JOINT EMERGENCY ACTION PLAN FOR SEVERE STORM AND FLOOD RESPONSE IN CITY OF SAN JOSÉ

Last Revised:

JANUARY 2021

SANTA CLARA VALLEY WATER DISTRICT

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EXECUTIVE SUMMARY—JOINT EMERGENCY ACTION PLAN

The first version of the Joint Emergency Action Plan for Severe Storm and Flood Response in City of San José (EAP) was approved by the Santa Clara Valley Water District (Valley Water) Board of Directors and San José City (City) Council at a joint meeting held on November 3, 2017. The EAP provided guidance on how Valley Water and City would coordinate, communicate, and make decisions during storm and flood events and established a new method of classifying Flood Emergency Operational and Severity Levels. The first joint EAP was developed following flooding that occurred on Coyote Creek in February of 2017 and included an appendix of specific guidance related to Coyote Creek.

The EAP is to be reviewed and/or exercised annually and updated/revised as appropriate. The Valley Water Board of Directors and San José City Council delegated approval authority for updates and revisions of the EAP to the City Manager and Valley Water Chief Executive Officer (CEO) or their designee. An annual review and revision of the EAP in 2018 added three new appendices to provide specific guidance related to flood risks on Guadalupe River, Canoas Creek and Ross Creek.

The latest joint review and update to the EAP was initiated in 2020 and continues to be based on the concept of a Multi-Agency Coordination (MAC) Group. The updated 2021 EAP, which was drafted by a combined team of City and Valley Water staff, includes knowledge gained from a joint exercise of the EAP held in January 2020 and other improvements that includes the addition of a new appendix to provide guidance related to flood risks for Lower Silver Creek & Lake Cunningham.

This revised EAP will continue to provide oversight and guidance. It is not intended to provide ultra-detailed action lists of what to do during storm and flood monitoring and response, as the Stakeholders are individual jurisdictions and have independent responsibility and discretion on how to accomplish their tasks.

By signing here, the City of San José City Manager and the Santa Clara Valley Water District Chief Executive Officer agree that the two primary Agency Stakeholders will respond according to the concepts outlined in this updated EAP and will continue work on maintaining the EAP, associated projects, and continually work to improve preparedness, mitigation and response to the next flood emergency:

{{__signer2}}

David Sykes, City Manager Date
City of San José

{{__signer1}}

Rick L. Callender, Esq., Date
Chief Executive Officer
Santa Clara Valley Water District

Joint Emergency Action Plan for Severe Storm & Flood Response

What is the Joint Emergency Action Plan?

The City of San José and the Santa Clara Valley Water District have created a Joint Emergency Action Plan (EAP) for severe storms and flood response. The plan outlines how the City and District manage, prepare for and communicate about flooding issues on Coyote Creek as well as other waterways where flooding might occur.

Here are three elements of the plan that are of public interest:

1

We have improved how we measure water levels in Coyote Creek.

You can see gauges near your neighborhood and monitor water levels at a new website.

The District installed more gauges on Coyote Creek. The gauges are painted or attached to bridges, or are free-standing stakes with markings that show the height of the water at that location.

- At ***gis.valleywater.org/SCVWDFloodWatch/***, there is a chart for each gauge location that shows the levels associated with a Monitor, Watch, or Warning status.
- We will use measurements and field observations at these locations, as well as model predictions, to predict the likelihood of flooding.
- You can look at the stream gauge in your neighborhood to assess the water level yourself. Or visit ***gis.valleywater.org/SCVWDFloodWatch/*** to see a map of the locations of gauges and the water levels in both Anderson Reservoir and Coyote Creek and inflow into Coyote Reservoir.

2

We will communicate every stage of a potential flood using improved data analysis.

District staff improved the analytics to help decision makers and the public understand potential and/or imminent flooding conditions.

- Our preparedness levels match those used by the National Weather Service for specific levels of flood threat.
- Public communications will include current status level.
- See our Public Notification Handout on the appropriate actions to take for each status level.

Preparedness	No storms are forecast within the next 72 hours. Stream depths are below 50% of flood stage. Reservoirs are not spilling.
Flood Monitoring	Storms are forecasted. Stream depths are at 50% to 70% of flood stage. This condition is fluctuating and requires monitoring and being alert for potential flooding and possible evacuation notification.
Flood Watch	Storms have occurred. Stream depths may reach flood stage in 24 to 72 hours. Prepare for possible evacuation notice.
Flood Warning	Flooding is imminent, generally within 24 hours or is occurring.

3

We will communicate more effectively with you and the community using better tools and improved procedures.

ALERTSCC
SANTA CLARA COUNTY

LRAD

DISTRICT COMMUNICATIONS

As the flood management agency in Santa Clara County, the District (at ***www.valleywater.org/floodready/***) will communicate:

- Flood preparedness.
- Sandbag locations and instructions.
- Water levels in reservoirs and creeks.
- Status of flood improvement projects.

CITY COMMUNICATIONS

The City is responsible for emergency notifications to San José residents, and has trilingual messages that are ready to send for Flood Monitoring, Flood Watch, and Flood Warning conditions. Methods for communicating include:

- AlertSCC, which reaches all landline phones and subscribers who enroll their mobile phones.
- WEA (Wireless Emergency Alerts), which reaches mobile devices in geographically targeted areas.
- Warnings announced through powerful sound systems driven through the affected areas.
- Coordination with radio and TV news outlets.
- Social media such as NextDoor, Twitter and Facebook.
- Flyers and door-to-door alerts as possible.
- Street signage as possible.

Actions to reduce the flood risk of Coyote Creek

Rendering of new flood wall in Rock Springs

Staff surveyed the creek to analyze why flooding was so severe in 2017. For the coming winter, the City and District are working on near-term projects that can reduce the flood risk of the creek:

- Removing fallen trees and invasive vegetation.
- Construction of a temporary berm and vinyl sheet pile wall near Rock Springs.
- Reinforcement of an earthen levee near mobile home parks.
- Installation of large trash capture device and flap gate on stormwater outfall in Rock Springs.
- Modified operation of Anderson and Coyote reservoirs to reduce winter storage and potential for large spills into Coyote Creek.

Some additional improvements are long-term and will require substantial funding.

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ACRONYMS

Readers of this plan may find it useful to understand the Acronyms used in the document.

Acronym	What is it
AC	Agency Coordinator
ALERT	Automated Local Evaluation in Real Time
AP	Action Plan
AR	Agency Representative
CalOES	California Office of Emergency Services
City	City of San José
DCC	Departmental Command Center
DOC	Department Operations Center
DWR	California Department of Water Resources
EAP	Emergency Action Plan
EOC	Emergency Operations Center
EOP	Emergency Operations Plan
EPIWCC	Emergency Public Information Warning Core Capability
FEMA	Federal Emergency Management Agency
FIT	Field Information Team
IAP	Incident Action Plan
IC	Incident Command(er)
ICS	Incident Command System
IPAWS	Integrated Public Alert Warning System
JIC	Joint Information Center
JIS	Joint Information System
LFO	Lookout field observation
LHMP	Local Hazard Mitigation Plan
LRAD	Long Range Acoustical Device
MAA	Mutual Aid Agreement
MAC	Multi-Agency Coordination
MAC Group	Multi-Agency Coordination Group
MEOC	Mobile Emergency Operations Center
NWS	National Weather Service
OEM	Office of Emergency Management
OES	Office of Emergency Services
PIO	Public Information Officer
SME	Subject Matter Expert
UC	Unified Command(ers)
Valley Water	Santa Clara Valley Water District
vMAC	Virtual Multi Agency Coordination Group

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GLOSSARY OF TERMS

Readers of this plan may find it useful to understand some terms that may be used in the Joint Emergency Action Plan or may be used before or during an event or training exercise.

TERM	DEFINITION
After Action Report (AAR)	An After Action Report (AAR) is the final product of an exercise or actual event. The AAR has three components: 1. Summary of exercise objectives and actual events; 2. Observations and recommendations based on the exercise objectives or actual event as associated with the capabilities and tasks; and 3. A section that identifies specific corrective/improvement recommendations.
Boil/Seepage	When the floodwaters are higher than the land, the groundwater, under pressure from the river, exerts an upward pressure on the land inside the levee or floodwall. With time this increased “head pressure,” as it is known to engineers, can drive water through or under a levee/floodwall to the surface as seepage. When flood waters remain high for a long time though, seepage can increase in volume and velocity and begin the destructive process of moving sand/soil from the foundation, through the ground, to the surface, forming boils.
Channel Capacity	The maximum flow which can pass through a channel without overflowing the banks.
Channel Improvements or Channelization	The improvement of the water carrying capacity or flow characteristics of a natural or artificial channel by clearing, excavation, bank stabilization or other means. Also referred to as channel alterations.
Collaboration Software	Collaboration software enables the sharing, processing and management of files, documents and other data types among several users and/or systems. This type of software allows two or more remote users to jointly work on a task or project and/or to view the same data.
Community Rating System (CRS)	A program developed by FEMA to provide incentives for those communities in the Regular Program that have gone beyond the minimum floodplain management requirements to develop extra measures to provide protection from flooding.
Critical Facility	For some activities and facilities, even a slight chance of flooding is too great a threat. Typical critical facilities include hospitals, fire stations, police stations, storage of critical records, and similar facilities. These facilities should be given special consideration when formulating regulatory alternatives and floodplain management plans. A critical facility should not be located in a floodplain if at all possible.
Cubic Feet per Second (CFS)	The rate of discharge representing a volume of 1 cubic foot passing a given point during 1 second and equivalent to 7.48 gallons per second or 448.8 gallons per minute.
Design	The term “design flood” is used to denote the maximum flood flow used for design and operation of flood control structures and other protective measures. The Design is often set as the 100 year or 1% flow rate, but it may be set at other levels.

TERM	DEFINITION
Design Stage	The term “design stage” is used to denote the maximum level (generally denoted in feet) above the channel bottom or above sea level at the specific location for which flood control structures and other protective measures are designed. The design stage is based on a Design that is often set as the 100 year or 1% flow rate, but it may be set at other levels.
Design Storm	Design storm means a hypothetical discrete rainstorm characterized by a specific duration, temporal distribution, rainfall intensity, return frequency, and total depth of rainfall.
Discharge	The amount of water that passes a point in a given period of time. Rate of discharge is usually measured in cubic feet per second (cfs).
Emergency Communications Plan	An emergency communications plan (EC plan) is a document that provides guidelines, contact information and procedures for how information should be shared during all phases of an unexpected occurrence that requires immediate action.
Erosion	The collapse, undermining or subsidence of land along the bank of a body of water. Erosion is caused by waves or currents of water and can result in flooding or failure of adjacent structures.
Federal Emergency Management Agency (FEMA)	The Federal agency under which the National Flood Insurance Program (NFIP) is administered. In March 2003, FEMA became part of the newly created U.S. Department of Homeland Security. An agency within the U.S. Department of Homeland Security charged with responding to Presidentially-declared disasters.
Flash Flood or Flashy System	A flood that reaches its peak flow in a short length of time (hours or minutes) after the storm or other event causing it. Often occurs in watersheds with mostly storm drain runoff and is often characterized by high velocity flows.
Flood Control	Keeping flood waters away from specific developments and/or populated areas by the construction of flood storage reservoirs, channel alterations, dikes and levees, bypass channels, or other engineering works.
Flood Fighting	Actions taken immediately before or during a flood to protect human life and to reduce flood damages such as evacuation, emergency sandbagging and diking, and provision of assistance to flood victims.
Flood Flow	The discharge at which a body of water begins to flow over its banks and onto dry land, usually expressed in cubic feet per second (cfs).
Flood Forecasting	The process of predicting the occurrence, magnitude and duration of an imminent flood through meteorological and hydrological observations and analysis.
Flood Frequency	A statistical expression of the average time period between floods equaling or exceeding a given magnitude. For example, a 100-year flood has a magnitude expected to be equaled or exceeded on the average of once every hundred years; such a flood has a one-percent chance of being equaled or exceeded in any given year . Often used interchangeably with “recurrence interval”.
Flood Insurance Rate Map (FIRM)	An official map of a community on which the Federal Insurance Administration has delineated the area in which the purchase of flood insurance is require under the National Flood Insurance Program.
Flood Stage	The level at which a body of water begins to flow over its banks and onto dry land, usually expressed in feet above channel bottom or above sea level at a specific location.

TERM	DEFINITION
Flooding – Fluvial or Riverine	Fluvial, or riverine flooding, occurs when excessive rainfall over an extended period of time causes a river to exceed its capacity.
Flooding – Surface or Local Drainage	When rain hits the ground quicker than it can drain or flow away, water builds up and develops the potential to flood streets and properties. In some places, it forms isolated puddles in ground depressions and in others it accumulates and flows downhill towards streams. Typically, surface water flood events have localized effects, impacting properties in close proximity to where the rain fell and for a short amount of time until it can drain into a stream, be pumped into a stream, percolate into the ground, or evaporate.
Floodplain	Any land area susceptible to being inundated by floodwaters from any source. The channel of a stream or watercourse is part of the floodplain.
Floodplain Management	The operation of an overall program of corrective and preventive measures for reducing flood damage, including but not limited to, emergency preparedness plans, flood-control works and floodplain management regulations. Floodplain management is a decision-making process that aims to achieve the wise use of the nation's floodplains. "Wise use" means both reduced flood losses and protection of the natural resources and function of floodplains.
Floodplain Management Regulations	A general term for the full range of codes, ordinances, and other regulations relating to the use of land and construction within stream channels and floodplain areas. The term encompasses zoning ordinances, subdivision regulations, building and housing codes, encroachment line statutes, open-space regulations, and other similar methods of control affecting the use and development of these areas.
Freeboard	A margin of safety added to the flood elevation to account for waves, debris, miscalculations, or lack of data. This term is often used when describing distance of the water surface to top of bank of a stream or in determining the level at which a structure's lowest floor must be elevated or floodproofed to be in accordance with state or community floodplain management regulations.
High Flow Stage	The depth of water when a stream flood control facility is nearing Flood Stage or Design stage.
Incident Commander	The Incident Commander is the individual responsible for all incident response activities, including the development of strategies and tactics and the ordering and release of resources. The Incident Commander has overall authority and responsibility for conducting incident operations and is responsible for the management of all incident operations at the incident site.
Levee or Dike	Permanent or temporary mounds of earth (often engineered with maintenance roads on top) and/or fill, such as sand, sandbags or gravel, piled along a body of water to prevent it from overflowing onto dry land.
Long Range Acoustical Device (LRAD)	LRAD is a high powered speaker system that emits a shrill sound followed by spoken instructions such as “shelter in place” or “flooding is imminent, evacuate now”. The speakers are strategically mounted to cover wide areas as needed. This system cannot only wake you up, but inform you as to what's going on.

TERM	DEFINITION
Multi-Agency Coordination (MAC)	The primary function of MAC is to coordinate activities above the field level and to prioritize the incident demands for critical or competing resources, thereby assisting the coordination of the operations in the field. A MAC consists of a combination of elements: personnel, procedures, protocols, business practices, and communications integrated into a common system. For the purpose of coordinating resource and support between multiple jurisdictions, a MAC can be implemented from a fixed facility or by other arrangements outlined within the system.
National Flood Insurance Program (NFIP)	The program of flood insurance coverage and floodplain management administered under the Act and applicable federal regulations promulgated in Title 44 of the Code of Federal Regulations, Subchapter B.
Recovery Activities	Activities that include the development, coordination, and execution of service- and site-restoration plans; the reconstitution of government operations and services; individual, private-sector, nongovernmental, and public-assistance programs to provide housing and to promote restoration; long-term care and treatment of affected persons; additional measures for social, political, environmental, and economic restoration; evaluation of the incident to identify lessons learned; post-incident reporting; and development of initiatives to mitigate the effects of future incidents.
Stage or Gauge Height	The water-surface elevation referred to some arbitrary datum. The stage or gauge height represents the water-surface elevation above the channel bottom elevation at a specific location. For example, the elevation of the datum (channel bottom) of the gauge might be 100.00 feet, which, when added to a stage of 12.50 feet, represents a water-surface elevation of 112.50 feet at that location.
Top of Bank	Top of Bank means the point along the bank of a stream where an abrupt change in slope is evident, and where the stream is generally able to overflow the banks and enter the adjacent floodplain during an annual flood event. For steep and narrow valleys, it will generally be the same as the top of slope.
Unified Command	A unified command is established when incidents under an area command are multi-jurisdictional. It is a method for all agencies or individuals who have jurisdictional responsibility, or in some cases who have functional responsibilities at the incident, to contribute to: determination of overall objectives for the incident, and selection of strategies to achieve the objectives.

DISTRIBUTION OF THE PLAN

ELECTRONIC VERSION

A copy of the ***Joint Emergency Action Plan*** (EAP) is located on a secure intranet server. Access to the intranet electronic materials is granted to those with designated EAP responsibilities.

HARDCOPY DISTRIBUTION

This EAP is readily available to key personnel that have roles and responsibilities in the implementation of the EAP. Portions of the EAP will also be issued to outside response agencies whose familiarity with the EAP is essential to its implementation. This EAP contains potentially sensitive information that identifies critical assets.

Distribution of the EAP is documented in the following Log:

EAP Number	Title	Organization	Number of Copies

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PLAN UPDATES

The City of San José Office of Emergency Management is responsible for EAP review and amendment distribution. Pre-identified staffs from the City, Valley Water and other Stakeholders review the EAP annually. Based on this review, needed updates are prepared and issued. For instance, updates are made to the EAP when there are changes in the contact lists or roles and responsibilities of those involved in response activities. Updates are also included whenever there is an operational change to the facilities or systems that affects EAP content. Every five years the entire plan will be reviewed, revised, re-published, and distributed. Those receiving the update will destroy old copies.

Other EAP review and/or amendment triggers include, but are not limited to, the following:

1. After each incident that requires activation of the EAP.

2. After each exercise testing the effectiveness of the EAP.

3. Changes in the following types of information:

    - Roles or responsibilities of EAP identified positions or departments, and roles and responsibilities of other EAP identified outside agencies or organizations;

    - Facility construction, operation, maintenance, or other circumstances that alter the hazards or methods of response to an incident; or

    - Applicable regulations or laws.

Amendments to the EAP are recorded on the Revision Log. Once a need for EAP changes are identified, the change will be documented in the Revision Log. A hard copy of the log will be attached to the appropriate pages where the changes occurred. The distribution will follow the previous Distribution Log. Electronic updates will be made to the copy on the secure intranet server.

REVISION LOG

Revision No.	Description of Revision	Date Issued	Approved By
1	Joint EAP Adopted	2017	City Council and Valley Water Board of Directors
2	Added: Guadalupe River, Canoas and Ross Creek appendices, additional public messaging in Attachment 5, providing flood mapping in Table 2 and Attachment 3; and providing temporary sandbag sites in Table 2 and Attachment 10. Updated Attachment 2—Web-Based Data Sources.	2018	City Manager and Valley Water CEO

Revision No.	Description of Revision	Date Issued	Approved By
3	Improvements following January 2020 Tabletop exercises. Added Glossary of Terms, Lower Silver Creek and Lake Cunningham Appendix and added Attachments 11 and 12.	2020	City Manager and Valley Water CEO

1. INTRODUCTION

A. PURPOSE OF THE JOINT EMERGENCY ACTION PLAN

The Federal Emergency Management Agency (FEMA) has identified that floods are the most frequent and costly natural disaster in the United States and estimates that there are about 38,000 parcels in the City of San José (City) subject to flooding in a 100-year flood event (1 percent flood). With this in mind, there exists an opportunity to enhance coordination and communication between the two primary jurisdictions responsible for protecting the people and property in the City from floods.

The City Council and Santa Clara Valley Water District (Valley Water) Board of Directors met on April 28, 2017, to discuss how to improve coordination and decision making during flooding events setting out the development of this plan. Development of this Emergency Action Plan (EAP) proceeded jointly with extensive involvement of management and personnel of both jurisdictions. The development was overseen by a Management Team and utilized six workgroups to prepare the EAP and to plan and implement other actions to mitigate the flood concerns:

1. Emergency Action Plan
2. Technical
3. Communications
4. Action Planning
5. Creek Management
6. Short-Term Project

This EAP, which is based on the successful San Francisquito Creek Multi-Agency Coordination (MAC) and Operational Plan, is designed to establish general guidance for the City, Valley Water and other Stakeholders to facilitate:

1. Pre-incident planning prior to a storm/flood event,

2. Coordination of interagency response and recovery operation, and

3. Collaboration on public messaging for potential, imminent, and actual flooding along the creeks in San José.

B. STAKEHOLDERS

All parcel owners along the water ways within the City of San José are Stakeholders and have responsibilities identified in this EAP. This includes the Agency Stakeholders (City, Valley Water, Santa Clara County, and San José Unified School District) and Private Property Stakeholders. Combined these are the Stakeholders responsible for the tasks identified in this EAP. Stakeholders combined have a responsibility to respond to the needs of residents, business, property owners, and the environment when affected by severe storms that create floods within city boundaries. There are other agencies/entities that have a role in preparing and responding to flood events, who may have specified roles to support the response. For example, Santa Clara County Office of Emergency Services provides support for assisting in warning.

C. STRUCTURE OF THIS EMERGENCY ACTION PLAN

The plan is organized in three sections:

Base Plan	The Base Plan identifies the roles, responsibilities and actions assigned to the Multi-Agency Coordination (MAC) Group.
Attachments	Attachments include information and checklists useful in any Severe Storm or Flood Incident.
Appendices	Provides specific details on each water way.

D. RELATIONSHIP TO OTHER PLANS

This EAP does not supersede existing agreements or internal plans (except to introduce a preference regarding the relationship between a jurisdictional EOC and staffing a MAC Group at a facility). Terms, such as the definition of "disaster" and certain legal and procedural activities, are found in the Agency Stakeholders Emergency Operations Plans (EOPs). Therefore, they are not repeated in this EAP. Flood maps and other such background material are posted in the Local Hazard Mitigation Plan (LHMP) for the involved jurisdictions.[1]

Agency Stakeholders are encouraged to regularly review their internal plans, discuss them with the MAC Group, and review other guidance such as the State of California Guidelines for Coordinating Flood Emergency Operations.[2]

E. DEFINITION OF A MULTI-AGENCY COORDINATION GROUP

The primary concept used in this EAP is for the City, Valley Water and other Agency Stakeholders to operate as a Multi-Agency Coordination (MAC) Group. Per the *California Statewide Multi-Agency Coordination System Guide* (rev. Feb. 2013):

> "A Multi-Agency Coordination Group may be convened by an EOC Director ... to establish priorities among multiple competing incidents, provide coordinated decision making for resource allocation among cooperating agencies, harmonize agency policies, and offer strategic guidance and direction to support incident management activities. MAC Groups convene to prioritize incidents for the allocation of scarce resources. Group members should consist of administrators or executives, or their designees, who are authorized to commit agency resources and funds."[3]

Routinely, field first responders implement a version of a MAC, known as Unified Command. "First responders successfully utilize multi-agency coordination whenever multiple agencies respond to an incident, through Unified Command. Unified Command

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[1] www.sccgov.org/sites/oes/LHMP/Pages/Local-Hazard-Mitigation.aspx
[2] www.water.ca.gov/floodmgmt/docs/guidecoordfloodemergops.pdf
[3] *California Statewide Multi-Agency Coordination System Guide* (Rev. Feb. 2013)

provides multi-agency support and coordination when an incident grows in complexity or multiple incidents occur in the same period."[4]

In cases where there are multiple incidents (as is common in storm/flood incidents), there may be multiple Incident Commanders (ICs), in which case an Area Command Incident Command System (ICS) structure may be implemented in addition to this prescribed MAC Group.

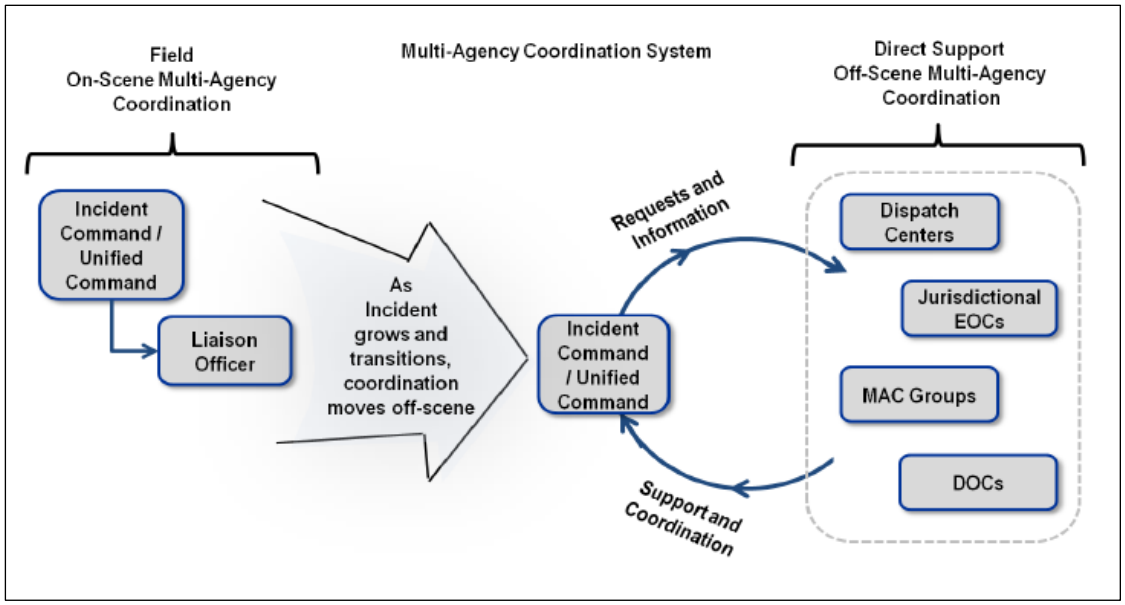


FIGURE 1
Coordination Links

Figure 1 shows coordination links of a MAC can be established to support or facilitate coordination among Incident Commanders, Unified Command, Emergency Operations Centers, Dispatch Center and Department Operations Centers. ***The preferred staffing and operational mode will be to physically co-locate personnel from the City, Valley Water and other Agency Stakeholders at a designated facility when feasible***, particularly in the Watch or Warning phases of response. This will:

1. Economize on staffing, and
2. Improve efficiency and communications.

The need for and use of a MAC is dynamic and depends on the potential and real impacts of a potential or active storm(s). A Virtual MAC (vMAC) can be used during Preparedness or Monitoring phases and may be considered for other phases as staff is available to physically co-locate to a MAC facility.

[4] *California Statewide Multi-Agency Coordination System Guide* (Rev. Feb. 2013)

F. INTENTION OF THE ORGANIZATION AND PROTOCOLS NOTED IN THE EMERGENCY ACTION PLAN

This EAP provides guidance on how to staff and organize a MAC Group, and collaborate on preparedness and the response to potential, imminent, and actual flooding along the creeks in the City. To accomplish this, the intent of the plan is to provide:

1. Overarching guidance on how and when to activate a MAC for coordination purposes,

2. Suggested levels of activation of the MAC Group,

3. Suggested participants in each level of MAC activation and their decision authority,

4. Means and methods of collaborative planning, preparedness, and response activities, and

5. A document that will change over time, from experience and updates after an incident.

In the end, this EAP describes MAC mobilization procedures for maximum utilization of all available resources during a severe weather, storm, or flood event that present a risk to public safety or where disruption of transportation, utilities or other services or infrastructure is anticipated or occurs.

“Severe weather” includes situations of extreme temperatures, atmospheric rivers or atypical atmospheric phenomena (tornados, etc.).

G. FOCUS AREA(S) ASSOCIATED WITH THE EMERGENCY OPERATIONS PLAN

The MAC Group includes personnel already assigned a role and responsibility in the Emergency Operations Plan (EOP) for the City, Valley Water or other Stakeholders. The EOP responsibilities continue to require attention. The effort of the MAC Group assignments is to insure the response decisions consider what the impact of the storm has on the given focus areas that will arise during a flood scenario. This could include:

- **Identifying Flood Zones**: known flood zones; flash floods

- **Identifying Transportation Routes and Roads Conditions**: blocked roads (trees down, wires down, water, debris)

- **Taking Traffic Control Measures**: signals out, flooded areas

- **Locating Mudslides/Landslides**: especially in the Foothills

- **Supporting Communications**: loss of telephone, internet, and other systems

- **Identifying Utility Outages**: electrical, telephone, internet, others

- **Addressing Public Health Issues**: mold, disease, etc., particularly after a storm/flood; failure/impairment of wastewater treatment (sewage) or drinking water supply systems

- **Activating Evacuation Sites and Shelters**: instructing community members on which routes to take and where to go for aid (Red Cross, etc.)

- **Responding to Crime**: opportunistic crime, looting, etc.

- **Stabilizing the Economy**: support recovery of private sector, coordinate with regional and Federal resources

- **Addressing Environmental Issues**: damage to ecological and other resources

- **Other Events**: severe weather often can coincide with other events that already stretch local resources, such as San José State planned events, holiday parades, or the holiday shopping season.

H. LIMITATIONS OF THE EMERGENCY ACTION PLAN

This EAP shall not constrain the freedom of an Incident Commander (IC) in the field or others when dealing with the referenced events. This EAP does NOT and will NOT replace or override an Agency's:

- Emergency Operations Plans,

- Department Operations Center Plans,

- Public Safety Authority,

- Public Information Officer role/responsibility,

- Purchasing Authority, nor

- Responsibility for documentation for any state or federal Declaration of Emergency.

Instead this EAP will focus on how the responsible agencies can improve coordination before, during and after a flood incident. This EAP provides oversight and guidance. It is not intended to set precedent or commit resources without knowledge of the conditions that may occur, nor provide ultra-detailed action lists of what to do during storm and flood monitoring and response, as the Stakeholders are individual jurisdictions and have independent responsibility to accomplish their tasks. 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. The City, Valley Water and other Stakeholders will utilize this EAP as needed to develop joint decisions and actions based on the situation and their jurisdictions capabilities, resources and priorities.

While the EAP or an Appendix may reference an activity related to facility improvements or maintenance, those will be done through separate plans or activities.

I. TRAINING ON THE EMERGENCY ACTION PLAN

To test the concepts and mobilization activities described in the EAP, the City will work with the other Stakeholders to annually engage all appropriate agencies and agency staff to conduct discussion-based exercises such as Workshops, Seminars or Tabletop Exercises. Operational exercises such as Drills can be conducted to test communications or notification systems. Functional Exercises can be conducted to test the relationship between activated Emergency Operations Centers (EOC) and the MAC Group. Each Stakeholder is encouraged to test their participation in the MAC when they conduct exercises. Glossary of Terms contains a list of commonly used terms as an aid for joint training exercises.

J. MAINTENANCE OF EMERGENCY ACTION PLAN

The San José Office of Emergency Management (OEM), serving as the chair of the MAC, during preparedness, maintains this EAP. The San José EOC Director is the chair during an emergency. Prior to every winter season, OEM will review this EAP with Valley Water and other agencies, as needed. Following an exercise or an incident, the City of San José will conduct an After-Action Review of the EAP with the participating Agency Stakeholders.

The City OEM Director is responsible for revising the EAP document as agreed upon by the participants in the exercises. Updates to the EAP do not require City Council or Valley Water Board approval; however, the San José City Manager and Valley Water Chief Executive Officer or their designee will approve of revisions and other Agency Stakeholders must be notified of the revision. When revisions occur, the City OEM Director will provide the revised pages and an updated revision summary page to all designated document holders. EAP document holders are responsible for updating outdated copies of the respective documents whenever revisions are received. Outdated pages shall be immediately discarded to avoid any confusion with the revisions.

K. USE OF THE EMERGENCY ACTION PLAN

This document is intended to be used by the Agency Stakeholders for integrating with MAC Group members, before, during and after a storm. Some response data includes restricted or sensitive information. The restricted portions of this document will clearly be indicated on the subject pages and will not be distributed or made available externally to individuals outside of the Agency Stakeholders or not on the original distribution list. The Agency Stakeholders may distribute this internally but are to handle with the same care as other restricted documents.

2. CONCEPT OF OPERATIONS

A. OPERATIONAL LEVELS

The concepts and activities described in this EAP are associated with the level of storm or flood threat. To maintain the collaborative nature of a MAC, this EAP is considered active 12 months of the year, 24 hours a day, and 7 days a week. The principles and actions of a MAC are integrated at all levels. The intensity and degree of activity will increase along with stream and creek conditions. The flood condition levels for high flow stage (see Glossary of Terms for definition) utilized in this EAP are consistent with the National Weather Service and defined as:

TABLE 1
Flood Condition Levels

Green	**Preparedness**—This is the base stage of readiness that will be the typical condition throughout most of the year. It is defined as: • Flood stage (Minor Flooding or greater) or 90% to 100% of Design stage is not estimated within the next 72 hours or • Measured stream depth is below 70% of Flood stage or Design stage.
Yellow	**Monitoring**—This condition is variable and requires more intense monitoring and a heightened level of alertness. Minimal staff in each Stakeholder's Emergency Operations Center (EOC) may be activated. A virtual MAC could be activated. An informal EOC Action Plan (AP) could be initiated if activated. This condition is defined as: • Stream depth is estimated to reach Flood stage or 90%-100% of Design stage in 72 hours or more or, • Measured stream depth is at 50% to 70% of Flood stage or 70% to 90% of Design stage or, • For areas that are controlled purely by storm drain runoff (flashy systems), the stream depth is estimated to reach Flood stage or near Design stage within 24 hours.
Orange	**Watch**—The Stakeholders' would increase staff in their EOCs, if they had been activated, and a MAC facility could also be established. If activated, a formal EOC AP will be drafted. This condition is defined as: • Stream depth is estimated to reach Flood Stage or greater than Design 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 stage, or • For areas that are controlled purely by storm drain runoff (flashy systems), the stream depth is estimated to reach Flood stage or greater than Design stage within 6-12 hours.

Red	**Warning**—This is a more urgent situation. The Stakeholders' EOC may be activated along with a MAC that would monitor the situation, providing notifications and responding according to a written AP. Often for smaller watersheds with flashy creeks, an EOC or MAC will not be opened until the storm event is occurring. This condition is defined as: • Flood stage or greater than Design stage or 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 stage or, • For areas that are controlled purely by storm drain runoff (flashy systems), the stream depth is estimated to reach Flood stage or greater than Design stage within minutes/hours or is occurring.
Note: Design stage is the depth of water that a facility design is based upon and Flood stage is the depth of water at which a stream or facility begins flooding (see Glossary of Terms).	

B. DETERMINING FLOOD CONDITION LEVELS

While the primary purpose of this EAP is to provide guidance to the Stakeholders during emergencies, **the EAP is in a state of perpetual activation, throughout the year**, **regardless of the condition**. For the majority of the time Stakeholder operations are focused on preparedness. Preparedness is critical to reduce the risk of flooding and during this period, Stakeholders perform activities consistent with their jurisdictional responsibilities. Table 2 below describes some of the activities performed by the Stakeholders during the flood condition levels including the preparedness period. These are examples and are not all-inclusive and may change based on the situation and needs. In addition, there may be specific activities that should be performed for distinct creeks that are included in Appendices to this EAP.

As storm conditions progress, there are four general steps the Agency Stakeholders follow to determine the level at which to activate the EAP, or when to increase the EAP condition level.

Step 1: Event Detection, Evaluation, Classification

Event Detection—There are several detection methods that include weather forecasts, hydrologic/hydraulic modeling, Automated Local Evaluation in Real Time (ALERT) stream/reservoir/precipitation gauge systems, and field observation of stage gauges and other areas of high flow.

Weather Forecasts

The National Weather Service (NWS) provides weather (e.g., precipitation) forecasts in advance of a storm event and Valley Water contracts with a service provider for enhanced forecasting.

During storm events, the NWS will host webinars with affected agencies and utilities to discuss forecasts and share information to enhance regional preparedness. The Stakeholders participate in these webinars and share all current information.

Hydrologic/Hydraulic Modeling

Based on the weather forecast, Valley Water and the NWS River Forecast Center utilize computer modeling of the watershed and creeks to estimate severity of flooding. These models are considered estimates and can vary, sometimes significantly, from the actual flood flows. This is especially true in unmodified stream systems.

To improve the accuracy of the modeling, Valley Water reviews the computer models periodically and determines if additional information can be gathered to update the models. The typical type of information that can used to update the models includes: surveys of channel geometry, reevaluation of channel roughness due to vegetation or blockages, and data gathered during high flow events.

The NWS has limited modeling capability and generally focuses on broader areas due to their larger area of scope. Valley Water is often more focused and detailed in their modeling and utilizes additional available information for modeling. As modeling results become available, Valley Water and the NWS will share results to help improve accuracy of the estimations.

With the results of modeling, condition levels can be assigned and, if appropriate, severity of flooding can be estimated such that appropriate notices can be made. The NWS will issue threat level information, which is similar to the EAP condition levels.

ALERT Gauge System

A listing of all ALERT gauges can be found at http://alert.valleywater.org. These gauges provide data in near real-time on most creeks in San José and can provide critical data to determine the level of threat for flooding.

The following is a summary of the current stream gauge program:

(a) Annually sites will be prioritized for manual gauging and teams are assigned to inspect and maintain the gauges.

(b) After every high flow event, the rule curves (depth versus discharge) are updated/calibrated.

Field Information Teams and Field Operations & Maintenance

As water levels increase in the creeks, rivers, and waterways, City and Valley Water Field Information Teams (FITs) are deployed to visually monitor and report back to a DOC or EOC the rate of increase in areas of potential flooding. In addition, FITs can monitor facilities for potential damage, the surface drainage and the effect of landslides to City streets. The City, Valley Water and other Agency Stakeholders have individual teams who respond to designated “hot spots.” Deployment of these FIT teams are coordinated between the City’s DOCs and the Valley Water’s

DOC (or other facility). Maps of some pre-determined hot spots for possible FIT deployment in the City are included in Attachment 11.

Field Operations & Maintenance personnel are typically out in the field inspecting and repairing facilities during storm events. These personnel also provide intelligence back to their agencies regarding facility conditions and any storm related concerns.

Evaluation—After detecting and gathering adequate intelligence regarding the situation, an evaluation of the water way conditions must be performed by appropriate personnel. This will include whether the risk is for areas controlled purely by storm drain runoff (flashy systems), the situation involves an improved facility that has a Design stage, or the situation is a Flood stage.

Classification—Based on evaluation of the threat, a specific threat level will be identified and documented at the Agency Stakeholder DOC (or other facility) and EOC so all staff recognize the determined level (Monitoring, Watch, or Warning). The threat level may also be raised based on other situations as shown in Attachment 12. If possible and appropriate, the severity of flooding will also be determined and documented. The severity is consistent with the NWS and are: minor, moderate, and major with the affected areas described. The specifics of the severity for specific facilities are included in several Appendices of this EAP.

Step 2: Notification and Communication

After the condition level has been determined, appropriately communicating the situation to responsible agencies, staff, and other identified individuals and groups is critical. Notification will include City, Valley Water and other Stakeholders personnel, elected officials, and the National Weather Service, as a minimum. Depending on the situation, methods of notifications may include phone calls, text messages, emails, or utilizing collaboration software. A contact list with phone numbers is shown in Attachment 1 Emergency Contacts.

TABLE 2
Progressive Responsibilities

	Responsibility/Activity	Stakeholder*
Preparedness	Provide technical data on mitigation and preparedness measures.	Each Stakeholder is lead for own agency resources.
	Conduct field inspections of creeks and facilities.	Each parcel owner is lead in own right of way.
	Jointly discuss property management needs and plans.	Each parcel owner is responsible.
	Inventory and Procure Flood Fighting Materials and Equipment.	Each Stakeholder is lead for own materials and equipment.

	Responsibility/Activity	Stakeholder*
Preparedness	Perform mitigation work to reduce flood risk.	Each Stakeholder is lead on own property. By agreement can release to others.
	Involve FEMA Floodplain Manager who maintains the National Flood Insurance Program (NFIP) Community Rating System (CRS) certification.	City is lead.
	Implement and enforce building codes for building in floodplains.	City is lead.
	Provide technical floodplain mapping expertise. Provide City an electronic link to Design Storm (e.g., 10-year, 25-year and/or 100-year) flood maps for creeks included in Appendices.	Valley Water is lead.
	Maintain equipment, gauges, telemetry, communications systems, etc.	Valley Water is lead for stream gauges and Valley Water equipment. City is lead for city equipment.
	Develop and maintain computer models of watersheds and creeks.	Valley Water is lead.
	Participate in winter preparedness workshop.	Valley Water is lead.
	Participate in annual EAP review/exercise/updates; ensure plan is functional and up to date.	City is lead.
	Update EAP and Contact/Roles list and provide revisions to Stakeholders.	City is lead.
	Manage flood information websites.	Each Stakeholder manages own site; points to Valley Water website for flow.
	Publish Preparedness Public Outreach (e.g., Winter Preparedness) in multiple languages.	Valley Water is lead.
	Provide public education in multiple languages.	Each Stakeholder is lead for own agency resources
	Provide resources to support on-going activity to support this EAP and mitigation efforts along waterways in multiple languages.	Each Stakeholder is lead for own agency resources.
	Update Emergency Communications Plan and notification systems.	City is lead.County is key support for warning.
Monitoring	Activate the EAP for “Monitoring.”	City is lead.
	Notify staff of own agency about the increased condition level.	Each Stakeholder is lead for their staff.
	Conduct formal monitoring, communicate via virtual systems; communicate with Agency Coordinators to determine next level of activation.	Each Stakeholder is lead for own agency resources.
	Communicate risk to EOC/MAC representatives that includes whether the risk is for areas controlled purely by storm drain runoff (flashy systems).	Each Stakeholder is lead within their agency.

	Responsibility/Activity	Stakeholder*
Monitoring	Respond to, and mitigate, minor events as needed; coordinate with each responding agency.	Each Stakeholder is lead for own materials and equipment.
	Stage equipment at localities likely to be affected as needed; coordinate with each responding agency.	Each Stakeholder is lead for own materials and equipment.
	Provide public education in multiple languages.	Each Stakeholder collaborates and is lead to their constituents.
	Provide information to Elected Officials.	Each Stakeholder PIO or Liaison is lead for own agency.
	Confer with EOC Director on conditions for activating next level.	City is lead.
	Confer with EOC Director for activation of a MAC.	City is lead.
	Identify location for flood fighting resources for the public (e.g. sandbag locations). May begin planning for establishment of special temporary sandbag locations (Attachment 10).	Valley Water is lead.
	Review evacuation planning needs.	City is lead.
	Report to designated EOC/MAC facility when directed, and available.	Each Stakeholder responds to designated MAC facility.
Watch	Activate the EAP for "Watch."	City is lead.
	Manage information from the Department Operations Center or like facility.	Each Stakeholder is lead within their agency.
	Allow the DOC (or like facility) to manage field response.	Each Stakeholder is lead within agency resources
	Communicate risk to EOC/MAC representatives that includes whether the risk is for areas controlled purely by storm drain runoff (flashy systems).	Each Stakeholder is lead within their agency.
	Notify staff of own agency about the increased condition level.	Each Stakeholder is lead for own agency.
	Confer with responding Agency Coordinators to determine response coordination needs and resources needs.	Each Stakeholder is equally responsible for cross coordination.
	Respond to, and mitigate, minor events as needed; coordinate with each responding agency.	Each Stakeholder is lead for own materials and equipment.
	Stage equipment at localities likely to be affected as needed; coordinated with each responding agency.	Each Stakeholder is lead for own materials and equipment.
	Update computer modeling based on forecast and watershed conditions and, if possible and deemed necessary, provide forecast flood maps to City and, if requested, to other Agency Stakeholders.	Valley Water is lead
	Evaluate possible need to modify City storm pump station operations.	City is lead with Valley Water support.

	Responsibility/Activity	Stakeholder*
Watch	Update location for flood fighting resources for the public and supply additional resources as needed (e.g. sandbag locations). May establish special temporary sandbag sites that could include those shown in Attachment 10. Information on status may be shared between Valley Water and City using collaboration software (e.g., Google Docs, ArcGIS Survey123, or other).	Valley Water is lead.
	Provide public information in multiple languages.	Each Stakeholder collaborates and is lead to their constituents.
	Provide public warning in multiple languages.	City is lead. County is key support.
	Deploy LRAD and activate other public notification systems, as appropriate.	City is lead.
	Provide talking points to staff and elected officials as needed.	Each Stakeholder collaborates and is lead for communicating with their staff and elected officials
	Provide information to Elected Officials.	Each Stakeholder is lead for own agency.
	Activate JIS/JIC as appropriate.	City is lead.
	Communicate with media as needed.	Each Stakeholder is lead for own agency.
	Provide information on impact and available resources to and from respective EOCs. This may include sharing information through use of collaboration software (e.g., Google Docs, ArcGIS Survey123, or other).	Each Stakeholder is lead for own agency resources
	Provide information to and from respective EOCs, including status reports and briefings. This may include sharing information through use of collaboration software (e.g., Google Docs, ArcGIS Survey123, or other).	Each Stakeholder is lead.
	Confer with EOC Director for activation of a MAC, if not already done.	City is lead.
	Report to designated EOC/MAC facility when directed, as available. The priority is to direct Subject Matter Experts to an EOC/MAC to assist in interpreting information/data during an event if they are available.	Valley Water is lead.
	Confer with EOC Director on conditions for potential evacuation and shelter support.	City EOC Staff is lead.
	Confer with EOC Director on conditions for activating next level.	City is lead.
	Confer with legal staff on process for proclaiming a Local Emergency.	City EOC Director is lead.

	Responsibility/Activity	Stakeholder*
Warning	Activate the EAP for "Warning."	City is lead.
	Report to designated EOC/MAC facility when directed, if not already done. The priority is to direct Subject Matter Experts to an EOC/MAC to assist in interpreting information/data during an event if they are available.	Valley Water is lead.
	Communicate risk to EOC/MAC representatives that includes whether the risk is for areas controlled purely by storm drain runoff (flashy systems)..	Each Stakeholder is lead within their agency.
	Update computer modeling based on forecast and watershed conditions and, if possible and deemed necessary, provide forecast flood maps to City and, if requested, to other Agency Stakeholders.	Valley Water is lead
	Evaluate possible need to modify City storm pump station operations.	City is lead with Valley Water support.
	Provide talking points to staff and elected officials.	Each Stakeholder collaborates and is lead for communicating with their staff and elected officials
	Provide public information in multiple languages.	Each Stakeholder collaborates and is lead to their constituents.
	Provide public warning and shelter information in multiple languages.	City is lead. County is key support.
	Activate JIS/JIC as appropriate to jointly communicate with media.	City is lead.
	Implement evacuation plans and deploy resources to evacuate.	City is lead.
	Coordinate resources through respective EOCs. This may include sharing information through use of collaboration software (e.g., Google Docs, ArcGIS Survey123, or other).	Each Stakeholder is lead for own resources.
	Proclaim Local Emergency as appropriate.	City EOC Director is lead.
*If only one Stakeholder is noted as lead, all other Stakeholders support the effort.		

Step 3: Emergency Activity/Actions

Based on the event and condition classification, activity/actions by the City, Valley Water and other Stakeholders will be determined. Table 2 identifies progressive levels of activation and actions.

Step 4: Termination

Following response to an emergency, the City will determine when to enter into recovery activities. The City EOC Director will work with the MAC Group members to determine if the threat no longer exists or if impacts require the engagement of recovery operations. Decisions on how long the EOC remains open depends on the conditions, needs of the community, and need to return to regular operations.

C. PROGRESSIVE RESPONSIBILITIES

As the weather conditions change, the responsibilities of the City, Valley Water and other Stakeholders adjust. The list of responsibilities provided in Table 2 illustrate in general terms what actions are needed at each threat level, and whether the City or Valley Water have the lead responsibility. More detail on how the action is completed or other creek specific activities performed are provided in additional tables in this document or Appendices to this EAP.

D. FACILITIES

The MAC Group is made up of staff from the City, Valley Water and other Stakeholders. As the conditions require the use of the MAC Group to respond during Monitoring, Watch or Warning Stages, the following systems and facilities can be considered to provide a meeting location for the MAC Group. A decision on which facility or system to implement will be dependent on, but not limited to, the impact of the incident(s), location of the incidents and the resource needs.

- **Virtual MAC (vMAC)**: To facilitate communication between Stakeholders, particularly early on when little impact is felt by the storm, the City will initiate contact with Valley Water and other Stakeholders via an e-mail group. The presenting conditions of the storm will identify when the e-mail will expand to conference calls, Skype, or other means to electronically communicate. Information on status, resource availability, and observations may also be shared between Valley Water, City and other Stakeholders using collaboration software (e.g., Google Docs, ArcGIS Survey123, or other). If the vMAC transitions to a physical location, vMAC activities may continue to enhance communications between multiple EOCs and Department Operations Centers (DOCs). The storm conditions and availability of MAC personnel will determine the need and efficiency of the vMAC operations.

- **City Emergency Operations Center (EOC)**: The City EOC Director will determine when to activate the MAC and make the request to co-locate City, Valley Water and other Stakeholders personnel to the City EOC to act as a MAC Group. The success and efficiency of the MAC relies on the co-location of City, Valley Water and other Agency Stakeholders. In the event that resources are limited, the City EOC Director can consider other options for where MAC staff co-locate, including continued use of the vMAC or requesting the County to support the MAC.

  The City EOC is located in the San José Police Administration and Communications building (a.k.a. PAC). The City EOC can support 30 people in the primary Operations room. It is fully equipped with backup power, radio communications, data systems, etc. The EOC is supplemented by various San José Department Operations Centers (DOC: Fire, Parks Recreation and Neighborhood Services, Police, Public Works, and Transportation).

E. EQUIPMENT AND TOOLS

Whenever a MAC facility is opened, preparedness activities will ensure the availability and operability of internet access, radios, telephones, and hard copy EOC forms. All representatives responding need to bring their own:

- Identification
- Computer (with appropriate software or modeling systems)
- Data on a USB drive such as contact lists, forms, etc.
- Copies of their respective Emergency Operations Plans and relevant annexes (hardcopy or electronic) and this EAP

F. MULTI-AGENCY COORDINATION GROUP PERSONNEL

The effectiveness of the MAC Group relies on the designated level of authority provided to each Stakeholder representative and the level of the MAC Group activation. Based on the event condition level and related potential for flooding, the personnel who staff the MAC may evolve, due to the knowledge and authority required.

Subject Matter Experts (SME): Staff from the City, Valley Water and other Stakeholders who have specific knowledge related to the issues of permitting, flood control dynamics, creek flow, potential impacts of flood, geology, hydrology, flood monitoring, engineering and flood response. An SME would be the priority to assign partner agencies EOC or a MAC.

- *Personnel*: These may be personnel assigned to the Operations or Planning Section in their respective Emergency Operations Plan/Emergency Operations Center (EOP/EOC).
- *Authority includes*: Represent Agency on technical matters; Confer with Agency Coordinators (AC) regarding activation of next level; and Engage outside resources such as National Weather Service.

Agency Coordinators: Staff from the City, Valley Water and other Stakeholders who have specific knowledge that will facilitate modifications to plans and procedures, are knowledgeable of the issues related to flood control conditions and maintenance, and have authority to recommend actions or updates to plans.

- *Personnel*: These may include personnel assigned to the following EOP/EOC positions:
    - City Department managers from:
        - Law Enforcement
        - Fire and Rescue
        - Public Works

        - Transportation
        - Parks, Recreation and Neighborhood Services
        - Emergency Management (EM)

    - Valley Water managers from:

        - Watersheds
        - Water Utility

- *Authority includes*: Represent Agency in discussion of plans and procedures; Direct access to Agency Representative; Ability to affect Agency operations to support response and mitigation; Ability to affect Agency operations to coordinate with other designated MAC Group members; Represent Agency in MAC Group decision-making; and Communicate with next level of Agency management; and to request activation of next level.

Public Information Officers (PIO): Staff from the City, Valley Water and other Stakeholders who have experience with managing and disseminating information to the public via traditional media, social media, electronic methods or other tools with the purpose of distributing preparedness, response, evacuation and recovery information.

- *Personnel*: These may include personnel assigned to the following EOP/EOC positions:

    - Public Information Officer

- *Authority includes*: Ability to create and distribute outreach materials for community awareness and preparedness; Represent each Agency to produce and distribute public notices regarding potential flood, as appropriate; and City PIO initiates activity to disseminate evacuation orders and shelter information.

Agency Representative (AR): Staff from the City, Valley Water and other Stakeholders authorized to re-allocate their own agency resources, provide directives and affect emergency orders. City AR makes final decision on the level of activation of the EAP and on evacuation order.

- *Personnel*: These may include personnel assigned to the following EOP/EOC positions:

    - City:

        - City Manager
        - Assistant City Manager
        - Deputy City Manager

- Valley Water:
  - Assistant Chief Executive Officer
  - Chief Operating Officer
    - Administration
    - Watersheds
    - Water Utility
    - External Affairs

- *Authority includes*: Ability to commit or redirect their own Agency resources to common MAC Group issues. City AR confirms considerations for potential evacuation and evacuation order.

Elected Officials: Through each Agency PIO or Liaison staff, elected officials will be contacted and kept informed of the situation during the Watch and Warning stages and provided with appropriate public messaging. If officials are in contact with affected constituents and receive pertinent information, they will convey that information to the MAC through PIO or Liaison staff.

G. MULTI-AGENCY COORDINATION GROUP CONTACT INFORMATION

With the exception of elected officials, the City, Valley Water and other Agency Stakeholders will maintain a roster of who fills each role. Whoever is designated to fill these roles should consider alternate persons to account for vacation, sick leave, etc. When a MAC is convened, anyone filling these roles needs to provide contact information to City of San José Office of Emergency Management. Contact information would include office and mobile phone numbers, e-mail, and other pertinent data.

Within the City EOC, e-mail accounts will be provided that match the role the person is fulfilling. This will allow first shift responders to leave information for incoming staff. It also allows for a common repository for information.

H. PROCEDURES

The Agency Stakeholders, if needed, may develop additional procedures, beyond what is provided herein.

For example, Valley Water may choose to co-locate or assign a liaison to the City's Department of Public Works' and/or Department of Transportation's DOCs. This could facilitate better tracking of their personnel operating in the SJ area.

I. COMMUNICATIONS

An emergency radio plan (ICS-215) shall be developed, along with the above-mentioned vMAC options.

The MEOC and certain other command vehicles have radio interoperability systems that can (1) communicate on just about any radio system and (2) can "patch" (link) disparate systems together.

3. MOBILIZATION OF EMERGENCY ACTION PLAN

A. PROGRESSIVE TRIGGERS

This EAP is always active because preparedness is a year-round activity. Whether collaborating on flood awareness outreach before an event, responding to a flood event, recovering from an event, or planning for maintenance or improvements after the winter storm season, the need for the City, Valley Water and other Stakeholders to communicate and collaborate is important. Once a potential or actual event is detected, responding in a coordinated way and collaborating on post incident recovery follows a progression of activities/actions.

During high flows, creek conditions can change at a moment's notice and may vary significantly from anticipated. This is especially true for more natural creeks with trees and other vegetation or heavy sediment loads that could cause blockages. For example, flood flows may not be anticipated to reach channel capacity, yet flooding may occur due to changes in the channel condition and may result in a change of flood condition level (Attachment 12 – Guidance Table for Evaluating Facility During High Flow and Determining Condition Level).

Therefore, the level of activity will be guided by dynamic decision or educated judgment based on best information available to the Agency SMEs and AC. The level of activity may mirror those activities of the individual jurisdictional EOCs. As weather conditions merit and monitoring take place, the SMEs and AC may be in their home offices or jurisdiction's EOC, for the Monitoring stage. The "call to action" may be a series of phone calls among the SMEs and AC to determine the next steps. As conditions progress, City, Valley Water or other Stakeholders are encouraged to convene at the designated MAC facility.

B. NOTIFICATION

The City, Valley Water and other Stakeholders will initiate contact to the appropriate contacts, based on the prevailing weather conditions. This would include those who have a role to perform in the EAP, dispatch and open EOCs. For city responders, City Dispatch, Office of Emergency Management, or others trained in the Everbridge Notification System will initiate the contact and provide information. For Valley Water, Emergency Services will initiate contact and provide the following information.

- Level of Activation
- Situation Status
- Requested Action
- Reporting Requirements

The prevailing conditions will identify whether additional notification or actions will need to take place outside of the designated Stakeholder contacts.

C. RESPONDER NOTIFICATION

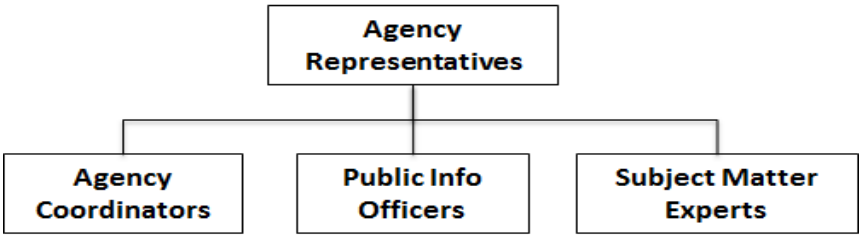
As identified in the following status reporting charts, information from the FIT members deployed in the field, information flows into the Department Operations Center (DOC) or to EOC Operations/Planning & Intelligence. The DOC/EOC staff process the information, track the data, and provide the EOC Operations Section with information. They may use collaboration software (e.g., Google Docs, ArcGIS Survey 123, or other) to share data and information.

D. RECIPROCAL NOTIFICATION

Regardless of activation status, if the City or Valley Water opens its EOC, the jurisdiction is encouraged to notify the other that they have activated their EOC. Notification can occur via Skype, phone or e-mail.

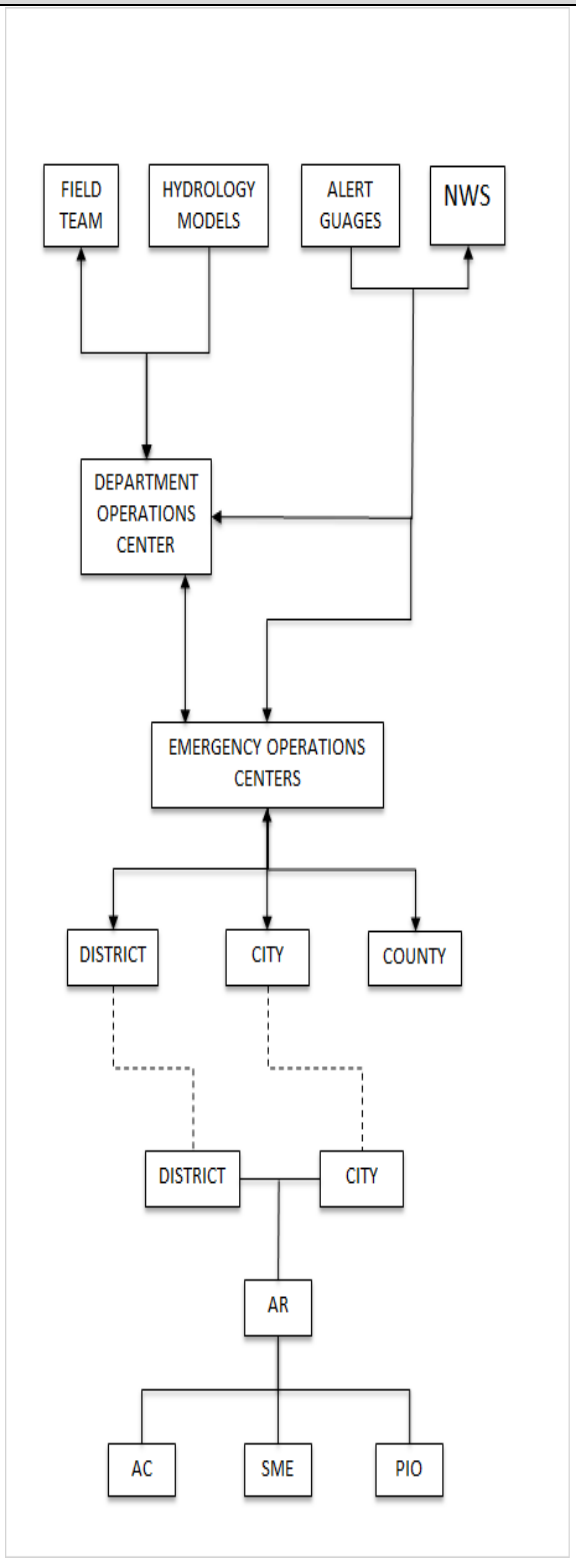
E. PUBLIC WARNING

The City has trained city dispatch, OEM personnel and others to activate the Alert SCC and IPAWS systems. Following protocol, the PIO will generate the message, have it approved and the trained staff will activate the warning system. Other tools such as social media shall be used and monitored. The deployment of the IPAWS system will be evaluated for most effectiveness and mobilized.

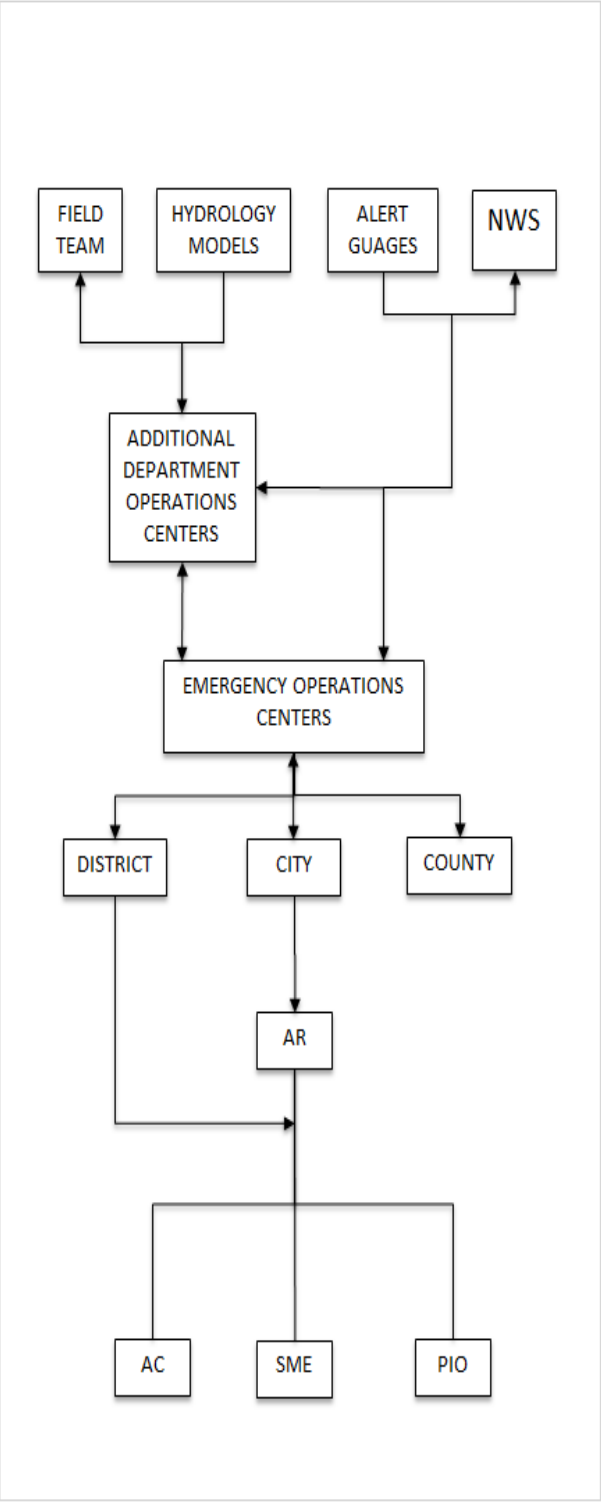
Multi-Agency Coordination Information Flow "Green" or "Preparedness": No predicted storm				
				
		Positions are jointly staffed by each involved agency		
Multi-Agency Coordination Group Roles		**City of San José**	**Valley Water**	**Others**
Subject Matter Expert				
	Provide technical data on mitigation and preparedness measures	• Public Works • Transportation • Environmental Services	• Watersheds Operations & Maintenance Division • Watersheds Stewardship & Planning Division • Raw Water Operations & Maintenance Divisions	
	Provide technical floodplain mapping expertise			
	Maintain equipment, gauges, telemetry, communications systems, etc.			
	Update plans and procedures for plans and activities that support the EAP			
Agency Coordinator				
	Has direct access to Agency Representative or EOC Director of own agency	• OEM Director • Public Works Director • Transportation Director • PRNS Director • Environmental Services Director • Police Chief • Fire Chief	• Watersheds Operations & Maintenance Division • Watersheds Stewardship & Planning Division • Raw Water Operations & Maintenance Division	designated staff from: Santa Clara County SJ Unified School District
	Works with SMEs to collect information, develop plans of action, and identify resources required for preparedness effort			
	Meets on regular basis with EAP agencies on preparedness matters			
	Implements respective parts of the EAP as either department lead or representative of activated Emergency Operations Center			
	Directs/redirects city resources as needed by priorities			
	City OEM in consultation with City EOC Director will determine need to activate to Yellow level			

Multi-Agency Coordination Information Flow "Green" or "Preparedness": No predicted storm				
Multi-Agency Coordination Group Roles		**City of San José**	**Valley Water**	**Others**
Public Information Officer				
	Provides direction and support on public education jointly with other agencies	Communications Officer E-PIO Team	Public Information Officer	designated Public Information Officer
	Provides coordination to operate a Joint Information System or Center			
Agency Representative				
	Authorizes: Emergency Action Plan Preparedness Planning Mitigation Plans Budget and Resource Allocation	• City Manager (CM) • Assistant CM • Deputy CM • EOC Director when EOC is activated	• Assistant Chief Executive Officer • Chief Operations Officer for: Administration Watersheds Water Operations	• County Administrative Officer • San José Unified School District Superintendent
	Meet Annually for plan review and agency coordination			
	May delegate authorities to Agency Coordinator			

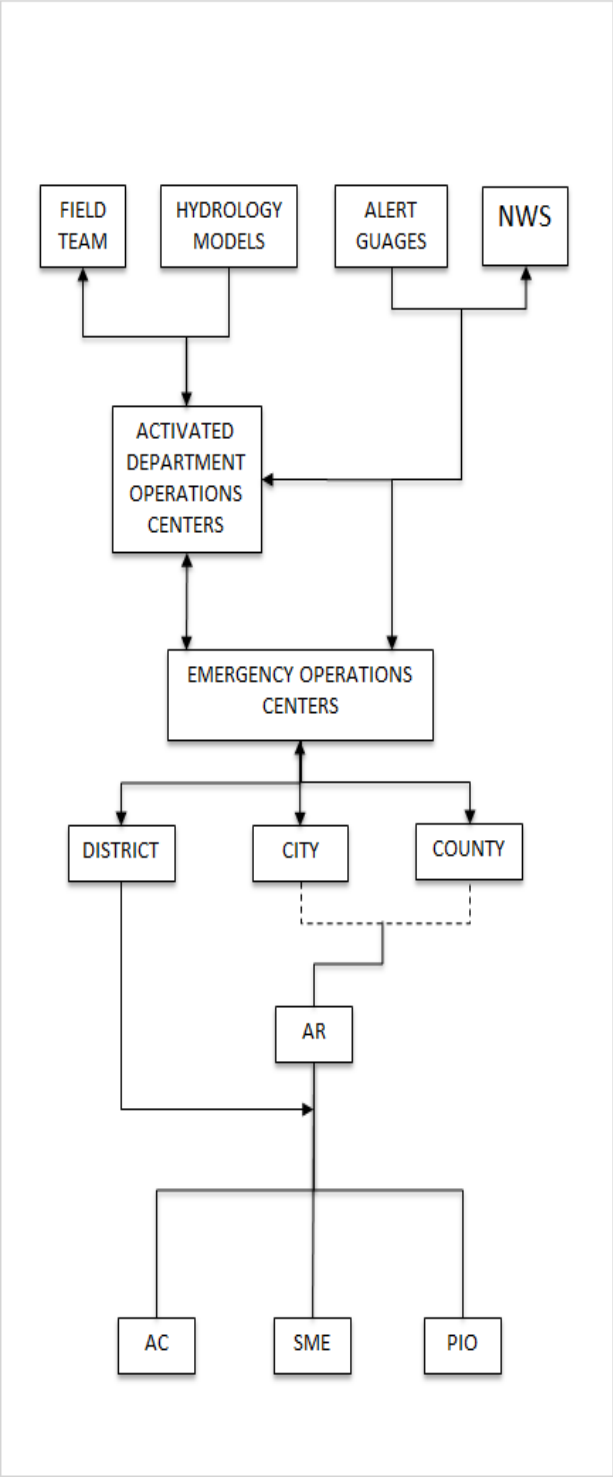
Multi-Agency Coordination Information Flow "Yellow" or "Monitoring": Flood stage within 72 hours plus, or depths are at 50% to 70% of flood stage	
Data Collection Efforts	
Data Sources	Field Teams
	City and Valley Water deploy independent units Teams either provide visual information on the levels of the creeks or respond to storm drain demands City and Valley Water coordinate deployments as appropriate
	Hydraulic Modeling and Mapping is managed real time by Valley Water
	ALERT Gauge data is displayed on line available to DOC and EOC
	National Weather Service provides routine updates available to DOC and EOC
Department Operations Center (DOC)	
Data Assessment	Valley Water will activate a DOC or Valley Water Control Center upon rainfall and projection
	City will activate DOC(s) upon deployment of Field Teams and projected weather
	Staffing will depend on storm severity
	City DOC communicates with virtual or present EOC or OEM staff
Emergency Operations Center (EOC)	
Coordination and Collaboration	City, Valley Water and County may partially activate individual EOCs to monitor conditions
	Staffing level at start may be a few to track incident and progress to more staff as predicted storms increase.
	City EOC Director, after consult with OEM/EOC Staff, determines level of activation of Orange level
	City EOC Director determines if a MAC is needed; identifies need for virtual MAC or in person
Multi Agency Coordination (MAC) Group	
Enhance Coordination	City EOC Director sets physical MAC schedule of meetings and requests Valley Water staffing
	Valley Water staffing may be requested to fulfill Subject Matter Expert needs, Agency Coordinator, and or Agency Representative role
	Valley Water responds according to demands and sends at least Subject Matter Expert or Agency Coordinator who has immediate access directly to Agency Representative
	When activated designated MAC Staff complete responsibilities and tasks identified in this EAP



Multi-Agency Coordination Information Flow "Orange" or "Watch": Flooding within 24 to 72 hours or measured depths are at 70% to 100% of flood stage	
Data Streams	
Data Sources	Field Teams
	City and Valley Water continue field response and observation Follow field operations plan
	Hydraulic Modeling and Mapping is managed real time by Valley Water
	ALERT Gauge data is displayed on line available to DOC and EOC
	National Weather Service provides routine updates available to DOC and EOC
Department Operations Center (DOC)	
Data Assessment	Valley Water may operate a DOC or Valley Water Control Center upon rainfall and projection
	City maintains DOC(s) activated in Yellow and add DOC for PRNS, Police and Fire
	Staffing will depend on storm severity
	Reporting to agency EOC will notably increase to ensure coordinated response
Emergency Operations Center (EOC)	
Coordinate and Collaborate	City, Valley Water and County will have activated individual EOCs to coordinate response to conditions
	City EOC Director after consult with EOC Staff determine level of activation of Red level
	City EOC Director determines calls for MAC if not already activated; requests appropriate staffing
Multi Agency Coordination (MAC) Group	
Enhance Coordination	City EOC Director sets physical MAC schedule of meetings and requests Valley Water staffing at City EOC
	Valley Water requested to fulfill Subject Matter Expert needs, Agency Coordinator activity, and or Agency Representative role
	Valley Water responds according to demands and sends as a minimum, a Subject Matter Expert who access directly to Agency Representative
	If MAC staffing response is impeded by demands on multiple water ways, City EOC Director may request MAC at the County
	When activated designated MAC Staff complete responsibilities and tasks identified in this EAP



Multi-Agency Coordination Information Flow "Red" or "Warning": Flood stage is estimated to occur within 24 hours	
Data Streams	
Data Sources	Field Teams
	City and Valley Water continue field response and observation and may use collaboration software to share info.
	Hydraulic Modeling and Mapping is managed by Valley Water
	ALERT Gauge data is displayed on-line available to DOC and EOC
	National Weather Service provides routine updates available to DOC and EOC
Department Operations Center (DOC)	
Data Assessment	Valley Water may operate a Valley Water Control Center upon rainfall and projection
	City maintains DOC(s) activated in Orange and add DOC for PRNS, Police and Fire
	Staffing will depend on storm severity
	Report frequency to agency EOC will notably increase to ensure coordinated response
Emergency Operations Center (EOC)	
Coordinate and Collaborate	City, Valley Water and County will have activated individual EOCs to coordinate response to conditions
	City EOC Director after consult with EOC Staff determine evacuation areas and shelter support
	City EOC Director determines involvement of MAC
Multi Agency Coordination (MAC) Group	
Enhance Coordination	City EOC Director sets physical MAC schedule of meetings and requests Valley Water staffing at City EOC
	Valley Water requested to fulfill Subject Matter Expert needs, Agency Coordinator activity, and or Agency Representative role
	Valley Water responds according to demands and sends as a minimum, a Subject Matter Expert who has direct access to Agency Representative
	City EOC Director identifies how MAC will be engaged in Recovery



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4. EMERGENCY ACTION PLAN OBJECTIVES AND FUNCTIONS

The City, Valley Water and other Stakeholders will focus on the following Objectives, Capabilities, and Functions. The following is consistent with the concepts of the National Incident Management System (NIMS) from the Federal Emergency Management Agency (FEMA) and the Standardized Emergency Management System (SEMS) from the State of California Office of Emergency Services (CalOES).

A. OBJECTIVES

The following objectives are in alignment with the purpose of this EAP to coordinate the interagency response, resource management and recovery operations; and to collaborate on public messaging.

- **Objective 1: Identify Conditions, Actions, and Needs**
  - Core Capability: Situational Awareness
- **Objective 2: Notification of Involved Agencies**
  - Core Capability: Activation; Coordination
- **Objective 3: Emergency Public Information**
  - Core Capability: Public Information Officer (PIO) Collaboration in communications
- **Objective 4: Warning**
  - Core Capability: Public Warning
- **Objective 5: Coordination of Field Operations; Resource Sharing**
  - Core Capability: Personnel Accountability; Mutual Aid; Tracking; Finance Issues

B. FUNCTIONS

In keeping with the concepts of SEMS and NIMS, utilizing common functions to maintain the orderly flow of information and responsibility between agencies is important. Consistency in utilizing the SEMS Functions in an activation, similar to those in an EOC, improves the organization and communication flow. They are listed below in the order of when they would be called upon during the progression of the EAP:

- Planning and Intelligence
- Operations Coordination
- Emergency Public Information
- Logistics and Resource Management
- Management

Planning/Intelligence

As with any emergency, it can take some time for an agency to (1) ascertain what has happened, (2) what is likely to happen, and (3) what areas and/or systems are affected. The SEMS and NIMS function of Planning/Intelligence helps gather and shape the information needs.

Documentation

All activity and actions will be documented as best as possible through the use of the ICS Unit Log 214, as a minimum, and other forms available at the EOC Facility. The use of status boards is encouraged and will be adapted from available resources.

Situation Status

The SMEs consolidate all intelligence and create Situational Awareness (SA) regarding weather forecasts, damage assessments, flooding reports, traffic conditions, etc. This is accomplished through reports, documentation on the City EOC status boards and maps, and conveyed through an Action Plan (AP). The AP may be verbal at the Monitoring stage. When the City EOC is activated for a MAC, the AP will be written.

Agency and Resource Status

Determining what agencies have accomplished and what they may need includes identifying what personnel and resources have been deployed, the prevailing condition, the need for mutual aid, and tracking other resource demands or similar requests.

Notification

The Planning/Intelligence activities accomplished by the SMEs lead to the appropriate notification of Stakeholders as described in Section 3, Mobilization of EAP, and are accomplished by the City.

Operations Coordination

- Activities and actions required for responding to and mitigating flood events are reported by FIT teams to the respective DOC.

- The appropriate DOC will monitor respective FIT teams. The DOC will provide operational updates to the appropriate City EOC Operations Section personnel.

- Critical life safety concerns in the field may be directly relayed from the field to the EOC as needed.

Emergency Public Information

As the event unfolds there is a constant need of notifying the public of conditions and what to do. The Public Information Officers (PIO) are responsible for identifying with whom to communicate, creating the message, and specifying the format and method of communication to deliver the message public and stakeholders.

The PIOs from each agency will follow the checklists and responsibilities identified in the jurisdiction's EOP. This EAP does not change that responsibility or override the tasks outlined in the plan. The purpose is to coordinate the Public Affairs and/or designated Public Information Officers (PIOs) from each agency to create a common message to avoid confusing the public, which can occur when each of the agencies sends out disparate messages.

Warning

As part of the Emergency Public Information and Warning Core Capability comes the need to let the public know to prepare for the expected impacts of imminent flooding. This is accomplished through use of the Alert SCC, IPAWS, and deployment of LRADs. Door to door contact with volunteers or employees will also be employed.

Special attention to multi-lingual or mono-lingual needs will be considered.

The PIOS should consider the activation of mutual aid and establishment of a Joint Information System (JIS) or Joint Information Center (JIC).

Logistics and Resource Management

As the incident unfolds and resources respond to the prevailing conditions, skilled or scarce resources will be tapped-out and require backfill, replacement or additional support. The support can come in the form of mutual aid assistance, contractors, vendors, or other sources. Resource requests will be noted and coordinated as much as possible through the EOCs or DOCs. The method of request, including the form, will be coordinated with the Agency fulfilling the need. If resources cannot be met by local Agency Stakeholders, a request for assistance can be sent to the Santa Clara County Operational Area.

Reimbursement

As resources from one Agency are shared with another Agency, the use of equipment, personnel or other resources may be reimbursable, based upon agreement.

Management

As conditions warrant or progress, the City, Valley Water and other Stakeholders Authorized Representatives by definition have the ability to make policy decisions, including those on matters of cost and/or liability. The City, Valley Water and other Stakeholders may confer on:

- Critical conditions
- Agency priority responses
- Common resource needs
- Resource request processing
- Managing any conflicting policy issues

C. PROGRESSION

The checklists in the Attachments demonstrate how the City, Valley Water and other Stakeholders Functions grow from Pre-Incident Preparedness to Monitoring, Watch, and Warning. The overall change in level of participation, number of participants, and staffing needs is incident specific, because not all potential or actual incidents are the same.

CONFIDENTIAL—withheld in public document

ATTACHMENT 1
Emergency Services Contact List

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ATTACHMENT 2
Web-Based Data Sources

VALLEY WATER SITES:

~~xxx~~

CITY SITES:

~~xxx~~

FEDERAL EMERGENCY MANAGEMENT AGENCY SITES:

~~xxx~~

NATIONAL WEATHER SERVICE SITES:

~~xxx~~

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ATTACHMENT 3
Subject Matter Experts Action List

PURPOSE:

- Provide hydrological, geological and water way estimated assessments.
- Provide expertise on flood fight operations and estimated impacts on critical infrastructure including utilities and transportation.

WHO DESIGNATED:

City	Valley Water and Other Stakeholders
• Public Works • Transportation	• Watersheds Operations & Maintenance Division • Watersheds Stewardship & Planning Division • Raw Water Operations & Maintenance Division

ACTIONS:

	Responsibility/Activity	Stakeholder
Preparedness	Provide technical data on mitigation and preparedness measures.	Each Stakeholder is lead for own agency resources.
	Conduct field inspections of creeks and facilities.	Each parcel owner is lead in own right of way.
	Jointly discuss property management needs and plans.	Each parcel owner is responsible.
	Perform mitigation work to reduce flood risk.	Each Stakeholder is lead on own property. By agreement can release to others.
	Provide technical floodplain mapping expertise. Provide City an electronic link to Design Storm (e.g., 10-year, 25-year and/or 100-year) flood maps for creeks included in Appendices.	Valley Water is lead.
	Maintain equipment, gauges, telemetry, communications systems, etc.	Valley Water lead for stream gauges and Valley Water equipment. City lead for city equipment.
	Develop and maintain computer models of watersheds and creeks.	Valley Water is lead.
	Participate in winter preparedness workshop.	Valley Water is lead.
	Participate in annual EAP review/exercise/updates; ensure plan is functional and up to date.	City is lead.
	Manage flood information websites.	Each Stakeholder manages own site; points to Water Valley Water for flow.

ATTACHMENT 3
Subject Matter Experts Action List (continued)

	Responsibility/Activity	Stakeholder
Monitoring	Notify staff of own agency about the increased condition level.	Each Stakeholder is lead for their staff.
	Conduct formal monitoring, communicate via virtual systems; communicate with Agency Coordinators to determine next level of activation.	Each Stakeholder is lead for own agency resources.
	Communicate risk to EOC/MAC representatives that includes whether the risk is for areas controlled purely by storm drain runoff (flashy systems).	Each Stakeholder is lead within their agency.
	Report to designated MAC facility when directed, and available.	Each Stakeholder responds to designated MAC facility.
	Review evacuation planning needs.	City is lead.
Watch	Communicate risk to EOC/MAC representatives that includes whether the risk is for areas controlled purely by storm drain runoff (flashy systems).	Each Stakeholder is lead within their agency.
	Notify staff of own agency about the increased condition level.	Each Stakeholder is lead for own agency.
	Provide information to and from respective EOCs, including status reports and briefings.	Each Stakeholder is lead.
	Report to designated MAC facility when directed, as available.	Valley Water is lead.
	Evaluate possible need to modify storm pump station operations.	City is lead with Valley Water support.
	Update computer modeling based on forecast and watershed conditions and, if possible and deemed necessary, provide forecast flood maps to City and, if requested, to other Agency Stakeholders.	Valley Water is lead.
Warning	Report to designated MAC facility when directed, if not already done.	Valley Water is lead.
	Communicate risk to EOC/MAC representatives that includes whether the risk is for areas controlled purely by storm drain runoff (flashy systems).	Each Stakeholder is lead within their agency.
	Evaluate possible need to modify storm pump station operations.	City is lead with Valley Water support.
	Update computer modeling based on forecast and watershed conditions and, if possible and deemed necessary, provide forecast flood maps to City and, if requested, to other Agency Stakeholders.	Valley Water is lead.
*If only one Stakeholder is noted as lead, all other Stakeholders support the effort.		

ATTACHMENT 4
Agency Coordinators Action List

- Agency Coordinators are designated Agency Stakeholder staff who may normally be assigned roles in an EOC Management or Operations Section.

- Agency Coordinators should have authority to recommend actions or updates to plans.

PURPOSE:

- Agency Coordinator primary role is to coordinate actions between the Stakeholders to resolve questions on response and assign resources from their respective agency for comprehensive support to the storm condition.

WHO DESIGNATED:

City	Valley Water and Other Owners
EOC Operations Section staff for: • Public Works • Transportation • Utilities • Police • Fire • Parks, Recreation and Neighborhood Services • Emergency Management	• Watersheds Operations & Maintenance Division • Watersheds Stewardship & Planning Division • Raw Water Operations & Maintenance Division

ACTIONS:

	Responsibility/Activity	Stakeholder
Preparedness	Provide technical data on mitigation and preparedness measures.	Each Stakeholder is lead for own agency resources.
	Jointly discuss property management needs and plans.	Each parcel owner is responsible.
	Inventory and Procure Flood Fighting Materials and Equipment.	Each Stakeholder is lead for own materials and equipment.
	Involve FEMA Floodplain Manager who maintains the National Flood Insurance Program (NFIP) Community Rating System (CRS) certification.	City is lead.
	Implement and enforce building codes for building in floodplains.	City is lead.
	Participate in winter preparedness workshop.	Valley Water is lead.
	Participate in annual EAP review/exercise/updates; ensure plan is functional and up to date.	City is lead.
	Update EAP and Contact/Roles list and provide revisions to Stakeholders.	City is lead.
	Update Emergency Communications Plan and notification systems.	City is lead. County is key support for warning.

ATTACHMENT 4
Agency Coordinators Action List (continued)

	Responsibility/Activity	Stakeholder
Monitoring	Notify staff of own agency about the increased condition level.	Each Stakeholder is lead for their staff.
	Communicate risk to EOC/MAC representatives that includes whether the risk is for areas controlled purely by storm drain runoff (flashy systems).	Each Stakeholder is lead within their agency.
	Participate as necessary in response to and mitigation of minor events as needed; coordinate with each responding agency.	Each Stakeholder is lead for own materials and equipment.
	Help assure that equipment is staged at localities likely to be affected as needed; coordinated with each responding agency.	Each Stakeholder is lead for own materials and equipment.
	Confer with EOC Director on conditions for activating next level.	City is lead.
	Confer with EOC Director for activation of a MAC.	City is lead.
	Identify location for flood fighting resources for the public (e.g. sandbag locations). May begin planning for establishment of special temporary sandbag locations (Attachment 10).	Valley Water is lead.
	Review evacuation planning needs.	City is lead.
Watch	Manage information from the Department Operations Center.	Each Stakeholder is lead within their agency.
	Allow the DOC to manage field response.	Each Stakeholder is lead within agency resources.
	Notify staff of own agency about the increased condition level.	Each Stakeholder is lead for own agency.
	Confer with responding Agency Coordinators to determine response coordination needs and resources needs.	Each Stakeholder is equally responsible for cross coordination.
	Participate as necessary in response to and mitigation of minor events as needed; coordinate with each responding agency.	Each Stakeholder is lead for own materials and equipment.
	Help assure that equipment is staged at localities likely to be affected as needed; coordinated with each responding agency.	Each Stakeholder is lead for own materials and equipment.
	Update location for flood fighting resources for the public and supply additional resources as needed (e.g. sandbag locations). May establish special temporary sandbag sites that could include those shown in Attachment 10.	Valley Water is lead.
	Deploy LRAD and activate public notification as appropriate.	City is lead.
	Provide information on impact and available resources to and from respective EOCs.	Each Stakeholder is lead for own agency resources.
	Provide information to and from respective EOCs, including status reports and briefings.	Each Stakeholder is lead.

ATTACHMENT 4
Agency Coordinators Action List (continued)

	Responsibility/Activity	Stakeholder
Watch	Confer with EOC Director for activation of a MAC.	City is lead.
	Report to designated MAC facility when directed, as available.	Valley Water is lead.
	Confer with EOC Director on conditions for potential evacuation and shelter support.	City EOC Staff are lead.
Warning	Report to designated MAC facility when directed, if not already done.	Valley Water is lead.
	Implement evacuation plans and deploy resources to evacuate.	City is lead.
	Coordinate resources through respective EOCs.	Each Stakeholder is lead for own resources.
*If only one Stakeholder is noted as lead, all other Stakeholders support the effort.		

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ATTACHMENT 5
Public Information Officer Action List

PURPOSE:

- Provide public communications before, during and after a flood emergency.
- Prepare and coordinate public message between agencies
- Provide public notification.

WHO DESIGNATED:

City	Valley Water and Other Stakeholders
• Communications Director • Designated city reps	• External Affairs • Office of Communications

ACTIONS:

	Responsibility/Activity	Stakeholder
Preparedness	Participate in winter preparedness workshop.	Valley Water is lead.
	Participate in annual EAP review/exercise/updates; ensure plan is functional and up to date.	City is lead.
	Update EAP and Contact/Roles list and provide revisions to Stakeholders.	City is lead.
	Publish Preparedness Public Outreach (e.g., Winter Preparedness).	Valley Water is lead.
	Provide public education regarding flooding. Stakeholders should communicate on outreach.	Each Stakeholder is lead for own agency resources.
	Update Emergency Communications Plan and notification systems.	City is lead. County is key support for warning.
Monitoring	Notify staff of own agency about the increased condition level and provide talking points as appropriate.	Each Stakeholder is lead for their staff.
	Report to designated MAC facility when directed, and available.	Each Stakeholder responds to designated MAC facility.
	Provide public education regarding flooding. Stakeholders should communicate on outreach.	Each Stakeholder collaborates and is lead to their constituents.
	Provide information to Elected Officials.	Each Stakeholder is lead for own agency.
Watch	Notify staff of own agency about the increased condition level and provide talking points as appropriate.	Each Stakeholder is lead for own agency.
	Provide public information in multiple languages.	Each Stakeholder collaborates and is lead to their constituents.
	Provide public warning in multiple languages.	City is lead. County is key support.

ATTACHMENT 5
Public Information Officer Action List (continued)

	Responsibility/Activity	Stakeholder
Watch	Deploy LRAD and activate public notification as appropriate.	City is lead.
	Provide talking points to staff and elected officials as needed.	Each Stakeholder collaborates and is lead for communicating with their staff and elected officials
	Provide information to Elected Officials.	Each Stakeholder is lead for own agency.
	Activate JIS/JIC as appropriate.	City is lead.
	Communicate with media as needed.	Each Stakeholder is lead for own agency.
	Report to designated MAC facility when directed, as available.	Valley Water is lead.
Warning	Report to designated MAC facility when directed, if not already done.	Valley Water is lead.
	Provide talking points to staff and elected officials as needed.	Each Stakeholder collaborates and is lead for communicating with their staff and elected officials
	Provide public information in multiple languages.	Each Stakeholder collaborates and is lead to their constituents.
	Provide public warning and shelter information in multiple languages.	City is lead. County is key support.
	Activate JIS/JIC as appropriate to jointly communicate with media.	City is lead.
	Coordinate resources through respective EOCs.	Each Stakeholder is lead for own resources.
*If only one Stakeholder is noted as lead, all other Stakeholders support the effort.		

PUBLIC COMMUNICATIONS MESSAGING

FLOOD EMERGENCY MESSAGES

CITY OF SAN JOSE
CAPITAL OF SILICON VALLEY

WHEN YOU HEAR "FLOOD MONITORING"	WHEN YOU HEAR "FLOOD WATCH"	WHEN YOU HEAR "FLOOD WARNING"
Stream depths are 50% to 70% to flood stage	*Stream depths are 70% or more to flood stage*	*Stream depths are near flood stage*
DO THIS: • Be alert, listen to news channels. • Tell neighbors to be alert. • Locate sandbags: visit www.valleywater.org/floodready. • Arrange for a place to stay in case of an evacuation. • Seniors or mobility-impaired: Ask family or friends to help you if needed. • Be ready to move your pets to another location. • Be ready to move valuable items to a secure place. • Be ready to gather important documents, medicines, spare clothes. 	**DO THIS:** • Listen to the news. • Be ready to evacuate. • Protect your property with sandbags. • Seniors or mobility-impaired: Ask family or friends to get you NOW. • Move valuable items to a higher or secure place. • Consider moving pets NOW. • Be ready to move your car/s. • Pack a bag with important documents, medicines, spare clothes. 	**DO THIS:** • Keep listening to the news. • Calmly evacuate NOW. • Tell your neighbors to evacuate. • Take your bag with important documents, medicines, spare clothes. • Move your car/s to high ground. • Go to a City Shelter if needed. Find shelters at www.sanjoseca.gov. • Take pets to the San José Animal Shelter for a temporary stay during disasters. 

October 2017

MENSAJES DE EMERGENCIA EN INUNDACIONES

PREPARACIÓN: *Los profundidades de la corriente están por debajo del 50% de la etapa de inundación.*
Prepárese para los desastres antes de que sucedan. Haga un plan con su familia, o descargue ReadySCC, una aplicación móvil eso te ayuda a crear un plan, armar un kit y saber qué hacer en caso de emergencia.

CUANDO ESCUCHE "MONITOREO DE INUNDACIONES"	CUANDO ESCUCHE "VIGILANCIA DE INUNDACIÓN"	CUANDO ESCUCHE "ADVERTENCIA DE INUNDACIÓN"
Los profundidades de la corriente son 50% a 70% a la etapa de inundación	*Los profundidades de la corriente son 70% o más a la etapa de inundación*	*Los profundidades de corriente están en o cerca de la etapa de inundación*
HAZ ESTO:	**HAZ ESTO:**	**HAZ ESTO:**
☐ Esté alerta, escuche los canales de noticias.	☐ Escuche las noticias.	☐ Siga escuchando las noticias.
☐ Diga a los vecinos que estén alertas.	☐ Esté listo para evacuar.	☐ Evacue tranquilamente ahora.
☐ Localice sacos de arena: visite www.valleywater.org/floodready.	☐ Proteja su propiedad con sacos de arena.	☐ Diga a sus vecinos que evacuen.
☐ Identifique un lugar para permanecer en caso de una evacuación.	☐ Personas mayores o con problemas de movilidad: pida ayuda INMEDIATA a su familia o a sus amigos.	☐ Lleve su bolso con documentos importantes, medicinas, cambios de ropa.
☐ Personas mayores o con problemas de movilidad: pida ayuda a su familia o amigos si es necesario.	☐ Mueva los artículos valiosos a un lugar más alto o seguro.	☐ Mueva su vehículo/s a un terreno alto.
☐ Esté listo para mover sus mascotas a otra ubicación.	☐ Considere mover mascotas AHORA.	☐ Vaya a un refugio de la ciudad si es necesario. Encuentra refugios en www.sanjoseca.gov.
☐ Esté listo para mover artículos valiosos a un lugar seguro.	☐ Esté listo para mover su vehículo/s.	☐ Lleve animales domésticos al refugio de animales San José para una estadía temporal durante los desastres.
☐ Esté listo para reunir documentos importantes, medicamentos, cambios de ropa.	☐ Empaque una bolsa con documentos importantes, medicinas, cambios de ropa.	
		

October 2017

CÁC THÔNG TIN KHẨN CẤP VỀ LŨ LỤT

SỰ CHUẨN BỊ: *Bề sâu con suối nằm dưới 50% của mức lụt.*
Chuẩn bị cho thiên tai trước khi chúng xảy ra. Lập kế hoạch với gia đình quý vị, hoặc tải xuống ReadySCC, một ứng dụng di động giúp quý vị lập một kế hoạch, gồm các đồ trang bị, và hiểu biết phải làm gì trong một tình trạng khẩn cấp.

KHI QUÝ VỊ NGHE THÔNG TIN "GIÁM SÁT LŨ LỤT" *Chiều sâu dòng suối 50% đến 70% dẫn đến lũ lụt*	KHI QUÝ VỊ NGHE THÔNG TIN "CANH PHÒNG LŨ LỤT" *Chiều sâu dòng suối 70% hay hơn dẫn đến lũ lụt*	KHI QUÝ VỊ NGHE THÔNG TIN "CẢNH CÁO LŨ LỤT" *Chiều sâu dòng suối đã gần kề lũ lụt*
LÀM NHƯ SAU:	**LÀM NHƯ SAU:**	**LÀM NHƯ SAU:**
☐ Hãy cảnh giác, lắng nghe các chương trình tin tức.	☐ Lắng nghe các chương trình tin tức.	☐ Tiếp tục theo dõi tin tức.
☐ Mách bảo hàng xóm nên cảnh giác.	☐ Sẵn sàng để di tản.	☐ Bình tĩnh khi di tản ngay.
☐ Tìm các bao cát: viếng trang mạng www.valleywater.org/floodready.	☐ Bảo vệ các tài sản của quý vị bằng bao cát.	☐ Báo các hàng xóm quý vị phải di tản.
☐ Dàn xếp một chỗ để cứ ngụ nếu lỡ phải di tản.	☐ Các bậc cao niên hoặc khuyết tật về di chuyển: Hỏi gia đình và bạn bè đến rước quý vị NGAY BÂY GIỜ.	☐ Lấy theo túi sách tay với các giấy tờ quan trọng, thuốc men, quần áo dự bị.
☐ Các bậc cao niên hoặc khuyết tật về di chuyển: Hỏi sự giúp đỡ cho quý vị từ gia đình hoặc bạn bè nếu cần thiết.	☐ Di chuyển các đồ vật quý giá đến một nơi cao và an toàn hơn.	☐ Lái xe quý vị đến một nơi cao hơn.
☐ Sẵn sàng để di chuyển các thú nuôi trong nhà đến một nơi khác.	☐ Cân nhắc việc di chuyển các thú nuôi trong nhà bây giờ.	☐ Dời đến Nơi Tạm Trú Của Thành Phố nếu cần thiết. Truy cập các nơi tạm trú tại www.sanjoseca.gov.
☐ Sẵn sàng để di chuyển các đồ vật quý giá đến một nơi an toàn.	☐ Sẵn sàng để di chuyển xe của quý vị.	☐ Đem các thú nuôi trong nhà đến cơ quan San José Animal Shelter để tạm trú trong cơn tai họa.
☐ Sẵn sàng để gom lại tất cả các giấy tờ quan trọng, thuốc men, quần áo dự bị.	☐ Chuẩn bị một túi sách tay với các giấy tờ quan trọng, thuốc men, quần áo dự bị.	
		

October 2017

Prepare for Winter Storms

Are you flood safe? Santa Clara County has had several damaging floods over the years. It is important that you make the necessary plans to protect your family and property from flooding. Most homeowner's and renters insurance do not cover flood damage; and typically there is a 30-day waiting period for a policy to go into effect.

Floodwater can flow swiftly through neighborhoods and away from streams when creeks "overbank" or flood. Dangerously fast-moving floodwaters can flow thousands of feet away from the flooded creek within minutes.

Don't wait for the damage to happen. Plan ahead to keep your family and property safe.

www.valleywater.org/Floodready

Report street flooding or blocked storm drains or contact your local floodplain manager to learn if your home is in a floodplain:

Campbell	(408) 866-2145	*Palo Alto	(650) 496-6974
*Cupertino	(408) 777-3269		(650) 329-2413‡
	(408) 299-2507‡	*San José	(408) 794-1900
*Gilroy	(408) 846-0444		(408) 277-8956‡
	(408) 846-0350‡	*Santa Clara	(408) 615-3080
*Los Altos	(650) 947-2785		(408) 615-5640‡
	(650) 947-2827‡	Saratoga	(408) 868-1245
Los Altos Hills	(650) 941-7222		(408) 299-2507‡
Los Gatos	(408) 399-5770	*Sunnyvale	(408) 730-7400
*Milpitas	(408) 586-2600	*Unincorporated	(408) 494-2750 (East Yard)
	(408) 586-2400‡		(408) 366-3100 (West Yard)
Monte Sereno	(408) 354-7635		(408) 682-1240 (South Yard)
	(408) 299-2507‡		
*Morgan Hill	(408) 776-7333		
	(408) 779-7101‡		
*Mountain View	(650) 903-6329	Santa Clara Valley Water District	(408) 630-2378
	(650) 903-6395‡		

*Participating CRS communities ‡ Use this number after business hours

WHAT TO DO

Protect your family and property from flooding

before

- Consider flood insurance. To get insured, call 1-888-379-9531 or go to www.floodsmart.gov.
- Prepare a family emergency plan and emergency kit for your home and car with supplies. Store important documents and valuables in a safe deposit box. For more information, visit: www.ready.gov/make-a-plan
- Designate a family meeting spot.
- Examine your house for cracks in the foundation, exterior walls and small openings around pipes. Seal them.
- Build a sandbag barrier to block shallow water from entering structures. Use of sandbag guidelines: valleywater.org/sandbags/
- Place valuables in a high place (2nd floor, if possible) and move vehicles to higher ground.
- Keep rain gutters and drainage channels free of debris.

Download the free Flood App!
Visit www.redcross.org/prepare/mobile-apps/flood
Text "GETFLOOD" to 90999
or search "Red Cross Flood" in the Apple App Store or Google Play

during

- Be aware that flash flooding can occur. If a flood is imminent, avoid low-lying areas and seek shelter in the highest area possible.
- Tune to radio station KCBS (740 AM) for emergency information.
- If advised to evacuate, do so immediately. Turn off utilities at the main switches or valves. Disconnect electrical appliances. Do not touch electrical equipment if you are wet or standing in water.
- DO NOT drive into flooded areas. If floodwaters rise around your car, abandon the car and move to higher ground. A foot of water will cause many vehicles to float. Two feet of rushing water can carry away most vehicles, including SUVs and pick-ups.

ALERTSCC
Sign up for the free "Alert SCC" Santa Clara County emergency alert system at www.alertscc.com.

READYSCC
Download the ReadySCC app to get emergency notifications, create your emergency plan, follow a detailed guide for preparedness and more.

after

- Listen for news reports on whether the community's water supply is safe to drink.
- Never drive through flooded roadways. Play it smart, play it safe. Whether driving or walking, any time you come to a flooded area, Turn Around Don't Drown®. bit.ly/2hBE7WD Don't walk, swim, drive or play in floodwater.
- DO NOT walk in floodwaters. Water may be contaminated from oil, gasoline or raw sewage. Underground or downed power lines may also have electrically charged the water. Stay away from downed power lines and report them to your power company.
- Return home only when authorities indicate it is safe.

Santa Clara Valley Water District

CONTACT US

See trash or downed trees in a creek? Want to report dumping or other problems? Let us know. Use our Access Valley Water customer request and information system to submit requests directly to a water district staff person. Go to **Valleywater.org** or download the **Access Valley Water App**.

Be FloodSafe with sandbags

BE PREPARED

Residents can monitor water levels in creeks and storm drains near their homes as we enter the wet weather season. Major flood protection projects have been completed in Santa Clara County since 1982, but urban flooding can still occur along other portions of the rivers and creeks. Overflowing storm drains also can cause serious flooding.

Flooding in the Santa Clara Valley can occur with little warning. Heavy winter rains can cause flooding in minutes. The heaviest rains and flooding are most likely to occur between December and March, so now's the time to begin preparing.

For questions on sandbags, wet weather checklist and other information visit us online at *www.valleywater.org/sandbags/*

MAP LEGEND

- Creeks, rivers and reservoirs
- Flood prone areas
- City/County public works yards
- Water district maintained sites

SANTA CLARA VALLEY WATER DISTRICT SANDBAG STATIONS

FILLED SANDBAGS. AVAILABLE LATE NOVEMBER THROUGH APRIL. AT CERTAIN TIMES, SITES MAY BE STOCKED WITH SAND AND EMPTY BAGS. BRING YOUR OWN SHOVEL. SITES OPEN 24 HOURS A DAY, 7 DAYS A WEEK. BAGS MAY BE HEAVY, CONSIDER BRINGING ASSISTANCE TO LOAD BAGS.

A **Palo Alto**: 1925 Embarcadero Road, adjacent to Palo Alto Air Terminal

B **Alviso**: Located behind George Mayne Elementary School, 5030 N 1st Street, (entrance on Wilson Way behind school)

C **San Jose**: City Central Service Yard, 1661 Senter Road at Phelan Avenue

D **San Jose**: Santa Clara Valley Water District Winfield Warehouse, 5905 Winfield Boulevard, between Blossom Hill Road and Coleman Avenue – bag pickup street access only

E **Morgan Hill**: El Toro Fire Station, 18300 Old Monterey Road, next to the Union Pacific Railroad overpass above Monterey Highway

OTHER SOURCES OF UNFILLED SANDBAGS

BAGS AND SAND. MUST BRING SHOVEL. EMPTY BAGS SUPPLIED BY THE WATER DISTRICT. CONSIDER BRINGING ASSISTANCE TO FILL AND LOAD BAGS. PROOF OF RESIDENCY MAY BE REQUIRED AT SOME SITES. CHECK INDIVIDUAL SITES FOR OPERATING HOURS.

1 **Palo Alto**: Mitchell Park, 600 E. Meadow Drive near baseball field. Bags and sand (available 24/7). (650) 496-6974.

2 **Palo Alto**: Rinconada Park Tennis Court Parking Lot (intersection of Hopkins Avenue and Newell Road). Filled bags (available 24/7). (650) 496-6974.

3 **Milpitas**: Sport Center Parking Lot at 1325 E. Calaveras Blvd. Filled bags (available 24/7). 408-586-2600, after hours: (408) 586-2399.

4 **Milpitas**: Hall Memorial Park Parking Lot, Cross Streets La Honda and Hermina St. Bags and sand (available 24/7). (408) 586-2600.

5 **Mountain View**: Public Services, 231 N. Whisman Rd. Bags and sand at parking lot (available 24/7). Must bring shovel. (650) 903-6395.

6 **Los Altos**: Municipal Service Center, 707 Fremont Ave. at McKenzie Park parking lot. Bags and sand (available 24/7). (650) 947-2785.

7 **Los Altos Hills**: Corporation Yard, 27500 Purissima Rd. at Little League Field. Must bring bag and shovel (available 24/7). (650) 941-7222

8 **Cupertino**: City Corporation Yard, 10555 Mary Ave. Bags and sand outside the gate (available 24/7). Must provide own shovel. (408) 777-3269.

9 **Sunnyvale**: Corporation Yard, 221 Commercial St. at end of California St. Filled bags (available 24/7). (408) 730-7566, after hours: (408) 730-7490.

10 **Santa Clara**: City Corporation Yard, 1700 Walsh Ave. Filled bags at front door (available 24/7). (408) 615-3080, after hours: (408) 615-5640.

11 **San Jose**: City Mabury Yard, 1404 Mabury Rd. Bags and sand provided. (408) 277-4373.

12 **San Jose**: County East Yard, 1505 Schallenberger Rd., (408) 494-2750.

13 **San Jose**: County West Yard, 11030 Doyle Rd. Bags and sand outside gate (available 24/7). Must bring shovel. (408) 366-3100, after hours: (408) 299-2507.

14 **San Jose**: City West Yard, 5090 Williams Rd., Filled bags (available 24/7) outside gate. (408) 343-3100.

15 **Los Gatos/Monte Sereno**: 41 Miles Ave. at Belzer Field parking lot (Monte Sereno citizens pick up at Los Gatos site). Bags and sand (available 24/7). (408) 399-5770, after hours: (408) 354-8600.

16 **Saratoga**: Corporation Yard, 19700 Allendale Ave., near Post Office. Self-fill bags. Bags and sand provided outside gate (available 24/7). (408) 868-1245.

17 **Campbell**: Service Center, 290 South Dillon Ave. Bags and sand available Monday through Friday from 7 a.m. - 3 p.m. Must bring shovel. (408) 866-2145.

18 **Morgan Hill**: City Corporation Yard, 100 Edes Ct. Bags and sand outside gate (available 24/7). Must bring shovel. (408) 776-7333.

19 **Gilroy**: Corporation Yard, 613 Old Gilroy St. Bags and sand in the parking lot behind fire station (available 24/7). Must bring shovel. (408) 846-0370.

ATTACHMENT 5
Public Information Officer Action List (continued)

PUBLIC COMMUNICATIONS DELIVERY METHODS

1. ALERT SCC and IPAWS if warranted.

2. MEDIA NEWS RELEASE including ethnic media.

3. RADIO & TV STATIONS – Provide specific broadcast information.

4. SOCIAL MEDIA: Post message to NEXTDOOR, FACEBOOK, TWITTER, CITY WEBSITE.

5. Provide public message talking points to field operations staff when they are approached by the public or others.

6. HOMELESS ENCAMPMENTS: Housing Department and Contract staff to walk encampments and share above warnings.
   Contact and provide downloadable flyer:

7. Inform administrators at SCHOOLS, CHURCHES, SJSU, SCOUT TROOPS IN FLOOD ZONE.

8. Contact managers at MOBILE HOME PARK OFFICES.

9. Contact leaders at Chamber of Commerce, Downtown Association to engage BUSINESS DISTRICT and Neighborhood Business Districts.

10. Place SANDWICH BOARD SIGNS ON MAJOR CORNERS: **Be alert to the likelihood of flooding in 24-72 hours**.

11. KNOCK-AND-TALK in at-risk neighborhoods. Staff prepared with numbers to call and basic info if asked.

12. Implement NO PARKING zones.

ATTACHMENT 6
Agency Representative Action List

PURPOSE:

- Direct actions to facilitate the EAP.
- Re-allocate agency resources to address EAP as needed.
- Provide directives and affect emergency orders.
- City AR makes final decision on the level of activation of the EAP and on evacuation order.

WHO DESIGNATED:

City	Valley Water and Other Owners

• City Manager
• Assistant City Manager
• Deputy City Manager
	• Assistant Chief Executive Officer
	• Chief Operating Officer
	  ○ Administration
	  ○ Watershed
	  ○ Water Utility

ACTIONS:

	Responsibility/Activity	Stakeholder*
Preparedness	Participate in winter preparedness workshop.	Valley Water is lead.
	Participate in annual EAP review/exercise/updates; ensure plan is functional and up to date.	City is lead.
	Update EAP and Contact/Roles list and provide revisions to Stakeholders.	City is lead.
	Provide resources to support on-going activity to support this EAP and mitigation efforts along waterways.	Each Stakeholder is lead for own agency resources.
Monitoring	Activate the EAP for "Monitoring."	City is lead.
	Determine level of EOC staffing after consult with OEM.	City is lead.
	Report to designated MAC facility when directed, and available.	Each Stakeholder responds to designated MAC facility.
	Provide public education.	Each Stakeholder collaborates and is lead to their constituents.
	Provide information to Elected Officials.	Each Stakeholder is lead for own agency.
	Identify conditions for activating next level after consult with OEM.	City is lead.
	Determine need for activation of a MAC.	City is lead.

ATTACHMENT 6
Agency Representative Action List (continued)

	Responsibility/Activity	Stakeholder*
Watch	Activate the EAP for "Watch."	City is lead.
	Allow the DOC to manage field response.	Each Stakeholder is lead within agency resources.
	Provide information on impact and available resources to and from respective EOCs.	Each Stakeholder is lead for own agency resources.
	Report to designated MAC facility when directed, as available.	Valley Water is lead.
	Confer with EOC Director on conditions for activating next level.	City is lead.
	Confer with legal staff on process for proclaiming a Local Emergency.	City EOC Director is lead.
Warning	Activate the EAP for "Warning."	City is lead.
	Report to designated MAC facility when directed, if not already done.	Valley Water is lead.
	Provide public warning and shelter information in multiple languages.	City is lead. County is key support.
	Implement evacuation plans and deploy resources to evacuate.	City is lead.
	Proclaim Local Emergency as appropriate.	City EOC Director is lead.
*If only one Stakeholder is noted as lead, all other Stakeholders support the effort.		

ATTACHMENT 7
Elected Officials Action List

PURPOSE:

- Coordinate with constituents.
- Check with respective EOC Director on conditions.
- Coordinate information through the Public Information Officer/Liaison.

WHO DESIGNATED:

City	Valley Water and Other Owners
• City Councilmember	• Board of Directors

ACTIONS:

	Responsibility/Activity	Stakeholder*
Preparedness	Participate in winter preparedness workshop as requested	Valley Water is lead.
	Provide resources to support on-going activity to support this EAP and mitigation efforts along waterways	Each Stakeholder is lead for own agency resources.
Monitoring	Communicate with PIO or Liaison personnel regarding situation and public/media messages	Each Stakeholder is lead for own agency resources.
	Respond to constituents	Each Stakeholder is lead for own agency resources.
	Report any constituent concerns or observations to PIO or Liaison	Each Stakeholder is lead for own agency resources.
Watch	All Monitoring Responsibilities/Actions	Each Stakeholder is lead for own agency resources.
	Communicate with PIO or Liaison at designated MAC facility for more detailed briefing when requested, as available	City utilizes a Liaison and Valley Water utilizes PIO.
Warning	Respond to media and constituents with agreed upon messages	Each Stakeholder is lead.
	Proclaim Local Emergency as appropriate	City is lead.
*If only one Stakeholder is noted as lead, all other Stakeholders support the effort.		

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ATTACHMENT 8
Flood Fighting Materials List
Available Resources—SCVWD

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ATTACHMENT 9
Heavy Equipment List
SCVWD

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ATTACHMENT 10
Temporary Sandbag Locations

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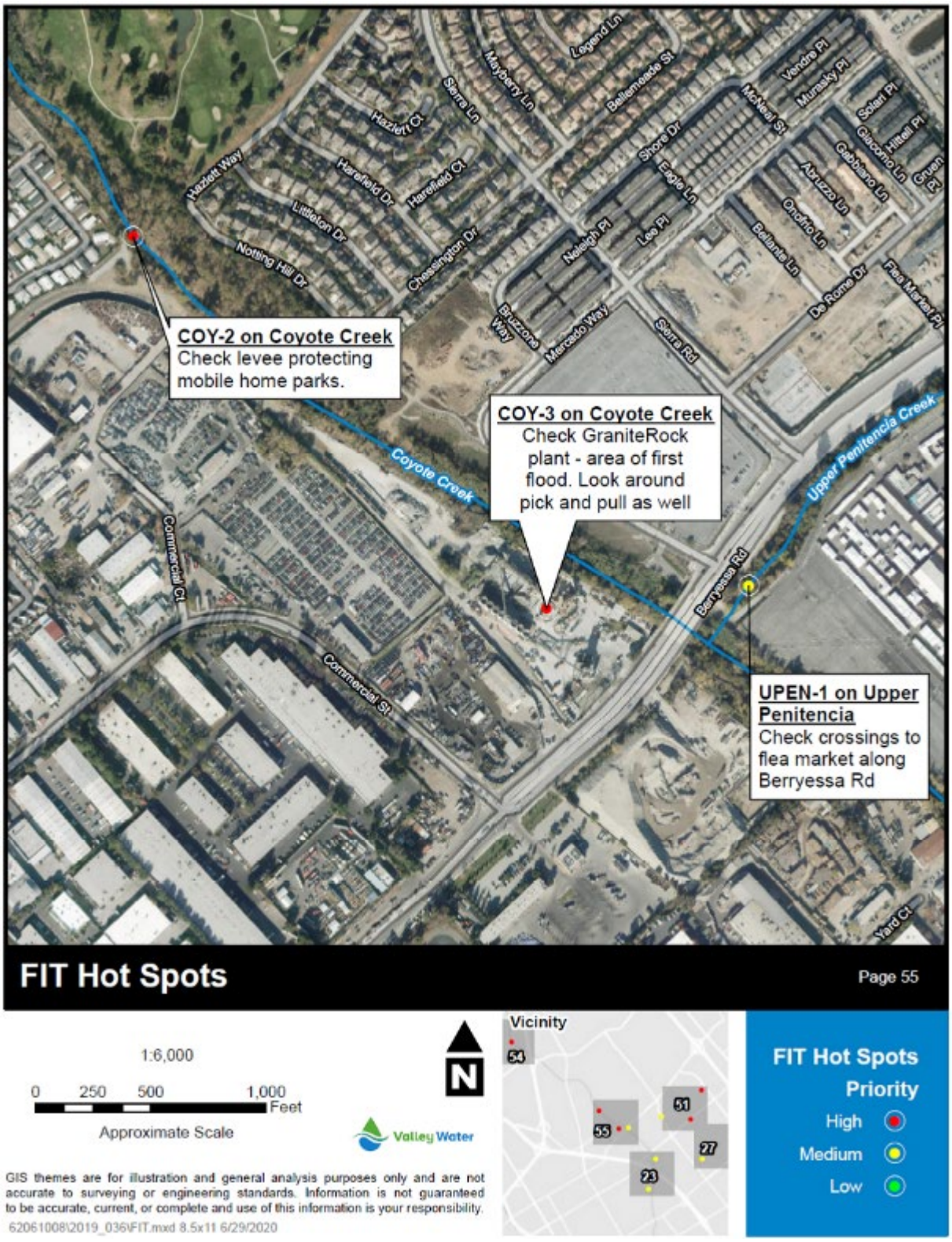
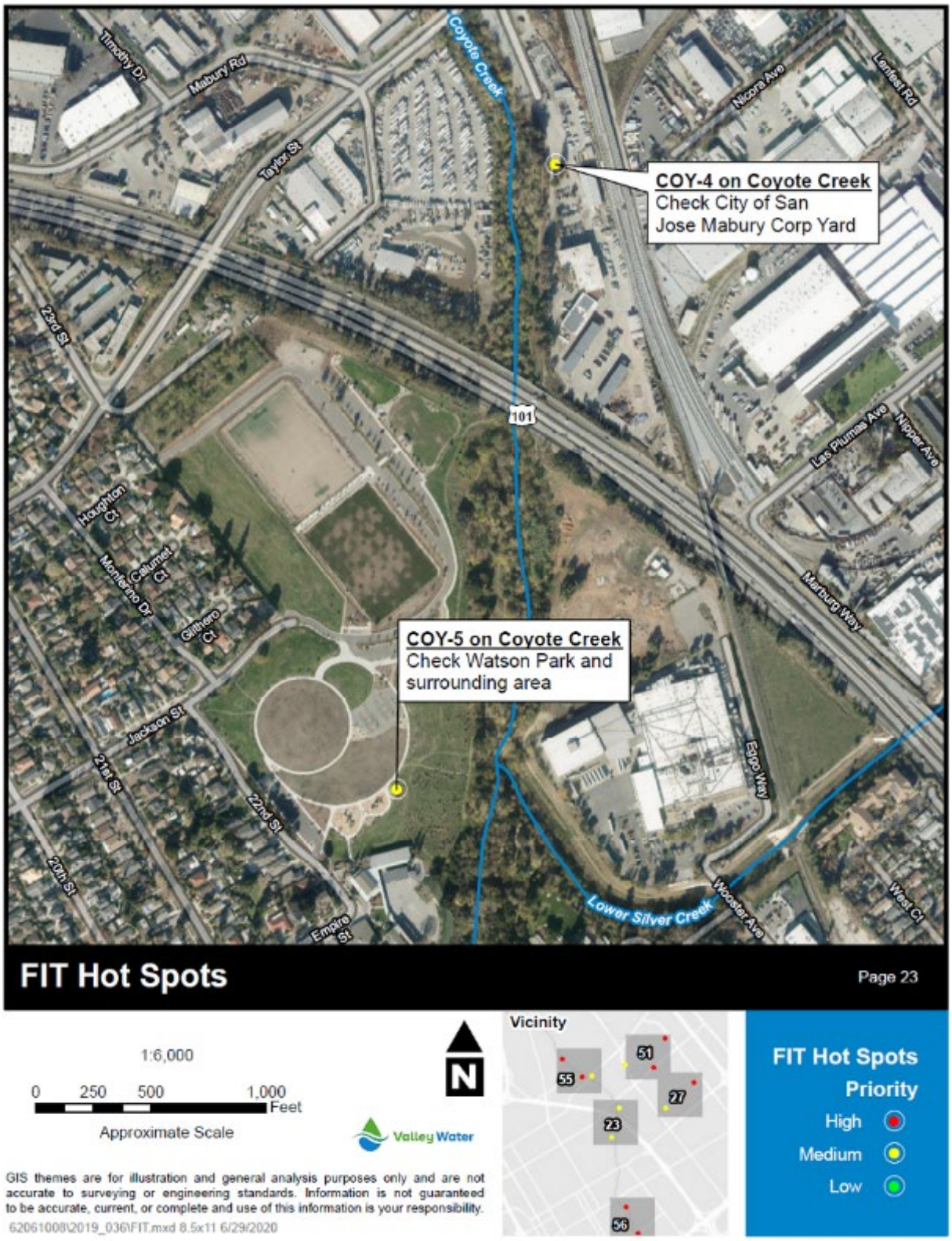
ATTACHMENT 11
Flood Information Team Hot Spots


COY-2 on Coyote Creek
Check levee protecting mobile home parks.
COY-3 on Coyote Creek
Check GraniteRock plant - area of first flood. Look around pick and pull as well
UPEN-1 on Upper Penitencia
Check crossings to flea market along Berryessa Rd
Coyote Creek
Upper Penitencia Creek
Berryessa Rd
Commercial Ct
Commercial St
Sierra Rd
Mercado Way
Bruzzone Way
Chessington Dr
Notting Hill Dr
Littleton Dr
Harefield Dr
Hazlett Ct
Hazlett Way
Mayberry Ln
Legend Ln
Bellameade St
Shore Dr
McNeil St
Eagle Ln
Nelleigh Pl
Lee Pl
Bellante Ln
De Roma Dr
Flea Market Pl
Yard Ct
FIT Hot Spots
Page 55
1:6,000
0 250 500 1,000 Feet
Approximate Scale
Valley Water
GIS themes are for illustration and general analysis purposes only and are not accurate to surveying or engineering standards. Information is not guaranteed to be accurate, current, or complete and use of this information is your responsibility.
62061008\2019_036\FIT.mxd 8.5x11 6/29/2020
Vicinity
54
55
51
27
23
FIT Hot Spots
Priority
High
Medium
Low


COY-4 on Coyote Creek
Check City of San Jose Mabury Corp Yard
COY-5 on Coyote Creek
Check Watson Park and surrounding area
Coyote Creek
Lower Silver Creek
Timothy Dr
Mabury Rd
Taylor St
Nicora Ave
Lenfest Rd
23rd St
101
Las Plumas Ave
Nipper Ave
Houghton Ct
Calumet Ct
Montevino Dr
Gillihero Ct
Marburg Way
Jackson St
21st St
22nd St
20th St
Empire St
Edgar Way
Wooster Ave
West Ct
FIT Hot Spots
Page 23
1:6,000
0 250 500 1,000 Feet
Approximate Scale
N
Valley Water
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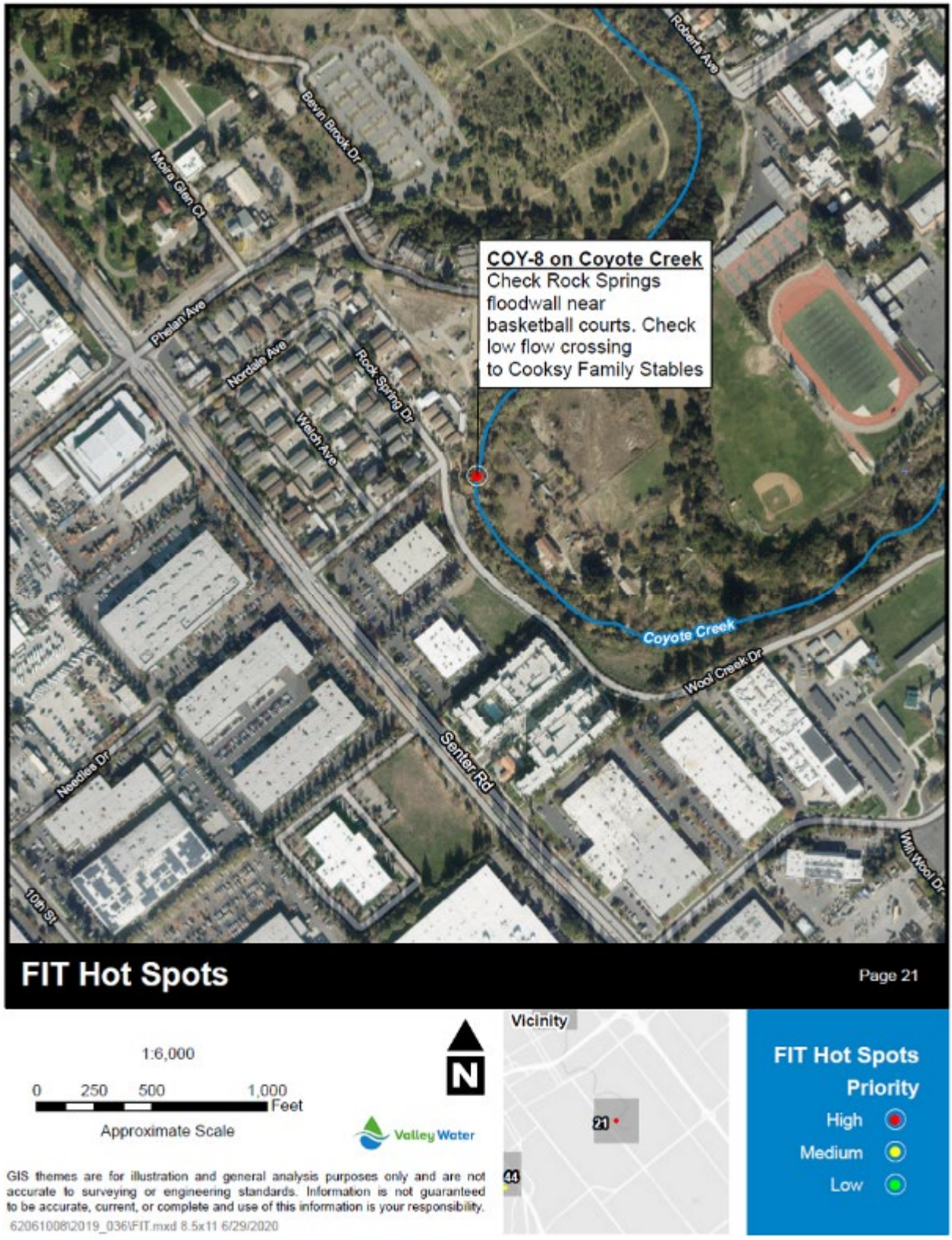
Vicinity
51
55
27
23
56
FIT Hot Spots
Priority
High
Medium
Low


COY-6 on Coyote Creek
Check homes adjacent to Creek on Arroyo Way
COY-7 on Coyote Creek
Check area around William Street Park all the way upstream to I-280. Check Selma Olinder Park and Woodborough Drive. Check homes adjacent to S 17th St.
Coyote Creek
Santa Clara St
Calhoun St
24th St
23rd St
22nd St
San Antonio St
Arroyo Way
San Fernando St
20th St
19th St
17th St
21st St
Brookwood Ave
18th St
16th St
15th St
San Carlos St
14th St
13th St
12th St
San Salvador St
William St
Woodhills Ct
Woodvale Ct
Woodborough Dr
FIT Hot Spots
Page 56
1:6,000
0 250 500 1,000
Feet
Approximate Scale
N
Valley Water
GIS themes are for illustration and general analysis purposes only and are not accurate to surveying or engineering standards. Information is not guaranteed to be accurate, current, or complete and use of this information is your responsibility.
62061008\2019_036\FIT.mxd 8.5x11 6/29/2020
Vicinity
23
27
56
20
43
21
FIT Hot Spots
Priority
High
Medium
Low


COY-8 on Coyote Creek
Check Rock Springs floodwall near basketball courts. Check low flow crossing to Cooksy Family Stables
Roberta Ave
Bervin Brook Dr
Moira Glen Ct
Phelan Ave
Nordella Ave
Rock Spring Dr
Welch Ave
Coyote Creek
Wool Creek Dr
Senter Rd
Needles Dr
10th St
Vwh Wool Dr
FIT Hot Spots
Page 21
1:6,000
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Approximate Scale
N
Valley Water
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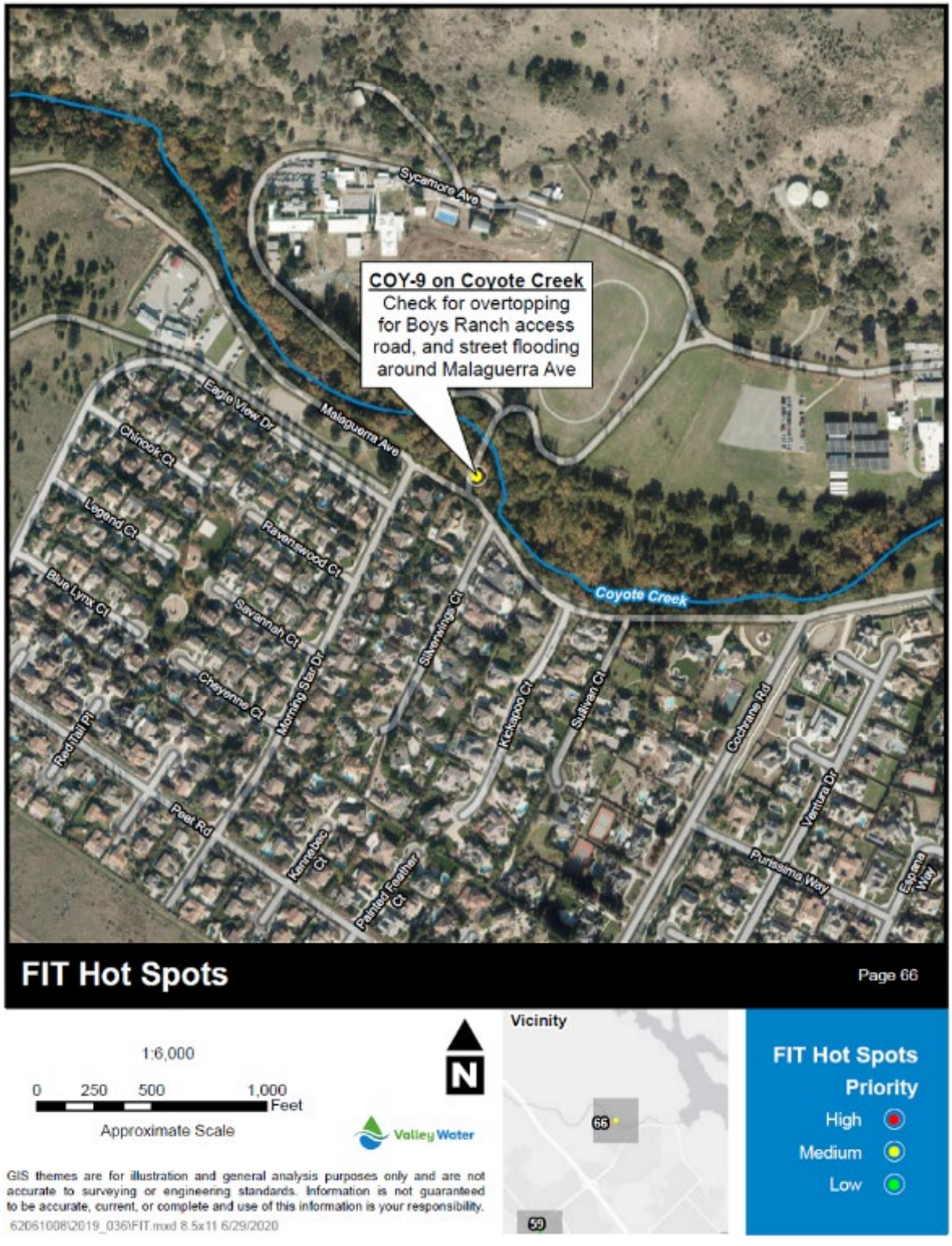
Vicinity
21
44
FIT Hot Spots
Priority
High
Medium
Low


COY-9 on Coyote Creek
Check for overtopping for Boys Ranch access road, and street flooding around Malaguerra Ave
Sycamore Ave
Eagle View Dr
Malaguerra Ave
Chinook Ct
Legend Ct
Ravenswood Ct
Blue Lynx Ct
Savannah Ct
Silversprings Ct
Coyote Creek
Cheyenne Ct
Morning Star Dr
Kickapoo Ct
Sullivan Ct
Cochrane Rd
Red Tail Pl
Peet Rd
Kenshaw Ct
Painted Feather Ct
Ventura Dr
Purissima Way
Encina Way
FIT Hot Spots
Page 66
1:6,000
0 250 500 1,000
Feet
Approximate Scale
N
Valley Water
GIS themes are for illustration and general analysis purposes only and are not accurate to surveying or engineering standards. Information is not guaranteed to be accurate, current, or complete and use of this information is your responsibility.
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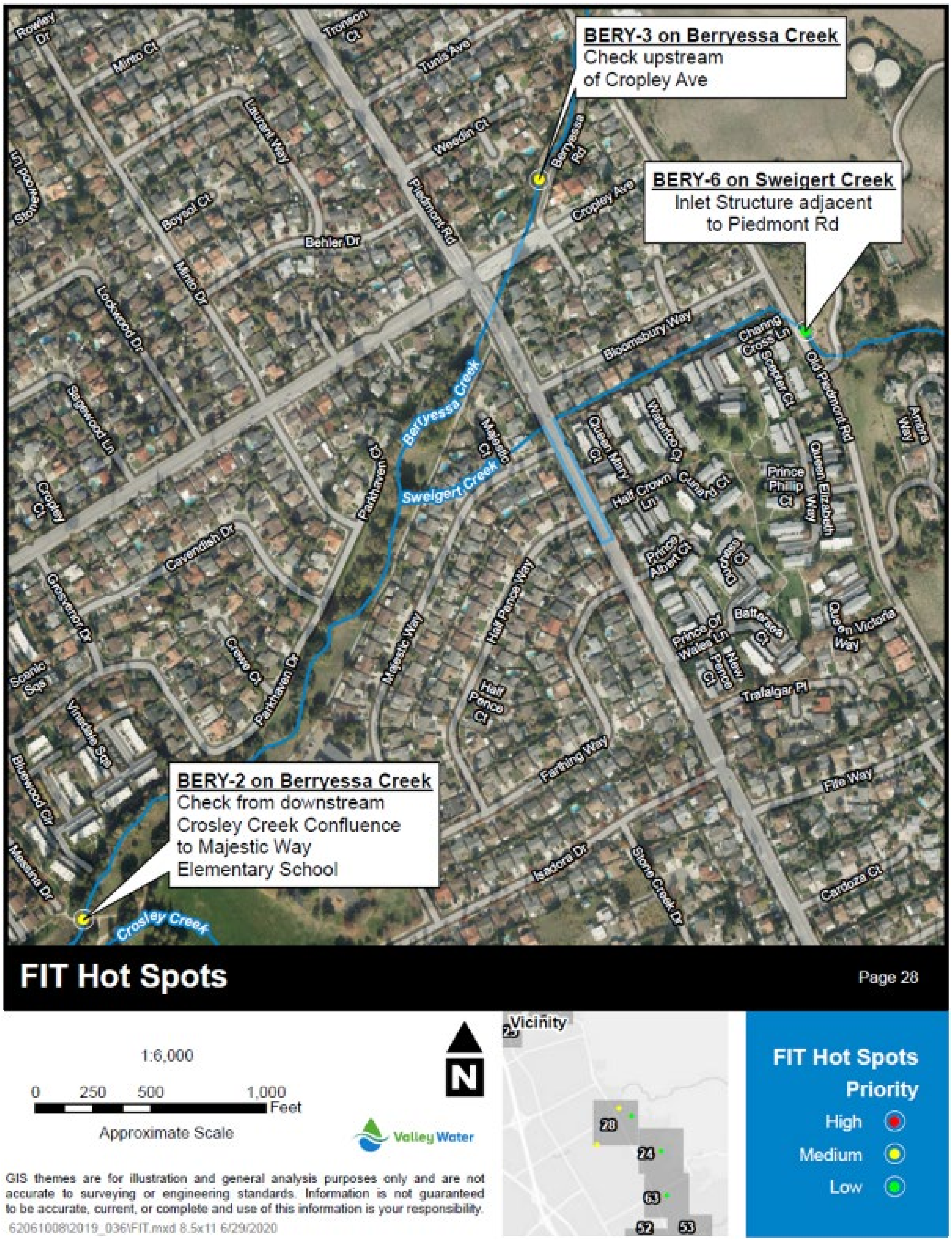
Vicinity
66
59
FIT Hot Spots
Priority
High
Medium
Low


BERY-3 on Berryessa Creek
Check upstream
of Cropley Ave
BERY-6 on Sweigert Creek
Inlet Structure adjacent
to Piedmont Rd
BERY-2 on Berryessa Creek
Check from downstream
Crosley Creek Confluence
to Majestic Way
Elementary School
Berryessa Creek
Sweigert Creek
Crosley Creek
Rowley Dr
Minto Ct
Tronson Ct
Tunis Ave
Laurant Way
Weedin Ct
Berryessa Rd
Piedmont Rd
Cropley Ave
Boysol Ct
Behler Dr
Minto Dr
Lockwood Dr
Bloomsbury Way
Charing Cross Ln
Old Piedmont Rd
Majestic Ct
Parkhaven Ct
Queen Mary Ct
Half Crown Ln
Cunard Ct
Prince Philip Ct
Queen Elizabeth Way
Cropley Ct
Cavendish Dr
Grosvenor Dr
Prince Albert Ct
Half Pence Way
Majestic Way
Crewe Ct
Parkhaven Dr
Prince Of Wales Ln
Battersea Ct
Queen Victoria Way
Trafalgar Pl
Scenic Sqs
Half Pence Ct
Farthing Way
Fife Way
Bluewood Ctr
Isadora Dr
Stone Creek Dr
Cardoza Ct
Massina Dr
FIT Hot Spots
Page 28
1:6,000
0 250 500 1,000
Feet
Approximate Scale
N
Valley Water
Vicinity
FIT Hot Spots
Priority
High
Medium
Low
GIS themes are for illustration and general analysis purposes only and are not accurate to surveying or engineering standards. Information is not guaranteed to be accurate, current, or complete and use of this information is your responsibility.
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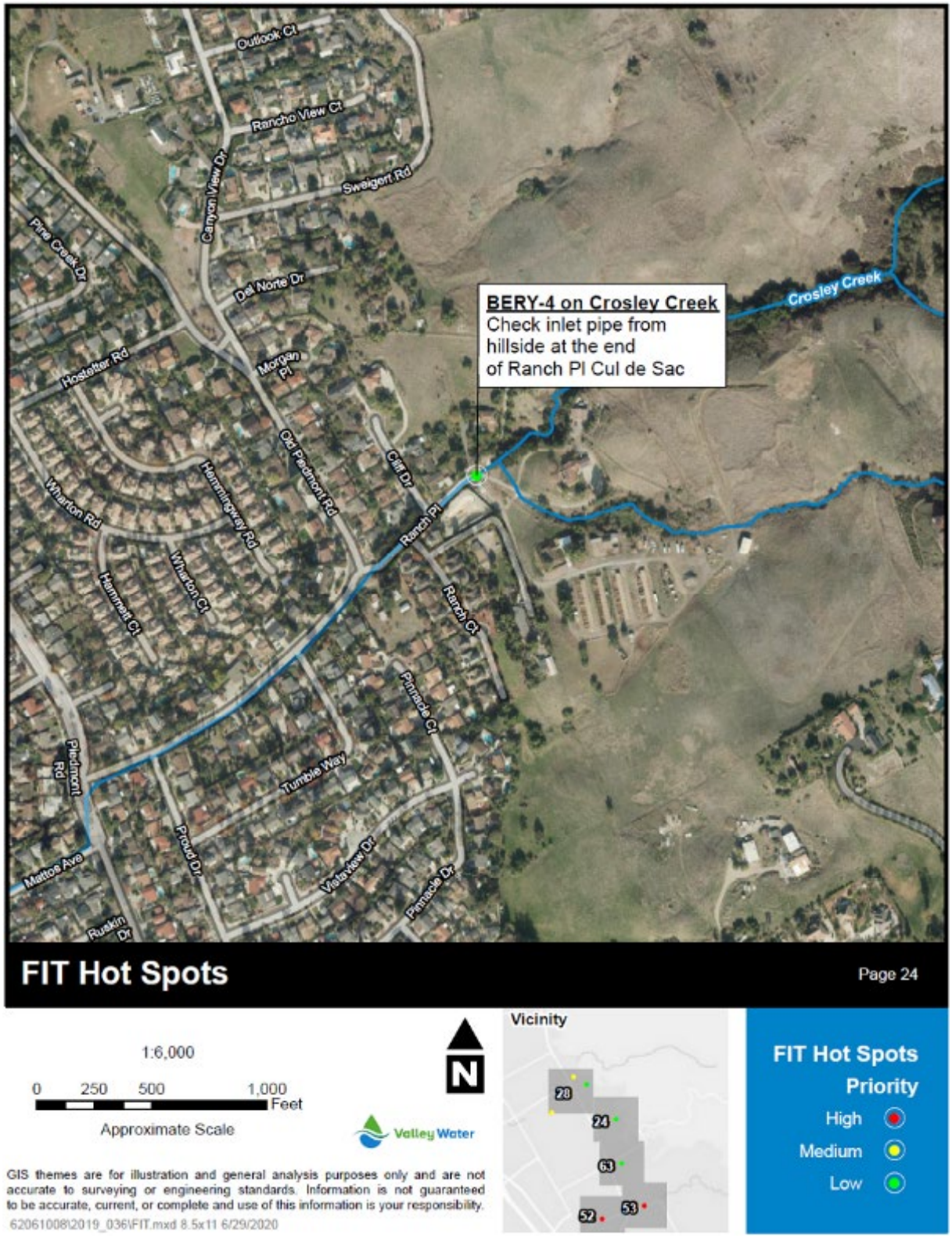
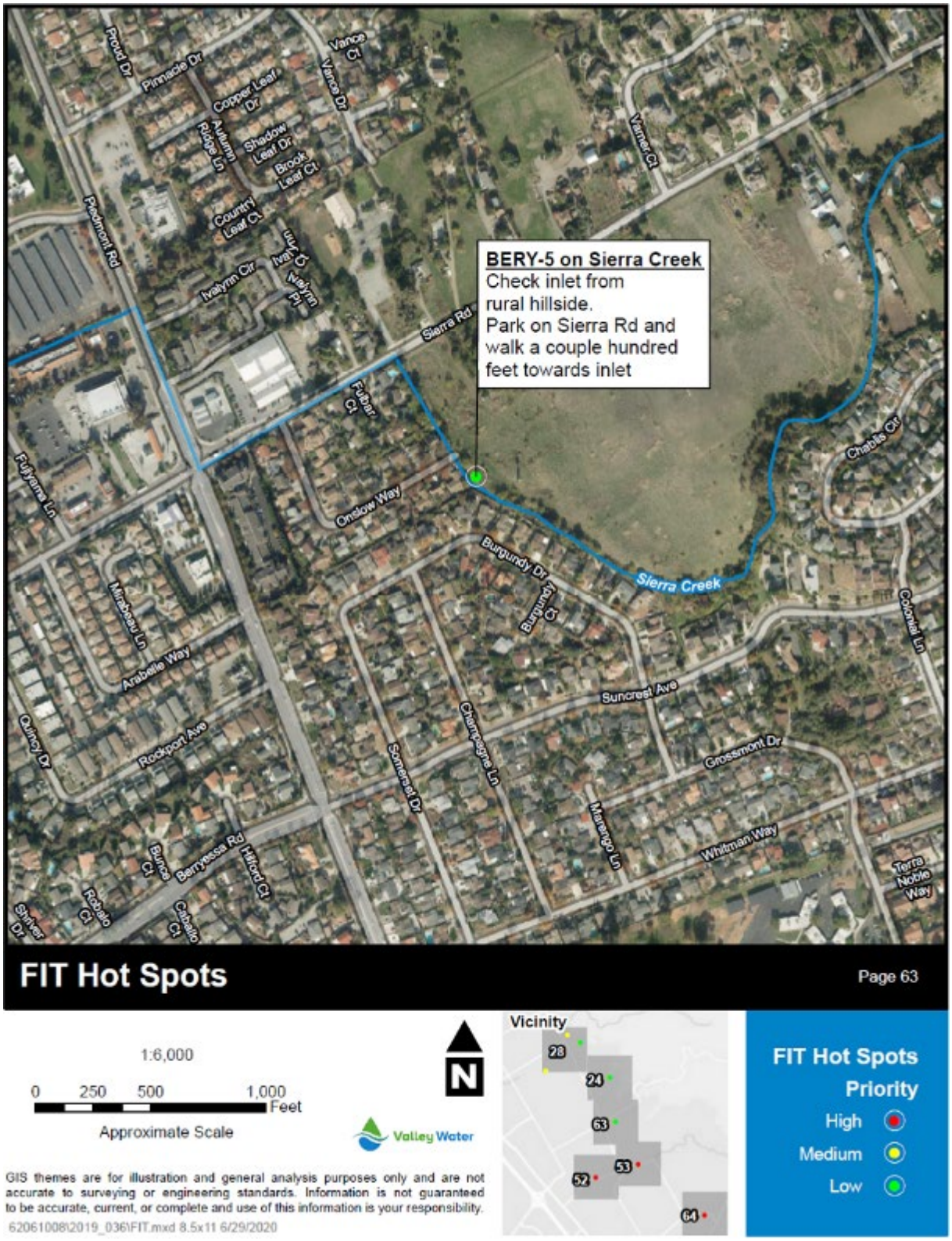
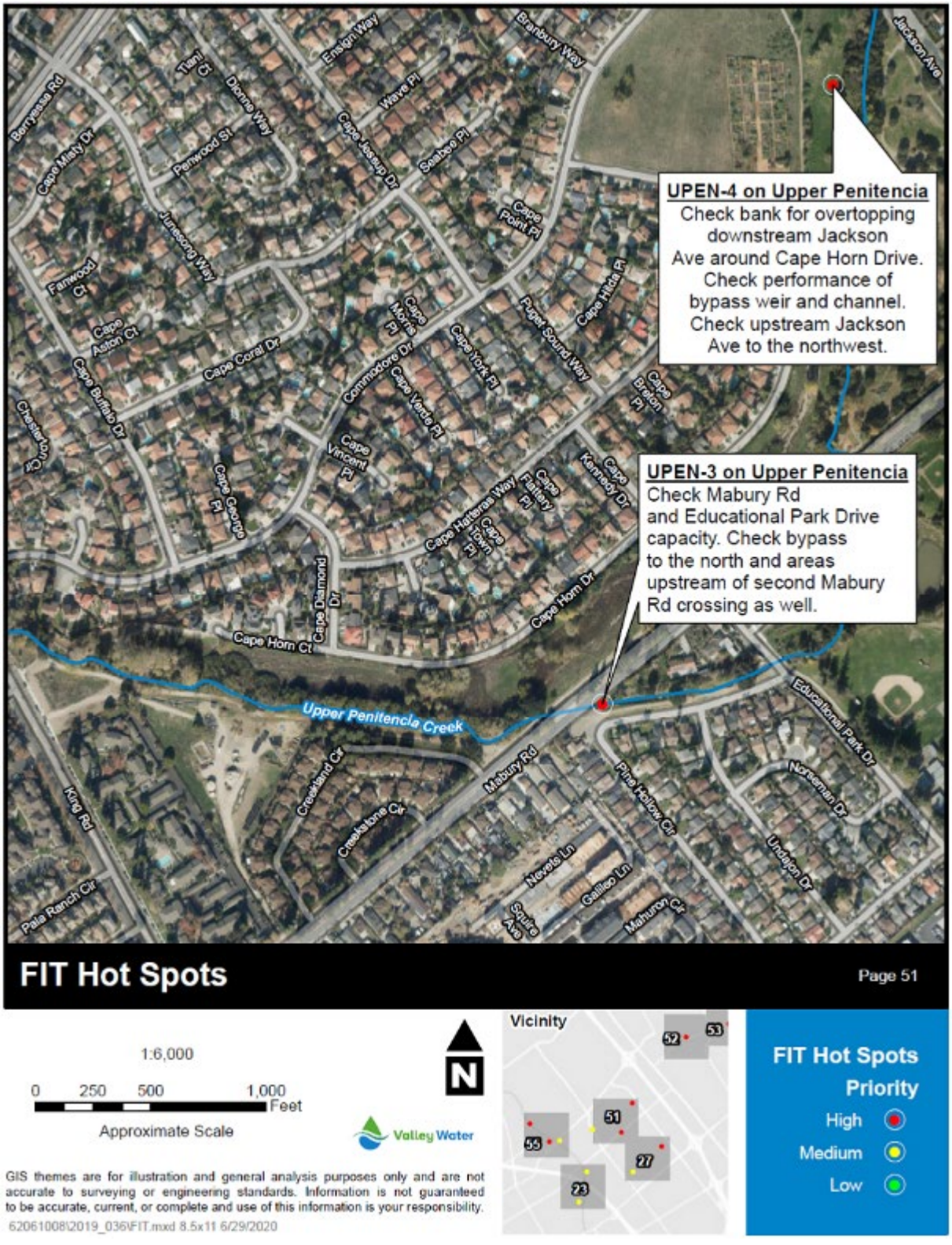
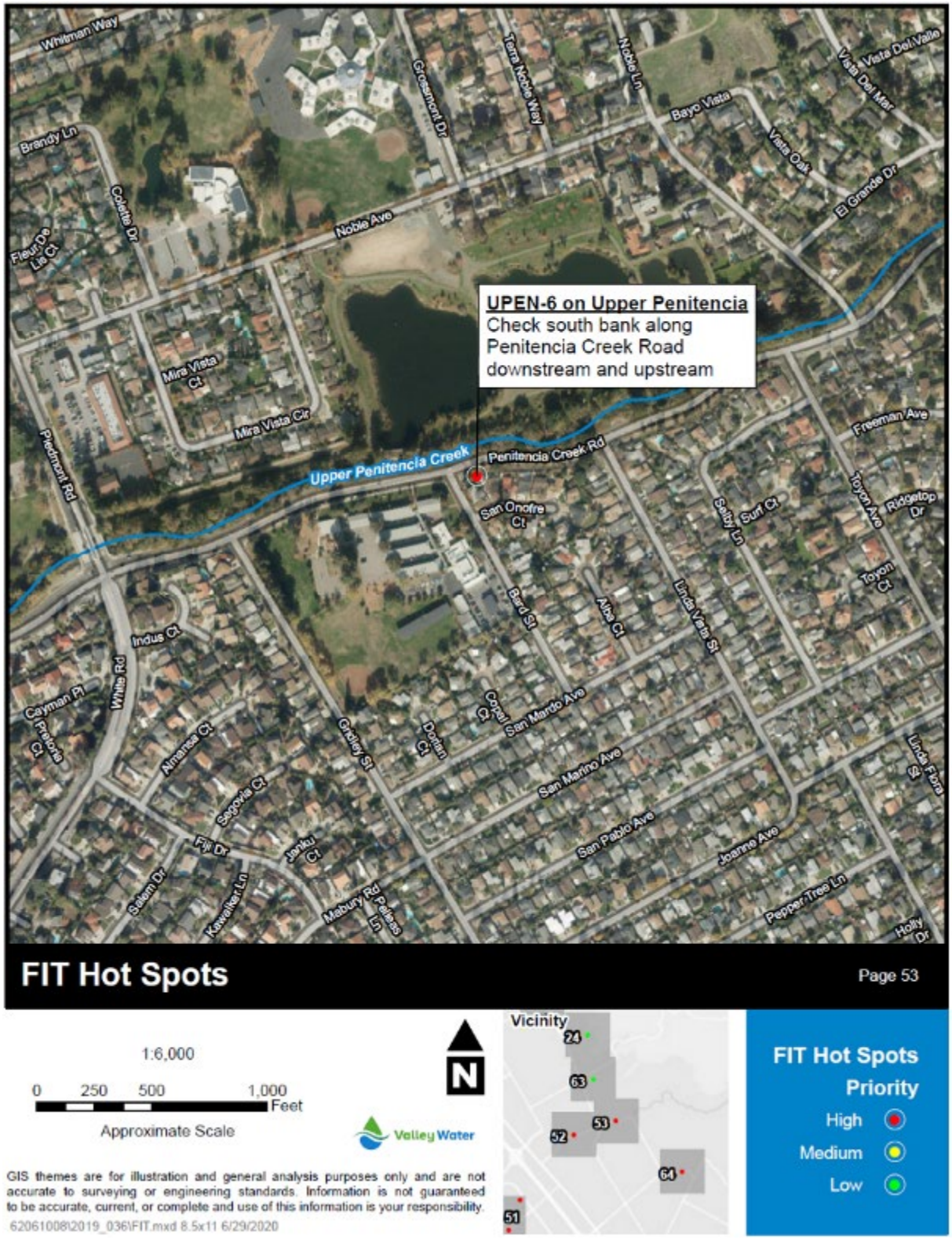
ATTACHMENT 11
Flood Information Team Hot Spots (continued)




BERY-5 on Sierra Creek
Check inlet from rural hillside.
Park on Sierra Rd and walk a couple hundred feet towards inlet
Sierra Creek
Sierra Rd
Onslow Way
Burgundy Dr
Burgundy Ct
Foxbar Ct
Chablis Cir
Colonial Ln
Suncrest Ave
Champagne Ln
Somerset Dr
Grossmont Dr
Whitman Way
Terra Noble Way
Marengo Ln
Berryessa Rd
Rockport Ave
Quincy Dr
Arabelle Way
Mirabeau Ln
Fullyarna Ln
Piedmont Rd
Ivalynn Cir
Country Leaf Ct
Brook Leaf Ct
Shadow Leaf Dr
Autumn Ridge Ln
Copper Leaf Dr
Pinnacle Dr
Proud Dr
Vance Ct
Vance Dr
Vanner Ct
FIT Hot Spots
Page 63
1:6,000
0 250 500 1,000 Feet
Approximate Scale
Valley Water
GIS themes are for illustration and general analysis purposes only and are not accurate to surveying or engineering standards. Information is not guaranteed to be accurate, current, or complete and use of this information is your responsibility.
62061008\2019_036\FIT.mxd 8.5x11 6/29/2020
Vicinity
28
24
63
53
52
64
FIT Hot Spots
Priority
High
Medium
Low


UPEN-4 on Upper Penitencia
Check bank for overtopping downstream Jackson Ave around Cape Horn Drive. Check performance of bypass weir and channel. Check upstream Jackson Ave to the northwest.
UPEN-3 on Upper Penitencia
Check Mabury Rd and Educational Park Drive capacity. Check bypass to the north and areas upstream of second Mabury Rd crossing as well.
Upper Penitencia Creek
Cape Horn Dr
Cape Horn Ct
Mabury Rd
Educational Park Dr
Jackson Ave
Cape Coral Dr
Commodore Dr
Puget Sound Way
Cape Hatteras Way
Cape Kennedy Dr
Pine Hollow Cir
Norseman Dr
Nevels Ln
Galileo Ln
Mahuron Cir
Pala Ranch Cir
King Rd
Creekbend Cir
Creekstone Cir
FIT Hot Spots
Page 51
1:6,000
0 250 500 1,000 Feet
Approximate Scale
N
Valley Water
GIS themes are for illustration and general analysis purposes only and are not accurate to surveying or engineering standards. Information is not guaranteed to be accurate, current, or complete and use of this information is your responsibility.
62061008\2019_036\FIT.mxd 8.5x11 6/29/2020
Vicinity
52
53
51
55
27
23
FIT Hot Spots
Priority
High
Medium
Low

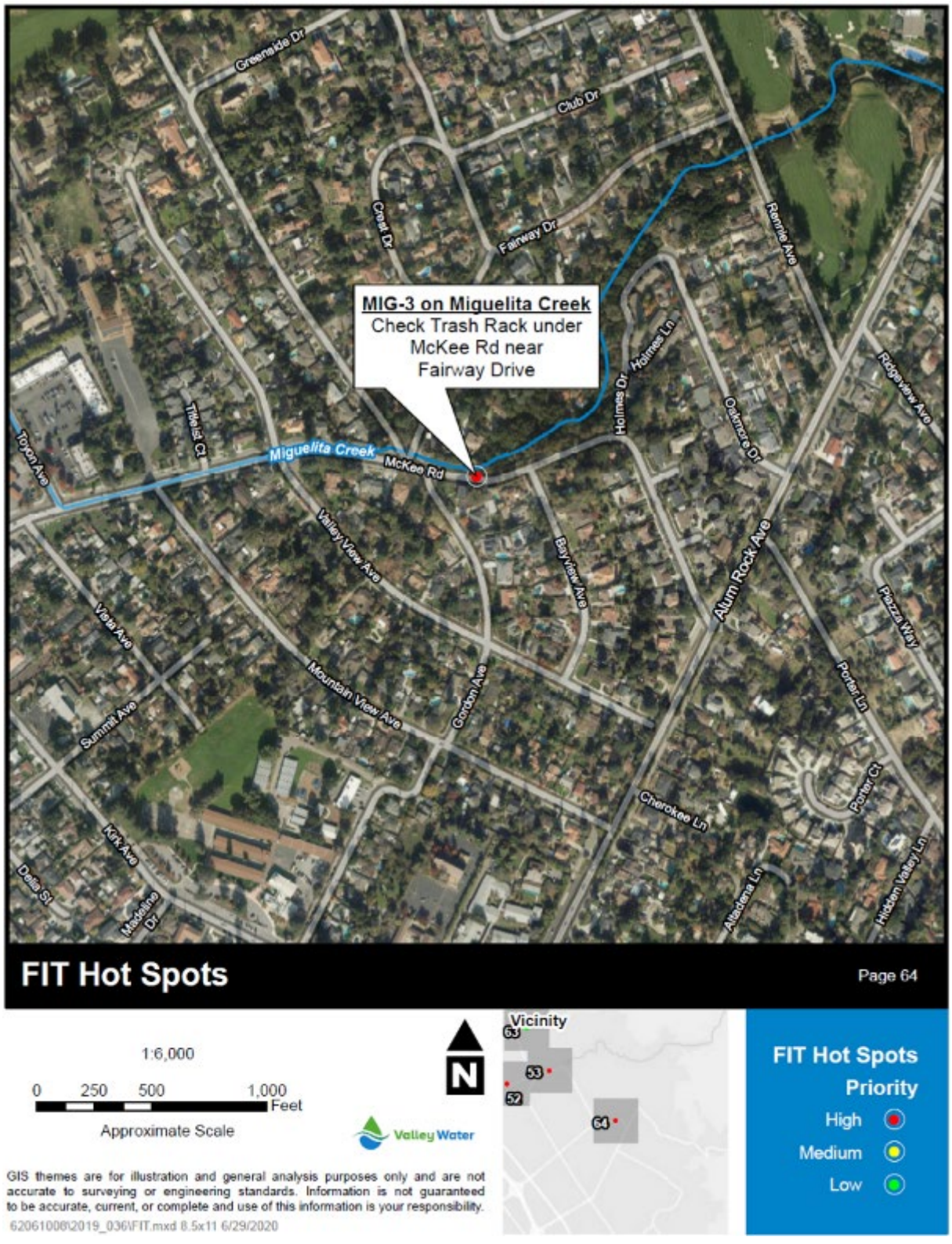

UPEN-5 on Upper Penitencia
Check south bank along Penitencia Creek Road downstream and upstream
Upper Penitencia Creek
Penitencia Creek Rd
Helmsley Dr
Summerheights Dr
Summerdale Dr
Summerwood Ct
Summerview Dr
Heatherfield Ln
Stonecrest Way
Viceroy Way
Poinsettia Ct
Frostridge Way
Milo Ct
Creek Point Dr
Kiperash Dr
Vista Creek Dr
Sail Lake Dr
Sail Lake Ct
Mary Caroline Dr
Mary Caroline Ct
Crystal Creek Dr
Ridgegate Dr
Reece Way
Kyle St
St Lucia Ct
St Kitts Ct
Cayman Pl
Cayman Way
Whitie Rd
Piedmont Rd
Noble Ave
Flanders Dr
Berryessa Rd
Adams Dr
Zurich Ct
Ronco Dr
Matterhorn Dr
Lugano Way
FIT Hot Spots
Page 52
1:6,000
0 250 500 1,000 Feet
Approximate Scale
N
Valley Water
GIS themes are for illustration and general analysis purposes only and are not accurate to surveying or engineering standards. Information is not guaranteed to be accurate, current, or complete and use of this information is your responsibility.
62061008\2019_036\FIT.mxd 8.5x11 6/29/2020
Vicinity
28
24
63
53
52
64
51
27
FIT Hot Spots
Priority
High
Medium
Low


UPEN-6 on Upper Penitencia
Check south bank along
Penitencia Creek Road
downstream and upstream
Upper Penitencia Creek
Penitencia Creek Rd
Noble Ave
Mira Vista Ct
Mira Vista Cir
Piedmont Rd
San Onofre Ct
Freeman Ave
Toyon Ave
Ridgetop Dr
Toyon Ct
Surf Ct
Bard St
Alva Ct
Linda Vista St
San Marino Ave
San Pablo Ave
Joanne Ave
Pepper Tree Ln
Holly Dr
Linda Flora Dr
Indus Ct
White Rd
Cayman Pl
Pretoria Ct
Almansa Ct
Segovia Ct
Fiji Dr
Jenlu Ct
Salem Dr
Kawalker Ln
Mabury Rd
Peaceful Ln
Gridley St
Dorian Ct
Coral Ct
Whitman Way
Brandy Ln
Colette Dr
Fleur De Lis Ct
Crossmont Dr
Tara Noble Way
Noble Ln
Bayo Vista
Vista Oak
Vista Del Valle
Vista Del Mar
El Grande Dr
FIT Hot Spots
Page 53
1:6,000
0 250 500 1,000
Feet
Approximate Scale
N
Valley Water
GIS themes are for illustration and general analysis purposes only and are not accurate to surveying or engineering standards. Information is not guaranteed to be accurate, current, or complete and use of this information is your responsibility.
6206100812019_036\FIT.mxd 8.5x11 6/29/2020
Vicinity
24
63
53
52
64
51
FIT Hot Spots
Priority
High
Medium
Low

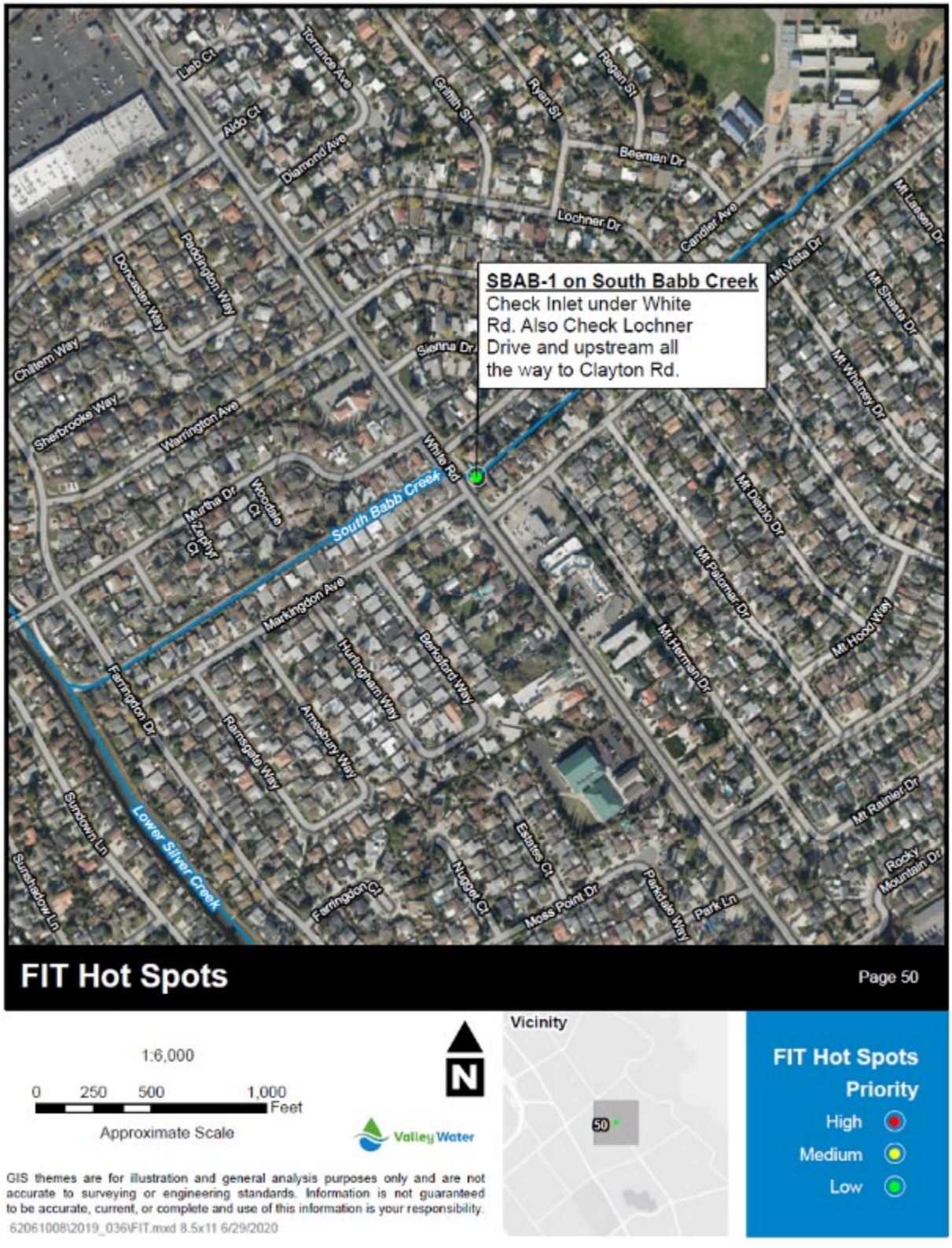
ATTACHMENT 11
Flood Information Team Hot Spots (continued)

ATTACHMENT 11
Flood Information Team Hot Spots (continued)

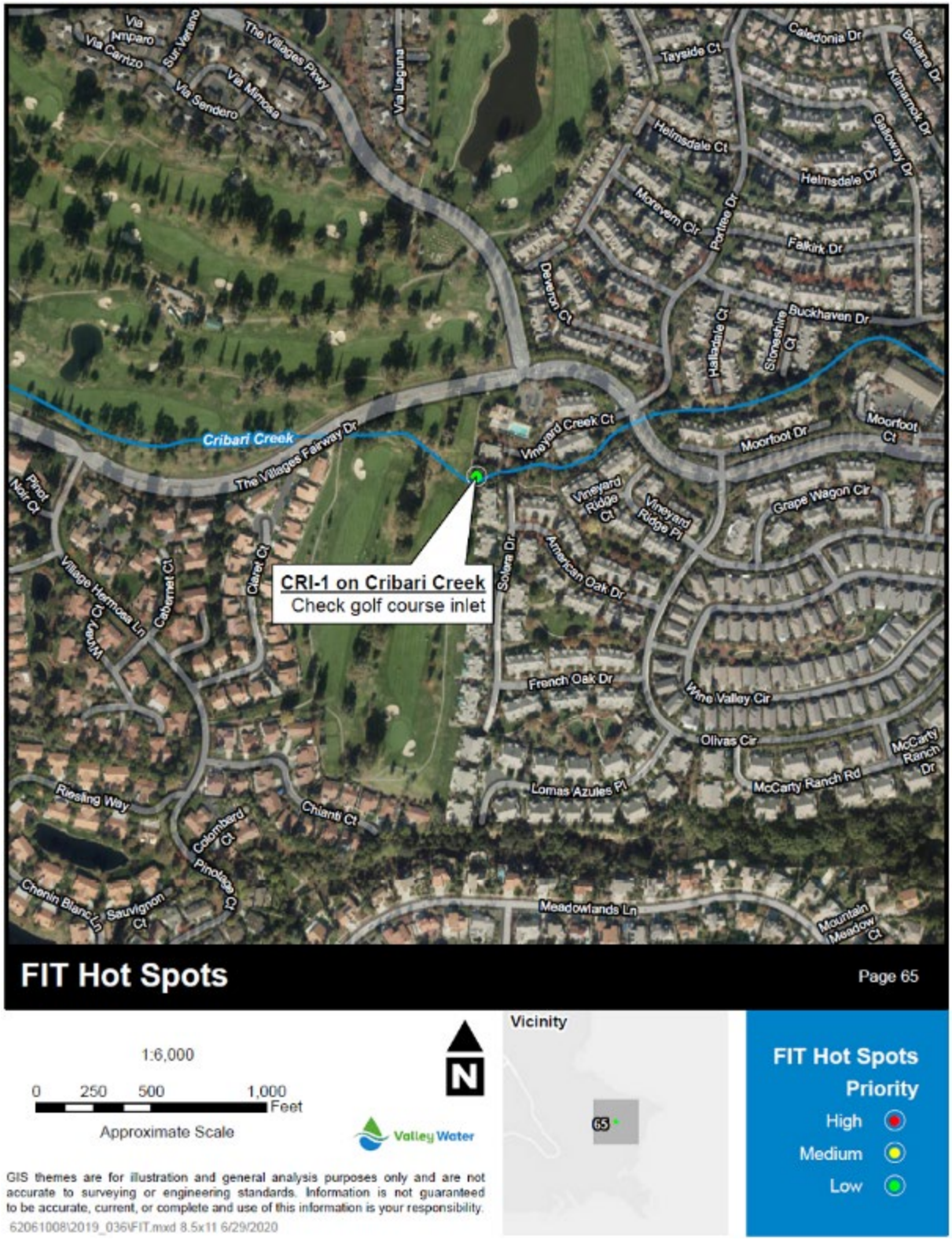
ATTACHMENT 11
Flood Information Team Hot Spots (continued)



ATTACHMENT 11
Flood Information Team Hot Spots (continued)



ATTACHMENT 11
Flood Information Team Hot Spots (continued)


Via Amparo
Via Carrizo
Sur Verano
The Villages Pkwy
Via Sendero
Via Mimosa
Via Laguna
Tayside Ct
Caledonia Dr
Bellaire Dr
Kinnamok Dr
Galloway Dr
Helmsdale Ct
Helmsdale Dr
Morewem Cir
Portree Dr
Falkirk Dr
Deveron Ct
Hallandale Ct
Stoneshire Ct
Buckhaven Dr
Cribari Creek
The Villages Fairway Dr
Vineyard Creek Ct
Moorfoot Dr
Moorfoot Ct
Pinot Noir Ct
Vineyard Ridge Ct
Vineyard Ridge Pl
Grape Wagon Cir
CRI-1 on Cribari Creek
Check golf course inlet
Solera Dr
American Oak Dr
Village Hermosa Ln
Cabernet Ct
Merlot Ct
Claret Ct
French Oak Dr
Wine Valley Cir
Olivas Cir
McCarty Ranch Dr
McCarty Ranch Rd
Lomas Azules Pl
Riesling Way
Chianti Ct
Colombard Ct
Pinotage Ct
Chenin Blanc Ln
Sauvignon Ct
Meadowlands Ln
Mountain Meadow Ct
FIT Hot Spots
Page 65
1:6,000
0 250 500 1,000
Feet
Approximate Scale
N
Valley Water
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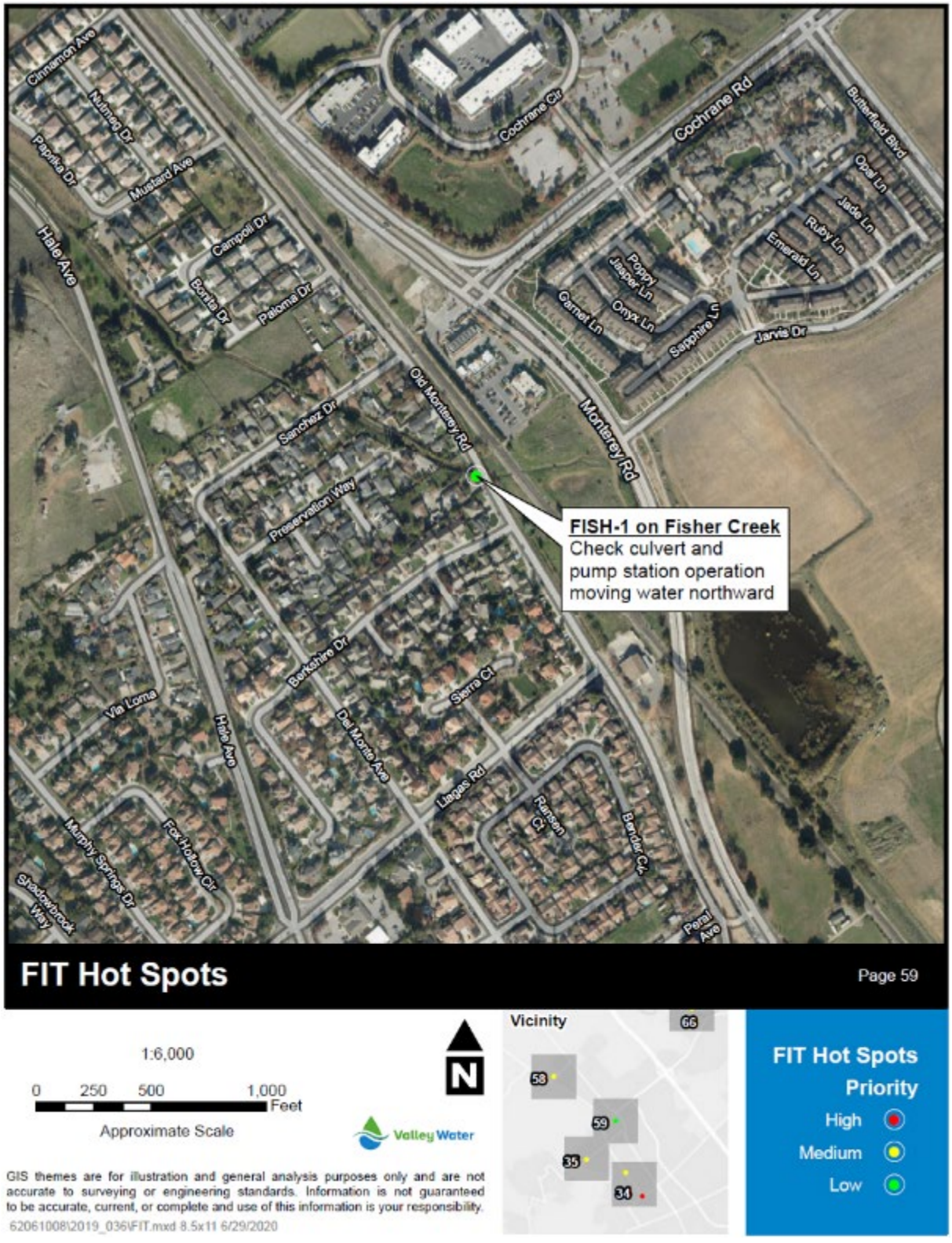
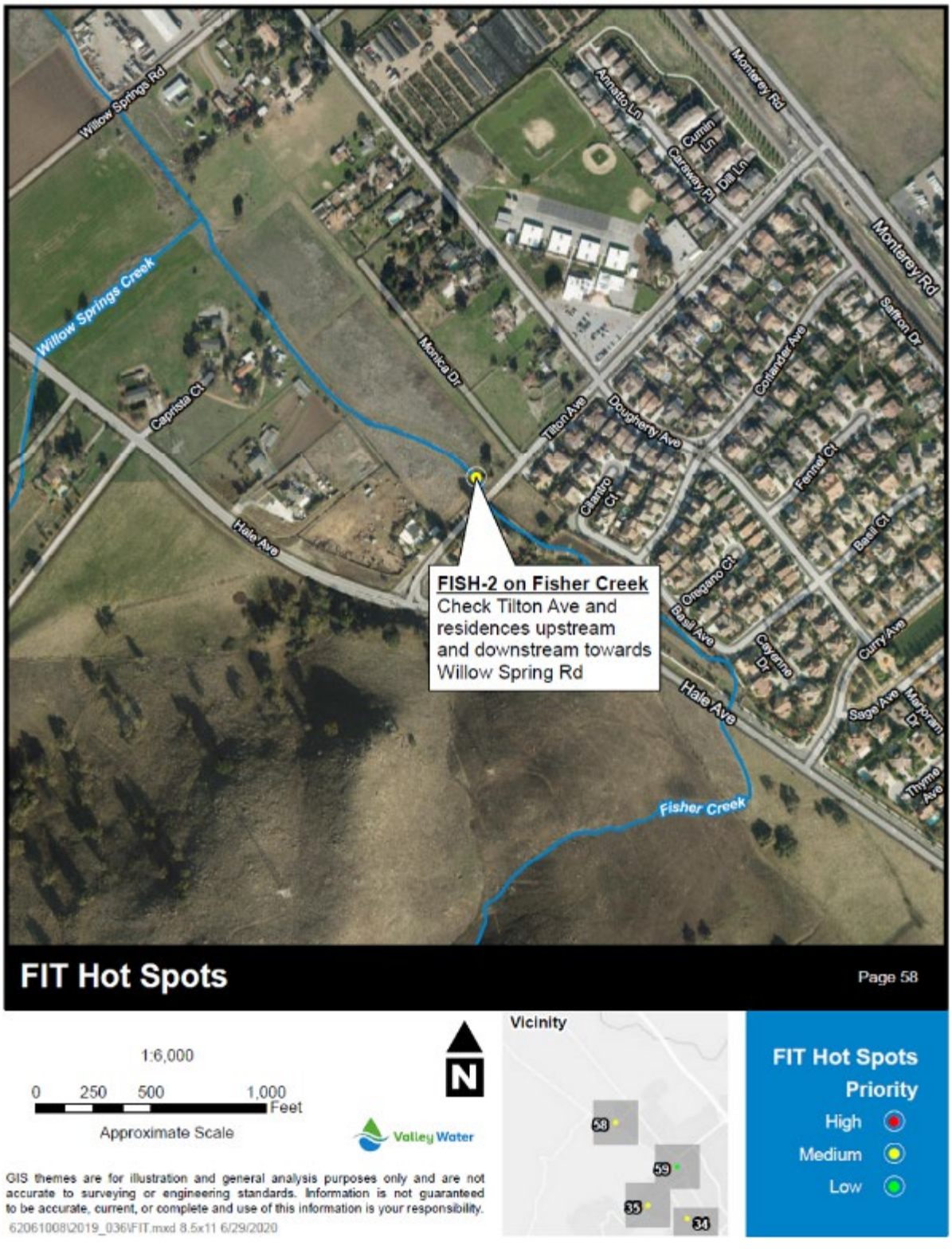
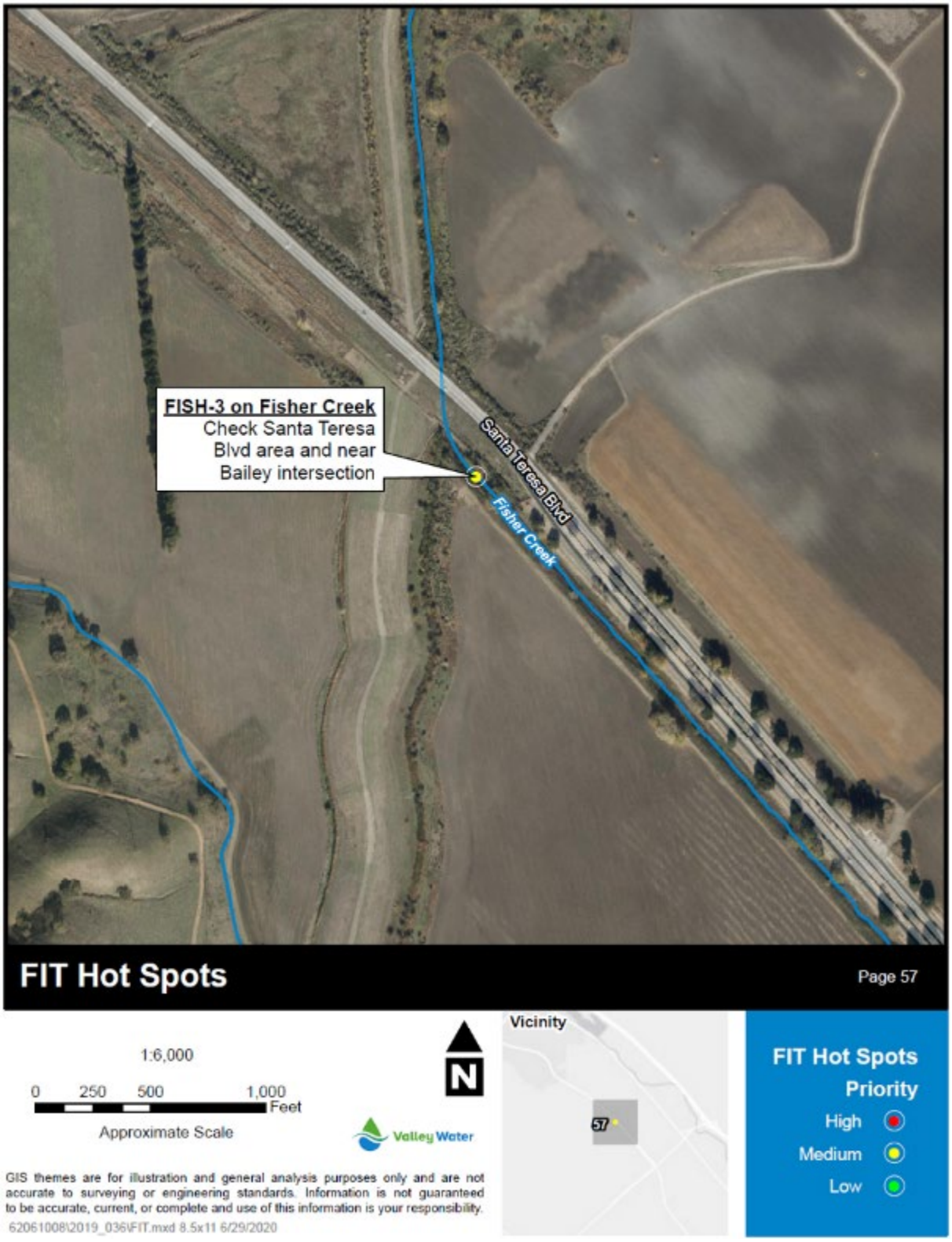
62061008\2019_036\FIT.mxd 8.5x11 6/29/2020
Vicinity
65
FIT Hot Spots
Priority
High
Medium
Low

ATTACHMENT 11
Flood Information Team Hot Spots (continued)



ATTACHMENT 11
Flood Information Team Hot Spots (continued)




FISH-3 on Fisher Creek
Check Santa Teresa Blvd area and near Bailey intersection
Santa Teresa Blvd
Fisher Creek
FIT Hot Spots
Page 57
1:6,000
0 250 500 1,000
Feet
Approximate Scale
N
Valley Water
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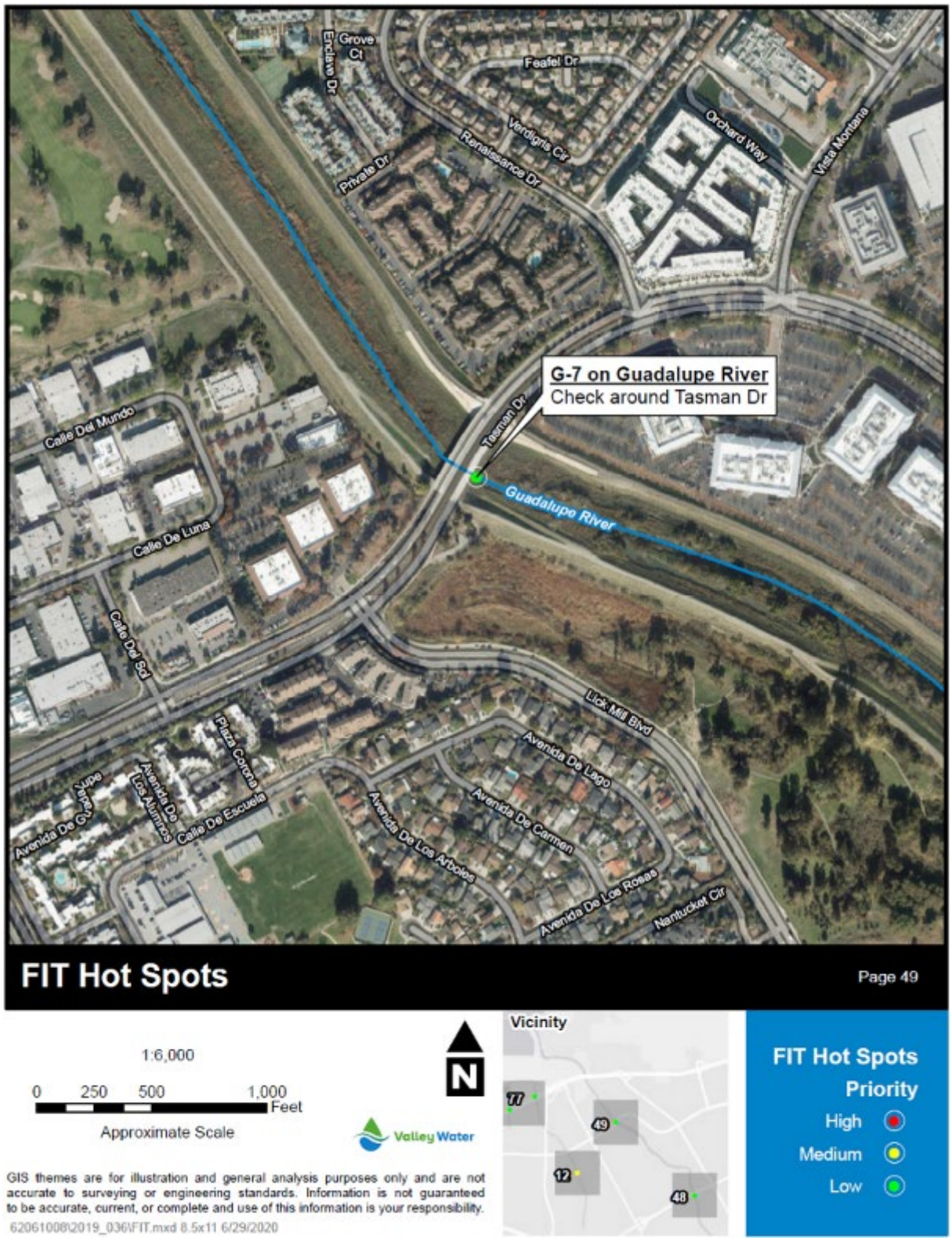
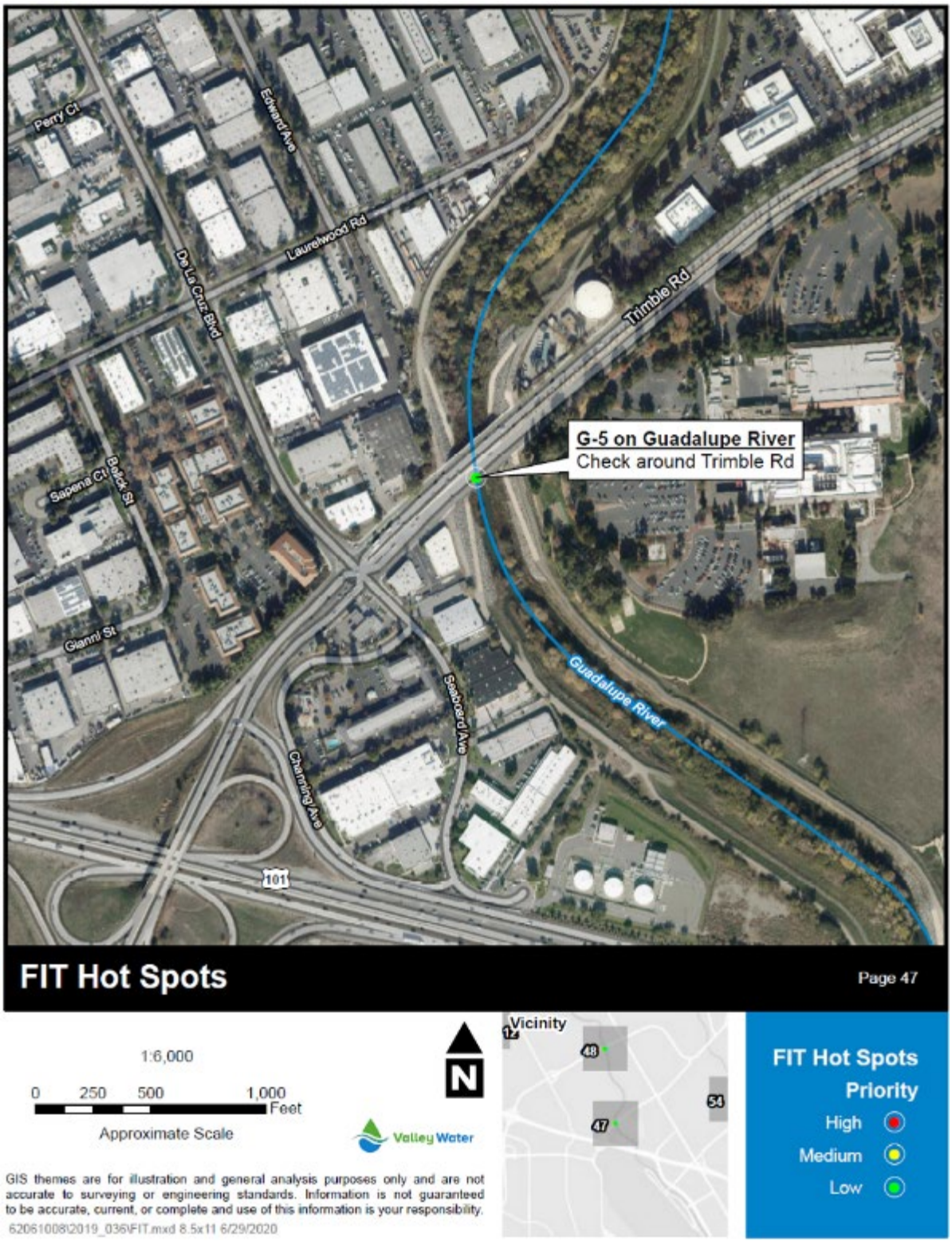
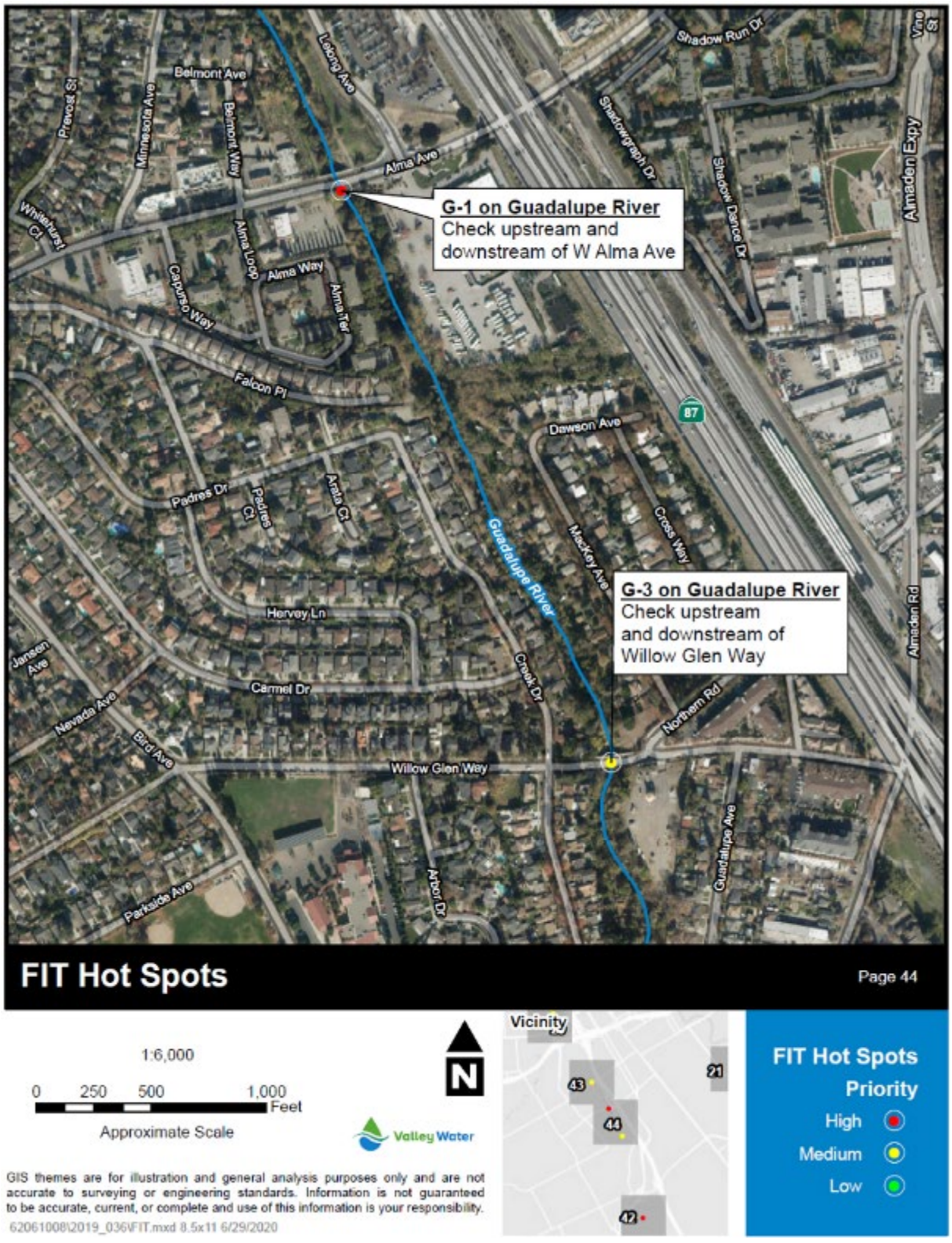
62061008\2019_036\FIT.mxd 8.5x11 6/29/2020
Vicinity
57
FIT Hot Spots
Priority
High
Medium
Low

ATTACHMENT 11
Flood Information Team Hot Spots (continued)



ATTACHMENT 11
Flood Information Team Hot Spots (continued)


Perry Ct
Edward Ave
Laurelwood Rd
De La Cruz Blvd
Trimble Rd
G-5 on Guadalupe River
Check around Trimble Rd
Sapena Ct
Black St
Gianni St
Guadalupe River
Seaboard Ave
Charming Ave
101
FIT Hot Spots
Page 47
1:6,000
0 250 500 1,000
Feet
Approximate Scale
N
Valley Water
GIS themes are for illustration and general analysis purposes only and are not accurate to surveying or engineering standards. Information is not guaranteed to be accurate, current, or complete and use of this information is your responsibility.
620610081\2019_036\FIT.mxd 8.5x11 6/29/2020
Vicinity
12
48
47
53
FIT Hot Spots
Priority
High
Medium
Low


G-1 on Guadalupe River
Check upstream and downstream of W Alma Ave
G-3 on Guadalupe River
Check upstream and downstream of Willow Glen Way
Guadalupe River
Alma Ave
Belmont Ave
Belmont Way
Leland Ave
Prevost St
Minnesota Ave
Whitehurst Ct
Alma Loop
Alma Way
Alma Ter
Capurso Way
Falcon Pl
Shadow Run Dr
Shadowgraph Dr
Shadow Dance Dr
Vine St
Almaden Expy
Dawson Ave
87
Padres Dr
Padres Ct
Arata Ct
Mackey Ave
Cross Way
Hervey Ln
Jansen Ave
Carmel Dr
Creek Dr
Nevada Ave
Bird Ave
Willow Glen Way
Northern Rd
Almaden Rd
Guadalupe Ave
Arbor Dr
Parkside Ave
FIT Hot Spots
Page 44
1:6,000
0 250 500 1,000 Feet
Approximate Scale
N
Valley Water
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62061008\2019_036FIT.mxd 8.5x11 6/29/2020
Vicinity
43
44
42
21
FIT Hot Spots
Priority
High
Medium
Low

ATTACHMENT 11
Flood Information Team Hot Spots (continued)


G-4 on Guadalupe River
Check open space area adjacent ot Thousand Oaks Park
Ross Creek
Guadalupe River
Almaden Expy
Thousand Oaks Dr
Downswick Dr
Normington Way
Woodgrove Ln
Laureldale Ln
Bryan Ave
Greenmoor Dr
Lynhurst Ct
Lynhurst Way
Harvest Meadow Ct
Royal Acres Ct
Golden Acre Ct
Cedarhurst Ln
Montmorency Dr
Prosper Ave
Branham Ln
Rawlings Dr
Rodney Dr
Carrie Lee Way
Kimberly Dr
Pembridge Dr
Edenbury Ln
Glenridge Dr
Scoteglen Ct
Glenpark Dr
Laurelridge Ct
Knowlglen Way
Briarglen Dr
Ramwick Ct
St Croix Ct
Lizzie Ln
Doran Dr
Silvera Ln
Hampton Falls Pl
Lynfield Ln
Scottsfield Dr
Hampshire Pl
Vicinity
42
19
14
13
FIT Hot Spots
Page 19
1:6,000
0 250 500 1,000 Feet
Approximate Scale
N
Valley Water
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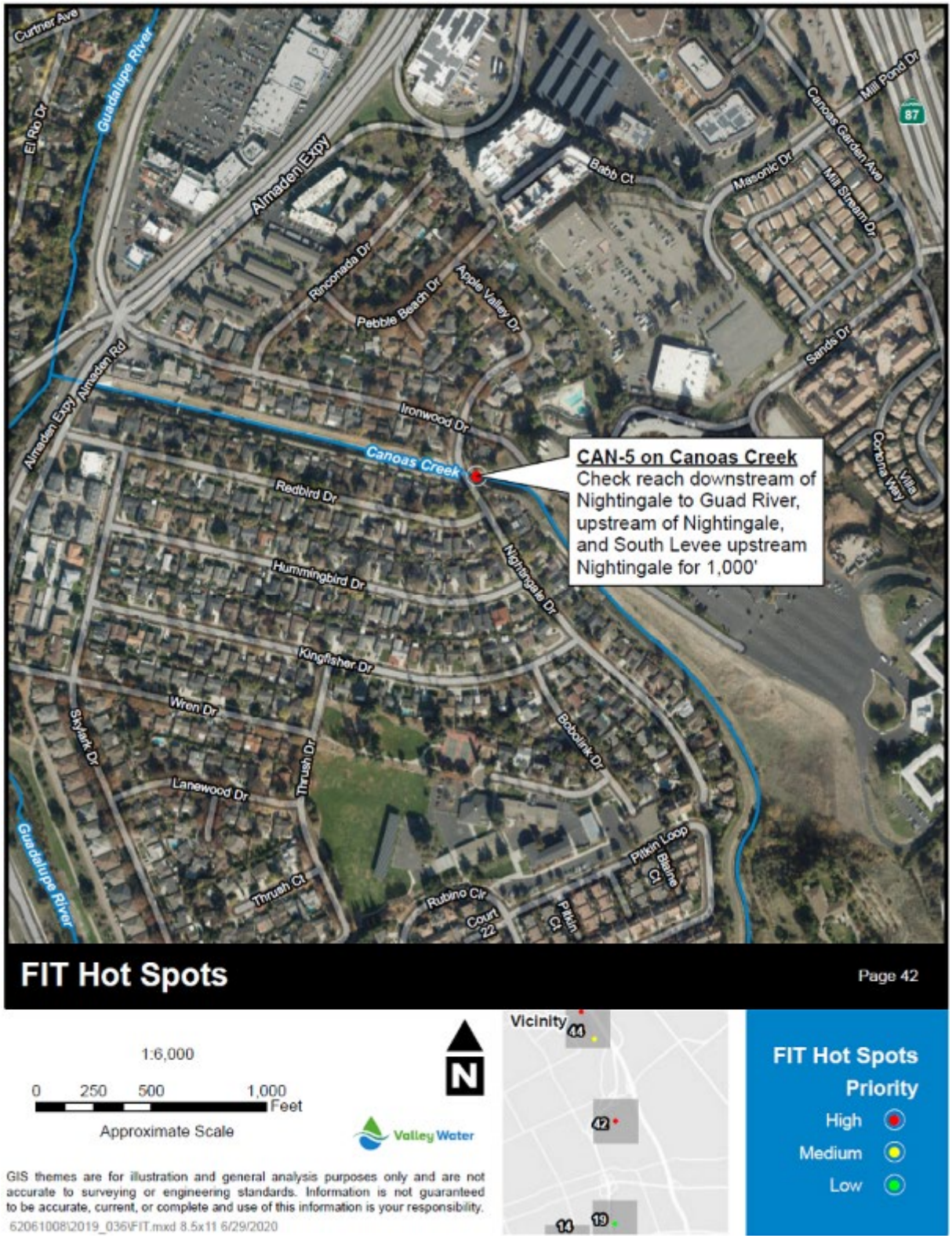
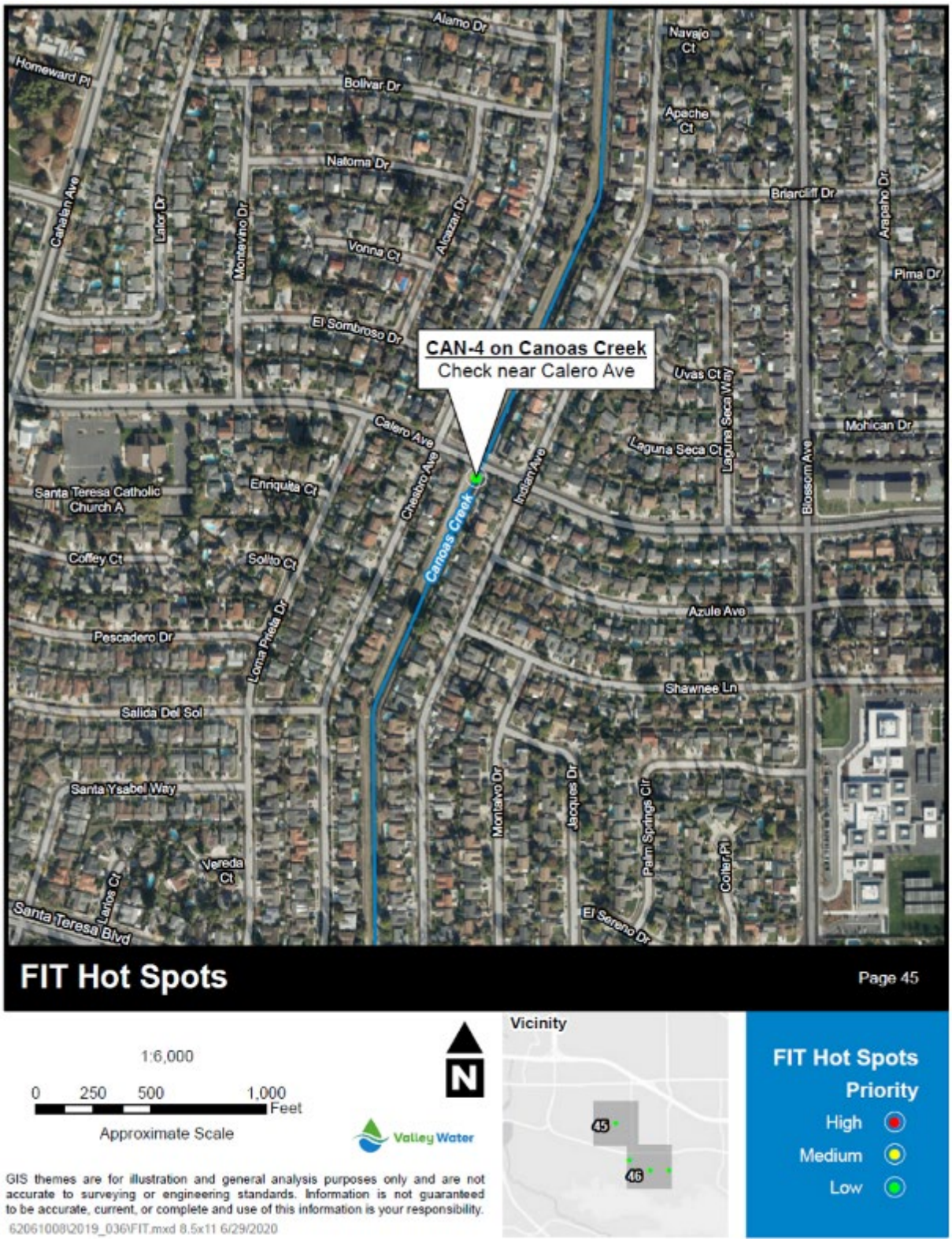
6206100\2019_036\FIT.mxd 8.5x11 6/29/2020
FIT Hot Spots
Priority
High
Medium
Low


LG-2 on Los Gatos Creek
Check both banks between Park Ave and San Fernando St
LG-1 on Los Gatos Creek
Check upstream Park Ave culvert near fire station for vegetation blockages and backup
Los Gatos Creek
Guadalupe River
Guadalupe Bypass 4
Crandall St
Cahill St
Wilson Ave
Bush St
San Fernando St
Lakehouse Ave
Autumn St
Orterson St
Montgomery St
Frederick Cmns
Kentfield Pl
Grayson Ter
Cahill Park Dr
Laurel Grove Ln
Georgetown Ln
Georgetown Pl
Sonoma St
Delmas Ave
Gifford Ave
Park Ave
Lorraine Ave
San Carlos St
Josefa St
Minor Ave
McEvoy St
Dupont St
Columbia Ave
Willis Ave
Auzerais Ave
Illinois Ave
Bird Ave
Royal Ave
Barnsdall Pl
Font Ter
William St
87
280
FIT Hot Spots
Page 20
1:6,000
0 250 500 1,000 Feet
Approximate Scale
N
Valley Water
GIS themes are for illustration and general analysis purposes only and are not accurate to surveying or engineering standards. Information is not guaranteed to be accurate, current, or complete and use of this information is your responsibility.
6206108\2019_036\FIT.mxd 8.5x11 6/29/2020
Vicinity
56
20
43
44
FIT Hot Spots
Priority
High
Medium
Low

ATTACHMENT 11
Flood Information Team Hot Spots (continued)




CAN-4 on Canoas Creek
Check near Calero Ave
Alamo Dr
Homeward Pl
Bolivar Dr
Natoma Dr
Navajo Ct
Apache Ct
Briarcliff Dr
Arapaho Dr
Pima Dr
Cahalan Ave
Lalor Dr
Montevino Dr
Vonna Ct
Alcazar Dr
El Sombroso Dr
Uvas Ct
Laguna Seca Way
Mohican Dr
Calero Ave
Laguna Seca Ct
Blossom Ave
Indian Ave
Cherbro Ave
Enriquita Ct
Santa Teresa Catholic Church A
Canoas Creek
Coffey Ct
Solito Ct
Azule Ave
Pescadero Dr
Loma Prieta Dr
Shawnee Ln
Salida Del Sol
Santa Ysabel Way
Montalvo Dr
Jacques Dr
Palm Springs Cir
Collar Pl
Vereda Ct
Lerios Ct
Santa Teresa Blvd
El Sereno Dr
FIT Hot Spots
Page 45
1:6,000
0 250 500 1,000
Feet
Approximate Scale
N
Valley Water
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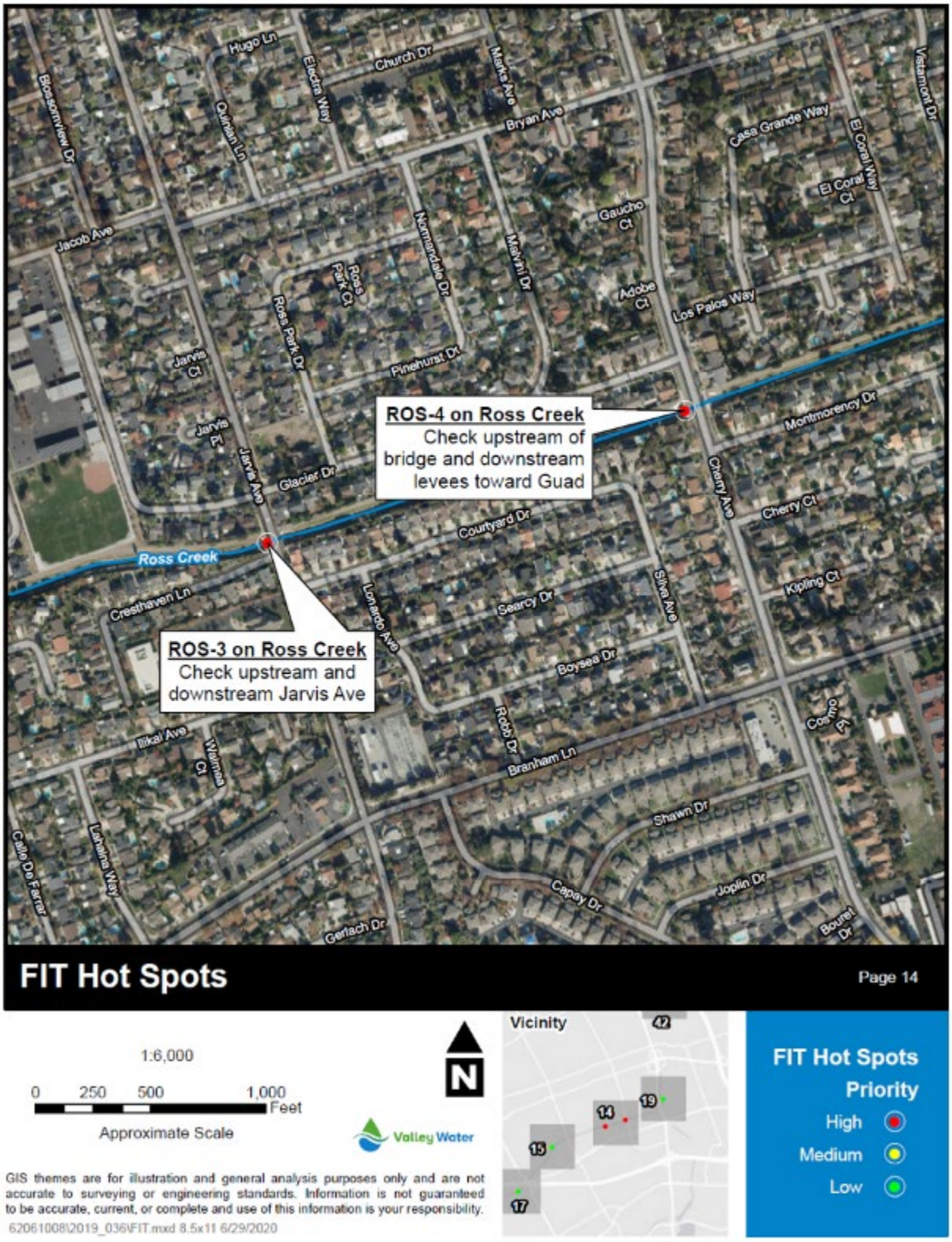
62061008\2019_036\FIT.mxd 8.5x11 6/29/2020
Vicinity
45
46
FIT Hot Spots
Priority
High
Medium
Low

ATTACHMENT 11
Flood Information Team Hot Spots (continued)


ROS-4 on Ross Creek
Check upstream of bridge and downstream levees toward Guad
ROS-3 on Ross Creek
Check upstream and downstream Jarvis Ave
Ross Creek
Hugo Ln
Church Dr
Bryan Ave
Jacob Ave
Ross Park Dr
Pinehurst Dr
Jarvis Ave
Glacier Dr
Courtyard Dr
Cresthaven Ln
Searcy Dr
Boyaea Dr
Branham Ln
Shawn Dr
Capay Dr
Joplin Dr
Los Paios Way
Montmorency Dr
Cherry Ave
Cherry Ct
Kipling Ct
Silva Ave
Lonardo Ave
Robb Dr
Gerlach Dr
FIT Hot Spots
Page 14
1:6,000
0 250 500 1,000 Feet
Approximate Scale
N
Valley Water
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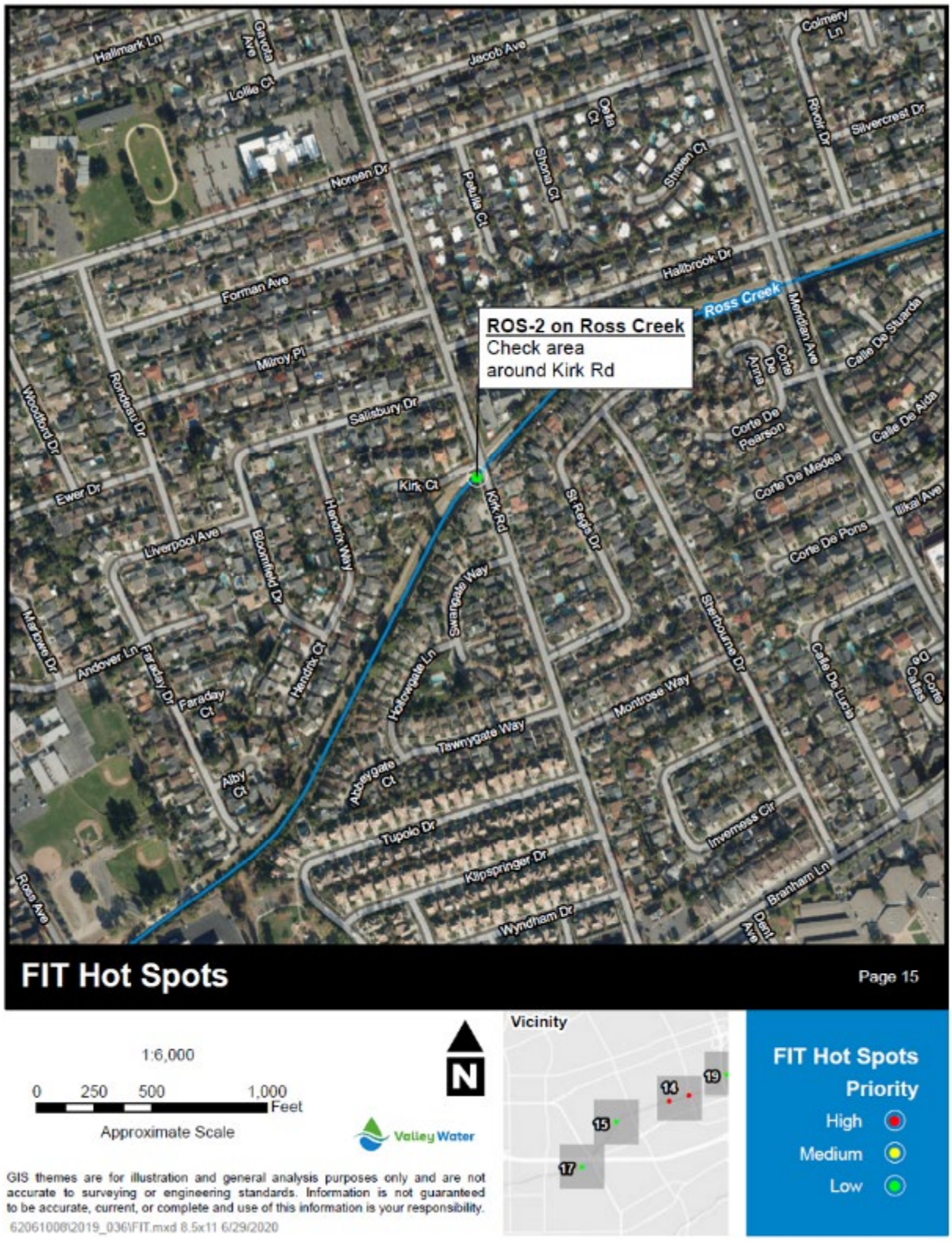
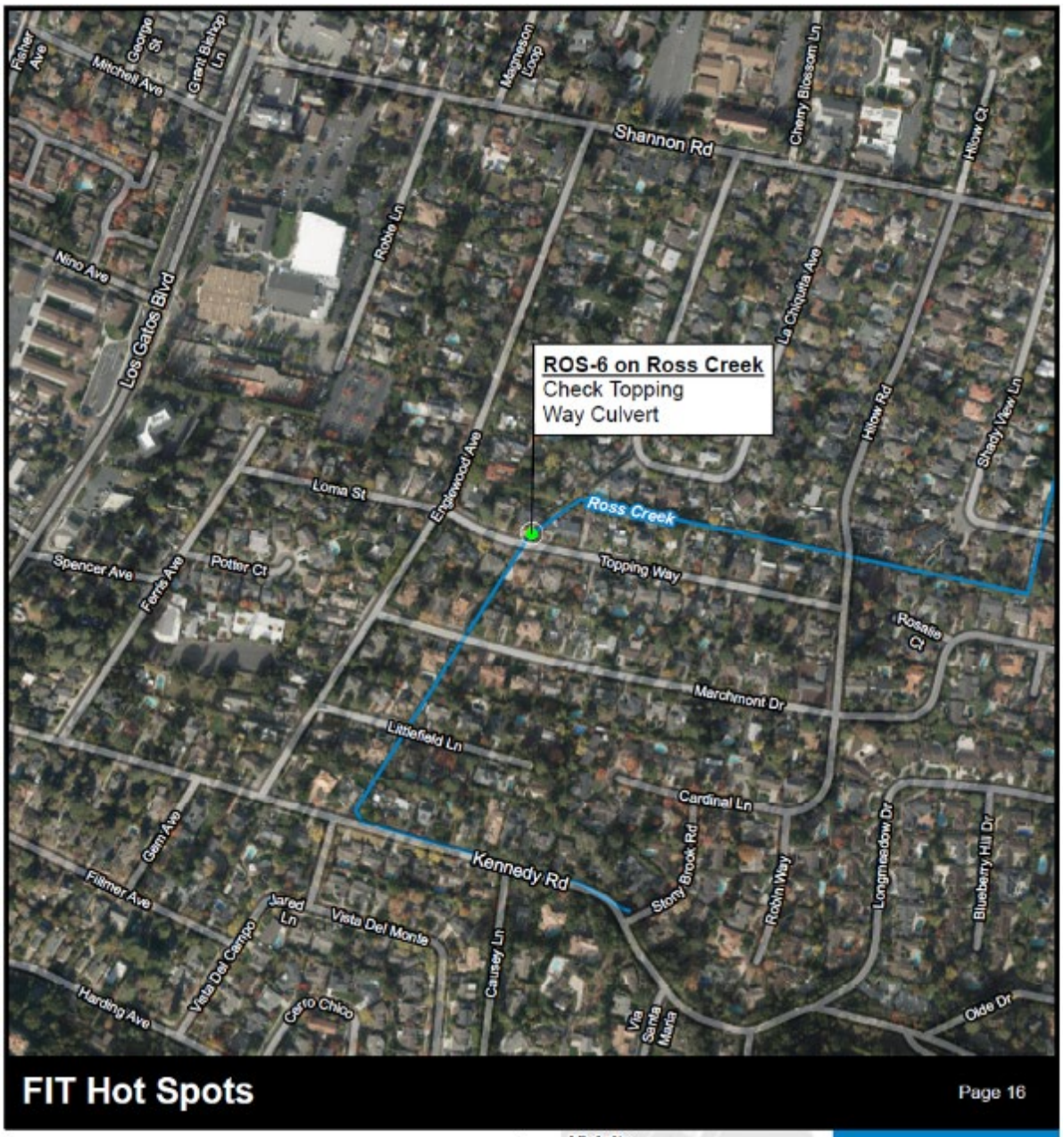
6206100812019_036\FIT.mxd 8.5x11 6/29/2020
Vicinity
42
19
14
13
17
FIT Hot Spots
Priority
High
Medium
Low

ATTACHMENT 11
Flood Information Team Hot Spots (continued)



ATTACHMENT 11
Flood Information Team Hot Spots (continued)




Barcelona Ave
Albert Ave
Conrad Ave
Branham Ln
85
Little Branham Ln
Pepperwood Way
Rosswood Dr
Ross Creek
Laurinda Dr
Selinda Ln
Willow Dr
Lone Hill Creek
Michon Dr
Michon Ct
Cordoy Ln
Elrose Ave
Selinda Way
Vintner Way
Allen Ave
Ralton Dr
Harwood Rd
Gattuccio Dr
Corralee Dr
Canto Dr
Soleron Dr
Merrion Ct
Carter Ave
Ross Ave
Ross Cir
Camden Ave
Sally Dr
Sutton Dr
Aspen Ct
Maitland Dr
ROS-1 on Ross Creek
Check street flooding
for Harwood Rd
FIT Hot Spots
Page 17
1:6,000
0 250 500 1,000
Feet
Approximate Scale
N
Valley Water
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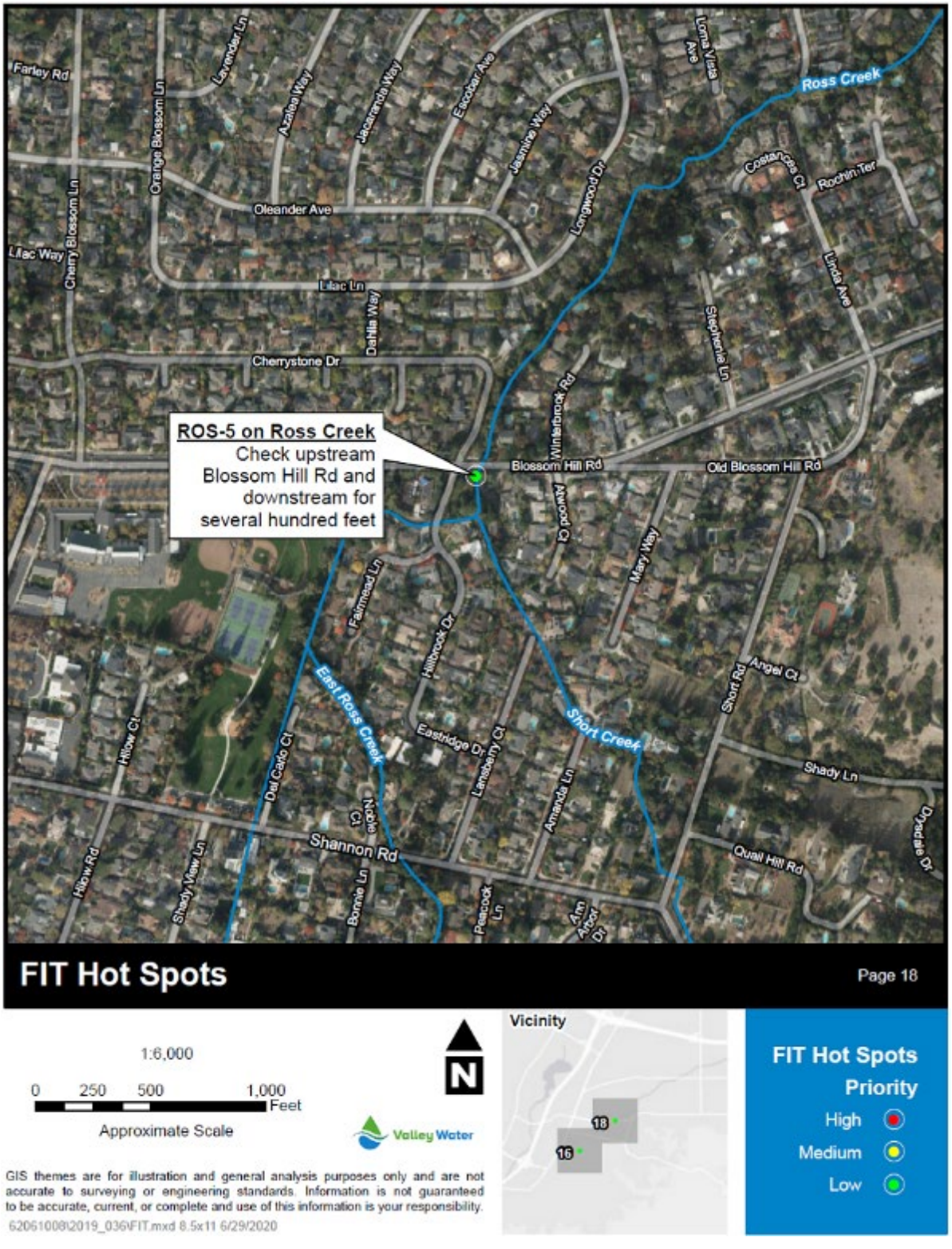
62061008\2019_036\FIT.mxd 8.5x11 6/29/2020
Vicinity
14
15
17
FIT Hot Spots
Priority
High
Medium
Low


ROS-5 on Ross Creek
Check upstream Blossom Hill Rd and downstream for several hundred feet
Ross Creek
Farley Rd
Oleander Ave
Lilac Way
Lilac Ln
Cherrystone Dr
Blossom Hill Rd
Old Blossom Hill Rd
East Ross Creek
Short Creek
Shannon Rd
Quail Hill Rd
Shady Ln
Angel Ct
Short Rd
Mary Way
Eastridge Dr
Hillbrook Dr
Fairmead Ln
Winterbrook Rd
Stephanie Ln
Linda Ave
Rochrin Ter
Longwood Dr
Jasmine Way
Escobar Ave
Jacaranda Way
Azalea Way
Lavender Ln
Orange Blossom Ln
Cherry Blossom Ln
Dahlia Way
Loma Vista Ave
Costanoa Ct
Hillsw Ct
Del Carlo Ct
Lansberry Ct
Amanda Ln
Noble Ct
Hillsw Rd
Shady View Ln
Bonnie Ln
Peacock Ln
Ann Arbor Dr
Dryside Dr
FIT Hot Spots
Page 18
1:6,000
0 250 500 1,000 Feet
Approximate Scale
N
Valley Water
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62061008\2019_036\FIT.mxd 8.5x11 6/29/2020
Vicinity
18
16
FIT Hot Spots
Priority
High
Medium
Low

ATTACHMENT 12
Guidance Table for Evaluating Facility During High Flow and Determining the Condition Level

EVENT	SITUATION	CONDITION LEVEL*
Bank Erosion	Erosion scour that is threatening a facility but is stable (i.e., scour is not getting bigger).	Monitor Yellow
	Erosion scour during high flows that is threatening a facility (e.g., a bridge) that if allowed to continue, could result in failure of facility.	Watch Orange
	Erosion scour that is threatening a structure on an adjacent property during high flows.	Watch Orange
	Erosion scour during high flows that has caused or will cause a blockage in the creek that will produce flooding.	Warning Red
Boil/Seepage	Seepage area with clear water discharging less than 1 gallon per minute.	Monitor Yellow
	Seepage area with cloudy water or increasing rate.	Watch Orange
	Seepage area with discharge greater than 10 gallons per minute.	Warning Red
Levee Damage	New cracks in embankment greater than ¼ inch without seepage.	Monitor Yellow
	Slippage or erosion scour of levee bank during high flows.	Monitor Yellow
	Cracks in levee with seepage discharging less than 1 gallon per minute.	Watch Orange
	Cracks in levee with seepage discharging more than 1 gallon per minute.	Warning Red
	Sudden or rapid slumping or scour on levee slopes.	Warning Red
Stage at ALERT or Visual Stream Gauge	Water depth corresponds to 50% capacity.	Monitor Yellow
	Water depth corresponds to 70% capacity.	Watch Orange
	Water depth at or greater than top bank.	Warning Red
Downed trees in creek channel	Downed tree, high flows; could collect debris, redirect flow, or move downstream.	Monitor Yellow
	Downed tree, high flows; redirecting flows causing bank scour or obstructing flow creating backwater effect.	Watch Orange
	Downed tree causing flooding.	Warning Red

ATTACHMENT 12
Guidance Table for Evaluating Facility
During High Flow and Determining the Condition Level (continued)

EVENT	SITUATION	CONDITION LEVEL*
Bridge/Pier nose blockage	Debris build up that could affect forecast flows or is affecting flows but water receding.	Monitor Yellow
	Debris build up affecting flows with increased flows forecast or more debris collecting, threatening to block flow under bridge/culvert.	Watch Orange
	Debris build up obstructing flow backing up water and will overtop banks or is already flooding.	Warning Red
Embankment overtopping	Creek level is within 1 foot of top of bank.	Watch Orange
	Creek level is overtopping bank.	Warning Red
Sabotage/Vandalism	Facility or levee damage that could adversely impact flows.	Monitor Yellow
	Facility or levee damage that is affecting flows or causing minor leakage in levees or significant levee damage during low flows.	Watch Orange
	Facility damage that is blocking flows that will result in flooding or levee damage that will likely result in failure or has failed during high flows.	Warning Red
Earthquake	Magnitude 6.0 or greater within 50 miles of creek with flows below 70% of capacity and not expected to rise.	Monitor Yellow
	Magnitude 6.0 or greater within 50 miles of creek with flows below 70% of capacity with visible damage to bridges, facilities, or levee movement or cracking.	Watch Orange
	Magnitude 6.0 or greater within 50 miles of creek with damage to levees or facilities that are affecting flows, bridge failure, levee cracking or leaking or movement but minor risk of flooding.	Watch Orange
	Magnitude 6.0 or greater within 50 miles of creek with damage to levees or facilities that are affecting flows, bridge failure, levee cracking or leaking or movement when flows are above 70% of capacity or forecast to be rising.	Warning Red

*Table 1 of EAP describes the flood condition levels.

APPENDIX A
Coyote Creek

PURPOSE

This Appendix to the City, Valley Water and other Stakeholders Joint Emergency Action Plan (EAP) for Severe Storms and Flooding is meant to provide additional guidance specific to Coyote Creek. It will not duplicate information already in an EOP or the EAP, but will provide Coyote Creek specifics for:

1. Incident detection
2. Evaluation and condition level classification
3. Notification and communications
4. Emergency actions

COYOTE CREEK DESCRIPTION

The Coyote watershed is located on the east side of Santa Clara County and encompasses an area of over 320 square miles, including three reservoirs located in the upper watershed areas. The watershed drains from south to north and includes the entire City of Milpitas, eastern portions of San José, portions of Morgan Hill and unincorporated lands within eastern Santa Clara County. Water flows into Coyote Creek through local drainage systems and through 29 tributaries, of which Upper Penitencia Creek, Berryessa Creek, Lower Silver Creek, Upper Silver Creek and Fisher Creek flow directly into Coyote Creek below the reservoirs.

Below the reservoirs, Coyote Creek is about 42 miles in length and is crossed by Highways 101 and 237, Interstates 880 & 280, Metcalf Road, Silver Creek Valley Road, Yerba Buena Road, Capitol Expressway, Tully Road, Story Road, East William Street, San Antonio Road, Santa Clara Street, Julian Street, Mabury Road, Berryessa Road, Oakland Road, Brokaw Road, Montague Road, and Tasman Drive.

About 32 miles of Coyote Creek is unimproved, much of it heavily vegetated, with a variety of adjacent land uses, such as, golf courses, open space, parks, residences and businesses. Over 5 miles of improvements between the San Francisco Bay and Montague Expressway were constructed in 1995 to protect North San José, Alviso, and Milpitas from a 100-year flood. In addition, a short section of levee and floodwall were constructed to provide about 25-year flood protection for the Golden Wheel and South Bay Mobile Home Parks downstream of Berryessa Road. And there have been other modifications that add up to about 5 miles of additional improvements.

COYOTE CREEK FLOOD THREATS

The flood prone areas exist where the creek is in a more natural state, with significant vegetation, and are under a variety of ownerships that include a significant amount of private property. In the improved portions of the creek, there is a comprehensive management program to provide the design objectives of the modified creek. The unimproved areas of the creek do not have a comprehensive management program due to lack of: environmental clearances, public ownership, and a defined level of flood protection.

The two most recent flood events along Coyote Creek since the upstream reservoirs were constructed occurred in 1997 and 2017. Both of these floods primarily impacted three flood hotspots along the creek: (1) Golden Wheel and South Bay Mobile Home Parks downstream of Berryessa Road; (2) a single-family residential neighborhood near East William Street; and (3) a high-density residential neighborhood in the Rock Springs Drive area downstream of Tully Road. These floods caused considerable damage requiring evacuations and demonstrated the inherent uncertainty in estimating flood flows in a natural stream system.

In addition to the three main flood hotspots, there are other locations that are considered flood hotspots or may be considered a flood risk requiring attention during high flow events. The main areas of concern are included in the Coyote Flood Thresholds & Condition Levels section, but areas still at risk that are not considered flood hotspots are the improved reaches downstream of Montague Expressway that are protected by levees. Because of the flood risk, these areas are important to monitor and inspect before, during and after storm events These areas are shown on FEMA Flood Insurance Rate Maps (FIRMs) as Zone X – Area with Reduced Flood Risk due to Levee. The FIRMs can be found at https://msc.fema.gov/portal/search.

FLOOD EVENT DETECTION

There are several detection methods that are described in the EAP that include weather forecasts, hydrologic/hydraulic modeling, Automated Local Evaluation in Real Time (ALERT) stream/reservoir/precipitation gauge systems, and field observation of stage gauges and other areas of high flow.

Of these methods, the gauging and field observation methods specific to Coyote Creek are described below:

ALERT Gauge System

A listing of all ALERT gauges in the Coyote Watershed can be found at http://alert.valleywater.org. These gauges provide data in near real-time at several locations on Coyote Creek and for all major tributaries downstream of the reservoirs. Upstream gauges will provide valuable information for flood events occurring downstream and may give many hours' notice to take action. Table 1 shows approximate travel times between key points along Coyote Creek.

The following is a summary of the current stream gauge program.

1. Annually sites will be prioritized for manual gauging and teams are assigned.

2. After every high flow event, the rule curves (depth versus discharge) are updated/calibrated. High flow calibration on Coyote Creek gauges was done after the 1997 event and again after the 2017 event.

3. ***The Madrone gauge is considered more accurate for prediction downstream flood depths when Anderson reservoir spills due to the channel characteristics.*** The Edenvale gauge is sometimes used and is part of

the NWS forecast modeling; however, it has a lower level of confidence due to potential backflow conditions.

Field Observations

Field observations can be critical to verify what is occurring because ALERT gauges are not always a reliable source of information and modeling information can vary from the actual condition. In addition, there are other known hot-spots and facilities that should be visually checked during high flows. Supplementing with visual observations from staff deployed in the field (i.e., Field Information Teams) and other field reporting is an important component to detection.

To allow additional information to be accurately gathered, several visual stream stage monitoring locations have been installed for observations. These are located at:

Rock Springs:

- Lookout location is driveway entrance to stables.
- The 'circuit' for this monitoring station will include the entire Rock Springs area, including Bevin Brook Court.

East William Street:

- Stage gauge installed on pedestrian bridge.
- Lookout location will be from the vehicular bridge.
- Circuit would include William Street Park, Selma Olinder Park, school, and surrounding neighborhood.

Mabury Road:

- Stage gauge installed on middle pier of the bridge.
- Lookout location on the northeast side.
- Circuit would include Watson Park, City Yard, Trailer Park and Truck Driving School.

Berryessa Road:

- Stage gauge installed on bridge pier.
- Lookout location on north east side by trailhead.
- Circuit would include Industry areas on west side of the creek and the Mobile Home Park.

Charcot Road:

- Stage gauge installed on bridge pier.
- Lookout location can be on either side of the creek.
- Circuit would be the bridge location.

Valley Water operates Field Information Teams (FITs) that are assigned to specific locations during storms and high flow events to provide this valuable information. In addition, the City also deploys FIT teams in a coordinated way to assure that all critical locations are being monitored. Locations of FIT deployment by the City and Valley Water may overlap during storm and flood events. The MAC Group will coordinate this effort through the Planning/Intelligence Section so that resources are most effectively utilized and information is shared.

Valley Water Hot-Spots for possible FIT deployment are:

1. Visual stream gauges—checking for high water and rate of change
2. Known Flood Hot-Spots (Attachment 11 pages 52-57)
3. Real-time Flooding—documenting flooding
4. Bridge Piers—checking for debris blockages
5. Trash Racks—checking for debris blockages
6. Mobile Home Park Levee downstream of Berryessa Road—check for stability
7. Sandbag sites—checking for supply and access issues
8. Previously repaired or other project sites—checking for performance
9. Raw water facilities—dams and canals

COYOTE FLOOD CONDITION LEVELS AND SEVERITY

Sometimes an event is a flash flood that occurs suddenly without much early notice. However, with weather forecasting and Coyote Creek modeling there is often an ability to estimate flood events before they occur. This is extremely valuable when preparing for necessary evacuations and road closures, however, this information should be used as guidance only and not with absolute certainty.

To provide this advanced notice, a threat level will be used to provide an indicator of preparedness for a response and a level of potential severity for areas subject to flooding to assist the Agency's in planning and implementing appropriate actions. Because of the uncertainties of modeling in the future, a condition of Watch will be used when flood stage is estimated about 24 to 72 hours or more in the future. If flooding is estimated within about 24 hours, the threat level will be elevated to Warning. In addition, an unexpected situation may occur during high flows that may result in a change in condition level (Attachment 12 – Guidance Table for Evaluating Facility During High Flow and Determining Condition Level).

Green	**Preparedness**—This is the base stage of readiness that will be the typical condition throughout most of the year. It is defined as: • Flood stage (Minor Flooding or greater) or 90% to 100% of Design stage is not estimated within the next 72 hours or • Measured stream depth is below 70% of flood or Design stage.
Yellow	**Monitoring**—This condition is variable and requires more intense monitoring and a heightened level of alertness. Minimal staff in each Stakeholder's Emergency Operations Center (EOC) may be activated. A virtual MAC could be activated. An informal EOC Action Plan (AP) could be initiated if activated. This condition is defined as: • Stream depth is estimated to reach flood or 90%-100% of Design stage in 72 hours or more or, • Measured stream depth is at 50% to 70% of flood or 70% to 90% of Design 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 stage within 24 hours.
Orange	**Watch**—The Stakeholders' would increase staff in their EOCs, if they had been activated, and a MAC facility could also be established. If activated, a formal EOC AP will be drafted. This condition is defined as: • Stream depth is estimated to reach flood or greater than Design 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 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 stage within 6-12 hours.
Red	**Warning**—This is a more urgent situation. The Stakeholders' EOC may be activated along with a MAC that would monitor the situation, providing notifications and responding according to a written AP. Often for smaller watersheds with flashy creeks, an EOC or MAC will not be opened until the storm event is occurring. This condition is defined as: • Flood stage or greater than Design stage or is occurring or is estimated to occur within 24 hours, or • Measured stream depths are 100% or greater than flood, or • Measured stream depths are greater than Design 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 stage within minutes/hours or is occurring.
Note: Design stage is the depth of water that a facility design is based upon and Flood stage is the depth of water at which a stream or facility begins flooding (see Glossary of Terms).	

When the threat level is at a Watch or Warning, there is an expectation that flooding will occur or is occurring at some locations. The severity of the situation at specific locations is determined by the flood stage. The areas subject to flooding for different stream stages are estimated utilizing hydraulic models and flood maps from the 1997 and 2017 floods.

Flood severity categories are defined by the NWS as:

Action	An established gage 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.
Minor Flooding	Minimal or no property damage, but possibly some public threat (e.g., inundation of roads).
Moderate Flooding	Some inundation of structures and roads near stream, evacuations of people and/or transfer of property to higher elevations.
Major Flooding	Extensive inundation of structures and roads, significant evacuations of people and/or transfer of property to higher elevations.

A 2017 flood inundation map of Coyote Creek is shown in **Figure 1A** and the associated Flood Thresholds **Table 2A** on the following page. The map is the Federal Emergency Management Agency (FEMA) 1 percent flood map. This map is based on the best available information and modeling when it was created and should be considered approximate due to the difficulty in estimating an actual event and the changing conditions of the creek.

Table 3A is a flood severity table for the Madrone Gauge that is used to estimate areas that will be subject to flooding on Coyote Creek. Mapping associated with this table will be provided to Agency Stakeholders. By utilizing the **Table 1A** for travel times and actual measurements at Madrone, the time for a flood flow to reach a given location can be estimated.

The flood stage can either be estimated by using weather forecasts to model stream depths at that location or may be based on actual measurements. This information would be used to establish Condition Levels and Severity Levels for specific areas subject to flooding. Valley Water and City will coordinate with the National Weather Service to be consistent in the threat level and severity category. Below are examples of how the tables should be used.

EXAMPLE 1

Situation: Stream depth at the Madrone gauge is currently at 5 feet and estimated to reach 10 feet in 24 hours.

Analysis: Using Table 3A the 5-foot stage is below flood stage, however, the Flood Severity for a 10-foot stage predicted to occur in 24 hours would be described as **Moderate Flooding**. And, because the 10-foot stage is expected in 24 hours at Madrone Gauge and all travel times to flood hotspots are less than 17 hours from this gauge, the Condition Level would be set as **Flood Watch** (24 to 72 hours). The specific areas subject to flooding are described in Table 3A for 10-foot stage and below.

EXAMPLE 2

Situation: Stream depth at the Madrone gauge is currently measured at 13 feet.

Analysis: Table 3A describes the Flood Severity as **Major Flooding** for a 13-foot stage at the Madrone gauge. And, the Condition Level should be set as **Flood Warning**, since travel times shown on Table 1A are less than 24 hours.

EXAMPLE 3

Situation: Stream gauge at William Street Bridge is observed to be at 23 feet.

Analysis: Using information from Table 2A, the Condition Level would be **Flood Warning** for ID#'s 4a & 4b (three low-lying structures on 17th Street along the creek bank and the park east of Coyote Creek), and **Flood Watch** for ID# 4c (low lying homes on the west side of Coyote Creek).

The figures and tables on the following pages identify flood thresholds and triggers for actions at the flood hot-spots.

Notifications and Activity/Actions: Based on the condition level and flood severity level, notification activity/actions will be taken by both the City, Valley Water and other Stakeholders. The level of activity will be guided by the best information available to the Agency Subject Matter Experts (SMEs) and Agency Coordinators (ACs). The level of activity may mirror those activities of the individual jurisdictional Emergency Operations Centers (EOCs). As weather conditions merit and monitoring take place, the SMEs and ACs may be in their home offices or their jurisdiction's EOC, if activated. The "call to action" may be a series of phone calls among the SMEs and ACs to determine the best approach to coordination.

It should be noted that a future project is planned to allow Valley Water to significantly increase Anderson Dam outlet capacity. This will allow Valley Water to lower water levels rapidly and provide more flood storage. However, the high discharge capacity will increase base flows resulting in an increase in water elevations in the downstream reaches. Prior to the project completion, Anderson Dam outlet discharge thresholds should be developed to provide guidance for flood releases. The following are tables providing guidance on the types of notifications and actions that should take place for Coyote Creek.

INFRASTRUCTURE AT RISK

There are important infrastructure and facilities at risk of flooding. Based on intelligence gathered during the storm event, the MAC will determine the risk and provide notifications as appropriate. The facilities below are within the area where people, property, and infrastructure may be at risk:

FACILITY TYPE	NAME	ADDRESS	PHONE
SCHOOL	Olinder Elementary School San José Unified School District	890 East William Street San José, CA 95116	~~xxx~~
	McKinley Elementary School Franklin-McKinley School District	651 Macredes Avenue San José, CA 95116	~~xxx~~
	San José High School San José Unified School District	275 North 24th Street San José, CA 95116	~~xxx~~
	Empire Gardens Elementary School San José Unified School District	1060 East Empire Street San José, CA 95112	~~xxx~~
UTILITIES	PG&E Metcalf Transmission Substation	150 Metcalf Road San José, CA 95138	~~xxx~~
OTHER	Hibbit's Family Stables	1896 Senter Road San José, CA 95112	~~xxx~~

APPENDIX A
Coyote Creek (continued)

TABLE 1A
Coyote Creek Travel Times

Estimated Peak Travel Times for 2017 February Flood Event (rounded to the nearest half hour)											
	Madrone Gauge (Anderson Spillway)	**Coyote Creek Golf Drive**	**Edenvale Gauge**	**Singleton Road Crossing**	**Tully Road**	**Rock Springs**	**East William Street**	**Watson Park**	**Berryessa Road**	**South Bay MHP**	**Charcot Road**
Madrone Gauge (Anderson Spillway)	-	-	-	-	-	-	-	-	-	-	-
Coyote Creek Golf Drive	4:00	-	-	-	-	-	-	-	-	-	-
Edenvale Gauge	5:30	1:30	-	-	-	-	-	-	-	-	-
Singleton Road Crossing	8:00	4:00	2:30	-	-	-	-	-	-	-	-
Tully Road	10:00	6:00	4:30	2:00	-	-	-	-	-	-	-
Rock Springs	10:30	6:30	5:00	2:30	0:30	-	-	-	-	-	-
East William Street	13:00	9:00	7:30	5:00	3:00	2:30	-	-	-	-	-
Watson Park	15:00	11:00	9:30	7:00	5:00	4:30	2:00	-	-	-	-
Berryessa Road	15:30	11:30	10:00	7:30	5:30	5:00	2:30	0:30	-	-	-
South Bay MHP	16:00	12:00	10:30	8:00	6:00	5:30	3:00	1:00	0:30	-	-
Charcot Road	17:00	13:00	11:30	9:00	7:00	6:30	4:00	2:00	1:30	1:00	-
Highway 237 USGS Gauge	17:30	13:30	12:00	9:30	7:30	7:00	4:30	2:30	2:00	1:30	0:30

Disclaimer: The peak travel times in this table are based on data collected during the February 2017 flood event. Flood may happen before flow peaks. The data may be preliminary and should be used for general analysis purposes. Use care while interpreting results.

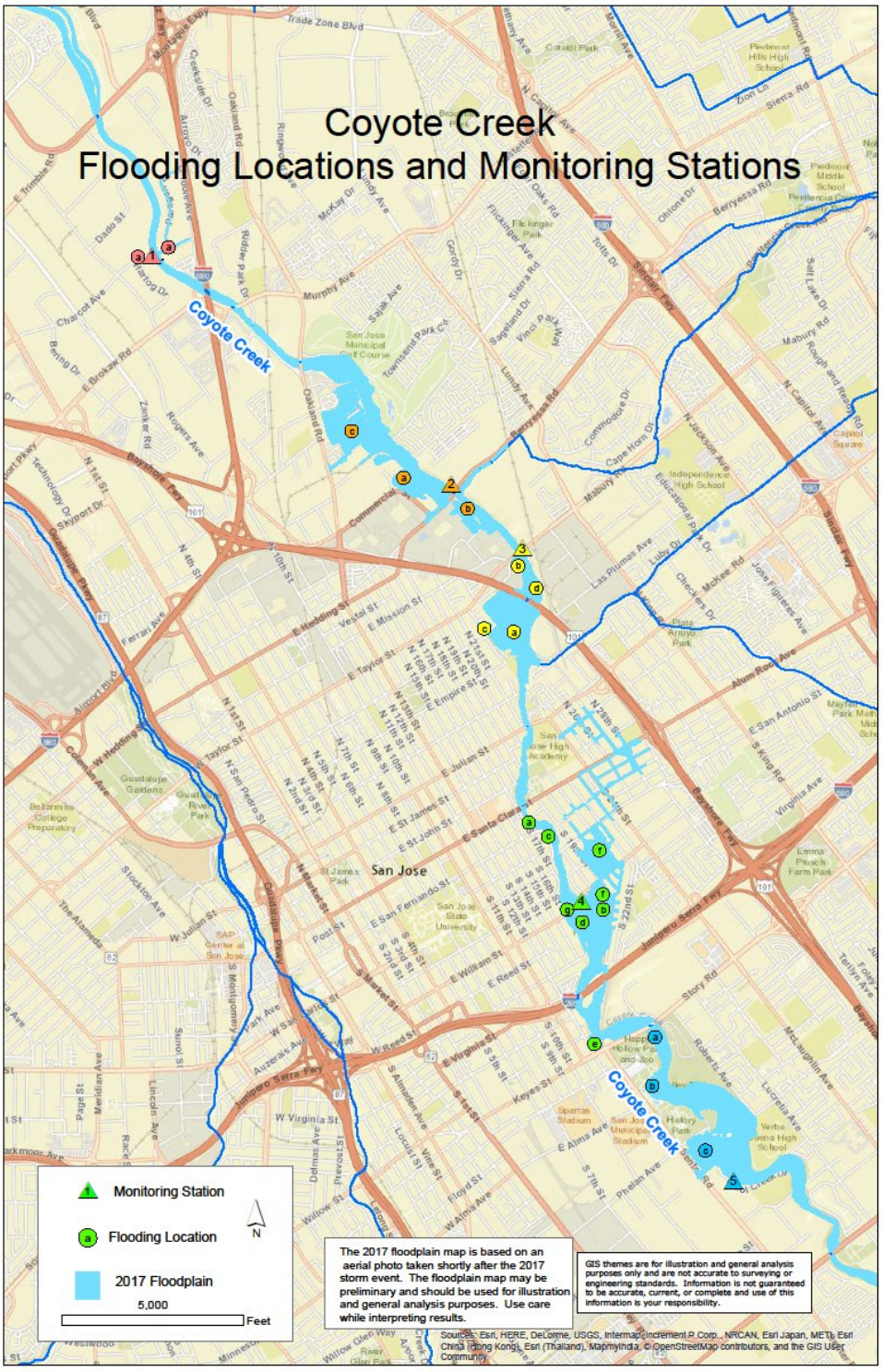

FIGURE 1A
Coyote Creek Flooding Locations and Monitoring Stations

TABLE 2A
Coyote Creek Flood On-Site Monitoring Thresholds

ID#	Index Location	Flooding Description	FLOOD THREAT STAGE AT MONITORING LOCATION				MONITORING LOCATIONS	PHOTO
			50% Capacity	70% Capacity	100% Capacity	2017 Flood High Water Mark		
1a	Charcot	Charcot Bridge overtops, flooding in streets and eventually threatening nearby businesses.	14' to 15'	16' to 17'	18' to 1'9'	18.9'	Charcot Road Bridge	
2a	Downstream Berryessa Rd—Industrial	Businesses west of Coyote Creek floods. Automotive junkyard and concrete plant at risk.	5' to 6'	6' to 7'	8 'to 9'	16.1'	Berryessa Road Bridge	
2b	Upstream Berryessa Rd—Industrial	Industrial area west of Coyote Creek floods threatening businesses.	10' to 11'	12' to13'	13' to 14'			
2c	Mobile Home Parks	Levee to the west of Coyote Creek overtops, flooding streets and homes. Businesses near the railroad tracks at risk.	12' to 13'	14' to 15'	15' to 16'			
3a	Watson Park	Dog park begins to flood first, followed by the Watson Park.	12' to 13'	13' to 14'	15''to 16'	22.0'	Mabury Road Bridge	
3b	RV Storage Lot	RV Lot west of Coyote Creek flooded.	13' to 14'	16' to 17'	18' to 19'			
3c	Watson Park Neighborhood	Streets immediately to the west of Watson park begin to flood.	15' to 16'	18' to 19'	20' to 21'			
3d	CSJ Mabury Yard	Coyote Creek overtops the east bank, flooding the city of San José Yard.	17' to 18'	19' to 20'	22' to 23'			

ID#	Index Location	Flooding Description	FLOOD THREAT STAGE AT MONITORING LOCATION				MONITORING LOCATIONS	PHOTO
			50% Capacity	70% Capacity	100% Capacity	2017 Flood High Water Mark		
4a	17th Street—Lowest Homes	Three low-lying structures begin to flood.	15’ to16’	18’ to 19’	20’ to 21’	33.3’	William Street Bridge	
4b	Selma Park	Park east of Coyote Creek begins to flood.	18’ to 19’	21’ to 22’	24’ to 25’			
4c	17th St & Arroyo Way	Several low-lying homes located very near the Creek on the west side begin to flood.	19’ to 20’	22’ to 23’	25’ to 26’			
4d	William Street Park	Coyote Creek Trail & Park, including Olinder School baseball field, begin to flood.	22’ to 23’	25’ to 26’	28’ to 29’			
4e	NE of 12th & Keyes Streets	Car ports – located on the first floor of two-story apartment buildings – begin to flood.	14’ to 15’	16’ to 17’	17’ to 18’			
4f	Olinder Neighborhood and School	Selma park fills and overflows to the northeast, flooding streets, the school, and homes. Water does not return to creek and flows northeasterly through streets.	26’ to 27’	29’ to 30’	31’ to 32’			
4g	Area northwest of E. William St.	E. William St. overtops on the west side of Coyote Creek, flooding homes, backyards, and streets.	27’ to 28’	30’ to 31’	32’ to 33’			

ID#	Index Location	Flooding Description	FLOOD THREAT STAGE AT MONITORING LOCATION				MONITORING LOCATIONS	PHOTO
			50% Capacity	70% Capacity	100% Capacity	2017 Flood High Water Mark		
5a	Happy Hollow Zoo	Low lying areas, including animal enclosures begin to flood.	13’ to 14’	15’ to 16’	17’ to 18’	20.6’	Rock Springs Stable Drive	
5b	Kelley Park	Park begins to flood.	14’ to 15’	16’ to 17’	17’ to 18’			
5c	Rock Springs Neighborhood	Homes and streets begin to flood.	17’ to 18’	19’ to 20’	20’ to 21’			

Disclaimer: The flooding thresholds in this table are based on hydraulic modeling results calibrated with data collected during the February 2017 flood event. Hydraulic modeling results are estimates. Information is accurate within the model limitations and assumptions/data used for model development. Use care while interpreting results.

TABLE 3A
Madrone Gauge Flood Severity Thresholds (NWS Model)

Madrone Gauge Thresholds	Stage (ft)	Description
Action	**6**	• Low flow crossings across Coyote Creek will be inundated.
Minor Flooding	**7**	• Flooding to low lying businesses northwest of Berryessa Road and Coyote Creek.
Minor Flooding	**8**	• Horse Ranch opposite the Rock Springs Neighborhood at risk of flooding. • Watson Park and Coyote Creek Trail at Selma Park begins to flood. • Homes in the creek along Arroyo Way and 17th Street northwest of East William Street begin to flood. • Flooding to businesses northwest of Berryessa Road and Coyote Creek.
Moderate Flooding	**9**	• Apartments that back onto Coyote Creek at the intersection of Keyes Street and South 12th Street begin to flood lower level garages. • Watson and Selma Parks flooding. • Homes along Arroyo Way and 17th Streets, and homes northwest of William Street and the creek flood. • Flooding beings at Williams Street Park, Happy Hollow Zoo and Kelley Park. • Berryessa Road is at risk of localized street flooding, with business northwest of Berryessa Road and Coyote Creek flooding.
Moderate Flooding	**10**	• Sycamore Avenue accessing the Boys Ranch Detention Facility at risk of inundation. • Low areas in Happy Hollow Zoo affecting structures and animals flood. • Rock Springs Neighborhood at risk of flooding. • Apartments that back onto Coyote Creek at the intersection of Keyes Street and South 12th Street at risk. • Homes located near the creek along Arroyo Way and 17th Street, Brookwood Avenue, S 16th Street and East William Street, 19th Street between San Antonio and Calhoun are at risk. • Olinder school begins to flood. • Watson, Selma, Kelley, and William Street Parks are flooding. Low areas of Roosevelt Park are flooded. • Woodborough Drive starts to become inundated. • A few homes located in the RV storage lot south of Maybury Drive may flood. • Business northwest and southwest of Berryessa Road and Coyote Creek flood.

Madrone Gauge Thresholds	Stage (ft)	Description
Major Flooding	**11**	• Sycamore Avenue accessing the Boys Ranch Detention Facility flooded. • Kelly Park, and Happy Hollow Zoo flooding. Apartment buildings at Keyes Street and South 12th Street possibly flooded. • Homes along Arroyo Way and 17th Street, homes north of William Street on South 16th Street and East William, homes along Brookwood Avenue, and 19th Streets are at flood risk. • Selma Park inundated and overflows into Olinder Neighborhood. • Minor flooding at Olinder School. • William Street Park is inundated. • Watson Park inundated and begins to flood Monfernio Drive. • RV Storage lot north of US-101 flooded. • Flooding in the offices and industrial areas north and south of Berryessa Road west of the creek. • The floodwall on the south side of Golden Wheel and South Bay Mobile Home Parks begin to overtop.
Major Flooding	**12**	• Sycamore Avenue accessing the Boys Ranch Detention Facility flooded, and adjacent Malaguerra Avenue intersections inundated. • Flooding to Kelley Park, and Happy Hollow Zoo. • Rock Springs neighborhood levee is overtopped. • Apartments that back onto Coyote Creek at the intersection of Keyes Street and South 12th Street flooded at lower levels. • Flooding in the Olinder Neighborhood, to houses located along Arroyo Way and 17th Street. • Selma Park and William Street Park flooded. • Moderate flooding to homes north of East William Street west of the Creek and to Olinder School. • Minor flooding occurs at the neighborhood on Monfernio Drive located west of Watson Park, with the park being flooded. • Mobile homes located in the RV storage lot north of US-101 flood. • Flooding to commercial businesses north and south of Berryessa Road on the west side of the Creek. • Flooding in the Golden Wheel and South Bay Mobile Home Parks. • Minor street flooding occurs at Charcot Ave due to bridge overtop.
Historical High Water	**12.06'**	February 2017

Madrone Gauge Thresholds	Stage (ft)	Description
Major Flooding	**13**	• Hellyer Park has significant flooding. • Major flooding in the Rock Springs Neighborhood and adjacent horse ranch. • Happy Hollow Zoo and Kelley Park flooded. • Lower levels of apartment buildings at Keyes and 12th Street are flooded. • East William/Olinder Neighborhood (South 22nd Street, South 21st Street, Brookwood Avenue and 19th, 20th, and 21st Street) flood with flows moving northeast towards US-101 and Lower Silver Creek. • Ponding of concern on the Southside of Lower Silver Creek at West Court and Anne Darling Elementary School, South 16th Street and East William near the Creek, Brookwood Avenue, Arroyo Way and South 17th Street, and Gilthero Court. • Flooding for Olinder Elementary School, and San José Community Middle and High Schools. • East Taylor Street and Kellogg Plant on Eggo Way flooding. • RV storage park north of US-101 flooding. • US-101 flooding near Mabury Road. • Commercial and industrial area near Berryessa Road are significantly flooded. • Major flooding in the Mobile Home Parks. • Spill at Charcot Avenue Bridge escapes to the east of Charcot Avenue Bridge toward I-880 and CA-237, and escapes to the west toward Montage Expressway and North 1st Street.
Major Flooding	14	• Disastrous flooding occurs along Coyote Creek downstream of Tully to the San Francisco Bay. • Rock Springs Neighborhood and adjacent horse ranch inundated. • Apartment buildings at the intersection of Keyes Street and S. 12th Street flooded. • Happy Hollow Zoo and Kelley Park flooded. • Spills from Selma Park flow northerly to flood a large area east of the creek, continuing northward to Upper Penitencia Creek, overflowing Hwy 101. • West bank outbreaks at Watson Park, N 20th Street, Roosevelt Street, N. 19th Street at its southern end, N 18th Street, East St. John Street, East Santa Clara Street and S. 17th Street. • The neighborhood located northwest of Watson Park may be flooded. • Floodwaters converge to the Commercial Street Neighborhood around N. 4th Street and N. 10th Street to cause flooding north of I-880 in San José, California. • Businesses north and south of Berryessa Road and west of the creek are inundated. • The South Bay and Golden Wheel Mobile home parks are inundated; there is risk that floodwaters could overtop and flood homes to the west. • Charcot Bridge overtopping on both right and left banks flowing away from the Creek flooding an area roughly between Coyote Creek and Guadalupe River, and between Montague Expressway to CA-237. • Japantown, Hyde Park, and Northside San José are possible flooded.
Disclaimer: The flooding thresholds in this table are based on hydraulic modeling results calibrated with data collected during the February 2017 flood event. Hydraulic modeling results are estimates. Information is accurate within the model limitations and assumptions/data used for model development. Use care while interpreting results.		

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APPENDIX B
Guadalupe River

PURPOSE

This Appendix to the Joint Emergency Action Plan (EAP) for Severe Storms and Flooding Response in the City of San José (City) is meant to provide additional guidance specific to Guadalupe River. It will not duplicate information already in an Emergency Operations Plan (EOP) or the EAP, but will provide Guadalupe River specifics for:

1. Incident detection
2. Evaluation and condition level classification
3. Notification and communications
4. Emergency actions

GUADALUPE RIVER DESCRIPTION

The Guadalupe River begins about a half mile upstream of Blossom Hill Road at the confluence of Guadalupe Creek and Alamitos Creek and flows about 20 miles through Santa Clara County and the City of San José. Adjacent land uses are predominantly residential and commercial and includes the urban areas of Downtown San José. Its watershed drains about 170 square miles of Santa Clara County and City of San José and is bounded on the south and southwest by the Santa Cruz Mountains, on the west by San Tomas and Saratoga Creeks watershed, and on the east by Coyote Creek watershed. The three major tributaries that flow into the river are: Los Gatos Creek; Canoas Creek; and Ross Creek. Six reservoirs in the upper watershed area of Guadalupe River that store water primarily for ground water recharge are: Lake Elsman, Lexington Reservoir and Vasona Reservoir along Los Gatos Creek; Guadalupe Reservoir on Guadalupe Creek; Almaden Reservoir on Alamitos Creek; and Calero Reservoir on Calero Creek.

The river is crossed by many major roadways that include: Highways 85, 87, 101 and 237; Interstates 880 & 280; Blossom Hill Road; Capitol Expressway; Almaden Expressway; West San Carlos Street; West Santa Clara Street; West Taylor Street; Montague Expressway; and Tasman Drive. There are also bike/pedestrian paths along a majority of the river length, light-rail that runs along some of its length with several crossings, and it is crossed by three wooden railroad trestles.

All of the Guadalupe River has been modified over the years for purposes either beneficial to adjacent land owners (e.g., flood protection, water conservation or land reclamation) or by governmental agencies to provide the community flood protection and/or environmental restoration/protection. Projects that provide 100-year (1 percent) flood protection have been completed from the San Francisco Bay to about a half mile upstream of Interstate 280. The remaining upstream reaches of the Guadalupe River are currently being studied by the Santa Clara Valley Water District (Valley Water) and U.S. Corps of Engineers for flood protection improvements.

GUADALUPE RIVER FLOOD THREATS

Flooding threats exist along all of Guadalupe River from the San Francisco Bay to Blossom Hill Road with the greatest risk of flooding in the Upper Guadalupe River upstream of Interstate 280 where flood protections improvements have not been completed. Because the flood protection improvements north of I-280 include levees, floodwalls, and many roadway crossings, these areas are still considered a threat for flooding due to potential failures, unforeseen channel blockages, or unusually large storm events.

There are several flood hotspots on the Upper Guadalupe River. Two of the more severe threats are flooding from Ross Creek and Canoas Creek caused by high water levels in Guadalupe River. The water that overbanks Ross Creek due to high water in Guadalupe River flows northerly on the west side of the river through residential/commercial properties towards the interchange of Highway 87 and Interstate 280. Waters that overbank Canoas Creek due to Guadalupe River flow northerly on the east side of the river through residential, commercial, and industrial properties towards the same interchange area. In addition, major flooding can occur from the Guadalupe River between Willow Glen Way and Willow Street. The flood hotspots on Guadalupe River are listed below (**Figure 1B**):

- North bank of Ross Creek near Almaden Expressway,
- North bank of Canoas Creek near Nightingale Drive,
- East side of Guadalupe River between Branham Lane and Capitol Expressway,
- West bank of Guadalupe River from Malone Road to Alma Road, and
- East Bank of Guadalupe River from Willow Glen Way to Willow Street.

The Ross Creek and Guadalupe River at Alma flood locations can be controlled purely by storm drain runoff and reach peak stage very quickly. These are considered flashy systems.

Land uses at risk of flooding include mostly homes and businesses, however there are some significant infrastructure also at risk of flooding. Deep floodwaters could enter Highway 87 and Interstate 280 near their interchange resulting in major highway closures and traffic disruptions that could last several days. The Valley Transportation Authority Light Rail service could also be disrupted in this area until flood waters recede and the tracks are cleaned.

The most recent flood along Guadalupe River that caused significant damages and disruptions occurred in 1995. There were two separate flood events that year, which impacted Highway 87, VTA's Light Rail, homes/businesses south of I-280, and many areas of downtown and north San José.

Even though there are no river related flood hotspots north of I-280 because of the flood protection improvements, flood risks still exist due to interior drainage issues behind the levees and potential for extreme storm events, levee failures, or unanticipated channel blockages. The City also operates storm water pump stations in the leveed areas in this reach of Guadalupe River. During high creek flows the additional pumping could add to already high flows and could increase risk of overtopping or add to flooding that may be occurring. The adjacent land uses that would be impacted by a flood due to an unforeseen event in this area north of I-280 include many residential, industrial, commercial and critical governmental infrastructure (e.g., sewage treatment facility). Because of the significant threat to public health and safety and disruptions if

this would occur, this section is considered a potential flood threat and should be monitored and inspected during high flow conditions. **Figures 2B and 3B** show the approximate areas at threat to flooding due to a complete hypothetical levee failure in this reach.

FLOOD EVENT DETECTION

There are several detection methods that are described in the EAP that include weather forecasts, hydrologic/hydraulic modeling, Automated Local Evaluation in Real Time (ALERT) stream/reservoir/precipitation gauge systems, and field observation of stage gauges and other areas of high flow.

Of these methods, the gauging and field observation methods specific to Guadalupe River are described below:

ALERT Gauge System

A listing of all ALERT gauges in the Guadalupe Watershed can be found at http://alert.valleywater.org. These gauges provide data in near real-time at several locations on Guadalupe River and for all major tributaries downstream of the reservoirs. Upstream gauges will provide valuable information for flood events occurring downstream and may give several hours' notice to take action. Gauges in the downstream reaches will show the flood risk at specific locations and whether any unexpected event is occurring (e.g., channel blockage).

The following is a summary of the current stream gauge program.

1. Annually sites will be prioritized for manual gauging and teams are assigned.

2. After every high flow event, the rule curves (depth versus discharge) are updated/calibrated. High flow calibration on gauges in the Guadalupe River watershed was done after the 1995 flood event and again after the high flows of February 2017.

3. Predicting flood condition levels in advance of flooding requires modeling of the watershed specific to the storm forecast. This prediction of the flood condition levels will be done in coordination with the NWS forecast modeling; however, Valley Waters prediction may differ from the NWS forecast. Therefore, those tools should be used for guidance.

Field Observations

Field observations can be critical to verify what is occurring because ALERT gauges are not always a reliable source of information and modeling information can vary from the actual condition. In addition, there are other known hot-spots and facilities that should be visually checked during high flows. Therefore, supplementing with visual observations from staff deployed in the field (i.e., Field Information Teams) and other field reporting is an important component to detection.

To allow additional information to be accurately gathered, several visual stream stage monitoring locations have been installed for observations. These are located at:

1. Guadalupe River at Montague Expressway
2. Guadalupe River at West Alma Avenue
3. Guadalupe River at Branham Lane
4. Canoas Creek at Nightingale Drive
5. Ross Creek at Cherry Avenue

Valley Water operates Field Information Teams (FITs) that are assigned to monitor specific locations during storms and high flow events to provide valuable information for detection and for calibrating computer models. In addition, the City also deploys FIT teams in a coordinated way to assure that all critical locations are being monitored. The Multi-Agency Coordination (MAC) Group AC convened per the EAP and/or each jurisdictions Emergency Operations Center (EOC) will coordinate this effort through their Planning/Intelligence Section so that resources are most effectively utilized and information is shared.

Hot-Spots for possible FIT deployment are:

1. Visual stream gauges—checking for high water and rate of change
2. Known Flood Hotspots (Attachment 11 pages 73-78)
3. Real-time Flooding—documenting flooding
4. Bridge Piers—checking for debris blockages
5. Trash Racks—checking for debris blockages
6. Levees—check for stability
7. Sandbag sites—checking for supply and access issues
8. Previously repaired or other project sites—checking for performance
9. Raw water facilities—dams and canals

GUADALUPE RIVER FLOOD CONDITION LEVELS AND SEVERITY

Sometimes an event is a flash flood that occurs suddenly without much early notice. However, with weather forecasting and Guadalupe River modeling there is often an ability to estimate flood events before they occur. This is extremely valuable when preparing for necessary evacuations and road closures.

To provide this advanced notice, a threat level will be used to provide an indicator of preparedness for a response and a level of potential severity for areas subject to flooding to assist the Agency's in planning and implementing appropriate actions. Because of the uncertainties of forecasting future conditions, a condition of Watch will be used when flood stage is estimated about 24 to 72 hours or more in the future. If flooding is estimated within about 24 hours, the threat level will be elevated to Warning. In addition, an unexpected situation may occur during high flows that may result in a change in condition level (Attachment 12 – Guidance Table for Evaluating Facility During High Flow and Determining Condition Level).

APPENDIX B
Guadalupe River (continued)

Green	**Preparedness**—This is the base stage of readiness that will be the typical condition throughout most of the year. It is defined as: • Flood stage (Minor Flooding or greater) or 90% to 100% of Design stage is not estimated within the next 72 hours or • Measured stream depth is below 70% of flood or Design stage.
Yellow	**Monitoring**—This condition is variable and requires more intense monitoring and a heightened level of alertness. Minimal staff in each Stakeholder's Emergency Operations Center (EOC) may be activated. A virtual MAC could be activated. An informal EOC Action Plan (AP) could be initiated if activated. This condition is defined as: • Stream depth is estimated to reach flood or 90%-100% of Design stage in 72 hours or more or, • Measured stream depth is at 50% to 70% of flood or 70% to 90% of Design 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 stage within 24 hours. • Stream depth is estimated to reach flood or 1% flow stage within 24 hours.
Orange	**Watch**—The Stakeholders' would increase staff in their EOCs, if they had been activated, and a MAC facility could also be established. If activated, a formal EOC AP will be drafted. This condition is defined as: • Stream depth is estimated to reach flood or greater than Design 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 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 stage within 6-12 hours.
Red	**Warning**—This is a more urgent situation. The Stakeholders' EOC may be activated along with a MAC that would monitor the situation, providing notifications and responding according to a written AP. Often for smaller watersheds with flashy creeks, an EOC or MAC will not be opened until the storm event is occurring. This condition is defined as: • Flood stage or greater than Design stage or is occurring or is estimated to occur within 24 hours, or • Measured stream depths are 100% or greater than flood, or • Measured stream depths are greater than Design 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 stage within minutes/hours or is occurring.
Note: Design stage is the depth of water that a facility design is based upon and Flood stage is the depth of water at which a stream or facility begins flooding (see Glossary of Terms).	

When the threat level is at a Watch or Warning, there is an expectation that flooding will occur or is occurring at some locations. The severity of the situation at specific locations is determined by the flood stage. The areas subject to flooding for different stream stages are estimated utilizing hydraulic models and flood maps.

Flood severity categories are used to describe the level of flood risk posed by the storm and are defined by the National Weather Service as:

Action	An established gage 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.
Minor Flooding	Minimal or no property damage, but possibly some public threat (e.g., inundation of roads).
Moderate Flooding	Some inundation of structures and roads near stream, evacuations of people and/or transfer of property to higher elevations.
Major Flooding	Extensive inundation of structures and roads, significant evacuations of people and/or transfer of property to higher elevations.

A flood inundation map of Guadalupe River is shown in **Figure 1B** and the associated Flood Thresholds **Table 1B** on the following page. The map is the Federal Emergency Management Agency (FEMA) 1% flood map. This map is based on the best available information and modeling when it was created and should be considered approximate due to the difficulty in estimating an actual event and the changing conditions of the creek. **Figures 2B and 3B** show the approximate areas at threat to flooding due to a complete hypothetical levee failure in the reach north of I-280. Additional floodplain mapping may be developed as needed by Valley Water for use by the MAC.

Table 2B is a flood severity table based on the Almaden Expressway ALERT Gauge that is used to estimate areas that will be subject to flooding on Guadalupe River. Because there is very little notice for flooding based on this gauge, flood conditions will often utilize predictive methods based on weather forecast and watershed conditions.

These tables along with the actual or modeled data would allow Valley Water or MAC to establish threat levels for specific areas subject to flooding. Mapping associated with this table will be provided to Agency Stakeholders. This information will be made available for notifications and will be coordinated with the National Weather Service to be consistent in the dissemination of threat level and severity information.

NOTIFICATIONS AND ACTIVITY/ACTIONS

General notifications and actions are described in the EAP which describes threat level and severity, notifications and activity/actions to be taken by the City, Valley Water and other Stakeholders. The general level of activity will be guided by the best information available to the Agency Subject Matter Experts (SMEs) and Agency Coordinators (ACs). The level of activity may mirror those activities of the individual jurisdictional Emergency Operations Centers (EOCs). As weather conditions merit and monitoring take place, the SMEs and ACs may be in their home offices or their jurisdiction's EOC, if activated. The "call to action" may be a series of phone calls among the SMEs and ACs to determine the best approach to coordination.

The City operates storm water pump stations in the leveed areas of Lower Guadalupe River north of I-280. During high creek flows the additional pumping could add to already high flows and could increase risk of overtopping or add to flooding that may be occurring. In a situation

where Flood Condition Severity Levels are at Watch or Warning, consideration should be given to modifying pump station operations.

In addition, there are specific actions and notifications that are to be taken for the Guadalupe River because of the possibility of temporary flood barrier deployments to protect Downtown San José. These are described on **Table 3B** and shown in **Figures 4B and 5B**. In addition, Valley Water Operations & Maintenance DOC has Standard Operating Procedures they will follow to implement their responsibilities related to the deployment.

INFRASTRUCTURE AT RISK

There are no Federal Emergency Management Agency (FEMA) defined critical facilities located in the floodplain, however, there are other important infrastructure where people, property, and important facilities may be at risk. Based on intelligence gathered during the storm event, the MAC will determine the risk and provide notifications as appropriate. Below is a listing of some of that infrastructure.

FACILITY TYPE	NAME	ADDRESS	PHONE
SCHOOLS	Galarza Elementary School San José Unified School District	1610 Bird Avenue San José, CA 95125	~~xxx~~
	Canoas Elementary School San José Unified School District	880 Wren Drive San José, CA 95125	~~xxx~~
	Schallenberger Elementary School San José Unified School District	1280 Koch Lane San José, CA 95125	~~xxx~~
	Hacienda Elementary School San José Unified School District	1290 Kimberly Drive San José, CA 95118	~~xxx~~
	Washington Elementary School San José Unified School District	100 Oak Street San José, CA 95110	~~xxx~~
UTILITIES	Interstate 280 and Highway 87	Caltrans and California Highway Patrol	~~xxx~~
	Light Rail at Virginia Street and near Interstate 280 where flood stop logs are installed (Figure 2B)	VTA	~~xxx~~
	Caltrain	1355 Lick Avenue San José, CA 95110	~~xxx~~
	Southern Pacific Railroad		~~xxx~~
OTHER	Elks Lodge	444 West Alma Avenue San José, CA 95110	~~xxx~~

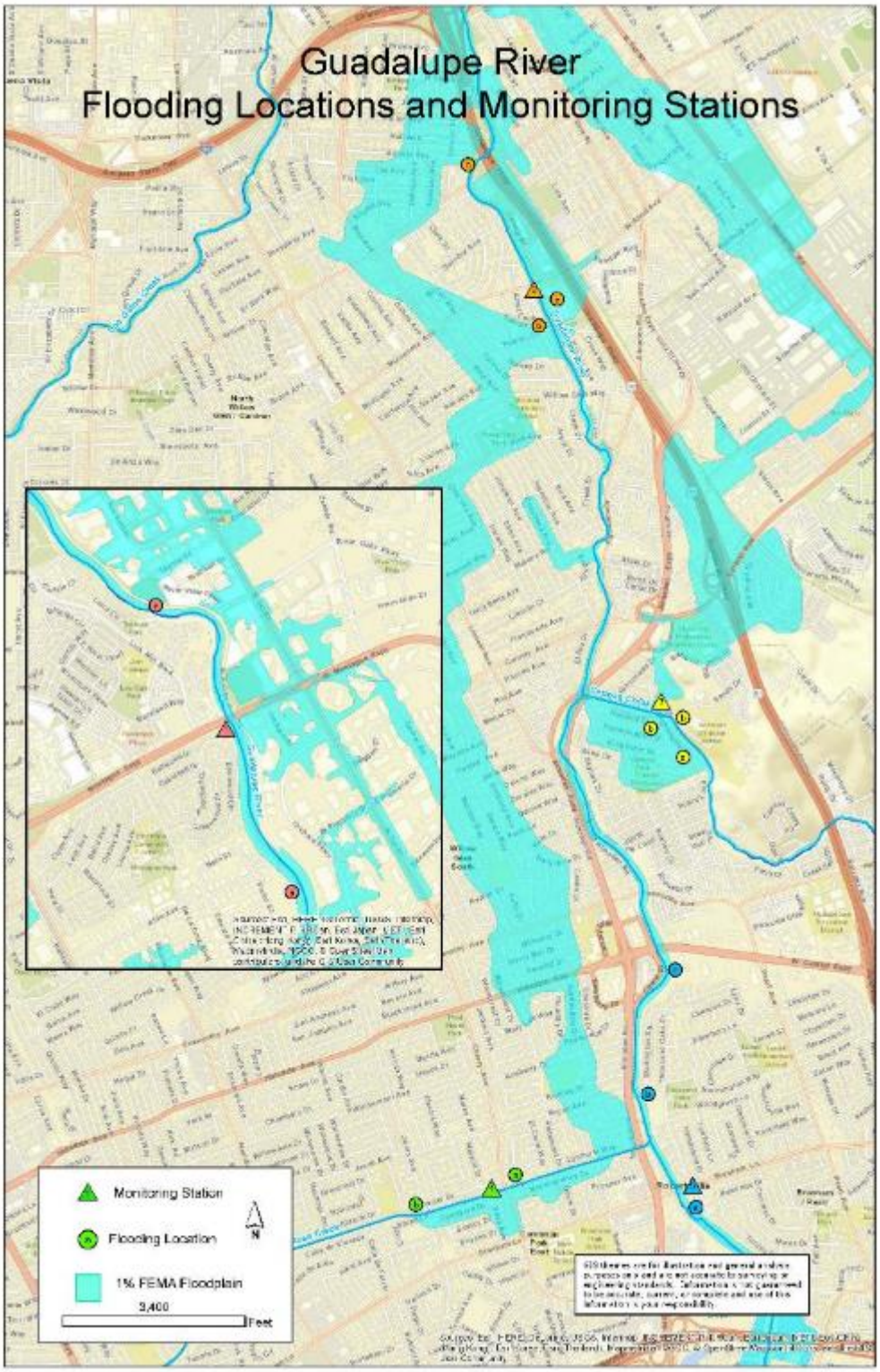

FIGURE 1B
Upper Guadalupe River 1% Floodplain

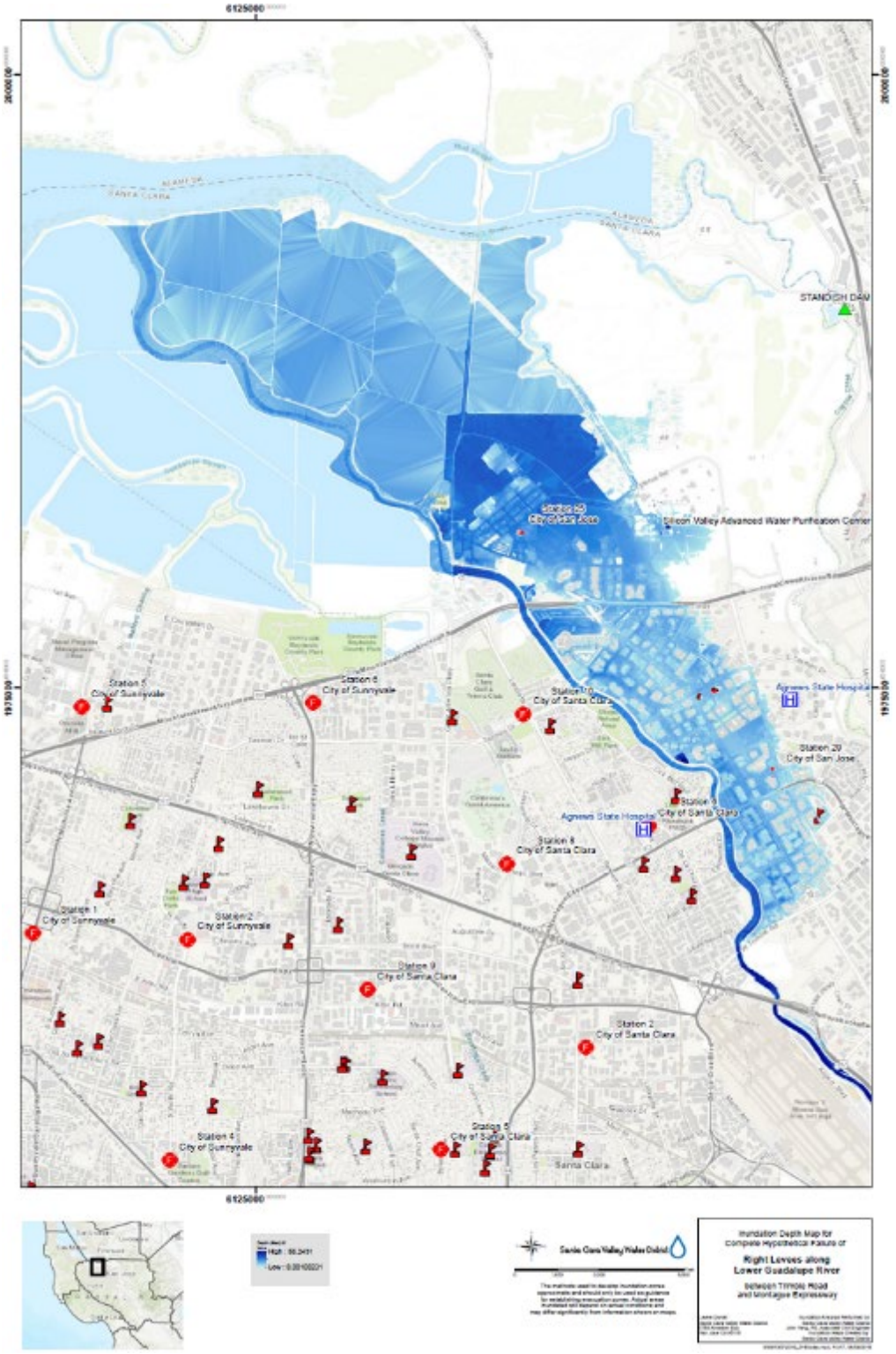

FIGURE 2B
Lower Guadalupe River
Right (East) Levee Failure Floodplain

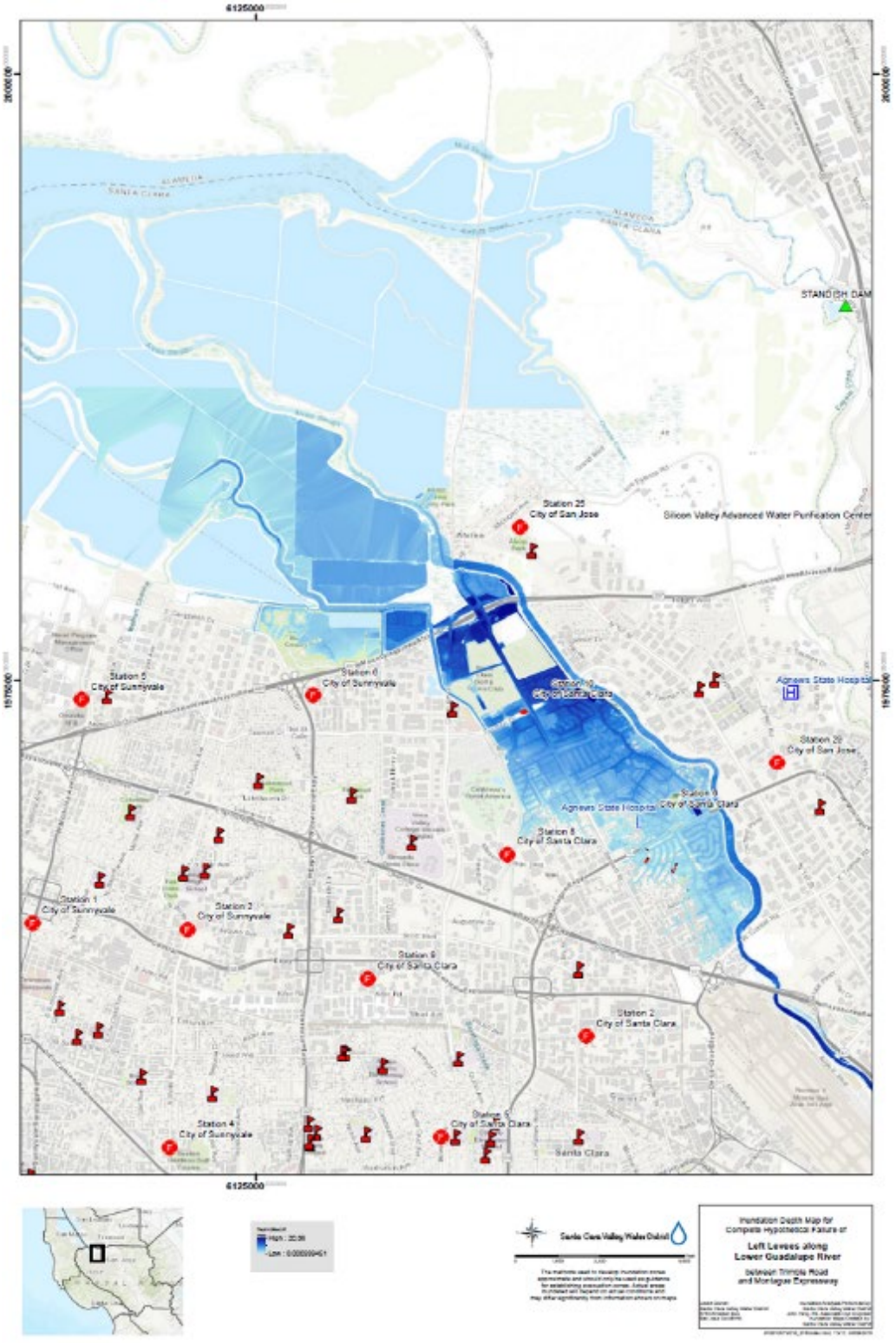

FIGURE 3B
Lower Guadalupe River
Left (West) Levee Failure Floodplain

APPENDIX B
Guadalupe River (continued)

TABLE 1B
Guadalupe River Flood On-Site Monitoring Thresholds

ID #	Index Location	Flooding Description	Flood Threat Stage at Monitoring Location			Monitoring Locations	Photo
			50% Capacity	70% Capacity	100% Capacity		
1a	Upstream and downstream of Montague Expressway, with the highest risk between Montague Expressway and Trimble Road	Levees overtop on both sides of the creek, flooding nearby homes and businesses. Once levees overtop, levee failure may occur, causing sudden and catastrophic damage.	20'-21'	24'-25'	30'-31'	Montague Expressway Bridge (Guadalupe River)	
2a	Upstream of Alma Avenue on the East Bank near Elk's Lodge	Water overtops upstream of Alma Avenue and floods Elks Lodge, as well as near the RxR crossing, flowing northward along Lelong Street towards Alma Ave underpass.	12'-13'	14'-15'	17'-18'	West Alma Avenue Bridge (Guadalupe River)	
2B	Water overtops upstream of Alma Avenue and floods Elks Lodge, as well as near the RxR crossing, flowing northward along Lelong Street towards Alma Ave underpass.	Water breaks out and spills towards away from the River.	12.5'-13.5'	14.5'-15.5'	18'-19'		
2c	Upstream of CA-87 on the West Bank	Water overbanks on the west side near Minnesota Avenue and Mills Court.	14'-15'	16'-17'	19'-20'		

APPENDIX B
Guadalupe River (continued)

ID #	Index Location	Flooding Description	Flood Threat Stage at Monitoring Location			Monitoring Locations	Photo
			50% Capacity	70% Capacity	100% Capacity		
3a	Few hundred feet upstream of Nightingale Drive on the southwest bank	Water overtops the southwestern levee and spills into the residential neighborhood.	7'-8'	10'-11'	13'-14'	Nightingale Drive Culvert (Canoas Creek)	
3b	Nightingale Drive Culvert and southern levee downstream of Nightingale Drive	Water overtops the southern levee and the Nightingale Drive culvert and inundates the neighborhood.	7'-8'	10'-11'	14'-15'		
4a	Cherry Avenue	Water spills out just upstream of the Cherry Avenue Culvert, as well as along the levees upstream and downstream.	5'-6'	7'-8'	9'-10'	Cherry Avenue Culvert (Ross Creek)	
4b	Jarvis Avenue	Water spills out upstream of the Jarvis Avenue Culvert, as well as along the levees downstream and upstream.	5'-6'	7'-8'	9'-10'		

APPENDIX B
Guadalupe River (continued)

ID #	Index Location	Flooding Description	Flood Threat Stage at Monitoring Location			Monitoring Locations	Photo
			50% Capacity	70% Capacity	100% Capacity		
5a	Upstream Branham Lane	Water spills out upstream Branham Lane on both sides.	14'-15'	17'-18'	20'-21'	Branham Lane Bridge (Guadalupe River)	
5b	East bank near Thousand Oaks Park	Low spot near Thousand Oaks Park becomes flooded, eventually spreading to the residential homes.	15.5'-16.5'	18'-19'	21,5'-22.5'		
5c	Upstream Capitol Expressway	Water spills out upstream of Capitol Expressway, flooding businesses along the road.	14'-15'	16.5'-17.5'	19.5'-20.5'		

Disclaimer: The flooding thresholds in this table are based on hydraulic modeling results calibrated with data collected during the 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. Use care while interpreting results.

TABLE 2B
Almaden Expressway Gauge Flood Severity Thresholds (NWS Model)

Almaden Expressway Gauge Thresholds	Stage (ft)	Description
Action	**8.0**	Additional flow from Canoas Creek watershed or increased reservoir spills may bring river to flood stage
Minor Flooding	**9.5**	River begins to overtop upstream of Alma Avenue Bridge into the Elks Lodge, spilling north, as well as near the RxR on the east bank.
Moderate Flooding	**11.5**	River continues to overtop upstream of Alma Avenue Bridge into the Elks Lodge, spilling north along Lelong Street. Alma Avenue/CA87 viaduct is flooded. Creek overbanks west near Minnesota Avenue downstream of Alma Avenue. Properties south of the old UPRR alignment in the Northern Cross Neighborhood also at risk.
Historical High Water	**11.73**	January 1995
Major Flooding	**15**	Flooding continues to spill near Alma Avenue, flowing northward and crossing east under Willow Street and Alma Avenue viaducts, continuing to flow north. Overbanking occurs at Atlanta Avenue just upstream of CA-87. The Willow Glen Neighborhood bounded by Willow Street and Minnesota Avenue sees overland flooding. Overbanking occurs in various locations between Alma Avenue and Willow Glen Way. Potential flooding on Ross and Canoas creeks due to high backwater caused by Guadalupe River.
Major Flooding	**17**	Washington/Guadalupe, Tamien, and Alma/Almaden Neighborhoods east of CA-87 inundated from floodwaters traveling under street viaducts from the west. Widespread flooding in the eastern Willow Glen Neighborhood, as well as the Gardner and Atlanta/Bird neighborhoods. CA-87/I-280 interchange at risk from overland flow spilling onto the roadway. Possible overtopping of Guadalupe River near Capitol Expwy on the east side, flowing towards Pearl Ave. Additionally, possible overtopping near Thousand Oaks Park and upstream of Branham Lane, flowing along streets flooding businesses and the Erikson Neighborhood. If flood is sustained or increasing, car dealerships along Capitol Expressway may be inundated as well. Potential flooding on Ross and Canoas creeks due to high backwater caused by Guadalupe River.

Disclaimer: The flooding thresholds in this table are based on hydraulic modeling results calibrated with data collected during the February 2017 flood event. Hydraulic modeling results are estimates. Information is accurate within the model limitations and assumptions/data used for model development. Use care while interpreting results.

TABLE 3B
Temporary Flood Barrier Progressive Responsibilities

Flood Barrier Deployment Level	Flood Condition Level	Flood Severity	Responsibility/Activity	Stakeholder
Monitor	Monitor	Minor or greater	Monitor/Inspect river and clear obstructions/blockages.	Valley Water Field Operations & Maintenance (O&M)
			Alert of condition and activities to MAC/EOC's and Stakeholders – Operational Area, San José PD & Fire, CHP, Caltrans, and VTA.	Valley Water – O&M, Emergency Services or EOC is lead
			Alert crews and staff that will be deployed for barrier placement and road detours of the condition.	Each Stakeholder is lead for their responsibility
Prepare	Watch	Moderate or greater	All Monitoring Activities	
			Deploy FIT to assist field crews for monitoring Guadalupe River (Valley Water & City).	City and Valley Water will coordinate
			Prepare action plan for event.	MAC, EOC's, or DOC's
			Check that flood barriers and traffic controls are near deployment sites.	Each Stakeholder is lead for their responsibility
			Prepare materials for delivery near deployment area for implementation team use (sandbags and sheeting needed for partial sealing of drainage inlets).	Valley Water
Mobilize	Warning	Major	All Monitoring and Prepare Activities.	
			Establish on-site Operations & Maintenance Field Command for deployment if necessary.	Valley Water & City
			Position barriers (bladder dams and stoplogs) near deployment locations (Figure 2B) and prepare to deploy.	Valley Water
			Provide Police assistance for homeless evacuations needed for deployment as necessary.	City
			Initiate Outreach to alert affected areas of potential flooding	City
			Partially sandbag drainage inlets on Duane Street that flow north of barrier locations (Figure 3B). Inlets should allow storm in-flow until overland floodwaters are imminent.	City or Valley Water Field Command

Flood Barrier Deployment Level	Flood Condition Level	Flood Severity	Responsibility/Activity	Stakeholder
Deploy	Flooding Occurring	Major	All appropriate previous activities.	
			Direct a FIT or other field staff to monitor the following locations in the floodplain as determined necessary: • Curtner Avenue at Highway 87, • Little Orchard Street between Curtner Avenue and Barnard Avenue, • West Alma Avenue west of Monterey Street, • Alma Avenue at Highway 87/Caltrain underpass, • Willow Street at Highway 87/Caltrain underpass, and • Lick Avenue near the Tamien Caltrain parking lot between Willow Street and Alma Avenue.	MAC, Valley Water & City EOC/DOC, or Valley Water Field Command
			Direct deployment of flood barriers, detours/traffic controls, and drainage inlets. Decision to deploy barriers could be based on: 1. Floodwaters crossing West Alma Avenue west of Monterey Street could reach the temporary barriers within 2 hours. 2. Floodwater flowing east of the Caltrain tracks and nearing Lick Avenue could reach temporary barriers within 2 hours.	MAC, Valley Water & City EOC/DOC, or Valley Water Field Command
			Deploy temporary barriers at locations shown in Figure 2B. Deployment of the barriers K, L & M should take approximately 2 hours and be done when conditions 1 or 2 from above occur. Deployment of stoplogs at D should take approximately 30 minutes and can be decided based on visual monitoring of the floodwaters filling in the highway interchange near the location of deployment.	Valley Water, City & VTA
			Following deployment of the K, L & M, complete sandbagging of storm drains on Duane Street near Interstate 280 that flow north of barrier into downtown San José (Figure 3B).	City or Valley Water

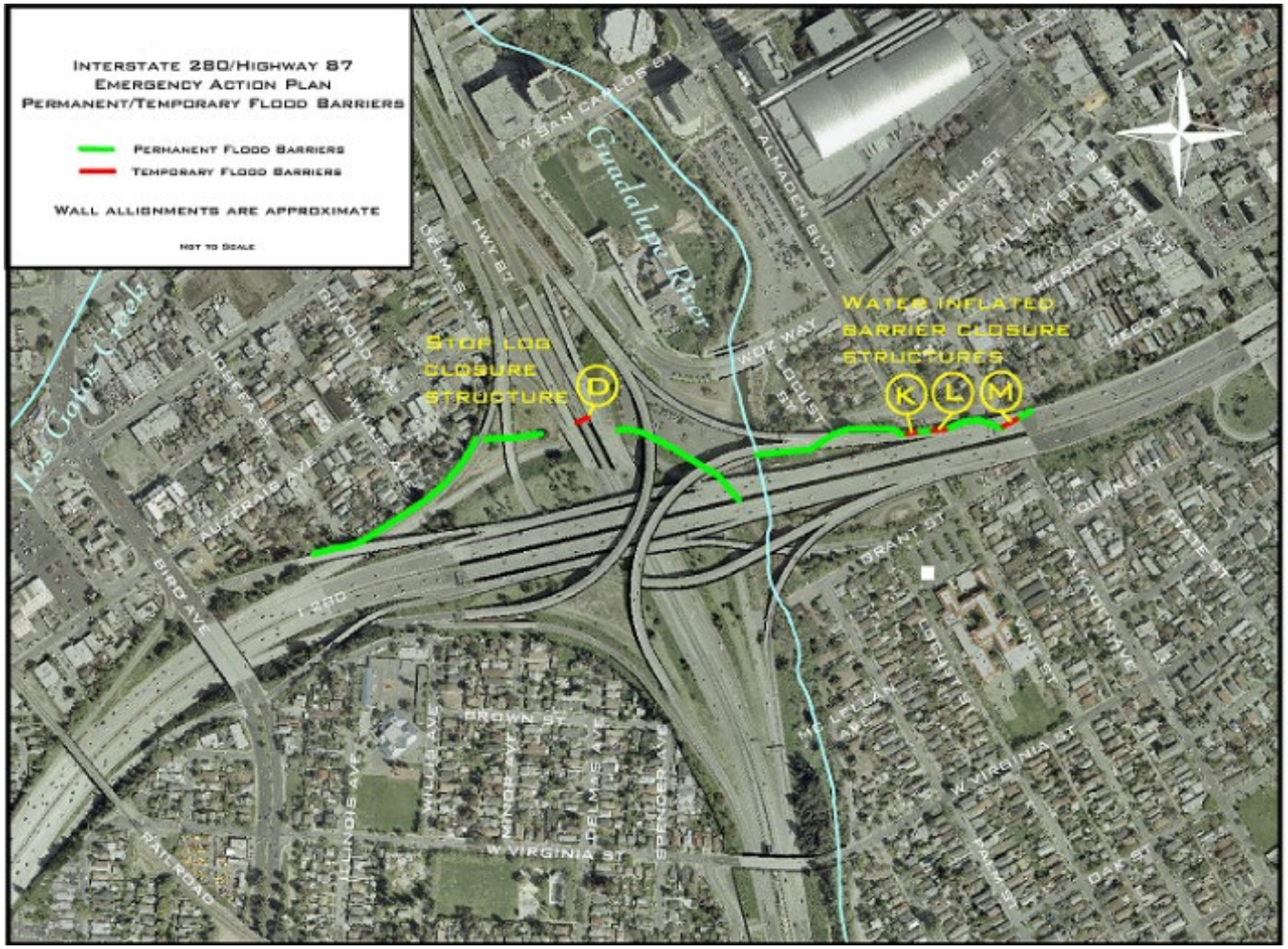

FIGURE 4B
Temporary Flood Barrier Locations

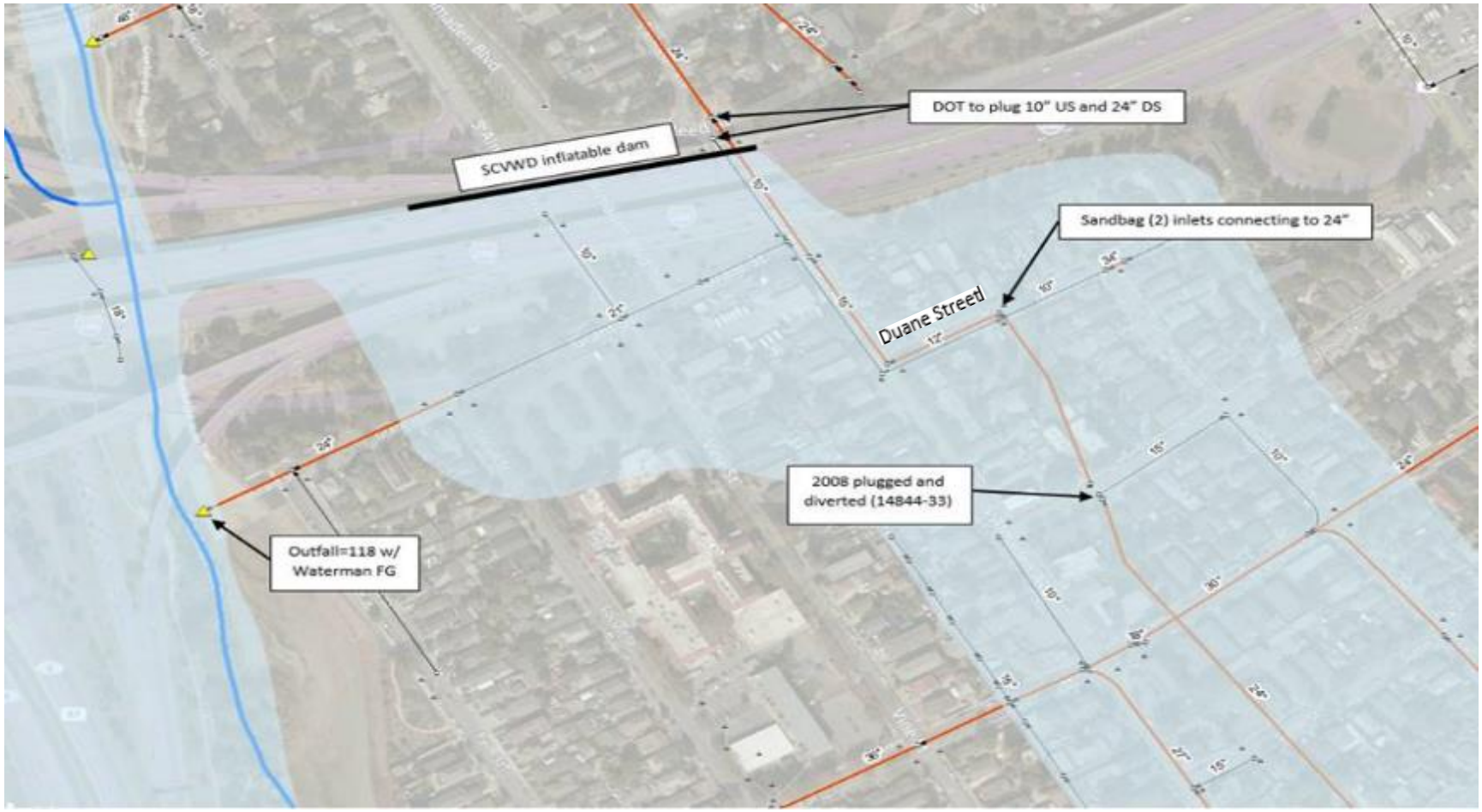

FIGURE 5B
Temporary Sandbagging of Storm Drain Inlets

APPENDIX C
Canoas Creek

PURPOSE

This Appendix to the City, Valley Water and other Stakeholders Joint Emergency Action Plan (EAP) for Severe Storms and Flooding is meant to provide additional guidance specific to Canoas Creek. It will not duplicate information already in an entities Emergency Operations Plan (EOP) or the EAP, but will provide Canoas Creek specifics for:

1. Incident detection
2. Evaluation and condition level classification
3. Notification and communications
4. Emergency actions

CANOAS CREEK DESCRIPTION

Canoas Creek begins at Cottle Road and flows 7.4 miles through South San José before it discharges into Guadalupe River just upstream of Almaden Expressway. Adjacent land uses are predominantly residential and commercial property. The creek is crossed by several major roadways that include: Highways 87 and 85, Capitol Expressway, Blossom Hill Road, and Santa Teresa Boulevard. The Canoas Creek watershed drains about 18.6 square miles of Santa Clara County and City of San José and is bounded on the south by the Almaden hills, on the west by Guadalupe River Watershed and on the east by Coyote Creek Watershed (Monterey Road). The channel was improved around 1970 and is generally trapezoidal with a 10'-12' wide concrete channel bottom and 1.5 to 1 earthen side slopes. There are levees from Guadalupe River to about 2,500 feet upstream near a farm bridge. From that point to the upstream limit of the creek at Cottle Road the top of bank is generally the same or slightly higher than adjacent ground.

CANOAS CREEK FLOOD THREATS

The major flood threat occurs near Nightingale Drive and is primarily caused by a backwater from high flows in Guadalupe River. The flooding begins by spilling south over the levee into a low residential area and possibly into Canoas Elementary School. As flow depth increases the spills occur over the north levee area and flow northward towards downtown San José east of Almaden Expressway and west of Monterey Road. The Light Rail station at Curtner Avenue floods and water flows under Highway 87 into the Mill Pond Neighborhood. Highway 87 downstream of Curtner Avenue is elevated, but 21 36" pipe culverts allow floodwaters to pass under the roadway into commercial and industrial areas that include San José Unified School District's Bus Yard and Maintenance Department. Floodwaters continue to flow through residential, commercial and industrial areas and end up at Interstate 280 near Almaden Road where temporary flood barriers are to be deployed to divert floodwaters back to Guadalupe River (see Appendix B regarding deployment of temporary flood barriers).

In addition, the creek may spill overbank upstream of culverts at Snell Avenue, Tillamook Drive, Blossom Avenue, and Calero Avenue. However, the major issue in the upstream area is that the creek does not have 100-year flood capacity and storm water is not able to enter the creek. This results in a shallow floodplain flowing along streets starting near Dunn Avenue to Highway 87. This floodplain varies in width and narrows at Blossom Hill Road, Highway 85, and

Capitol Expressway. Waters in this shallow floodplain are not expected to enter structures, but rather to flow through the streets.

Flood events occurred in 1911, 1981, 1982, 1985 and 1995. The 1995 flooding overtopped the levees near Nightingale Drive and backflowed through the local drainage system into the adjacent low-lying neighborhood to the south flooding into residential structures. This event was the highest recorded event at the Canoas Creek flow gauge at Almaden Expressway since the creek was improved.

FLOOD EVENT DETECTION

There are several detection methods that are described in the EAP that include weather forecasts, hydrologic/hydraulic modeling, Automated Local Evaluation in Real Time (ALERT) stream/reservoir/precipitation gauge systems, and field observation of stage gauges and other areas of high flow.

Of these methods, the gauging and field observation methods specific to Canoas Creek are described below:

ALERT Gauge System

A listing of all ALERT gauges in the Guadalupe Watershed can be found at http://alert.valleywater.org. These gauges provide data in near real-time at several locations in the watershed including on Canoas Creek.

The following is a summary of the current stream gauge program.

1. Annually sites will be prioritized for manual gauging and teams are assigned.

2. After every high flow event, the rule curves (depth versus discharge) are updated/calibrated. High flow calibration on Canoas Creek gauges was done after the 1995 event and again after the 2017 storm event.

Field Observations

Field observations can be critical to verify what is occurring because ALERT gauges are not always a reliable source of information and modeling information can vary from the actual condition. In addition, there are other known hot-spots that do not have ALERT gauges that may be visually checked during high flows. Supplementing with visual observations from staff deployed in the field (i.e., Flood Information Teams) and other field reporting is an important component to detection.

To allow additional information to be accurately gathered a visual stream stage monitoring location has been installed for observations. This is located at Nightingale Drive.

Valley Water operates Field Information Teams (FITs) that are assigned to specific locations during storms and high flow events to provide this valuable information. In addition, the City also deploys FIT teams in a coordinated way to assure that all critical

locations are being monitored. Locations of FIT deployment by the City and Valley Water may overlap during storm and flood events. The EAP Multi-Agency Coordination (MAC) Group will coordinate this effort through the Planning/Intelligence Section so that resources are most effectively utilized and information is shared.

Valley Water Hot-Spots for possible FIT deployment are:

1. Visual stream gauges—checking for high water and rate of change
2. Known Flood Hot-Spots (Attachment 11 pages 80-82)
3. Real-time Flooding—documenting flooding
4. Levees—check for stability
5. Bridge Piers—checking for debris blockages
6. Trash Racks—checking for debris blockages
7. Sandbag sites—checking for supply and access issues
8. Previously repaired or other project sites—checking for performance
9. Raw water facilities—dams and canals

CANOAS FLOOD CONDITION LEVELS AND SEVERITY

Sometimes an event is a flash flood that occurs suddenly without much early notice. However, with weather forecasting and Guadalupe River and Canoas Creek modeling there is often an ability to estimate flood events before they occur. This is extremely valuable when preparing for necessary evacuations and road closures.

To provide this advanced notice, a threat level will be used to provide an indicator of preparedness for a response and a level of potential severity for areas subject to flooding to assist the Agency's in planning and implementing appropriate actions. Because of the uncertainties of forecasting future conditions, a condition of Watch will be used when flood stage is estimated about 24 to 72 hours or more in the future. If flooding is estimated within about 24 hours, the threat level will be elevated to Warning. In addition, an unexpected situation may occur during high flows that may result in a change in condition level (Attachment 12 – Guidance Table for Evaluating Facility During High Flow and Determining Condition Level).

Green	**Preparedness**—This is the base stage of readiness that will be the typical condition throughout most of the year. It is defined as: • Flood stage (Minor Flooding or greater) or 90% to 100% of Design stage is not estimated within the next 72 hours or • Measured stream depth is below 70% of flood or Design stage.
Yellow	**Monitoring**—This condition is variable and requires more intense monitoring and a heightened level of alertness. Minimal staff in each Stakeholder's Emergency Operations Center (EOC) may be activated. A virtual MAC could be activated. An informal EOC Action Plan (AP) could be initiated if activated. This condition is defined as: • Stream depth is estimated to reach flood or 90%-100% of Design stage in 72 hours or more or, • Measured stream depth is at 50% to 70% of flood or 70% to 90% of Design 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 stage within 24 hours.
Orange	**Watch**—The Stakeholders' would increase staff in their EOCs, if they had been activated, and a MAC facility could also be established. If activated, a formal EOC AP will be drafted. This condition is defined as: • Stream depth is estimated to reach flood or greater than Design 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 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 stage within 6-12 hours.
Red	**Warning**—This is a more urgent situation. The Stakeholders' EOC may be activated along with a MAC that would monitor the situation, providing notifications and responding according to a written AP. Often for smaller watersheds with flashy creeks, an EOC or MAC will not be opened until the storm event is occurring. This condition is defined as: • Flood stage or greater than Design stage or is occurring or is estimated to occur within 24 hours, or • Measured stream depths are 100% or greater than flood, or • Measured stream depths are greater than Design 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 stage within minutes/hours or is occurring.
Note: Design stage is the depth of water that a facility design is based upon and Flood stage is the depth of water at which a stream or facility begins flooding (see Glossary of Terms).	

When the threat level is at a Watch or Warning, there is an expectation that flooding will occur or is occurring at some locations. The severity of the situation at specific locations is determined by the flood stage. The areas subject to flooding for different stream stages are estimated utilizing hydraulic models and flood maps.

Flood severity categories are defined by the NWS as:

Action	An established gage 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.
Minor Flooding	Minimal or no property damage, but possibly some public threat (e.g., inundation of roads).
Moderate Flooding	Some inundation of structures and roads near stream, evacuations of people and/or transfer of property to higher elevations.
Major Flooding	Extensive inundation of structures and roads, significant evacuations of people and/or transfer of property to higher elevations.

APPENDIX C
Canoas Creek (continued)

A flood inundation map of Canoas Creek is shown in **Figure 1C** and the associated Flood Thresholds **Table 1C** on the following page. The map is the Federal Emergency Management Agency (FEMA) 1 percent flood map. This map is based on the best available information and modeling when it was created and should be considered approximate due to the difficulty in estimating an actual event and the changing conditions of the creek.

Table 2C is a flood severity table for the Almaden Expressway Gauge that is used to estimate areas that will be subject to flooding. Because there is very little notice for flooding based on this gauge, flood conditions will often utilize predictive methods based on weather forecast and watershed conditions.

These tables along with the actual or modeled data would allow Valley Water or MAC to establish threat levels for specific areas subject to flooding. Mapping associated with this table will be provided to Agency Stakeholders. This information will be made available for notifications and will be coordinated with the National Weather Service to be consistent in the dissemination of threat level and severity information.

Notifications and Activity/Actions: Notifications and actions are described in the Joint EAP which describes threat level and severity, notifications and activity/actions to be taken by both the City, Valley Water and other stakeholders. The level of activity will be guided by the best information available to the Agency Subject Matter Experts (SMEs) and Agency Coordinators (ACs). The level of activity may mirror those activities of the individual jurisdictional Emergency Operations Centers (EOCs). As weather conditions merit and monitoring take place, the SMEs and ACs may be in their home offices or their jurisdiction's EOC, if activated. The "call to action" may be a series of phone calls among the SMEs and ACs to determine the best approach to coordination.

INFRASTRUCTURE AT RISK

There are no Federal Emergency Management Agency (FEMA) defined critical facilities located in the floodplain, however, there are other important infrastructure where people, property, and important facilities may be at risk. Based on intelligence gathered during the storm event, the MAC will determine the risk and provide notifications as appropriate. The facilities below are within the area where people, property, and infrastructure may be at risk:

FACILITY TYPE	NAME	ADDRESS	PHONE
SCHOOL	Canoas Elementary School	880 Wren Drive San José, CA 95125	~~xxx~~
	Santa Teresa High School	6150 Snell Avenue San José, CA 95123	~~xxx~~
UTILITIES	Light Rail Stations at Curtner Avenue	2348 Canoas Garden Avenue San José, CA 95125	~~xxx~~
OTHER	San José Unified Bus Yard and Maintenance Department	2230 Unified Way San José, CA 95125	~~xxx~~

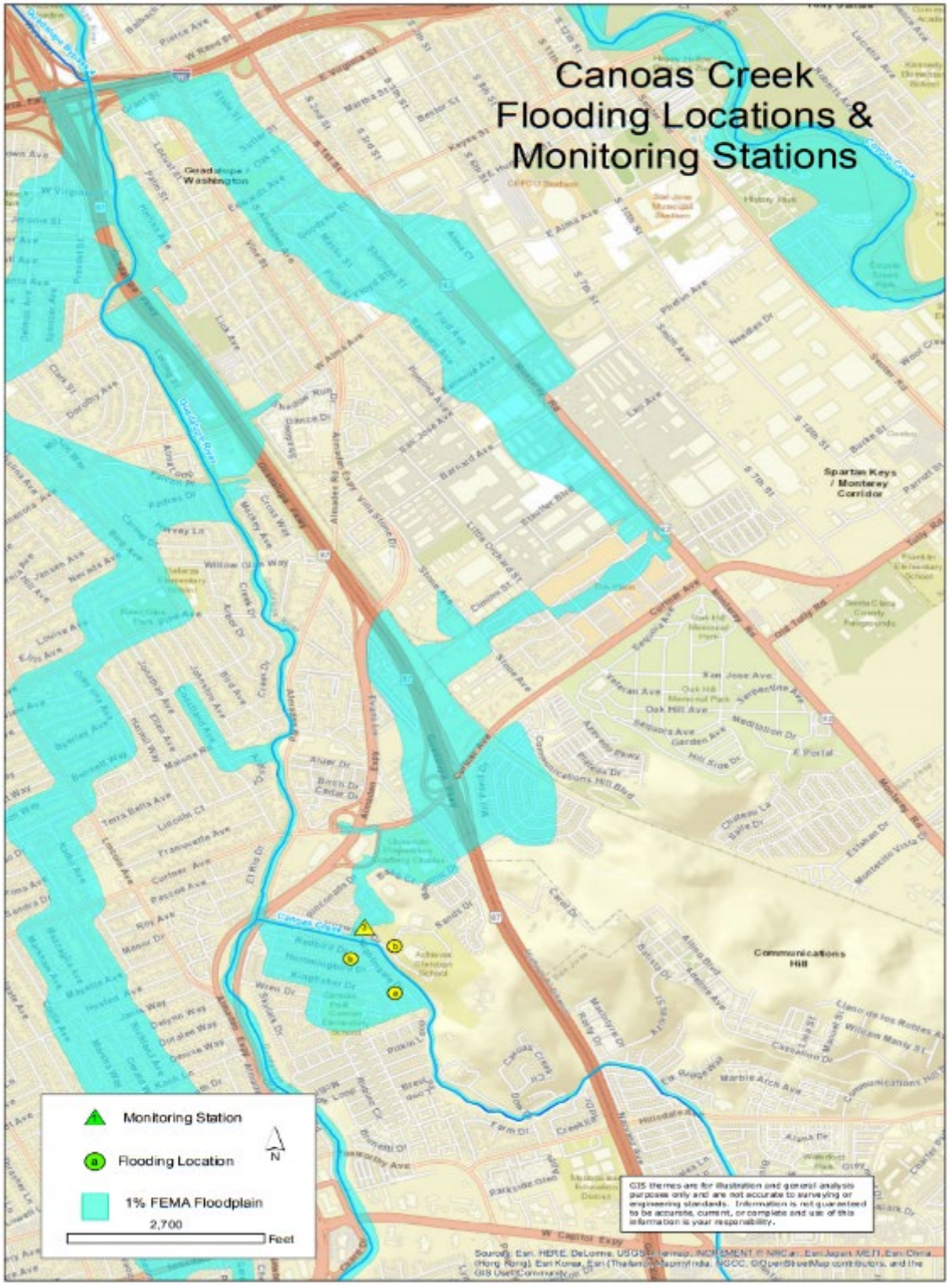

FIGURE 1C
Canoas Creek Flood Map and Inspection Locations

TABLE 1C
Canoas Creek Flood On-Site Monitoring Thresholds

ID #	Index Location	Flooding Description	Flood Threat Stage at Monitoring Location			Monitoring Locations	Photo
			50% Capacity	70% Capacity	100% Capacity		
3a	Few hundred feet upstream of Nightingale Drive on the southwest bank	Water overtops the southwestern levee and spills into the residential neighborhood.	7'-8'	10'-11'	13'-14'	Nightingale Drive Culvert (Canoas Creek)	
3b	Nightingale Drive Culvert and southern levee downstream of Nightingale Drive	Water overtops the southern levee and the Nightingale Drive culvert and inundates the neighborhood.	7'-8'	10'-11'	14'-15'		
5c	Upstream Capitol Expressway	Water spills out upstream of Capitol Expressway, flooding businesses along the road.	15'-16'	17'-18'	19'-20'		

Disclaimer: The flooding thresholds in this table are based on hydraulic modeling results calibrated with data collected during the 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. Use care while interpreting results.

TABLE 2C
Canoas Creek at Almaden Expressway Gauge Flood Severity Thresholds (NWS Model)

Almaden Expressway Gauge Thresholds	Stage (ft)	Description
Action	9.5	Calero Avenue and Blossom Hill Road could flood from high flow and/or debris buildup. Street flooding is possible. Canoas Creek begins experience a backwater condition when the Guadalupe River is at a stage of about 7' at the Almaden Expressway stream gauge.
Minor Flooding	13.5	Overtopping occurs upstream of Nightingale Drive.
Historical High Water	**13.8**	**January 1995**
Moderate Flooding	15	Significant flooding in the Canoas Garden Neighborhood near Nightingale Drive occurs. Waters start flowing north towards Curtner Avenue and Almaden Expressway. Canoas Elementary School and the Mill Pond Neighborhood are at risk.
Major Flooding	16	Entire Canoas Gardens Neighborhood impacting Canoas Elementary School. Floodwaters flow northward and inundate the Mill Pond Neighborhood and may impact the Light Rail Station at Curtner Avenue. Flood areas are primarily west of Highway 87, East of Almaden Expressway and south of Curtner Avenue, however, some water may continue northward across Curtner Avenue.
Major Flooding	17	Major flooding occurs as floodwaters continue north of Curtner Avenue towards the Highway 87 and Interstate 280 interchange. Almaden Terrace Apartments, Guadalupe Almaden Neighborhood, and Northern Cross Neighborhood are inundated. Water may cross east of CalTrain Railroad Tracks that are just east of Highway 87 and continue through industrial and commercial areas bounded by Curtner Avenue and Barnard Avenue. Floodwaters flow towards Monterey Road and if flooding continues the floodwater will reach 1st Street and require temporary flood barriers to be deployed near Interstate 280 to protect Downtown San José (Appendix B).
Disclaimer: The flooding thresholds in this table are based on hydraulic modeling results calibrated with data collected during the January 1995 and February 2017 storm events. Hydraulic modeling results are estimates. Information is accurate within the model limitations and assumptions/data used for model development. Use care while interpreting results.		

APPENDIX D
Ross Creek

PURPOSE

This Appendix to the City, Valley Water and other Stakeholders Joint Emergency Action Plan (EAP) for Severe Storms and Flooding is meant to provide additional guidance specific to Ross Creek. It will not duplicate information already in an EOP or the EAP, but will provide Ross Creek specifics for:

1. Incident detection
2. Evaluation and condition level classification
3. Notification and communications
4. Emergency actions

ROSS CREEK DESCRIPTION

Ross Creek begins in the Town of Los Gatos upstream of Blossom Hill Road and discharges about 6.1 miles later into the Guadalupe River at Almaden Expressway about 1,000 feet north of Branham Lane in the City of San José. The watershed is part of the Guadalupe River Watershed and drains about 10 square miles of primarily medium density residential areas in the City of San José and Town of Los Gatos and is bounded on the south by the Guadalupe Creek, and on the west and north by Los Gatos Creek.

Ross Creek is predominantly a constructed trapezoidal earth channel with 8 ft to 12 ft bottom width and side slopes ranging from 1.5:1 to nearly vertical due to erosion. Maintenance roads of about 17 ft in width are present along most of the creek. There are culverts at road crossing with the major roads crossings including Blossom Hill Road, Los Gatos Almaden Road, Leigh Avenue, Highway 85, Camden Avenue, Meridian Avenue, Cherry Avenue and Almaden Expressway.

ROSS CREEK FLOOD THREATS

Ross Creek is a very flashy drainage area and depth of flow can change quickly. It can also be influenced by high water in Guadalupe River and may flood due to that influence. The flood prone areas are generally located upstream of culverts at Jarvis Avenue and Cherry Avenue due to constriction of the flows. These areas flood adjacent residential areas. However, the most significant flooding is upstream of Briarglen Drive between Jarvis Avenue and Almaden Expressway that can be exacerbated by a backwater from high flows in Guadalupe River. Flooding in this area causes minor impacts to a residential area south of the creek and major impacts to the north. The floodplain to the north flows west of Almaden Expressway and east of Cherry Avenue up to Curtner and then east of Lincoln Avenue north of Pine Street. This flooding continues through Willow Glen to Interstate 280 west of Highway 87 and can flood three elementary schools and a community center. Flooding can also impact the Interstate 280 and Highway 87 interchange. Figure 1D shows the Federal Emergency Management Agency (FEMA) 100-year (1 percent) floodplain for Ross Creek.

FLOOD EVENT DETECTION

The flood event detection methods include weather forecasts, hydrologic/hydraulic modeling, Automated Local Evaluation in Real Time (ALERT) stream/reservoir/precipitation gauge systems, and field observation of stage gauges and other areas of high flow.

Of these methods, the gauging and field observation methods specific to Ross Creek are described below:

ALERT Gauge System

A listing of all ALERT gauges in the Guadalupe River Watershed can be found at http://alert.valleywater.org. These gauges provide data in near real-time at several locations in the watershed. Upstream gauges will provide valuable information for flood events occurring downstream and may give hours' notice to take action. However, the ALERT gauges on Ross Creek at Cherry Avenue and on Guadalupe River at Almaden Expressway will be the primary gauges used for determining the flood condition on Ross Creek.

The following is a summary of the current stream gauge program:

1. Annually sites will be prioritized for manual gauging and teams are assigned.

2. After every high flow event, the rule curves (depth versus discharge) are updated/calibrated. High flow calibration on Guadalupe Watershed gauges was done after the 1995 event and some were completed after the 2017 winter high flows.

Field Observations

Field observations can be critical to verify what is occurring because ALERT gauges are not always a reliable source of information and modeling information can vary from the actual condition. In addition, there are other known hot-spots and facilities that should be visually checked during high flows. Supplementing with visual observations from staff deployed in the field and other field reporting is an important component to detection.

Valley Water operates Field Information Teams (FITs) that are assigned to specific locations during storms and high flow events to provide this valuable information. In addition, the City also deploys FIT teams in a coordinated way to assure that all critical locations are being monitored. Locations of FIT deployment by the City and Valley Water may overlap during storm and flood events. The EAP Multi-Agency Coordination (MAC) Group and/or the jurisdictions EOC will coordinate this effort through the Planning/Intelligence Section so that resources are most effectively utilized and information is shared.

Valley Water Hot-Spots for possible FIT deployment are:

1. Visual stream gauges—checking for high water and rate of change
2. Known Flood Hot-Spots (Attachment 11 pages 83-87)
3. Real-time Flooding—documenting flooding
4. Bridge Piers—checking for debris blockages
5. Trash Racks—checking for debris blockages
6. Levees downstream of Highway 101—check for stability
7. Sandbag sites—checking for supply and access issues
8. Previously repaired or other project sites—checking for performance
9. Raw water facilities—dams and canals

To aid in accurately gathering information, a visual stream stage monitoring location has been installed at Cherry Avenue on Ross Creek.

ROSS CREEK FLOOD CONDITION LEVELS AND SEVERITY

Sometimes an event is a flash flood that occurs suddenly without much early notice. However, with weather forecasting and computer modeling of the watersheds there is often an ability to estimate flood events before they occur. This is extremely valuable when preparing for necessary evacuations and road closures.

To provide this advanced notice, a threat level will be used to provide an indicator of preparedness for a response and a level of potential severity for areas subject to flooding to assist the Agency's in planning and implementing appropriate actions. Due to uncertainties of forecasting future conditions, a condition of Watch will be used when flood stage is estimated about 24 to 72 hours or more in the future. If flooding is estimated within about 24 hours, the threat level will be elevated to Warning. In addition, an unexpected situation may occur during high flows that may result in a change in condition level (Attachment 12 – Guidance Table for Evaluating Facility During High Flow and Determining Condition Level).

Green	**Preparedness**—This is the base stage of readiness that will be the typical condition throughout most of the year. It is defined as: • Flood stage (Minor Flooding or greater) or 90% to 100% of Design stage is not estimated within the next 72 hours or • Measured stream depth is below 70% of flood or Design stage.
Yellow	**Monitoring**—This condition is variable and requires more intense monitoring and a heightened level of alertness. Minimal staff in each Stakeholder's Emergency Operations Center (EOC) may be activated. A virtual MAC could be activated. An informal EOC Action Plan (AP) could be initiated if activated. This condition is defined as: • Stream depth is estimated to reach flood or 90%-100% of Design stage in 72 hours or more or, • Measured stream depth is at 50% to 70% of flood or 70% to 90% of Design 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 stage within 24 hours.

Orange	**Watch**—The Stakeholders' would increase staff in their EOCs, if they had been activated, and a MAC facility could also be established. If activated, a formal EOC AP will be drafted. This condition is defined as: • Stream depth is estimated to reach flood or greater than Design 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 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 stage within 6-12 hours.
Red	**Warning**—This is a more urgent situation. The Stakeholders' EOC may be activated along with a MAC that would monitor the situation, providing notifications and responding according to a written AP. Often for smaller watersheds with flashy creeks, an EOC or MAC will not be opened until the storm event is occurring. This condition is defined as: • Flood stage or greater than Design stage or is occurring or is estimated to occur within 24 hours, or • Measured stream depths are 100% or greater than flood, or • Measured stream depths are greater than Design 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 stage within minutes/hours or is occurring.
Note: Design stage is the depth of water that a facility design is based upon and Flood stage is the depth of water at which a stream or facility begins flooding (see Glossary of Terms).	

When the threat level is at a Watch or Warning, there is an expectation that flooding will occur or is occurring at some locations. The severity of the situation at specific locations is determined by the flood stage. The areas subject to flooding for different stream stages are estimated utilizing hydraulic models, the FEMA flood map, and flood maps from the 1995 floods.

Flood severity categories are defined by the NWS as:

Action	An established gage 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.
Minor Flooding	Minimal or no property damage, but possibly some public threat (e.g., inundation of roads).
Moderate Flooding	Some inundation of structures and roads near stream, evacuations of people and/or transfer of property to higher elevations.
Major Flooding	Extensive inundation of structures and roads, significant evacuations of people and/or transfer of property to higher elevations.

A 100-year (1 percent) flood inundation map of Ross Creek is shown in **Figure 1D** and the associated Flood Thresholds **Table 1D** on the following page. The map is the Federal Emergency Management Agency (FEMA) 1 percent flood map. This map is based on the best available information and modeling when it was created and should be considered is

approximate due to the difficulty in estimating an actual event and the changing conditions of the creek.

Table 2D is a flood severity table for the Ross Creek at Cherry Avenue Gauge that is used to estimate areas that will be subject to flooding. Because there is very little notice for flooding based on this gauge, flood conditions will often utilize predictive methods based on weather forecast and watershed conditions. In addition, the Guadalupe River gauge at Almaden Expressway is used to predict flooding. Refer to Appendix B of the EAP for flood severity based on that gauge.

These tables along with the actual or modeled data would allow Valley Water or MAC to establish threat levels for specific areas subject to flooding. Mapping associated with this table will be provided to Agency Stakeholders. This information will be made available for notifications and will be coordinated with the National Weather Service to be consistent in the dissemination of threat level and severity information.

NOTIFICATIONS AND ACTIVITY/ACTIONS

Notifications and actions are described in the Joint EAP which describes threat level and severity, notifications and activity/actions to be taken by both the City, Valley Water and other stakeholders. The level of activity will be guided by the best information available to the Agency Subject Matter Experts (SMEs) and Agency Coordinators (ACs). The level of activity may mirror those activities of the individual jurisdictional Emergency Operations Centers (EOCs). As weather conditions merit and monitoring take place, the SMEs and ACs may be in their home offices or their jurisdiction's EOC, if activated. The "call to action" may be a series of phone calls among the SMEs and ACs to determine the best approach to coordination.

INFRASTRUCTURE AT RISK

There are no Federal Emergency Management Agency (FEMA) defined critical facilities located in the floodplain, however, there are other important infrastructure where people, property, and important facilities may be at risk. Based on intelligence gathered during the storm event, the MAC will determine the risk and provide notifications as appropriate. The facilities below are within the area where people, property, and infrastructure may be at risk:

FACILITY TYPE	NAME	ADDRESS	PHONE
SCHOOL	Hacienda Elementary School	1290 Kimberly Drive San José, CA 95118	~~xxx~~
	Schallenberger Elementary School	1280 Koch Lane San José, CA 95125	~~xxx~~
	Galarza Elementary School	1610 Bird Avenue San José, CA 95125	~~xxx~~
OTHER	Willow Glen Community and Senior Center	2175 Lincoln Avenue San José, CA 95125	~~xxx~~

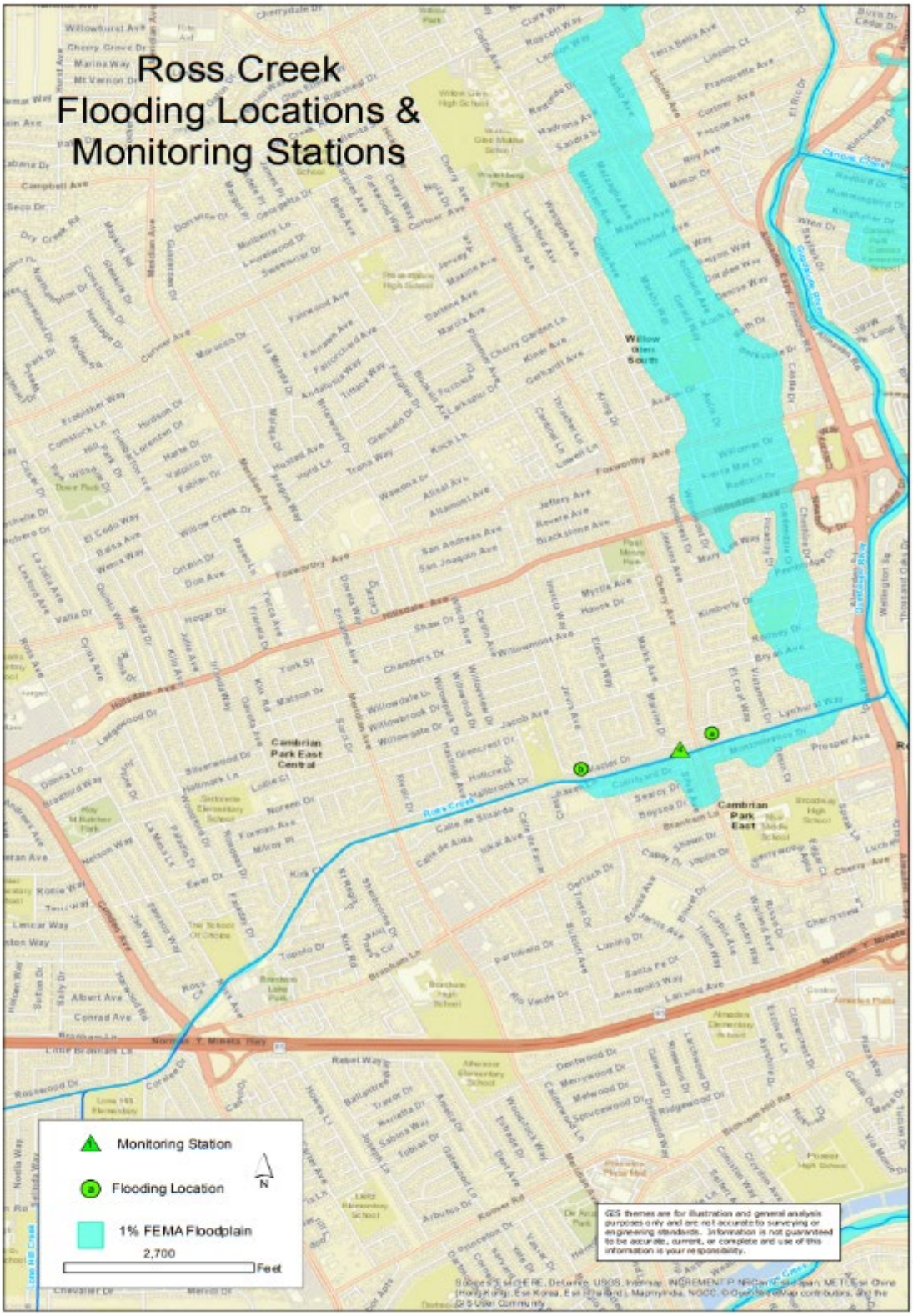

FIGURE 1D
Ross Creek Flood Map and Inspection Locations

APPENDIX D
Ross Creek (continued)

TABLE 1D
Ross Creek Flood On-Site Monitoring Thresholds

ID #	Index Location	Flooding Description	Flood Threat Stage at Monitoring Location			Monitoring Locations	Photo
			50% Capacity	70% Capacity	100% Capacity		
4a	Cherry Avenue	Water spills out just upstream of the Cherry Avenue Culvert, as well as along the levees upstream and downstream.	5'-6'	7'-8'	9'-10'	Cherry Avenue Culvert (Ross Creek)	
4b	Jarvis Avenue	Water spills out upstream of the Jarvis Avenue Culvert, as well as along the levees downstream and upstream.	5'-6'	7'-8'	9'-10'		

Disclaimer: The flooding thresholds in this table are based on hydraulic modeling results calibrated with data collected during the 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. Use care while interpreting results.

APPENDIX D
Ross Creek (continued)

TABLE 2D
Cherry Avenue Gauge Flood Severity Thresholds (NWS Model)

Cherry Avenue Gauge Thresholds	Stage (ft)	Description
Action	**7.5**	Creek is flashy and can be quickly influenced by changes in localized rainfall and/or high flows in Guadalupe River.
Minor Flooding	**10**	Water begins to overtop Cherry Avenue Culvert onto Montmorency Drive to the south and at Jarvis Avenue Culvert staying in the adjacent area. Storm drains start backing up into low-lying neighborhoods causing local flooding of streets.
Historical High Water	**10.9**	May 1996
Moderate Flooding	**11**	Water begins spilling to north between Jarvis Avenue and Almaden Expressway and sheet flowing north through the neighborhood towards Hillsdale Avenue. Hacienda Elementary School may experience flooding.
Major Flooding	**12'+**	This is the stage of about the 100-year flood event. Significant flooding occurs between Jarvis Avenue and Almaden Expressway south of Hillsdale Avenue and backwater from Guadalupe River may contribute to additional flood duration. Depending on the duration of overtopping, waters may move north past Hillsdale Avenue flowing east of Cherry Avenue up to Curtner Avenue and then continuing east of Lincoln Avenue north of Pine Street towards the Interstate 280 and Highway 87 interchange. This flooding will likely impact Willow Glen Community Center and Hacienda, Schallenberger, and Galarza Elementary Schools.
Disclaimer: The flooding thresholds in this table are based on hydraulic modeling results calibrated with data collected during the May 1996 and February 2017 flood event. Hydraulic modeling results are estimates. Information is accurate within the model limitations and assumptions/data used for model development. Use care while interpreting results.		

APPENDIX E
Lower Silver Creek and Lake Cunningham

PURPOSE

This Appendix to the Joint Emergency Action Plan (EAP) for Severe Storms and Flooding in the City of San José is meant to provide additional guidance specific to Lower Silver Creek and the associated detention function of Lake Cunningham. It will not duplicate information already in an EOP or the EAP, but will provide Lower Silver Creek and Lake Cunningham specifics for:

1. Incident detection
2. Evaluation and condition level classification
3. Notification and communications
4. Emergency actions

LOWER SILVER CREEK AND LAKE CUNNINGHAM DESCRIPTION

The Lower Silver Creek Watershed is in the eastern portion of the City of San José (City) and in the unincorporated area of the County of Santa Clara and is bounded on the east by the Diablo Range and on the west by the Coyote Watershed. The upper regions of the watershed are located in steep foothills while the lower region is gently sloping. The lower and flatter area, which constitutes about one-third of the watershed and is the location of the six-mile long Lower Silver Creek, is highly urbanized. The watershed is approximately five miles wide at its downstream end and gradually narrows to a width of about one mile at its upstream end and covers an area of about 43 square miles (27,700 acres). There are several tributaries in the watershed with the largest being Thompson Creek, with a watershed of about 20.9 square miles (13,400 acres).

Santa Clara Valley Water District (Valley Water) completed improvements on Lower Silver Creek and Lake Cunningham to provide 100-year (1%) protection for flooding from Lower Silver Creek between its confluence with Coyote Creek to just upstream of Lake Cunningham. The flood protection improvements included channel widening, concrete u-frame channels, bridge improvements, construction of levees and floodwalls, and improvements of the detention facility at Lake Cunningham Park. Other improvements made were: incorporating fish passage features, planting natural vegetation to improve habitat, sediment transport features to improve maintenance to restore flow capacity, improving access for maintenance and inspections, and armoring areas of the channel to reduce potential for erosion.

Valley Water owns fee-title right of way on nearly the entire length of Lower Silver Creek. The exceptions are where it owns easement at bridges and at the City of San José's Plata Arroyo Park and Lake Cunningham Park. Figure 1E shows the creek location and project reaches and following that is a reach by reach description.

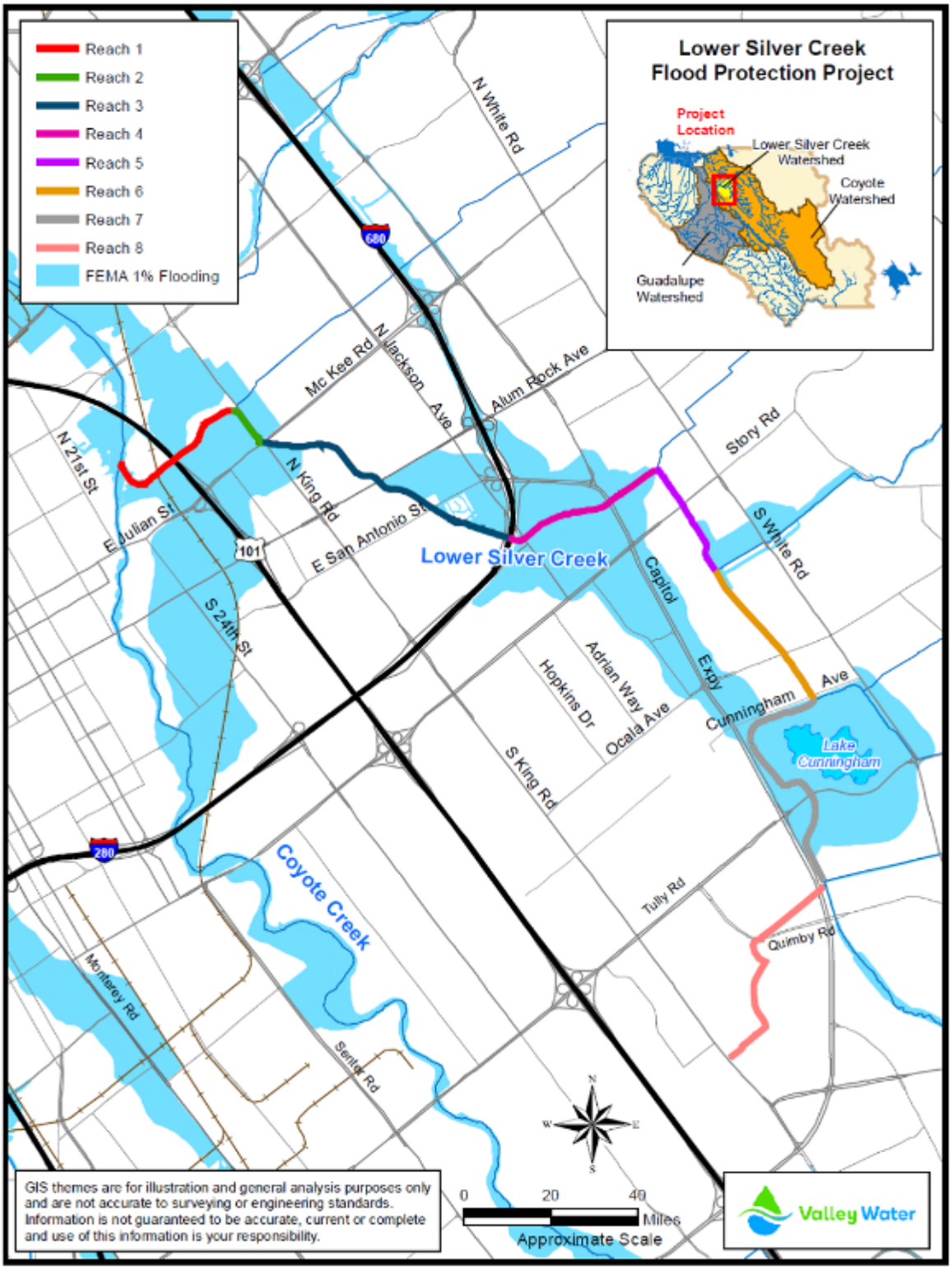

FIGURE 1E
Lower Silver Creek & Lake Cunningham Reach Map and FEMA Flooding

APPENDIX E
Lower Silver Creek and Lake Cunningham (continued)

Reach 1 – Coyote Creek to Miguelita Creek

This 4,000 foot long reach consists of a combination of earth channel with a depressed maintenance road on the north side of a low-flow channel, vegetated gabion side slopes and over 1,000 feet of 2-foot to 3-foot high floodwall. The bottom of the channel is earth and generally has a 3-foot deep sediment transport channel, riparian vegetation and a vegetated bench. The channel invert supports emergent marsh and native riparian trees and shrubs have been planted on the top of both banks. There are grade control structures installed near the Coyote Creek confluence and Wooster Avenue Bridge. There is a channel constriction at the old Union Pacific Railroad (UPRR) bridge crossing, which has been removed, between Coyote Creek and Highway 101 just upstream of the Wooster Avenue Bridge.

Looking upstream from Wooster towards the old UPRR crossing and Hwy 101

Looking upstream from Highway 101

Looking downstream from the upstream end of Reach 1

Reach 2 – Miguelita Creek to McKee Road

This reach runs about 1,200 feet adjacent to King Road and is an architecturally treated rectangular concrete channel with a low flow channel. Sediment expected to accumulate in the area will need to be periodically removed. Native trees and vines are planted on top of the south and north banks. Near the intersection of King Road and McKee Road, the channel transitions to a concrete box culvert. There is a trash boom installed at the downstream end of the reach.

Looking downstream from near McKee Road

Reach 3 – McKee Road to Interstate 680

The channel transitions from the existing box culvert beneath the King and McKee Road intersection into an earth channel with emergent marsh vegetation for about 1,200 feet upstream. A 4-foot high floodwall protects adjacent residential areas to the north and a combination of levees and overland flow in Plata Arroyo Park are on the opposite side. The north bank includes a maintenance road with an adjacent grass covered floodplain. A pedestrian bridge provides access to the park from the residential areas across the creek.

Looking downstream at the McKee Road culvert

Upstream of Plata Arroyo Park the widened earthen channel transitions to a concrete channel for about 2,200 feet to Alum Rock Avenue. The concrete section of channel includes a low-flow channel to allow continuity of base flows. Native trees, shrubs, and vines have been planted along parts of the top of bank through this area.

Looking upstream along Checkers Drive towards Alum Rock Avenue

From Alum Rock Avenue upstream about 1,700 feet to San Antonio Road the channel is earthen with some bank protection and a depressed maintenance road on the north side. Sunset Avenue and a pedestrian bridge cross the channel in this area. There is a stream gauge just downstream of San Antonio Road bridge.

Looking upstream from Sunset Avenue

Looking downstream of San Antonio Road (stream gauge on right)

From San Antonio Road upstream for about 2,200 feet to Interstate 680 (I-680) the channel is generally an earthen trapezoidal with vegetation on the south bank and a top of bank maintenance road on the north bank that ends at I-680. There is a pedestrian bridge located at Kammerer Avenue and a maintenance road turn-around at I-680. Adjacent land-use on the north side is residential with the south side including; Lee Mathson Middle School, Mayfair Community Center and Our Lady of Guadalupe Church.

Looking upstream from San Antonio Road

Looking upstream from Kammerer Pedestrian bridge towards I-680

Reach 4 – I-680 to North Babb Creek

The approximately 4,400 foot long reach consists a 240-foot U-frame concrete channel with a sediment trap and low flow channel from I-680 to South Jackson Avenue crossing, which transitions to a widened earthen channel with a vegetated bench on the south side and a 20 foot wide aggregate maintenance road 2.5 feet above the sediment transport channel bottom on the remainder of the channel section. Capitol Expressway crosses the creek upstream of Jackson Avenue and there is a pedestrian bridge connecting Dobern Avenue and Bambi Lane. Flood walls of approximately 2 to 4 ft above grade are required for this entire section with a gradual height decline further upstream.

Looking downstream of the Dobern Ave-Bambi Ln pedestrian bridge

Reaches 5 & 6 – North Babb Creek to Lake Cunningham (Cunningham Avenue)

These reaches extend about 7,400 feet from the end of the end of Reach 4 at North Babb Creek to Lake Cunningham (Cunningham Avenue). The channel throughout this area has an earthen bottom a vegetated west bank and an east bank that contains a 20 foot wide aggregate base maintenance road 2.5 feet above the earthen channel bottom. Rock protects the toe of both banks of the earthen channel bottom and floodwalls extend along both banks up to 5 feet in height. A full-span pedestrian bridge is located at the downstream end of the reach and there are road crossings at Story Road, Murtha Drive, Moss Point Drive and Ocala Avenue. Adjacent land uses are a combination of residential, commercial and educational (Alum Rock Middle School and Adelante Academy).

Looking upstream from Story Road

Looking upstream from Ocala Avenue

Reach 7 – Lake Cunningham Park to Thompson Creek

Lower Silver Creek flows about 7,200 feet around the west side of Lake Cunningham Park upstream and crosses under Tully Road until it meets Thompson Creek. There are levees along portions of the creek to protect the residential areas to the north while allowing high flows to discharge into the Lake Cunningham Park. Lake Cunningham Park functions as a detention facility starting at about a 5-year flow event (stage is 4.4' at the Thompson Creek Quimby Road ALERT gauge) to reduce 1% peak flows downstream of Cunningham Avenue to about 2,700 cubic feet per second (cfs). A floodwall, levees and outlet control structure of the culvert at Cunningham Avenue have been designed along with the lower improvements to provide 100-year (1%) flood protection for downstream properties. Lower Silver Creek is a widened earth channel upstream of Tully Road. Valley Water owns easement in Lake Cunningham Park and fee title upstream.

Looking west down floodwall and levee at Cunningham Avenue (culvert on right)

Looking south and east at Cunningham Avenue headwall and floodwall

Looking upstream of Tully Road

Reach 8 – Thompson Creek to King Road

Lower Silver Creek flows in an earthen trapezoidal channel for about 1,065 feet from King Road to the City's Meadowfair Park. At Meadowfair Park the creek flows through a trash rack and into a reinforced concrete pipe for about 5,000 feet until it discharges into an open earthen channel at the confluence with Thompson Creek near intersection of Capitol Expressway and Eastridge. Valley Water owns fee-title right of way in the open channel section and easement for much of the pipe alignment.

Beginning of Reach 8 at Confluence with Thompson

Upstream end of Reinforced Concrete Pipe at Mayfield Park

LOWER SILVER CREEK FLOOD THREATS

Lower Silver Creek is a very flashy drainage area and depth of flow can change quickly. Reach 1 can also be influenced by high water in Coyote Creek and may experience high water levels due to that influence. The areas prone to flooding from Lower Silver Creek, shown in Figure 1E, have all been provided with 100-year (1%) flood protection primarily by construction of floodwalls, levees, enlarging the channel section, and improving upstream detention. Valley Water and the City are requesting a Letter of Map Revision to Federal Emergency Management Agency (FEMA) to remove the 1% flood areas from the map. However, flooding can still occur during larger storm events and unexpected channel conditions (e.g., floodwall failure).

Because flooding is still possible due to higher than 1% flows or other unexpected events (Attachment 12), the existing FEMA 1% flood inundation map of Lower Silver Creek (**Figure 1E)** will provide one way to identify areas that could be at flood threat. In addition, flood areas for 6 potential levee failure scenarios at the Lake Cunningham upstream detention facility have been mapped. Figure 2E shows three smaller levee failure scenarios and Figures 3E, 4E and 5E show the flooding due to those failures. Figure 6E shows three additional larger levee failure scenarios, where entire levee reaches were failed, with the flooding due to those breaches shown on Figures 7E, 8E and 9E. These maps give the City some tools to help determine evacuation zones, should a levee breach occur.

FIGURE 2E
Modeled Levee Failure Locations at Lake Cunningham Detention Facility

APPENDIX E
Lower Silver Creek and Lake Cunningham (continued)

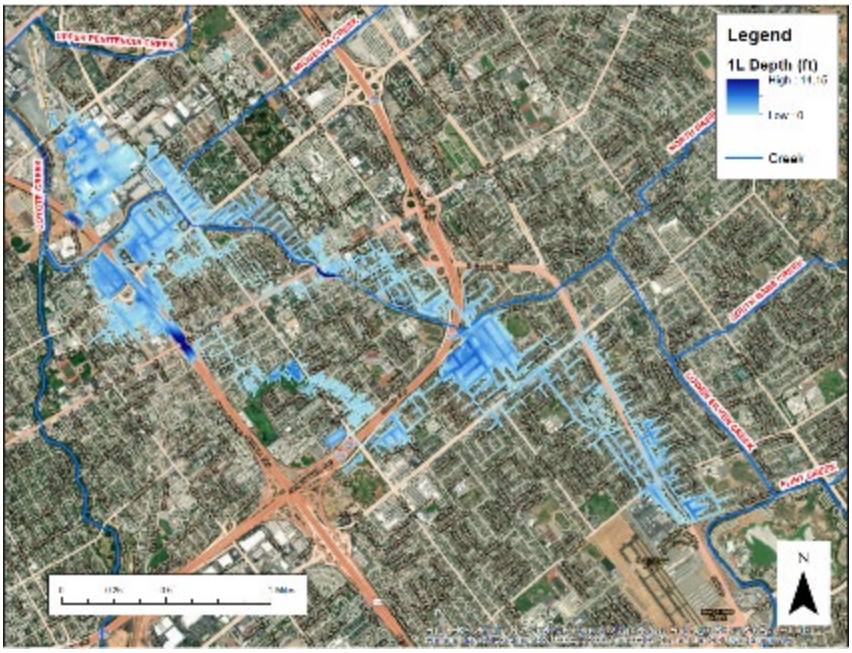

FIGURE 3E
Flooding due to Potential Levee Failure Location 1L at Lake Cunningham

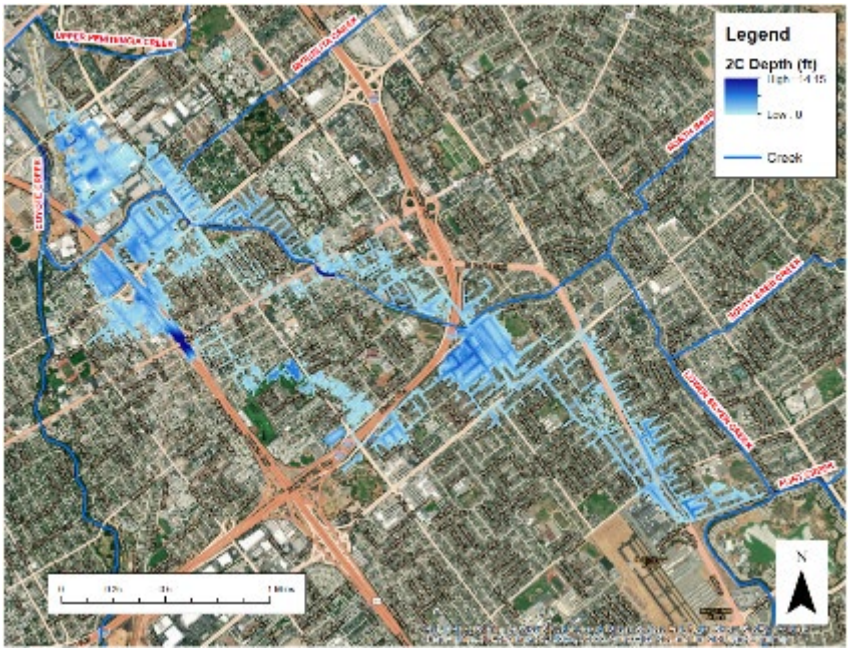

FIGURE 4E
Flooding due to Potential Levee Failure Location 2C at Lake Cunningham

APPENDIX E
Lower Silver Creek and Lake Cunningham (continued)

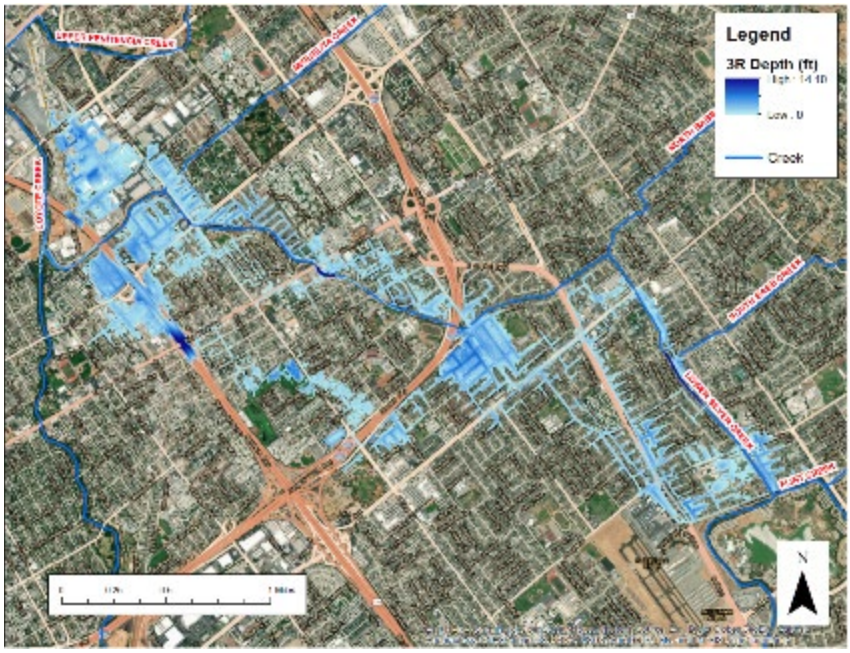

FIGURE 5E
Flooding due to Potential Levee Failure Location 3R at Lake Cunningham

FIGURE 6E
Modeled Large Levee Failure at Lake Cunningham Detention Facility

APPENDIX E
Lower Silver Creek and Lake Cunningham (continued)

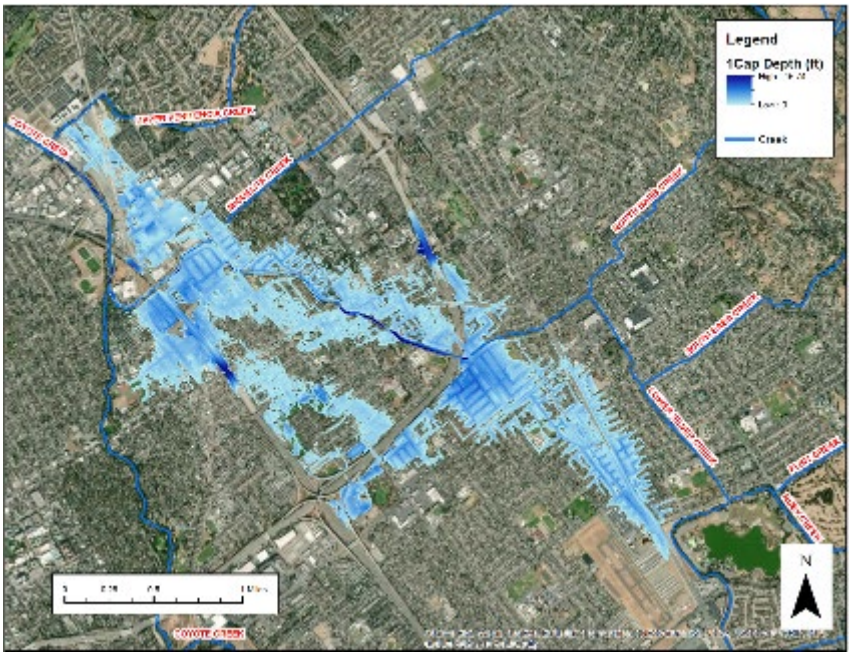

FIGURE 7E
Flooding due to Large Levee Failure Location 1Cap at Lake Cunningham

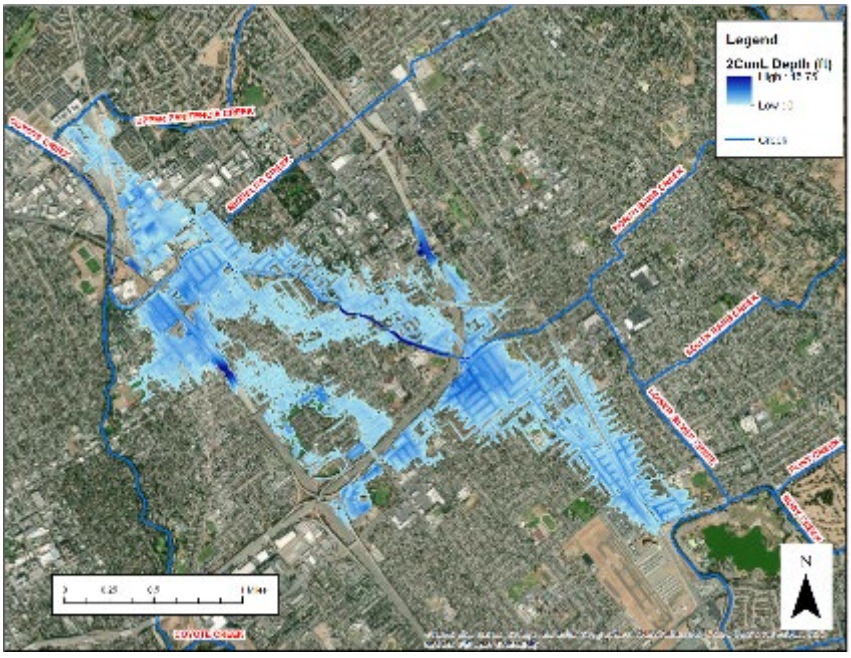

FIGURE 8E
Flooding due to Large Levee Failure Location 2CunL at Lake Cunningham

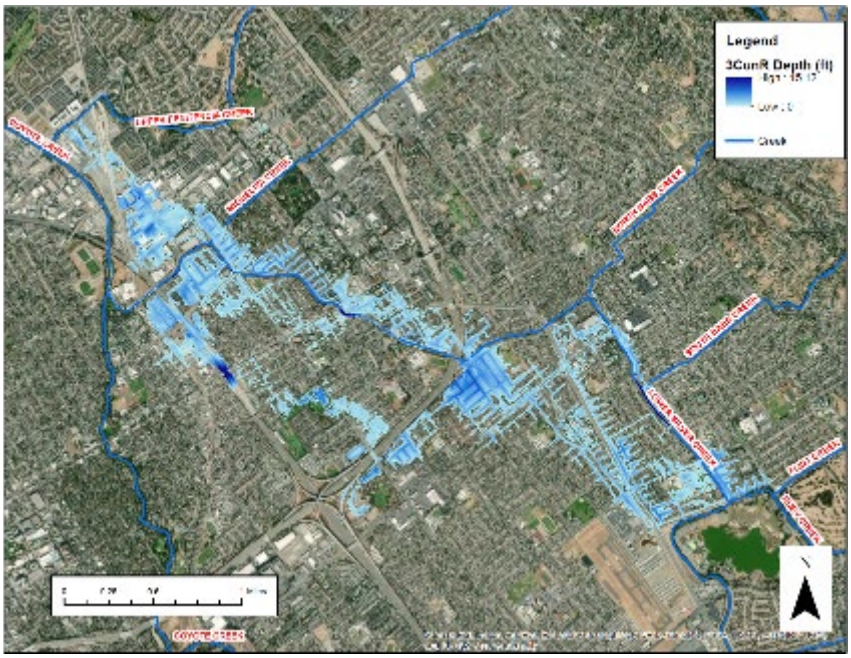

FIGURE 9E
Flooding due to Large Levee Failure Location 3CunR at Lake Cunningham

FLOOD EVENT DETECTION

The flood event detection methods include weather forecasts, hydrologic/hydraulic modeling, Automated Local Evaluation in Real Time (ALERT) stream/reservoir/precipitation gauge systems, and field observation of stage gauges and other areas of high flow.

Of these methods, the gauging and field observation methods specific to Lower Silver Creek are described below:

ALERT Gauge System

A listing of all ALERT gauges in the Coyote Creek Watershed can be found at http://alert.valleywater.org. These gauges provide data in near real-time at several locations in the watershed. Upstream gauges will provide valuable information for flood events occurring downstream and may give advance notice to take action. However, the ALERT gauge on Thompson Creek at Quimby Road just upstream of the confluence will be the primary gauge used for determining the flood condition on Lower Silver Creek. The downstream gauge on Lower Silver Creek at San Antonio Road will be used as another indicator of the functioning of the Lake Cunningham detention facility and possible concerns in the downstream reaches of the creek.

The following is a summary of the current stream gauge program:

1. Annually sites will be prioritized for manual gauging and teams are assigned.

2. After every recorded high flow event, the rule curves (depth versus discharge) are updated/calibrated. High flow calibration in the Coyote Watershed was done after the 1995 event and some were completed after the 2017 winter high flows.

Field Observations

Field observations can be critical to verify what is occurring because ALERT gauges are not always a reliable source of information and modeling information can vary from the actual condition. In addition, there are other known hot-spots and facilities that should be visually checked during high flows. Supplementing with visual observations from staff deployed in the field and other field reporting is an important component to detection.

Valley Water operates Field Information Teams (FITs) that are assigned to specific locations during storms and high flow events to provide this valuable information. In addition, the City Parks, Recreation & Neighborhood Services has staff that maintains, operates, and patrols Lake Cunningham Park and other City Departments deploy FIT teams in a coordinated way to assure that all critical locations are being monitored. Locations of FIT deployment by the City and Valley Water may overlap during storm and flood events. The EAP Multi-Agency Coordination (MAC) Group and/or the jurisdictions EOC will coordinate this effort through the Planning/Intelligence Section so that resources are most effectively utilized and information is shared.

Valley Water Hot-Spots for possible FIT deployment are:

1. Visual stream gauges—checking for high water and rate of change
2. Known Flood Hot-Spots (Attachment 11 page 64)
3. Real-time Flooding—documenting flooding
4. Bridge Piers—checking for debris blockages
5. Trash Racks—checking for debris blockages
6. Levees downstream of Highway 101—check for stability
7. Sandbag sites—checking for supply and access issues
8. Previously repaired or other project sites—checking for performance
9. Raw water facilities—dams and canals

LOWER SILVER CREEK FLOOD CONDITION LEVELS

Sometimes an event is a flash flow that occurs suddenly without much early notice, which is the situation upstream of Capital Expressway on Lower Silver Creek. However, with weather forecasting and computer modeling of the watersheds there is often an ability to estimate high flow events before they occur. This is extremely valuable when preparing for necessary evacuations and road closures.

To provide this advanced notice, a threat level will be used to provide an indicator of preparedness for a response to assist the Agency's in planning and implementing appropriate

actions. Due to uncertainties of forecasting future conditions, a condition of Watch will be used when 90% to 100% of the 100-year (1%) flow stage is estimated about 24 to 72 hours or more in the future. If this high flow is estimated within about 24 hours, the threat level will be elevated to Warning**. Table 1E** shows the stage for flow rates at two ALERT monitoring gauges that can be used to set the threat level.

Since Lower Silver Creek and Lake Cunningham have been improved to provide 100-year (1%) flood protection, the highest condition level expected would be Monitoring (Yellow) except in an extreme storm event that would result in a 1% flow or during other unexpected conditions (Attachment 12 – Guidance Table for Evaluating Facility During High Flow and Determining Condition Level). In addition, a level of severity would not be set as for other flood prone facilities because of the flood protection improvements.

Green	**Preparedness**—This is the base stage of readiness that will be the typical condition throughout most of the year. It is defined as: • Flood stage (Minor Flooding or greater) or 90% to 100% of Design stage is not estimated within the next 72 hours or • Measured stream depth is below 70% of flood or Design stage.
Yellow	**Monitoring**—This condition is variable and requires more intense monitoring and a heightened level of alertness. Minimal staff in each Stakeholder's Emergency Operations Center (EOC) may be activated. A virtual MAC could be activated. An informal EOC Action Plan (AP) could be initiated if activated. This condition is defined as: • Stream depth is estimated to reach flood or 90%-100% of Design stage in 72 hours or more or, • Measured stream depth is at 50% to 70% of flood or 70% to 90% of Design 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 stage within 24 hours.
Orange	**Watch**—The Stakeholders' would increase staff in their EOCs, if they had been activated, and a MAC facility could also be established. If activated, a formal EOC AP will be drafted. This condition is defined as: • Stream depth is estimated to reach flood or greater than Design 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 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 stage within 6-12 hours.

Red	**Warning**—This is a more urgent situation. The Stakeholders' EOC may be activated along with a MAC that would monitor the situation, providing notifications and responding according to a written AP. Often for smaller watersheds with flashy creeks, an EOC or MAC will not be opened until the storm event is occurring. This condition is defined as: • Flood stage or greater than Design stage or is occurring or is estimated to occur within 24 hours, or • Measured stream depths are 100% or greater than flood, or • Measured stream depths are greater than Design 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 stage within minutes/hours or is occurring.
Note: Design stage is the depth of water that a facility design is based upon and Flood stage is the depth of water at which a stream or facility begins flooding (see Glossary of Terms).	

NOTIFICATIONS AND ACTIVITY/ACTIONS

Notifications and actions are described in the Joint EAP which describes threat level, notifications and activity/actions to be taken by both the City, Valley Water and other stakeholders. The level of activity will be guided by the best information available to the Agency Subject Matter Experts (SMEs) and Agency Coordinators (ACs). The level of activity may mirror those activities of the individual jurisdictional Emergency Operations Centers (EOCs). As weather conditions merit and monitoring take place, the SMEs and ACs may be in their home offices or their jurisdiction's EOC, if activated. The "call to action" may be a series of phone calls among the SMEs and ACs to determine the best approach to coordination.

INFRASTRUCTURE AT RISK

There are no Federal Emergency Management Agency (FEMA) defined critical facilities located in the floodplain, however, there are other important infrastructure where people, property, and important facilities may be at risk. Based on intelligence gathered during the storm event, the MAC will determine the risk and provide notifications as appropriate. The facilities below are within the area where people, property, and infrastructure may be at risk:

FACILITY TYPE	NAME	ADDRESS	PHONE
SCHOOLS	Ann Darling Elementary School	333 N 33rd Street San José, CA 95133	~~xxx~~
	Rocketship Elementary School	2249 Dobern Avenue, San José, CA 95116	~~xxx~~
	Aptitud Community Academy at Goss	2475 Van Winkle Lane, San José, CA 96116	~~xxx~~
	Ryan Elementary	1241 McGinness Avenue San José, CA 95127	~~xxx~~

APPENDIX E
Lower Silver Creek and Lake Cunningham (continued)

FACILITY TYPE	NAME	ADDRESS	PHONE
OTHER	The San Jose Cambodian Buddhist Society	2751 Mervyns Way, San José, CA 95127	~~xxx~~
	US Postal Service	1085 McGinness Avenue San José, CA 95127	~~xxx~~

TABLE 1E
Lower Silver Creek ALERT Gauges – Flow Rate Stages

Index Location		Percent of 100-Year Stage at Monitoring Location			Photo
	50% of 100-Year	70% of 100-Year	90% of 100-Year	100-Year	
Thompson Creek at Quimby Road	4-5’ (1,645 cfs)	5.7’ (2,303 cfs)	6.3’ (2961 cfs)	6.6’ (3,290 cfs))	
Lower Silver Creek at San Antonio St.	7’ (1760 cfs)	7.9’ (2464 cfs)	8.8’ (3,168 cfs)	9.2’ (3,520 cfs)