Contra Costa County Flood Control & Water Conservation District

Flood Stage Report

April 10, 2025

Marsh Creek @ Dainty Avenue

The Contra Costa County Flood Control and Water Conservation District (FC District) has tentative plans to determine flood stages at all of its creeks. This report will eventually document the flood stage determination for Marsh Creek using the stage at the stream gauge on the Dainty Avenue over Marsh Creek in Brentwood.

Marsh Creek @ Dainty Avenue was not included in the grant funded project finished in April 2025 because it is located in the Legal Delta area. The grant funding did not cover work in the Legal Delta area. In time we will be able to establish flood stages for this gauge, but they are not determined yet. On some east county stream gauges, we show elevation or stage lines indicating key stage elevations. These have not been associated with specific flood levels along the creeks.

RESULTS AND HOW TO USE THEM:

No results.

Table 1: Marsh Creek @ Dainty Avenue Gauge Stage and Flooding Location List

Flooding Order	Guage Stage	Flooding Location

Note: The gauge stage listed is the height of water above the sensor at the gauge. It is not the depth of water in the creek because the sensor is not set at the low point of the creek. The elevation of the water can be calculated by adding _____ feet. In the future we will likely provide both stage and elevation in our flood stage information.

Observing Flood Stage

Anyone with web access can use the FC District's RainMap (www.ccflood.us) to observe the stage at the stream gauge. To view the stream gauge stage, go to RainMap. On RainMap, click the "**Datasets**" button in the upper left. A menu will drop down. Click on "**Water Level**" and the map will show all the points for the stream gauges the FC District operates. The pan and zoom on the map until you find the location of the stream gauge you are interested in. Click on the point at the stream gauge location and a window for the stream gauge will pop up. The popup will have the name of the stream gauge, a table with the latest stage, and a plot of the stage for the last 7 days. The popup will also have links associated with the gauge (see example below).

Flood Stage Lines

Not yet determined.

Flood Stage Information

Not yet determined.

HOW THE FLOOD STAGES WERE DETERMINED:

Not yet determined.

Model Limits

Not yet determined.

Hydraulic Model

Not yet performed.

Hydrology

Not yet performed.

FLOOD STAGE ANALYSIS:

Not yet performed.

SUMMARY AND CONCLUSON:

Not yet performed.

DISCLAIMER:

The flood stages in this report are based on models with inherent limitations and assumptions that may change over time. Use them with caution, as conditions in the creek channel and at bridge crossings can change seasonally and during storms due to debris blockages, bank failures, or fallen trees. Sediment buildup, vegetation growth, and human activities can alter the creek's capacity over time, reducing the accuracy of these models. Such changes may obstruct flow and lead to flooding at lower storm levels than predicted. Also, associated maps and websites may have errors or inconsistencies and real-time data is reliant on power and internet connections which can fail to operate and provide data in a timely manner. During stormy weather power and communications are more prone to fail. Use this information with caution and do not rely solely on this information and associated data when making decisions related to emergency situations.

This report may be revised and updated as needed based on feedback regarding flood stages.

TERMS AND ABBREVIATIONS (not all terms used in this report)**:**

ArcMap is a GIS program (see below) that can be augmented with other installed tools such as HEC-GeoRAS (see below). It is used extensively and is the most widely used GIS software and is created by Esri, Inc.

Geometric data is data representing the geometrical aspects of the creek including elevations, locations of cross section, spacing between cross sections, and bridge geometry information. It also includes values related to hydraulic aspects of the creek including roughness, obstructions, expansion and contraction coefficients.

Graphical Information System (GIS) is a type of mapping software used to storm, map, and analyze geographic data in point, line, polygon, raster and database formats.

HEC-GeoRAS and **HEC-RAS** are software developed by the US Army Corps of Engineers, Hydrologic Engineering Center (HEC) who developed the River Analysis System (RAS) software. RAS Mapper works inside HEC-RAS.

LiDAR stands for **Li**ght **D**etection and **R**anging and is a remote sensing technology that uses lasers to measure distances and create 3D maps. The data used was collected by LiDAR equipment mounted in an airplane.

File path: G:\fldctl\Hydrology\Streamflow\Flood Stage Reports\Final Flood Stage Reports\Marsh Creek @ Dainty Avenue.docx

Attachment: Map (N/A)