APPENDIX A

Planning Process

Appendix A: PLANNING PROCESS

Appendix A: Planning Process contains the following documents in this order:

- 2020-2021 Hazard Mitigation Plan Committee (HMPC) Invitee and Participant List
- 2020-2021 Press Release
- Social Media Posts on Facebook
- Notification of Community Workshop
- Kenwood Press Newspaper Article on Availability of Local Hazard Mitigation Plan
- Valley of the Moon Water District Local Hazard Mitigation Plan Webpage
- Notice of Availability of Public Review Draft Local Hazard Mitigation Plan (LHMP)
- Valley of the Moon Water District LHMP – Community Outreach Strategy (2020 – 2021)
- HMPC Meeting #1 Materials – July 8, 2020
- LHMP Data Collection Guide
- HMPC Meeting #2 Materials – October 7, 2020
- Community Workshop Materials – October 27, 2020
- Valley of the Moon Water District Online Public Survey and Results

The process and handouts provided in HMPC Meeting #3 (Mitigation Strategy) are compiled in Appendix C: Mitigation Strategy.

Appendix A: PLANNING PROCESS

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Table A.1. Hazard Mitigation Planning Committee Invitee and Stakeholder List

Name	Agency/Department	Title	Email
Matt Fullner	Valley of the Moon Water District	Interim General Manager	mfullner@vomwd.org
Amanda Hudson	Valley of the Moon Water District	Administration and Finance Manager	ahudson@vomwd.org
Ron Prushko	Valley of the Moon Water District	Director	rprushko@vomwd.org
Steve Rogers	Valley of the Moon Water District	President	srogers@vomwd.org
Regional and Local Agency and Organization Stakeholders			
Steve Barbose	Valley of the Moon Water District	Former Board Director	sbarbose@vomwd.org
Tom Conlon	Transition Sonoma Valley, Sierra Club Sonoma Group	Member	editor@transitionsonomavalley.org
Ann Dubay	Sonoma Water and Sonoma Valley Groundwater Sustainability Agency	Community and Government Affairs Manager, GSA Administrator	ann.dubay@scwa.ca.gov
Colleen Ferguson	City of Sonoma	Public Works Director	cferguson@sonomacity.org
Arielle Kubu-Jones	Sonoma County	Office of Emergency Services	arielle.kubu-jones@sonoma-county.org
Bruce Abbott	Sonoma Valley Unified School District	Associate Superintendent	babbott@sonomaschools.org
Douglass Weidemann	Sonoma Valley Unified School District	Program Manager of Operations and Maintenance	dweidemann@sonomaschools.org
Christian Kallen	Sonoma News	Newspaper Editor/Correspondent	christian.kallen@sonomanews.com
Sharon Somogyi	La Luz Center	Manager of Development Operations	sharon@laluzcenter.org

David Morell	Sonoma Ecology Center	Vice President/Board Member	dmorell17@gmail.com
Donna Piranha	Member of the Public	Member of the Public	donpron12@gmail.com
Fred Allebach	Sonoma Valley Groundwater Sustainability Agency	Chair	fallebach@gmail.com
Gary Germano	Member of the Public	Member of the Public	garywgermano@hotmail.com
Jay Gamel	Kenwood Press	Correspondent	jaygamel@gmail.com
John Saguto	Team Rubicon	First Responder	john.saguto@teamrubiconusa.com
Pat Gilardi	Sonoma County	Office of Emergency Services	pat.gilardi@sonoma-county.org
Susan Gorin	Sonoma County	Board of Supervisors	susan.gorin@sonoma-county.org
Val Robichaud	Sonoma Sun	Correspondent	vrobichaud@sonomasun.com
Steve Akre	Sonoma Valley Fire District	Fire Chief	stevea@svfra.org

Figure A.1. Press Release Posted about Community Workshop for the LHMP

FOR IMMEDIATE RELEASE
October 12, 2020
Contact: Matt Fullner, Interim General Manager (707) 996-1037

NOTICE OF COMMUNITY WORKSHOP FOR THE PREPARATION OF THE VALLEY OF THE MOON WATER DISTRICT'S LOCAL HAZARD MITIGATION PLAN

The Valley of the Moon Water District (District) has launched a planning effort to assess risks from natural, human-health, and human-caused hazards and to identify ways to reduce those risks. The planning process will result in the preparation of the District's Local Hazard Mitigation Plan (LHMP). The preparation of an LHMP is required under the Federal Disaster Mitigation Act of 2000 to be eligible to receive federal disaster assistance and funding.

The District's water supply facilities and infrastructure in Sonoma Valley are vulnerable to a wide range of natural hazards, including drought, earthquakes, flooding, landslides, severe weather, and wildfires. The District may also be exposed to pandemics and cyber threats. The LHMP will provide the District with valuable tools to identify risks and mitigate hazards through future project-specific actions. The LHMP will also assess the effects of climate change on natural hazards assessed in the plan and will incorporate climate adaptation strategies.

The District will host a Community Workshop on **Tuesday, October 20, 2020, from 12:00 to 1:00 p.m.** The Community Workshop will be an opportunity to learn more about the planning process and the natural, human-health, and human-caused hazards that will be assessed in the LHMP. The community is encouraged to participate in the planning process by providing feedback during the virtual Community Workshop, completing an Online Survey, visiting the District's LHMP webpage, and reviewing the Draft LHMP (once available). Information on how to participate is provided below:

- Virtual Community Workshop – Tuesday, October 20, 2020, 12:00 – 1:00 p.m.
  Join the Zoom Meeting here:
  https://us02web.zoom.us/j/2135226170?pwd=R1Ira2FZWWVWNmdrVk16ZTFwelFsUT09
  Meeting ID: 213 522 6170
  Dial by your location: +1 669 900 6833 US (San Jose)
- Online Survey – available here:
  https://forms.office.com/Pages/ResponsePage.aspx?id=7KxDCD79vkm9VBjGBIo_0NsElmYufTdBqeHx9-Gb9ZdUMVdXSzlRUDNSQVJYWkJHUkJENE5BTFAxNS4u
- Additional information on the planning process can be found on the District's LHMP Webpage:
  https://www.vomwd.org/local-hazard-mitigation.

Questions may be directed to Matt Fullner, Interim General Manager by calling (707) 996-1037 or by email at mfullner@vomwd.org.

Figure A.2. Valley of the Moon Water District Facebook Announcement on LHMP

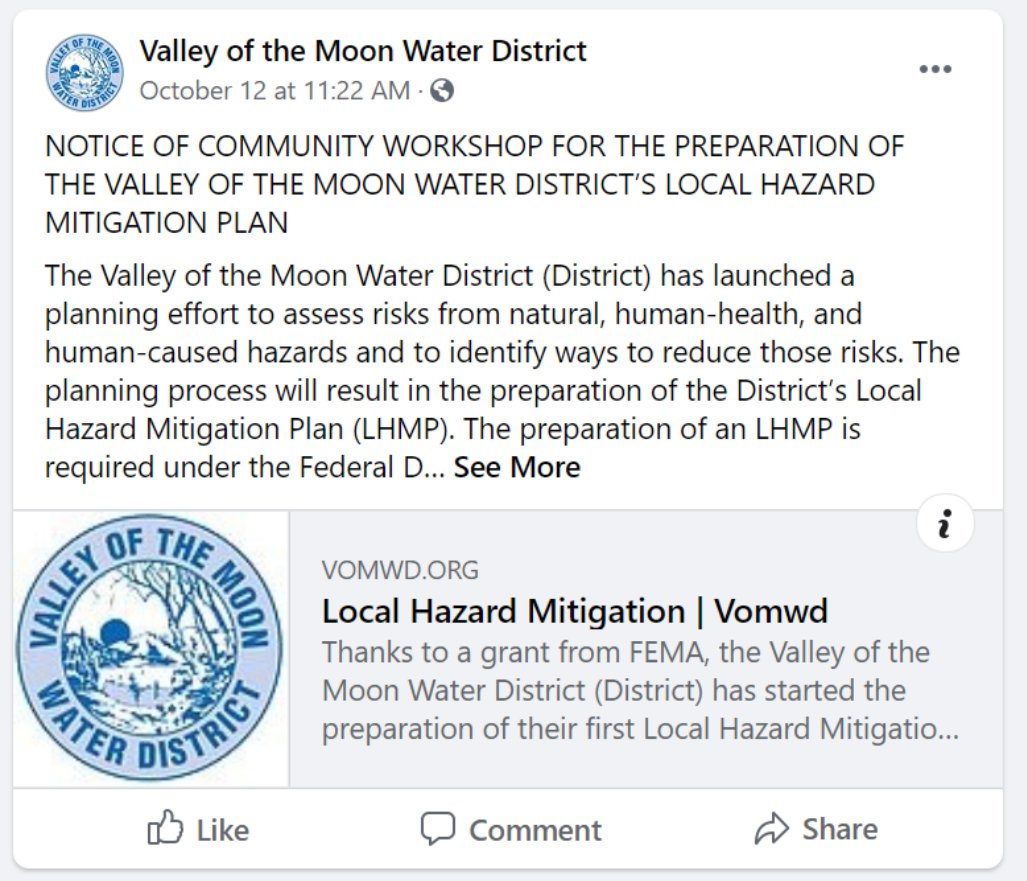

Figure A.3. Valley of the Moon Water District Nextdoor Announcement

NOTICE OF COMMUNITY WORKSHOP FOR THE PREPARATION OF THE VALLEY OF THE MOON WATER DISTRICT'S LOCAL HAZARD MITIGATION PLAN

Valley of the Moon Water District from Valley of the Moon Water District · 12 Oct

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Join the Zoom Meeting here: https://us02web.zoom.us/j/2135226170?pwd...
Meeting ID: 213 522 6170
Dial by your location: +1 669 900 6833 US (San Jose)
• Online Survey – available here: https://forms.office.com/Pages/ResponseP...
• Additional information on the planning process can be found on the District's LHMP Webpage:
https://www.vomwd.org/local-hazard-mitig....

Figure A.4. Newspaper Article Advertising the 1st Public Workshop on the LHMP

(https://www.kenwoodpress.com/kenwoodpress/news/)

KENWOOD PRESS

Serving the Communities of Kenwood, Glen Ellen and Oakmont

(https://www.kenwoodpress.com/kenwoodpress/news/)

Posted on April 1, 2021

VOM Water District Hazard Mitigation Plan draft up for public input

By Jay Gamel

Beginning March 31, customers of the Valley of the Moon Water District (VOMWD) will have 30 days to comment on the first draft of a very detailed hazard mitigation plan designed to alleviate the impacts of major disasters like wildfires, earthquakes, and floods.

The district provides drinking water to about 23,750 customers from Glen Ellen to Schellville, with about 80 percent of its daily needs delivered from the Russian River over a 30-mile long aqueduct considered vulnerable to earthquakes, fires and floods. The loss of potential potable water reserves from the now-shuttered, state-owned Sonoma Developmental Center, massive wildfires in 2017 and 2020, and two grand jury findings that the delivery system could be severely stressed if earthquakes sever the pipeline, particularly where it crosses Sonoma Creek, played a part in getting this year-long planning effort underway. Federal funding has been available since 1988 to help local jurisdictions cope with overwhelming disasters. The scope of federal aid was widened with the Disaster Mitigation Act of 2000, aimed at reducing the severe financial impact of coping with increasing and immense disaster costs on rapidly expanding habitation throughout the country. Mitigation plans are intended to reduce risk to existing and future development to make communities safer and more disaster resilient.

Having an approved hazard mitigation plan is a requirement for receiving FEMA and other disaster grants, public and private.

International environmental consultants Wood Environment & Infrastructure Solutions, Inc., was chosen to develop a Local Hazard Mitigation Plan (LHMP) for an initial cost of $40,000.

Hazard mitigation plans are complex, taking into consideration "all possible hazards affecting the planning area." Sonoma Valley has a good share of both possible and probable future disasters: earthquakes, landslides, sea level rise, dam and levee incidents, wildfire, agricultural pests and diseases, aquatic invasive species, drought and water shortages, and power shutoffs are identified as the district's major hazards. The plan looks at buildings and structures, water treatment plants, pipelines, people impacted, development trends and constraints, historical and cultural resources, and attempts to estimate potential losses.

Each mitigation proposal must be evaluated for effectiveness, cost, and whether the district even has the technical

Figure A.5. Valley of the Moon Water District LHMP Webpage

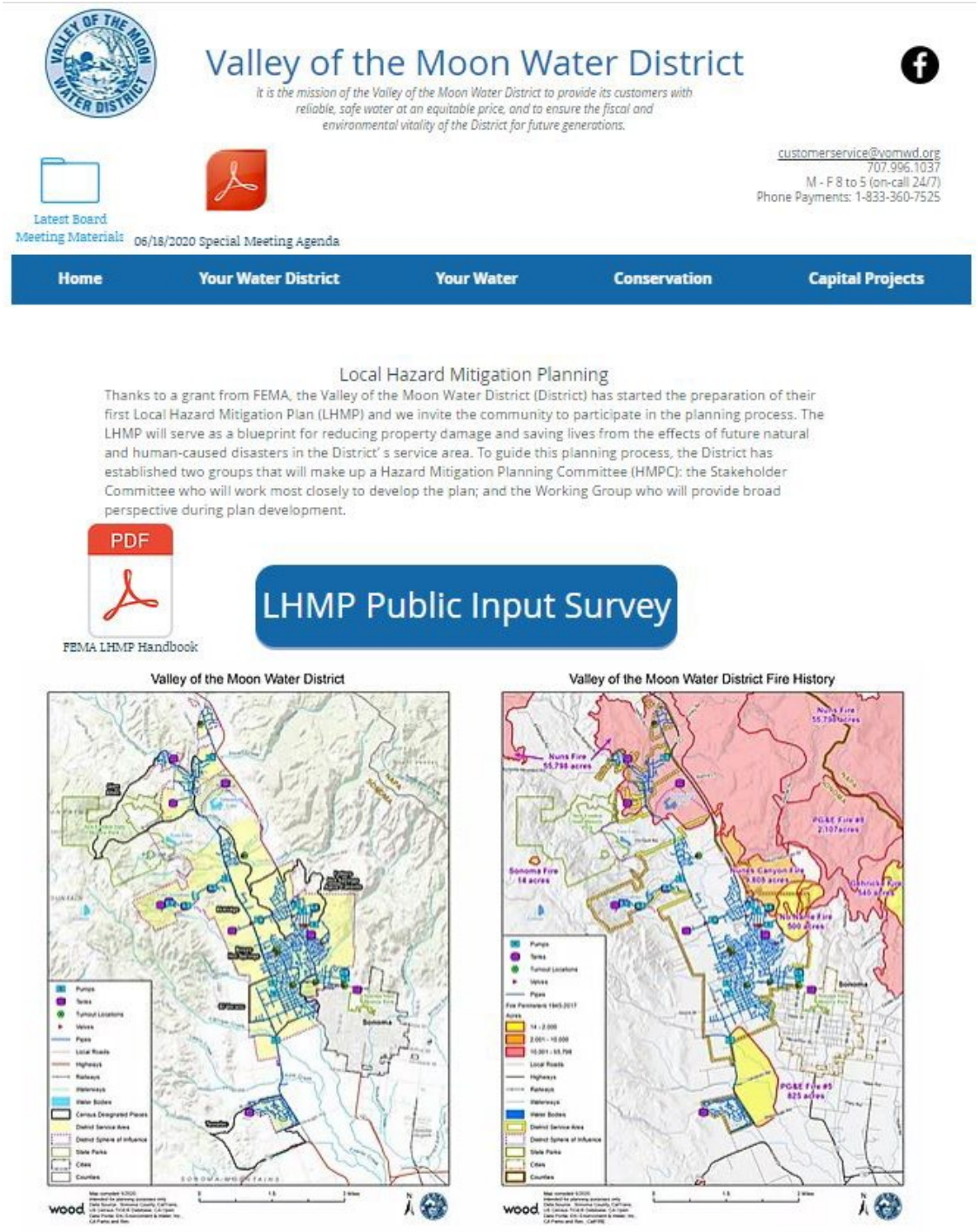

Figure A.6 Press Release on the Availability of the Public Review Draft LHMP

FOR IMMEDIATE RELEASE
April 2, 2021
Contact: Matt Fullner, Interim General Manager (707) 996-1037

VALLEY OF THE MOON WATER DISTRICT LOCAL HAZARD MITIGATION PLAN AVAILABLE FOR PUBLIC REVIEW AND COMMENT

Would you like to learn more about what the Valley of the Moon Water District (District) is doing to minimize the impacts of natural hazards, such as drought, earthquakes, flooding, landslides, severe weather, extreme heat, and wildfires on their water conveyance and delivery systems? Would you like to learn how the District will minimize impacts of human-caused hazards, such as cyber threats and human-health hazards, such as pandemics? The District's Local Hazard Mitigation Plan (LHMP) assesses the risk posed by natural, human-caused, and human-health hazards and identifies ways to reduce those risks and allows the District to be eligible for mitigation grant funding from the Federal Emergency Management Agency (FEMA).

The LHMP addresses the effects of climate change on natural hazards assessed in the plan and incorporates climate adaptation strategies in the mitigation strategy. A Public Review Draft of the District's LHMP is now available for public review and comment. A Hazard Mitigation Planning Committee (HMPC) that included participating stakeholders from various regional and local agencies, jurisdictions, and organizations, such as the City of Sonoma, Sonoma Water, Sonoma Valley Unified School District, La Luz Center, and the Sonoma Ecology Center developed the LHMP over the past nine months with assistance from a consultant. The District is now soliciting public comments on the plan before it is finalized and submitted to the California Office of Emergency Services and FEMA Region IX for review and approval.

The District's customers and the community are encouraged to participate in the planning process and provide feedback by commenting the Public Review Draft LHMP. The plan is available on the District's LHMP Webpage here: https://www.vomwd.org/local-hazard-mitigation. The comment period will be for 30 days from **April 16, 2021 through May 15, 2021.**

Questions may be directed to Matt Fullner, Interim General Manager by calling (707) 996-1037 or by email at mfullner@vomwd.org.

Community Outreach Strategy

Valley of the Moon Water District Local Hazard Mitigation Plan
Sonoma, California

Prepared for:
Valley of the Moon Water District
19039 Bay Street, Sonoma, CA 95476

March 12, 2020
Project No. SA20170690

Table of Contents

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1.0 Purpose of the Community Outreach Strategy

The purpose for the Community Outreach Strategy is to provide a meaningful process through which the Valley of the Moon Water District and its citizens, public officials, and stakeholder groups may effectively participate in the preparation of the Valley of the Moon Water District Local Hazard Mitigation Plan (LHMP). The District is preparing the LHMP to develop a hazard mitigation strategy for the District's service area. This strategy will be developed based upon the understanding that citizens and groups are the source of creativity, and that their input will produce better planning decisions. The emphasis is to recognize every citizen's right to participate in the process of making local government decisions.

A wide variety of public participation methods and tools, representing distinct purposes, will be employed in the strategy to provide for broad public engagement and participation. These purposes of public engagement are as follows:

- **Public Awareness** – to share information and to promote awareness of planning process, including ways the public can participate
- **Public Education** – to educate citizens and help them make more informed choices
- **Public Input** – to provide citizens and groups with opportunities to provide input and ideas during the planning process
- **Public Interaction** – to exchange views and ideas as a means of reaching consensus
- **Public Partnership** – to involve citizens in the decision-making process

2.0 Objectives of the Community Outreach Strategy

1. Recognizing that there are many levels of public participation, to provide for an effective mix of participation opportunities that include the above bulleted purposes.
2. Recognizing that not everyone participates in the same way or at the same time, to include a mix of participation strategies that provides for a broad and diverse set of participation opportunities that considers the diversity of the District's service area.
3. Recognizing the Valley of the Moon Water District's history of past public participation with planning projects, the Hazard Mitigation Planning Committee (HMPC) will provide the public with opportunities to review, clarify, and provide input on generated information, as well as generate policies, goals, objectives, and information.
4. To build public support for, and ultimately ownership of, the Valley of the Moon Water District LHMP.

3.0 Local Government Public Outreach and Involvement Responsibilities

The requirements related to public involvement in hazard mitigation plans according to the Disaster Mitigation Act of 2000 (44 CFR Section 201.6(b) and (c)) are listed below:

Requirement §201.6(b): In order to develop a more comprehensive approach to reducing the effects of natural disasters, the planning process **shall** include:

1. An opportunity for the public to comment on the plan during the drafting stage and prior to plan approval;

2. An opportunity for neighboring communities, local and regional agencies involved in hazard mitigation activities, and agencies that have the authority to regulate development, as well as businesses, academia and other private and non-profit interests to be involved in the planning process; and
3. Review and incorporation, if appropriate, of existing plans, studies, reports, and technical information.

Requirement §201.6(c)(1): [The plan **shall** document] the planning process used to develop the plan, including how it was prepared, who was involved in the process, and how the public was involved.

Requirement §201.6(c)(4)(iii): [The plan maintenance process **shall** include a] discussion on how the community will continue public participation in the plan maintenance process.

Based on the requirements, the public participation process ensures citizens and local and regional agencies understand the risk and vulnerability and can work with the Valley of the Moon Water District to support policies, actions, and tools to reduce future losses. This is why the public must have opportunities to comment on disaster mitigation plans during the drafting stage and prior to plan approval. The District is also encouraged to conduct a public workshop or open house to solicit additional public comments. Given the current limitations on group gatherings due to the COVID-19 pandemic, these workshops and open house forums can be conducted virtually via a webinar.

To meet DMA requirements as well as the goals of the Community Outreach Strategy, the District is expected to engage in various public outreach and feedback efforts, which can include:

- Engage community-based organizations
- Assist in distributing press releases and information to local media
- Share public input/comment with the HMPC
- Document and report on progress/activities related to public involvement
- Review public input for incorporation in plan, as appropriate
- Assist with advertising and holding one (1) public workshop (during draft development)
- Announcing the planning effort at other public and civic meetings, or holding additional public meetings, if desired.
- Announce how the plan can be accessed during the public review period. This can include providing links from the District's website to the project webpage or providing a hardcopy of the plan in a public location, such as the District office in El Verano, California or the Sonoma Valley Regional Library in Sonoma, California.
- Follow the recommendations for continued public involvement as designated in the implementation chapter of the LHMP.

The District can implement a robust community outreach process by asking citizens to share local knowledge of the District's vulnerability to hazards based on past occurrences. For the District this may include vulnerability to earthquakes, flooding, and wildfires. Public involvement can be solicited by working with community-based organizations, or through direct outreach via multiple media platforms, including the District's website and social media, as well as traditional materials, such as newspaper notices, questionnaires, public workshops, involvement at public events, and distribution of the plan for public input at repositories.

The overall goal of communication is to inform the public about the process and to seek input, and to engage early and often. Messaging should cover the following topics:

- Announce kick-off of preparing a LHMP (typically within 30 days of kick-off meeting)
- Advertising the District's LHMP website
- Advertisement of Public Workshop and other events
- Distribution of the online survey
- Notification of public comment and availability of the Public Review Draft LHMP
- Announce virtual public meeting or open house (via Zoom Meeting invitation)
- Notification of availability of Final LHMP
- Announce at District Board Meeting

3.1 Project Manager/Outreach Coordinator

The District's Project Manager will lead the public involvement process and implementation of the Community Outreach Strategy. This strategy will be overseen and managed by Mr. Chris Petlock, the District's Project Manager for the plan preparation, as well as the District's consultant, Wood Environment & Infrastructure Solutions, Inc.

3.2 Communication Platforms

3.2.1 Community-Based Organizations

Inviting community-based organizations (CBOs) to participate during the LHMP planning process is important because they may represent traditionally under-served or disadvantaged communities. As defined by Senate Bill 1000 (Health and Safety Code § 39711) disadvantaged communities are low-income areas disproportionately affected by environmental pollution or other hazards that can lead to negative health effects, exposure, or environmental degradation[1]. Generally, CBOs represent various segments of the community. In some cases, CBOs may represent disadvantaged communities and engagement can be most successful when it is started early in the process. Outreach to CBOs is useful when providing information to members of the public whose first language is not English. A CBO representative may also be able to inform a segment of the community about the LHMP process, plan implementation, and foster communication with residents during an emergency. CBOs may include neighborhood groups, the business community, educational groups, faith-based organizations, or healthcare advocates. Several CBOs could be invited to participate on the HMPC, including the Sonoma Valley Community Health Center, Community Foundation Sonoma County, Sonoma Valley Chamber of Commerce, La Luz Center, and Sonoma Citizens Organized to Prepare for Emergencies. Ongoing outreach with these CBOs will enhance communication and outreach to a larger segment of the citizens in the District's service area. The District has already successfully engaged key CBOs in Sonoma Valley such as the La Luz Center.

[1] According to the California Office of Environmental Health Hazard Assessment (OEHHA) CalEnviroScreen Data and SB 535 Disadvantaged Community Geographic Information System (GIS) databases, there are no census tracts that intersect with the District's service area that contain disadvantaged communities. These maps show the disadvantaged communities designated by CalEPA; they represent the 25% highest scoring census tracts using the CalEnviroScreen 3.0 Tool along with other areas with high amounts of pollution and low income populations. Data is available for download here: https://oehha.ca.gov/calenviroscreen/sb535.

3.2.2 Webpage

At the beginning of the process, the District should create a Webpage to keep the public informed on the development of the LHMP and to solicit public input. This Webpage can be designed to complement the District's existing main Webpage that includes information on flood and emergency preparation resources. The LHMP website address should be publicized on all media releases, mailings, newsletters, surveys, and public meeting advertisements. The website can also include a section for the public to sign up for project email updates. The District can also keep the Webpage active after the plan is completed to keep the public informed about the status of the mitigation actions (see Photo 1).

Photo 1. *LHMP Webpages can include information on hazard mitigation, disaster preparedness, and public review documents. It also functions as a repository of for all the planning process documentation, Draft LHMP, and Cal OES/FEMA approval letters.*

3.2.3 Social Media

The Valley of the Moon Water District can use the following social media platforms to circulate information on the LHMP:

- Valley of the Moon Water District Facebook (162 followers)

At a minimum, the social media platforms should announce the kick-off of the LHMP planning process, advertise the District's LHMP Webpage and other events, post a link to the public survey, notify the public about virtual meetings and workshops, and announce the availability of the plan for public input and comment. The District can also share LHMP information with other social media groups/organizations.

The District may want to post information about the LHMP on other agency social media platforms. The District could also circulate information regarding the LHMP on the Sonoma County Department of Emergency Management Division webpage, as well as the jurisdictions within the District's service area webpages and social media feeds.

3.2.4 Newspapers

The following regional and local print newspapers can used to circulate and advertise information on the LHMP:

- Sonoma News
- Sonoma Valley Sun
- Sonoma County Gazette
- Sonoma Index-Tribune
- Kenwood Press
- Press Democrat

3.2.5 Press Releases

The District can distribute and circulate press releases over the course of the LHMP development. They can also encourage HMPC participants and stakeholders to distribute press releases during the project. Press releases can be distributed as informational flyers, advertisements, and public notices during

community events. These communication platforms can be used to spread the news about the LHMP and invite the public to participate in the process. According to the 2014-2018 American Community Survey (ACS) 5-Year Estimates, the Hispanic population in Sonoma County was 26.5 percent and approximately 25 percent of the population speaks another language at home other than English. Of this percentage, approximately 20 percent speak Spanish.[2] Based on this information, press releases should be published in English, and it is recommended that other advertisements also be available in Spanish.

Advertisements can focus on emergency planning, natural hazards, mitigation projects, and how to get the community prepared for disasters. The press releases can also include posts and links to the District's Webpage and the public survey. As previously mentioned, the press releases should announce the kick-off of the LHMP planning process, advertise the District's LHMP Website and other events, post a link to the public survey, notify the public about meetings and workshops, and announce the availability of the plan for public input and comment.

3.2.6 Public Survey

The District can prepare and distribute a public survey during the planning process. The survey can gauge information on household preparedness, hazard priorities, local knowledge of tools to reduce risk and loss, and mitigation projects. The number of questions in public surveys can vary according to the jurisdiction, but they typically range from 10 to 30 questions. The questions are designed to help the District and HMPC understand local hazards and select mitigation actions.

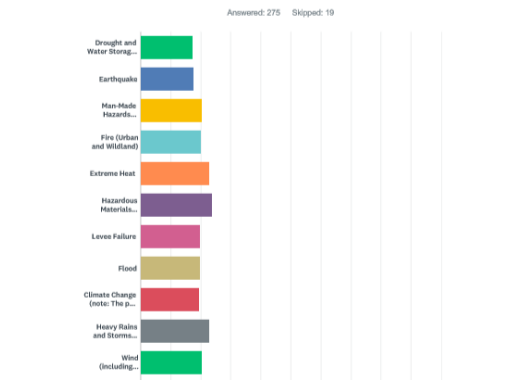

Photo 2. *Public surveys are easy ways to increase public participation and gather input on household preparedness, hazard priorities, local knowledge of tools to reduce risk and loss, and mitigation projects.*

The survey should be made available on the LHMP Webpage, and paper copies should be left at informational booths. Recently, some cities have also made the survey available on tablets at various community events. In summary, the public survey is designed to help the District better understand the following based on public input:

- Perception of natural hazards and risks
- Hazards with the most concern
- Best communication methods
- Level of public support for mitigation actions
- Willingness to invest in hazard mitigation

3.2.7 Informational Pop-Up Booths

The District can advertise the LHMP planning process and seek public input at informational booths during local events or booths displayed at local libraries or other public repositories. During local events, informational booths can be staffed by HMPC participants, or by other District staff. HMPC participants or District staff should be able to speak to the public about the LHMP project, invite them to visit the LHMP

[2] United States Census Bureau, 5-Year American Community Survey (ACS) Results for Sonoma County, California. Available at: https://data.census.gov/cedsci/profile?g=0500000US06097

Webpage, and ask them to take the public survey. Tablets, if available, could be provided at the informational booths for easy access to the public survey, but these tools may not be appropriate at this time given the public health concerns related to the COVID-19 pandemic. Instead paper copies should be provided, and informational flyers that include a link or QR code to the public survey.

Some cities have provided real-time hazard mapping services to the public interested in viewing hazard assessments for their property. For the District, this could include providing hazard mapping information. Informational booths displayed at libraries and other repositories should provide map displays, handouts, copies of public surveys, and flyers.

3.2.8 Local Events

The District and HMPC may also want to consider advertising the LHMP process during the following weekly events:

- Sonoma Tuesday Night Market
- Sonoma Valley Certified Farmer's Market (Sunday event)

These local and weekly events are good opportunities for the District to advertise the LHMP or set-up an informational booth. The District could also set up advertise the LHMP at the Sonoma Community Center.

3.2.9 Virtual Public Meetings/Workshops

The District should invite the public to attend a public workshop at the beginning of the planning process. At this time, these meetings or workshops should be held virtually to limit large gatherings and to protect the public health of the community.

***Photo* 3.** *Requirement §201.6(b) of the Disaster Mitigation Act states the planning process shall include an opportunity for the public to comment on the plan during the drafting stage and prior to plan approval.*

The public workshop should cover the purpose of the plan, the components of the LHMP, background on hazard mitigation planning, and next steps. The District can also provide regular and ongoing project status updates on the LHMP during Board hearings. Wood recommends the District host the public workshop within 60 days of the kick-off meeting or after the second HMPC meeting to be able to share the hazard profiles and risk assessment findings with the public.

During the public comment period, the District can hold a public meeting, either as a stand-alone public workshop, or as part of a regularly scheduled Board hearing. These meetings should be advertised to the public and provide an opportunity for public comment. The public can also comment on the LHMP during final review and consideration by the District Board of Directors.

3.2.10 Utility Roundtable

The District could schedule a roundtable meeting with local utility providers, such as Pacific Gas & Electric and Sonoma County Water Agency (Sonoma Water) to review and discuss hazards specific to local utilities, such as electric, gas, water, sewer and wastewater treatment, stormwater management, and telecommunications.

3.2.11 GIS Web Mapping Application

The District can develop a mapping platform as an extension to the existing GIS Web Mapping Application (GIS Viewer) that uses hazard data layers developed in the LHMP. The platform could display hazard maps that can be viewed individually or with multiple hazard layers. The development of a GIS Web Mapping Application could also be developed as part of the LHMP Mitigation Strategy.

Table 1 summarizes the community engagement steps and activities in conjunction with the hazard mitigation planning steps to demonstrate how they are linked in the process. This Community Outreach Strategy is a document that will be utilized and updated during the plan development process. It can also serve to document the efforts made to involve the public during each plan update.

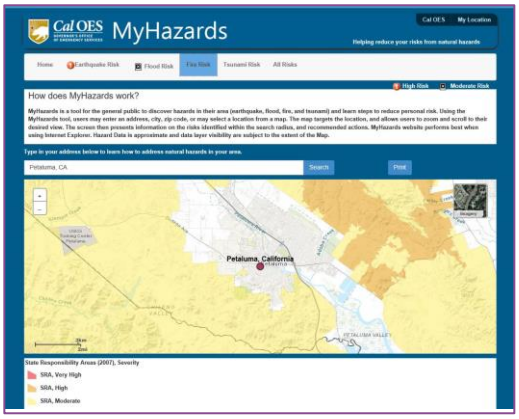

Photo 4. *The California Office of Emergency Services (Cal OES) MyHazards tool provides the public an opportunity to research earthquake, flood, fire, and tsunami hazards in their community.*

Table 1. Community Outreach Strategy Schedule of Activities

Timeframe	Mitigation and CRS Flood Mitigation Planning Steps	Public Participation Steps/Ideas	Specific Activities/Actions

February 2020 – September 2020	1. Getting Organized
	2. Plan for public involvement
	3. Coordinate with other departments and agencies
		• Consider inviting CBOs to participate in the process.
		• Set-up an informational booth or display at a local event or local library (if feasible during COVID-19 pandemic).
		• Create a website for the LHMP (new Webpage or one linked to the District's main Webpage): what is hazard mitigation, invitation to take an online survey, input on mitigation actions/projects (Wood will provide the LHMP backgrounder content for webpage).
		• Build public awareness through media channels/platforms, such as Facebook.
		• Outreach through other groups, Private, Non-Profit. Non-governmental organizations
		• Possible public groups include: Local media, Chamber of Commerce, La Luz Center, and Sonoma Valley Community Health Center.
			• HMPC formed in March 2020 (5 representatives on District Steering Committee; 5 public/stakeholder representatives on Steering Committee/Working Group)
			• HMPC Meeting #1 – Planning Process (June 2020)
			• Design a stand-alone LHMP Webpage
			• Advertisement for Public Workshop via: Facebook, Newspapers, Webpage, Paper Flyers
			• Invite stakeholders to Public Workshop #1 and extend invitation for HMPC Meetings to (agencies and organizations not formally invited to participate on the HMPC):
			  ○ PG&E
			  ○ Cal FIRE
			  ○ Cal OES
			  ○ CNRA
			  ○ FEMA Region IX
			  ○ NOAA/NQA
			  ○ Managers/Facilities
			  ○ CHP, Caltrans
			  ○ Army Corps of Engineers
			  ○ BAAQMD
			  ○ Others
			• Schedule Utility Roundtable (if desired; not currently included in LHMP scope)
			• Develop and display content on the LHMP update project Webpage
			  ○ Assessment Summary
			• Design and circulate a Public Survey (via Survey Monkey or Microsoft Forms) (https://bit.ly/LHMP_Public_Input_Survey)

September 2020 – October 2020	4. Identify the hazards 5. Assess the risks	• Provide survey and materials at meetings • Share public input with HMPC • Cooperative review of public input • Announce workshops • Build contact list of interested citizens based on survey to inform of future activities	• Plan and circulate press releases, post on Webpage posting, • Re-circulate Public Identification Survey (https://bit.ly/LHMP_Public_Input_Survey) • Collect public comments from a survey developed specifically for the plan update. • HMPC Meeting #2 – Risk Assessment (September 2020) • Extend invitation for HMPC Meeting #2 to Stakeholders • Public Workshop #1 (if scheduled after the risk assessment is complete) • Additional outreach for Public Survey • Collection and compilation of survey results
October 2020 – December 2020	6. Set planning goals 7. Review mitigation alternatives 8. Draft an action plan	• Place draft plan online on District's LHMP Webpage • Determine duration of public comment period (e.g. 30 days) • Advertise the plan and public comment period • Email list of interested citizens identified in previous step about the public review draft	• Develop links from District Website to project Webpage, encourage review and comment on Public Review Draft LHMP. • Develop Online Form so public could leave comments on Public Review Draft LHMP HMPC Meeting #3 – Mitigation Strategy (November 2020)
January 2020 – February 2020	9. Adopt the plan 10. Implement the plan, evaluate its worth, and revise as needed	• Encourage public review of Final Draft LHMP • Continue to host the LHMP on the District Website with contact information for public inquiries • Celebrate successes – including receiving hazard mitigation funding, implementation of projects, and publicizing where the plan and its implementation is making a difference and building hazard and climate resilience.	• Post Cal OES Approval Letter on District's LHMP Webpage • Post FEMA Region IX Approval Letter on District's LHMP Webpage • Presentation at Board of Directors meeting during adoption • Schedule Annual HMPC Meetings (to discuss status of mitigation projects) • 5-Year Update (scheduled for 2025)

HMPC Meeting #1 Agenda

Date: 25 June 2020
3:00 PM PST

Meeting at: Zoom Webinar:
https://us02web.zoom.us/j/2135226170
Meeting ID: 213 522 6170

Project: Valley of the Moon Water District Local Hazard Mitigation Plan

Subject/Purpose

The purpose of the meeting is to introduce the Disaster Mitigation Act of 2000 and summarize the nine-step hazard mitigation planning process. The Local Hazard Mitigation Plan (LHMP) is intended to identify hazards, assets at risk, and ways to reduce impacts through long-term sustainable mitigation projects.

1. Introductions
2. Mitigation Planning and the Disaster Mitigation Act
3. Planning Process
4. Role of the Hazard Mitigation Planning Committee (HMPC)
5. Hazards Review
6. Community Engagement Strategy
7. Data Collection Guide
8. Schedule
9. Questions

Wood Environment & Infrastructure, Inc.
10940 White Rock Road, Suite 190
Rancho Cordova, CA 95670

(916) 636-3200

woodplc.com

HMPC #1 Meeting Minutes

Date/Time: Thursday June 25, 2019 3:00 PM - 4:30 PM

Location: Zoom Webinar
https://us02web.zoom.us/j/2135226170
Meeting ID: 213 522 6170

Project No.: SA20170690

Written By: Juliana Prosperi (Wood, Project Manager)

Present: Jeff Brislawn (Wood, Hazard Mitigation Lead)
Christopher Petlock (VOWMD, Project Manager)
Alan Gardner (VOMWD, General Manager)
Matthew Fuller (VOMWD, Operations Manager)
Steve Rogers (VOMWD, Board of Directors)
Jon Foreman (VOMWD, Board of Directors)
Colleen "Fergie" Ferguson (City of Sonoma, Public Works Department)
John Kelly (Sonoma Valley Unified School District)
Kent Gylfe (Sonoma County Water District, Sonoma Water LHMP Lead)
Sharon Somogyi (La Luz Center, Donor Stewardship Manager)
John Saguto (Team Rubicon Disaster Response)
Ann Dubay (Sonoma Valley Groundwater Sustainability Agency)
Gary Germano (South Sonoma County)
Tom Conlon (Transition Sonoma Valley)
Steve Barbose (Sonoma Valley Ecology Center)

Subject: Valley of the Moon Water District (VOMWD) Hazard Mitigation Planning Committee (HMPC) Meeting #1

AGENDA TOPICS

This document is a record of attendance and a summary of the topics discussed at the meeting:

1. Introductions
2. Mitigation Planning and the Disaster Mitigation Act
3. Planning Process
4. Role of the Hazard Mitigation Planning Committee (HMPC)
5. Hazard Review
6. Community Outreach Strategy
7. Data Collection Guide
8. Schedule
9. Questions

1. Introductions

Mr. Petlock initiated the meeting, thanked everyone one for attending, and explained the purpose of the meeting was to prepare the District's first Local Hazard Mitigation Plan (LHMP).

Ms. Prosperi started introductions and asked the group to state their name, agency and role, and indicate whether they have participated in the preparation of a LHMP or have experience personally or professionally with disasters. Ms. Prosperi and Mr. Brislawn introduced themselves as the Wood Environment & Infrastructure Solutions, Inc. (Wood) consultants. Wood will be responsible for facilitating the hazard mitigation planning process and preparing the Draft LHMP. The HMPC is comprised of five representatives from the Valley of the Moon Water District (District) and nine representatives from other regional and local agencies and organizations in Sonoma Valley.

The HMPC participants listed in the beginning of this meeting summary were present during the virtual Zoom Webinar. Given this was a Zoom Webinar a sign-in sheet was not distributed during the meeting.

2. Mitigation Planning and Disaster Mitigation Act

Ms. Prosperi explained that the purpose of the meeting is to discuss the LHMP planning process; identify planning committee members, partners, and stakeholders; discuss the community engagement strategy and GIS data needs; and review the scope of work and schedule. She began a PowerPoint presentation that defined hazard mitigation and the emergency management cycle and the importance of mitigation and preparedness. Ms. Prosperi highlighted recent natural disasters around Sonoma Valley and emphasized the need for mitigation plans as a way for jurisdictions to track their mitigation projects and tailor these projects to reduce natural hazards that can affect the District's critical water assets and infrastructure. She also introduced the group to the Disaster Mitigation Act of 2000, the federal legislation that requires local governments to have a LHMP to be eligible for hazard mitigation grant funding from the Federal Emergency Management Agency (FEMA).

3. Planning Process

Ms. Prosperi briefly summarized FEMA's four phase planning process and explained the steps in more detail as they each relate to other hazard mitigation planning guidance. Ms. Prosperi explained the group is currently organizing resources by participating in this meeting and starting the discussion about existing District mitigation capabilities. She noted the District's planning area is defined as the service area and asked the group if anyone had any thoughts on the planning area. Other planning boundaries could include the District's Sphere of Influence. She noted the next step is to conduct a District-specific risk assessment to determine the potential impacts of hazards to the people and built and natural environment within the District's planning area. Ms. Prosperi explained the mitigation strategy is the heart of the plan as it serves as the long-term blueprint for reducing potential losses identified in the risk assessment. She stated the last steps are incorporating feedback from the planning team, stakeholders, and public and preparing the plan for adoption and implementation.

4. Role of the Hazard Mitigation Planning Committee

As part of the PowerPoint, Ms. Prosperi outlined the benefits of participating in the HMPC. She explained that participation in the planning process will include:

- Attending and participating in up to three HMPC meetings; she explained that all meetings will be scheduled as virtual webinars at this time,
- Providing available data requested by Mr. Petlock, the LHMP Project Manager,
- Providing hazard profiles and vulnerability details specific to the District's planning area, which includes completing the District's Data Collection Guide worksheets,
- Developing the local mitigation strategies,
- Advertising and assisting with the public input process, including distributing the District's Online Public Survey and participating in the Community Workshop,
- Reviewing and commenting on the Draft LHMP, and
- Coordinating formal re-adoption of the updated plan.

5. Hazards Review

Ms. Prosperi began the review of potential hazards of concern by asking the group to join a virtual poll at www.slido.com and to select the top five hazards the District should assess in the LHMP. She posted the poll information and described the hazards her team considers for each LHMP starts by reviewing the hazards listed in the 2018 California State Hazard Mitigation Plan (SHMP). She explained that some of the hazards listed in the SHMP may not apply to the District because they are not present, or they are present, but have a low probability of future occurrence in the District's planning area. Ms. Prosperi noted that her team then considers the hazards addressed in the Sonoma County Operational Area HMP, which covered earthquakes, flooding, landslides, wildfire risk, and climate change. Ms. Prosperi explained the District may prioritize the hazards differently once the Hazard Identification and Risk Assessment is complete.

Sixteen HMPC participants completed the poll during the webinar. The HMPC agreed the top five hazards the District should profile in the risk assessment include:

- **Earthquakes (100%)**
- **Wildfire (92%)**
- **Drought and Water Shortage (77%)**
- **Energy Shortages and Resiliency (Electrical Power Shut-offs) (69%)**
- **Climate Change (54%)**
- Flooding (Sea Level Rise) (38%)
- Terrorism/Cyber Threats/Civil Disorder (23%)
- Landslides (23%)
- Extreme Heat (15%)
- Hazardous Material Releases (Pesticide Use/Groundwater Contamination)(15%)
- Oil Spills/Natural Gas Pipeline Hazards (15%)
- Epidemic/Pandemic/Vector Borne Disease (23%)
- Aquatic Invasive Species (8%)
- Severe Weather/High Winds (8%)
- Tree Mortality (8%)

During the poll Ms. Prosperi encouraged the HMPC to discuss the top hazards in the District.

Mr. Gardner explained an interruption of the Sonoma Aqueduct related to an earthquake would result in major impacts on the District's ability to supply water to customers. Mr. Gylfe added earthquake impacts on the SCWA's water supply system was addressed in their LHMP. The SCWA LHMP addressed secondary impacts associated with earthquakes, such as wildfire, power outages, and gas line breaks. There are also numerous river and creek crossings that if flooded could impact the aqueduct. Mr. Gardner noted he expects the development of the LHMP will help the District address hazards and solve some of the problems those hazards may place on the District's water supply infrastructure.

Mr. Conlon added that during the 2017 wildfires people came together during the disaster recovery, but observed that the recent civil disorder in the community is a result of an equality breach.

Most HMPC participants said the public safety power shut-offs (PSPS) associated with high winds and wildfire risks is a major concern, especially as it relates to limited renewable or generator back-up power. Mr. Germano explained there is not enough water for fire suppression or adequate water pressure in Sonoma Valley. Mr. Gardner added that the District has water supply available at their tanks and generator back-up power at each well pump, but explained the District's water infrastructure was not designed to deal with wildland fires. It was designed to respond to urban fires.

Mr. Brislawn asked the group how the customers responded to the District's water contingency plan, specifically water conservation restrictions. The HMPC agreed the customers responded well to these restrictions in the past when drought and water supply hazards were a concern.

Mr. Petlock noted the District's water tanks are currently valued at approximately $4 to $10 million and the District has a $2 million dollar annual budget. Mr. Fullner noted he is on a Commission responsible for overseeing the redevelopment of the Sonoma Development Center (SDC) – one of the oldest state-run developmental disability centers in California. This Commission will be overseeing the development of a Specific Plan for the SDC. There is a large reservoir on the site associated with the SDC, but much of the water supply feeding this lake has been diverted.

Wood will investigate the following hazards in the LHMP, but our team expects we will not provide a detailed profile on each due to the lack of potential occurrences in the District:

- Dam/Levee Incidents
- Agricultural Pests/Diseases

Ms. Prosperi noted that climate change will be addressed as a specific subsection of each natural hazard. During the presentation she explained that climate change is an increasingly important factor that can intensify hazard impacts, particularly related to flooding, drought, tree mortality,

and wildfire risk. Ms. Prosperi provided a quick snapshot of several hazard maps her team has prepared for the District's risk assessment.

6. Community Engagement Strategy

Ms. Prosperi provided an overview of the public involvement requirements. A community workshop should be timed based on what would work best for the District and the community. The community workshop is tentatively scheduled for August. Outreach will also include notices, an online public survey, the District's Webpage, and regular social media postings.

7. Data Collection Guide

Ms. Prosperi reviewed a list of existing hazard information sources her team will use to prepare the hazard profiles and risk assessment. Mr. Conlon mentioned there is a climate plan that was recently prepared for Sonoma Valley he can provide as a follow-up to this meeting.

Ms. Prosperi indicated Wood's GIS Specialist distributed a GIS Data Needs List to the District in January and the District has provided an inventory of critical assets and the water supply system infrastructure in GIS. Ms. Prosperi stated a comprehensive list of replacement value data may need to accompany the GIS database and will follow-up with Mr. Petlock to confirm final data needs. She also explained Mr. Petlock will distribute a Data Collection Guide to the HMPC. It will include four worksheets. Ms. Prosperi asked for the HMPC to complete the first two worksheets by August 3rd (approximately one month from meeting).

8. Schedule

Ms. Prosperi stated they expect to complete the Draft LHMP in 6 months and submit the plan to Cal OES in April. Ms. Prosperi said she plans to schedule the next HMPC meeting in September and they anticipate getting the meeting invitation out in early August. The Community Workshop is also tentatively scheduled for August or September.

9. Questions and Answers

At the end of the meeting, there were no additional questions. The meeting adjourned at 4:30 p.m.

ACTION ITEMS

No.	Item	Action	Completion Date
1.	Submit HMPC Meeting #1 Minutes	(Wood)	3 July 2020
2.	Community Engagement Strategy	(Wood)	17 July 2020
3.	Provide GIS Replacement Value	(District)	24 July 2020
4.	Schedule Community Workshop	(District)	31 July 2020
5.	Complete Worksheets #1 and #2	(Wood)	3 August 2020
6.	Online Survey Ends	(Wood)	30 October 2020

wood.

Valley of the Moon Water District
Local Hazard Mitigation Plan

Hazard Mitigation Planning Committee Meeting #1

Valley of the Moon Water District
19039 Bay Street
Sonoma, CA 95476

June 25, 2020

woodplc.com

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Agenda

1. Introductions
2. Mitigation Planning and the Disaster Mitigation Act
3. Planning Process
4. Role of the Hazard Mitigation Planning Committee (HMPC)
5. Hazard Review
6. Community Engagement Strategy
7. Data Collection Guide
8. Schedule
9. Questions

2

Introductions

3

Introductions

- Valley of the Moon Water District
  - Christopher Petlock
    - Project Manager
- Wood Environment & Infrastructure Solutions, Inc.
  - Jeff Brislawn, CFM
    - Hazard Mitigation Lead
  - Juliana Prosperi, AICP
    - Project Manager

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Mitigation Planning and the Disaster Mitigation Act

5

Mitigation Planning and the Disaster Mitigation Act

What is Hazard Mitigation?

- Any sustained action taken to reduce or eliminate long-term risk to human life and property from natural and human-caused hazards.

6

Recent Natural Disasters around Sonoma Valley

"Every dollar invested on disaster prevention saves six dollars in costs related to response and recovery." –National Institute of Building Science

7

7 Valley of the Moon Water District HMPC Meeting #1

Disaster Mitigation Act of 2000

Federal Legislation

44 CFR 201.6

- Requires communities to update their hazard mitigation plans every 5 years to remain eligible for federal pre- and post-disaster funding (Hazard Mitigation Grant Program)
- Plan ensures the District will be ready and eligible for mitigation projects when funding becomes available

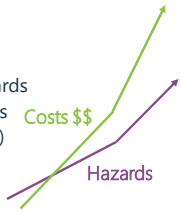
8

8 Valley of the Moon Water District HMPC Meeting #1

Mitigation Planning and Disaster Mitigation Act

Trends Resulting in Increased Costs for Disaster Response and Recovery

- Population and community growth
  - More people
  - More infrastructure and buildings
  - More exposure to risk
- More natural and human-caused hazards
  - Technological, civil, terrorist hazards
  - Human-health hazards (pandemics)
- More disaster declarations
- Increase in disaster response and recovery costs



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9 Valley of the Moon Water District HMPC Meeting #1

Mitigation Planning and Disaster Mitigation Act

Why do we need a Local Hazard Mitigation Plan?

- Increasing costs of response and recovery
- Many events are predictable and repetitive
- Prevents loss of life and injury and protects public safety
- Guides mitigation activities in a coordinated and economic manner
- Eligibility for mitigation funds, pre- and post- disaster
- Integrates into other existing planning mechanisms
  - 2016 Sonoma County Operational Area HMP
  - 2018 Sonoma Water LHMP
- Reduces risk to existing and future development
- Make community safer and more disaster resilient

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10 Valley of the Moon Water District HMPC Meeting #1

Planning Process

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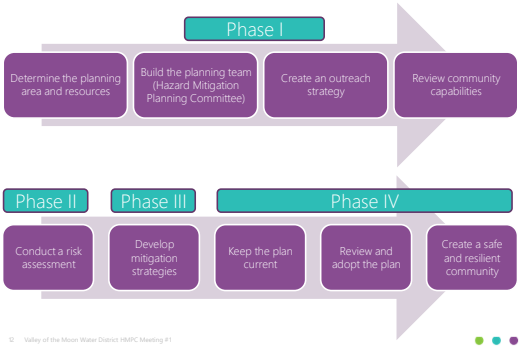
FEMA's 4-Phase DMA Planning Guidance



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12 Valley of the Moon Water District HMPC Meeting #1

CRS 10-Step Process and the 4-Phase Guidance

Phase I: Organize Resources

1. Get organized
2. Plan for public involvement
3. Coordinate with other departments and agencies

Phase II: Risk Assessment

4. Identify the hazard(s)
5. Assess the risks

Phase III: Develop a mitigation plan

6. Set planning goals
7. Review mitigation alternatives
8. Draft and action plan

Phase IV: Adoption and Implementation

9. Adopt the plan
10. Implement the plan, evaluate its worth, and revise as needed

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FEMA's 2013 Nine-Step Process

Step 1	**Determine the Planning Area and Resources**
Step 2	**Build the Planning Team**
Step 3	Create an Outreach Strategy
Step 4	Review Community Capabilities
Step 5	Conduct a Risk Assessment
Step 6	Develop a Mitigation Strategy
Step 7	Keep the Plan Current
Step 8	Review and Adopt the Plan
Step 9	Create a Safe and Resilient Community

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Phase I: Organize Resources

1) Get organized

2) Plan for public involvement

3) Coordinate with other department and agencies

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1) Get Organized – Establish the HMPC

- **Valley of the Moon Water District Departments**
  - District Manager
  - Operations Manager
  - Administration Manager
  - Board of Directors

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2) Plan for Public Involvement

- **Requirement**: Provide Two Opportunities
  - During drafting stage
  - Prior to approval
- Include "public stakeholder" on planning team
- Public Workshop/Open House
- Community Engagement Strategy
- Questionnaires/surveys
- Post Draft LHMP online for comment prior to finalization
- Document process for 2020/2021 in plan

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3) Coordinate with Other Stakeholder Departments & Agencies

- **Sonoma County**
  - Fire and Emergency Services Department
  - Office of Recovery and Resiliency
  - **Department of Emergency Management**
- Sonoma County Transit
- **Sonoma County Water Agency**
- Pacific Gas & Electric
- Federal, Regional, Businesses, Academia
  - **Fairmont Sonoma Mission Inn**
  - **Sonoma Moto**
  - **Other Local Businesses**
- Cal Fire
- CNRA
- Cal OES
- **Neighboring Communities and Counties**
  - **City of Sonoma**
- FEMA Region IX
- US Bureau of Reclamation
- US Forest Service
- National Oceanic Atmospheric Administration/National Weather Service
- **Sonoma Valley Unified School District**
- Health Care District
- Sonoma Valley Hospital
- **La Luz Center**
- **Sonoma Valley Fire & Rescue Authority**

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Phase II: Risk Assessment

4) Hazard Identification (what can happen here?)

5) Vulnerability Assessment (what will be affected?)
- Critical Asset Inventory
- Mitigation Capability Assessment

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4) Hazard Identification – *Has It Happened Here Before?*

- Identify all possible hazards affecting the planning area
- Profile the hazards
- Information sources:
  - Past disaster declarations
  - Planning team / community members
  - Existing plans and reports
  - GIS-based maps and data
  - Internet websites and databases
  - Newspaper / historical records
  - Local, state, and federal experts
  - Insurance data

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Phase II: Risk Assessment

- **Hazard/Problem Description**
  - Area, Seasonal Patterns, Speed of Onset/Duration
- **Geographic Location**
  - Limited: Less than 10% of Planning Area
  - Significant: 10-50% of Planning Area
  - Extensive: 50-100% of Planning Area
- **Past Occurrences**
  - Information on Historical Incidents, Known Impacts
- **Extent (Magnitude/Severity):**
  - Catastrophic: More than 50% of property severely damaged
  - Critical: 25-50% of property severely damaged
  - Limited: 10-25% of property severely damaged
  - Negligible: Less than 10% of property severely damaged
- **Probability of Future Occurrences**
  - Highly Likely: Near 100% chance of occurrence in next year
  - Likely: Between 10-100% chance of occurrence in next year
  - Occasional: Between 1-10% chance of occurrence in next year
  - Unlikely: Less than 1% chance of occurrence in next year
- **Significance**
  - Low: Minimal potential impact
  - Medium: Moderate potential impact
  - High: Widespread potential impact

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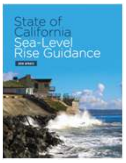
Phase II: Risk Assessment

- **Climate Change Considerations**
  - Increasingly important factor affecting disaster management
  - Addressed under each Hazard Profile as a factor intensifying impacts
  - California is already experiencing impacts:
    - Prolonged drought
    - Increased coastal flooding and erosion and sea level rise
    - Tree mortality
    - Larger wildfires
  - Affect the frequency and severity of hazards



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5) Vulnerability Assessment – *What Will Be Affected?*

- Inventory District-owned buildings and structures
- Inventory critical facilities and infrastructure
  - Water Treatment Plants
  - Water Pipelines
- Determine value of structures
- Determine the number of people in hazard areas
- Identify vulnerable infrastructure
- Identify development trends / constraints
- Identify historic, cultural, and natural resource areas
- Estimate losses

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Mitigation Capability Assessment

- Inventory of the District's existing and proposed policies, programs, and ordinances that may affect its vulnerability to hazards
- Evaluate the effectiveness of each for mitigation purposes. Note gaps, shortfalls or conflicts associated with design, enforcement of implementation. Identify any special opportunities
- Determine the District's technical and fiscal abilities to implement mitigation initiatives. Include ability to attract and leverage funding

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Phase III: Develop a Mitigation Plan

6) Set planning goals

7) Review mitigation alternatives

8) Draft an action plan

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6) Set Planning Goals – *Using the Risk Assessment*

- Broad statements of what the plan is to achieve
- Based on risk
- Estimated losses
  - At-risk facilities and infrastructure (e.g. transportation utility lines?)
  - At-risk critical facilities
  - At-risk cultural and natural resources
- Goals from other existing plans
- Other opportunities
  - At-risk areas and facilities for future development
  - Repetitive losses
  - Public education
  - Increased insurance coverage

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7) Review Mitigation Alternatives

- FEMA Mitigation Ideas
- NFIP CRS Guidance
  - Prevention
  - Property protection
  - Natural resource protection
  - Emergency services
  - Structural projects
  - Public information
  - Multi-hazard measures and considerations
- Adaptation Planning Guide

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Review of Mitigation Alternatives – *Criteria for Selecting Mitigation Projects*

- Will it work?
- Is it cost-beneficial?
- Is it affordable?
- Is it legal?
- Is it fair?
- Do people want it?
- Are there administrative burdens?
- Is it politically acceptable to community leaders?
- Is it environmentally sound?
- Is funding available?

Example Hazard Mitigation Projects Eligible for FEMA funding:

<u>Wildfire</u>
- Defensible space
- Hazardous fuels reduction activities (e.g. vegetation removal)
- Implement ignition-resistant construction techniques

<u>Flood</u>
- Dry and wet flood proofing
- Flood reduction projects (e.g. detention ponds, channel stabilization)

<u>Other-General</u>
- Utility protection/infrastructure retrofit
- Adding generators

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Phase IV: Adopt & Implement the Plan

9) Adopt the Plan
- Public input before adoption
- Cal OES review
- FEMA Region IX review
- Board of Directors adoption

10) Implement the Plan
- Assign an overall project manager
- Integrate actions into staff work plans
- Monitor changes in vulnerability
- Report on progress, publicize successes
- Revise the plan as necessary (every 5 years for DMA)

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Role of the Hazard Mitigation Planning Committee

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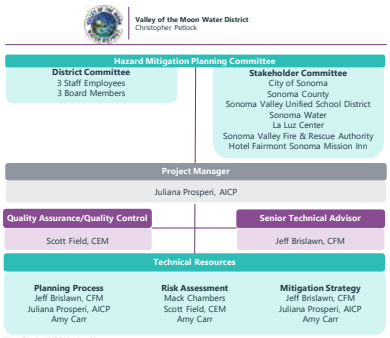
Organizational Chart



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Role of the HMPC and the Benefits

- Collaboration on mitigation strategies
- Creating eligibility for funding for mitigation projects
- Attend meetings and participate in the planning process
- Provide requested information
- Review drafts and provide comments
- Identify mitigation projects
- Assist with and participate in the public input process
- Coordinate formal adoption by the District Board of Directors

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What goes into the plan?

- Section 1 – Introduction
- Section 2 – Community Profile
- Section 3 – Planning Process
- Section 4 – Risk Assessment, plus Capability Assessment
- Section 5 – Mitigation Strategy
- Section 6 – Plan Adoption
- Section 7 – Plan Implementation and Maintenance

- Appendices and Annexes

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Hazards Review

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Hazard Poll

- Join the poll at: www.slido.com #74249 and complete the poll!
- What are the top 5 hazards the District should assess in the Local Hazard Mitigation Plan?

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Potential Hazards of Concern

- Earthquakes*
- Landslides*
- Flooding (Sea Level Rise)*
- Dam and Levee Incidents
- Wildfire*
- Agricultural Pests/Diseases
- Aquatic Invasive Species
- Droughts and Water Shortages*
- Energy Shortages and Resiliency (Electrical Power Shut-Offs)
- Epidemic/Pandemic/Vector Borne Disease
- Extreme Heat
- Severe Weather/High Winds
- Tree Mortality
- Climate Change*
- Hazardous Material Releases (Pesticide Use/Groundwater Contamination)
- Oil Spills/Natural Gas Pipeline Hazards
- Terrorism/Cyber Threats/Civil Disorder

All theses hazards are addressed in 2018 California SHMP
**Hazard addressed in 2016 Sonoma County Operational Area HMP*

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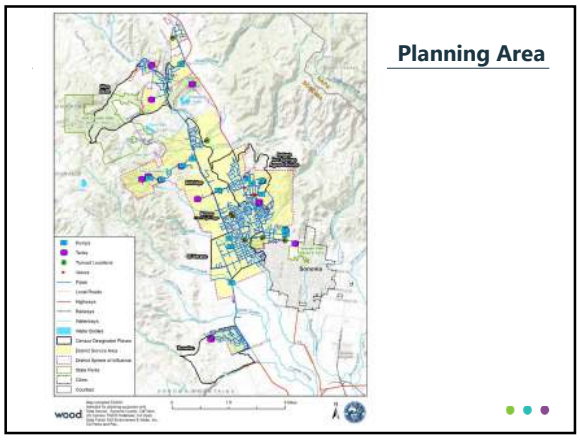

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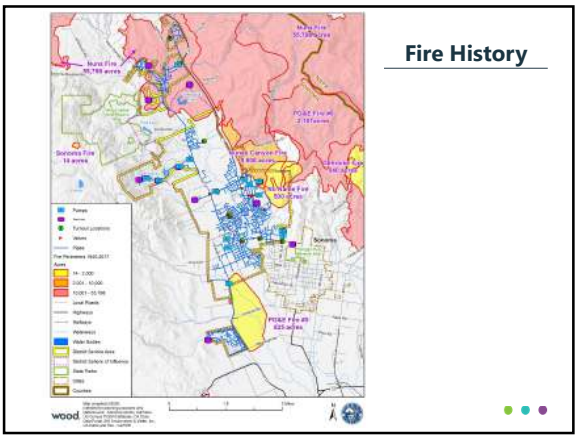

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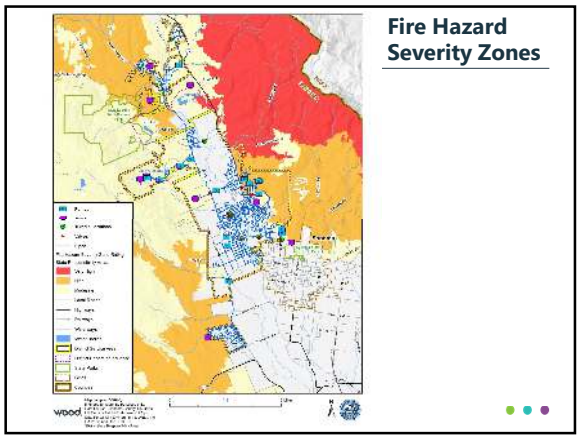

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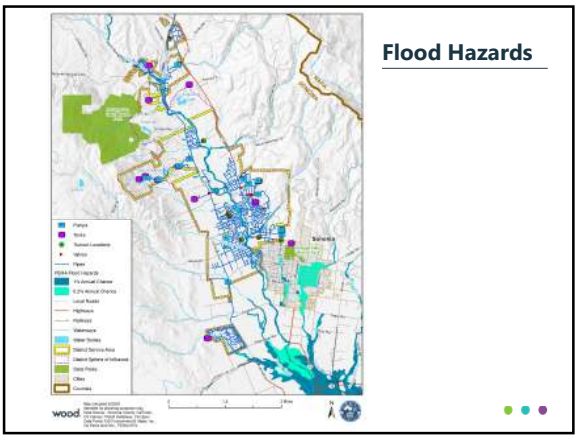

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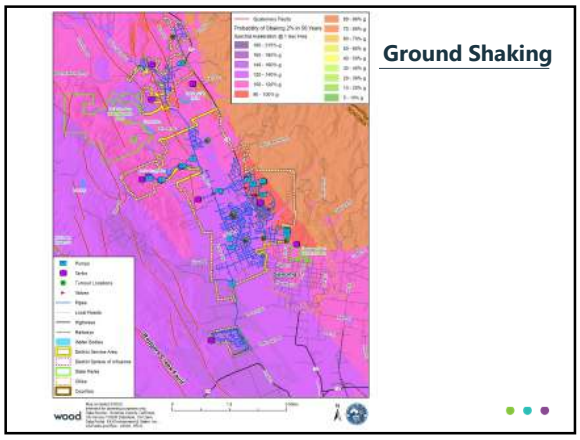

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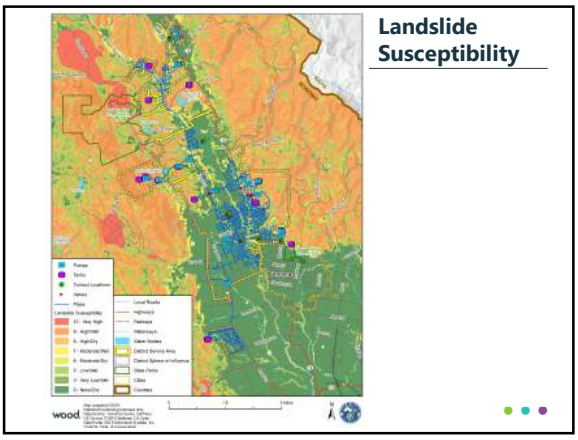

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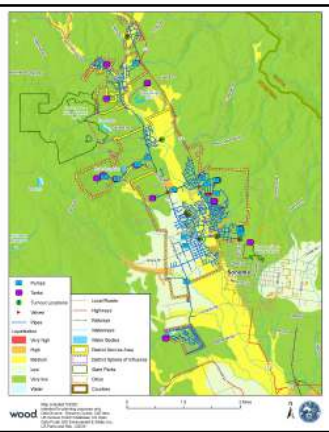
Liquefaction Potential



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Terminology

- **Hazard/Threat:** Act or phenomenon with potential to do harm
- **Vulnerability:** susceptibility to harm, damage, loss
- **Exposure:** People, property, systems or functions that could be lost to a hazard
- **Risk:** Combines hazard, vulnerability, exposure and probability
- **Mitigation:** Actions taken in advance of a hazard's impact that reduce its severity

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Community Engagement Strategy

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Community Engagement Strategy

- Opportunities at scheduled public meetings or events?
  - Website
  - Social Media
  - E-News
  - Newsletters
  - Online Public Survey
  - Pop-Up Events
  - Translation Services
  - Public Workshops

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LHMP Webpage

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Data Collection Guide

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Hazard Information Resources

Valley of the Moon Water District
- 2019 Water System Master Plan
- 2019 Water Quality Report
- 2015 Urban Water Management Plan

Sonoma County
- 2018-2019 Sonoma County Civil Grand Jury Report
- 2016 Sonoma County Operational Area HMP Update
- 2016 Sonoma County Community Wildfire Protection Plan
- 2014 General Plan 2020 – Public Safety Element
- 2014 Climate Ready Sonoma County

City of Sonoma
- 2020 General Plan – Public Safety Element (2006)

Sonoma County Water Agency
- 2018 Sonoma County Water Agency LHMP
- 2019 Regional Water Supply Resiliency Study

Sonoma Valley Groundwater Sustainability Agency
- Draft Groundwater Sustainability Plan

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Initial Data Needs

- GIS Data Needs List
- **Data Collection Guide**
  - Worksheets #1 Hazard Identification
  - Worksheet #2 Historic Hazard Event
  - Worksheet #3 Vulnerability Assessment
  - Worksheet #4 Capability Assessment
- Recent hazard events
- Growth and development trends in Sonoma Valley
- Recent updated plans and policies
- Follow-up with key staff where needed

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Schedule

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When will we meet next?

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Detailed Schedule

Task	Anticipated Date
Project Kick-off Meeting	January 14, 2020
Submit HMPC Invite List and Community Engagement Strategy	June 11, 2020
District review Community Engagement Strategy	June 15, 2020
HMPC Meeting #1	**June 25, 2020**
Community Workshop	August 4, 2020
Prepare Hazard Identification and Risk Assessment	September 11, 2020
HMPC Meeting #2	**September 22, 2020**
Finalize Goals and Objectives	October 2, 2020
HMPC Meeting #3	**November 10, 2020**
Compile Mitigation Actions Worksheets	December 11, 2020
Submit 1st Administrative Draft LHMP	January 8, 2021
District provides consolidated comments on 1st Administrative Draft LHMP	February 5, 2021
Complete FEMA Region IX Review Tool	February 12, 2021
Submit 2nd Administrative Draft LHMP	February 26, 2021
Circulate Public Review Draft LHMP (30-day public review)	March 1, 2021 – March 30, 2021
Submit LHMP to Cal OES for review (45-day review)	April 5, 2021
Submit LHMP to FEMA for Review (45-day review)[1]	May 20, 2021
District Board of Directors Hearing[1]	July 6, 2021

*Board of Directors meet the 1st Tuesday of each month.

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Breaking the Cycle of Disaster Losses

- Each time we experience a natural disaster, we learn how to make our people, infrastructure, and environment more resilient.
- These events underscore the need to assess and manage risk.
- Learning from the past to shape the future and continuing the shift towards mitigation!

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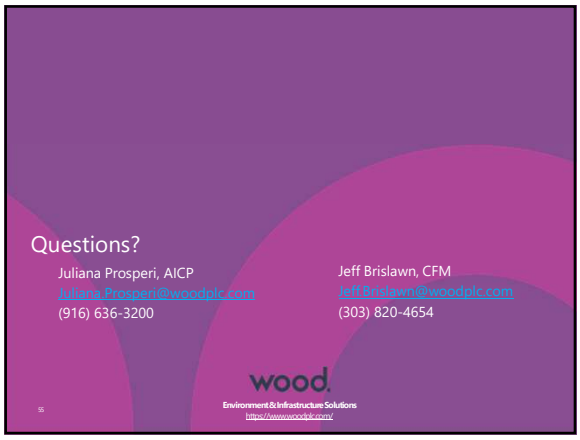
Questions?
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Hazard Mitigation Plan Data Collection Guide

Valley of the Moon Water District

Hazard Mitigation Planning Committee (HMPC)

Prepared by

Wood Environment & Infrastructure Solutions, Inc.

January 2020

Overview

The contents of this workbook have been designed to assist the Valley of the Moon Water District (District) in the 2020 Local Hazard Mitigation Plan (LHMP), in accordance with the Federal Disaster Mitigation Act (DMA) of 2000 requirements.

This guide includes a description of the necessary background information needed to support the hazard mitigation plan process. This includes the preparation of the hazard identification and vulnerability assessment, evaluating the District's current hazard mitigation capabilities, and a review of possible hazard mitigation projects or activities intended to prevent or reduce future losses. The plan's key components will be prepared through a formal planning process, which will ultimately culminate in adoption of the plan.

The essential information needed to support the planning process includes current background data about the District based on, but not limited to the following documents:

- Water System Master Plan (2019)
- Urban Water Management Plan (2015)
- Strategic Water Supply Plan (1999)
- Water Storage Plan (1999)

Other documentation may include District standard plans, ordinances, regulations, and procedures whose intent is to minimize future losses, as well as technical studies and reports. Additional information for the LHMP will include the District's technical and organizational capabilities to perform hazard mitigation/loss prevention functions. It is important that the plan shows what the District is doing now to limit future disaster losses and capture any mitigation success stories based on actions documented in other plans (e.g. Emergency Preparedness Programs, Generator Back-Up, Mutual Aid Support, Strategic Water Distribution Stations, Water Conservation Programs).

The planning process is heavily dependent on existing data to be supplied by each of the participants represented on the Hazard Mitigation Planning Committee (HMPC). The DMA plan development process does not require the development of new data but requires ***existing data only.*** The goal of this process is to produce a local hazard mitigation plan that meets the District's needs, as well as the requirements of the DMA of 2000 and contains a list of projects that may be eligible for streamlined federal pre- or post-disaster mitigation funding.

What is Mitigation?

Hazard mitigation is defined by the Federal Emergency Management Act (FEMA) as "any sustained action taken to reduce or eliminate long-term risk to human life and property from a hazard event." The results of a three-year, congressionally mandated independent study that was recently updated to assess future savings from mitigation activities provides evidence that mitigation activities are highly cost-effective. On average, each dollar spent on mitigation saves society an average of $6 in avoided future disaster losses in addition to saving lives and preventing injuries (Natural Hazard Mitigation Saves: 2017 Interim Report).

Mitigation generally means reducing long-term risk from hazards to acceptable levels through pre-determined measures accompanying physical development, for example: strengthening structures to withstand high winds or snow loads; elevating, removing or limiting development in flood-prone areas; clearing defensible space around residences in Wildfire Urban Interface (WUI) areas; or designing development away from areas with geological instability. Mitigation can also protect existing development through seismic retrofitting, critical infrastructure protection, and floodproofing.

Mitigation is different from emergency preparedness or response. Preparedness concentrates on activities which make a person, place, or organization ready to respond to a disaster with emergency equipment, food, emergency shelter, and medicine. Response activities may reduce damages, such as sandbagging during a flood, but this is a short-term solution and requires advance warning and resources to be in place during the event. Mitigation of flood hazards through wise floodplain management and hazard avoidance is an example of a long-term solution.

Participation

The DMA planning regulations and guidance stress that each entity seeking the required FEMA approval of their mitigation plan must:

- Participate in the process;
- Detail areas within the planning area where the risk differs from that facing the entire area;
- Identify specific projects to be eligible for funding; and
- Have the Board of Directors formally adopt the plan.

For HMPC members, 'participation' means the planning committee representatives will:

- Attend and participate in HMPC meetings;
- Provide available data that is requested of the HMPC coordinator;
- Provide input on specific sections of the Draft LHMP;

- Provide input on mitigation actions relevant to the jurisdiction's department;
- Review and provide/coordinate comments on the Draft Plan;
- Advertise, coordinate and participate in the public input process; and
- Coordinate the formal adoption of the plan by the Board of Directors.

Hazard Mitigation Plan Data Collection Guide

This guide contains an explanation of the types of hazard mitigation/loss prevention data that is needed for the hazard mitigation planning process. This guide identifies specific requirements for the Risk Assessment Process, which includes the Hazard Identification, Vulnerability, and Capability Assessments. It also defines requirements for the Mitigation Strategy.

The worksheets have been developed to assist with the development of the Draft LHMP. The District should utilize members of their planning subcommittee to review the Draft LHMP and complete the worksheet forms. A step by step process is included in this guide.

Data collection worksheets are due by Monday, August 3rd to Juliana Prosperi.

Project Contacts

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Senior Hazard Mitigation Associate
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Email: jeff.brislawn@woodplc.com

Chris Petlock
Valley of the Moon Water District
Administration and Finance Manager
HMPC Coordinator
Phone: (707) 996-1037
Email: cpetlock@vomwd.org

Steps to prepare the Valley of the Moon Water District LHMP

1. Attend planning meetings for the Valley of the Moon Water District LHMP.
2. Download a Word (editable) version of the Data Collection Guide from the project file sharing site (link to be provided in email). Fill out the Worksheets. A PDF copy of the plan can also be downloaded or provided by email.
3. Convene a HMPC (Steering Committee and Working Group) and ensure that at least half of group consists of stakeholders/general public for collaboration among local and regional agencies and organizations.
    a. Include departments such as planning, engineering, public works, GIS, water conservation, etc as applicable
    b. Include outside stakeholders and general public, such as county, state agencies, faith-based groups, and educational representatives
    c. Document any meetings with sign-in sheets (use blank template attached)
4. Review Worksheets #1 and #2
    a. Identify hazard impacts (Use historic hazard event worksheet to provide details, or collect related reports, articles or memos with damage amounts, damage assessment reports, etc.)
    b. Identify any hazard studies or plans – send electronic versions (preferred if available), web link, or hardcopies to District Valley of the Moon Water District HMPC Coordinator (Chris Petlock).
        i. Example: Valley of the Moon Water District Draft Water System Master Plan (April 2019). This draft plan was made available for the public in April 2019. The plan provides an overall guide for infrastructure improvements to ensure that the District continues to reliably and cost-effectively serve its customers through 2050. The plan summarizes the District's service area and existing water infrastructure, we well as existing and future water demands and supplies. The plan also includes a supply and storage capacity assessment and capital improvement program. More information is available here: https://www.vomwd.org/watersupplyplanning
5. Review Worksheet #3 Vulnerability Assessment
    a. Review discussion on potential losses and note where you may have more specific information on past losses or potential for future losses specific to the District, department, other utilities in the region (Sonoma Water, etc.), as well as other jurisdictions (City of Sonoma, Sonoma County, etc.).

Note: Wood will be evaluating the flood, earthquake and wildfire analyses based on current District GIS datasets and recent Digital FIRMs and current wildfire hazard data.

6. Review Worksheet #4 Capability Assessment (once available)
    a. Include information on District-Specific Existing Capabilities
    b. Using the 'Track Changes' feature in Word, mark up the Worksheet #4 document with changes, ***OR*** use the attached worksheets to provide information on capabilities.
    c. Describe development trends in the District's service area. Provide an estimate of future trends (if available).
        i. According to the 2019 Water System Master Plan, the District's demographics include a range of income, household size, and water demands including affluent households located along the foothills characterized by larger lots and homes with high water demands for irrigation to disadvantaged communities that tend to have smaller lots and lower water use. The District also serves an increasing number of second homeowners and vacation rentals in the Sonoma Valley area. The current population of the service area is approximately 24,164, which is projected to slightly increase in 2020 to 24,873 people.
        ii. Sonoma County General Plan 2020 (2008)
        iii. Urban Water Management Plan (2015) (update will occur in 2020)
        iv. County of Sonoma Water and Sewer District Providers Municipal Service Review Final Report (2004)
    d. Upload a Track Changes' Word version of Worksheet #4 to the file sharing site Provide this and notify the District's HMPC coordinator by **August 3rd.**
7. Develop a Mitigation Action Plan
    a. Provide input to the details of the mitigation actions/projects, where applicable
    b. Prioritize actions/projects
    c. A worksheet and template will be provided to facilitate this process**.** Guidance on developing mitigation actions will be provided at HMPC #3, with worksheets due dates after HMPC #3.
    d. Consider ideas for other projects in the District's service area. These can be priority or capital improvement projects that may be in the works already but not captured in the plan or that may have become a priority following recent disaster declarations in Sonoma County. These project may also be the same as critical projects recommended in the 2019 Water System Master Plan that have been

prioritized or are near-term projects that need to be implemented in the next five to ten years, specifically as they related to hazard mitigation (e.g. Saddle Tank Replacement Project). These will be discussed at a future HMPC meeting. A worksheet and template will be provided for both current and new project, with **due date TBD** (after HMPC #3).

8. Review Chapter 7.2 Maintenance (when available)
    a. Review this section for future compliance strategies;
    b. Note any potential to incorporate the plan into existing planning mechanisms or opportunities to do so in the future ***(Important)*** *(e.g. amend the Urban Water Management Plan with drought-related aspects, etc.)*
    c. Note opportunities and strategies for continued public involvement (Wood will document meetings specific to the development of the proposed LHMP).
9. Help advertise and coordinate public meetings and workshops, where applicable
10. Provide documentation of all meetings to District's HMPC coordinator
11. Review and comment on the draft plan
12. When plan receives conditional approval from FEMA, adopt the plan
13. Continue to implement the plan!

Information Sources

The following are possible sources of information to assist with the preparation of the plan:

- Sonoma County 2020 General Plan (2008)
    - Public Safety Element available for download here: https://sonomacounty.ca.gov/PRMD/Long-Range-Plans/General-Plan/Public-Safety/
- Flood Alert System
- Sonoma County 2016 Hazard Mitigation Plan Update (April 2017) Available for download here: https://sonomacounty.ca.gov/PRMD/Long-Range-Plans/Hazard-Mitigation/Approved-Update/
- Sonoma County Water Agency Local Hazard Mitigation Plan Update (2018) Available for download here: https://www.sonomawater.org/secureourwater/
- GIS databases – District's Asset Management Module (contains GIS shapefiles)

- 2018 California State Hazard Mitigation Plan (Available here: https://www.caloes.ca.gov/cal-oes-divisions/hazard-mitigation/hazard-mitigation-planning/state-hazard-mitigation-plan
- Hazard specific plans (wildfire):
    - Sonoma County Community Wildfire Protection Plan (2016) Available for download here: http://www.firesafesonoma.org/main/docs
- Other related plans in region (nearby cities):
- Capital Improvement Projects
    - CIPs are listed in the 2019 Water System Master Plan available here: https://www.vomwd.org/watersupplyplanning
- Local Building codes/regulations
- District Construction Standards

The Risk Assessment Process

The risk assessment process includes three components: hazard identification, vulnerability assessment, and capability assessment. Data needs and worksheets for each of the risk assessment components are included in this guide. Use these worksheets to evaluate the District's current vulnerability to the hazards that will be assessed in the plan. The intent is to identify the significance or risks of these hazards to District staff, operations, buildings, facilities, resources (e.g. water), and infrastructure

Valley of the Moon Water District Local Hazard Mitigation Plan
Worksheet #1: Hazard Identification

Name of Department: _____

Use this worksheet to identify possible hazards that may impact the District. Hazards identified in the 2018 California State Hazard Mitigation Plan are listed, and not all hazards may be applicable to the District. Please rank according to the guidelines that follow the table. Use copies of Worksheet #2: Historic Hazard Event to provide evidence to justify your conclusions.

Hazard	Frequency of Occurrence	Hazard Extent	Potential Magnitude	Significance	Hazard Map? (Paper/GIS/ Source)
Dam & Levee Failure					
Drought and Water Storage (groundwater quality)					
Earthquakes					
Floods (including stormwater drainage)					
Agricultural and Silvicultural Pests/Disease					
Air Pollution					
Aquatic Invasive Species					
Avalanches					
Energy Shortage and Energy Resiliency (PSPS)					
Landslides					
Epidemic/Pandemic/Vector-Borne Disease					
Tree Mortality					
Severe Weather*					
Soil Hazards					
Volcanoes					
Wildfires					
Climate Change					
Human-Caused Hazards (sociotechnical/ technological)					
Hazardous Material Release					
Oil Spills					
Natural Gas Pipeline Hazards					
Radiological Accidents					
Train Accidents (Explosions/Toxic Releases)					
Well Stimulation and Hydraulic Fracturing Hazards					

Threat and Disturbance Hazards					
Terrorism					
Cyber Threats					
Civil Disorder					
Severe Weather Includes dust storms, extreme temperatures, freeze cycles, fog, hail, heavy rains, lightning, tornadoes, windstorms, and winter storms					

Frequency of Occurrence:
Highly Likely: Near 100% probability in next year.
Likely: Between 10 and 100% probability in next year or at least one chance in ten years.
Occasional: Between 1 and 10% probability in next year or at least one chance in next 100 years.
Unlikely: Less than 1% probability in next 100 years.

Hazard Extent:
Limited: Less than 10% of planning area
Significant: 10-50% of planning area
Extensive: 50-100% of planning area

Potential Magnitude:
Catastrophic: Multiple deaths, complete shutdown of facilities for 30 days or more, more than 50% of property is severely damaged
Critical: Multiple severe injuries, complete shutdown of facilities for at least 2 weeks, more than 25% of property is severely damaged
Limited: Some injuries, complete shutdown of critical facilities for more than one week, more than 10 percent of property is severely damaged
Negligible: Minor injuries, minimal quality-of-life impact, shutdown of critical facilities and services for 24 hours or less, less than 10 percent of property is severely damaged.

Significance (your subjective opinion): Low, Medium, High

Prepared by: _____

Phone: _____

Email: _____

Valley of the Moon Water District Local Hazard Mitigation Plan
Worksheet #2: Historic Hazard Event

Name of Department: _____

Please fill out one sheet for each significant hazard event with as much detail as possible. Attach supporting documentation, photocopies of newspaper articles, or other original sources.

Type of event	
Nature and magnitude of event	
Location	
Date of event	
Injuries	
Deaths	
Property damage	
Infrastructure or facility damage	
Crop damage	
Business/economic impacts	
Road/school/other closures	
Other damage	
Insured losses	
Federal/state disaster relief funding	
Opinion on likelihood of occurring again	
Source of information	
Comments	

Prepared by: _____

Phone:		
Email:		

Valley of the Moon Water District Local Hazard Mitigation Plan
Worksheet #3: Vulnerability Assessment

Name of Department: _____

The purpose of this worksheet is to assess the vulnerable buildings, populations, critical facilities, infrastructure, and other important assets in the District's service area by using the best available data to complete the table and questions that follow. Use the table on the next page to compile a detailed inventory of specific assets at risk including critical facilities and infrastructure; natural, cultural, and historical assets; and economic assets as defined below. District facilities may include water tanks, booster pump stations, and distribution lines from the Sonoma Aqueduct. Alternately you can edit the District's information in Section 4.3 of the plan. Attach supporting documentation, such as photographs, reports, or plans if possible. In the hazard column of the asset inventory table, indicate if there is a specific hazard to which the asset is at risk.

Critical Facilities

Critical Facilities must remain operational during any major disaster and be designed, located, and constructed accordingly. FEMA's HAZUS-MH loss estimation software uses the following three categories of critical assets. 'Essential facilities' are those that if damaged would have devastating impacts on disaster response and/or recovery. 'High potential loss facilities' are those that would have a high loss or impact on the community. Transportation and lifeline facilities are third category of critical assets; examples are provided below.

Essential Facilities	High Potential Loss Facilities	Transportation and Lifeline
▪ Hospitals and other medical facilities ▪ Police stations ▪ Fire station ▪ Emergency Operations Centers	▪ Power plants ▪ Dams/levees ▪ Military installations ▪ Hazardous material sites ▪ Schools ▪ Shelters ▪ Day care centers ▪ Nursing homes ▪ Main government buildings	▪ Highways, bridges, and tunnels ▪ Railroads and facilities ▪ Bus facilities ▪ Airports ▪ **Water treatment facilities** ▪ Natural gas facilities and pipelines ▪ Oil facilities and pipelines ▪ Communications facilities

Natural, Cultural, and Historical Assets

Natural resource assets may include wetlands, threatened and endangered species, or other environmentally sensitive areas. Historical assets include state and federally listed historic sites.

Economic Assets

Economic assets at risk may include major employers or primary economic sectors, such as agriculture, whose losses or inoperability would have severe impacts on the community and its ability to recover from disaster.

Asset Inventory

Name of Asset	Type*	Replacement value	Hazard Specific issues

*EI: Essential Infrastructure; VF: Vulnerable Facilities; HM: Hazardous Materials Facilities; NA: natural assets

Additional Vulnerability Questions

Describe growth and development trends and future growth areas in the District's service area (unincorporated Sonoma County) and how they relate to hazard areas and vulnerability concerns/issues.

Prepared by: _____

Phone: _____

Email: _____

Valley of the Moon Water District Local Hazard Mitigation Plan
Worksheet #4: Capability Assessment

Name of Department: _____

Capabilities are the typical programs and policies currently in use to reduce hazard impacts or that could be used to implement hazard mitigation activities. Please complete this worksheet from your department's perspective and provide supporting documentation if possible. Note: many of these regulatory tools may not be within the purview of a special district.

Regulatory

The following planning and land management tools are typically used by local jurisdictions to implement hazard mitigation activities. Please indicate which the District or your jurisdiction has in place. If your jurisdiction does not have this capability or authority, please indicate if a higher level of government has the authority. Also use the comments column to indicate how we can obtain a copy of the plan or document (i.e. available on the web (include address), will put on web-share site, will e-mail or mail, will fax).

Regulatory Tool (ordinances, codes, plans)	**Yes/No**	**Comments**
General or Comprehensive plan		
Zoning ordinance		
Subdivision ordinance		
Growth management ordinance		
Floodplain ordinance		
Other special purpose ordinance (stormwater, steep slope, wildfire)		
Building code		
Fire department ISO rating		
Erosion or sediment control program		
Stormwater management program		
Site plan review requirements		
Capital improvements plan		
Economic development plan		
Local emergency operations plan		
Other special plans		
Flood insurance study or other		

engineering study for streams		
Elevation certificates (for floodplain development)		
Other		

Administrative/Technical

Identify the technical and personnel resources responsible for activities related to hazard mitigation/loss prevention within your jurisdiction. If there are public resources at the next higher level government that can provide technical assistance, please indicate so in the comments column.

Personnel Resources	Yes/No	Department/Position	Comments
Planner/engineer with knowledge of land development/land management practices			
Engineer/professional trained in construction practices related to buildings and/or infrastructure			
Planner/engineer/scientist with an understanding of natural hazards			
Personnel skilled in GIS			
Full time building official			
Floodplain manager			
Emergency manager			
Grant writer			
Other personnel			
GIS Data Resources (Hazard areas, critical facilities, land use, building footprints, etc.)			
Warning Systems/Services (Reverse 9-11, cable override, outdoor warning signals)			
Other			

Additional Capabilities Questions

Does your community have any hazard-related certifications, such as Storm Ready certification or Firewise Communities certification?	
Describe any past or ongoing public education or information programs, such as for responsible water use, earthquake or fire safety, household preparedness, or environmental education.	
Describe any other past or ongoing projects or programs designed to reduce disaster losses. These may include projects to protect critical facilities.	

Prepared by: _____

Phone: _____

Email: _____

Sign-In Sheet - Valley of the Moon Water District
Local Hazard Mitigation Plan

Please use this sign-in sheet to document internal hazard mitigation planning meetings at the District. This sign-in sheet will be included in an appendix to the LHMP to highlight all District staff meetings related to the hazard mitigation planning process.

Jurisdiction:

Date: **Time:**

Location: **Meeting Purpose:**

Name	Jurisdiction/Organization/Citizen	Title	Phone	E-mail

HMPC Meeting #2 Agenda

Date: 24 September 2020
3:00 PM – 5:00 PM

Meeting at: Zoom Webinar:
https://us02web.zoom.us/j/2135226170
Meeting ID: 213 522 6170

Project: Valley of the Moon Water District Local Hazard Mitigation Plan

Subject/Purpose

The purpose of the meeting is to review the Hazard Identification and Risk Assessment and to develop broad goals for the Local Hazard Mitigation Plan (LHMP) in coordination with related goals and objectives from regional water districts and from the Sonoma County Operational Area Hazard Mitigation Plan.

1. Introductions
2. Review of Planning Process
3. Review of Identified Hazards
4. Vulnerability Assessment Overview by Hazard
5. Capabilities Assessment
6. Developing Goals for the Mitigation Strategy
7. Update on Community Outreach
8. Schedule and Next Steps
9. Questions and Answers

The District's goals should be integrated with the goals of the community, as laid out in the Sonoma County Operational Area HMP (2016) because they target reducing the vulnerability of people and property exposed to natural hazards in Sonoma Valley. The District goals should also align with the regional water agency goals outlined in the Sonoma County Water Agency LHMP (2018). The goals of each plan are provided below.

Wood Environment & Infrastructure Solutions, Inc.
10940 White Rock Road, Suite 190
Rancho Cordova, CA 95670

(916) 636-3200

woodplc.com

2016 Sonoma County Operational Area Hazard Mitigation Plan

Goal PS-1: Prevent unnecessary exposure of people and property to risks of damage or injury from earthquakes, landslides and other geologic hazards.

Goal PS-2: Reduce existing flood hazards and prevent unnecessary exposure of people and property to risks of damage or injury from flood hazards

Goal PS-3: Prevent unnecessary exposure of people and property to risks of damage or injury from wildland and structural fires.

2018 Sonoma County Water Agency Local Hazard Mitigation Plan

Goal 1: Increase reliability of water supply to the public, including during and after a natural disaster, to reduce the vulnerability of people and property

Goal 2: Increase reliability of wastewater collection, treatment and water reuse systems, including during and after a natural disaster, to reduce public safety risk and environmental damage

Goal 3: Increase reliability of flood protection infrastructure to reduce the vulnerability of people and property to flood hazards

Wood Environment & Infrastructure Solutions, Inc.
10940 White Rock Road, Suite 190
Rancho Cordova, CA 95670

(916) 636-3200

woodplc.com

HMPC Meeting #2 Minutes

Date/Time: Thursday September 24, 2020, 3:00 PM – 6:15 PM

Location: Zoom Webinar
https://us02web.zoom.us/j/2135226170
Meeting ID: 213 522 6170

Project No.: SA20170690

Written By: Juliana Prosperi (Wood, Project Manager)

Present: Jeff Brislawn (Wood, Hazard Mitigation Lead)
Matthew Fullner (VOMWD, Interim General Manager)
Amanda Hudson (VOMWD, Acting Administration and Finance Manager)
Steve Rogers (VOMWD, Board of Directors)
Ron Prushko (VOMWD, Board of Directors)
Colleen "Fergie" Ferguson (City of Sonoma, Public Works Department)
Bruce Abbott (Sonoma Valley Unified School District)
Ann Dubay (Sonoma Valley Groundwater Sustainability Agency)
Gary Germano (South Sonoma County, Resident)
Tom Conlon (Transition Sonoma Valley, Sierra Club – Sonoma Group)
Steve Barbose (Sonoma Valley Ecology Center)
Collen Yudin-Cowan (Sonoma Valley Fire & Rescue Authority)
Carol Taylor – Finnish American Home Association [FAHA])
Ray Willett (Springs Municipal Advisory Commission)

Subject: Valley of the Moon Water District Hazard Mitigation Planning Committee Meeting #2

AGENDA TOPICS

This document is a record of attendance and a summary of the topics discussed at the above meeting including the following:

1. Introductions
2. Review of Planning Process
3. Review of Identified Hazards
4. Vulnerability Assessment Overview by Hazard
5. Capabilities Assessment
6. Developing Goals for the Mitigation Strategy
7. Update on Community Outreach
8. Schedule and Next Steps
9. Questions and Answers

1. Introductions

Mr. Fullner and Ms. Prosperi initiated the meeting. Mr. Fullner explained he will now be leading the preparation of the Local Hazard Mitigation Plan (LHMP) on behalf of the Valley of the Moon

Water District (District). Mr. Petlock has accepted another position, and Ms. Amanda Hudson will be the Acting Administration and Finance Manager. Ms. Prosperi stated this is the second HMPC meeting for the preparation of the District's LHMP and explained the purpose of the meeting was to review the preliminary results of the risk assessment and develop goals for the LHMP. Ms. Prosperi introduced herself and Mr. Brislawn as the Wood Environment & Infrastructure Solutions, Inc. (Wood) consultants that will be supporting the District in the development of their first LHMP. Ms. Prosperi then asked the group to introduce themselves and the agency or organization they represent. The participants listed in the beginning of this meeting summary were present for the first meeting.

2. Review of Planning Process

Ms. Prosperi summarized the reason the committee is preparing a LHMP, as there were new stakeholders participating in the meeting. Ms. Prosperi explained that the purpose of the meeting is to develop a LHMP for the District that follows the requirements of the Disaster Mitigation Act and the Federal Emergency Management Agency (FEMA) planning process.

3. Review of Identified Hazards/Vulnerability Assessment Overview by Hazard

Ms. Prosperi and Mr. Brislawn reviewed the hazards profiled in the risk assessment. These hazards included (in alphabetical order): dam incidents, drought and water storage, earthquake, flooding, severe weather (extreme heat), severe weather (thunderstorms, hail, lightning), severe weather (high wind), wildfire, and public health hazards. Ms. Prosperi explained their team focused the risk assessment on natural hazards and those prioritized during the poll circulated during the first meeting, which included the following natural, human-health, and technological hazards:

- Earthquakes (100%)
- Wildfire (92%)
- Drought and Water Shortage (77%)
- Energy Shortages and Resiliency (Electrical Power Shut-offs) (69%)
- Climate Change (54%)
- Flooding (38%)
- Terrorism/Cyber Threats/Civil Disorder (23%)
- Landslides (23%)

Ms. Prosperi asked the group whether there were additional hazards that needed to be addressed that were not shown on the list. She added there are several hazards the committee acknowledged during the first meeting, but dismissed from further analysis because a lack of previous occurrences within the District's planning area, or because the hazard will be discussed as a secondary hazard (i.e., power shut-offs due to wildfires and wind).

Mr. Barbose asked why dam incidents were evaluated in the assessment if the District does not own or manage them. Ms. Prosperi explained her team determines whether dam incidents would impact the District's facilities should they fail. If the probability of future occurrence from the hazard is unlikely and the District's vulnerability to the hazard is low, the hazard does not need to be prioritized by the HMPC. Ms. Prosperi added that the dam incident section can be moved to the end of the chapter, so that the prioritized hazard profiles are listed first. Mr. Fullner noted that

he rated cyber threats as a concern in the poll and asked if this technological hazard can be assessed in the plan. Mr. Colon added civil unrest is a human-caused hazard that should be addressed. Mr. Brislawn noted we can include cyber threat and civil unrest hazards, but that FEMA will focus their review on the natural hazards. Ms. Prosperi also added that cyber threats will eventually need to be assessed in a vulnerability assessment that complies with the America's Water Infrastructure Act of 2018 (AWIA of 2018). AWIA of 2018 requires community drinking water systems serving more than 3,300 people need to prepare or update Risk and Resilience Assessments and Emergency Response Plans (ERPs).

Given the size of the population served by the District, Ms. Prosperi indicated they would need to submit certification that a Risk and Resilience Assessment is complete by June 30, 2021 and an ERP is completed by December 31, 2021. Mr. Brislawn stated that given the sensitive nature of the information contained in the cyber threat profile, vulnerability details are not disclosed to the public, as such Wood can summarize the profile for the District so they can prepare specific mitigation actions for cyber threat concerns in the mitigation strategy.

The following section highlights comments made by stakeholders regarding the risk assessment:

Dam Incidents

Ms. Prosperi stated there were two high hazard dams in the District's planning area: Suttonfield Dam and Fern Lake Dam. She explained that there is no history of dam failure in the Valley, and the two dams have active Emergency Action Plans (EAPs) and inundation mapping information. Wood conducted a GIS spatial overlay analysis to determine whether any District facilities would be damaged during inundation flooding and no District facilities would be impacted. Mr. Barbose said that because there is a small likelihood of dam failure in the District's service area, this hazard should be prioritized as low. Ms. Prosperi stated they can move this hazard profile to the end of the risk assessment chapter.

Action Item *Move the Hazard Profile to the end of the chapter given it's a low priority hazard.*

Drought and Water Supply

There have been numerous drought declarations in recent years and six multi-year droughts since 1950. Ms. Prosperi discussed these recent droughts and the impacts on the District's water supply. She explained the assessment was based on the Urban Water Management Plan (UWMP), and the emergency water supply discussion was based on the Sonoma County Grand Jury Investigation. Mr. Rogers stated that this assessment should focus on District facilities that are under their control and not Sonoma Water transmission lines. Ms. Prosperi added that the discussion can be revised to ensure the assessment focuses on District facilities and only discusses the regional facilities to provide context.

Earthquake Hazards

The committee discussed earthquake hazards in the region, and the potential for ground shaking and liquefaction in Sonoma Valley. Mr. Colon inquired about the HAZUS modelling and the definition of a probabilistic earthquake hazard. Mr. Brislawn explained HAZUS stands for "hazards US" and stated that there are two levels of HAZUS assessment: Level 1 assessment is based on a

default inventory of data for a selected planning area and Level 2 assessment is based on site-specific inputs.

Mr. Colon and Mr. Rogers asked if a qualitative assessment supports grant funded projects. Mr. Colon also asked whether the probabilistic earthquake models assess all potential faults. Mr. Brislawn answered that the probabilistic model meets FEMA requirements and the model considers multiple scenarios or faults with associated probabilities of occurrence. Mr. Fullner asked if the District identifies a project does it need to be in the plan to be eligible for grant funding. Mr. Brislawn stated it does not need to be listed in the plan, but it helps to include them. He said the project does need to align with the overall goals of the plan and mitigate specific risks.

Mr. Prushko and Mr. Germano commented on of the main water lines in the District that also supply the City of Sonoma water could loose pressure and be significantly damaged in the event of an earthquake. There were two water lines under the Verano bridge that were noted as potentially vulnerable, one owned by the District and the other by Sonoma Water. Ann Dubay indicated this mitigation project is included in Sonoma Water's Capital Plan. Mr. Brislawn stated this may be a good example of a regional and collaborative mitigation project. Mr. Barbose stated if it is already a Sonoma Water project then this plan should focus on the District's distribution lines and not the Sonoma Aqueduct. Ms. Ferguson replied that the City does need to focus on the Sonoma Aqueduct given they rely on the conveyance of water from the pipeline. Ms. Prosperi added that the risk assessment currently includes a quantitative assessment of the earthquake hazards on the District's assets based on GIS analysis and the HAZUS Level 1 assessment. She added the vulnerability assessment includes a qualitative discussion on the direct impacts to the larger water system should an earthquake occur and the related secondary impacts to the District. She explained this part of the assessment is described and based on key findings from the Sonoma Water's 2018 LHMP.

Mr. Fullner added that there is a list of capital projects in the recently completed Water System Master Plan (WSMP) appendix and in the 2020/2021 Annual Budget (Section VIII, *Capital Improvement Program* discussion on page 20 of 48) and this plan can tie into those projects as they relate to hazard mitigation.

<u>Flood</u>

Mr. Brislawn reviewed the extent and past occurrences related to flood hazards in Sonoma Valley. He stated there are few flood risks to the District's facilities and asked the group if they concur. The group agreed that flooding poses little threat to the District's assets. Mr. Brislawn noted that flooding in northern Sonoma County may result in cascading impacts associated with poor water quality within the water supply reservoirs. Mr. Prushko stated there are sewer overflow flooding issues and one incident occurred along Highway 12 near Rocket Café/Catering and near Sonoma High School that impacted water quality in the creek. This concern should be noted in the LHMP, though it is a County responsibility. A comment was made that the sanitation districts are included in the Sonoma Water LHMP and that this concern is addressed in that plan.

Landslide

Mr. Brislawn summarized landslide hazards in the District's planning area. Ms. Prosperi asked Mr. Fullner to explain the landslide damage to the fence near Donald Tank. Mr. Fullner noted they needed to relocate the water main and declared the disaster through the Public Assistance (PA) Program, which covered the material removal, but could not fund additional improvements given the District lacked a LHMP. Mr. Fullner asked if they can get retroactive FEMA funding; Mr. Brislawn replied they cannot recover additional costs under the Hazard Mitigation Grant Program (HMPG) for the rehabilitation costs. He explained the Section 406 PA Program is designed to administer funds during the recovery phase following a disaster, and the HMGP would cover further rehabilitation associated with making the facility more resilient to hazards in the future.

There is one District site that is currently being impacted by a landslide, initiated several years ago by heavy rains that destabilized a slope on the east side of Donald Street. The District is currently going out to bid to hire a contractor to stabilize the slope.

Action Item *Revise the Magnitude/Severity to "Limited" from "Negligible."*

Wildfire

Ms. Prosperi covered the wildfire hazards in Sonoma Valley and explained there are numerous District facilities in the moderate, high, and very high fire hazard severity zones, and recent regional fires have affected the District. She explained Saddle Tank, a former redwood tank, was destroyed during the 2017 Nuns Fire; all remaining tanks consist of steel construction materials. Mr. Fullner noted there is one remaining wood roof that needs to be retrofitted.

Action Item: *Revise the Probability of Future Occurrence hazard classification to "Highly Likely" and the Magnitude/Severity to "Catastrophic."*

Severe Weather (Extreme Heat, Heavy Rain/Thunderstorms, Lightning, High Winds)

The committee discussed heavy rain, thunderstorm, hail, dense lighting, and high wind hazards, and how lightning and high winds have resulted in the planned power outages and wildfires. A concern was noted about the apparent increase in lightning events and potential for future impacts to infrastructure.

Mr. Fullner stated the District lost equipment functionality when a recent Pacific Gas & Electric (PG&E) transformer caught on fire from a lightning strike and damaged the District's adjacent equipment (e.g., relays, interface screen, transducer, 3 SCADA radio systems, etc.). Ms. Prosperi asked if there are back-up generators at all the pumps; Mr. Fullner said there is back-up generation at facilities (Arnold Booster has toe-behind generator if needed; Hanna Tank has back-up generator but not used yet). He added surge protection at the District inter-ties would be a good mitigation action. Mr. Germano added lightning needs to be emphasized in the plan as most of recent wildfires were spread from lightning.

Action Item *Revise the Probability of Future Occurrence hazard classification for High Winds to "Highly Likely" and the Magnitude/Severity to "Critical."*

Public Health Hazards

COVID-19 has been addressed by the District. It does not pose a risk to water quality, but the pandemic has posed risks to District employees. The 2002 ERP addresses employee health and safety; this plan needs to be updated.

Mr. Prushko asked the group whether the plan should include the possible removal of Scott Dam at Lake Pillsbury (located in Mendocino County) given it's another region. He explained about the potential mercury contamination issues associated with the removal of the dam as well as the impact of Pike Minnow that would be released downstream on the salmon and trout populations. Additionally, Mr. Prushko raised the issue of the cessation of power generation at the Potter Valley Hydro-electric facility. PG&E currently operates the Potter Valley site and says that the power generated is negligible as compared to overall power needs and that the loss of that site would have no significant impact on local renewable power supply. Mr. Prushko felt that the power generated at the site may be a larger percentage if viewed as a more localized resource. Ms. Dubay stated this issue is being addressed by Sonoma Water as it directly impact's their assets and infrastructure. Mr. Barbose added that it should be addressed in Sonoma Water's plan, not the District's LHMP.

Action Items:

- *Reorganize the hazard profiles by level of significance (Earthquake, Wildfires, and Drought followed by Landslides, and include Dam Incidents last).*
- *Add in Cyber Threats/Security (and fencing/signage projects as potential capabilities)*

5. Capability Assessment

Ms. Prosperi and Mr. Brislawn provided the committee review of capabilities related to hazard mitigation and some of the current programs, policies, plans, and ordinances in place that mitigate natural hazards in the District. The group agreed all current capabilities are noted.

6. Developing Goals for the Mitigation Strategy

Ms. Prosperi defined mitigation goals for the group as broad statements on what the plan is intended to achieve. She explained they should be developed based on risk and losses. A range of goal statements were provided in the agenda handout that were from the 2016 Sonoma County Operational Area HMP and 2018 Sonoma Water LHMP. The committee developed goals for the plan after reviewing example goals from HMP plans prepared for water districts. The preliminary draft goal statements developed by the committee are summarized below:

- **Goal 1:** Increase resiliency and reliability of the District's water supply system.
- **Goal 2:** Maintain water supplies during natural, human-health, and technological hazards to provide basic public health, safety, and sanitation and fire suppression needs.
- **Goal 3:** Reduce economic impacts and asset damage from hazards and ensure the District is eligible for FEMA grant funding for mitigation projects.
- **Goal 4:** Enhance collaboration among regional agencies and organizations in regards to hazard mitigation.

Goals will be refined at the next meeting and objectives will also be developed categorized. A possible objective will be ensuring the goals have measurable objectives and actions. Mr. Brislawn noted that the plan will have a process to track implementation toward the goals.

7. Update on Outreach Strategy

Ms. Prosperi stated the District received 35 responses to date on the Public Survey.

8. Schedule and Next Steps

The community workshop is tentatively scheduled for Tuesday October 20th at 12:00 p.m. Ms. Prosperi will also upload the Risk Assessment chapter to a file share link within the next week.

9. Questions and Answers

At the end of the meeting, there were no additional questions. The meeting adjourned at 6:15 p.m.

ACTION ITEMS

No.	Item	Action	Completion Date
1.	Submit HMPC Meeting #2 Minutes	(Wood)	29 September 2020
2.	Send File Share Link to HMPC	(Wood)	4 October 2020
3.	Submit Worksheet #4	(HMPC)	9 October 2020
4.	Submit LHMP introduction chapters	(Wood)	16 October 2020
5.	Submit comments on Risk Assessment	(HMPC)	23 October 2020

The following screenshot is from the HMPC Meeting #2.

wood.

Valley of the Moon Water District
Local Hazard Mitigation Plan

Hazard Mitigation Planning Committee Meeting #2

Valley of the Moon Water District
19039 Bay Street
Sonoma, CA 95476

September 24, 2020

woodplc.com

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Agenda

1. Introductions
2. Review of Planning Process
3. Review of Identified Hazards
4. Vulnerability Assessment Overview by Hazard
5. Capabilities Assessment
6. Developing Goals for the Mitigation Strategy
7. Update on Community Outreach
8. Schedule and Next Steps
9. Questions and Answers

2

Introductions

3

Introductions

- Valley of the Moon Water District
  - Matthew Fullner
    - Project Manager
  - Amanda Hudson
    - Administration and Finance Manager
- Wood Environment & Infrastructure Solutions, Inc.
  - Jeff Brislawn, CFM
    - Hazard Mitigation Lead
  - Juliana Prosperi, AICP
    - Project Manager

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Review of Planning Process

5

Mitigation Planning and Disaster Mitigation Act

What is Hazard Mitigation?

- Any sustained action taken to reduce or eliminate long-term risk to human life and property from natural and human-caused hazards.

6

Disaster Mitigation Act of 2000

Federal Legislation

44 CFR 201.6

- Requires communities to update their hazard mitigation plans every 5 years to remain eligible for federal pre- and post-disaster funding (Hazard Mitigation Grant Program)
- Plan ensures the District will be ready and eligible for mitigation projects when funding becomes available

7 Valley of the Moon Water District HMPC Meeting #2

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Mitigation Planning and Disaster Mitigation Act

Why do we need a Local Hazard Mitigation Plan?

- Increasing costs of response and recovery
- Many events are predictable and repetitive
- Prevents loss of life and injury and protects public safety
- Guides mitigation activities in a coordinated and economic manner
- Eligibility for mitigation funds, pre- and post- disaster
- Integrates into other existing planning mechanisms
  - 2016 Sonoma County Operational Area HMP
  - 2018 Sonoma Water LHMP
- Reduces risk to existing and future development
- Make community safer and more disaster resilient

8 Valley of the Moon Water District HMPC Meeting #2

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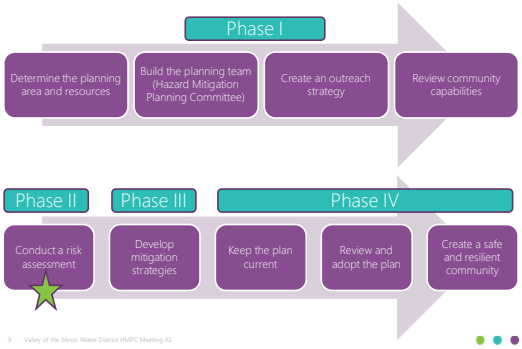
FEMA's 4-Phase DMA Planning Guidance



9 Valley of the Moon Water District HMPC Meeting #2

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FEMA's 2013 Nine-Step Process

Step 1	**Determine the Planning Area and Resources**
Step 2	**Build the Planning Team**
Step 3	**Create an Outreach Strategy**
Step 4	**Review Community Capabilities**
Step 5	**Conduct a Risk Assessment**
Step 6	Develop a Mitigation Strategy
Step 7	Keep the Plan Current
Step 8	Review and Adopt the Plan
Step 9	Create a Safe and Resilient Community

10 Valley of the Moon Water District HMPC Meeting #2

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Hazard Mitigation Planning Committee

- **Valley of the Moon Water District**
  - **Interim General Manager**
  - **District Director**
  - **Administration Manager**
  - **2 Board of Directors**
- **Sonoma County**
- Sonoma County Transit
- **Sonoma Valley Groundwater Sustainability Agency**
- **Sonoma County Water Agency**
- Federal, Regional, Businesses, Academia
  - **Fairmont Sonoma Mission Inn**
  - **Sonoma Moto**
  - **Other Local Businesses**
- Cal Fire
- Cal OES
- **Neighboring Communities and Counties**
  - **City of Sonoma**
- FEMA Region IX
- US Bureau of Reclamation
- US Forest Service
- National Oceanic Atmospheric Administration
- **Sonoma Valley Unified School District**
- Sonoma Valley Community Health Center
- Sonoma Valley Hospital
- Pacific Gas & Electric
- **La Luz Center**
- **Sonoma Valley Fire & Rescue Authority**

11 Valley of the Moon Water District HMPC Meeting #2

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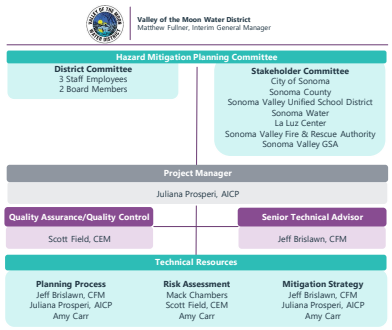
Organizational Chart



12 Valley of the Moon Water District HMPC Meeting #2

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Planning Progress so Far

- Established and Convened a Hazard Mitigation Planning Committee (HMPC) in June
- Collected and reviewed hazards information and identified hazards to evaluate in Risk Assessment
- Organized and reviewed District's Geographic Information Systems (GIS) database
- Conducted spatial analysis using GIS and HAZUS Software
- Reviewed District's existing capabilities for hazard mitigation
- **Circulated Online Public Survey (35 Responses Received)**
- Announced Public Workshop in October (tentatively scheduled for October 6th Board Meeting)

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What goes into a Local Hazard Mitigation Plan?

- **Section 1 – Introduction**
- **Section 2 – District Profile**
- Section 3 – Planning Process
- **Section 4 – Risk Assessment, plus Capability Assessment**
- Section 5 – Mitigation Strategy
- Section 6 – Plan Adoption
- Section 7 – Plan Implementation and Maintenance

- Appendices

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Review of Identified Hazards

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Potential Hazards of Concern

- Earthquakes*
- Landslides*
- Flooding*
- Dam and Levee Incidents
- Wildfire*
- Agricultural Pests/Diseases
- Aquatic Invasive Species
- Droughts and Water Shortages*
- Energy Shortages and Resiliency (Electrical Power Shut-Offs)
- Epidemic/Pandemic/Vector Borne Disease
- Extreme Heat
- Severe Weather/High Winds
- Tree Mortality
- Climate Change*
- Hazardous Material Releases (Pesticide Use/Groundwater Contamination)
- Oil Spills/Natural Gas Pipeline Hazards
- Terrorism/Cyber Threats/Civil Disorder

All theses hazards are addressed in 2018 California SHMP
**Hazard addressed in 2016 Sonoma County Operational Area HMP*

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Risk Assessment

Hazard Identification (what can happen here?)

Vulnerability Assessment (what will be affected?)
- Critical Asset Inventory
- Mitigation Capability Assessment

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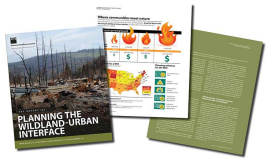
Terminology

- **Hazard/Threat:** Act or phenomenon with potential to do harm
- **Vulnerability:** susceptibility to harm, damage, loss
- **Exposure:** People, property, systems or functions that could be lost to a hazard
- **Risk:** Combines hazard, vulnerability, exposure and probability
- **Mitigation:** Actions taken in advance of a hazard's impact that reduce its severity



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Phase II: Risk Assessment

- **Hazard/Problem Description**
  - Area, Seasonal Patterns, Speed of Onset/Duration
- **Geographic Location**
  - Limited: Less than 10% of Planning Area
  - Significant: 10-50% of Planning Area
  - Extensive: 50-100% of Planning Area
- **Past Occurrences**
  - Information on Historical Incidents, Known Impacts
- **Extent (Magnitude/Severity):**
  - Catastrophic: More than 50% of property severely damaged
  - Critical: 25-50% of property severely damaged
  - Limited: 10-25% of property severely damaged
  - Negligible: Less than 10% of property severely damaged
- **Probability of Future Occurrences**
  - Highly Likely: Near 100% chance of occurrence in next year
  - Likely: Between 10-100% chance of occurrence in next year
  - Occasional: Between 1-10% chance of occurrence in next year
  - Unlikely: Less than 1% chance of occurrence in next year
- **Significance**
  - Low: Minimal potential impact
  - Medium: Moderate potential impact
  - High: Widespread potential impact

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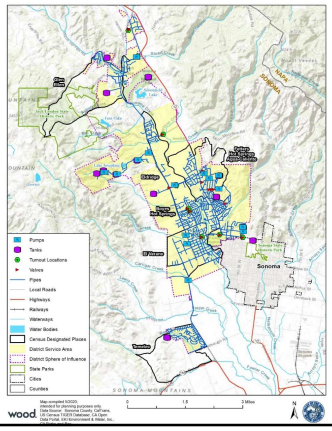
Planning Area



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Declared Disaster Declarations in Sonoma County

	Year	Disaster #	Declaration Type
Heavy Rains and Flooding	1964	183	Major Disaster Declaration
Severe Storms and Flooding	1969	253	Major Disaster Declaration
Drought	1977	3023	Emergency Declaration
Flood	1982	651	Major Disaster Declaration
Coastal Storm	1983	677	Major Disaster Declaration
Flood	1986	758	Major Disaster Declaration
Freeze	1991	894	Major Disaster Declaration
Flood	1993	979	Major Disaster Declaration
El Niño - Fishing Losses	1994	1038	Major Disaster Declaration
Severe Storm(s)	1995	1044	Major Disaster Declaration
Severe Storm(s)	1995	1046	Major Disaster Declaration
Cavedale Fire	1996	--	Local Emergency
Severe Storm(s)	1997	1155	Major Disaster Declaration
Severe Storm(s)	1998	1203	Major Disaster Declaration
Severe Storm(s)	1999	--	Local Emergency
Severe Storm(s)	2002	--	Local Emergency
Geysers Fire	2004	2554	Fire Management
Flood	2005	--	State and Federal Disaster Declaration
Severe Storm(s)	2006	1646	Major Disaster Declaration
SF Oil Spill	2007	--	Gubernatorial Declaration
H1N1 Influenza Pandemic	2009	--	Local Emergency
Great Tohoku Tsunami	2011	--	Gubernatorial Declaration
Drought	2014-2016	--	Gubernatorial Declaration
South Napa Earthquake	2014	4193	Major Disaster Declaration
Severe Storm(s)	2014	--	Local Emergency
Valley Fire	2015	4240	Major Disaster Declaration
Severe Storm(s)	2017	4301	Major Disaster Declaration
Flood	2017	4308	Major Disaster Declaration
Wildfires	2017	4344	Major Disaster Declaration
Severe Winter Storms, Flooding, and Mudslides	2017	4308	Major Disaster Declaration
Severe Winter Storms, Flooding, and Mudslides	2017	4301	Major Disaster Declaration
Severe Winter Storms, Flooding, Landslides, and Mudslides	2019	4434	Major Disaster Declaration
California COVID-19 Pandemic	2020	4482	Major Disaster Declaration
California Wildfires	2020	4558	Major Disaster Declaration

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Vulnerability Assessment Overview by Hazard

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Vulnerability Assessment

- Inventory residential and commercial structures
- Inventory vacant parcels
- Inventory critical facilities and infrastructure
- Determine value of structures
- Determine the number of people in hazard areas
- Identify vulnerable infrastructure
- Identify development trends/constraints
- Identify historic, cultural, and natural resource areas
- Estimate losses by hazard

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Risk Summary

Hazard	Geographic Extent	Probability of Future Occurrences	Magnitude/Severity	Overall Significance
Dam Incidents	Limited	Unlikely	Limited	Low
Drought and Water Supply	Extensive	Highly Likely	Critical	High
Earthquake	Extensive	Likely	Catastrophic	High
Flood	Limited	Likely	Limited	Medium
Landslide	Limited	Likely	Negligible	Low
Severe Weather: Extreme Heat	Extensive	Likely	Limited	Low
Severe Weather: Heavy Rain/Thunderstorms/Hail/Lighting	Significant	Likely	Limited	Medium
Severe Weather: High Winds	Significant	High Likely	Limited	Medium
Wildfire	Extensive	Likely	Critical	High
Public Health Hazards	Extensive	Occasional	Critical	Medium

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Dam Incidents

- **Hazard/Problem Description:**
  - 2 high hazard dams: Suttonfield Dam, Fern Lake Dam
  - 2 significant hazard dams outside District's Planning Area: Ski Dam, Lowrey No. 1 Dam
- **Geographic Extent**: Limited
- **Past Occurrences:** No history, but potential exists
- **Magnitude/Severity:** Limited
- **Significance:** Low
- **Future Likelihood of Occurrence:** Unlikely
- **Existing Capabilities:** EAP's and Dam Inundation GIS mapping available for the 2 high hazard dams

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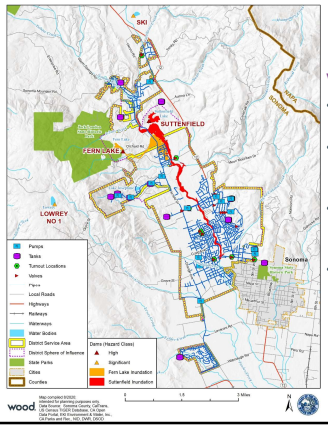

Dam Incidents

Vulnerability Assessment

- No District assets fall within the inundation areas.
- 2.4 % of the Planning Area is within the Suttonfield Dam inundation area.
- 1.4 % of Planning Area is within the Fern Dam inundation area.
- Both areas cover residential areas, which may result in the loss of homes in the District, and a loss of customers and revenue.

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Drought & Water Shortages

- **Hazard/Problem Description:**
  - Two latest USDA declarations were in 2020.
  - 14 USDA declarations between 2012-2017.
  - 178 drought impact reports in County between 1950 – 2020.
  - District supplied 2,528 acre-feet of water in 2015, the majority of which is supplied to residential properties.
  - Water demand will increase to 3,117 acre-feet, or by 19% by 2040.
- **Geographic Extent:** Extensive
- **Past Occurrences:**
  - 6 Multi-Year Droughts since 1950
- **Magnitude/Severity:** Critical
- **Significance:** Medium or High?
- **Future Likelihood of Occurrence:** Highly Likely
- **Existing Capabilities:** 2015 Urban Water Management Plan, Water Supply Contingency Plan

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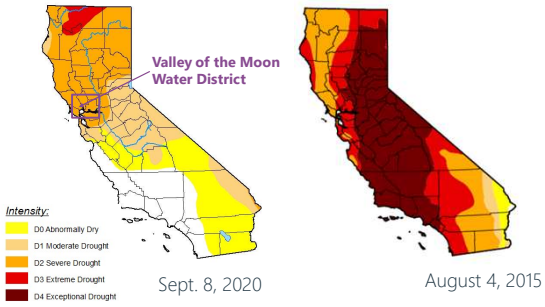
Drought & Water Shortages



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Earthquake Hazards

- **Hazards/Problem Description:**
  - Multiple faults of concern:
    - Spring Valley Fault (part of Bennett Valley Fault)
    - Rodgers Creek
    - Maacama Fault
  - Potential for Strong Ground Shaking
  - Potential for Liquefaction
- **Geographic Extent**: Extensive
- **Past Occurrences:** 2014 South Napa Earthquake, 1989 Loma Prieta Earthquake, 1969 Rodgers Creek/Healdsburg Earthquake
- **Magnitude/Severity:** Catastrophic
- **Significance:** High
- **Future Likelihood of Occurrence:** Likely to Highly Likely
  - Magnitude 6.7 or above is around 72% in the San Francisco Bay Region based on latest USGS estimates.
- **Existing Capabilities:** Sonoma County General Plan, Building Code

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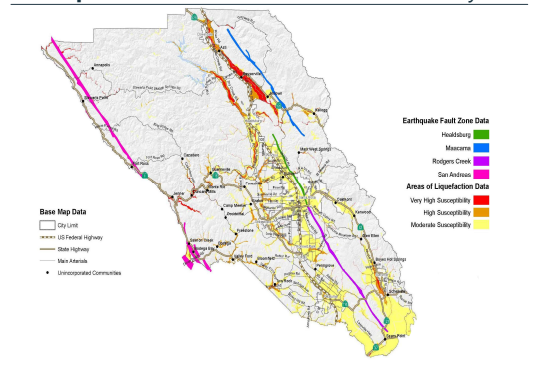
Earthquake Hazards: Faults in Sonoma County



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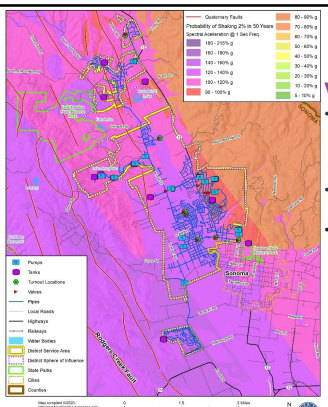

Ground Shaking

Vulnerability Assessment

- 89 assets including 20 pump stations, 18 water tanks, 10 turnout locations, and 41 valves are vulnerable.
- Eldridge tanks vulnerable to 105 % spectral acceleration.
- Sonoma tanks vulnerable to 95% spectral acceleration.

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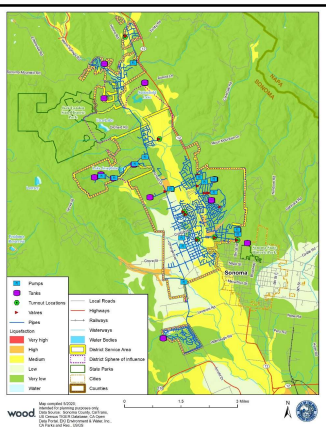


Liquefaction

Vulnerability Assessment

- 80 assets located in areas with low to very low liquefaction risk.
- 9 assets including 3 turnout locations and 6 valves with a replacement value of $870,000 at medium risk.
- Sonoma Aqueduct is vulnerable to liquefaction due to locations where the aqueduct crosses creeks and streams and Spring Valley Fault.
- An interruption of the Sonoma Aqueduct due to an earthquake would result in major impacts on the Districts' ability to supply water to customers.

32

Earthquake Hazards – HAZUS Loss Modeling

2,500-year Probabilistic Scenario

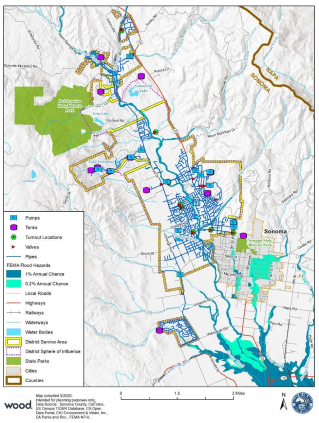
- Modelled scenario for a 7.0 Magnitude earthquake.
- Total economic loss $7.7 million (includes damage to water distribution lines).
- 578 miles of water pipelines could experience 428 breaks and 1,713 leaks.
- Loss ratio of 41% compared to the total system inventory.
- Large seismic events could have catastrophic effects on Sonoma Water's infrastructure that the District's depends on for water supply.

33

Flood Hazards

- **Hazard/Problem Description:**
  - 1% (100-year) and 0.2% (500-year) floodplains of Sonoma Creek located within central and eastern portions of District
  - Riverine flooding from the Russian River poses the greatest risk to Sonoma Water facilities and infrastructure
- **Geographic Extent:** Limited
- **Past Occurrences:**
  - District has not been directly impacted by flooding, but events have occurred on Sonoma Creek and the Russian River that have indirectly impacted the County and regional water supplier.
  - Severe winter storms and flooding in 2017 resulted in damage to regional water supply infrastructure
- **Magnitude/Severity:** Limited
- **Significance:** Medium
- **Likelihood of Future Occurrences:** Likely
- **Existing Capabilities:** HMPC Input Needed

34



Flood Hazards

Vulnerability Assessment

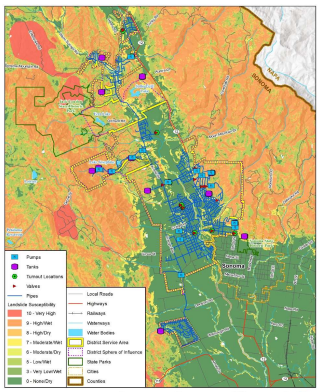
- No District assets are within flood hazard areas.
- Water supply impacted if the regional water infrastructure is impacted by Russian River flooding.
- Some of Sonoma Water's infrastructure mitigated through the elevation of the water facilities located in the floodplain.
- Pumps and one generator now sited above the 100-year base flood elevation.

35

Landslide Susceptibility

- **Hazard/Problem Description:**
  - Central portion of the District has a low landslide susceptibility, but areas to north, east, and west have moderate to high susceptibility.
- **Geographic Extent:** Limited
- **Past Occurrences:**
  - 3 disaster declarations associated with landslides in Sonoma County.
  - 1 federal disaster declaration occurred in 2019 associated with severe winter storms, flooding, and mudslides and 2 disaster declarations occurred in 2017 associated with mudslides.
  - None of these past landslide events affected District assets.
  - Small landslide occurred in 2018 that damaged fence around Donald Tank; could impact pumping and power generation equipment.
- **Magnitude/Severity:** Negligible to Limited
- **Significance:** Low
- **Future Likelihood of Occurrence:** Likely
- **Existing Capabilities:** Need HMPC Input

36



Landslides

Vulnerability Assessment

- 20 critical water assets found within high/dry landslide susceptibility zone, 12 water assets in the high/wet landslide susceptibility zone, and 4 water assets in the moderate/wet landslide zones for a total of 26 of the District's assets
- People in Sonoma Valley could be susceptible if they are caught in a landslide, but this risk is considered low.

37

Extreme Heat

- **Hazard/Problem Description:**
  - Period when high temperatures are expected to have a significant impact on public safety. Extreme temperatures have an adverse impact on human health.
- **Geographic Extent:** Extensive
- **Past Occurrences:**
  - Heat waves have claimed more lives in state than all other declared disaster event combined.
  - The highest recorded daily temperature was 116°F recorded on July 13, 1972.
- **Magnitude/Severity:** Limited
- **Significance:** Low
- **Future Likelihood of Occurrences:** Likely
- **Existing Capabilities:** NWS Alert System, Sonoma County designated Sonoma Valley Veteran's Building at Cooling Center

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Severe Weather: Heavy Rain, Thunderstorms, Fog

- **Hazard/Problem Description:**
  - Characterized by heavy rain accompanied by strong winds and lightning.
  - As average temperatures increase over time, this will result in extreme temperatures and more warming that can trigger climate changes, which could result in more frequent extreme weather events.
- **Geographic Extent:** Significant
- **Past Occurrences:**
  - 39 Hail, Heavy Rain, Lightning, and Dense Fog events in past 68 Years in Sonoma County
  - Average annual precipitation: 29.43 inches per year.
  - Highest recorded annual precipitation: 63.45 inches in 1983
  - Highest recorded precipitation for a 24-hour period was 6.75 inches on January 4, 1982.
- **Magnitude/Severity:** Limited
- **Significance:** Low
- **Future Likelihood of Occurrence:** Likely
- **Existing Capabilities:** Need HMPC Input

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High Winds

- **Hazard/Problem Description:**
  - High wind causes potential property and critical facilities damage, more public safety power shutoffs (PSPS).
- **Geographic Extent:** Significant
- **Past Occurrences:**
  - 253 high and strong wind events in Sonoma County between 1950 and 2020 causing a total of $3,854,700 in property damage.
  - 102 miles per hour gusts were recorded near the Kincade Fire and promoted rapid growth of the Kincade Fire.
  - Prior to these high winds, PG&E shut off power to over 2 million people.
- **Magnitude/Severity:** Limited to Critical?
- **Significance:** Medium
- **Future Likelihood of Occurrence:** Highly Likely
- **Existing Capabilities:** Need HMPC Input

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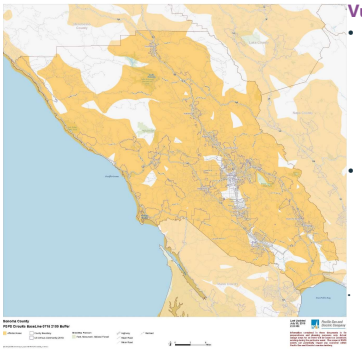
High Winds: PSPS



Vulnerability Assessment

- 11,677 Medicare beneficiaries located in the unincorporated communities of El Verano, Boyes Hot Springs, Fetter Hot Springs, Eldridge, and Glen Ellen.
- 249 are considered electricity dependent and are highly vulnerable to power outages as a result a high wind event.

The U.S. Department of Health and Human Services https://empowermap.hhs.gov/

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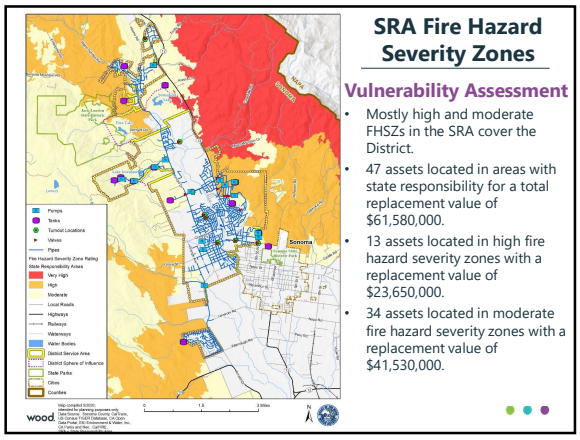
Wildfire

- **Hazard/Problem Description:**
  - Edges of District on the western side have moderate and high severity zones and northeastern side have very high severity zone.
- **Geographic Extent:** Extensive
- **Past Occurrences:**
  - Cal FIRE identified areas in Sonoma County as "historic wildland fire corridors" including repetitive fire losses in Sonoma Valley.
  - 7 wildfires affected the vicinity of the District from 1945 to 2017.
  - Nuns Fire in 2017 destroyed Saddle Tank and caused the Glen Ellen Tank to be drained to only 3 feet.
- **Magnitude/Severity:** Critical to Catastrophic
- **Significance:** High
- **Future Likelihood of Occurrence:** Highly Likely
- **Existing Capabilities:** Need HMPC Input

42



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SRA FHSZ Vulnerability Analysis

Fire Hazard Severity Zone	Asset Type	Count	Replacement Value
High	Pump	5	$9,500,000
	Tank	5	$14,000,000
	Valve	3	$150,000
	Total	**13**	**$23,650,000**
Moderate	Pump	11	$18,300,000
	Tank	12	$22,500,000
	Turnout Location	2	$500,000
	Valve	9	$230,000
	Total	**34**	**$41,530,000**
Grand Total		**47**	**$65,180,000**

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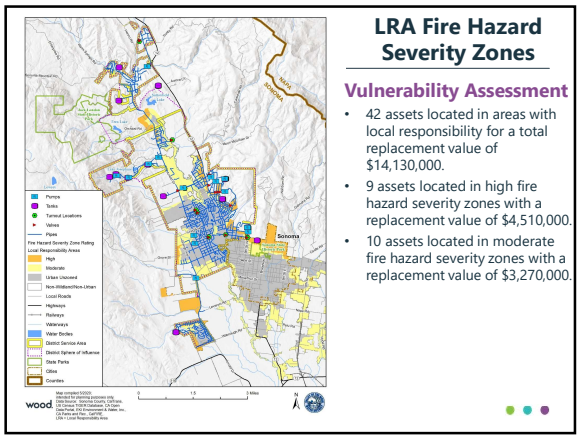

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LRA FHSZ Vulnerability Analysis

Fire Hazard Severity Zone	Asset Type	Count	Replacement Value
High	Tank	1	$4,000,000
	Turnout Location	1	$250,000
	Valve	7	$260,000
	Total	**9**	**$4,510,000**
Moderate	Pump	1	$1,700,000
	Turnout Location	2	$500,000
	Valve	7	$170,000
	Total	**10**	**$2,370,000**
Urban Unzoned	Pump	2	$4,000,000
	Turnout Location	4	$1,000,000
	Valve	12	$240,000
	Total	**18**	**$5,240,000**
Non-Wildland Non-Urban	Pump	1	$1,700,000
	Turnout Location	1	$250,000
	Valve	3	$60,000
	Total	**5**	**$2,010,000**
Grand Total		**42**	**$14,130,000**

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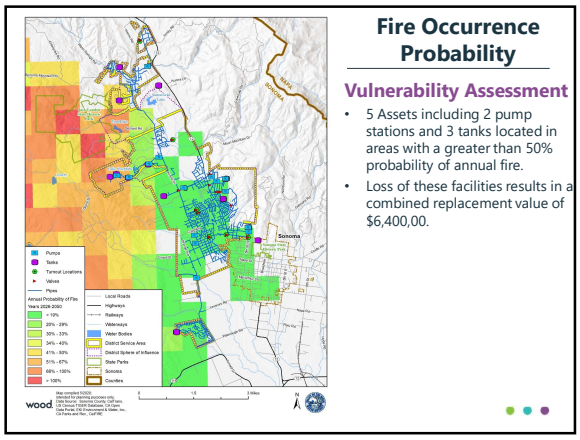

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Fire Occurrence Probability Vulnerability Analysis

Probability	Asset Type	Count	Replacement Value
51% -67%	Pump	2	$3,400,000
	Tank	3	$3,000,000
	Total	**5**	**$6,400,000**
41% - 50%	Tank	1	$2,000,000
	Total	**1**	**$2,000,000**
20%-29%	Tank	2	$8,000,000
	Pump	1	$1,700,000
	Valve	2	$2,050,000
	Total	**5**	**$11,750,000**
Less Than 19%	Pump	7	$11,900,000
	Tank	3	$8,000,000
	Turnout Location	7	$1,750,000
	Valve	28	$745,000
	Total	**45**	**$22,395,000**
Grand Total		**56**	**$42,545,000**

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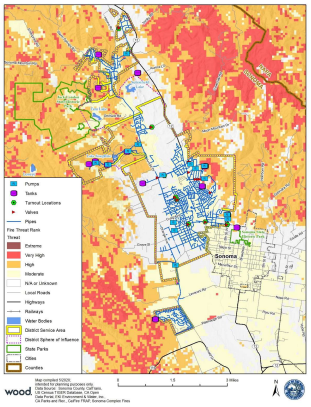

Fire Threat

Vulnerability Assessment

- Fire threat ranges from moderate to very high in the District.
- 57 Assets with a replacement value of $58,040,000 are located within these fire threat areas.
- Temelec 1 and Temelec 2 water tanks are both located in very high threat areas.

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Fire Threat Vulnerability Analysis

Fire Threat	Asset Type	Count	Replacement Value
Very High	Tank	2	$8,000,000
	Total	**2**	**$8,000,000**
High	Pump	9	$16,700,000
	Tank	10	$16,500,000
	Valve	2	$100,000
	Total	**21**	**$33,300,000**
Moderate	Pump	7	$11,100,000
	Tank	2	$4,000,000
	Turnout Location	4	$1,000,000
	Valve	21	$640,000
	Total	**34**	**$16,740,000**
Grand Total		**57**	**$58,040,000**

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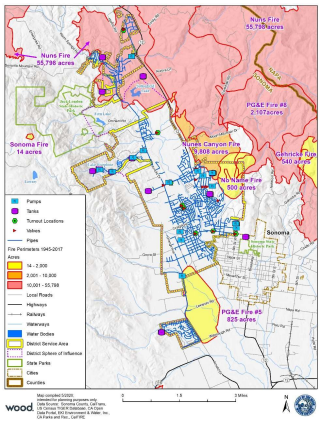

Fire History

Vulnerability Assessment

- Wildfires near the Russian River could directly impact the water quality in Lake Sonoma, the main supply for the Russian River, which could significantly impact Sonoma Water's ability to supply water to District.
- Chances of one or more fires during a 30-year period are projected to increase from 15 to 20% to 25 to 33% in the mountainous areas of the County due to climate change.

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Human-Health Hazards: Epidemic/Pandemic/Disease

- **Hazard/Problem Description:**
  - Public health emergency that requires health care services to respond to a disaster, significant outbreak of an infectious disease, bioterrorist attack, or other significant or catastrophic event.
- **Past Occurrences:**
  - 5 pandemics since 1900's: 1918-1919 Spanish Flu, 1957-1958 Asian Flu, 1968-1969 H3N2 Hong Kong Flu, 2009-2010 H1N1 Swine Flu, and 2020 COVID-19.
  - Sonoma County reported 1,786 active COVID-19 cases in September
- **Magnitude/Severity:** Critical
  - California 4-Tier System by COVID-19 Risk: County is in Widespread Tier (7 new cases/100,000, > 8% positive test rate)
- **Significance:** Medium
- **Future Likelihood of Occurrence:** Occasional
- **Existing Capabilities:** California Blueprint for a Safer Economy, Social Distancing Protocols, County Site-Specific COVID-19 Protection Plan, District's Emergency Response Plan (Employee Health & Safety)

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Risk Summary

Hazard	Geographic Extent	Probability of Future Occurrences	Magnitude/Severity	Overall Significance
Dam Incidents	Limited	Unlikely	Limited	Low
Drought and Water Supply	Extensive	Highly Likely	Critical	High
Earthquake	Extensive	Likely	Catastrophic	High
Flood	Limited	Likely	Limited	Medium
Landslide	Limited	Likely	Negligible	Low
Severe Weather: Extreme Heat	Extensive	Likely	Limited	Low
Severe Weather: Heavy Rain/Thunderstorms/Hail/Lighting	Significant	Likely	Limited	Medium
Severe Weather: High Winds	Significant	Likely	Limited	Medium
Wildfire	Extensive	Likely	Critical	High
Public Health Hazards	Extensive	Occasional	Critical	Medium

Indicates the HMPC discussed revising the classification rating to reflect staff input and recent hazard events related to wildfire, high winds, and lightning.

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Capabilities Assessment

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Capability Assessment

- Inventory the District's existing and proposed policies, programs, and ordinances that may affect its vulnerability to hazards
- Evaluate the effectiveness of each for mitigation purposes. Note gaps, shortfalls or conflicts associated with their design, enforcement of implementation. Identify any special opportunities
- Determine the District's technical and fiscal abilities to implement mitigation initiatives. Include ability to attract and leverage funding

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Capability Assessment

- Water System Master Plan (2019)
- Regional Water Supply Resiliency Study (In Progress)
- Capital Improvement Program (2018-2022)
- Urban Water Management Plan (2015)
- Water Supply Contingency Plan (Originally adopted in 1992)
- Sonoma Valley Groundwater Sustainability Plan (2020)
- Sonoma County General Plan 2020 Safety Element (2008)

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Developing Goals for the Mitigation Strategy

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What are Mitigation Goals?

- Broad statements of what the plan is to achieve
- Based on risk
- Estimated losses
  - At-risk facilities and infrastructure (e.g. utility lines?)
  - At-risk critical facilities
  - At-risk cultural and natural resources
- Goals from other existing plans
  - 2018 State HMP
  - 2018 Sonoma County Water Agency HMP
  - 2016 Sonoma County Operational Area HMP

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Goal Development

Virtual Sticky Note Exercise

- Write goals for mitigation planning effort on each note
- Review example goals (in Presentation)
- Review sample goals from other Plans (in Agenda)
- Use one note for each goal

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Example Goal Statements

- Minimize risk and vulnerability from natural hazards
- Increase communities' awareness of vulnerability to hazards
- Increase the use of shared resources
- Increase water system redundancy
- Improve communities' capabilities to mitigate losses
- Maintain coordination of disaster plans with changing OES/FEMA needs
- Achieve FEMA eligibility and position the District for grant funding
- Engage on regional mitigation efforts by building partnerships in service area and Sonoma County
- Maintain current service levels
- Provide protection for existing water assets from hazards
- Provide protection for future development from hazards
- Provide protection for natural and cultural resources from hazard impacts
- Provide protection for people's/customer's lives from hazards
- Provide protection for public health
- Provide protection for critical lifeline water supply utilities from hazard impacts
- Maintain operational capacity and functionality during natural disasters
- Reduce exposure to hazard related property and water asset losses
- Strengthen emergency services by increasing collaboration among agencies
- Make better use of GIS and other technologies

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Sonoma County Operational Area HMP Goals

Goal PS-1: Prevent unnecessary exposure of people and property to risks of damage or injury from earthquakes, landslides and other geologic hazards.

Goal PS-2: Reduce existing flood hazards and prevent unnecessary exposure of people and property to risks of damage or injury from flood hazards

Goal PS-3: Prevent unnecessary exposure of people and property to risks of damage or injury from wildland and structural fires.

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Sonoma Water LHMP Goals

Goal 1: Increase reliability of water supply to the public, including during and after a natural disaster, to reduce the vulnerability of people and property.

Goal 2: Increase reliability of wastewater collection, treatment and water reuse systems, including during and after a natural disaster, to reduce public safety risk and environmental damage.

Goal 3: Increase reliability of flood protection infrastructure to reduce the vulnerability of people and property to flood hazards.

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Update on Community Engagement

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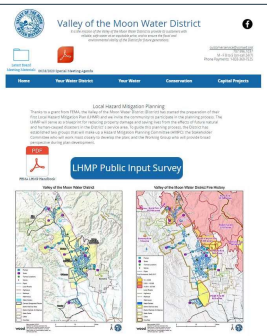
LHMP Webpage



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Schedule

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Additional Data Needs

- Data Collection Guide
  - **Worksheet #4 Capability Assessment**
- Provide any additional information to inform hazards and risk assessment and capabilities section of plan
- GIS data on growth and development trends
  - Specific Plans (Sonoma Development Center Specific Plan)
- Recently updated plans and policies
- Follow-up with key staff and stakeholders where needed
- Next meeting will focus on writing mitigation actions

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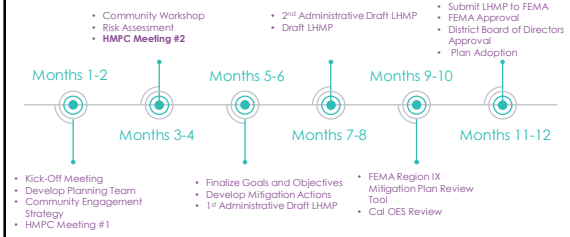
When will we meet next?



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Detailed Schedule

Task	Anticipated Date
Project Kick-off Meeting	January 14, 2020
Submit HMPC Invite List and Community Engagement Strategy	June 11, 2020
District review Community Engagement Strategy	June 15, 2020
HMPC Meeting #1	**June 25, 2020**
Prepare Hazard Identification and Risk Assessment	September 22, 2020
HMPC Meeting #2	**September 24, 2020**
Finalize Goals and Objectives	October 2, 2020
Community Workshop	October 6, 2020
HMPC Meeting #3	**November 10, 2020**
Compile Mitigation Actions Worksheets	December 11, 2020
Submit 1st Administrative Draft LHMP	January 8, 2021
District provides consolidated comments on 1st Administrative Draft LHMP	February 5, 2021
Complete FEMA Region IX Review Tool	February 12, 2021
Submit 2nd Administrative Draft LHMP	February 26, 2021
Circulate Public Review Draft LHMP (30-day public review)	March 1, 2021 – March 30, 2021
Submit LHMP to Cal OES for review (45-day review)	April 5, 2021
Submit LHMP to FEMA for Review (45-day review)[1]	May 20, 2021
District Board of Directors Hearing[1]	July 6, 2021

*Board of Directors meet the 1st Tuesday of each month.

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Breaking the Cycle of Disaster Losses

- Each time we experience a natural disaster, we learn how to make our people, infrastructure, and environment more resilient.
- These events underscore the need to assess and manage risk.
- Learning from the past to shape the future and continuing the shift towards mitigation!

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Questions?

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Environment & Infrastructure Solutions
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Valley of the Moon Water District
Local Hazard Mitigation Plan

Public Workshop

Valley of the Moon Water District Live Webinar
October 20, 2020
12:00 – 1:00 PM

woodplc.com

1

Agenda

1. Purpose of Meeting
2. Introductions
3. Meeting Etiquette
4. Mitigation Planning and the Disaster Mitigation Act
5. Planning Process
6. Risk Assessment
7. Mitigation Strategy
8. Next Steps
9. Community Q&A
10. Wrap-Up

2 Public Workshop

2

Introductions

3

3

Introductions

Valley of the Moon Water District

- Matthew Fullner, Interim General Manager
- Amanda Hudson, Acting Administration and Finance Manager

Wood Environment & Infrastructure Solutions, Inc.

- Juliana Prosperi, AICP, Project Manager

4 Public Workshop

4

Meeting Etiquette

5

5

Meeting Etiquette

- Mute your microphone to help keep background noise to a minimum.
- Raise your virtual hand to wait for your turn to speak.
- When it is your turn to speak, unmute yourself, but be mindful of distracting background noise, such as shuffling papers.
- Limit distractions by turning your phone to silence mode.

6 Public Workshop

6

Mitigation Planning and Disaster Mitigation Act

7

Mitigation Planning and Disaster Mitigation Act

What is Hazard Mitigation?

- Any sustained action taken to reduce or eliminate long-term risk to human life and property from natural and human-caused hazards.

8

Mitigation Planning and Disaster Mitigation Act

"Every dollar invested on disaster prevention saves six dollars in costs related to response and recovery." –National Institute of Building Sciences

9

Mitigation Planning and Disaster Mitigation Act

Disaster Mitigation Act of 2000: 44 CFR 201.6

- Communities are required to update their hazard mitigation plans every 5 years to remain eligible for pre- and post-disaster funding (Hazard Mitigation Grant Program)
- Any federally declared disaster in the District's planning area means they are eligible to apply for reimbursement
- Plan ensures the District will be ready with mitigation projects when funding becomes available

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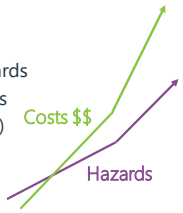
Mitigation Planning and Disaster Mitigation Act

Trends Resulting in Increased Costs for Disaster Response and Recovery

- Population and community growth
  - More people
  - More infrastructure and buildings
- More natural and human-caused hazards
  - Technological, civil, terrorist hazards
  - Human-health hazards (pandemics)
- More disaster declarations
- Increase in disaster response and recovery costs



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Mitigation Planning and Disaster Mitigation Act

Why do we need a Local Hazard Mitigation Plan?

- Increasing costs of response and recovery
- Prevents loss of life and injury and protects public safety
- Guides mitigation activities in a coordinated manner
- Eligibility for mitigation funds, pre- and post- disaster
- Integrates into other existing planning mechanisms
  - 2019 Water System Master Plan
  - 2015 Urban Water Management Plan
- Reduces risk to existing and future development
- Make community safer and more disaster resilient

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Planning Process

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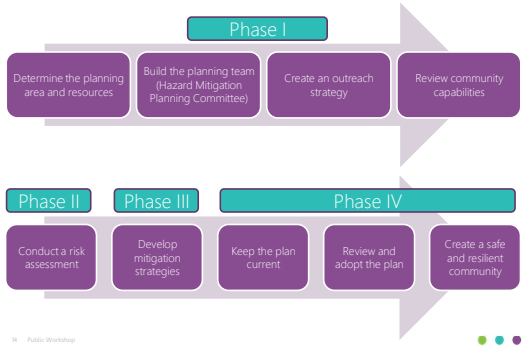
Phase I: FEMA's 4-Phase Mitigation Process



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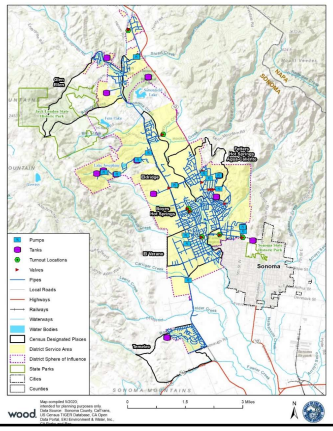

Planning Area

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Phase I: LHMP Planning Progress

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Risk Assessment

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Phase II: Risk Assessment

Hazard Identification and Profile (what can happen here?)

Natural Hazards

- Earthquake Hazards
- Drought & Water Supply
- Wildfire
- Flooding
- Extreme Heat
- Severe Weather: Thunderstorms, Hail, Lightning, Dense Fog
- High Winds
- Dam Incidents

Human-Caused Hazards

- Cyber Threats
- Human-Health Hazards

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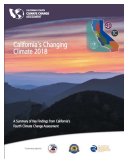
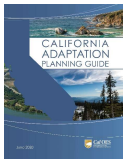
Phase II: Risk Assessment

- **Climate Change Considerations**
  - Increasingly important factor affecting disaster management
  - Addressed under each Hazard Profile as a factor intensifying impacts
  - California is already experiencing impacts:
    - Prolonged drought
    - Increased coastal flooding and erosion and sea level rise
    - Tree mortality
    - Larger wildfires
  - Affect the frequency and severity of hazards





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Phase II: Risk Assessment

- **Hazard/Problem Description**
  - Area, Seasonal Patterns, Speed of Onset/Duration
- **Geographic Location**
  - Limited: Less than 10% of Planning Area
  - Significant: 10-50% of Planning Area
  - Extensive: 50-100% of Planning Area
- **Past Occurrences**
  - Information on Historical Incidents, Known Impacts
- **Extent (Magnitude/Severity):**
  - Catastrophic: More than 50% of property severely damaged
  - Critical: 25-50% of property severely damaged
  - Limited: 10-25% of property severely damaged
  - Negligible: Less than 10% of property severely damaged
- **Probability of Future Occurrences**
  - Highly Likely: Near 100% chance of occurrence in next year
  - Likely: Between 10-100% chance of occurrence in next year
  - Occasional: Between 1-10% chance of occurrence in next year
  - Unlikely: Less than 1% chance of occurrence in next year
- **Significance**
  - Low: Minimal potential impact
  - Medium: Moderate potential impact
  - High: Widespread potential impact

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Phase II: Risk Assessment

Vulnerability Assessment (What will be affected?)

- Critical Asset Inventory
- Mitigation Capability Assessment

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Phase II: Capability Assessment

- Water System Master Plan (2019)
- Regional Water Supply Resiliency Study (In Progress)
- Capital Improvement Program (2018-2022)
- Urban Water Management Plan (2015)
- Water Supply Contingency Plan (Originally adopted in 1992)
- Sonoma Valley Groundwater Sustainability Plan (2020)
- Sonoma County General Plan 2020 Safety Element (2008)

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Phase II: Risk Summary

Hazard	Geographic Extent	Probability of Future Occurrences	Magnitude/Severity	Overall Significance
Drought and Water Supply	Extensive	Highly Likely	Critical	High
Earthquake	Extensive	Highly Likely	Catastrophic	High
Wildfire	Extensive	Highly Likely	Catastrophic	High
Public Health Hazards	Extensive	Occasional	Critical	High
Severe Weather: High Winds	Significant	Highly Likely	Critical	Medium
Severe Weather: Heavy Rain/Thunderstorms/Hail/Lightning	Significant	Likely	Limited	Medium
Cyber Threats	Significant	Likely	Limited	Medium
Flood	Limited	Likely	Limited	Medium
Landslide	Limited	Likely	Limited	Low
Severe Weather: Extreme Heat	Extensive	Likely	Limited	Low
Dam Incidents	Limited	Unlikely	Negligible	Low

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Mitigation Strategy

24

Phase III: Develop a Mitigation Strategy

- Set planning goals
- Review mitigation alternatives
  - Identification of actions to achieve resilience
- Draft an action plan

25 Public Workshop

25

Preliminary District LHMP Goals

Goal 1: Increase resiliency and reliability of the District's water supply system.

Goal 2: Maintain water supplies during natural, human-health, and technological hazards to provide basic public health, safety, and sanitation and fire suppression needs.

Goal 3: Reduce economic impacts and asset damage from hazards and ensure the District is eligible for FEMA grant funding for mitigation projects.

Goal 4: Enhance collaboration among regional agencies and organizations in regard to hazard mitigation.

Public Workshop

26

Phase III: Develop a Mitigation Strategy

- FEMA Mitigation Ideas
- National Flood Insurance Program Community Rating System Guidance
  - Prevention
  - Property Reduction
  - Natural Resource Protection
  - Structural Projects
  - Public Information
  - Emergency Services
- 2020 California Adaptation Planning Guide

27 Public Workshop

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Next Steps

28

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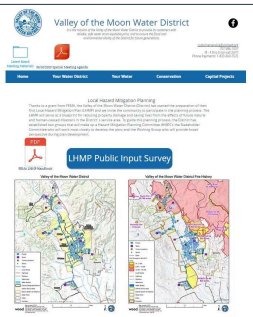
Next Steps: Project Webpage and Online Survey



Complete Online Survey: https://bit.ly/LHMP_Public_Input_Survey

29 Public Workshop

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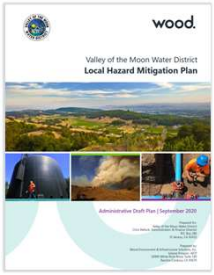
Next Steps: Public Review Draft LHMP



The Public Review Draft LHMP will be available in March 2021.

30 Public Workshop

30

Community Q&A

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Community Q&A

Meeting Etiquette Reminder

- Mute your microphone to help keep background noise to a minimum.
- Raise your virtual hand to wait for your turn to speak on your question or comment.
- When it is your turn to speak, unmute yourself, but be mindful of distracting background noise, such as shuffling papers.
- Limit distractions by turning your phone to silence mode.

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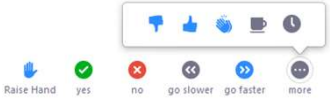
Community Q&A

Q&A Button

- To submit a question or comment to the panelists click the Q&A button at the bottom of your screen.

- To speak, please click the "Raise Hand" button.



33

Wrap Up

34

Wrap Up

Thank you for participating!

- Recording will be posted.
- Follow-up questions will be answered and posted.
- Complete the Online Survey by October 30, 2020: https://bit.ly/LHMP_Public_Input_Survey
- Email Matthew Fullner, Interim General Manager at: mfullner@vomwd.org

35

Valley of the Moon Water District
Hazard Mitigation Plan Public Input Survey

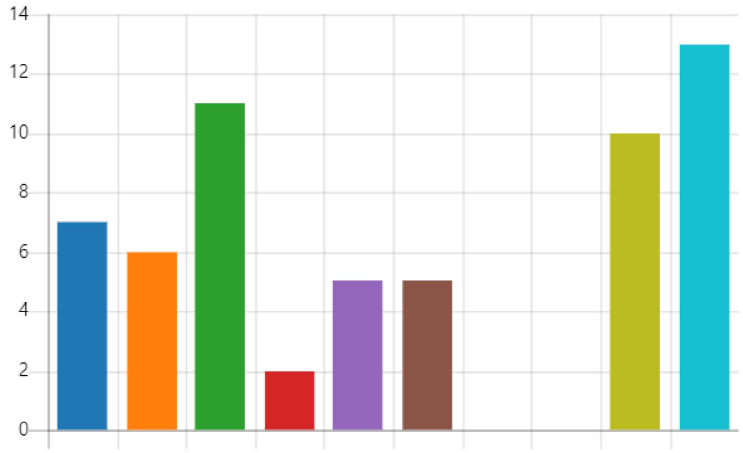
59 Responses 08:12 Average time to complete Active Status

1. Please Indicate whether you live or work in Sonoma Valley

I live in Sonoma Valley	41
I work in Sonoma Valley	2
I live and work in Sonoma Vall...	16
Neither apply to me, but I am ...	0

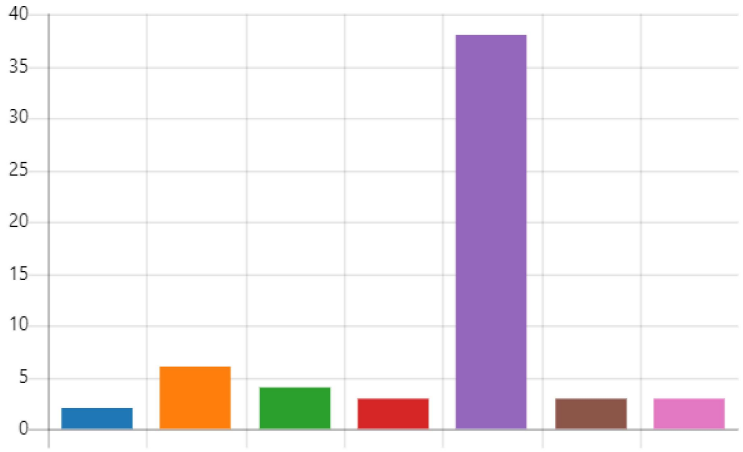
2. Indicate the community where you live in Sonoma Valley

City of Sonoma	7
El Verano	6
Boyes Hot Springs	11
Agua Caliente	2
Glen Ellen	5
Fetters Hot Springs	5
Eldridge	0
Sonoma Vista	0
Temelec	10
Other	13



3. Please indicate the type of environment you reside in.

Grassland/Valley Plains	2
Agricultural	6
Oak Woodland	4
River/Riparian	3
Suburban	38
Urban	3
Other	3

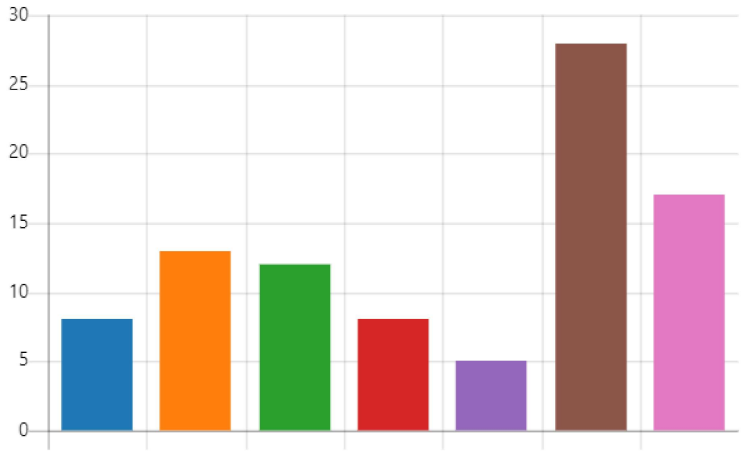


4. Have you been impacted by a disaster at your current residence or business?

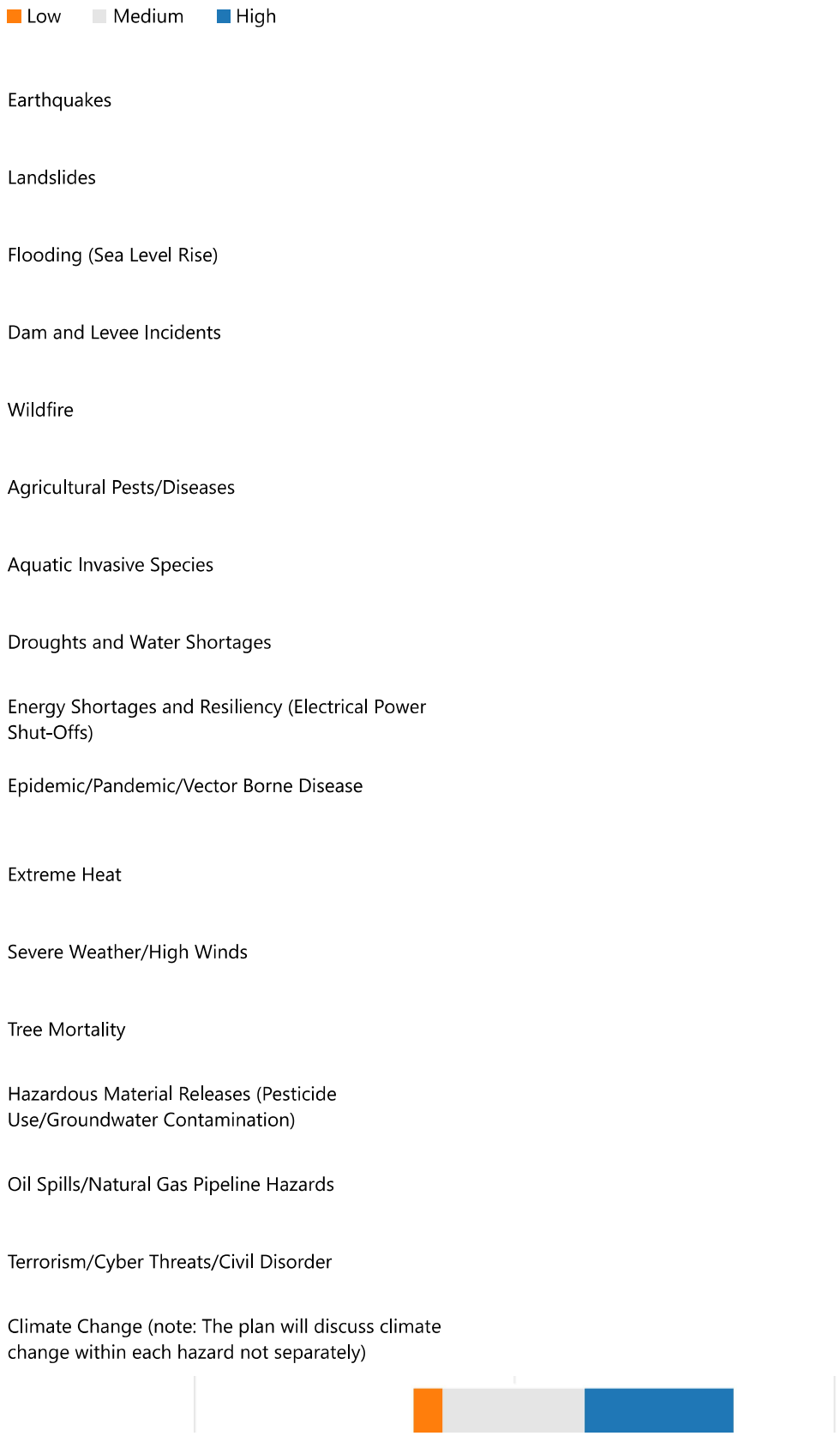
Yes	34
No	25

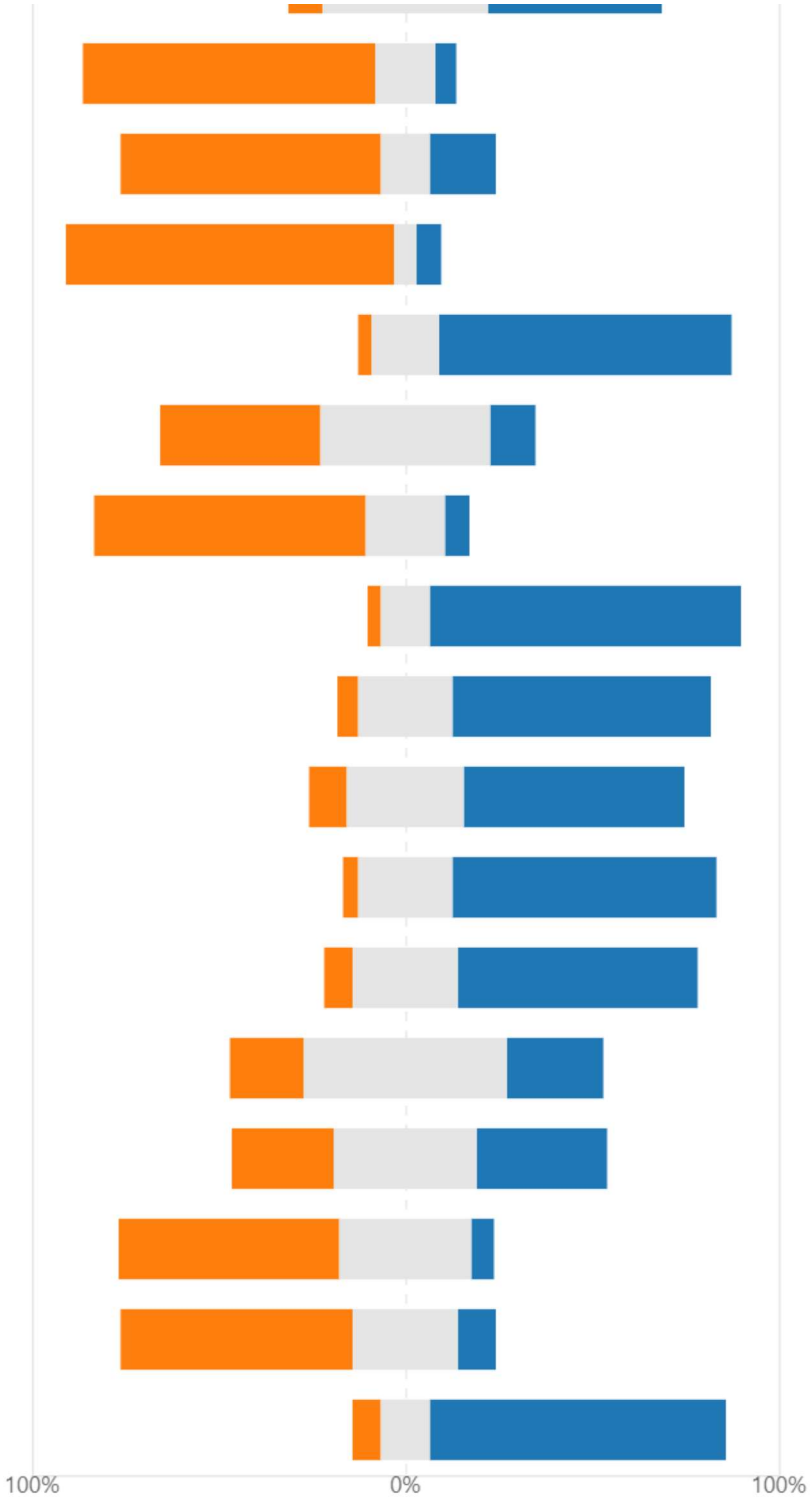
5. If you answered yes to the previous question, please select the type of disaster that you have been impacted by (select all that apply)

Earthquake	8
Extreme Heat	13
Drought	12
Flooding	8
Heavy Rains	5
Wildfire	28
Other	17



6. The following hazards could potentially impact the District and will be addressed in the Local Hazard Mitigation Plan. Please indicate the level of concern you perceive for each hazard that may affect you and the District's critical water facilities and infrastructure





7. Do you have information on specific hazard issues or problem areas (localized flooding, power outages) that you would like the planning committee to consider?

30
Responses

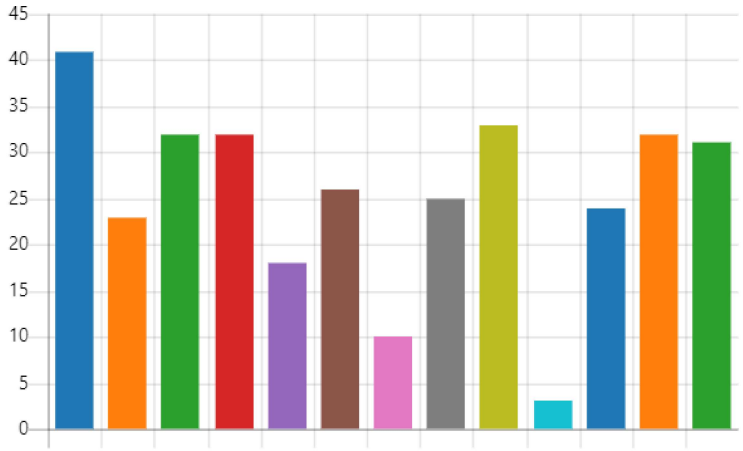
Latest Responses

"*Sonoma Creek at Larson Park: flooding and erosion* "

"*https://ibhs.org/risk-research/wildfire/ https://www.reinsura...*

8. The following types of mitigation actions may be considered in the District's LHMP. Please indicate the types of mitigation actions that you think should have the highest priority in the plan.

Wildfire Fuels Treatment Proje...	41
Assistance with Defensible Sp...	23
Critical Facilities Protection	32
Generators for Critical Facilities	32
Stormwater Drainage Improve...	18
Forest Health/Watershed Prot...	26
Flood Mitigation	10
Public Education / Awareness ...	25
Warning and Notification Syst...	33
Landslide/Mudslide Mitigation	3
Hazardous Tree Removal	24
Climate Adaption Projects	32
Seismic Safety Project	31



9. Please comment on any other pre-disaster strategies that the planning committee should consider for reducing future losses caused by natural disasters:

23
Responses

Latest Responses

"VOMWD employee heat stress training and prevention; Dro...

10. Provide your name and email address if you would like to be added to a distribution list for upcoming activities related to the planning process and if you would like to review and comment on the District's Draft LHMP.

37
Responses

Latest Responses

"*Fred Allebach fallebach@gmail.com*"

"*Already on list*"

APPENDIX B

References

Appendix B: REFERENCES

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APPENDIX C

Mitigation Strategy

Appendix C: MITIGATION STRATEGY

Appendix C: Mitigation Strategy contains the following documents in this order:

- Mitigation Strategy HMPC #3 Meeting documentation
    - Meeting Agenda
    - Meeting Minutes
    - Meeting Presentation
- Mitigation Action Selection and Prioritization Criteria
- Typical Mitigation Actions by FEMA Category
- Mitigation Action Worksheet
- Mitigation Action Prioritization Poll and Results

Mitigation Strategy Guidance Criteria: Categories of Mitigation Measures Considered

The following categories are based on the FEMA Mitigation Categories.

- Local Planning and Regulations
- Structure and Infrastructure Projects
- Natural Systems Protection
- Education and Awareness Programs

APPENDIX D

Adoption Resolution

RESOLUTION NO. 210801

RESOLUTION OF THE BOARD OF DIRECTORS OF THE VALLEY OF THE MOON WATER DISTRICT ADOPTING THE 2021 LOCAL HAZARD MITIGATION PLAN

Whereas, the Valley of the Moon Water District recognizes the threat that natural hazards pose to water customers and property within our community; and

Whereas, undertaking hazard mitigation actions will reduce the potential for harm to water customers and property from future hazard occurrences; and

Whereas, the U.S. Congress passed the Disaster Mitigation Act of 2000 ("Disaster Mitigation Act") emphasizing the need for pre-disaster mitigation of potential hazards; and

Whereas, the Disaster Mitigation Act made available hazard mitigation grants to state and local governments, such as special districts; and

Whereas, an adopted Local Hazard Mitigation Plan (LHMP) is required as a condition of future funding for mitigation projects under multiple Federal Emergency Management Agency (FEMA) pre-and post-disaster mitigation grant programs; and

Whereas, the Valley of the Moon Water District fully participated in the FEMA-prescribed mitigation planning process to prepare this LHMP; and

Whereas, the California Office of Emergency Services and FEMA, Region IX officials have reviewed the Valley of the Moon Water District LHMP and approved it contingent upon this official adoption by the Board of Directors: and

Whereas, the Valley of the Moon Water District desires to comply with the requirements of the Disaster Mitigation Act and to augment its emergency planning efforts by formally adopting the Valley of the Moon Water District LHMP; and

Whereas, adoption by the Board of Directors of the Valley of the Moon Water District demonstrates the special water district's commitment to fulfilling the mitigation goals and objectives outlined in this LHMP; and

Whereas, adoption of this legitimacies the plan and authorizes responsible agencies to carry out their responsibilities under the plan.

Now, therefore, be it resolved, that the Valley of the Moon Water District Board of Directors adopts the Valley of the Moon Water District LHMP as an official plan; and

Be it further resolved, that the Valley of the Moon Water District will submit this adoption resolution to the California Office of Emergency Services and FEMA Region IX officials to enable the plan's final approval in accordance with the requirements of the Disaster Mitigation Act of 2000.

THIS RESOLUTION PASSED AND ADOPTED THIS 3RD DAY OF AUGUST 2021, by the following votes:

Director Bryant Aye

Director Foreman Aye

Director Harland Aye

Director Rogers Aye

Director Yudin-Cowan Aye

By _____
President

By _____
Secretary

AYES 5 NOES Ø ABSENT Ø ABSTAIN Ø

I HEREBY CERTIFY that the foregoing Resolution was duly adopted at a regular meeting of the Board of Directors of Valley of the Moon Water District held on the 3rd day of August, 2021, of which meeting all Directors were notified and at which meeting a quorum was present at all times and acting.

By _____
Secretary