzler & Kelley. That study is being reviewed and District staff will be corresponding with NSD to see if it's still a viable option.

f. Look Ahead List of Potential Projects over the Next Four Years

This section is new to our staff reports and is intended to provide the Advisory Board with a look ahead to the potential projects and studies that staff currently sees as coming. At this point, these are project ideas and each one will be brought to the board before proceeding. Our goal is to give the Board a chance to see what is being considered by District staff and to ask questions or provide comments on the potential projects. In general, the District is looking to complete studies on the Rush Creek watershed and to further analyze and evaluate short, medium and long term projects identified under the Watershed program. Because these items are only conceptual, they have not been included in the budget, so funds have not been accounted for them to date. However, we are providing this preliminary discussion for future Advisory Board input/prioritization and whether they should be considered for the next fiscal year budget. Preliminary scopes for these studies are as follows:

1) Rush Creek Tide Gate Repair/Replacement

The tide gates at the down-stream end of Rush Creek appear to be in need of repair and/or replacement. There are six culverts with two different types of gate systems. Three have a flap-gate culvert and three have a manually operated screw-gate culvert. One set of culverts serves stormwater pond drainage from the Valley Memorial Park and the Saddle Wood Drive residential area. One of the flap-gates has failed and is allowing tidal water into the stormwater pond. With data and information collected from an H&H study, the District will determine and coordinate any needed improvements and/or reconstruction of the tide gates.

2) Refined H&H Assessment of Short, Medium and Long Term Watershed Projects

The Novato Hydraulic study (KHE 2016) evaluated groups of projects lumped together as short, medium and long term alternatives. However, the individual benefit for any specific project was not evaluated in that conceptual-level study. We propose to use the new hydraulic model developed by S&W under the Flood basin Design scope to allow the District to evaluate benefits of individual projects to allow for more informed decisions on funding and timing to be made with District zone funds either existing or potentially under any new funding source.

Marin County Flood Control and Water Conservation District

3) *Pacheco Pond Levee Evaluation/Repair*

The levees along the eastern boarder of Pacheco Pond are in need of maintenance. Although there have been no failures, if action isn't taken there is a foreseeable levee failure. The District conducted a boundary survey last summer to determine ownership and responsibility of the levee maintenance. It was determined that the majority of the levee is within California Coastal Conservancy property. Since the District has a vested interest in the levees for the viability of Pacheco Pond, we would like to coordinate efforts with the Conservancy to evaluate needed repair work, its cost and to formulate a plan. The District would propose to share the evaluation and repair costs with the Conservancy.

Item 5. Watershed Program Update

a. Polling/Election Update

In September, Godbe Research polled likely voters to gauge community support for a parcel tax measure or a stormwater fee measure to fund flood protection projects. Results showed stronger support for a parcel tax (52.8% with 67% needed to pass; vs 38.1% with 50% needed to pass for a stormwater fee), but neither measure would be successful as presented at this time. The strongest statements were related to water quality improvements in creeks and habitat restoration for fish and wildlife. Flood control improvements polled less well. The initial ask amount of \$87 per parcel did not poll well; a per-parcel amount of \$47 did much better with 63.7% probable and definite support. The initial period of 18 years polled better than a shorter period of 9 years. At a Novato Watershed Program Policy Advisory Committee meeting in late September, Bryan Godbe presented the results and recommended an additional rigorous outreach program to the community and re-casting the ballot language to better match voter preferences for water quality improvements and habitat restoration. Godbe also recommended looking at a measure in November 2018, as the set of likely voters is optimal for this measure (better than that for November 2017).

We are working on a plan moving forward to include fine-tuning the costs of proposed projects, which projects can be funded with \$47 per parcel for 18 years and an outreach plan. We will convene a PAC meeting early next year to gain consensus on moving forward, and we will bring those plans back to the Advisory Board at the February 2017 meeting. At that meeting, we recommend that the Advisory Board create an ad-hoc committee of two members to work with Watershed and Zone staff on formulating and implementing an outreach plan.

b. Outreach Activities

We made a public presentation on the Novato Watershed Program to the Rotary Club of Novato on May 20th. On August 30th, we presented a short program status report to the Novato City Council. Bill Long presented to the Rotary Club of Novato Sunrise on June 7th.

Item 6. Next Meeting

February 9, 2017