



CITY OF  
**PALO  
ALTO**



# Severe Storm & Flood Plan

(Annex C to the Emergency Operations Plan)

**21 December 2023**

**Contact:**

City of Palo Alto Office Emergency Services (OES)

[Cityofpaloalto.org/OES](https://www.cityofpaloalto.org/OES)

## Record of Changes

#	Date	Section / Page	Description	Individual Making Change
1	1/12/2023	5 / p23	Replaced template notifications for Flood Warning / Evacuation	Nathan Rainey, OES
2	11/29/2023	1 / p6	Moved Key Terms to this section.	Nathan Rainey, OES
3	11/29/2023	2 / p8	Added EOC Action Planning Objectives	Nathan Rainey, OES
4	11/29/2023	3 / pp 10-13	Reorganized section to include new Flood Levels; eliminated old jargon associated with creek levels and activation.	Nathan Rainey, OES
5	11/29/2023	3 /pp 13-14	Revised section with minor updates	Nathan Rainey, OES
6	11/29/2023	5 / p18	Moved notification information from section 3 to section 4 to align with Public Information and Warning.	Nathan Rainey, OES
7	11/29/2023	5 pp 22-31	Incorporated new Flood Level chart, and the message templates associated with each level.	Nathan Rainey, OES
8	11/29/2023	App 3 / p 29-30	Added Appendix 3	Nathan Rainey, OES
9	11/29/2023	App 4 / p 31	Added Appendix 4, moved information from section 3 to this appendix	Nathan Rainey, OES
10	12/19/2023	4/ p 16	Updated Planning & Development Services Tasks	Nathan Rainey, OES
11	12/21/2023	1/ p 4	Updated Introduction	Nathan Rainey, OES

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Figure 1: Photo: Dec. 2, 2012: Car Stuck in Flood under Oregon/Alma Underpass

## 1. Introduction

This Plan establishes mobilization procedures for maximum utilization of all resources during a winter storm or flood where disruption of transportation, utilities or other services or infrastructure is anticipated or occurs. This includes other "severe weather" situations. This Plan provides operational details (pre-plan) and guidance for EOC staff, Departments, and the general public. This Plan shall not constrain the freedom of the Incident Commander (IC) or others when dealing with some of the scenarios referenced herein.

Actions taking pursuant to this plan are subject to change based on actual conditions. This plan outlines anticipated actions based on prospective circumstances, and City professionals have the discretion to exercise their judgment during actual events.

### A. Maintenance of Plan:

This Plan is maintained by the Palo Alto Office of Emergency Services (OES). OES will review this Plan with the Public Works Department, the Utilities Department, the Community Services Department, Public Safety (Police, OES, Fire), and others, as needed.

This is a public plan. References to confidential or restricted information contained in other sources are tagged with "[CONFIDENTIAL DOCUMENT]".

### B. Purpose of Plan:

This Plan updates the City of Palo Alto Emergency Operations Plan (EOP) Annex C: Flooding/Dam Failure/Severe Winter Storm and supplements other protocols and related documents of the City and its departments (such as the PAPD Policy Manual). Terms of art ("disaster") and certain legal and procedural definitions are found in the Emergency Operations Plan (EOP) and not repeated in this Plan.

According to the State of California Office of Emergency Services (Cal OES): "Floods represent the second most destructive source of hazard, vulnerability, and risk, both in terms of recent state history and the probability of future destruction at greater magnitudes than previously recorded."<sup>1</sup>

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<sup>1</sup> California State Hazard Mitigation Plan, September 2018, available on: [https://www.caloes.ca.gov/wp-content/uploads/002-2018-SHMP\\_FINAL\\_ENTIRE-PLAN.pdf](https://www.caloes.ca.gov/wp-content/uploads/002-2018-SHMP_FINAL_ENTIRE-PLAN.pdf)

As described in the LHMP<sup>2</sup> and THIRA<sup>3</sup>, portions of Palo Alto reside in a FEMA designated Flood Zone. In addition, several creeks run through Palo Alto which are susceptible to flooding primarily during winter storm events. Palo Alto last had a significant flood in 1998 when the San Francisquito Creek overtopped its banks during a severe weather event, causing serious damage to the Eastern and Southern portions of the City and outside the City Limits. The San Francisquito Creek overtopped its banks again on 31 December 2023 that flooded streets in the Crescent Park and Duveneck neighborhoods which included water intrusion into a small number of homes.

### **C. Stakeholder Categories:**

1. City of Palo Alto Staff: Staff members as well as departments or work groups are responsible for knowing and updating/creating their own plans, including Department Emergency Plans (DEPs). See also "Public Works /Public Services Procedures and Guidelines for Responding to Storm Drainage System Emergencies" [CONFIDENTIAL DOCUMENT].

2. Other Agencies: A further goal of this Plan is to pre-plan for coordination with neighboring jurisdictions<sup>4</sup>, non-governmental organizations (Red Cross), community volunteers, the private sector, and others.

3. General Public: The public plays a central role in the preparedness for severe storms and floods. The public includes residents, businesses, non-governmental agencies, schools, faith-based organizations and the like. Flood prevention and preparedness information for the general public is posted on the City website: [www.cityofpaloalto.org/storms](http://www.cityofpaloalto.org/storms)

4. Individuals with Disabilities and those with Access and Functional Needs: Individuals in this category must also prepare themselves for the hazards posed by a severe storm or flood, especially if they are located within a FEMA designated flood zone. Areas of particular concern in addressing the needs of individuals with disabilities or access and functional needs include:

- Accessible communications: Written and oral emergency communications and other information provided are accessible to people with disabilities and to those who speak languages other than English.

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<sup>2</sup> <https://emergencymanagement.sccgov.org/partners>

<sup>3</sup> [www.cityofpaloalto.org/thira](http://www.cityofpaloalto.org/thira)

<sup>4</sup> The Santa Clara Valley Water District is the flood control agency for Santa Clara County.

- **Backup power for assistive devices:** People who depend on electric- or battery-powered medical devices or other technology for life support and independence should have sufficient access to backup power.
- **Evacuation and transportation:** Evacuation and transportation plans should integrate accessible transportation providers during the planning process and when moving people with mobility impairments and those with transportation disadvantages. Transportation planning considerations should include staging, embarkation points, transportation centers, evacuee location, and care and shelter.
- **Care and Shelter:** Evacuation sites, shelters, community resource centers, warming sites, and other facilities established during the event are accessible to people with disabilities and access and functional needs.

The Emergency Services Volunteers (ESV) Program<sup>5</sup> provides an opportunity for community members to become involved as supplemental resources including during floods and storms.

#### **D. Key Terms:**

- **Evacuation Warning.** The alerting of people in an affected area(s) of potential threat to life and property. An evacuation warning considers the probability that an area will be affected within a given timeframe and prepares people for a potential evacuation order.
- **Evacuation Order.** Requires the immediate movement of people out of an affected area due to an imminent threat to life.
- **Temporary Evacuation Point (Community Resource Center).** Temporary facility for displaced people for less than 24 hours. Provides a location out of the flood zone for people to safely park, get emergency information, and make a plan.
- **Emergency Congregant Shelter.** Overnight shelter for displaced people and animals. Food and overnight lodging is available. Used when housing is needed for more than 24 hours.

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<sup>5</sup> [www.cityofpal Alto.org/emergencyvolunteers](http://www.cityofpal Alto.org/emergencyvolunteers)

## E. Adoption:

This Plan is adopted by the Director of Emergency Services in accordance with the City of Palo Alto Municipal Code 2.12.050 as of the date on the cover page.

## F. References.

City of Palo Alto Municipal Code.

<https://codelibrary.amlegal.com/codes/paloalto/latest/overview>

City of Palo Alto Emergency Operations Plan

[https://www.cityofpaloalto.org/files/assets/public/oes/plans/city\\_of\\_palo\\_alto\\_eop.pdf](https://www.cityofpaloalto.org/files/assets/public/oes/plans/city_of_palo_alto_eop.pdf)

Santa Clara County Local Hazard Mitigation Plan, Palo Alto Annex.

[https://www.cityofpaloalto.org/files/assets/public/oes/lhmap/paloalto\\_separ\\_ateannex\\_march2017.pdf](https://www.cityofpaloalto.org/files/assets/public/oes/lhmap/paloalto_separ_ateannex_march2017.pdf)

City of Palo Alto Threats and Hazards Identification and Risk Assessment Report. <http://www.cityofpaloalto.org/thira>

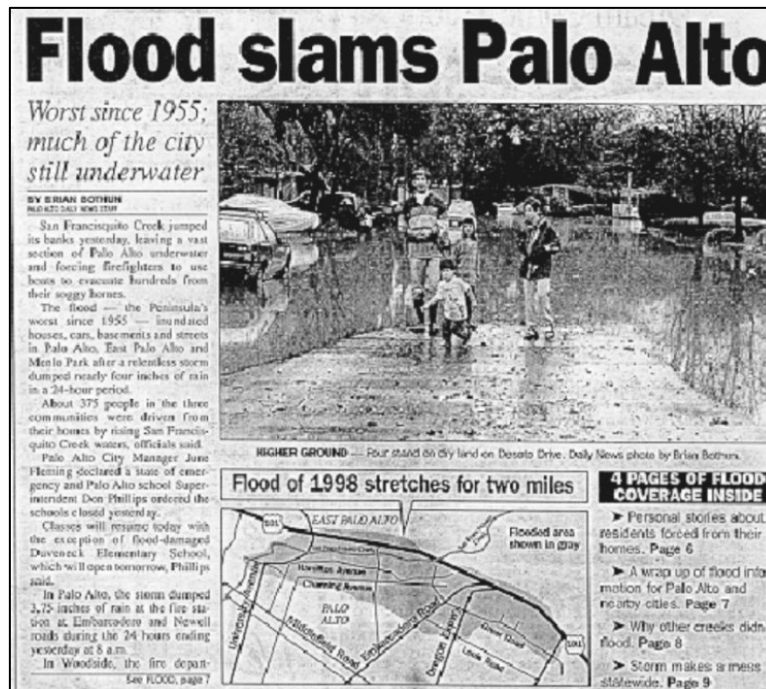


Figure 2: Palo Alto Daily News. February 4<sup>th</sup>, 1998

## 2. Objectives.

The standing objectives are, consistent with the Emergency Operations Plan:

- To minimize injury and loss of life
- Minimize property damage and adverse economic impact
- Minimize adverse environmental impact.
- Provide for the immediate needs of disaster victims

As part of the action planning process, initial Emergency Operations Center objectives that apply to this scenario are:

<b>Initial Objectives</b>
Provide public information and Warnings to inform and advise of current situations and recommended actions throughout the Op Period.
Implement Traffic Control Operations.
Monitor creek flowrates and capacities until creek flows subside.
Respond to emergency and service-related calls for assistance from the public.
Support community based needs during the incident.
Initiate recovery operations - public, individual, businesses, community-based organizations.

## 3. Concept of Operations.

The operational phase of the City will be based on the general conditions present at any given time. The conditions that will impact operational phases are a direct result of past, current, and future weather and their expected impacts on the city.

### A. Prevention & Preparation Phase:

This is the stage of readiness that is typical for most of the year as city resources perform tasks to mitigate known problems while they take actions



to prepare for the upcoming storm season. It is also the phase when the public should prepare themselves for the storm season.

1. Generally, the public (and staff for City facilities, as applicable) should:

- Keep storm drains and gutters free of leaves and debris. Assist your neighbors, especially those who are physically limited, etc.
- Do not dump in storm drains and keep creeks clean. It is illegal to dump things into a creek or storm drain. Drains in your street flow directly to local creeks. Creeks are a valuable natural resource and habitat for local endangered species.
- Prepare for the possibility of extended power outages (batteries, flashlights, etc.)
- Obtain and stage sandbags, if needed, well before the storm
  - Renters, homeowners and business owners can purchase flood insurance from the National Flood Insurance Program. (Normal homeowners insurance coverage does not cover flooding.) It can take 30 to 60 days for new policies to take effect. Call 800-427-4661.
  - Inspect and update personal emergency supplies and family emergency plan.
- The City has three sandbag stations in Palo Alto:
  - Airport: 1925 Embarcadero Rd.: supported by the Santa Clara Valley Water District (SCWVD). This location has filled sandbags the SCWVD delivers on/about 1 November each year. The general public may contact Santa Clara Valley Water District at 408-265-2600 with questions or for information.
  - Mitchell Park: 600 E. Meadow, behind the Little League baseball field. This is a “Do it yourself station”, no shovels are provided. The public may contact the City of Palo Alto Public Works Department at 650-496-6974.
  - Rinconada Park. This is a “Do it yourself station”, no shovels are provided. Tennis Court Parking Lot at the corner of Hopkins Avenue at Newell Road. The public may contact the City of Palo Alto Public Works Department at 650-496-6974.
- Other local sandbag sites in both Santa Clara County and San Mateo County:<https://www.valleywater.org/flooding-safety/flood-ready/sandbags>

- The Public Works Department may establish other, temporary sandbag locations depending on the local situation. However, once response operations begin, sandbag stations will be a secondary priority.

2. City Departments have responsibilities to prepare each year for winter storm season. All departments should update key contact rosters, acquire supplies and materials that may be needed during an incident, conduct training and exercises, and conduct public education. Certain departments also promote flood loss mitigation and preparedness measures through public outreach mediums.

## **B. Response Phase.**

The response phase includes levels of

### **1. Monitoring Level.**

This level begins when the weather forecast predicts with high certainty that a major storm event with high rain levels will occur. This condition is variable and requires more intense monitoring and a heightened level of awareness. Actions that may occur at this level:

- OES will receive NWS forecasts and notify relevant staff of likely impacts from this forecast.
- City staff will communicate with other agencies to coordinate preparatory activities.
- Field based department will provide staffing to respond to, and mitigate, minor events as needed.
- Public Works will maintain inventory of sandbags at city managed sandbag sites.
- City Manager's Office will manage and update flood information websites and provide public information to the community.
- Public Works staff will monitor stream gauges and confirm city owned telemetry is functional properly.

### **2. Flood Watch Level.**

This level begins when there is an increased risk of flooding in the weather forecast. This can be characterized at a flow rate of 2000 cubic feet per second as measured at the USGS Stanford gauge. Actions that may occur at this level:

- OES will receive NWS forecasts and notify relevant staff of likely impacts from this forecast.
- Field based department will provide staffing to respond to, and mitigate, minor events as needed.
- City Manager's Office will manage and update flood information websites and provide public information to the community.
- Public Works staff will monitor stream gauges and confirm city owned telemetry is functioning properly.
- Departmental field crews will respond to calls for service per department guidelines.
- City staff will communicate with other agencies to coordinate information sharing, resource management, and unity of effort.
- The Director of Emergency Services may activate the emergency operations structure to coordinate resources to support the Incident Command or Unified Command and the overall emergency response within the jurisdictional boundaries.

### **3. Flood Warning Level.**

This level is triggered when there is a measured flow rate of 4900 cubic feet per second as measured at the USGS Stanford gauge. Flooding is likely to occur soon. Actions that may occur at this level:

- The City will issue an emergency alert notification for a flood warning.
- Field crews will monitor the creek on site and prepare for water to overtop the banks of the San Francisquito Creek.
- City Manager's Office will manage and update flood information websites and provide public information to the community.
- Public Works staff will monitor stream gauges and confirm city owned telemetry is functioning properly.
- Departmental field crews will respond to calls for service per department guidelines, as long as it is safe to do so.
- City staff will communicate with other agencies to coordinate information sharing, resource management, and unity of effort.
- If not done so already, the Director of Emergency Services may activate the emergency operations structure or increase the activation level to coordinate resources to support the Incident Command or

Unified Command and the overall emergency response within the jurisdictional boundaries.

- The City may establish a community resource center / temporary evacuation point for residents who voluntarily evacuate their properties.
- Recovery resources will start to prepare for post-flood operations (debris management, damage assessment inspections, shelter operations)

#### **4. Flood Evacuation Level.**

This level is triggered when there is a measured flow rate of 5400 cubic feet per second as measured at the USGS Stanford gauge. Flooding is imminent or already occurring. Actions that may occur at this level:

- The City will issue an emergency alert notification for a voluntary evacuation which will include blocks of homes impacted.
- City Manager's Office will manage and update flood information websites and provide public information to the community.
- Public Works staff will track the locations and amounts of flooding for future hydrologic study.
- Departmental field crews will respond to calls for service per department guidelines, as long as it is safe to do so.
- City staff will communicate with other agencies to coordinate information sharing, resource management, and unity of effort.
- If not done so already, the Director of Emergency Services may activate the emergency operations structure or increase the activation level to coordinate resources to support the Incident Command or Unified Command and the overall emergency response within the jurisdictional boundaries.
- The City may establish a community resource center / temporary evacuation point for residents who voluntarily evacuate their properties.
- Recovery resources may start to prepare for post-flood operations (debris management, damage assessment inspections, shelter operations)

#### **C. Evacuation.**

1. Traffic Management. In general, the low-lying areas of Palo Alto are known to collect runoff from storms which includes the Bayshore Corridor (East and West Bayshore Roads and Highway 101).

- Depending on the local road conditions, evacuation routes will be established to divert traffic away from the Bayshore Corridor, Westward, toward higher ground.
- Embarcadero Road, Oregon Expressway, and San Antonio Road will be the primary East to West egress routes.
- These routes connect with Central Expressway, Foothills Expressway, or I-280 to move traffic North and South along the Peninsula.
- If Embarcadero and Oregon underpasses are flooded, other smaller East to West surface streets must be used instead, such as Charleston Road, Meadow Road, and Churchill Road.
- Coordination with other jurisdictions and agencies must occur to avoid traffic management issues.

2. Parking POVs out of the Flood Zone. As flooding becomes more probable, residents who want to move privately owned vehicles out of the flood area may do so in Downtown parking lots and garages. The City will omit parking enforcement temporarily during this timeframe.

#### **D. Snow, Freeze Hazards.**

1. Snow & Debris: The City's Public Works Department has limited equipment resources to deal with snow, mudslides, etc. and will coordinate with County of Santa Clara, as needed. When snow conditions are predicted, the Police Department and CSD Rangers may be asked to spot check certain areas and close roads, as needed.

2. Shelters/Homeless: The Red Cross and the Santa Clara Public Health Department have partnered with the InnVision Shelter Network and EHC Lifemoves to survey homeless populations and support "warming centers" for those who will use them. In Palo Alto, the Downtown Streets Team also assists.

#### **E. Recovery Phase.**

The Director of Emergency Services will determine if the Recovery Branch should be activated based on the impacts to the community.

- Gather damage assessment information (public infrastructure, residential housing, commercial properties) from damage assessment forms/reports

in accordance with the Damage Assessment Plan. Coordinate this with Santa Clara County OEM.

- Coordinate shelter operations with city staff, Santa Clara County and the Red Cross; identify number of sheltered persons and support necessary for continued operation.
- Obtain information from City of Palo Alto Utilities regarding outages, length of repair, safety, etc.
- Assess citizen / community needs for individual assistance.
- Continue to provide public information that provides the public key messages.
- Provide direction to homeowners/businesses impacted by flooding:
  - When to return to home/work
  - Safety considerations upon their return
  - How to dispose of flood waste
  - Permitting requirements
  - Flood loss mitigation measures
  - Additional sources of assistance
- As appropriate gather additional information (work with Finance & Administration Section) to include:
  - Personnel that responded and the time involved in the response.
  - Time sheets or time logs.
  - Supplies used.
  - Contracts issued.
  - Purchase orders issued.
  - Any other expenditures.
  - Damages to public buildings, equipment, utilities, etc.
  - Serious injury or loss of life of any public servant.
  - Documents regarding economic impact.

#### **4. Organization and Responsibilities.**

In accordance with the City of Palo Alto Emergency Operations Plan, the Director of Emergency Services, or his/her designee is ultimately responsible for the emergency management functions covered in this plan. Each City department and group may have certain roles, in addition to what is listed in the EOP. Staff who are Disaster Service Workers may be tasked with assisting (beyond their nominal job descriptions).

In a formal EOC Activation, the following organizational structure could be established. Based on the incident and in accordance with the Incident Command System, only those elements that are needed will be formally activated.

**Responsibilities.** General responsibilities of City departments are provided here. More detailed departmental functions, responsibilities, and tasks can be found in appropriate EOP Annexes (Damage Assessment Annex), Departmental Emergency Plans (Public Works and Utilities), Policies (ASD, Police Department, etc.) and Special Orders (Fire Department). Departments should also take appropriate actions to protect their facilities (Libraries, for example, to move items from basements prone to flooding, etc.)

1. Public Works: Conducts preparedness activities and tasks prior to each storm season, outlined in Public Works related policies and plans. Maintains critical infrastructure and responds to issues relating to ponding/flooding, storm drains, debris, traffic signals, and impacts to public facilities. Also maintains roads within capabilities during times of cold weather / freezing rain incidents.

- Clear storm drains and creeks of blockages.
- Clear and remove debris from emergency / evacuation routes as a priority and other roads within capabilities.
- Assist in repairs to Baylands levee.
- Maintain sandbag stations as a secondary priority.
- For freeze conditions in Foothills region, spread sand to prevent frosting or icing of roads.

2. Utilities: Maintains utilities critical infrastructure and services. Supports Public Works efforts within capabilities.

3. Administrative Services Department: Coordinates hotel lodging for individuals displaced by residential flooding following ASD Policies..

4. Community Services: Provides for mass care and human services as required by the situation:

- Provides community resource center for populations affected for up to 24 hours.
- Coordinates with Red Cross to provide emergency congregate shelter for populations greater than 20 individuals affected longer than 24 hours.
- Coordinates for warming shelters when necessary.
- Works in conjunction with American Red Cross and other non-profit agencies as necessary for additional support and assistance.

5. Community Services: Open Space Rangers:

- Conduct surveillance, monitoring, and patrol of Foothills Open Space Preserve Boronda Lake Dam and tributaries flow rates as a predictive measure for downstream impacts. Report conditions.
- Conduct patrol of Baylands Park levees for signs of seepage such as boils or piping. Report conditions.

6. Fire Department:

- Pump critical infrastructure and flooded properties within capabilities.
- Provide mobile public address warnings as directed.
- Coordinate the transportation of medical baseline customers.

7. Police Department:

- Coordinate traffic safety, road closures, and other public safety activities.
- Provide mobile public address warnings as directed.
- Support evacuation operations as feasible.

8. Planning and Development Services:

- Conducts damage assessments of damaged residential, commercial, or public properties when safe to do so.
- Establishes processes for emergency permitting of damaged properties as required by the situation.

9. Information Technology:

- Maintain critical infrastructure and services.
- Provides technical assistance for IT related systems: GIS, Website, Internet access, local network servers, etc.



## 5. Emergency Public Information & Warning

In any emergency, it can take some time for City staff to 1) ascertain what has happened, 2) what is likely to happen, 3) what areas and/or systems are affected, 4) whom should be notified, 5) the format and method of communication with the public and stakeholders such as neighboring agencies.

*It is very important for the public to NOT call 9-1-1, unless there is an imminent threat to life or property.* The Palo Alto Police Department administers the Public Safety Answering Point (PSAP) (a.k.a. 9-1-1 Communications Center) for the City of Palo Alto and for Stanford University, covering police, fire, ambulance, public works, utilities, animal services, and other such functions. While it may be tempting to call 9-1-1 during a storm to seek information, doing so can put public safety at risk, since the same people who answer the phones are the ones talking to police and fire first responders on the radio.

There are, generally, four categories of notification:

- Key City Staff (internal)
- Partner Organizations
- General Public

A. To facilitate early and efficient communication, especially during the initial phases of an event, and especially if the EOC may be activated, staff will consider notifications to the following (contact info is listed in the EOC Roster) [CONFIDENTIAL DOCUMENT]:

- City of Palo Alto EOC Roster (Key Staff) [CONFIDENTIAL DOCUMENT]: Follow notification protocols. *Note: The City Manager's Office (CMO) is responsible for notification of and communications with City Council Members.*
- Santa Clara County: 1) County Communications and 2) Santa Clara Co. OEM Duty Officer [County "Operational Area" (Op Area)]. Provide them with status updates, as appropriate.
- Emergency Services Volunteers (ESVs): Per OES protocols.
- Stanford University: The University, Hospitals & Clinics, SLAC, and other Stanford-affiliated entities.
- Palo Alto Unified School District (PAUSD): Coordination is required for public messaging (PIO), closures, etc.

- Neighboring Jurisdictions: San Mateo County Sheriff & DEM (OES), City of East Palo Alto, City of Menlo Park, Menlo Park Fire Protection District, Town of Atherton, City of Mountain View, Town of Los Altos, Moffett Field, Sunnyvale, and others.
- San Francisquito Creek Joint Powers Authority: The SFC JPA is an existing mechanism to coordinate plans among jurisdictions.
- Santa Clara Valley Water District: Local creeks (San Francisquito, Matadero, Barron, and Adobe) are managed by this district for flood control purposes. PW staff have liaisons with SCVWD.
- Residents, Businesses, and Community Partners: The Director of Emergency Services with consultation from the PIO shall also consider activation of Emergency Public Information systems such as AlertSCC and KZSU. The general public is strongly encouraged to sign up for the various mass-notification systems such as [www.AlertSCC.com](http://www.AlertSCC.com) and [www.cityofpaloalto.org/PAPDConnect](http://www.cityofpaloalto.org/PAPDConnect) (social media).
- San Francisquito Creek Multi-Agency Coordination (SFC MAC) Group. This group of local agencies was established in 2017 to establish priorities during a severe storm/flood incident of the San Francisquito Creek, provide coordinated decision making for resource allocation among cooperating agencies, harmonize agency policies, and offer strategic guidance and direction to support incident management activities.<sup>6</sup>

B. Public notification and awareness is extremely important during an emergency. In the case of a potential flood, the public must be kept informed of:

- Water levels and their implications for a flood event
- Levee conditions
- Short- and long-term weather forecasts
- Any other flood related threat that might exist

In Palo Alto and surrounding areas, there are several platforms available to inform the public. Each platform has its unique strengths and weaknesses that the PIO and management team must consider.

1. AlertSCC. AlertSCC is the reverse 9-1-1 public warning platform available throughout Santa Clara County. Palo Alto OES and PAPD Technical Services

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<sup>6</sup> The SFC MAC Operational Plan for Severe Storm and Flood Response can be found online at: <http://cityofpaloalto.org/civicax/filebank/documents/61626>

(Communications/Dispatch) personnel are capable of providing internal staff or external public messages, notifications and warnings to all active landline phones in a geographic area as well as voice, email and SMS messages to subscribed users. AlertSCC employs Wireless Emergency Alert (WEA) technology to geographically target messages to the specific areas where evacuation is required. PIOs and Communications/Dispatch may need to coordinate with other jurisdictions as much as practicable. For example, if school is in session, PIOs should work with the PAUSD PIO, etc.

- AlertSCC template messages exist for Flood Warning, and Flood Evacuation situations.
- AlertSCC messages will be confirmed by the PIO staff when the appropriate situation arises. The PIO will coordinate the approval of AlertSCC message release with the Director of Emergency Services.
- A designated AlertSCC user will send the approved message.

2. Social Media and City Website. The PIO team will provide messaging using available social media systems (<https://cityofpaloalto.org/connect>); this platform has the largest subscribed following of available warning platforms and will reach a large percentage of our population. The PIO team will create a 'News Event' or similar thread on the City Website to provide another outlet for storm related information. These platforms will provide preparedness reminders, current status of storm related impacts, and will mirror AlertSCC messaging.

3. Stanford Radio Station Broadcasts: KZSU 90.1 FM. KZSU radio station personnel can monitor social media and news posts in making routine announcements for public information. Palo Alto OES maintains phone numbers for KZSU critical staff. PIO personnel can utilize a radio transmission auxiliary system located in the City of Palo Alto Council Chambers, 250 Hamilton Avenue to issue public warning information. OES personnel maintain a key to this room.

4. In some cases, Palo Alto Police, Fire, OES, and certain Public Works and Utilities vehicles have public address systems that can be used to provide mobile public warning to affected areas of the City. This form of notification is most likely to be used at night when residents will not be tuned in to radio, or TV; or likely to not be monitoring email or cellular/smart phones. Such notification may be triggered under the direction of the Director of Emergency Services or a Field Public Safety Supervisor when appropriate. Vehicle deployment and routes will be based on current conditions but are predictable based on flood mapping and previous flood incidents.

Public warning messaging will begin as soon as practicable, prior to a known storm event. During this time, preparedness information will be emphasized referencing existing materials and information on the Winter Storm & Flood website: [www.cityofpal Alto.org/storms](http://www.cityofpal Alto.org/storms)

- During the response stage, warning information will be emphasized providing status of creeks, reported storm related impacts, and public safety messages such as voluntary or mandatory evacuations.
- During the recovery stage, safety messaging will include when and how to return home, how to start recovering and planning for future mitigation.

5. The following chart will be used to describe flood levels and the communications messages during each flood level.

<b>Monitoring</b>	<p>Flood risk is low, staff are actively monitoring creek levels.</p> <p>This stage is communicated when the weather forecast predicts with high certainty that a major storm event with high rain levels will occur.</p>
<b>Flood Watch</b>	<p>Flood risk is low to moderate. Staff are actively watching creek levels. Prepare your home and property now for possible flooding.</p>
<b>Flood Warning</b>	<p>Flooding is very likely to occur soon. The City will share estimated time of flooding, if available. Prepare to evacuate.</p> <p>This stage is triggered when there is a measured flow rate of 4900 CFS. The City will issue an emergency alert notification and include blocks of homes impacted.</p>
<b>Evacuation</b>	<p>Flooding is imminent or already occurring. There is a risk to your safety. Evacuate now.</p> <p>This stage is triggered when there is a measured flow rate of 5400 CFS. The City will issue a second emergency alert, which will include blocks of homes impacted.</p>

These are sample messages that can be used for PIO messaging during flood and storm events. Whenever time permits, such messages should be cleared by the City Manager and/or the Director of Emergency Services.

**Flood Monitoring: METHOD OF DELIVERY**

The City of Palo Alto is actively monitoring weather conditions and areas for potential flooding, landslides, and other such issues that may arise. There is no need for any action at this point by the public, other than taking steps to be prepared and to stay informed.

Please refer to the City's Flood/Storm website:  
[www.cityofpaloalto.org/storms](http://www.cityofpaloalto.org/storms)

DO NOT CALL 9-1-1 unless you have an immediate threat to life or other situation you and your neighbors cannot handle.

**Flood Watch**: METHOD OF DELIVERY

Flood risk is low to moderate. Staff are actively watching creek levels. Prepare your home and property now for possible flooding.

Please refer to the City's Flood/Storm website:  
[www.cityofpaloalto.org/storms](http://www.cityofpaloalto.org/storms)

DO NOT CALL 9-1-1 unless you have an immediate threat to life or other situation you and your neighbors cannot handle.

**Flood Warning**: METHOD OF DELIVERY

a. SMS for first message (may occur, consider evacuating): Flooding may occur in Palo Alto near SFCreek. Prepare to evacuate, stay informed. See [www.cityofpaloalto.org/FloodAlert](http://www.cityofpaloalto.org/FloodAlert)

b. E-mail and Voice message for First message (may occur, consider evacuating):

This is an emergency notification from the City of Palo Alto for the current flood warning on the San Francisquito Creek. Consider evacuating your home now, in advance of potential flooding, if you live on the following blocks of streets:

**PLACEHOLDER 200, 300, and 400 blocks of Forest Avenue**

If you choose to evacuate now, please leave the area and move to higher ground.

**The City has established a Community Resource Center at the Rinconada Library at 1213 Newell Road where you are welcome to meet if you would like.**

Avoid driving on flooded roadways. Stay away from creeks. Do NOT call 9-1-1 unless you have an immediate threat to life or other situation that you and your neighbors cannot handle.

If conditions worsen, you will receive a second message with an advisory evacuation notice giving you up to 30 to 45 minutes advance notice of anticipated flooding.

This concludes this message from the City of Palo Alto. To repeat this message, press 2 or call the City's Emergency Public Information Recorded line at (650) 329-2420.

**Flood Evacuation:** METHOD OF DELIVERY

a. SMS for second message (is expected, recommendation of evacuation): Flooding is imminent or now occurring in some areas of Palo Alto. Get locations now: [www.cityofpaloalto.org/FloodAlert](http://www.cityofpaloalto.org/FloodAlert)

b. E-mail and Voice message for Second message (is expected, recommendation of evacuation):

This is an emergency notification from the City of Palo Alto for the current flood warning on the San Francisquito Creek. Flooding is imminent or already occurring. We recommend immediately evacuating your home now, by leaving the area and moving to higher ground, if you live on the following blocks of streets:

**PLACEHOLDER 200, 300, and 400 blocks of Forest Avenue**

**The City has established a Community Resource Center at the Rinconada Library at 1313 Newell Road where you are welcome to meet.**

Avoid driving on flooded roadways. Stay away from creeks. Do NOT call 9-1-1 unless you have an immediate threat to life or other situation that you and your neighbors cannot handle.

Again, if your home is in the affected area, the City of Palo Alto recommends that you immediately evacuate your home by leaving the area and moving to higher ground. Flooding is imminent or already occurring.

This concludes this message from the City of Palo Alto. To repeat this message, press 2 or call the City's Emergency Public Information Recorded line at (650) 329-2420.

## **6. Planning & Intelligence**

The Planning Section, as staffing permits, shall monitor the various sources of information regarding weather conditions and flooding, such as:

- Creek Monitors & Cameras (telemetry)
- National Weather Service (radio alerts & [www.nws.noaa.gov/](http://www.nws.noaa.gov/))
- Broadcast News, Internet, Social Media, etc.

The Planning Section may also, if staff and resources permit, monitor:

- other government radio channels (possible in the MEOC)
- traffic (and other) cameras; sensors

The Planning Section is responsible for 1) assisting the Incident Commander by developing regular situation awareness briefings and 2) developing the EOC Action Plans for the current and subsequent Operational Periods.

### **Impacts and Essential Elements of Information.**

Management and General EOC Staff as well as the IC/UC will need to be cognizant (and updated) on existing and emerging events and threats that can result from severe weather or be caused, including:

- Flooding: known flood zones; flash floods
- Number of victims killed or injured (if any)
- General boundary of the affected area (flooding, road closures, landslides)
- General extent of damage (to houses, businesses, critical infrastructure)
- Transportation & Roads: blocked roads (trees down, wires down, water, debris)
- Traffic Control: signals out, flooded areas
- Mudslides/Landslides: especially in the Foothills
- Communications: loss of telephone, internet, and other systems
- Extent of power or other utility disruption, estimate of return of service



- Immediate resource and informational needs of Operations Section (Public Works, Utilities, Police, Fire, field units)
- Public Health: mold, disease, etc., particularly after a storm/flood; failure/impairment of wastewater treatment (sewage) or drinking water supply systems
- Evacuation (voluntary or "ordered") and locations and numbers affected.
- Evacuation Centers or Temporary Shelters: instructing community members on which routes to take and where to go for aid (Red Cross, etc.)
- Location of any shelters, medical treatment facilities or other community resources

# Appendix A: 100 Year Flood Map.

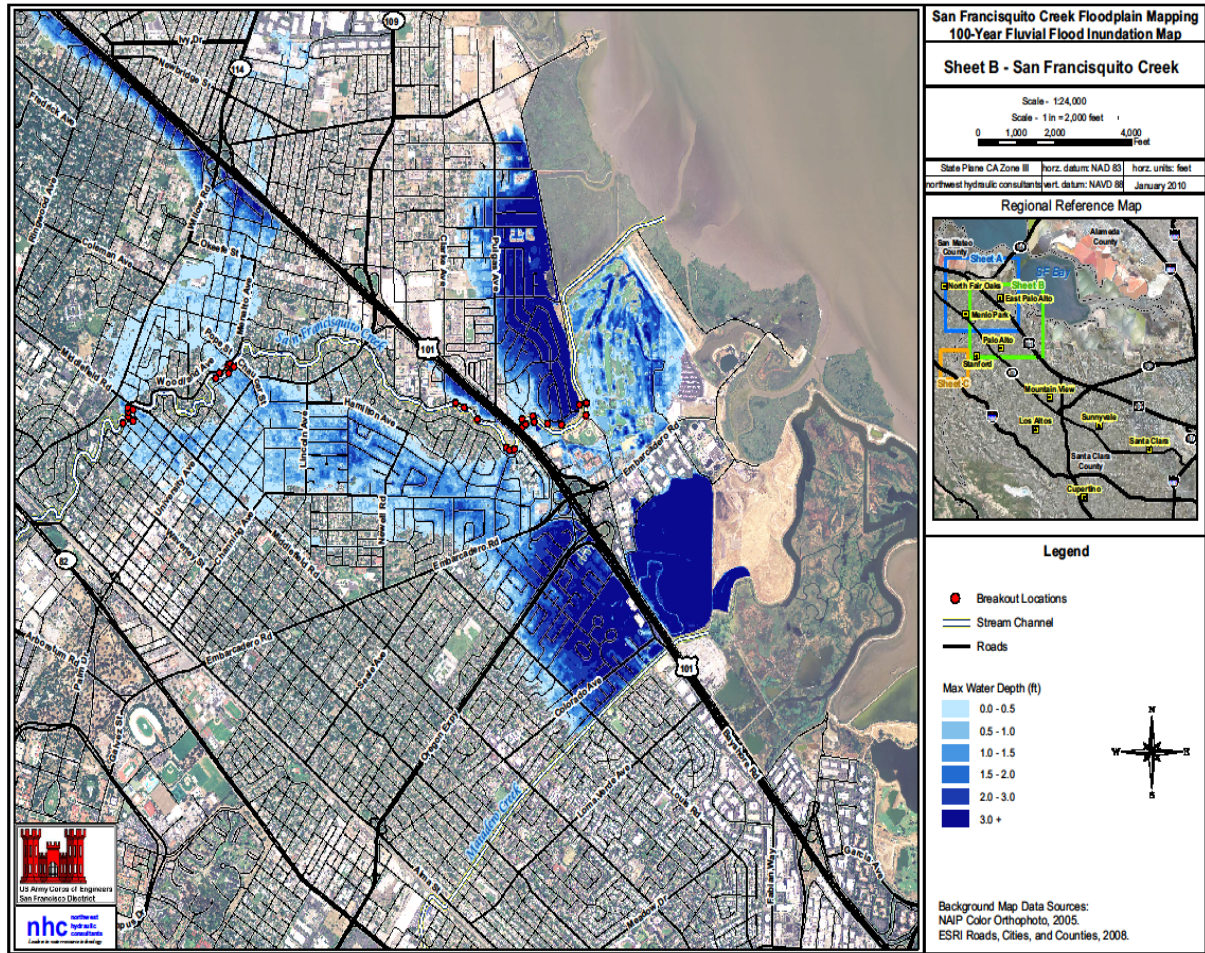


Figure 3: San Francisquito Creek 100 Year Flood Zone

## **Appendix B: Repetitive Flood Locations**

The following locations are known flood prone areas within the City of Palo Alto and should be monitored during any significant storm event.

1. There are 5 repetitive flood loss structures in Palo Alto, these locations are kept on file with the Public Works Department.
2. The Bayshore corridor, which includes East and West Bayshore Road & Highway 101 routinely floods. Anticipate closures or limitations on these roads. Additionally, the residential and commercial areas in the vicinity of these roads are also subject to flooding given the low elevation here.
3. Embarcadero / Oregon Underpasses are also subject to flooding which limit East / West movement through Palo Alto. Portions of Embarcadero Road between Alma street and Middlefield Road are also susceptible to flooding.

## Appendix C: Addresses with potential flood risks

### Potential Evacuation Blocks for San Francisquito Creek Flood Hazards

Street	From	To	Blocks
Chaucer St	Palo Alto Ave	Hamilton Ave	400-500
Hamilton Ave	Seneca St	Newell Rd	1000-1400
Dana Ave	Lincoln Ave	Alester Ave	1200-1600
Hale St	Palo Alto Ave	Forest Ave	600
Fife Ave	Boyce Ave	Lincoln Ave	1000-1100
Boyce Ave	Fife Ave	Channing Ave	800
Addison Ave	Fife Ave	Channing Ave	900
Lincoln Ave	Regent Pl	END at SF Creek	900-1100
Somerset Pl	Lincoln Ave	END	0
Martin Ave	Lincoln Ave	Center Dr	1200-1300
Tevis Pl	Center Dr	END	0
Kent Pl	Center Dr	END	0
Center Dr	University Ave	Channing Ave	600-800
Louisa Ct	Newell Rd	END	1500
Newell Pl	Newell Rd	END	800
DeSoto Dr	Channing Ave	END	700
Alester Ave	Dana Ave	Channing Ave	700
Hilbar Ln	Rhodes Dr	END	500
Greer Rd	Edgewood Dr	Channing Ave	500-600
Ivy Ln	Greer Rd	Wildwood Ln	1900
Walter Hays Dr	Stanley Way	Walnut Dr	100
Heather Ln	Channing Ave	Primrose Wy	100-200
Primrose Way	Iris Way	Iris Way	100
Iris Way	Heather Ln	Primrose Wy	100-300
St Francis Dr	Embarcadero Rd	Oregon Ave	2200-2300
Sierra Ct	Oregon Ave	END	2300
Carmel Dr	Oregon Ave	END	2300
Santa Catalina St	Oregon Ave	END	2300
Santa Ana St	Oregon Ave	N California Ave	2200-2300
Oregon Ave	Greer Rd	Sierra Ct	1000-1100
Chabot Terrace	W Bayshore Rd	END	2400
Indian Dr	Oregon Ex	Moreno Ave	2400-2500
Amarillo Ave	Greer Rd	Tanland Dr	1000
Metro Cir	Greer Rd	END	1000
Moffett Cir	Greer Rd	END	1000

Otterson Ct	Colorado Ave	END	2900
Colorado Ave	Otterson Ct	Simkins Ct	1000-1100
Byron St	Palo Alto Ave	Everett Ave	100-200
Newell Rd	Newell Pl	Dana Ave	700-800
Seneca St	Palo Alto Ave	Hamilton Ave	400-500
University Ave	Seneca St	E Crescent Dr	900-1700
Palo Alto Ave	Seneca St	Chaucer St	900-1000
Pitman Ave	Lincoln Ave	Newell Rd	1200-1400
W Crescent Dr	University Ave	Hamilton Ave	500
Kings Ln	Newell Rd	END	1400
Arcadia Pl	Newell Rd	END	1400
Rhodes Dr	Hamilton Ave	Channing Ave	600
Ashby Dr	END	END	700
Forest Ave	Lincoln Ave	Center Dr	1200-1300

## **Appendix D: Transportation Considerations**

### **Traffic Signals.**

Power outages during storms can present a major public safety challenge, especially with regard to traffic signals. The general public is reminded to treat signalized intersections as if there were stop signs when such signals are out.

The following signalized intersections have battery backup systems (BBS) that typically last around 3 hours, but some can be connected to an external generator or battery case:

- San Antonio/Middlefield
- Middlefield/Charleston
- Embarcadero/East Bayshore
- Middlefield/Embarcadero
- Quarry/LPCH (also has generator/bypass switch)
- Quarry/Blake Wilbur Dr. (also has generator/bypass switch)
- Alma/East Meadow
- Alma/Lytton
- Alma/Charleston
- Alma/Churchill Middlefield/Mayview (also has generator/bypass switch)
- Alma/Alma Plaza (also has generator/bypass switch)

Busy intersections without BBS, currently include:

- Alma/Homer
- Alma/Hamilton
- Alma/Lytton
- University/Middlefield
- Embarcadero/St Francis
- San Antonio/Charleston