

Marin County Flood Control and Water Conservation District

FLOOD ZONE 3 ADVISORY BOARD MEETING

OCTOBER 12, 2021

STAFF REPORT

Item 1. Welcome New Advisory Board Members and Elect Vice-chairperson

On May 4th, 2021 the Board of Supervisors appointed two new Zone 3 advisory board members, Terrie Green and John McCauley. Following election of vice-chairperson, staff will provide a brief virtual tour of the Zone 3 watersheds.

Recommended Action: Elect a vice-chairperson for the advisory board.

Item 2. Approval of Meeting Minutes: March 18, 2021

Review minutes at this link: https://www.marinwatersheds.org/sites/default/files/2021-04/FCZ3_AB-Mtg_Draft-Minutes_031821.pdf

Recommended Action: Approve minutes.

Item 3. 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 4. Marin City People's Plan Update

The Marin City People's Plan (<https://marincitypeoplesplan.com/>) will present to the advisory board on their ongoing projects and priorities.

Item 5. Marin City Climate Resilience and Health Justice Update

Marin City Climate Resilience and Health Justice (formerly Shore Up Marin City) will present to the advisory board on their ongoing projects and priorities.

Item 6. Zone 3 Project Updates in Marin City

a. General Outreach Updates

Tony Swan of the Marin County Parks Department has joined Flood Zone 3 staff part time as a Marin City – Flood Zone 3 Community Liaison. He has been living in Marin City for two decades and is part of the Marin City People's Plan. He has a varied background in landscape management, construction, and health and human services, and has worked special assignments on the Marin County Five Year Business Plan focusing on Diversity and Inclusion, and on encroachment permit policy research. Tony will coordinate with organizations in the community as well as the Community Development Agency (CDA) which will begin working with Marin City to update their Community Plan starting in November 2021. He generally works on Zone 3 efforts on Fridays and can be contacted at aswan@marincounty.org.

b. Marin City Stormwater Pond Flood Infrastructure Improvements (R Leventhal, lead)

On June 23, 2020, the Marin County Flood Control and Water Conservation District (District) received award of a grant from the Federal Emergency Management Agency (FEMA) through CalOES for \$337,500 (Phase I of a larger grant) to be used for design, permitting

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and preparation of plans and specifications for construction for Marin City Stormwater Pond improvements. These improvements include a new drainage culvert under 101 in addition to a floodwall along a portion of the Marin City Pond. These improvements are proposed in partnership with a larger community led project for restoration of the Marin City pond and development of a community park. Additional funds beyond the FEMA grant are being provided by Flood Zone 3. Phase II of the FEMA grant will be for construction and may be authorized by FEMA once Phase I of the project is completed and has been approved by FEMA.

On December 16, 2020, staff posted a Request for Proposals (RFP) and three proposals were received on January 28, 2021. The proposals were reviewed and scored by District Staff and CalTrans in February 2021 and BKF Engineering was recommended as the preferred consultant to furnish the professional services and they began work in April 2021. The prior staff report contained details about the BKF scope and budget.

BKF's work and schedule has been severely inhibited by a lack of access to the stormwater pond. This situation is well known to DPW and the County. In addition, the project will not be able to submit for permits without the property Owner's consent. The District and County has received a number of inquiries regarding the status of the privately owned pond at the shopping center and the possibility of the County or District taking over ownership or operations management responsibilities of the pond. The pond is privately-owned and the Flood District is not a permitting or regulatory agency and can only work with willing landowners. Given the delays in access, the costs for proposed flood improvements are still preliminary.

Discussions regarding future pond ownership and maintenance are happening at a high level at the County. The District and County have a legal and fiscal duty to fully understand any liabilities when using public funds.

The District has received a proposal from Audubon (working with Marin Climate Resilience and Health Justice) to conduct additional sediment sampling in the pond as part of their restoration design work at the pond. This work would further define the extent of metals in the pond plus some deeper borings as requested by SUMC, but not the final cleanup standards and remediation costs which may involve a risk assessment and community involvement. This work is being led by Audubon since it is part of the wetlands restoration design of the pond. The County and/or District will continue to move forward to resolve this issue and will provide updates as new information is available.

BKF has completed initial project tasks related to set-up and review of prior studies and documents. BKF has set-up and run the hydrology and hydraulics (H&H) model and confirmed that the modeling conducted as part of the 2018 Flood Study was correct. In June 2021, Audubon and their consultants provided three grading designs for evaluation by BKF for impacts to flooding. The grading plans were labeled by Audubon as (1) Minimum Dredging Alternative (2) Maximum Habitat Expansion Alternative – Full Tidal and (3) Maximum Habitat Expansion Alternative – Muted Tidal. The District also developed a fourth alternative on its own called (4) Maximum Volume in order to assess the sensitivity of the pond's maximum water surface elevation to available detention storage. The results are summarized in a July 26, 2021 Technical Memorandum by BKF that indicated that any of the three Audubon restoration grading plans were compatible with proposed pond flood protection improvements. The fourth alternative also showed that deepening the pond by dredging did not meaningfully improve the level of flood protection due to high groundwater and also that the critical elevations for flood protection are in the 6 ft to 8 ft NAVD88 range,

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Therefore, while a larger pond might make a real difference in flood protection, a deeper pond does not significantly increase the level of flood protection. Based on these results, Audubon had finalized their pond restoration designs and sent them to their stakeholder group.

On August 3, 2021, the District finally conducted a geotechnical test pit in CalTrans right of way after approximately one year of permitting delays (primarily with FEMA and then the shopping center). This geotechnical task was part of the prior consultant scope for California Engineering and Geology (CEG) working with Dave Mathys (DCM Consulting). Dave is a noted expert on the trenchless construction of culverts and utilities. CEG and DCM were on the original team that proposed the trenchless culvert installation as part of WR 2018 report. BKF has a review role for this task as part of the current scope, and their team contains another expert in trenchless installation of culverts (Bennett Trenchless Engineers). Both DCM and Bennett Trenchless along with District staff and CEG engineers were on-site during the August 3rd geotechnical test trench. The results of the test trench were not good, large rocks were encountered during the digging that indicate that the originally proposed trenchless approach may not be successful and involves a high level of risk of failure. At a minimum, the costs originally provided by CEG and DCM will be much higher and exceed the FEMA grant amount. These results were summarized in a technical memorandum by DCM dated September 1, 2021 and a review of the DCM report by Bennett Trenchless Engineers dated September 16, 2021. Given the potential high risk of failure and higher costs, the District is now pursuing open trenching across the 101 with CalTrans. BKF engineers, who do a lot of work for CalTrans, have indicated that their roadway engineering division believes this approach can be accomplished with only partial lane closures within a 4-to-6-week time frame for roughly the same cost budget of the current FEMA grant. However, the District recognizes that even partial lane closures of a major highway such as the 101 is a challenge and staff are meeting with CalTrans to gauge feasibility of this alternative later this month.

Given the delays and issues involved with Pond ownership and right of way access, we are no longer confident of meeting the FEMA phase I deadline of March 22, 2022. Staff have started the process of requesting an additional time extension from CalOES and FEMA. Note that the District has already been granted a one-year extension and FEMA generally states only one extension is allowed but given the difficulties combined with the pandemic work slowdowns, staff will request another time extension.

c. Proposed Feasibility Study for Bypass Drainage Project on Donahue (H Lee, lead)

Based on feedback from the ad-hoc Marin City comprehensive planning subcommittee (see Item 6.d), a potential study scope and associated professional services cost estimate were developed by Schaaf & Wheeler for consideration by the advisory board. The purpose is to fast-track an evaluation of the feasibility and costs of a potential project to install storm drainpipes along Donahue out to the bay, bypassing the shopping center and pond system. A deep vault and pump station is likely required based on terrain. Given the high groundwater in the area, there will likely need to be a barrier to avoid pumping excessive bay water. There may also need to be a new outfall permitted which will be costly along with potential right of way issues to site the new pump station and outfall. The costs to construct this new pump station plus annual operation and maintenance will be high. Estimated cost and proposed scope for the hydraulic analysis of the conceptual bypass system can be found here: <https://www.marinwatersheds.org/sites/default/files/2021-10/Marin%20City%20ByPass%20Analysis.pdf>. District staff will work with Public Works engineers on finalizing the scope. Summary of proposed budget adjustments:

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<https://www.marinwatersheds.org/sites/default/files/2021-10/Zone-3-FY21-22-Baseline-Budget-w-adjs100721.pdf>.

Recommended Action: Recommend the District Board of Supervisors increase the Zone 3 Professional Services budget by \$50,000 for the proposed Feasibility Study for Bypass Drainage Project on Donahue.

d. Proposed Marin City Comprehensive Watershed and Flood Mitigation Plan (H Lee lead)

Staff have been working with Marin City Climate Resilience & Health Justice (“MCCR&HJ”, formerly Shore Up Marin City), the Marin City People’s Plan, and the ad-hoc Zone 3 advisory board subcommittee to get feedback on a potential flood mitigation planning scope that builds on work identified in the 2017 Wood Roger’s drainage study, People’s Plan, the [Southern Marin Watershed Guide](#), and MCCR&HJ wetland restoration plans. Once the scope of work is completed, an RFP would be posted for consultants to submit proposals. At least one resident representative of Marin City will be on the consultant selection panel. The findings from this study would be folded into the 2023 update of the Marin County Multi-Jurisdictional Local Hazard Mitigation Plan (<https://www.marincounty.org/depts/cd/divisions/planning/lhmp>). A Notice of Interest (NOI) for FEMA’s Building Resilient Infrastructure and Communities (BRIC) grant program for community and capacity building funding was submitted in September with a requested budget equal to the Zone 3 proposed budget limit of \$600,000, including a proposed Zone 3 local share of \$150,000. Initial feedback from Cal OES, which reviews the NOIs, was to try resubmitting under a different grant program (“HMGP”) which is less competitive. Unfortunately, there is not an HMGP grant opportunity available at the moment to Marin and the funding limit for this type is typically capped at \$150,000 federal share.

The draft scope is located here for consideration by your board:

<https://www.marinwatersheds.org/sites/default/files/2021-10/100721Comprehensive%20Watershed%20and%20Flood%20Mitigation%20Plan%20Draft%20Scope.pdf>. If this planning effort is recommended, we will return to your Board with a proposed funding agreement with MCCR&HJ/Play Marin to manage the proposed Task Force and community capacity building and public engagement process.

Recommended Action: Recommend the District Board of Supervisors increase the Zone 3 Professional Services budget by up to \$600,000 for the proposed comprehensive planning effort. If actual proposals are higher than this budget staff will return to your board to evaluate alternative proposals that are consistent with the recommended budget.

e. USACE Lead Marin City Emergency Action and Resilience Planning (this project is being led by Army Corps-District staff will participate)

District staff worked with the USACE to prepare a proposal for internal USACE funding to prepare an Emergency Action and Resilience Plan to Corps standards. In July 2021, the Corps informed the District that the proposed Marin City Emergency Action and Resilience Planning project has been approved as part of the U.S. Army Corps of Engineers (USACE) to start in 2022. USACE describes it as “first ever *Emergency Action Plan* will protect life safety and health by identifying flood risk and social vulnerability, formalizing emergency protocols, and centering equity.” The guidebook describing this planning process, which is anticipated to take about a year, can be found here:

<https://www.marinwatersheds.org/resources/publications-reports/emergency-action-plan->

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guidebook. More information to come from USACE. Note that the funding covers USACE staff time only and does not currently include any funding for implementation.

f. Interim Emergency Response Flood Plan (F Meneau lead)

The District used the 2017 Wood Rodgers stormwater model to review the effectiveness of temporary flood mitigation measures at the intersection of Donahue Street and Drake Avenue while the planning processes described in Items 6.c, d, and e are underway. Wood Rodgers engineers evaluated different combinations of street flooding mitigation measures such as placing sandbags, installing temporary flood barriers, deploying portable pumps, pedestrian detours, and segments of elevated walkways. Recommendations for this year include:

- 1) Department of Public Works Roads crews cleaned the storm drain system this fall. Additional work is pending on Donahue once the shopping center demonstrates they have completed maintenance of the system in their parking lot this month.
- 2) Utilize the existing \$123,600 budget with the Roads Maintenance Division to:
 - Vactor the storm drain on Phillips Drive this fall pending property owner permission.
 - Expand the existing vactoring program for county roads. Currently storm drain structures on Drake and Donahue are vactored annually after the leaf drop, which is standard for major county roads. Zone 3 will fund expanding the vactoring program to certain structures on Cole Drive, Eureka Street, and Terrace Drive that are prone to accumulate trash and experience flooding, and increase vactoring to monthly from December through March if an 1" or more of rain fell in the preceding month.
- 3) Coordinate with the school district and transportation agencies on emergency operation of busses/shuttles during storms.
- 4) Install a water level gage in Marin City

Item 7. Lomita Drive (DPW Engineering lead)

The County Public Works Department is working on design for a project on Lomita Drive and are proposing to include installation of a 24" storm drain from the Edna Maguire Elementary School to Shell Road to mitigate flooding at the school. This section is largely in the City of Mill Valley which identified it as a medium priority project in their Flood Management and Storm Drain Master Plan

(https://cityofmillvalley.granicus.com/MetaViewer.php?view_id=2&clip_id=1598&meta_id=77052). Summary of proposed budget adjustments:
<https://www.marinwatersheds.org/sites/default/files/2021-10/Zone-3-FY21-22-Baseline-Budget-w-ads100721.pdf>

Recommended Actions: Recommend the Board of Supervisors increase the Zone 3 Engineering division interfund budget by \$170,000 to pay for the section of storm drain upgrades that pass through the City.

Item 8. Mill Valley Update

See letter (<https://www.marinwatersheds.org/sites/default/files/2021-10/FZ3%20Request%20for%20funds%209-27-2021.pdf>) from City of Mill Valley requesting funding for improvements identified in the Mill Valley Flood Management and Storm Drain

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Master Plan

(https://cityofmillvalley.granicus.com/Viewer.php?view_id=2&clip_id=1598&meta_id=77052). Staff are reviewing the request and will return to your Board with recommendations in early 2022.

Recommended Action: Establish an ad-hoc subcommittee of advisory board members to recommend an investment strategy for Zone 3 in Mill Valley based on the City's new storm drainage master plan.

Item 9. Zone 3 Project Updates in Tam Valley

a. USACE Coyote Creek Channel System-Wide Improvement Framework (SWIF) Update (H Lee lead)

The Coyote Creek Flood Control Project (Project) is a U.S. Army Corps of Engineers flood mitigation project that was constructed in the 1960s. The Project provides flood mitigation for many of the homes, businesses, and roads located in Tamalpais Valley. After completion of construction, the Marin County Flood Control and Water Conservation District (District) was tasked with the operations and maintenance of the Project. The Project was constructed on lands that are now owned by the District and/or where easements were acquired for maintenance of the flood control project. The Project is eligible, under Public Law 84-99, for reimbursement for damages occurring to the Project resulting from a federally declared disaster.

The Army Corps of Engineers (USACE) conducts periodic inspections of the Project. During one of these inspections, the USACE noted that the District should address any public or private encroachments on District lands in order to remain in the PL 84-99 program. It is part of a work program approved by the USACE for the Coyote Creek SWIF to identify and address the encroachments in order to remain eligible for PL 84-99. **To identify the encroachments, Cinquini & Passarino, Inc. completed a survey** for a total cost of \$198,095. Some of this survey work was conducted on District held easements that are adjacent to or on private property. **A report on the encroachments and next steps will be presented to your board in spring of 2022.**

b. County Led Caltrans SB1 Adaptation Grant Funded Studies for Highway 1 Corridor in Tam Valley (R Leventhal lead)

District staff led two studies related to the Caltrans' SB 1 planning grant funding for studies that focused on increasing resilience for the area from the intersection of State Highways 101 and 1 north to Mill Valley in Marin County.

i. Bothin Marsh Restoration Update

District engineers have been working closely with Marin Parks and OneTam staff on the tidal marsh restoration and sea level rise planning for Bothin Marsh. District engineers managed a task of the of SB1 grant study (Item 7.c.ii.) which involved analyzing the realigning of Lower Coyote Creek below the Highway 1 bridge directly into Bothin Marsh. Staff developed an RFP and solicited bids from qualified consultants in 2019, and on September 24, 2019 awarded the project to Anchor QEA of San Francisco, CA. The first round of modeling results (Anchor December 2020) showed that there is a feasible alternative for rerouting lower Coyote Creek into Bothin Marsh that does not result in significant upstream flooding impacts. This report also evaluated the sediment transport benefits from realignment and showed that the long-term sustainability of Bothin Marsh would be enhanced from the proposed realignment

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project. Note that this analysis was preliminary and focused on flooding and sediment impacts and did not include permitting and other feasibility issues.

Marin Parks has requested that the District work with Anchor to further refine the realignment alternatives to maximize sediment transport onto the Marsh while minimizing flooding impacts. To this end, Anchor has submitted a scope and budget of \$49,974 for these additional analyses. This work benefits the District through supporting the dual flood reduction benefits of rerouting Coyote Creek and sustainability from sediment addition to the marsh over time as sea levels rise.

Recommended Action: Recommend the District Board of Supervisors increase the Zone 3 Professional Services budget by \$50,000 to support this additional scope to support Marin Parks and their Bothin Marsh Restoration planning.

ii. Manzanita Area Direct Tidal Flood Reduction Study (R Leventhal, lead)

District Engineering staff utilized some available funding from the CalTrans SB1 grant to scope and award a follow-on contract to Anchor that leveraged their existing work described above, to expand their hydraulic modeling to include the area south of Coyote Creek down to Gate 6. This study focused on direct tidal flooding (so called “sunny day flooding” without storm events) and to develop specific flood mitigation solutions that can be implemented in the near term without very large costs (such as raising the freeway). The goal was to develop implementable cost-effective solutions that impact traffic during high tide events, especially the semi-annual “King Tide” events.

The results of this study are contained in a technical report by Anchor QEA dated January 2021. Anchor conducted 2D modeling of the Manzanita area from Gate 6 up to the south bank of Coyote Creek that incorporated the existing stormdrain system using PCSWMM. The study evaluated a series of project elements grouped together into three alternatives. That ranged from minimum to maximum flood protection benefits and associated costs. Specific project elements range from new valve and tide gates, to raising the existing bike path or installing a small flood walls along the pathway, to improved storm drainage ditches and future pump stations. Costs range from \$1M to \$4M however, these are standard costs and do not account for CalTrans costs which are typically higher. Note most of this work is on CalTrans property with many significant flood reduction alternatives involving the Marin Parks ped and bike path,

The report and model was presented to CalTrans staff and stakeholders in two presentations prior to finalizing the report to seek feedback and make model modifications. The new survey and model files were sent to CalTrans and the logical next step is for Caltrans (or the District with outside funding) to update the analysis to include fluvial stormwater flooding as well as possibly look at longer term (and more expensive alternatives such as roadway raising or even relocation) to complete the analysis and develop a comprehensive and phased CIP plan. The District was only able to complete the first phase but have conducted survey and model set-up that will greatly accelerate and lower the costs for the more comprehensive analysis. At this point, staff understands that CalTrans’ planning department has requested internal funding to conduct additional studies.

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Item 10. Annual and Preventive Maintenance Work Program

- a. Pump Stations** – individual pumps and motors are scheduled for major maintenance on a six-year interval at each of the zone’s pump stations. Major preventive maintenance was scheduled this summer at Crest Marin, Shoreline, and Ryan Creek Pump Station. The pumps pulled out for service were in bad shape and are at the end of their lifecycle. In addition to work on two pumps at Crest Marin, we also needed to replace the flap gates on the pump discharges. Due to difficulties getting steel in the current market some of the pumps will be placed after October 15, but there are pumps at all stations still in place and operable should it rain. The total extra cost above the standard preventive maintenance services this year for the pump station maintenance, repairs, and replacements is about \$222k.

- b. Vegetation and Sediment Removal** – the District completed fire fuel reduction vegetation management early this summer on properties where the Zone has easements and/or fee title to perform these activities. During late summer and early fall, the Conservation Corps North Bay typically performs vegetation maintenance for the purpose of increasing flow conveyance capacity in the channels in Zone 3. Due to severe limitations on the linear extent of in-creek work that can be performed annually District wide (5000 linear feet total) under the District’s 2017-2022 Regional Water Quality Control Board permit for programmatic creek maintenance a very limited number of sites was maintained including trimming of vegetation and removal of solid waste this year. Sediment removal was conducted in Mill Valley at Sutton Manor only.

Item 11. Schedule Next Meetings

Dates in March 2022 will be polled for the next regular meeting to review the proposed Zone 3 Fiscal Year 2022-2023 Baseline Budget and potential project work plan.