

FLOOD ZONE 1 ADVISORY BOARD
FEBRUARY 23, 2023

STAFF REPORT

We acknowledge the land we are on today as the traditional territory of the Coast Miwok and the federally recognized tribe the Federated Indians of Graton Rancheria. We thank the Coast Miwok who were the stewards to the land and water here before us and those who are here now for sharing their ancestral homeland with us. For more information: <https://native-land.ca/resources/territory-acknowledgement/>

Item 1. Approval of Meeting Minutes: February 10, 2022

The advisory board is being asked to approve the minutes from the February 10, 2022 meeting. The draft minutes can be found here: <https://marinflooddistrict.org/meetings/zone-1-advisory-board-meeting-february-10-2022/>

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. Storm Report

Our marin.onerain.com rain gauge at the Novato Library started recording rainfall on December 26th and it rained nearly every day over the next three weeks for a total of 15 inches. During the same period 34 inches of rainfall was measured on Mount Tamalpais. The series of atmospheric rivers put a lot of stress on the District's pump stations but they kept up with inflows. The new pump station at Simmons Slough performed well overall. The District made some minor adjustments after a power phase imbalance caused the new pumps to shut off. Record high utility bills for pump stations have started coming in, so staff may suggest a utility budget adjustment later this year if there is more rainy weather.

Several levees in the vicinity of State Route 37 overtopped, including portions of Flood District levees. District levees did not breach but there are visible signs of erosion on approximately 1000 linear feet and repair would be costly. These levees are part of the Item 5 project so may not be worth significant investment at this point. District staff is working with Cal OES and FEMA to see if Zone 1 is eligible for financial assistance.

Item 4. Countywide Framework for Sea Level Rise Adaptation and Mitigation

A framework like this seeks to accomplish coordination amongst stakeholders across the county's jurisdictions at all levels in order to better position ourselves for sea level rise adaptation funding. One model that the Zone 1 Advisory Board has been particularly interested in exploring is the San Mateo County Flood and Sea Level Rise Resiliency District

Marin County Flood Control and Water Conservation District

("OneShoreline"). At an upcoming Board of Supervisors Meeting on the budget the County will review next steps in exploring various framework options.

Item 5. Deer Island Basin Complex Wetland Restoration Design (Written Update Only)

Background: The SF Bay Restoration Authority (SFBRA) Governing Board approved funding design, preparation of construction plans and specifications and permitting for the first phase of Deer Island Basin Tidal Wetlands Complex Restoration Project. The District's Deer Island Basin Complex includes both the Deer Island Basin and the two stormwater ponds (Ducks Bill and Herons Beak) along Novato Creek.

Following a solicitation for proposals, competitive selection, and negotiation, the cost for the proposed scope exceeded available budget. Staff worked with SFBRA staff to modify the scope to scale back the design for the Deer Island Basin restoration element to a preliminary design level while leaving the scope for the restoration of the two ponds adjacent to Novato Creek unchanged. Restoration of the two ponds would effectively widen Novato Creek and increase the floodplain between the SMART Bridge and Highway 37. The cost for this reduced scope still exceeds the \$630,000 grant by \$108,540 so the balance is coming from Flood Control Zone 1 funds. On January 28, 2020, the District awarded the contract to ESA and we have been working closely with them on the project design. Your board approved an amendment in the amount of \$146,573 in December for additional geotechnical and permitting needs. On January 25, 2022, the District BOS authorized an addendum to ESA for \$145,593.

Status Update: ESA has conducted biological surveys, an aquatic habitat report and a public access assessment that are all in final drafts and should be available soon. In addition, Staff have been working with ESA engineers and modelers on an improved HEC-RAS model based on the Stetson model of the lower watershed and on preliminary design for the restoration alternatives. Our goal is to keep improving the Novato watershed RAS model for current and future projects. The current schedule is to complete CEQA in 2023.

Item 6. Novato Creek Bypass Study (formerly called Arroyo Avichi-Baccaglio-Scottsdale-Lynwood Complex or ABSL Flood Study)

Background: A limited evaluation of potential flood reduction benefits for potential projects at Scottsdale Pond was included in the Novato Watershed Study. In November 2020 staff recommended that a more detailed analysis of Novato Creek and the bypass system from Arroyo Avichi through Baccaglio Basin, Scottsdale pond and marsh, and Lynwood Basin be performed leveraging the City of Novato stormdrain model and the new Countywide LiDAR surface data. Below is a summary of elements included in the Novato Creek Bypass study based on feedback from the advisory board at the November 2020 meeting and the Old Town Novato Flood Group:

- Identify opportunities along Novato and lower Warner creeks and through the bypass system for new flow gates, perimeter barriers, pump stations, and increased stormwater detention that improve flood mitigation in downtown Novato and Nave Gardens. This includes alternatives to existing systems (i.e. move pump station from Lynwood Basin to Scottsdale). This analysis is key because of the large potential costs for repairing the Lynwood Pump in its current location (estimated at \$3M) meant that the alternatives evaluation within this scope is important to decide on next steps for this pump station.

Marin County Flood Control and Water Conservation District

- Evaluate potential project alternative benefits for smaller flood events (e.g. 10-year event) than the 50-year.
- Comprehensive evaluation of the trade-offs between projects that benefit Nave Gardens/South Novato Blvd and their impacts elsewhere.
- Review with City potential storm drain improvements that may be more effective in conjunction with potential Zone 1 projects in the study, and any opportunities for flow gates in City's road right of way.

Status Update: Mapping and inspections of storm drains, drainage ditches and other facilities in Nave Gardens were completed by District staff in summer 2021 and a scope for a hydraulic study focusing on the bypass system around this area was recommended by the Zone 1 advisory board in December 2021. The first step is reviewing existing models and studies and installing water level gages in the study area. The gages had been back ordered due to supply chain issues but were able to be installed before this winter and have been collecting useful data through the December 2022 and January 2023 storm series.

The consultant, Wood Rodgers, which owns the City of Novato storm drain model has been updating the model. Results should be available in 2023 when we will be able to calibrate the model with the new gauge data. Later this year an alternatives analysis of potential project improvements will be conducted and will be presented at a future AB meeting.

Item 7. Novato Creek Sediment Removal Project

Before this winter's storms it was visually evident that there was no significant accumulation of sediment; it is unusual to see so little sediment 2 years after the last sediment removal. Based on this, staff are planning for sediment removal in 2025. We don't yet know how much sediment accumulated during January's storms, but staff will schedule a survey this summer. Sites will then be evaluated under our Stream Maintenance Program permit for smaller-scale maintenance needs in 2023 and 2024.

For future budgeting purposes, the following page includes a rough estimate of cost for the next sediment removal episode. Due to inflation the cost is anticipated to be significantly higher than in the past. We are looking at options for cost savings, including potentially using a hydraulic/suction dredge approach for the lower reach and discharging directly to Deer Island Basin to help it adapt to sea level rise under the future restoration project. District staff are preparing to send out a Request for Qualifications and Proposals (RFQ/P) to consultants to help with design. Additionally, we are preparing to award a contract to consultant WRA to update the environmental review and permitting and help determine if this partial hydraulic dredge approach is going to be cost effective given environmental considerations.

Marin County Flood Control and Water Conservation District

Construction Budget Escalation from 2020 Actuals to 2025 Year - Novato Creek Maintenance Sediment Removal

Year	% annual CCI change from prior year to current year	Budget Forecast	Notes
2020*		\$1,588,754	Actual construction costs
2021	13.40%	\$1,801,647	Actual CCI*
2022	9.30%	\$1,969,200	Actual CCI*
2023**	4.40%	\$2,055,845	<i>Estimated CCI (annual average change of last 10 years, 2013-2022)</i>
2024**	4.40%	\$2,146,302	<i>Estimated CCI (annual average change of last 10 years, 2013-2022)</i>
2025**	4.40%	\$2,240,739	<i>Estimated CCI (annual average change of last 10 years, 2013-2022)</i>
	<i>Contingency</i>	<i>\$448,148</i>	<i>20% Assumed from 2025 Construction Year Forecast</i>
	<i>Subtotal (Construction + Contingency)</i>	<i>\$2,688,887</i>	

* 2020 Novato Creek Maintenance Sediment Removal - Construction Actuals w/ CCOs

**% construction cost index change from Dec to Dec, accessed from <https://www.dgs.ca.gov/RESD/Resources/Page-Content/Real-Estate-Services-Division-Resources-List-Folder/DGS-California-Construction-Cost-Index-CCCI> on 1/30/2023

Design (Survey/Engineering/Construction Management (CM) /Staff) - Novato Creek Maintenance Sediment Removal			
	Survey/Engineering (PS&E Prep):	\$268,889	<i>Assumed at 10% of 2025 construction cost subtotal above</i>
	Permit fees, sediment sampling and analysis	\$228,555	<i>Assumed at 8.5% of 2025 construction cost subtotal above</i>
	<i>WRA Scope (additional CEQA, Permit application, and Fish Rescue lead)</i>	<i>\$143,800</i>	<i>Proposed contract budget</i>
	Construction Inspection, Biological Monitors and Fish Rescue Support	\$268,889	<i>Assumed at 10% of 2025 construction cost subtotal above</i>
	<i>Other Soft Costs (7%) - Admin/Staff Oversight and project management Costs</i>	<i>\$188,222</i>	<i>Assumed at 7% of 2025 construction cost subtotal above</i>
	Real Estate Costs (SLC Lease in Pond)	\$10,000	Assumed
	<i>Subtotal (Design + CM + Other Costs)</i>	<i>\$964,555</i>	
	TOTAL (ESTIMATED)	\$3,653,442	Assuming 2025 construction (does not include all permit fees or changes in cost to a partial hydraulic dredge concept)

Item 8. Operations and Maintenance Update (Written Update Only)

Staff will be available for questions but are providing this written update only.

a. Programmatic Maintenance Permitting Status

In 2011 District staff began working with State environmental regulatory agencies requiring programmatic maintenance permits for agencies working in waterways. Creek maintenance activities requiring programmatic permitting include vegetation management, sediment and debris removal, erosion control, maintenance and repair of flood control structures, and levee maintenance. The process began by developing a Stream Maintenance Program (SMP) Manual (see it here: <https://marinflooddistrict.org/documents/marin-county-stream-maintenance-manual-june-2021/>) and then applying for permits from relevant agencies, which for most sites includes the CA Department of Fish and Wildlife and the San Francisco Bay Regional Water Quality Control Board.

i. Department of Fish & Wildlife (DFW) Routine Maintenance Agreement (RMA)

In October of 2012 the CA Department of Fish & Wildlife issued a Routine Maintenance Agreement for the District's creek maintenance activities. This RMA outlined various measures required in order to minimize impacts to valuable fish and wildlife resources in Marin's creeks. Conditions also included annual notifications, reports, and fees. The 2012 RMA was set to expire at the end of 2016, but an extension was approved until the end of 2021. Last year staff applied to renew the permit, negotiating a consolidated "site" definition in order to reduce annual fees. This resulted in savings in 2022 of \$4,522 District-wide. The permit was granted, this time for a 20-year period. The current permit is posted here: <https://marinflooddistrict.org/documents/ca-department-of-fish-and-wildlife-creek-maintenance-activities-permit-2021/>. It came with a requirement for additional environmental and biological studies to be incorporated into the maintenance program, so the net permitting cost is greater overall in spite of the negotiated fee reduction.

Note: the District has a separate permit for the Novato Creek sediment removal project which expired last year.

ii. San Francisco Bay Regional Water Quality Control Board (RWQCB) Order

This permit took additional years to develop and update after the first DFW permit was approved. During the summer of 2017 RWQCB issued the first Waste Discharge Requirements and Water Quality Certification for five years of the District's Stream Maintenance Program. The thirty-page order came with 62 conditions (see it here: http://www.waterboards.ca.gov/sanfranciscobay/board_decisions/adopted_orders/2017/R2-2017-0028.pdf) and RWQCB allowed the District to stagger compliance over the first several years of the permitted period. Some conditions resulting in the most significant changes to maintenance practices, creek inspection, and documentation processes include:

- Maintenance activities including vegetation management (not for purposes of fire fuel reduction), and sediment/debris removal may not exceed an annual program-wide cumulative total of 5,000 linear feet of creek channel and 11,000 cubic yards of sediment and debris.

Marin County Flood Control and Water Conservation District

- Vegetation management activities are limited to above ground trimming, limbing and removal. The SMP Manual allows for limited treatment of emergent vegetation removal (like cattails and tules). The work must leave the subsurface root structures behind to allow it to reestablish in the spring and summer. Full root mass removal of cattails can be performed using hand tools to maintain a low flow channel if approved on a case-by-case basis.
- By May 1 of each year RWQCB requests that the District submit a list of sites to be maintained that summer for their review and approval. 2019 is the first year that RWQCB denied vegetation management approval until it could verify planned work would not exceed program limits. Because of this, staff needed to identify specifically a subset of which sites would have maintenance activities and what the estimated length was. Previously we had been notifying DFW and RWQCB each May that the full length of nearly all sites would be included in the program as we do not know exact sites and lengths needing work that early in the year, but this exceeded the program limits of 5,000 linear feet by approximately twelve-fold. In order to narrow down the program early in the year staff developed a new method of tracking maintenance needs based on GIS data collection coupled with prioritization of sites based on property ownership that allows for more accurate reporting to the regulatory agencies.
- With respect to sediment removal, when the District notifies the RWQCB of planned activities for the summer an update is required regarding potential capital improvement projects that may reduce or eliminate the need for the maintenance activity in the future.

With this permit now expired, the District is working with RWQCB to add Marin to this regional permit which could result in significantly different permit requirements than the existing order:

https://www.waterboards.ca.gov/sanfranciscobay/board_decisions/adopted_orders/2021/R2-2021-0005.pdf

An updated Stream Maintenance Program Manual and permit application will be submitted this month for RWQCB review. Their Board will consider adopting the new permit this coming spring.

b. Preventive Maintenance Program Status

i. Pump Station Maintenance

Individual pumps and motors are scheduled for major maintenance on a six-year interval. The Cheda #1 pump and motor and Lynwood #2 pump and motor are up for major preventative maintenance this year. The anticipated budget needs for this work is \$90,000 (part of Record No. 38 in the proposed baseline budget in Item 9). All of the pumps in the zone are run and checked monthly during the summer and more frequently during the winter season even if there is a dry period. Each year before the rainy season each pump station's electrical components are tested and the engines maintained.

Power interruptions to the Lynwood Pump station continue to be a frequent occurrence, largely due to large flying birds in the adjacent pond. In January 2021 PG&E met with District staff to review preliminary options to improve reliability of power at the pump station. This effort is complicated by close proximity to the Deer Island Basin Complex Restoration Project, but hopefully the Novato Creek Bypass Study will illuminate alternatives to long-term power supply at this location. In the

Marin County Flood Control and Water Conservation District

meantime, the District is maintaining lower water levels than usual in Lynwood Basin in order to minimize immediate pumping needs during storms.

ii. Vegetation Management

Vegetation maintenance within flood control owned properties and easements occurs July through October. Maintenance work includes trimming of vegetation in the channel and debris removal. Most of the work is performed under contract with the North Bay Conservation Corps (CCNB) – the portion of the contract for Zone 1 is \$400,000 and is budgeted under line item 38 in the proposed baseline budget in Item 7. Pre-inspections of the creeks and channels are conducted to determine maintenance needs and to prioritize work. Maintenance operations continue throughout the summer so that creeks and channels throughout the Zone are ready for the winter season flows. The final step is cutting of cattails which occurs in October right before the rains. Additional tree, rodent control, and fence maintenance is typically needed outside the CCNB contract.

iii. Sediment Management

The District is coordinating with North Marin Water District regarding sediment removal permitting for two sites in Novato Creek upstream of Stafford Lake. It's too early in the winter to identify additional anticipated sediment removal needs this summer, but notification to the regulatory agencies is required by May 1 under the District's permits so we will have a work plan ready by then. No sediment removal was required in Zone 1 last year.

Item 9. Zone 1 FY 2023-24 Proposed Baseline Budget

The County Administrator's Office requested that the zones recommend a baseline budget for the beginning of each fiscal year that does not include major project expenses. Baseline budgets are intended to be relatively consistent year to year. Major project expenditures will require separate actions from the AB and District BOS to adjust the budget as needed. As usual, the approved budget may always be adjusted as necessary as priorities and cost estimates for projects and studies planned for this coming fiscal year are more clearly identified. Staff will review the proposed Flood Zone 1 Baseline Budget for FY 2023-2024 at the meeting: <https://marinflooddistrict.org/documents/flood-zone-1-proposed-fy-2023-24-budget/>

Except for the Simmons Slough Pump Station that was just constructed, all Zone 1's pump stations are nearing or beyond their expected design life of 50 years. The District learned in applying for a FEMA HMGP grant to upgrade Lynwood pump station, then 49 years old, that Cal OES does not fund pump station projects for which the existing facility is nearly 50 years old because it is not considered a hazard mitigation effort if it is near the end of its expected design life. Staff previously recommend setting aside \$3 million in a pump station project designation in Zone 1 which could either be used to rehabilitate the three pump stations in the zone: Lynwood (built 1968), Farmers (1990), and Cheda (1971); and/or to be used as grant matching funds to construct new pump stations at Nave Gardens and/or Scottsdale Marsh to be evaluated in Item 6. Additionally, based on the sediment removal projected estimates detailed in Item 7, we recommend setting aside \$4 million for a potential sediment removal project, which could occur as early as 2025. Approval of these project set asides only allows the District to save the funds, not to spend them. Therefore, a future recommendation by your board and approval by the District Board of Supervisors would be required in order to move these funds into a new project budget.

Marin County Flood Control and Water Conservation District

Recommended Action: *Recommend the District Board of Supervisors adopt the baseline budget along with \$7 million in project designations set aside for future pump station and sediment removal projects.*

Item 10. Schedule Next Meeting

The next regular meeting is tentatively scheduled for February 2024. Special meetings will be held for project updates.