



KNOW YOUR RISK

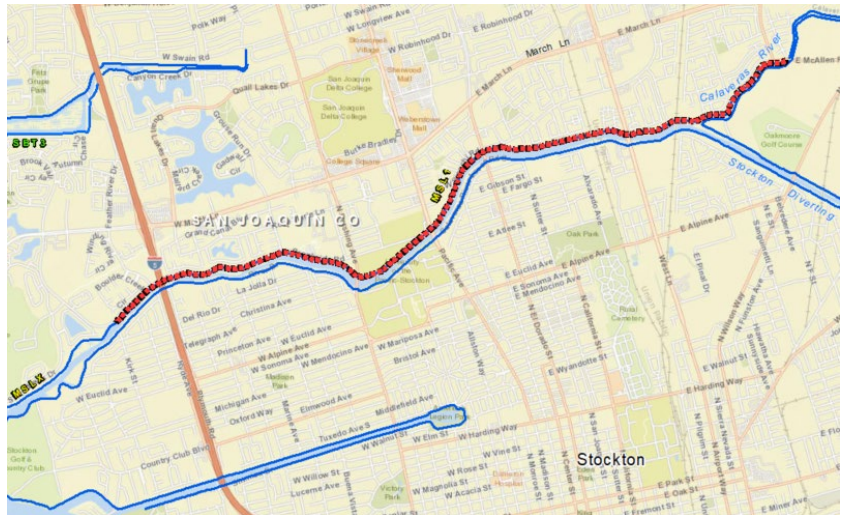
LEVEE INSPECTION RESULTS GUIDE FLOOD RISK PRIORITIES

UNDERSTANDING YOUR RISK

What Was Inspected?

The northern project levee of the Calaveras River was inspected by the US Army Corps of Engineers (USACE) in August 2020 (please see map; inspected levee is in RED with other levees in BLUE). The levee is one of many that reduces the risk of flooding for the urban areas of City of Stockton in San Joaquin County. The system is constructed of earthen embankment (levee) and concrete floodwalls.

Visit the National Levee Database at <https://levees.sec.usace.army.mil/> for more information about this levee, and other levees in the region.



What Did We Look For?

Anything that may negatively impact the levee integrity, interfere with operations and maintenance, or prevent emergency response personnel from conducting their operations (such as flood fighting) when required. Flood risk and levee conditions change over time: banks erode, gate closures rust, animals burrow, and pipes wear out. Ongoing inspection, maintenance and repairs are needed to reduce flood risk.

Levee Inspection Results

The USACE found some unacceptable conditions that may prevent the system from functioning as intended during the next flood event. Because conditions change, we can't rely on how the levee performed during the last high water event as evidence that it will perform as well during the next high water event. In this case, the unacceptable conditions include encroachments, erosion/bank caving, animal control, vegetation growth, sod cover, and cracking related issues. Because the levee maintaining agency is actively fixing the issues, the system remains eligible for federal assistance during and following a flood event. Activities underway to improve the levee system can be found in REDUCING YOUR RISK.

Example Inspection Observations



Encroachments Near the Levee:

Unpermitted encroachments, such as the cinder block stairs shown above, have not been evaluated to determine the potential to negatively impact the levee.



Vegetation:

Heavy vegetation like the brush above can inhibit an inspectors view of the levee slope and adjacent ground, potentially obscuring any problems that may be present.

Example Inspection Observations—Continued



Erosion of Levee Slopes:

Rills have formed on the earthen levee slope as a result of surface runoff (likely from rain or irrigation). Grass cover, or other form of protection, may help prevent additional surface erosion.



Pipes Through the Levee:

Every pipe that extends through the levee needs a riverside closure, such as a valve. This is to prevent possible flow of water from the riverside of the levee to the landside. Open pipes like this without closure can lead to potential flooding.

REDUCING YOUR RISK

Corrective Actions Underway

Reducing flood risk requires ongoing maintenance of the existing levee system and improving (repairing/strengthening) levees, wherever possible. Levee maintenance actions include, but are not limited to working with property owners to resolve encroachments (e.g. moving fences that interfere with levee inspections; removing unpermitted encroachments); inspecting 300 pipes that penetrate the levee and identifying 90 that will be repaired; clearing channel debris; placing rock to repair erosion areas; trimming trees and clearing the levee of vegetation; maintaining patrol roads; and, controlling burrowing rodent populations. To strengthen the levees, the San Joaquin Area Flood Control Agency (SJAFC) is partnering with the state and USACE on the \$1.4 billion Lower San Joaquin River Project, which will improve approximately 40 miles of levees along the Delta/San Joaquin River waterfront and Calaveras River. State and federal funding will cover 90 percent of the project costs, if SJAFC is able to provide the 10 percent local cost share.

Challenges

The cost of maintaining levees is increasing, largely due to environmental permitting and compliance with strict state and federal regulations. Currently, the cost of maintaining levees is greater than the funding available for those services. Levee maintaining agencies and SJAFC will need increased funding to maintain and improve levees to state and federal standards.

What You Can Do

Understanding your risk is important. But it's also important to know that when you live behind a levee there will always be flood risk. To help prepare for a potential emergency, visit SJReady.org and the [San Joaquin County Flood Protection Information](http://SanJoaquinCountyFloodProtectionInformation.org) webpage for ideas and resources on how to protect your family and your home.

For more information on the USACE Sacramento District Levee Safety Program, please visit:
www.spk.usace.army.mil/Missions/Civil-Works/Levee-Safety-Program