Flooding in the Ross Valley: Time is Running Out

by Sandy Guldman

Because so many of our homes and businesses were constructed very close to the creek, because of our topography, and because of the intense storms we experience, our communities have always experienced flooding. The 2005 event was not unprecedented, nor was it unexpected. Indeed, under current conditions there is about a 1520% chance of flooding in any year; this is known as the 6-year flood.

In response to the 2005 flood, Ross Valley residents approved the Ross Valley Storm Drainage Fee (Fee) to fund projects that would reduce risk of flooding and improve watershed health. The ballot measure states: *Passage of an annual storm drainage fee will provide funding for projects to reduce damage due to flooding, offer solutions for homes and businesses, aid homeowners in repairing streambanks, remove bottlenecks that impede water flow, maintain natural creek functions, reduce pollutants entering the Bay, incorporate habitat enhancements and improve fish passage.*

The projects are implemented by the Marin County Flood Control and Water Conservation District (FCD) along with the other entities that had joined together to form Flood Zone 9 (FZ9): the towns of Fairfax, Ross, and San Anselmo; and the City of Larkspur. The Fee will raise about $40 million over a 20year period.

The ultimate goal of the Ross Valley Watershed Program (Program) is to reduce the likelihood of flooding from the current once in 6 years to once in 100 years. This would have an enormously positive impact on the Ross Valley. Whether or not you live in the floodplain, you are affected when businesses, schools, and roads are closed, and emergency services cannot reach you.

Detailed studies funded by the Fee have identified a set of measures to:

- increase creek capacity
- reduce obstructions to flow
- increase floodplain storage capacity, including use of detention basins
- improve community preparedness

Implementing all the measures that are necessary to provide 100year protection would far exceed the funds provided by the Fee, but as of mid2018, grants of about $34 million in additional funds have been obtained. Two measures currently proposed to use this funding would go a long way toward providing the Ross Valley with effective reductions of peak flows and some security against loss and damage caused by frequent floods.

Before the concrete channel was constructed in Kentfield and Ross, the downstream reach was straightened and widened, and earthen berms constructed, as seen here near Bon Air Bridge in 1968. Photo courtesy of Richard Torney

History of Flood Management Efforts

In the 1960s, Congress authorized and appropriated funding for the U.S. Army Corps of Engineers (USACE) to design and construct a flood control project in FZ9 that would have reached from the Bay through the Town of Fairfax, including a concrete channel from Kentfield through Fairfax. Construction began in the late 1960s, but by 1970, there was strong public opposition; San Anselmo and Fairfax withdrew from FZ9 (although they rejoined after the 2005 flood) and a lawsuit halted construction of the concrete channel in down-town Ross. At that point funding was withdrawn, but because the project was not completed, it remains active under the provisions of the USACE single-purpose authorization to reduce flooding.

For many reasons, the USACE project as it was built could never be constructed today. One reason is that new projects must comply with environmental protection laws enacted since the project was authorized. In addition, funding sources, including the Fee enacted by Ross Valley voters in 2005, now require multiple benefits. In the case of Corte Madera Creek, these benefits would include environmental enhancements such as improved habitat, water quality, and fish passage.

Projects Under Consideration

Two of the projects currently proposed as part of the Ross Valley Watershed Program are multi-benefit projects: they would reduce flood risk for hundreds of homes and businesses, increase public safety, improve aquatic and riparian habitat, remove barriers to fish migration, reduce water pollution, and provide improved recreational facilities. Both are fully funded by a combination of grants from the Department of Water Resources (DWR) and funds collected through the Fee. The San Anselmo Flood Risk Reduction Project would reduce flooding in parts of Fairfax and San Anselmo. A second project, Phase 1 of the larger USACE Corte Madera Creek Flood Risk Management Project, would reduce flooding in parts of Ross and Kentfield.

Plan view of the conceptual design for a detention basin/flood plain at the former Sunnyside Nursery growing grounds in Fairfax. If flooding in downtown Fairfax were imminent, a gate on Fairfax Creek would be closed and water would flow into the basin over the armored sill along the southern edge of the basin. A low-level channel would remain open so that some flow would continue in Fairfax Creek even as the basin filled. This drawing is a simplified version of Figure 2-2 in the draft EIR, available on the project website, prepared by Marin County Flood Control District, Geomorph Design, Walls Land+Water, and Stetson. Detailed designs will be developed when environmental review is complete.

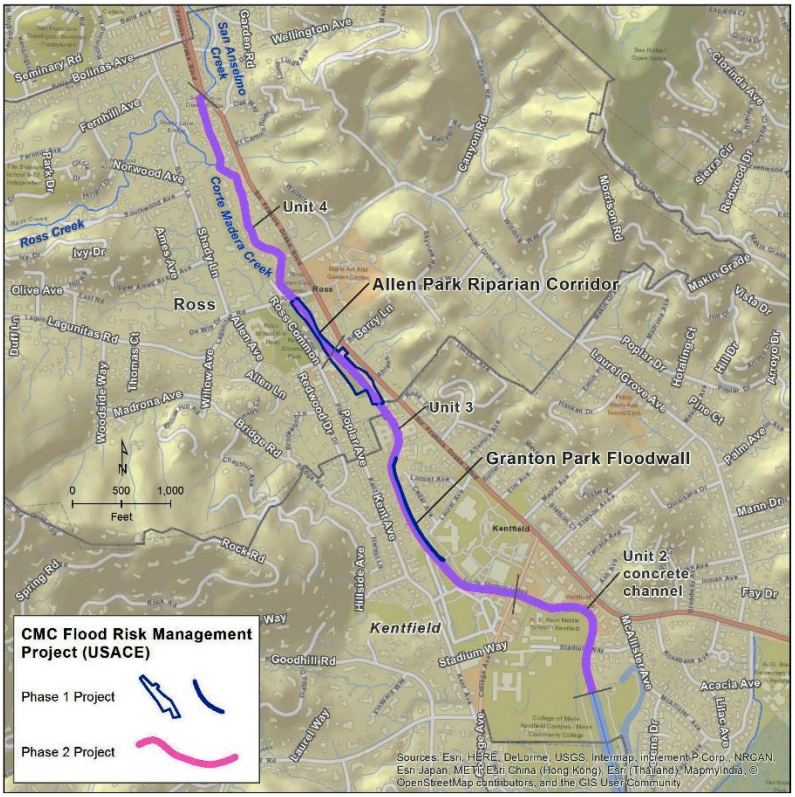
San Anselmo Flood Risk Reduction Project includes three components. A detention basin near Fairfax Creek, on the former Sunnyside Nursery growing grounds, would function as a flood plain and reduce the amount of water flowing downstream during floods; removal of the building at 634636 San Anselmo Avenue would increase the capacity of the creek channel; and some low berms would protect private property that could experience higher water levels as a result of the project. Hundreds of parcels in Fairfax, San Anselmo, and Ross would benefit. The draft EIR for this project was available for public review in the spring. A public hearing on the final EIR is scheduled for August 21, 2018.

Corte Madera Creek Flood Risk Management Project—Phase 1, part of the larger USACE Corte Madera Creek Flood Risk Management Project, is being analyzed as one alternative in the Environmental Impact Statement/Environmental Impact Report (EIS/EIR) for the entire USACE project. This project would increase the capacity of the creek and reduce obstructions to flow by removing the ineffective fish ladder in Ross, removing the upstream part of the concrete channel, and

installing floodwalls near Granton Park. Hundreds of parcels in Ross and Kentfield would have reduced flood risk with this project.

Are these Projects cost effective?

Some residents of the watershed have suggested that these projects are not the best use of funds and have requested that all projects be analyzed using the standard Benefit Cost Analysis (BCA), as required by the USACE. For USACE participation in a project, the benefits to the national economy must exceed the cost. The Corte Madera Creek Flood Risk Management Project (Ross and downstream) was authorized in 1962 as a single-purpose project and only credits the benefits from very narrowly defined flood-loss reduction measures. Furthermore, the current authorization covers only preliminary design and environmental review, so funding for construction though the USACE process would require a new appropriation by Congress, although a new appropriation would not change the single-purpose authorization. Such appropriations are difficult to obtain at any time, and even more so than usual now. Absent unexpected political pressures, projects in California are particularly unlikely to attract funds and rising federal budget deficits are expected to compromise all environmental work.



Phase 1 of the Corte Madera Creek Flood Risk Management Project includes removal of the fish ladder in Ross and the concrete channel in the Allen Park Riparian Corridor, and addition of the Granton Park Floodwall.

If a project does not satisfy the USACE BCA, this does not mean that the project does not have benefits that outweigh the costs. The USACE BCA does not include effects on the local economy—why should we ignore the economic damage to local businesses that lose customers because of flooding?—or benefits from improved habitat, endangered species populations, recreational facilities, water quality, and public health and safety.

Many benefits are difficult to quantify. What dollar value should be applied to reducing the risk to first responders and the public when floodwater is rushing down neighborhood streets? What cost should be applied to delayed help from first responders when roads are closed due to flooding? What value do we place on healthy habitats that provide passage for migrating steelhead and support wildlife and birds? What value do we give to reducing excessive erosion during floods? How much would we pay to reduce water pollution when garages and garden sheds flood and sewers are overwhelmed?

Demanding that the USACE BCA be applied to these projects would result in selection of projects that have less value to the environment and to the community. Furthermore, these projects would not meet the requirements of funders other than the USACE. The residents of the Ross Valley deserve better than this limited definition of benefits—this is what they explicitly voted for when they approved the Ross Valley Storm Drainage Fee.

As part of the San Anselmo Flood Risk Reduction Program, the low creek-straddling buildings at 634–636 San Anselmo Avenue (including L'Appart Resto) will be removed or raised. In the photograph, the nearer buildings are less of a problem. Photo by Sam Wilson

A new project, one that meets this limited requirement, will be presented in the upcoming EIS/EIR for the overall larger USACE project, scheduled for release in Fall 2018. It will be a limited, single-benefit project and will not include any components upstream of Ross, because anything upstream of Ross is outside the scope of the original USACE project. If Congress authorizes the funding the USACE will pay a percentage of construction costs for this limited project, with the balance to be met by local and grant funding.

Does the Program offer other ways to reduce flood damage?

In addition to these two multi-benefit projects that reduce the flood risk to hundreds of parcels, the overall Program has supported or implemented many other measures using funds from the Fee and grant funds.

Progress so far includes upgraded emergency notification systems; development and validation of more detailed models of the watershed, allowing more accurate modeling of the impacts of proposed projects; annual creek cleanups throughout the watershed to help keep water moving in the creek channels; support for City of Larkspur drainage improvements at Hillview; help with bridge replacement projects (mostly funded by grants from Caltrans using federal funds) that reduce flooding; and installation of additional streamflow and rain gages to provide accurate input to the watershed models and better measure how the watershed responds to large storms. In addition, a study of the lower watershed is underway to determine where levees might be needed to protect homes and businesses. Water depths in the tidal reach have been measured and are being evaluated to determine the need to dredge.

After the proposed removal of a concrete channel wall in Allen Park, an earthen creek slope will be contoured and planted in a similar way to what was done in Creek Park in San Anselmo several years ago. Photo by Harold Appleton

Learn More and Take Action

These two current projects will go a long way toward providing the Ross Valley with useful flood mitigation. Because the DWR funding of 50% of the estimated cost of these projects expires at the end of 2020, however, action to approve and implement them is urgently needed. This will only happen if there is clear, explicit public support. On one hand people are demanding action to protect their homes and businesses from floodwaters, while simultaneously saying "don't build it in my back yard." There is never one simple solution that pleases everyone. All flood control projects will necessarily require changes to our towns and our lives, but then, so does flooding. The latter is forced on us by the weather; the former can be managed by us if we act appropriately. It's time for everyone to come together to determine what is in the best interest of the Ross Valley. We believe the inhabitants of the valley are facing a simple choice: *actively support realistic flood control measures or be prepared to live with widespread flooding.*

It's critical that you let the elected officials in Flood Zone 9 jurisdictions know that you want DWR funding to be used for multi-benefit flood projects, such as the two currently being considered. Town meetings are held regularly to provide information about them; check the RVWP web site http://www.marinwatersheds.org) and navigate to the Ross Valley Watershed section where you can get on the Flood Zone 9 mailing list for updates. Bridge projects are described on the websites for the towns of Fairfax, San Anselmo, and Ross. Friends of Corte Madera Creek Watershed is actively engaged in helping residents understand their choices and the benefits of each. Contact us by phone or email if you would like our help in finding out more. We encourage you to participate in a positive way. It's easy to say "not in my town" but how does that help us solve our flooding issue? And it is our issue—all of ours. We are all connected by the one beautiful, but sometimes dangerous, Ross Valley watershed. We must begin to deal with flooding if we are to keep it beautiful, livable, and safe, while avoiding the widespread damage and disruption of yet more major floods.