



Berryessa Creek Emergency Action Plan Quick Guide

Lower Penitencia Creek Watershed EAP dated: November 2023

This document summarizes key information/guidelines as described in the Lower Penitencia Creek Watershed Emergency Action Plan and its Berryessa Creek Appendix (EAP). Page numbers are referenced (in red) identifying the location in the EAP where full information and data can be found. This guide is a summary and does not replace the full EAP.

Purpose of EAP (Page 1)

- To enhance coordination and communication between Santa Clara Valley Water District (Valley Water) and other responsible jurisdictions regarding storm and flood events for Berryessa Creek (Creek), which is a flood threat to the City of Milpitas (Milpitas) and City of San José (CSJ).
- To provide guidance and an approach to ensure communications, planning, and implementation between the responsible agencies regarding threatened and actual flooding emergencies.
- To facilitate:
 1. Pre-incident planning prior to a storm/flood event.
 2. Response to potential, imminent or actual storm/flood events.
 3. Recovery actions following a storm/flood event.
 4. Collaboration and coordination with other responsible jurisdictions.

Limitations of EAP

(Page 4)

The EAP shall not constrain the Incident Commander (IC) in the field or others when dealing with flooding on Berryessa Creek. It does not replace or override existing plans, authorities, or responsibilities.

Instead this EAP will provide oversight and guidance and will not set precedent or commit resources without knowledge of the conditions that may occur, nor provide prescriptive lists of what to do during storm and flood monitoring and response. The conditions of the emergency dictate the response needs and availability of staff and resources as each emergency can be different and updates in stream management and control systems could vary the conditions.

Berryessa Creek Description (Pages 101-122)

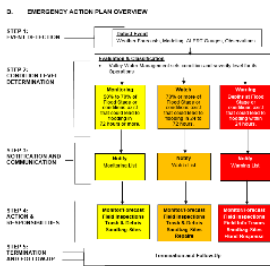
Berryessa Creek located on the east side of Santa Clara Valley drains an area of about 22.4 square miles and is over 10 miles long with nearly half of the creek located in the Diablo Mountain Range. After leaving the hills it flows westerly about 5.7 miles to its confluence with Lower Penitencia Creek. The first 2.3 miles on the valley floor are located along mostly residential areas in the CSJ. It then turns to the north into Milpitas flowing through commercial and industrial land before flowing past more residential areas. Most of the creek on the valley floor is excavated trapezoidal channel with some concrete lining upstream of Montague Expressway. There are levees and/or floodwalls upstream of Lower Penitencia Creek to about Calaveras Boulevard and sections with levees from Morrill Ave to Majestic Elementary School. Valley Water has easement or fee-title right of way on most of Berryessa Creek on the valley floor.

Flood Threats

(Pages 122-123 and Table 2A-3A on Pages 128-129)

Berryessa Creek has flooded numerous times in the past with recent flooding occurring in 1998 and one of the most significant occurring in January 1983. In response, 1% flood protection improvement projects have been completed from Lower Penitencia Creek to I-680. However, flooding is still a concern from Highway 237 to Ames Ave, on tributaries (Wrigley-Ford Creek and Sierra Creek) and upstream around Berryessa Creek Park and Majestic Way Elementary School.

EAP Overview (Page 17)



Five steps in the EAP process:

1. Event Detection
2. Condition Level Determination
3. Notification & Communication
4. Actions & Responsibilities
5. Termination & Follow-up

EAP Personnel (Pages 9-11)

The EAP assigns functions and personnel as described in the Valley Water's Emergency Operations Plan following concepts of SEMS and NIMS. The personnel assigned the functions listed below may vary as condition levels change.

- a. Management (includes EOC Director, Public Information Officer, and Elected officials)
- b. Planning/Intelligence (P/I)
- c. Operations
- d. Logistics
- e. Finance

Step 1 - Event Detection (Page 19)

This step describes the detection of an unusual or emergency event and provides information to assist Valley Water in determining the appropriate emergency level for the event. Unusual or emergency events may be detected by:

- **Weather Forecasts** - The National Weather Service (NWS) provides weather (e.g., precipitation) forecasts in advance of storm events and Valley Water contracts with a service provider for enhanced. During storm events, the NWS will host webinars with affected agencies and utilities to discuss forecasts and share information to enhance regional preparedness. In addition, the NWS maintains websites (Attachment 13) that provide forecasts and will issue public notices of forecasted flood threats on local television and radio programming.
- **Hydrologic/Hydraulic Modeling** - If forecasts show a heightened possibility of flooding, it is possible that Valley Water will run hydrologic and hydraulic modeling to determine risk and impact areas for a specific storm event. The Valley Water Surface Water Data Portal at <http://alert.valleywater.org> has forecasts available for some creeks.
- **Gauge System** - Valley Water's Automated Local Evaluation in Real Time (ALERT) system can set alarms to automatically notify appropriate staff at predetermined stages. These gauges and alarms provide data in near real-time and can provide extra warning to determine the level of threat for flooding. A listing of all Valley Water gauges can be found at <http://alert.valleywater.org>.
- **Visual Observations** - As water levels increase in the creeks, rivers, and waterways, Valley Water Field Information Teams (FITs) are deployed to visually monitor and report back to a Department Operations Center (DOC) or Emergency Operations Center (EOC) and Operations & Maintenance (O&M) staff are in the field inspecting and repairing facilities. These field personnel can monitor facilities for potential damage, identify surface drainage issues, thoroughly document actual flooding, and report landslides/erosion affecting the adjacent land uses. Hotspots for FIT deployment in the Berryessa Creek Watershed is shown in Attachment 14 (pages 59-66) and upstream of Cropley Avenue and Messina Drive is shown on Table 3B (page 130).

Step 2 - Evaluation & Classification (Pages 21-22)

Evaluation—After detecting and gathering adequate intelligence regarding the situation, an evaluation of waterway conditions must be performed by appropriate personnel. The personnel evaluating the intelligence will generally be one or more Subject Matter Experts (SMEs) from P/I or Operations. In addition to flood situations, other events may be considered during high flows as listed in Attachment 1 (pages 25-26).

- **Classification**—Based on evaluation of the intelligence detected by SMEs, they may recommend **Flood Condition Level** (pages 7-8 and page 128) over a general area or for a specific creek and location. Condition levels above green/preparedness should also be noted on the main page of the Valley Water website (<https://www.valleywater.org/>). The recommendation for Berryessa Creek **Flood Condition Level** is based on assessment by SMEs and, if appropriate, **Flood Severity Level** for Berryessa Creek would be based on specific thresholds (Table 2B – page 129) and shown in the Valley Water Surface Water Data Portal for the Old Piedmont Road gauge at <https://alert.valleywater.org/?p=sensor&sid=5136.2&disc=f> and the Calaveras Blvd gauge at <https://alert.valleywater.org/?p=sensor&sid=5064&disc=f>. Berryessa Creek also has two visual on-site monitoring locations (Cropley Avenue and Messina Drive Pedestrian Bridge) that correspond to flood severity thresholds (Table 3B – page 130). The decision for a change in condition level and flood severity level is typically made by EOC/DOC Management. Tables below describe the Flood Condition Levels and the Flood Severity Levels. These levels are consistent with those issued by the National Weather Service.


Flood Condition Levels


Green	<p>Preparedness This is the base stage of readiness that will be the typical condition throughout most of the year. It is defined as:</p> <ul style="list-style-type: none"> • Flood stage (Minor Flooding or greater) or 90% to 100% of Design Flow stage is not estimated within the next 72 hours, or • Measured stream depth is below 50% of flood or 70% of Design Flow stage.
Yellow	<p>Monitoring— This condition is variable and requires more intense monitoring and a heightened level of alertness. Minimal staff in the Emergency Operations Center (EOC) or in Watersheds Departmental Operations Center (DOC) may be activated. An informal EOC/DOC Action Plan (AP) could be initiated. This condition is defined as:</p> <ul style="list-style-type: none"> • Stream depth is estimated to reach flood or 90%-100% of Design Flow stage in 72 hours or more, or • Measured stream depth is at 50% to 70% of flood or 70% to 90% of Design Flow stage, or • For areas that are controlled purely by storm drain runoff (flashy systems), the stream depth is estimated to reach flood or near Design Flow stage within 24 hours.
Orange	<p>Watch— The EOC/DOC may be opened if not already operating. A formal EOC/DOC AP may be drafted if they are active. This condition would be set if:</p> <ul style="list-style-type: none"> • Stream depth is estimated to reach flood or greater than Design Flow stage within 24 to 72 hours, or • Measured stream depths are at 70% to 100% of flood stage, or • Measured stream depths are at 90% to 100% of Design Flow stage, or • For areas that are controlled purely by storm drain runoff (flashy systems), the stream depth is estimated to reach flood or greater than Design Flow stage within 6-12 hours.
Red	<p>Warning— The EOC will typically have been activated and would be closely monitoring the situation, providing notifications and responding according to a written AP. Often for smaller watersheds with flashy creeks, an EOC may not be opened until the storm event is occurring.</p> <ul style="list-style-type: none"> • Flood stage or greater than Design Flow stage is occurring or is estimated to occur within 24 hours, or • Measured stream depths are 100% or greater than flood stage, or • Measured stream depths are greater than Design Flow stage, or • For areas that are controlled purely by storm drain runoff (flashy systems), the stream depth is estimated to reach flood or greater than Design Flow stage within minutes/hours or is occurring.

Berryessa Creek Flood Severity Levels

Action (Yellow)	<p>An established gauge height which when reached by a rising stream, lake, or reservoir represents the level where action is taken in preparation for possible significant hydrologic activity.</p> <ul style="list-style-type: none"> Berryessa Creek <ul style="list-style-type: none"> Old Piedmont Road gauge is at or near 11 feet. <ul style="list-style-type: none"> Water at Cropley Avenue culver soffit likely due to heavy sedimentation.
Minor Flooding (Orange)	<p>Minimal or no property damage, but possibly some public threat (e.g., inundation of roads).</p> <ul style="list-style-type: none"> Berryessa Creek <ul style="list-style-type: none"> Old Piedmont Road gauge is at or near 12 feet. <ul style="list-style-type: none"> Creek may overbank upstream of Cropley Avenue flowing down Cropley Avenue toward the west. Possible overbanking at and around Berryessa Creek Park near Messina Drive, Majestic Way Elementary School, and homes on Creekside Drive. Calaveras Boulevard gauge is at or near 13 feet. <ul style="list-style-type: none"> Possible overtopping from Highway 237 to Ames Avenue.
Moderate Flooding (Red)	<p>Some inundation of structures and roads near stream, evacuations of people and/or transfer of property to higher elevations.</p> <ul style="list-style-type: none"> Berryessa Creek and Tributaries <ul style="list-style-type: none"> Old Piedmont Road gauge is near or greater than 13.0 feet. <ul style="list-style-type: none"> Extremely high runoff from the hills suggest widespread flooding on tributaries such as Wrigley Ford Creek and Sierra Creek. Street flooding likely, with overland flow ponding towards I-680 and Cropley Avenue.
<p>Disclaimer: This table is current as of the publishing of this document. The most current flood severity thresholds are at https://alert.valleywater.org/map?p=map.</p>	

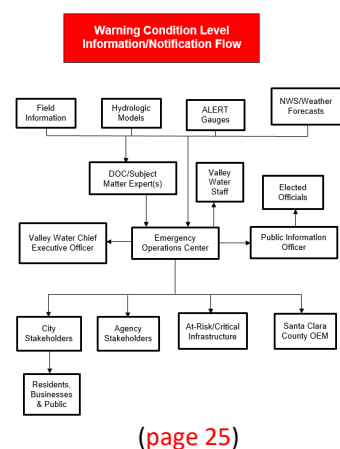
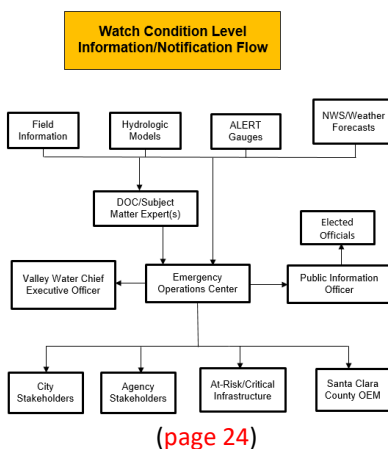
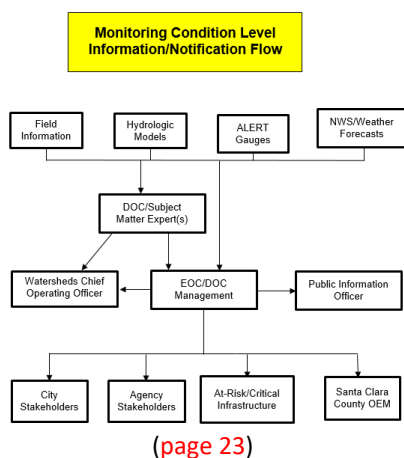
Berryessa Creek On-Site Monitoring Thresholds

ID#	MONITORING LOCATION	FLOODING DESCRIPTION	FLOOD THREAT STAGE AT MONITORING LOCATION			PHOTO
			50% Capacity	70% Capacity	100% Capacity	
1	Upstream Cropley Avenue	Heavy sediment loads during storms will deposit under the culvert, reducing its capacity and possibly leading to overtopping on the upstream end of the bridge. Capacity estimates vary due to sediment deposition.	n/a	n/a	9	

ID#	MONITORING LOCATION	FLOODING DESCRIPTION	FLOOD THREAT STAGE AT MONITORING LOCATION			PHOTO
			50% Capacity	70% Capacity	100% Capacity	
2	Berryessa Park downstream Messina Drive Pedestrian Bridge	Homes along the north bank of Berryessa Creek just downstream the Park will see spilling. Berryessa Creek Park may also spill.	3.5	4.5	5.5	
Disclaimer: The flooding thresholds in this table are current as of the publishing of this document. They are based on hydraulic modeling results calibrated with data collected during historical flood events. Hydraulic modeling results may be preliminary and should be used for general analysis purposes. Information is accurate within the model limitations and assumptions/data used for model development. The most current flooding thresholds check are at https://alert.valleywater.org/map?p=sensor&sid=5100.1&disc=f . Use care while interpreting results.						

Step 3 - Notification & Communication (Pages 21-23)

Notification: After the condition levels and severity have been determined, appropriately communicating the situation to responsible agencies, staff, and other identified individuals and groups is critical. Depending on the condition level, responsibilities for notifications and who is notified would vary. The charts shown below show the flow of information for the three flood threat condition levels and the contact list is Attachment 9 (Pages 49-50).



Step 4 - Actions & Responsibilities (Pages 12-16)

As the weather conditions change, the responsibilities of the CSJ, Milpitas, District and other Stakeholders adjust. The list of responsibilities provided in Table 3 illustrate in general terms what actions are needed at each threat level, and who has lead responsibility. Specific responsibilities for personnel are included in Attachments 3-8 (Pages 29-47).

C. PROGRESSION

There are general responsibilities for each flood condition level that are recommended. Responsibilities and activities listed in Table 3 demonstrate how the Valley Water and other Stakeholders' functions grow from the Incident Preparedness to Monitoring, Watch, and Warning. The threat level change in threat participants, number of participants, and staffing needs is not specific, because not all potential or actual incidents are the same and availability of resources can vary.

The list of progressive responsibilities and activities listed in Table 3 are not intended to be all-inclusive or to current resources without knowledge of the conditions that may occur, nor are they intended to be a prescriptive list of what to do before and during storm and flood monitoring and response. The actual conditions decide the response needs and availability of staff and resources as each situation can be different and updates in storm management and control systems could vary the conditions.

TABLE 3
Progressive Responsibilities

Responsibility/Activity	Stakeholder/Personnel/Unit
Train & Exercise EOP/ERP and document any outcomes in an After-Action Report (AAR)	Emergency Services & Security (PMS)
Meet with Stakeholders as appropriate to discuss property management needs and plans	Operations & Maintenance (OM)
Conduct field inspections of creeks and facilities	Operations & Maintenance Engineering Services (OMES) (PFOU), Vegetation Field Operations Unit (VFOU), Watersheds Design & Construction Unit
Inventory and Procure Flood Fighting Materials and Equipment (Attachments 11 & 12)	OMES & VFOU
Identify locations for flood fighting resources for the public (e.g., sandbag locations shown in Attachment 7)	Community Projects Review Unit and Office of Civic Engagement
Request Civil Defense with FEMA Floodplain Managers who maintain the National Flood Insurance Program Community Rating System certification	Hydrology, Hydroelectric & Geomorphology (HMG)
Provide technical floodplain mapping expertise and provide a copy of flood maps on a Valley Water Internet drive that can be accessed by appropriate personnel as necessary	City Stakeholder, Community Projects Review Unit and Office of Civic Engagement
Coordinate, as members of the National Flood Insurance Program, on updates or modifications to FEMA Floodmaps	HMG, City Stakeholder
Maintain equipment, pumps, inventory, communications equipment, etc.	HMG, City Stakeholder
Develop and maintain computer records of networks and utilities	HMG
Prepare Field Information Teams (FITs) and maintain Field Spot Information	CAMP/EMAG

Responsibility/Activity	Stakeholder/Personnel/Unit
Conduct enter preparedness workshop	CSJ
Annual review and update of EAP	OM, CSJ, HMG
Manage flood information websites (Attachment 13)	Office of Communications (OC), HMG, NWS, National Weather Service (NWS), Federal Weather Emergency Management Agency (FEMA)
Publish Press releases Public Outreach (e.g., Winter Preparedness) in multiple languages	OC
Provide public education in multiple languages	OC
Activate the EAP for Monitoring	Emergency Operations Center (EOC) or Emergency Operations Center (EOC) Management
Notify staff about the increased condition level	EOC or EOC Management, Public Information Officer (PIO)
Communicate with other agencies to discuss activation level	EOC or EOC Management
Deploy and coordinate Field Information Teams (FITs)	OMES and/or HMG, CAMP/EMAG
Respond to and mitigate, enter events as needed, examples of remedial actions are listed in Attachment 2, coordinate with each responding agency	EOC or EOC Management, VFOU
Inspect and clean Trash Trucks and Bridge Fax Noses	VFOU
Maintain inventory of sandbags at locations shown in Attachment 7	VFOU
Respond to equipment needs of facilities likely to be affected if applicable, coordinate with each responding agency	VFOU
Manage and update flood information websites (Attachment 13)	OC, HMG, NWS, FEMA
Provide public education in multiple languages	OC and City Stakeholders
Provide information to social media	EOC Management/PIO, HMG
Monitor Stream Gauges	HMG
Update computer modeling based on forecast and watershed conditions and post flood maps on a shared drive to internal Valley Water User. If possible and deemed necessary, provide forecast flood maps to Agency Stakeholders	EOC or EOC Management
Notify appropriate staff about the increased condition level	EOC or EOC Management
Determine next level of activation	Management
Coordinate with Agency Stakeholders to determine response coordination needs and resources needs	Planning/Intelligence or Operations
Communicate risk to elected officials	EOC Management/PIO

Responsibility/Activity	Stakeholder/Personnel/Unit
Coordinate with EOC Director on conditions for potential evacuation and shelter support	City Stakeholder and County
Respond to, and mitigate, enter events as needed, examples of remedial actions are listed in Attachment 2, coordinate with each responding agency	EOC
Respond to equipment needs at facilities likely to be affected if applicable, coordinate with each responding Agency Stakeholder	VFOU
Deploy and coordinate Field Information Teams (FITs)	CAMP/EMAG
Monitor Stream Gauges	HMG
Update computer modeling based on forecast and watershed conditions and post flood maps on a shared drive to internal Valley Water User. If possible and deemed necessary, provide forecast flood maps to Agency Stakeholders	EOC or EOC Management
Notify appropriate staff about the increased condition level	EOC or EOC Management
Determine next level of activation	Management
Coordinate with Agency Stakeholders to determine response coordination needs and resources needs	Planning/Intelligence or Operations
Communicate risk to elected officials	EOC Management/PIO

Responsibility/Activity	Stakeholder/Personnel/Unit
Coordinate with EOC Director on conditions for potential evacuation and shelter support	City EOC and/or County EOC is lead
Provide information on impact and available resources to and from respective EOC's	EOC Management
Coordinate resources through respective EOC's	EOC Management or Logistics
Respond to and mitigate events as needed, examples of remedial actions are listed in Attachment 2, coordinate with each responding agency	EOC Operations and VFOU
Respond to equipment needs of facilities likely to be affected if applicable	VFOU
Deploy and coordinate Field Information Teams (FITs)	CAMP/EMAG
Monitor Stream Gauges	HMG
Update computer modeling based on forecast and watershed conditions and, if possible and deemed necessary, provide forecast flood maps	EOC Operations and VFOU
Notify appropriate staff about the increased condition level	EOC or EOC Management
Determine next level of activation	Management
Coordinate with Agency Stakeholders to determine response coordination needs and resources needs	Planning/Intelligence and Operations
Communicate risk to elected officials	EOC Management/PIO

Step 5 - Valley Water Termination & Follow-up (Page 24)

After this EAP has been activated at a level of Monitor, Watch or Warning and then returned to Preparedness, EAP operations must be terminated and follow-up procedures completed.

a. Termination Responsibilities

In a Watch or Warning, the DOC or EOC Director, is responsible for terminating EAP operations and directing that this decision is relayed to each person notified during the original event.

DOC or EOC Management will ensure that all forms for Action Planning, Situational Reports, or others utilized during the event are collected and organized chronologically as determined appropriate. If electronic documentation was utilized, these could be saved on a storage device that could be retrievable or could be printed and saved as a hard copy in the file.

b. Follow-Up Responsibilities

The Operations & Maintenance Engineering Support Unit (if DOC is activated), or the Emergency Services & Security Unit (if EOC was activated), will prepare an After-Action Report (AAR) of the event and will track implementation of appropriate recommendations in the AAR.

The CSJ, Milpitas or other stakeholders will be responsible for damage assessment to homes and businesses and any permit requirements required to reoccupy structures and to promote flood mitigations measures during any reconstruction.

Maintenance of EAP (Page 6)

O&M will work with Office of Emergency Services Unit, Hydrology Hydraulics & Geomorphology Unit and other appropriate stakeholders to review and, if needed, update the EAP at least once each year. The EAP annual review should include the following:

- Verify that the phone numbers and persons in the specified positions are current and revise if any of the contacts have changed,
- Verify and, if necessary, update flood maps and flood thresholds,
- Verify the locally available resources and equipment are current, and/or
- Incorporate appropriate recommendations from any AAR prepared after training or activation of the EAP.

Attachments (Pages 25-67)

[ATTACHMENT 1](#) - Guidance for Evaluating High Flow Condition Level
[ATTACHMENT 2](#) - Emergency Remedial Actions
[ATTACHMENT 3](#) - Management Action List
[ATTACHMENT 4](#) - Planning/Intelligence Action List
[ATTACHMENT 5](#) - Operations Action List
[ATTACHMENT 6](#) - Field Information Team Action List
[ATTACHMENT 7](#) - Public Information Officer Action List
[ATTACHMENT 8](#) - Elected Officials Action List
[ATTACHMENT 9](#) - Emergency Services Contact List
[ATTACHMENT 10](#) - Valley Water Emergency Responders Contact List
[ATTACHMENT 11](#) - Available Resources
[ATTACHMENT 12](#) - Equipment List
[ATTACHMENT 13](#) - Web-Based Data Sources
[ATTACHMENT 14](#) - Field Information Team Hot Spots
[ATTACHMENT 15](#) - Guidance for Encampments of Unshelter Individuals