

## **History of Flood Management Efforts in the Corte Madera Creek Watershed 1960 to 2004**

*This document was summarized and edited by Friends of Corte Madera Creek Watershed, using information in Flood Control Zone Nine, Corte Madera Creek Project Informational Paper – February 2000, prepared by the Marin County Water Conservation and Flood Control District.*

Because of frequent flooding the local communities decided in the early 1960s that a flood control project was in order for Corte Madera Creek. Flood Control Zone Nine, a County agency, was created in 1966 for the sole purpose of being the local sponsor of the project to qualify for Federal funding. Zone Nine's responsibility has since its inception been limited to the main channel Corte Madera Creek Flood Control Project. There are certainly many other flood control related issues and concerns in Ross Valley but they were not and are not within the mandate of Zone Nine.

As originally conceived the Corte Madera Creek Flood Control Project consisted of six Units, with a concrete channel 6.5 miles long, reaching from the Bay into Fairfax. It was designed to carry all the flow about 7600 cfs (cubic feet per second) or a 250-year event (a 250-year event is a flow that has a 0.4 percent chance of occurring in any one year). However, after the completion of Units One, Two and Three in 1971, the towns of Fairfax and San Anselmo (Units 5 and 6) opted out and the project was revised to extend only up to the Sir Francis Drake Boulevard bridge just before the Ross/San Anselmo boundary, a total distance of just over 4.0 miles. Units One and Two extend from the Bay to the College Avenue Bridge, Unit Three from that bridge to about 600 feet downstream of the Lagunitas Road Bridge in Ross, and Unit Four from there to the Sir Francis Drake Blvd. Bridge. The project consisted of a trapezoidal earth channel through Unit One and most of Unit Two with the last 1500 feet in Unit Two being a rectangular concrete channel. Units Three and Four continued the concrete channel to the end of the project. As designed, the revised project was also expected to handle 7600 cfs.

Units One, Two and Three were constructed in the late 1960s and completed in 1971. Construction of Unit Four was to have begun in 1972 but was postponed due to strong public opposition, litigation, and environmental concerns. The U.S. Army Corps of Engineers (Corps) was asked to redesign Unit Four in such a way as to preserve the natural character of the creek. After consideration of several alternatives, a plan was selected in 1980 that had general public support. However, before the project could be revised, Marin County could no longer afford its share of the project because of the effects of Proposition 13 and the project was put on hold.

After the flood of January 1982 and an order from the Marin County Superior Court to complete the project, the Marin County Board of Supervisors requested the Corps to re-initiate it and Congress reauthorized the project at a reduced 100-year level of protection. However, the 1982 flood also made it apparent that the existing concrete channel could carry only about half the flow it was designed to carry. This reduced capacity has been attributed to sediment entering the concrete channel from upstream and barnacles growing on the channel walls increased the "roughness" of the channel. Water flows faster over a smooth surface than over a rough one and the gravel on the bottom and barnacles on the sides of the channel were considerably rougher than the finished concrete of which the channel is made. In fact, the channel, with sediment and barnacles, is just about twice as rough as what was assumed during design.

Completing the project required the corps to devise an environmentally sensitive redesign of Unit Four and to correct the already constructed concrete channel in Units Two and Three so that it could carry the 100-year flow. Another period of study and analysis occurred and more than a score of alternatives were considered over the next several years. It became clear that to provide protection from a 100-year flood, would require a project that the community could not support because of its environmental impacts.

On February 1, 1996, the Zone Nine Advisory Board passed a resolution recommending to the Board of Supervisors of the Flood Control District that they request the Army Corps to proceed with a 5400 cfs project while adhering to certain specific design considerations. These include the minimization

of the use of concrete, retaining adjacent recreational facilities such as the creek side multi-use pathway, using native plants, enhancing riparian and fish spawning habitat, and maximizing the channel capacity while retaining the Lagunitas Road Bridge as is. On March 5, 1996, the Board of Supervisors adopted Resolution 96-26 requesting the Corps to do just that. project that would provide 40-year protection or 5400 cfs.

To provide for effective and timely communications between the Corps and the communities, Zone Nine Advisory Board created a Design Advisory Committee or DAC. The stated purpose of the DAC was to periodically review the progress of the design, serve as a sounding board for Corps staff as to design decisions, and to make independent input as to its particulars. The DAC reported directly to the Advisory Board and was guided by the design parameters contained in the Board of Supervisor's February 1, 1996, Resolution. The DAC had nine members; two each from Ross, Kentfield, the Zone Nine Advisory Board, and the Friends of Corte Madera Creek Watershed and one member from the City of Larkspur.

The DAC held a number of meetings between 1998 and 2000 and co-sponsored several public workshops with both Kentfield and Ross in their respective communities. Four alternatives came to the fore during this process: No Project Alternative, two alternatives that would provide the full 5,400 cfs capacity; and a Minimal Project that would provide more capacity than exists currently but less than 5,400 cfs. The Corps also proposed the idea of a short bypass culvert around the Lagunitas Road Bridge in Ross that could be combined effectively with any of the other alternatives except the No Project alternative.

By Federal law, the Corps must support the alternative that provide the greatest net benefit. This is known as the NED (National Economic Development) Plan. The NED Plan sets the amount of Federal funding available for the project. Other alternatives may be built if the costs that exceed those of the NED Plan are borne by Marin County.

The next step in the process is for local communities to determine the Locally Preferred Plan. The DAC directed the local communities (Larkspur, Kentfield and Ross) to review the alternatives and recommend to the DAC which one (or combination thereof) each community would prefer. This phase of the process has not been completed.

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