



Appendix A: PLANNING PROCESS

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

- 2019-2020 Hazard Mitigation Plan Committee (HMPC) Invitee and Participant List
- 2019-2020 Press Releases
- Social Media Posts on Facebook and Nextdoor
- Newspaper Advertisements on Notification of 1st Public Workshop
- City of Petaluma Local Hazard Mitigation Plan Webpage
- City of Petaluma Notice of Availability of Public Review Draft Local Hazard Mitigation Plan (LHMP)
- Press Release on Availability of Public Review Draft LHMP
- Public Review Draft LHMP Comment-Response Matrix
- Stakeholder Comment-Response Matrix
- Public Comments – Received between April 15, 2020 through May 15, 2020 (with Comment Code)
- Stakeholder Comments – Received May 28, 2020 (with Comment Code)
- City of Petaluma LHMP – Community Outreach Strategy (2019 – 2020)
- HMPC Meeting #1 Materials – July 8, 2019
- LHMP Data Collection Guide
- HMPC Meeting #2 Materials – October 7, 2019
- 1st Public Workshop Materials – October 8, 2019
- 2nd Public Workshop Materials – April 30, 2020
- City of Petaluma Online Public Survey and Results (1st Survey Version)
- City of Petaluma Online Public Survey and Electronic Comment Form Results (2nd Survey Version)

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





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

Name	Agency/Department	Title	Phone	Email
City of Petaluma Steering Committee				
Diane Ramirez	Public Works and Utilities	LHMP Project Manager	(707) 776-3658	dramirez@cityofpetaluma.org
Jeff Schach	Fire Department	Assistant Fire Chief	(707) 778-4492	jscach@cityofpetaluma.org
Doug Hughes	Building Department	Chief Building Official	(707) 778-4306	dhughes@cityofpetaluma.org
Cecilia Quiambao	Risk Management	Risk Manager	(707) 776-3780	cquiambao@cityofpetaluma.org
Gina Petnic	Public Works and Utilities	City Engineer/Floodplain Manager	(707) 778-4311	gpetnic@cityofpetaluma.org
Ingrid Alverde	Economic Development	Economic Development Manager	(707) 778-4549	ialverde@cityofpetaluma.org
City of Petaluma Working Group				
Kent Carothers	Public Works and Utilities	Operations Manager	(707) 778-4580	kcarothers@cityofpetaluma.org
Jason Beatty	Public Works and Utilities	Assistant Director of Public Works and Utilities	(707) 778-4514	jbeatty@cityofpetaluma.org
Ron Klein	Police Department	Lieutenant, Support Services	(707) 778-4530	rklein@cityofpetaluma.org
Jessica Power	Fire Department	Fire Marshall	(707) 778-4485	jpower@cityofpetaluma.org
Tim Williamsen	IT Department	IT Manager	(707) 778-4573	twilliamsen@cityofpetaluma.org
Leah Walker	Environmental Services	Environmental Services Manager	(707) 778-4583	lwalker@cityofpetaluma.org
Jeff Gittings	Public Works and Utilities	Parks and Facilities Manager	(707) 778-4388	jgittings@cityofpetaluma.org
Joshua McKeighan	Public Works and Utilities	Airport and Marina Manager	(707) 778-4404	jmkeighan@cityofpetaluma.org





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Eric Danly	City Attorney Office	City Attorney	(707) 778-4362	edanly@cityofpetaluma.org
Claire Cooper	City Manager's Office	City Clerk	(707) 778-4360	cityclerk@cityofpetaluma.org
Corey Garberolio	Finance Department	Finance Director	(707) 778-4357	cgarberolio@cityofpetaluma.org
Trae Cooper	IT Department	GIS Manager	(707) 778-4330	tcooper@cityofpetaluma.org
Sue Castelucci	Housing Department	Housing Manager	(707) 778-4563	scastelucci@cityofpetaluma.org
Stakeholder Steering Committee				
Jeffrey DuVall	Sonoma County Emergency Management	Deputy Director	(707) 565-6160	jeff.duvall@sonoma.county.org
Kari Svanstrom	City of Sebastopol	Planning Director	(707) 823-6167	ksvanstrom@cityofsebastopol.org
Ramona Faith	Petaluma Health Care District	Chief Executive Director	(707) 285-2143	rfaith@phcd.org
Donald Seymour	Sonoma County Water Agency	Engineer	(707) 562-5370	donald.seymour@swca.ca.gov
Wendi Thomas	Petaluma Valley Hospital	Nursing Director	(707) 778-2692	wendi.thomas@stjoe.org
Onita Pelligrini	Petaluma Chamber of Commerce	Executive Director	(707) 762-2758	pacc@petalumachamber.com





Appendix A PLANNING PROCESS

Figure A.1. Press Release Posted about 1st Public Workshop on LHMP

FOR IMMEDIATE RELEASE

October 3, 2019

Contact: Diane Ramirez, City of Petaluma Project Manager (707) 776-3658

**NOTICE OF PUBLIC WORKSHOP FOR THE PREPARATION OF
THE CITY OF PETALUMA'S LOCAL HAZARD MITIGATION PLAN**

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

Most people who live and work in the City of Petaluma are vulnerable to a wide range of natural hazards, including drought, earthquakes, extreme heat, flooding, severe weather, sea level rise, and wildfires. The community may be exposed to potential human-caused hazards associated with facilities and infrastructure that contain hazardous materials. The City is also vulnerable to cyber threats. The LHMP will provide the City with valuable tools to identify risks and mitigate hazards through future project-specific actions. The LHMP will assess the effects of climate change on natural hazards assessed in the plan and will incorporate climate adaptation strategies. The plan will also support the City's participation in the National Flood Insurance Program and include recommendations to improve the City's Floodplain Management Plan policies and regulations.

The City will be hosting a Public Workshop on **Tuesday October 8, 2019 from 6:00 to 8:00 p.m.** The Public Workshop will be an opportunity to learn more about the planning process and the natural and human-caused hazards that will be assessed in the LHMP. Following the Public Workshop, there will be an opportunity for the public to comment on the Draft LHMP, which is anticipated to be available for public review by early 2020. The community is encouraged to participate in the planning process and provide feedback by attending the Public Workshop, completing an Online Survey, visiting the City's webpage, and commenting on the Draft LHMP (once available). Information on how to participate is provided below

- Public Workshop – Tuesday October 8, 2019, 6:00 – 8:00 p.m., Petaluma Community Center, 320 N. McDowell Boulevard, Petaluma, CA 94954
- Online Public Survey – available at <http://bit.ly/petalumahazardplanning>

For more information on the planning process, please contact may be directed to Diane Ramirez, Project Manager, at (707) 776-3658 or dramirez@cityofpetaluma.org.





Figure A.2. City of Petaluma Facebook Social Media Announcement on LHMP

The screenshot shows a Facebook post from 'The City of Petaluma' (@cityofpetaluma) dated October 1. The post is titled 'Hazard Planning Workshop' and contains the following text: 'Have you ever wondered how the City of Petaluma makes sure that critical infrastructure and systems work even during a disaster? Join us on October 8, 2019 to learn more about the City's preparations. Also, share your concerns about possible hazards and help the City plan for disasters. Go to www.petalumastar.com/hazards for more info. Then take the survey at <http://bit.ly/petalumahazardplanning>.' Below the text is a photograph of a group of people sitting around a table in a meeting. The post has 3 likes and 1 comment. The comment from user 'ckbauer' asks: 'Is there a current hazard mitigation plan in place? Will these workshops lead to the development of an updated plan or new plan for the city? Look forward to the workshops.' The right sidebar of the Facebook page shows a list of 'Pages Liked by This Page', including FEMA, U.S. Department of State, Petaluma Patch, Petaluma Fire Department, and Granicus. The top navigation bar includes 'Contact Us' and 'Send Message' buttons.





Figure A.3. City of Petaluma LHMP Nextdoor Social Media Announcement

The screenshot shows a Nextdoor post from the City of Petaluma. At the top, there is a green navigation bar with a search bar labeled "Search Nextdoor" and several notification icons. The post itself is from "Subscribers of City of Petaluma" and was posted "3 days ago". It has 1057 impressions and includes "Thank" and "Reply" buttons. The post is from "Secretary Stephanie Oefinger, City of Petaluma" and is an "AGENCY" post. The main text of the post is titled "Notice of Public Workshop - Tuesday, October 8, 2019 6:00pm" and is about "Community Input to the City of Petaluma's Local Hazard Mitigation Plan". The text explains that a citywide Hazard Mitigation Plan lists natural hazards and projects to reduce their impacts. It announces a public workshop on Tuesday, October 8, 2019, from 6:00 to 8:00 p.m. at the Petaluma Community Center. It also mentions an online survey at [bit.ly/petalumahazardplanning](https://petalumahazardplanning). A list of details includes the workshop date and time, the address (320 N. McDowell Boulevard, Petaluma, CA 94954), and the website (<https://petalumastar.com/hazards/>). Contact information for Diane Ramirez is provided. At the bottom of the post, there is a call to action: "Help Petaluma Create a Local Hazard Mitigation Plan" with the text "The City of Petaluma is seeking community input on its Local Hazard Mitigation Plan (LHMP)." and the website "PETALUMASTAR.COM". The post also shows "3 days ago - Subscribers of City of Petaluma", "Thank" and "Reply" buttons, 4 reactions (a sad face, a heart, and two thumbs up), and "4-1289 Impressions".





Figure A.4. Newspaper Notice on City of Petaluma LHMP

<p>PUBLIC NOTICE</p>	<p>PUBLIC NOTICE</p>	<p>PUBLIC NOTICE</p>
<p>City of Petaluma Notice of Administrative Action Minor Site Plan and Architectural Review Minor Planned Unit District (PUD) Modification Old Elm Village 259 West Payson Street APN(s): 006-051-045, 050-053 File No.: PLSR-19-0009</p> <p>What: An application for Administrative Site Plan and Architectural Review (ASPAR) has been submitted by Charles Pick of East Architecture & Consulting, on behalf of the property owners, Burbank Housing Development to construct a new gateway entry truss structure with signage and to make facade alterations to existing buildings at 359 West Payson Street, located in the Old Elm Village Planned Unit Development (PUD). Specifically, the proposed gateway will bridge over the existing vehicular entry between the existing buildings facing West Payson Street. Additionally, improvements to existing building facades will occur at the commercial level, with new energy efficient storefronts and awnings below the existing transoms windows. The proposal does not include any changes to the existing building size or scope or propose a change to the existing uses or residential units.</p> <p>The project also requires a minor modification to the Old Elm Village PUD to allow an entry truss because the existing PUD guidelines do not address siting of this type of structure. The Project is exempt from the California Environmental Quality Act (CEQA) as a Class 1 (Existing Facilities) and Class 2 (New Small Structures) categorical exemption (51530)(c).</p> <p>Comments: Please send comments to the Planning Division, City of Petaluma, 11 English Street, Petaluma, California 94952. You may also deliver comments prior to the decision date referenced below or email comments to lbendix@cityofpetaluma.org.</p> <p>When: On or after October 14, 2019 the Planning Manager will consider all comments and decide whether to approve, conditionally approve, or deny the project.</p> <p>For More Information: Contact Britany Bendix, Deputy Planning Manager, at (707) 778-4314 or lbendix@cityofpetaluma.org. You may also come to the Planning Division to review the application. The office is open Monday through Thursday from 8:00 a.m. to 5:00 p.m. City Hall is closed on Fridays.</p> <p>Appeal: The applicant, or any other interested party, may appeal any part of the administrative decision to the Planning Commission. Such appeal must be filed in writing with the City Clerk no later than fourteen (14) days following the date of the decision. The appeal shall state specifically the grounds for the appeal and the relief sought by the applicant. Said appeal shall be accompanied by the appeal fee as specified by Resolution 2010-206 N.C.S. as adopted by the City Council.</p> <p>20206 - Pub Oct 3, 2019 11i.</p>	<p>against the real property only. Date: Quality Loan Service Corporation 2763 Camino Del Rio South San Diego, CA 92108 619-646-7711 For NON SALE information only Sale Line: 616-839-0772 Or Login to http://www.qualityloan.com Reinstatement Line: (866) 646-7711 Ext 2318 Quality Loan Service Corp. TS No.: CA-14-619423-JP IDSPub #0156711 9/26/2019 10/3/2019 10/2019</p> <p>17350 - Pub Sept 28, Oct 3, 10, 2019 31i.</p> <p>NOTICE OF PUBLIC WORKSHOP FOR THE PREPARATION OF THE CITY OF PETALUMA'S LOCAL HAZARD MITIGATION PLAN</p> <p>The City of Petaluma has launched a planning effort to assess risks from natural and human-caused hazards and to identify ways to reduce those risks. The planning process will result in the preparation of the City's Local Hazard Mitigation Plan (LHMP). The preparation of a LHMP is required under the Federal Disaster Mitigation Act of 2000 to be eligible to receive federal disaster assistance and funding.</p> <p>Most people who live and work in the City of Petaluma are vulnerable to a wide range of natural hazards, including drought, earthquakes, extreme heat, flooding, severe weather, sea level rise, and wildfires. The community may be exposed to potential human-caused hazards associated with facilities and infrastructure that contain hazardous materials. The City is also vulnerable to cyber threats. The LHMP will provide the City with valuable tools to identify risks and mitigate hazards through future project-specific actions. The LHMP will assess the effects of climate change on natural hazards assessed in the plan and will incorporate climate adaptation strategies. The plan will also support the City's participation in the National Flood Insurance Program and include recommendations to improve the City's Floodplain Management Plan policies and regulations.</p> <p>The City will be hosting a Public Workshop on Tuesday October 8, 2019 from 6:00 to 8:00 p.m. The Public Workshop will be an opportunity to learn more about the planning process and the natural and human-caused hazards that will be assessed in the LHMP. Following the Public Workshop, there will be an opportunity for the public to comment on the Draft LHMP, which is anticipated to be available for public review by early 2020. The community is encouraged to participate in the planning process and provide feedback by attending the Public Workshop, completing an Online Survey, visiting the City's website, and commenting on the Draft LHMP (once available). Information on how to participate is provided below:</p> <ul style="list-style-type: none"> Public Workshop - Tuesday October 8, 2019, 6:00 - 8:00 p.m., Petaluma Community Center, 320 N. McDowell Boulevard, Petaluma, CA 94954 Online Public Survey - available here: https://www.woodfic.surveymonkey.com/r/PetalumaLHMP <p>Additional information on the planning process and documents prepared to date can be found on the City's LHMP Website: http://cityofpetaluma.net/pubworks/city-projects.html. Questions may be directed to Diane Ramirez, Project Manager by calling (707) 778-3558 or by email at dramirez@cityofpetaluma.org.</p> <p>19947 - Pub Oct 3, 2019 11i.</p> <p>INVITATION TO BID BID NUMBER 19-000</p> <p>The City of Petaluma is seeking bids for the purchase of the following: Six (6) Utility Service Trucks</p> <p>Inquiries regarding specifications should be directed to: Mike Ielmorini, Assistant Operations Manager City of Petaluma Department of Public Works and Utilities Phone: 707.778.4456 FAX: 707.253.6354 E-mail: mieilmorini@cityofpetaluma.ca.us</p> <p>Sealed bids will be accepted until Wednesday, October 23, 2019 at 3:00 p.m. in the City Clerk's Office. Bids received after this time and date will be rejected. Postmarks will not be accepted as proof of receipt.</p> <p>Bidders shall mail or hand-deliver bid packages to the City Clerk's Office, City of Petaluma, 11 English Street, Petaluma, CA 94952</p> <p>Clare Cooper City Clerk October 3, 2019 19710 - Pub Oct 3, 2019 11i.</p> <p>FICTITIOUS BUSINESS NAME STATEMENT FILE NO. 2019-02543</p> <p>The following person (persons) is (are) doing business as:</p> <p>I hereby certify that this copy is a correct copy of the original statement on file in my office. DEVA MARIE PROTO Sonoma County Clerk By /s/ Darrell Light</p>	<p>Dated: 9/11/2019 JENNIFER V. DOLLARD Judge of the Superior Court 17189 - Pub. Sept 19, 26, Oct 3, 10, 2019</p> <p>ORDER TO SHOW CAUSE FOR CHANGE OF NAME SUPERIOR COURT OF CALIFORNIA FOR THE COUNTY OF SONOMA 3055 Cleveland Ave. Santa Rosa, CA 95403 Case No. SPR 093666</p> <p>petition of: MARK LAWRENCE SMUSSEN for change of name O ALL INTERESTED PERSONS Petitioner: MARK LAWRENCE SMUSSEN filed a petition with the court for a decree changing name as follows: LAWRENCE MARK SMUSSEN to MARK LAWRENCE SMUSSEN.</p> <p>THE COURT ORDERS that all persons interested in this matter appear before this court at the hearing indicated below to show cause, if any, why the petition for change of name should be granted. Any person objecting to the name changes described above must file a written objection that includes the reasons for the objection at least two court days before the matter is scheduled to be heard and must appear at the hearing to show cause why the petition should not be granted. If no written objection is timely filed, the court may grant the petition without a hearing.</p> <p>NOTICE OF HEARING 2/21/2019 at 2:30 p.m. in Dept. 18, located at 3055 Cleveland Ave. Santa Rosa, CA 95403. A copy of this Order to Show Cause will be published at least once each week for four successive weeks prior to the date set for hearing on the petition. In the following newspaper of general circulation, printed in this county: <i>Jakama Argus Courier</i>. Dated: SEP 30 2019 JENNIFER V. DOLLARD Judge of the Superior Court 20818 - Pub. Oct 3, 10, 17, 24, 2019</p> <p>FICTITIOUS BUSINESS NAME STATEMENT FILE NO. 2019-02773</p> <p>The following person (persons) is (are) doing business as: ROHNERT PARK PHARMACY located at 500 STATE FARM DR. SUITE 200 ROHNERT PARK, CA 94928; Mailing Address 1179 N. MCDOWELL PETALUMA, CA 94954 Sonoma County, is hereby registered by the following owner(s): PETALUMA HEALTH CENTER, INC. 1179 N. MCDOWELL PETALUMA, CA 94954 This business is conducted by: CA Corporation</p> <p>The registrant commenced to transact business under the fictitious name or names above on N/A. I declare that all information in this statement is true and correct. Signed: PEDRO TOLEDO, CAO/CFO</p>
<p>NOTICE OF TRUSTEE'S SALE TS No. CA-14-619423-JP Order No.: 12-0094502-02 YOU ARE IN DEFAULT UNDER A DEED OF TRUST DATED 11/27/2006, UNLESS YOU TAKE ACTION TO PROTECT YOUR PROPERTY, IT MAY BE SOLD AT A PUBLIC SALE. IF YOU NEED AN EXPLANATION OF THE NATURE OF THE PROCEEDING AGAINST YOU, YOU SHOULD CONTACT A LAWYER. A public auction sale to the highest bidder for cash, cashier's check drawn on a state or national bank, check drawn by state or federal credit union, or a check drawn by a state or federal savings and loan association, or savings association, or savings bank specified in Section 5102 to the Financial Code and authorized to do business in this state, will be held by duly appointed trustee, regarding title, possession, or encumbrances, to pay the remaining principal sum of the note(s) secured by the Deed of Trust, with interest and late charges thereon, as provided in the note(s), advances, under the terms of the Deed of Trust, interest thereon, fees, charges and expenses of the Trustee for the total amount (at the time of the initial publication of the Notice of Sale) reasonably expected to be paid by the borrower. The auction will occur on the day of sale.</p>	<p>17350 - Pub Sept 28, Oct 3, 10, 2019 31i.</p> <p>NOTICE OF PUBLIC WORKSHOP FOR THE PREPARATION OF THE CITY OF PETALUMA'S LOCAL HAZARD MITIGATION PLAN</p> <p>The City of Petaluma has launched a planning effort to assess risks from natural and human-caused hazards and to identify ways to reduce those risks. The planning process will result in the preparation of the City's Local Hazard Mitigation Plan (LHMP). The preparation of a LHMP is required under the Federal Disaster Mitigation Act of 2000 to be eligible to receive federal disaster assistance and funding.</p> <p>Most people who live and work in the City of Petaluma are vulnerable to a wide range of natural hazards, including drought, earthquakes, extreme heat, flooding, severe weather, sea level rise, and wildfires. The community may be exposed to potential human-caused hazards associated with facilities and infrastructure that contain hazardous materials. 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Postmarks will not be accepted as proof of receipt.</p> <p>Bidders shall mail or hand-deliver bid packages to the City Clerk's Office, City of Petaluma, 11 English Street, Petaluma, CA 94952</p> <p>Clare Cooper City Clerk October 3, 2019 19710 - Pub Oct 3, 2019 11i.</p> <p>FICTITIOUS BUSINESS NAME STATEMENT FILE NO. 2019-02543</p> <p>The following person (persons) is (are) doing business as:</p> <p>I hereby certify that this copy is a correct copy of the original statement on file in my office. DEVA MARIE PROTO Sonoma County Clerk By /s/ Darrell Light</p>	<p>FICTITIOUS BUSINESS NAME STATEMENT FILE NO. 2019-03152</p> <p>The following person (persons) is (are) doing business as: KTC CONSULTING SERVICES located at 1315 Barlas Lane, Petaluma, CALIF 94952, Mailing Address P.O. Box 1741, Novato, CA 94948 Sonoma County, is hereby registered by the following owner(s): Kristine Anne Tank-Crestetto, 1375 Barlas Lane, Petaluma, CALIF 94952 This business is conducted by: An Individual</p> <p>The registrant commenced to transact business under the fictitious name or names above on SEPTEMBER 1, 2019.</p> <p>I declare that all information in this statement is true and correct. Signed: Kristina Tank-Crestetto, Owner This statement was filed with the County Clerk of SONOMA COUNTY on 09/19/2019</p> <p>I hereby certify that this copy is a correct copy of the original statement on file in my office. DEVA MARIE PROTO Sonoma County Clerk By /s/ Ananda King Deputy Clerk SEAL</p> <p>19070 - Pub. Oct. 3, 10, 17, 24, 2019</p> <p>SONOMA COUNTY HISTORY In 1865 I.G. Wickersham & Co. of Petaluma operated as a "private bank." Biggest lower Russian River mill started in Guerneville by J.W. Bagley, George Guerne, Tom Heald and W.H. Willets. Mill closed in 1901. Rosenberg & Bush Department Store founded in Healdsburg by Wolfe Rosenberg.</p> <p>Copyright © 2010 Sonoma County Historical Society P.O. Box 1373, Santa Rosa, CA 95402 www.sonomacountyhistory.org</p> <p>To place</p>

Figure A.5. Newspaper Article Advertising the 1st Public Workshop on the LHMP

Figure A.6. Newspaper Article on Emergency Preparedness and 1st Public Workshop

PETALUMA ARGUS-COURIER • THURSDAY, OCTOBER 3, 2019

Petaluma prepares for emergency

On fire anniversary, city agencies drill for disaster with federal funding at stake

By YOUSEF BAIG
ARGUS-COURIER STAFF

Petaluma officials have been addressing disaster readiness in earnest in recent weeks, starting the process for a new federal hazard plan that will help fortify the city in the future, while also undergoing annual operations training to prepare for a major crisis.

As the two-year anniversary of the North Bay fires approaches, officials are creating a local hazard mitigation plan that would assess what aspects of the city are susceptible to a broad range of natural disasters, like an earthquake or wildfire, or human-caused events like a cyberattack, and then identify ways to reduce those risks.

Once it's adopted, Petaluma would ostensibly become more competitive for grant funds to address those vulnerabilities. The city would also be eligible for the highest tier of federal assistance if an emergency occurred, said Diane Ramirez, project manager for the Public Works and Utilities Department.

She pointed to vital undertakings like the Denman Reach flood control projects that have used more than \$40 million in outside funding to strengthen one of Petaluma's most susceptible natural hazards.

"It's to get the city prepared in case something happens, and what can we do in advance that would mitigate anything that happens in the city," Ramirez said. "More preparation makes us more resilient and able to rebound more quickly."

Petaluma's previous hazard mitigation plan was adopted seven years ago as part of a regional consortium with the Association of Bay Area

Governments.

The rules for the plans have changed, though, and now federal regulators are calling for one in every jurisdiction, Ramirez said.

The scope of hazards officials believe the city is vulnerable to are broad, including drought, earthquakes, extreme heat, flooding, sea level rise and wildfires, according to a press release. Infrastructure contamination and cyber threats were also listed. So was climate change and its impact on natural hazards.

City officials are hosting a workshop at the Petaluma Community Center next week to get feedback on what hazards residents are seeing, and provide more information on the process for adopting the plan.

"We have a lot of base knowledge, but we want to hear from our community what they hear is important," Ramirez said. "There's some prioritization in terms of where we might put funding and projects first based on how the community responds to our preparation."

After the workshop, officials will create a draft that the public can comment on. It then has to get approved by FEMA and eventually the city council before it's adopted.

Ramirez anticipates it'll be in place by spring 2020, and would be subject to future amendments should the science or technology change, she said.

While the hazard plan would serve as a guiding document to reinforce the Petaluma's weaknesses in the future, city employees have to be ready for the worst right now.

Department heads and some of the senior-most public officials across the entire agency met for a mandatory, two-hour

training session last week at the Petaluma Police Department headquarters, the site of the city's emergency operations center in a disaster.

Petaluma's EOC was triggered in October 2017 when the city became a refuge for fire victims and a staging ground for the response efforts throughout Sonoma County.

With several new officials like City Manager Peggy Flynn and Director of Human Resources Charlie Castillo onboard, the city shuffled roles and drilled into the minutia of what was learned in the fire's aftermath.

Departments are sorted into sections like management, logistics, intelligence and operations with responsibilities doled out to ensure public safety and continuity of government, said Petaluma Assistant Fire Chief Jeff Schach.

City officials went over details like what sort of communication is possible with ham radios, record-keeping for federal reimbursement and the

nuances of volunteer activation. They later broke into groups to meet with their sections and go over their chain of command and what the new roles are when an EOC is activated.

"This is my favorite day of the year," Schach said. "When you raise your right hand" to serve as a government employee, "that's what comes with the territory."

Nancy Sands, Economic Development Specialist, described the collaboration across the city's divisions as an effective measure to help ensure every element of service is addressed.

"They are all connected in that they all affect the city's infrastructure," she said. "What I see as a city employee is that we're all working together cross-departmentally, and that's really helpful in making sure that nobody misses anything."

(Contact News Editor Yousef Baig at yousef.baig@arguscourier.com or 776-8461, and on Twitter @YousefBaig)

CRISSY PASCUAL / ARGUS-COURIER STAFF

City officials, police and fire departments came together for disaster preparedness training.

MORE INFORMATION

What: Public workshop for the preparation of Petaluma's Local Hazard Mitigation Plan

When: Tuesday, Oct. 8 from 6-8 p.m.

Where: Petaluma Community Center, 320 N. McDowell Blvd.

More information: visit petalumastar.com/hazards. Residents who cannot attend the workshop are encouraged to participate in the online survey at bit.ly/petalumahazardplanning





Figure A.7. City of Petaluma LHMP Webpage

PETALUMA
SONOMA COUNTY
CALIFORNIA, USA

BUSINESS CAREER LIVING RESOURCES

HELP CITY PLAN FOR HAZARDS

The City of Petaluma's main job is to keep our community safe. To do this, we think about all the bad things that could happen here and then find ways to lessen the harm they cause or prevent them altogether.

Right now we are creating a Local Hazard Mitigation Plan (LHMP) that will help us protect the community while also making us eligible for government funding and disaster assistance.

We need your help to make sure this plan is complete and reflects the needs of the entire community. There are two ways to participate:

Public Workshop
Tuesday, October 8, 2019
6:00 p.m. – 8:00 p.m.
Lucchesi Community Center
320 N. McDowell Blvd.
Snacks will be served – **RSVP**

Agenda

Online Survey
bit.ly/petalumahazardplanning

The Plan will cover the most destructive kinds of hazards—natural events like earthquakes and wildfires and human-caused events like cyber attacks and gas explosions. Learn more: [Download the press release](#) and [Review the Steering Committee Meeting Presentation](#).

Help us protect you, your family, your neighbors, and your community!

Figure A.8. City of Petaluma LHMP Webpage (Revised Version)

OFFICIAL CITY WEBSITE Meetings Jobs Contact Events Subscribe We are Petaluma Proud!

ABOUT SERVICES **PETALUMA** SONOMA COUNTY RESOURCES GOVERNMENT

EMERGENCY ALERT: CORONAVIRUS INFO AND ANNOUNCEMENTS / NOTICIAS Y ACTUALIZACIONES DEL CORONAVIRUS

HAZARD MITIGATION PLAN

Would you like to learn more about what the City of Petaluma is doing to minimize the impacts of natural hazards, such as drought, earthquakes, flooding, sea level rise, severe weather, extreme heat, and wildfires. Would you also like to learn how the City will minimize impacts of human-caused hazards, such as hazardous material incidents? A Public Review Draft of the City's Local Hazard Mitigation Plan (LHMP) is now available for public review and comment.

The LHMP assesses risk posed by natural and human-caused hazards, identifies ways to reduce those risks, and allows the City and participating jurisdictions, such as Sonoma County to be eligible for mitigation grant funding from the Federal Emergency Management Agency (FEMA). The LHMP also supports the City's participation in the National Flood Insurance Program and Community Rating System and includes recommendations to improve the City's Floodplain Management Plan policies and regulations. A Hazard Mitigation Planning Committee (HMPC) that included participating stakeholders from various regional and local agencies, jurisdictions, and organizations developed the LHMP over the past nine months with assistance from a consultant. The City is now soliciting public comments on the plan before it is finalized and submitted to the California Office of Emergency Services (Cal OES) and FEMA for review and approval.

SURVEY

We would like to know a little more about our community and the citizens who are interested in the Local Hazard Mitigation Plan. **Please respond to this survey:** https://bit.ly/Petaluma_HMP_Public_Input_Survey

FORM TO SUBMIT COMMENTS ON THE DRAFT LOCAL HAZARD MITIGATION PLAN

Here is a link to an on-line survey form to submit your comments: https://bit.ly/Petaluma_LHMP_Feedback_Survey. You may also e-mail your comments to dramirez@cityofpetaluma.org.

DRAFT SECTIONS OF THE LOCAL HAZARD MITIGATION PLAN

Complete, compressed Local Hazard Mitigation Plan



Figure A.9. Twitter Post on the Availability of the Public Review Draft LHMP





Figure A.11. Facebook Post on the Availability of the Public Review Draft LHMP

The City of Petaluma
@cityofpetaluma

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Notes
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Events
Services

Liked Following Share ...

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The City of Petaluma
Published by Tiffany Ecwrf [?] · Just now ·

LOCAL HAZARD MITIGATION PLAN is now available for review. Would you like to learn more about what the City of Petaluma is doing to minimize the impacts of natural hazards, such as drought, earthquakes, flooding, sea level rise, severe weather, extreme heat, and wildfires? The draft plan is available: <https://cityofpetaluma.org/capital-improvements-program/>

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Figure A.13. Press Release on the Availability of the Public Review Draft LHMP



Public Notice Advertisement

FOR IMMEDIATE RELEASE

April 1, 2020

Contact: Diane Ramirez, City of Petaluma Project Manager (707) 776-3658

**CITY OF PETALUMA LOCAL HAZARD MITIGATION PLAN
AVAILABLE FOR PUBLIC REVIEW AND COMMENT**

Would you like to learn more about what the City of Petaluma is doing to minimize the impacts of natural hazards, such as drought, earthquakes, flooding, sea level rise, severe weather, extreme heat, and wildfires. Would you also like to learn how the City will minimize impacts of human-caused hazards, such as hazardous material incidents? A Public Review Draft of the City's Local Hazard Mitigation Plan (LHMP) is now available for public review and comment.

The LHMP assesses risk posed by natural and human-caused hazards, identifies ways to reduce those risks, and allows the City and participating jurisdictions, such as Sonoma County to be eligible for mitigation grant funding from the Federal Emergency Management Agency (FEMA). The LHMP also supports the City's participation in the National Flood Insurance Program and Community Rating System and includes recommendations to improve the City's Floodplain Management Plan policies and regulations. A Hazard Mitigation Planning Committee (HMPC) that included participating stakeholders from various regional and local agencies, jurisdictions, and organizations developed the LHMP over the past nine months with assistance from a consultant. The City is now soliciting public comments on the plan before it is finalized and submitted to the California Office of Emergency Services (Cal OES) and FEMA for review and approval.

The community is encouraged to participate in the planning process and provide feedback by visiting the City's webpage and commenting on the Public Review Draft LHMP. The plan can be accessed at the following website: <https://petalumastar.com/hazards/>. An electronic comment form is available on the webpage for online submittal.

The public comment period will be for 30 days from Wednesday April 15, 2020 through Friday May 15, 2020. The City will also be hosting the 2nd Public Workshop as a live webinar at 4:00 p.m. on Thursday April 30, 2020.

Questions may be directed to Diane Ramirez, Project Manager by calling (707) 776-3658 or by email at dramirez@cityofpetaluma.org.





Table A-1: Summary of Comments Received during Public Review

Comment Letter	Response
Oral Comment #1 (Oral comment received during Public Workshop #2)	
<ul style="list-style-type: none"> Commenter inquired about the process and schedule for finalizing the LHMP. 	<ul style="list-style-type: none"> The City and HMPC will review public comments after the close of the public review period and update the Draft LHMP, if needed. The City will then submit the Draft LHMP to the California Office of Emergency Services (Cal OES) for review. Cal OES has 45 days to complete review. Once reviewed, Cal OES will forward the plan to the Federal Emergency Management Agency (FEMA) Region IX for a 45-day review. City Council can consider the Draft LHMP for adoption once FEMA review is complete.
Written Comment #1 (Emailed Letter dated May 7, 2020)	
<ul style="list-style-type: none"> Commenter explained that the LHMP is strong in many areas, but fails to adequately respond to the imminent risk of climate change and flooding (page 1) (BOH-1). 	<ul style="list-style-type: none"> The City appreciates the comments on the Public Review Draft LHMP regarding flooding and climate change. The Draft LHMP includes a discussion on climate change considerations in each hazard profile in Chapter – Risk Assessment. The organization of this discussion aligns with the organization of the 2018 California State Hazard Mitigation Plan (SHMP) that summarizes the effects of climate change within each hazard profile rather than a separate hazard profile. After reviewing all public comments on the Public Review Draft LHMP, the City revised sections of the Draft LHMP, including the risk assessment to clarify the hazard risks associated with climate change and flooding, and to emphasize that climate change would intensify these hazards. This City also revised the priority level for various mitigation actions included in Chapter 5 – Mitigation Strategy. The City’s recognizes the imminent threat of climate change and adopted the City’s Climate Emergency Resolution in early 2019 (as noted in Section 2.9.4 – Mitigation Outreach and Partnership) and established a Climate Action Commission (CAC) in late 2019 to focus on developing plans and policies to address the issue. The CAC intends to prepare a Climate Action and Adaptation Plan (CAAP), as part of their Work Plan, in coordination with the City. This plan will expand on the impacts of greenhouse gas (GHG) emissions and climate change, and will include additional climate adaptation strategies.





	<ul style="list-style-type: none"> The City is also in the process of initiating a comprehensive update to the General Plan 2025, which will incorporate this LHMP and include a detailed update to the General Plan Health and Safety Element consistent with California Government Code Section 65302(g).
<ul style="list-style-type: none"> Commenter noted that because the City declared a Climate Emergency, climate change should be a high priority, and LHMP does not reflect this emergency in the Mitigation Action Summary (no actions specific to climate change). The commenter states that where climate change affects other hazards the mitigation actions are rated with “low” or “medium” priority, and climate change is downplayed where it should be highlighted in LHMP (page 2) (BOH-2). 	<ul style="list-style-type: none"> The Draft LHMP discusses the City’s Climate Emergency Resolution in Section 2.9.4 – Mitigation Outreach and Partnership Capabilities of Chapter 2 – Community Profile. The establishment of the CAC is summarized in the same section. The Climate Emergency Resolution has been added to Table 3-5: Incorporated Planning Mechanisms in Section 3.3.1 of Chapter 3 – Planning Process. Climate change is expected to intensify existing natural hazards in the City. Consistent with the organization of the 2018 SHMP, the City and HMPC integrated climate change hazards and considerations in specific hazard profiles in Chapter 4 – Risk Assessment rather than within a separate section. The Climate Change Considerations subsection within each hazard profile was updated to include recently available information (i.e., graphs) from Cal-Adapt on extreme precipitation, extreme heat, and future wildfire risk projections. The City and HMPC reviewed the priority levels of the mitigation actions in Chapter 5 – Mitigation Strategy and revised two of the priority levels to “high” to emphasize the City’s intent to make every effort in the Draft LHMP to initiate or continue these actions over the next 5-year period, consistent with the City’s Climate Emergency Resolution. During the 5-year review and annual maintenance period (summarized in Chapter 7 – Plan Implementation and Maintenance of the Draft LHMP), the HMPC will reconvene and review the progress of the mitigation actions, specifically those that would require a longer timeframe for implementation. Similarly, during the next update cycle, the HMPC can assign different priority levels to mitigation actions based on updated climate change science projections, data, and new studies.
<ul style="list-style-type: none"> Commenter notes that cities are in position to identify populations vulnerable to climate change and environmental justice and social equity must be paramount in the LHMP. The LHMP only 	<ul style="list-style-type: none"> Chapter 2 – Community Profile of the Draft LHMP includes a discussion on the specific disadvantaged communities identified in the City’s Planning Area based on publicly available and web-based data visualization application tools.





<p>discusses mitigation to disadvantaged communities in Mitigation Action SW-2 (pages 3 – 5) (BOH-3).</p>	<ul style="list-style-type: none">• Section 2.5.2 Disadvantaged Communities consists of a discussion on the census tracts and block groups within the City that are disadvantaged or socially-vulnerable to natural hazards and climate change based on the population and number of households; several state and regional sources were used to summarize the disadvantaged communities. This information is also qualitatively discussed in the vulnerability assessment in Chapter 4 – Risk Assessment of the Draft LHMP.• The mitigation actions in Chapter 5 – Mitigation Strategy were drafted by taking into consideration FEMA’s recommended STAPLEE criteria (i.e., social, technical, administrative, political, legal, economic, environmental). The actions were also prioritized based on social equity and environmental justice considerations (see Section 5.2.1 Prioritization Process).• Several mitigation actions in Chapter 5, specifically Mitigation Actions HM-1, SW-2, MH-6, and MH-7 were updated to emphasize outreach efforts targeted for the disadvantaged and vulnerable communities in Petaluma located downtown and north of the City.• Effective outreach to disadvantaged communities can take time and requires a long-term strategy, beyond the planning process for the development of a LHMP. Certain organizations, such as the local health district and school district could provide coordination with specific Community-Based Organizations (CBOs) in Petaluma that represent disadvantaged communities. Ongoing coordination with such organizations has been included in the updated mitigation actions.• The priority level for Mitigation Action SW-2 was updated to take into account that there is currently no back-up power system for the Community Center at Lucchesi Park, and the need to install renewable back-up power sources at the facility is a “high priority.” This measure was revised to develop the Community Center as a “safe place” during wildfires, floods, and extreme heat events.• During the recent wildfires, the Community Center at Lucchesi Park was used as an emergency shelter for evacuees and victims from the 2017 and 2019 wildfires, and the City intends to continue to use this facility as an emergency shelter during future wildfire events.
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<ul style="list-style-type: none"> • Commenter notes that climate change is different from other hazards for a number of reasons related to how greenhouse gas (GHG) emission persist in the atmosphere and must be addressed differently in the LHMP (pages 5 – 7) (BOH- 4). 	<ul style="list-style-type: none"> • The City recognizes that climate change will result in an increase in variances in climate patterns, which in turn will exhibit changes in the severity and frequency of severe hazard events, such as heavy rainfall, flooding, wind, wildfire, and extreme heat. • Chapter 4 – Risk Assessment was revised to reference information from the 2018 SHMP and emphasize that that while the frequency of past events and the assumption that historic occurrence rates are generally a good predictor of future event probability, with the onset of climate change, planning must be based on modeled scenarios that account for shifts in historic conditions due to climate change. • Recent climate change projection data (i.e. graphs) from Cal-Adapt related to future extreme heat, extreme precipitation, and wildfire risk projections were incorporated into Chapter 4 – Risk Assessment. • Mitigation Action SLR-5 in the Mitigation Strategy includes language requiring the routine review of best available science and sea level rise projections, but was expanded to also include reviewing climate change scenarios related impacts on other natural hazards, such as flooding, wildfire, and extreme heat risk. • Additional information related to climate change is expected to be incorporated into the CAAP being prepared by the City and CAC, as well as the comprehensive update to the General Plan.
<ul style="list-style-type: none"> • Commenter suggests edits to the Earthquake section in the risk assessment related to landslide potential and susceptibility (pages 7 – 8) (BOH-5). 	<ul style="list-style-type: none"> • Comment noted. Figure 4-11 in Section 4.3.3 in Chapter 4 – Risk Assessment illustrates that the majority of the City is relatively flat and not within an area susceptible to landslides based on the local soils and geology. Because the west and southwest portions of the City are within moderate to high landslide susceptible areas, the Draft LHMP was updated to note that precipitation and added moisture in the soil, which may occur more frequently due to climate change, would weaken soils and the likelihood of landslides. • The City currently tracks national and statewide weather forecasts in order to adequately warn its citizens of severe weather, flooding, and slope failure potential.
<ul style="list-style-type: none"> • Commenter proposes the discussion on the probability of future wildfire occurrences should be revised from “occasional” to “likely” given the 	<ul style="list-style-type: none"> • The City recognizes the wildfire threat outside the City’s Planning Area and concluded the probability of future occurrences in the City based on the





<p>wildfire threat from wildlands outside the City and from the increasing impacts of climate change (page 8) (BOH-6).</p>	<p>portion of the City within the Wildland Urban Interface (WUI) and High Fire Hazard Severity Zones (FHSZs). The City recognizes the threat of a wildfire from the unincorporated portion of the County could spread towards the City, resulting in the need for City residents to evacuate.</p> <ul style="list-style-type: none"> The City recognizes the importance of the comment made regarding the impacts from smoke and the potential disruption smoke may have on evacuation routes in the City. As a result, the language referenced in the comment letter was incorporated into Section 4.3.4 on wildfires.
<ul style="list-style-type: none"> Commenter suggests minor revisions to the text in the Climate Change Considerations subsection in Section 4.3.3 on Wildfires. These revisions included stronger language on the impacts of climate change on wildfires (i.e., will versus may), as well as language regarding developing a plan to address the threat (page 9) (BOH-7). 	<ul style="list-style-type: none"> The Draft LHMP was revised to emphasize the increased threat of climate change on wildfire risk in the City and outside the City in unincorporated Sonoma County. Future planning efforts associated with mitigation actions and adaptation strategies related to wildfire planning are not addressed in Chapter 4 – Risk Assessment. Planning efforts and adaptation strategies related to wildfire risk are addressed in Chapter 5 – Mitigation Strategy. This chapter includes various state and Sonoma County projects that address wildfire threats.
<ul style="list-style-type: none"> The comment requests changes to the language under the Future Development subsection regarding wildfire hazards in Section 4.3.4 (pages 9 – 10) (BOH-8). 	<ul style="list-style-type: none"> Comment noted. This comment was taken into consideration by the City as it relates to the wildfire hazards in the WUI that are within the City limits and Urban Growth Boundary (UGB). Mitigation Actions related to the City’s Implementing Zoning Ordinance (IZO) are included in Chapter 5 – Mitigation Strategy.
<ul style="list-style-type: none"> The comment notes edits to make to the Wildfire Risk Summary (pages 10 – 11). (BOH-9). 	<ul style="list-style-type: none"> The Draft LHMP was revised to reflect the overall risk significance of wildfire hazards in the City. While the probability of future wildfire occurrences remained “occasional” in the City’s Planning Area, as noted in the Draft LHMP, the plan was revised to emphasize the future occurrences of wildfires outside the City is “likely” and was taken into consideration during mitigation efforts.
<ul style="list-style-type: none"> The commenter notes Section 4.3.5 on flood hazards is excessively detailed and not accessible for the general public and lacks clarity. The comment notes various sections where the section could be improved (pages 11 - 12). (BOH-10). 	<ul style="list-style-type: none"> Given the history of flooding in the City of Petaluma, and its participation with the National Flood Insurance Program (NFIP) and the Community Rating System (CRS), Section 4.3.5 included detailed modeling and mapping of the 100-year and 500-year flood hazards, as well as repetitive loss properties. This information is required to be included in the Draft LHMP to ensure it aligns with Activity 510 summarized in the CRS Coordinator’s Manual. The CRS Coordinator’s





	<p>Manual is a guidebook on the credits and credit criteria for the CRS for community activities and programs that go above and beyond the minimum requirements for NFIP participation.</p> <ul style="list-style-type: none">• The City of Petaluma has been involved in numerous floodplain management efforts over the past decade, including the recent update in 2015 to the Floodplain Management Plan.• The City has planned and implemented large-scale flood control projects, in coordination with the U.S. Army Corps of Engineers. The City has also acquired properties in the floodplain along the Petaluma River, and successfully acquired and maintained an extensive network of park and open space lands. Given these efforts, Section 4.3.5 discusses flood hazards in greater detail, and integrates information on existing planning mechanisms, specific issues with past flooding areas, and current efforts underway associated with flood control projects to emphasize past and ongoing floodplain management efforts in the City.• The existing figures in the Draft LHMP on sea level rise projections will be updated. These updated maps will be at an adjusted scale so property owners can determine whether their property is within the flood hazard zones and sea level rise inundation areas. These maps will be provided in a separate Appendix to this Draft LHMP. There are also mitigation actions in Chapter 5 – Mitigation Strategy related to the development of a web-based Geographic Information System (GIS) viewer. A web-based GIS viewer would be available to the public and would display flood hazard zones and sea level rise inundation areas on electronic maps.• Section 4.3.5 has been revised to include information and definitions on levee certification, flood hazard zones, and the status of some of the levee and flood control projects in the City in effort to ensure the technical details in the Draft LHMP are summarized in a clear and user-friendly format.• Section 4.3.5 includes additional information that clarifies the status of some of the flood control projects and levee improvements in order to show the community that because of the implementation of these projects, the severity or magnitude of flood hazards in the City should be minimized. The status of the recent flood control projects is also included in Chapter 5 – Mitigation Strategy (see Mitigation Action F-1). Also, while many of these
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	<p>projects would reduce flooding in the City and better protect people and properties within or near the floodplain, the Draft LHMP emphasizes the effects of climate change on flooding in the City will result increased seasonal variability of precipitation, runoff, and stream flows.</p>
<ul style="list-style-type: none"> • Commenter noted statements in Section 4.3.6 on sea level rise that are concerning and explains it will be important for the City to plan for sea level rise and related hazards, but does not feel the Draft LHMP provides the answers to such hazard impacts. The comment also notes a discrepancy between a statement in the section regarding shoreline protection and adaptation structures. (page 13) (BOH-11). 	<ul style="list-style-type: none"> • Section 4.3.6 included the City’s first sea level rise vulnerability assessment that evaluated the extents of three sea level rise scenarios (i.e., 25 cm, 75 cm, and 200 cm), including tidal inundation only and tidal inundation with the 100-year coastal flood event. Based on the initial findings of this preliminary assessment, the City has begun to understand these projections and scenarios, and plan for them by developing sea level rise and flood-related mitigation actions and adaptation strategies. The City, in coordination with the CAC, intends to explore sea level rise impacts in more detail in during the development of the CAAP. • The discrepancy regarding whether shoreline protection or adaptation strategies, such as large-scale levees are in place in the sea level rise modeling assumptions was noted. The first statement in the Draft LHMP was correct – the Coastal Storm Modeling System (CoSMoS) model assumes some level of shoreline protection, specifically large-scale structures, such as levees that are visible on LiDAR (light detection and ranging remote sensing) data. Small structures, and adaptation strategies that are programmatic or planning mechanisms, such as zoning or floodplain regulations are not accounted for in the CoSMoS model. The sea level rise vulnerability assessment in the Draft LHMP has been revised to address this discrepancy.
<ul style="list-style-type: none"> • The comment asks about the meaning of “occasional” in the context of the probability of future occurrences of sea level rise given sea levels will not rise occasionally (page 13) (BOH-12). 	<ul style="list-style-type: none"> • As described in Table 4-2 and in the introduction of Section 4.3 the frequency of past events is used to gauge the likelihood of future occurrences. Frequency is calculated based on existing data and is determined by dividing the number of events observed by the number of years on record and multiplying by 100. This gives the percent chance of an event happening in any given year (e.g., three droughts over a 30-year period equates to a 10 percent chance of a drought in any given year). The likelihood of future occurrences is categorized into one of four classifications in the risk assessment. “Occasional” classifications have between a 1 and





	<p>10 percent chance of occurrence in the next year or have a recurrence interval of 11 to 100 years.</p> <ul style="list-style-type: none"> Given the likelihood of sea level rise projections for the next 5 years compared to the next half century would vary depending on climate models and projections, the frequency of past events is not the best indicator for the likelihood of future hazard events related to sea level rise. The best predictor for climate change is future projection data and climate modeling. The CoSMos Model from Our Coast Our Future (OCOF) was integrated into the Draft LHMP to address the probability of future occurrence of sea level rise.
<ul style="list-style-type: none"> Commenter suggests making changes to the risk summary in Section 4.3.8 regarding Severe Weather: Extreme Heat (page 14) (BOH-13). 	<ul style="list-style-type: none"> LHMPs are required to be updated every 5 years based on the requirements in the Disaster Mitigation Action and the Stafford Act amendments. At the time of preparation of this Draft LHMP, extreme heat was ranked as “medium” for overall hazard significance. As climate change impacts increase over time, the significance and priority ranking of extreme heat hazards in the City can be adjusted during the next LHMP 5-year update cycle.
<ul style="list-style-type: none"> Commenter suggests changes to Section 4.3.9 Severe Weather in Chapter 4 – Risk Assessment regarding language in the Climate Change Considerations summary (page 14) (BOH-14). 	<ul style="list-style-type: none"> This comment was noted. Section 4.3.8 Severe Weather was revised to note the City recognizes climate change will result in more frequent extreme weather events and in turn the City will keep abreast of the latest science to inform planning processes. Mitigation Action SLR-5 addresses continually assessing climate data and sea level rise modeling to tailor adaptation planning efforts.
<ul style="list-style-type: none"> Commenter listed questions and comments concerning four flood mitigation actions, specifically F-1, F-2, F-3, and F-4 that focus on structural flood mitigation projects, floodplain protection and acquisition, annual stream and creek channel maintenance, and higher regulatory standards (page 15) (BOH-15). 	<ul style="list-style-type: none"> Mitigation Action F-1 in Chapter 5 – Mitigation Strategy was revised in the Draft LHMP to emphasize the City will pursue future structural flood projects, in addition to completing the flood projects already planned and under construction. Information on past and current flood projects must be included in the Mitigation Strategy to account for project status and successes. Also, if a mitigation action from the previous plan (2010 Association of Bay Area Governments [ABAG] plan) has been completed or deleted from the strategy, the LHMP must explain the status or why an action was deleted. The City took into consideration the comment on Mitigation Actions F-2 and F-3 regarding the priority level for floodplain property protection and acquisition and annual stream and creek channel maintenance, but decided not to adjust the priority





	<p>level of these actions in the Mitigation Strategy at this time. These particular mitigation actions will take a longer time to implement given the planning and permitting associated with major structural flood control projects and the funding needed to pursue floodplain property acquisitions.</p> <ul style="list-style-type: none">• The City reviewed the status of flood protection policies put into effect since the adoption of the General Plan 2025. Mitigation Action F-4 is consistent with similar strategies outlined in the 2015 FMP, and can be updated in the future General Plan update process.• The City has recently initiated the planning process to begin a comprehensive update to the General Plan 2025, which will incorporate this LHMP and include a detailed update to the General Plan Public Health and Safety Element consistent with California Government Code Section 65302(g).
<ul style="list-style-type: none">• Commenter points out climate change will exacerbate many of the hazards in Petaluma and mitigation should address the problem comprehensively by developing a program to plan for climate change that includes either hiring a Resilience Officer or making sure the task of managing a plan for climate change is integrated as a part-time role for existing staff (page 16 and 17) (BOH-16).	<ul style="list-style-type: none">• This comment was noted by the HMPC and the City and taken into consideration during revisions to the Draft LHMP. The City expanded on the importance of addressing climate change in the revised Draft LHMP by revising the mitigation actions included in Chapter 5 – Mitigation Strategy that are influenced by climate change (e.g., flooding, sea level rise, wildfire hazards).• The City, in coordination with the CAC, intends to prepare a CAAP. This plan will expand on the impacts of GHG emissions and climate change, and include additional climate adaptation strategies.• The City is also in the process of initiating a comprehensive update to the General Plan 2025, which will incorporate this Draft LHMP and include a detailed update to the General Plan Health and Safety Element consistent with California Government Code Section 65302(g).





Anonymous Commenter (Electronic Comment Form dated May 11, 2020)	
<ul style="list-style-type: none"> The commenter notes issues with prioritizing flood hazards as a medium priority, as flooding has been the biggest threat to the City based on historical flooding. The comment also mentions that development that has occurred in flood prone areas upstream of the Payran flood wall and states the City should incorporate higher regulatory standards for flood protection and prioritize the impacts of sea level rise and future flood hazards that will be more frequent due to climate change. 	<ul style="list-style-type: none"> The City appreciates the comment regarding prioritizing the significance flood hazards and recognizes the long history of flooding in the City, specifically around the Payran neighborhood. There is a discussion in Section 4.3.5 of Chapter 4 – Risk Assessment that provides an overview of the repetitive loss properties in the City (and around the Payran neighborhood) (see subsection “Insurance Coverage and NFIP Claims and Losses for Repetitive Loss Properties”). The Draft LHMP also includes a discussion on the impacts of future development in flood hazard areas in Chapter 4 – Risk Assessment. The City took these comments in to consideration and has revised the priority level of the mitigation actions included in Chapter 5 – Mitigation Strategy. The City also revised the descriptions, alternatives, and timing of several of the flood mitigation actions.
Written Comment #2 (Electronic Comment Form dated May 11, 2020)	
<ul style="list-style-type: none"> The commenter notes issues with prioritizing flood hazards as a medium priority, as flooding has been the biggest threat to the City based on historical flooding. The comment also mentions development that has occurred in flood prone areas upstream of the Payran flood wall and states the City should incorporate higher regulatory standards for flood protection and prioritize the impacts of sea level rise and future flood hazards that will be more frequent due to climate change. 	<ul style="list-style-type: none"> The City appreciates the comment regarding prioritizing the significance of flood hazards and recognizes the long history of flooding in the City, specifically around the Payran neighborhood. There is a discussion in Section 4.3.5 of Chapter 4 – Risk Assessment that provides an overview of the repetitive loss properties in the City (and around the Payran neighborhood) (see subsection “Insurance Coverage and NFIP Claims and Losses for Repetitive Loss Properties”). The Draft LHMP includes a discussion on the impacts of future development in flood hazards areas in the Vulnerability Assessment in Chapter 4 – Risk Assessment. The City took these comments in to consideration and has revised the priority level of some of the mitigation actions included in Chapter 5 – Mitigation Strategy of the Draft LHMP that cover flood hazards. The City also revised the descriptions, alternatives, and timing of several of the mitigation actions.





Written Comment #3 (Electronic Comment Form dated May 11, 2020)	
<ul style="list-style-type: none"> The commenter refers the City to their May 7, 2020 comment letter. This letter is the first comment letter summarized in Table 3-6 in Chapter 3 – Planning Process. 	<ul style="list-style-type: none"> The City has reviewed the comments in the referenced May 7, 2020 comment letter. Please refer to the response to the May 7, 2020 comment letter in Table 3-6 in Chapter 3 – Planning Process or Table A.1 in this Appendix (Appendix A).

Table A.2. Summary of Comments Received from the Stakeholders

Comment Letter	Comment	Response
Written Comment Letter #1 (Received May 28, 2020 from the Climate Action Commission Adaptation Committee)		
	<ul style="list-style-type: none"> The comment references the City of Petaluma Climate Emergency Resolution adopted in early 2019. It states the risk assessment methodology for climate change should differ from the risk assessment for other natural hazards and should be based on the probability of future occurrences, whereas the risk assessment for other hazards is traditionally based on the frequency of past events (page 1 and 2) (ADPT-1). 	<ul style="list-style-type: none"> Section 4.3 in Chapter 4 – Risk Assessment explains the frequency of past events is used to gauge the likelihood of future occurrences for most natural hazards with the exception of climate change. The Draft LHMP has been revised to emphasize that with the onset of climate change, the frequency of past events is not the only indicator to determine the likelihood of future events, such as flooding, sea level rise, and wildfire hazards that may be impacted by climate change. The Draft LHMP indicates the best predictor of climate change on other natural hazards is future projection data and climate modeling that are based on shifts in historic conditions. Chapter 4 – Risk Assessment in the Draft LHMP was revised to incorporate references to the 2018 California SHMP, which explains how climate change may intensity natural hazards and how future projections, scenarios, and models should be used in planning efforts.
	<ul style="list-style-type: none"> The commenter notes air pollution is an environmental justice and public health issue for vulnerable populations and communities along the freeways near Petaluma. This public health issue increases from wildfire smoke and poor air quality (page 2) (ADPT-2). 	<ul style="list-style-type: none"> Section 4.4.1 Methodology and Results in Chapter 4 – Risk Assessment identifies all the natural and human-caused hazards considered for assessment in the Draft LHMP by the HMPC. It explains which hazards were eliminated from further consideration in the risk assessment based on a lack of past occurrences, minimal potential impacts, or because a separate state or local regulatory program addresses the hazard. Air pollution in the Petaluma Valley is regulated by the U.S. Environmental Protection Agency, California Air Resources Board, and Bay Area Air Quality Management District. Because federal, state, and regional laws and regulations are in place to manage and enforce air quality conditions in the region, air pollution and associated public health issues were not assessed in the Draft LHMP. However, the secondary impacts of wildfire smoke, poor air quality, and public health concerns associated with wildfire hazards were addressed in Section 4.3.4 Wildfire.





<ul style="list-style-type: none"> The comment states energy shortage and energy resiliency should not have been eliminated from the LHMP without reference to the documents that cover these subjects (page 2) (ADPT-3). 	<ul style="list-style-type: none"> Section 2.9.4 Mitigation Outreach and Partnership Capabilities in Chapter 2 – Community Profile covers existing mitigation efforts underway at the City and County that address public safety power shut-offs (PSPS). The City’s Power Shutoff Webpage was launched in 2019 prior to the first major planned PSPS that occurred in October 2019. The City created the Webpage to share information on the PSPS both before the shut-offs took place and after Pacific Gas & Electric announced the shut-off. The Webpage included information (in both English and Spanish) on tips for the community on where the shutoffs would occur, how to prepare for long-term shut-offs, and nearby community shelters. Section 4.4.1 Methodology and Results in Chapter 4 – Risk Assessment indicates that the energy shortage and energy resiliency discussion was integrated into the Extreme Weather: High Winds section of the risk assessment. Energy resiliency was not eliminated from the Draft LHMP, but integrated as a cascading consequence related to high winds and wildfire hazard events that can result in PSPS.
<ul style="list-style-type: none"> Commenter notes that vector borne diseases, like West Nile Virus will become a problem with climate change (page 2) (ADPT-4). 	<ul style="list-style-type: none"> Section 4.4.1 Methodology and Results in Chapter 4 – Risk Assessment indicates that human-health hazards, such as epidemics, pandemics, and vector-borne disease hazards were prioritized well before the City was aware that human-health hazards, such as the COVID-19 pandemic would become a local, domestic, and global health emergency. At the time of planning what hazards to prioritize in the Draft LHMP, the HMPC agreed that human-health hazards, including vector borne diseases were adequately addressed by the Sonoma County Public Health Division Disease Control Unit, and the Safety Unit, Risk Management Division. Human-health concerns, such as the COVID-19 pandemic are now addressed by the City’s Emergency Operations Center.
<ul style="list-style-type: none"> Commenter suggests minor revisions to Section 4.3.3 Earthquakes in the risk assessment related to landslide potential and susceptibility (pages 2 – 3)(ADPT-5). 	<ul style="list-style-type: none"> Figure 4-11 in Section 4.3.3 Wildfire in Chapter 4 – Risk Assessment illustrates that the majority of the City is relatively flat and not within an area susceptible to landslides based on the local soils and geology. Because the west and southwest portions of the City are within moderate to high landslide susceptible areas, the Draft LHMP was updated to note that precipitation and added moisture in the soil, which may occur more frequently due to climate change, would weaken soils and the likelihood of landslides in these areas of the City.





	<ul style="list-style-type: none"> The City currently tracks national and statewide weather forecasts in order to adequately warn its citizens of severe weather, flooding, and slope failure potential.
<ul style="list-style-type: none"> Commenter suggests the discussion on the probability of future wildfire occurrences should be revised from “occasional” to “likely” given the wildfire threat from wildlands outside the City and from the increasing impacts of climate change (page 3)(ADPT- 6). 	<ul style="list-style-type: none"> The City recognizes the wildfire threat outside the City’s Planning Area and concluded the probability of future occurrences in the City based on the portion of the City within the WUI and High FHSZs. The City recognizes the threat of a wildfire from the unincorporated portion of Sonoma County could spread towards the City, resulting in the need for City residents to evacuate. As a result, the language referenced in the comment was incorporated into Section 4.3.4 Wildfires in Chapter 4 – Risk Assessment.
<ul style="list-style-type: none"> Commenter suggests minor revisions to the text in the Climate Change Considerations subsection in Section 4.3.3 Wildfires (pages 3 – 4) (ADPT-7). 	<ul style="list-style-type: none"> The Draft LHMP was revised to emphasize the increased threat of climate change on wildfire in the City and outside the City in unincorporated Sonoma County. Future planning efforts associated with mitigation actions and adaptation strategies related to wildfire planning are not addressed in Chapter 4 – Risk Assessment. Instead, existing planning mechanisms related to wildfire risk are covered in Chapter 2 – Community Profile (i.e. Mitigation Capability Assessment) and proposed planning efforts and adaptation strategies related to wildfire risk are addressed in Chapter 5 – Mitigation Strategy. The mitigation strategy also includes State and Sonoma County projects that address wildfire threats.
<ul style="list-style-type: none"> Commenter suggests minor revisions to the text in the Future Development subsection of Section 4.3.3 Wildfire (pages 4 – 5) (ADPT-8). 	<ul style="list-style-type: none"> This comment was taken into consideration by the City as it relates to the wildfire hazards in the WUI and High FHSZs within the City. Mitigation Actions related to the IZO are included in Chapter 5 – Mitigation Strategy. The City is also in the process of initiating a comprehensive update to the General Plan 2025, which would include incorporate the Draft LHMP and include a detailed update to the General Plan Public Health and Safety Element consistent with California Government Code Section 65302(g).
<ul style="list-style-type: none"> Commenter suggests minor revisions to the Risk Summary in Section 4.3.3 Wildfire (pages 5 – 6) (ADPT-9). 	<ul style="list-style-type: none"> The Draft LHMP was revised to reflect the overall risk significance of wildfire hazards in the City. While the probability of future wildfire occurrences remained “occasional” in the City’s Planning Area, the LHMP notes the future occurrences of wildfires outside the City is “likely” and was taken into consideration during mitigation actions developed for this plan.
<ul style="list-style-type: none"> Commenter suggests minor revisions to the Risk Summary in Section 4.3.8 Severe Weather: Extreme Heat (page 6) (ADPT-10). 	<ul style="list-style-type: none"> LHMPs are required to be updated every 5 years based on the requirements in the Disaster Mitigation Action and the Stafford Act amendments. At the time of preparation of this Draft LHMP, extreme heat was ranked as “medium” for overall hazard significance.





	<ul style="list-style-type: none"> As climate change impacts increase over time, the significance and priority ranking of extreme heat hazards in the City can be adjusted during the next LHMP 5-year update cycle.
<ul style="list-style-type: none"> Commenter suggests incorporating the data provided in the Sea Level Rise presentation to the Climate Action Commission (pages 6 – 7) (ADPT-11). 	<ul style="list-style-type: none"> The City HMPC reviewed the data provided by Blue Point Conservation Science during the Sea Level Rise presentation to the CAC. The data summarized in the presentation is from the U.S. Geological Survey (USGS) CoSMoS dataset from OCOF. The City used the same dataset to develop the sea level rise vulnerability assessment in the Draft LHMP. Section 4.3.6 in Chapter 4- Risk Assessment of the Draft LHMP includes the City’s first sea level rise vulnerability assessment that evaluated the extents of three sea level rise scenarios (i.e., 25 cm, 75 cm, and 200 cm), including tidal inundation only and tidal inundation with the 100-year coastal flood event. At the time the risk assessment was being developed, these were the publicly available datasets provided to the City to complete the vulnerability assessment. The City worked with the OCOF and USGS CoSMoS Director of Outreach during the development of the sea level rise vulnerability assessment. The OCOF and USGS CoSMoS Director of Outreach provided input on the selection of the sea level rise scenarios and reviewed internal drafts of the sea level rise hazard profile, maps, and vulnerability assessment included in the Draft LHMP.
<ul style="list-style-type: none"> Commenter suggests minor revisions to the priority level of all natural hazards that may be intensified by climate change, such as extreme heat, drought, flooding, and wildfire (page 8) (ADPT-12). 	<ul style="list-style-type: none"> The City revised the priority levels of some of the mitigation actions in Chapter 5 – Mitigation Strategy of the Draft LHMP that cover natural hazards that may be intensified by climate change. Priority levels were specifically revised for flooding and wildfire hazard mitigation actions.
<ul style="list-style-type: none"> Commenter points out climate change will intensify many of the hazards in Petaluma and the Draft LHMP should include a mitigation action for the City to develop a program or plan to address climate change. The plan should monitor the science of climate change and regulatory updates the City can take to proactively plan for climate and reduce potential climate-related impacts on the community (pages 8 – 10) (ADPT -13). 	<ul style="list-style-type: none"> This comment was taken into consideration during revisions to the Draft LHMP. The HMPC emphasized the importance of addressing climate change throughout the LHMP planning process and in the revised Draft LHMP by expanding on specific climate-related mitigation actions included in Chapter 5 – Mitigation Strategy. The City, in coordination with the CAC, intends to prepare a CAAP. This plan will further expand on the impacts of GHG emissions and climate change, and include additional climate adaptation strategies. The City is also in the process of initiating a comprehensive update to the General Plan 2025, which will incorporate the Draft LHMP and include a detailed update to the General Plan Health and Safety Element





	consistent with California Government Code Section 65302(g).
Written Comment Letter #2 (Received May 28, 2020 from the Climate Action Commission Equity Committee)	
<ul style="list-style-type: none"> • Commenter indicates the Executive Summary notes four goals, but five goals are listed. The comment also suggests minor edits to the goals related to consideration of economic damage (Goal #1), actions beyond “preserve and protect” (Goal #2), and the timeframe for climate change related goals (Goal #5) (page 1)(EQTY-1). 	<ul style="list-style-type: none"> • The goals listed in the Executive Summary and Mitigation Strategy of the Draft LHMP are a result of several planning sessions with the HMPC. During each planning session the HMPC was provided goal examples from related City planning documents (i.e. Health and Safety Element) and regional plans to ensure the goals aligned and complemented similar planning efforts. • The Executive Summary and Chapter 5 – Mitigation Strategy in the Draft LHMP was revised to emphasize the five main goals of the plan. • The Draft LHMP will involve a long-term implementation plan that will include routine mitigation action tracking, monitoring, and maintenance to ensure, as outlined in Chapter 7 – Implementation and Maintenance Plan.
<ul style="list-style-type: none"> • The commenter suggests reorganizing the mitigation actions from high to low priority and re-prioritizing mitigation actions for drought hazards. The comment notes whether the specific flood mitigation actions in the north part of the City could result in more flooding in other parts of the City. The commenter notes that the sea level rise mitigation actions related to mapping and assessing hazards and updating the IZO should be prioritized has high. The commenter also suggests re-prioritizing extreme heat and wildfire mitigation actions that involve establishing cooling centers and targeted homeowner outreach regarding defensible space (pages 1 – 2) (EQTY-2). 	<ul style="list-style-type: none"> • Chapter 5 – Mitigation Strategy consists of 34 mitigations actions for 11 natural and human-caused hazards, including several multi-hazard actions. Several of these mitigation actions were re-prioritized as “high” priority mitigation actions in the plan, including several wildfire mitigation actions. The City also revised the priority level of a mitigation action related to the structural flood projects and added additional detail to a mitigation action related to the need for a resiliency hub or cooling center and the need for back-up generator power.
<ul style="list-style-type: none"> • There is a general comment on the quote stating, “On average, each \$1 spent on hazard mitigation saves society an average of \$6 in avoided future disaster costs.” The commenter asks what are these savings for the City of Petaluma? The commenter also notes there is good language about decreasing vulnerability, but fewer specifics about increasing sustainability and resilient response capability. (page 2)(EQTY-3) 	<ul style="list-style-type: none"> • The Draft LHMP will document the City’s hazard mitigation planning process and identify relevant hazards and vulnerabilities and strategies they will use to decrease vulnerabilities and increase resiliency and sustainability over time. While the specific costs savings from past hazard mitigation efforts associated with the 2010 ABAG plan were not assessed in this plan update, each year taxpayers pay to help communities recover from disasters. Because many natural disasters are predictable, much of this damage can be alleviated or eliminated as summarized in Section 1.1 Background and Scope in Chapter 1 – Introduction.





	<ul style="list-style-type: none"> This Draft LHMP update is an important step for the City to identify and plan for natural hazards and to continue to invest in mitigation.
<ul style="list-style-type: none"> Commenter notes whether the outreach strategy to vulnerable and disadvantaged communities was successful and whether additional outreach will be conducted prior to City Council adoption (page 2)(EQTY-4). 	<ul style="list-style-type: none"> The City and HMPC developed and implemented a Community Outreach Plan to support public input and engagement during the hazard mitigation planning process and the development of the Draft LHMP update. Outreach included newspaper articles, public noticing, social media announcements, two online surveys, and invitations to local community groups, such as the local health district to extend participation to socially vulnerable segments of the community. Outreach also included two public workshops. Outreach materials associated with the LHMP planning process are included in this appendix (Appendix A). Effective outreach to disadvantaged and socially-vulnerable communities can take time and requires a long-term strategy, beyond the one-year planning process associated with the development of a LHMP. Certain organizations involved on the HMPC, such as the local health district and others, such as the local school district could also provide coordination with specific CBOs in Petaluma that represent vulnerable and disadvantaged communities. Ongoing coordination with such organizations has been included in the updated mitigation actions. Given the LHMP is a “living” document, the City can also continue to engage specific neighborhood groups, CBOs, and disadvantaged communities through final adoption, during annual reviews, and during the formal 5-year LHMP update.
<ul style="list-style-type: none"> The commenter notes that it will be important for the City to follow State of California guidance on preparing for climate change, particularly from agencies, such as the State Coastal Conservancy and San Francisco Bay Conservation and Development Commission (page 2)(EQTY-5). 	<ul style="list-style-type: none"> The City and HMPC relied on a combination of planning guides from federal, state, and local agencies and organizations during the planning process for the City’s LHMP. Key planning guidance included FEMA’s <i>Local Hazard Mitigation Planning and Mitigation Ideas</i> and the Cal OES <i>California State HMP and Adaptation Planning Guide</i>. The City and HMPC also reviewed planning tools and documents from the U.S. Environmental Protection Agency (<i>Regional Resilience Toolkit</i>), the California Coastal Conservancy (<i>Sea Level Rise Policy Guidance</i>), California Ocean Protection Council (<i>Sea-Level Rise Guidance</i>), as well as the Office of Planning and Research (<i>Planning and Investing for a Resilient California</i>), Sonoma County (<i>Climate Action 2020</i>), and the OCOF user-driven project case studies.
<ul style="list-style-type: none"> The commenter suggests the areas outside the City’s Urban Growth Boundary should be evaluated for future development in the LHMP. 	<ul style="list-style-type: none"> The HMPC selected the City’s UGB as the most appropriate “planning area” for the City’s Draft LHMP. This area is defined and mapped in Section 1.3.2 of





<p>The commenter states future development in these areas may make long-term hazard mitigation more difficult (page 2)(EQTY-6).</p>	<p>Chapter 1 – Introduction. The planning area refers to the geographic area covered by the plan. Generally, this planning area follows local government jurisdictional boundaries, such as city limits or county boundaries. Planning areas may also be defined by watersheds or other natural hazards, where hazards create similar risks across jurisdictional boundaries. The City’s HMPC established the City’s UGB to account for future development and the potential need to address natural hazards risks in this area. The City can assess whether the planning area should be redefined during the next LHMP update.</p>
<ul style="list-style-type: none"> The commenter notes the history section in the Community Profile should reference the Miwok and early Spanish and Mexican-era history in the area (page 3)(EQTY-7). 	<ul style="list-style-type: none"> Section 2.3 in Chapter 2 – Community Profile is based on the development and incorporation of the City of Petaluma as summarized in the introduction and overview section of the General Plan 2025. Section 2.3 was revised to reference additional historical context on the Coast Miwok indigenous people and the early Mexican and European settlement in the area.
<ul style="list-style-type: none"> The commenter indicates the LHMP should compare population growth with new housing and homeless or housing burdened population trends, as well as information on the City’s affordable housing program. The commenter also suggests the LHMP should explain there is not enough affordable housing in the City. (page 3)(EQTY-8). 	<ul style="list-style-type: none"> The population and growth projections are based on U.S. Census American Community Survey data, City’s 2015-2023 Housing Element, and the City’s General Plan 2025 buildout estimates. These were the best available sources of information at the time of preparation of the Draft LHMP. The information summarized in Section 2.4.3 in Chapter 2 – Community Profile is based on the U.S. Census American Survey data and the City’s Housing Department Webpage on the Affordable Housing Program.
<ul style="list-style-type: none"> The commenter notes that the percentage of residents in poverty is not addressed in Table 2-6. The commenter also made a general inquiry regarding Figure 2-10 that illustrates disadvantaged communities as defined by the Sacramento County Transportation Agency. The commenter notes that Table 2-6 should include data from before the recession and notes that all people below poverty has risen slightly even in a good economy (page 3)(EQTY-9). 	<ul style="list-style-type: none"> Table 2-6 in Chapter 2 – Community Profile was updated to reflect recent poverty, economic, and employment conditions data in the City.
<ul style="list-style-type: none"> The commenter makes a general comment on the commuter population by summarizing the percentages in Section 2.7. The commenter states it would be good to see the information represented in Table 2-9 in a map (page 3)(EQTY-10). 	<ul style="list-style-type: none"> Comment noted. The information listed in Table 2-9 is from the City of Petaluma General Plan 2025. There are several maps showing the lands uses at buildout in the General Plan documents available here: https://cityofpetaluma.org/planning-documents/.
<ul style="list-style-type: none"> The commenter makes a reference to Section 2.9.1 on the City of Petaluma’s Regulatory 	<ul style="list-style-type: none"> Comment noted. The Flood Insurance Study (FIS) develops flood-risk data for various areas of a





<p>Mitigation Capabilities, and specifically that the IZO references floodplain regulations based on a 1979 study that needs to be updated. The commenter states no further projects should be built in flood zones unless they can be shown to protect the buildings themselves and not add cumulative impacts to flooding on any other parcel (page 3)(EQTY-11).</p>	<p>community that are used to establish flood insurance rates and assist the community in its efforts to promote sound floodplain management. As described in Section 4.3.5, the latest FIS applicable to the City of Petaluma was included in a five-volume report along with other incorporated jurisdictions and unincorporated areas studied in Sonoma County. This recent report was last revised on March 7, 2017. Further, the most current Digital Flood Insurance Rate Maps (DFIRMs) for the City are included in the County's National Flood Hazard Layer (NFHL) database. The latest effective date for studies in the County (including the City of Petaluma) in the NFHL database is also March 7, 2017.</p> <ul style="list-style-type: none"> The City has reviewed and taken the comment regarding the reference to the 1979 FIS into consideration in the development of the Draft LHMP and any future updates to Chapter 6, Floodway and Flood Plain Districts of the IZO.
<ul style="list-style-type: none"> The commenter makes a reference to a statement in Chapter 2 – Community Profile. The commenter states that the City's Housing Element does not address the housing needs for "all" economic segments of the City (page 2 – 3)(EQTY-12). 	<ul style="list-style-type: none"> Comment noted. The City has reviewed and taken this comment into consideration in the development of the Draft LHMP.
<ul style="list-style-type: none"> The commenter notes the Emergency Operations Plan (EOP) should address future public health emergencies and pandemics and the percentage of the homeless population or percentage of the population living in substandard housing conditions (page 3)(EQTY-13). 	<ul style="list-style-type: none"> Comment noted. The City has reviewed and taken this comment into consideration in the development of the Draft LHMP. At the time of planning what hazards to prioritize in the Draft LHMP, the HMPC agreed that human-health hazards, including vector borne diseases were adequately addressed by the Sonoma County Public Health Division Disease Control Unit, and the Safety Unit, Risk Management Division. Human-health concerns, such as the COVID-19 pandemic are now addressed by the City's Emergency Operations Center and will be incorporated in the future update of the 2007 EOP.
<ul style="list-style-type: none"> The commenter notes the opportunities for enhancement listed in Table 2-16 should be looked at with an equity lens and a climate action priority lens. The commenter also points out that the City should work towards achieving a higher CRS rating and towards implementing more green infrastructure projects (page 3)(EQTY-14). 	<ul style="list-style-type: none"> Comment noted. The City's Draft LHMP was aligned to achieve additional credits under Activity 510 of the CRS Program, which will help the City potentially achieve a higher rating when they are assessed during future verification visits. Chapter 5 – Mitigation Strategy also includes Mitigation Action F-4 that proposes higher regulatory standards for flood protection in the City. Mitigation Action F-2 summarizes the City's floodplain management activities and participation in the CRS program as one of its efforts to reduce potential losses due to flooding. Mitigation Action F-4 also highlights that the NFIP has conducted annual audits of the City's





	<p>floodplain management efforts for over two decades and awarded the City a Class Rating 6. As a result, this action includes several preventative activities, also summarized in the City's 2015 FMP that involve enforcing standards that provide more flood protection than the NFIP's minimum requirements.</p>
<ul style="list-style-type: none"> The commenter states there is little covered on social equity in Chapter 3 other than reference to Appendix C, which discusses equity in the Community Outreach Strategy and specifically maintaining relationships with Community Based Organizations. The commenter asks whether CBOs were invited to the planning meetings and whether the Latino population was involved in the development of the LHMP (page 3)(EQTY-15). 	<ul style="list-style-type: none"> The HMPC considered social equity metrics during the prioritization of the mitigation actions developed in Chapter 5 – Mitigation Strategy. Several organizations were invited to participate in on the HMPC, including the Petaluma Health District. The City of Petaluma plans to continue public involvement throughout the Draft LHMP adoption period, annual plan review, and the plan and implementation process. Effective outreach to disadvantaged and socially-vulnerable communities can take time and requires a long-term strategy, beyond the one-year planning process commonly associated with the development of a LHMP. Certain organizations involved on the HMPC, such as the local health district and others, such as the local school district could also provide coordination with specific CBOs in Petaluma. Ongoing coordination with such organizations has been included in the updated mitigation actions. Given the LHMP is a “living” document, the City can also continue to engage the Latino population through final adoption, during annual reviews, and during the formal 5-year LHMP update.
<ul style="list-style-type: none"> The commenter states Section 3.3.3 on Developing the Mitigation Plan should be conducted with greater public representation and feedback (page 3)(EQTY-16). 	<ul style="list-style-type: none"> Comment noted. The City has reviewed and taken this comment into consideration in the development of the Draft LHMP. The City and HMPC developed and implemented a Community Outreach Plan to support public input and engagement during the hazard mitigation planning process and the development of the Draft LHMP update. Outreach included newspaper articles, public noticing, social media announcements, two online surveys, and invitations to local community groups. Outreach also included two public workshops to further engage the community. Outreach materials associated with the LHMP planning process are included in this appendix (Appendix A).





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Sent by email to DRamirez@cityofpetaluma.org May 7, 2020

Diane Ramirez
Project Manager
Petaluma Public Works and Utilities Department

Re: Public Review Draft of the Petaluma’s Local Hazard Mitigation Plan

Dear Ms. Ramirez:

Thanks for the opportunity to provide comments concerning Public Review Draft of the Petaluma’s Local Hazard Mitigation Plan (LHMP). In my opinion the LHMP is strong in many areas, and I sincerely appreciate and respect all of the work that the City staff and the consultant have done on the document. However, I believe that the LHMP fails to adequately respond to the serious and imminent risks we face from climate change and from flooding. I will explain my concerns below, but I will first offer some background and a summary.

Background and Summary

As discussed in the LHMP, climate change is a factor in many hazards identified in the document, and in the future the impact of those risks will become considerably more significant. For example, by my count climate change is mentioned 124 times in the document. The LHMP identifies ten major hazard areas, and by my count the LHMP indicates that climate change will be a factor in about half of them. Also, for some climate-related risks the LHMP discusses mitigation for the risks.

It is good that the LHMP identifies climate-related risks and discusses mitigation for some of them, but it must go further. The City has, of course, declared a Climate Emergency and resolved that the City would address the emergency as a high priority.¹ However, the LHMP does not adequately reflect or respond to that recognized emergency. The following are some examples:

BOH-1

1) The LHMP includes a Mitigation Action Summary Table which identifies the risks facing Petaluma and proposed mitigation actions to address the risks. However, the LHMP does not propose any mitigation to respond to climate change.²

¹ The City’s Resolution declaring a climate emergency resolves that the City, “will elevate climate issues to the highest priority in its goal-setting process, give precedence to climate mitigation and adaptation when evaluating policies and purchases, planning projects, and allocating resources and will seek financial and regulatory aid to support these efforts.”

² Table ES.1: Mitigation Action Summary Table, pp. ii-iv.

2) The LHMP discusses climate change and in some cases explains that climate change may affect an identified risk, and the LHMP identifies mitigation actions for those risks. The LHMP rates each proposed mitigation action with a priority of Low, Medium or High.³ However, the LHMP does not rate any of the risks associated with climate change as “High.” Moreover, the only time the Mitigation Action Summary Table mentions “climate” is in connection with Sea Level Rise, but the LHMP classifies the risk as “Low.”

3) Throughout the LHMP discussion of climate change is often omitted in cases where it should be highlighted and when it is discussed it is often downplayed or buried.

Preparing for Climate Change will not be easy, and it will undoubtedly be burdensome for City government and the public. Until recently I lived in Pacifica, which is small, coastal town south of San Francisco. As you may know, Pacifica is a nationally known poster child for sea level rise impacts with houses and apartment buildings already falling into the rising ocean, and the issue has been and continues to be highly contentious in the city.

From my experience in Pacifica I have learned that if city government wishes to have the support of its citizens in taking strong action to address climate change it is necessary to keep the city’s messaging on the subject strong, clear and consistent. For Petaluma the LHMP is an obvious place to do so. However, as presently drafted it does not do this.

The draft LHMP recognizes the importance of planning for certain types of hazards but climate change is a hazard that is very different from all of the other hazards the LHMP addresses. Due to those differences the City’s response must be different from the way the City responds to other types of hazards. However, the LHMP fails to explain or address those differences. I discuss this subject in more detail below.

It may not be clear how a city such as Petaluma can prepare for climate change because the problem is of course international. Some might feel that all preparation for climate change should be the responsibility of the government at the state, Federal and international levels. It is true, of course, that those levels must take strong action. However, there is a critical role for cities including cities like Petaluma, and many cities are already taking action.

I’m sure that we can agree that cities are the front line for government engagement with the public and for delivering essential leadership and services to the public during an emergency. Cities are critical in the education of their citizens before a disaster and during the event and for coordination with state and county systems. Furthermore, there are many actions a city can take which are outside the control of government at other levels. Cities have considerable autonomy in some areas and therefore commensurate responsibility. Decisions about land use is one of those areas.

Also, and perhaps most importantly, there are situations when even the best efforts of state and Federal governments leave some folks unprotected in emergencies. In such cases cities are the last resort of such people. Cities are in the best position to identify those folks and provide protection for them. It is for that reason that issues of environmental justice and social equity must be paramount in this

³ Table ES.1: Mitigation Action Summary Table, pp. ii-iv.

discussion. Petaluma has long been a leader in this area and now more than ever those subjects must be addressed.

Detailed Comments

For clarity the following comments are organized using the same system that the LHMP uses, and I use the same headings and page numbers used in the LHMP.

1. The LHMP Must Adequately Address Climate Justice and Equity

The City's Resolution Declaring a Climate Emergency recognizes the importance of climate justice and equity stating:

[M]arginalized communities worldwide – including people of color, immigrants, indigenous communities, low income people, those with disabilities, and the unhoused – are already disproportionately affected by climate change and must benefit first from a just transition to a sustainable and equitable economy.

The LHMP discusses Social Vulnerability in Section 2.5 which includes a discussion of environmental justice in Section 2.5.1 and disadvantaged communities and sensitive populations in Section 2.5.2. That discussion implies that mitigation for hazards particularly affecting disadvantaged communities and sensitive populations are provided in the LHMP. However, the LHMP provides such mitigation in only a single mitigation measure and even that measure is not adequate.

The LHMP discuss mitigation for the effects of climate change on disadvantaged communities only in mitigation measure SW-2. However, that proposed mitigation is not adequate as will be discussed below. It is obvious that Petaluma's disadvantaged communities will be significantly affected by climate change and flooding as well as by many other hazards. In many sections of the LHMP there are references to the effects of climate change and related hazards on disadvantaged communities and sensitive populations, and it is clear that many hazards will have disproportionate effects on those communities even though the LHMP does not mention those communities or populations. The LHMP discusses this in many places:

§ 4.1.4 Methodology and Results

Energy shortage hazards can include energy disruptions related to electricity, renewable energy, natural gas, and gasoline and diesel fuels. Based on the energy types, electrical power outages, both planned and unscheduled disruptions can result in cascading hazards related to traffic, economic losses, other utility disruptions, and extreme heat and public health hazards. Climate change is also expected to bring more frequent and intense natural disasters, which could result in planned or unscheduled power outages or energy shortages. Given the PG&E's recent Public Safety Power Shutoff (PSPS) that began on October 9, 2019, energy shortage hazards are a major concern for the region and the City (City of Petaluma 2019c). Energy shortages are discussed as a secondary hazard impact and in the vulnerability assessment in the Severe Weather: Wind section of this chapter. (p. 4-6)

BOH-3

§ 4.3.2. Drought

There are sensitive and socially vulnerable populations residing near the downtown area of the Planning Area that may be the most susceptible to water restrictions, and health-related illnesses. Socially vulnerable populations may also be sensitive to increases in water rates and in turn, food prices. (p. 4-40)

§ 4.3.4 Wildfire

The smoke and air pollution from wildfires are also severe health hazards particularly for sensitive populations including the elderly, children, and people with respiratory and cardiovascular diseases. (p. 4-78)

The Kincade Fire in northern Sonoma County started on October 23, 2019 and was not fully contained until November 6, 2019. It started near Geyserville and spread smoke toward Petaluma Valley and the surrounding Bay Area. The City opened the Petaluma Community Shelter for fire evacuees. During the same time, part of the City was without electricity due to the planned power shutoffs. (p. 4-87)

§ 4.3.5 Flood

Given the number of households and populations identified as socially vulnerable, disadvantaged, or sensitive in the City’s planning area and the proximity of these census tracts and block groups to the flood zones, it is assumed that a portion of this population segment may also be disproportionately impacted during a flood event. (p. 4-110)

§ 4.3.8 Severe Weather: Extreme Heat

Extreme heat can affect road infrastructure, but direct impacts to critical infrastructure is expected to be minimal. Critical infrastructure that relies on public utility systems that could be overloaded may result in impacts during extreme heat events. The loss of utilities or power outages during extreme heat events could also result in adverse secondary impacts to sensitive populations. (p. 4-138)

In response to the effect of extreme heat on sensitive populations the LHMP proposes Mitigation Measure SW-2 “Establish cooling centers at City Community Center” to be used during severe weather events involving heat waves. The discussion of the Mitigation Measure states:

Establish cooling centers at City Community Center to be used during severe weather events involving heat waves. Cooling centers should also accommodate sensitive receptors that may be susceptible to poor air quality.

Currently, neither of these facilities have back-up power and could not function as cooling centers during power outages; PSPS or actual power outages. This action would therefore also entail obtaining sufficient back-up power at each facility. (p. 5-41)

I have some comments about SW-2. First, the City should establish back-up power systems for the cooling centers. It is obvious that in the future there will be PSPSs during very hot days which is just when the cooling centers will be useful. Second, the concept of cooling centers should be expanded to address other hazards. In other words, sensitive communities will need refuge from other hazards in addition to extreme heat, e.g. flooding and wildfires. The City should consider modifying the cooling centers as necessary to make them useful as refuges for all hazards.

As discussed at pp. 2-5 and 2-34 of the LHMP the City is already providing shelter for many people affected by natural disasters. I expect that the City may already be doing the work necessary to adapt the cooling centers for other hazards, and that work should be discussed in the LHMP. The City should discuss its program for sheltering those affected by natural disasters to provide for public input and involvement with the process. Moreover, I assume that Petaluma has relationships with other cities in the area to provide mutual assistance and aid in the event of disasters. That should be discussed in the LHMP.

2. §4.1 Hazard Identification: Natural Hazards

In §4.1 Hazard Identification: Natural Hazards the LHMP includes §4.1.4 “Climate Change Considerations Summary” which begins on p. 4-9. In my opinion the section is satisfactory, except that it does not go far enough, and climate change warrants additional discussion which is consistent with the City’s declared Climate Emergency. Accordingly, on p. 4-11 following the language of §4.1.4 “Climate Change Considerations Summary” and preceding §4.2 “Asset Summary” please add new §4.1.5 “The Climate Change Emergency” as follows⁴:

§4.1.5 The Climate Change Emergency

As indicated above, Petaluma has declared a climate emergency as have many other government agencies. The following is a summary of why climate change is an emergency and how this LHMP will address the emergency.

Climate change is very different from all of the other hazards addressed in this LHMP for a number of reasons. 1) Many greenhouse gases persist for a long time in the atmosphere and therefore as long as humans keep adding them to the atmosphere the problem will become exponentially worse over time.⁵ 2) We will not perceive the results of exceeding certain critical

⁴ Hereinafter my changes are indicated in red with additions underlined and deletions stricken through.

⁵ Greenhouse Gases: How Long Will They Last? By Lisa Moore, Ph. D. Environmental Defense Fund, February 26, 2008, http://blogs.edf.org/climate411/2008/02/26/ghg_lifetimes/

levels of the concentration of greenhouse gases until it is too late to rectify the problem, at least without great expense, difficulty and suffering. (This is the so-called problem of tipping points⁶). 3) Although the problem is an emergency demanding an urgent response, planning for and implementation of the necessary mitigation and adaptation measures can require considerable time and expense to implement. 4) The collapse of many environmental systems, such as the melting of polar ice caps, is accelerating at a rate more rapid than scientists anticipated in the recent past, indicating that we have less time to act than has been previously thought.

Risk assessment for climate change is significantly different from risk assessment for all other hazards, and the methodology used for addressing other types of risks that have been faced in the past is not adequate for the task of planning for the effects of climate change. Put bluntly, in the past planners have based their analyses on the assumption that historic occurrence rates and magnitudes of hazards are a good predictor of future probability. However, for climate change that is not the case – Instead, for climate change, history is not a good predictor of the future – what we do know is that over time the hazards will very likely get more extreme.

Not only do we know that the effects of climate change will become more severe, but the effects will also vary over increasingly wide ranges. Some call this climate chaos. Moreover, climate change is not a single hazard, but climate change will affect many different types of hazards. These challenges to planning are explained well in the California State Hazard Mitigation Plan of September 2018 (SHMP). The SHMP explains that, “Climate change exacerbates hazards already experienced in California and also introduces new hazards. In addition to increasing global average temperature, climate change results in an increase in variance of climate patterns”⁷ The SHMP explains this as follows:

The increase in variance means that extreme events—disasters—may exhibit changes in severity, frequency, and location. For example, the increased variance in climate patterns will result in more frequent incidence of severe events, such as extreme rainfall, wind, wildfire, extreme heat, and extended drought.

The increased variance therefore creates challenges for hazards planning, which previously used historic recurrence rates to predict future events, and now must incorporate changes to frequency, severity, and location due to climate change influences.

It can seem counterintuitive to, for example, plan for increased floods when total rainfall is projected to decrease. However, this is exactly the type of

⁶ Climate tipping points — too risky to bet against by Timothy M. Lenton, Nature.com
<https://www.nature.com/articles/d41586-019-03595-0>

⁷ California State Hazard Mitigation Plan September 2018, Section 4.3.2 – p. 129
https://www.caloes.ca.gov/HazardMitigationSite/Documents/002-2018%20SHMP_FINAL_ENTIRE%20PLAN.pdf

planning needed due to the increasing variance in climate patterns. For this reason, climate change must be incorporated into the assessment of hazards risk. As explained below, however, including climate change in hazards management requires a shift from traditional risk assessment to new methods of evaluating the impacts of climate change on hazard events.

Risk assessment for hazards is built on the frequency of past events and the assumption that historic occurrence rates are generally a good predictor of future event probability. With the onset of climate change, history has become an inadequate predictor of future occurrence. As a result, planning now must be based on potential (or modeled) scenarios that account for shifts in historic conditions due to anticipated climate change.⁸

As will be discussed further below, Petaluma’s planning for the effects of climate change will be based on potential or modeled scenarios that account for shifts in historic conditions due to anticipated climate change, and planning will incorporate predicted changes in frequency, severity, and location of hazards due to climate change. Moreover, anticipated climate change and its related hazards will be reassessed frequently to account for the most current scientific data and predictions.

BOH-4
(cont.)

3. §4.3 Risk Assessment

3.1 §4.3.3 Earthquakes

In this section titled “Earthquakes” there is a discussion of landslides on p. 4-46. That section does not adequately address the effect of climate change on landslides. Accordingly, on p. 4-46 under the heading **Landslide Potential and Susceptibility** following the existing text on that page please add the following language:

Precipitation adds moisture to the soil and can result in landslides. Extreme precipitation events which will occur more frequently due to climate change will result in increasing frequency of landslides. The State of California discusses this in the SHMP as follows:

BOH-5

⁸ California State Hazard Mitigation Plan September 2018, Section 4.3 – pp. 128-129
https://www.caloes.ca.gov/HazardMitigationSite/Documents/002-2018%20SHMP_FINAL_ENTIRE%20PLAN.pdf

During heavy rainfall conditions, the added weight of rain-saturated hill slopes and the weakening of slopes caused by the pressure the groundwater exerts on porous hillside materials are triggering agents of slope failure.⁹

To mitigate this problem the State is improving the forecasting of extreme rainfall events and Improved forecasting of El Nino events or other potentially high rainfall years now provides advanced warning which allows for better preparation and response to potential slope failures and flood events.¹⁰

Petaluma will develop and utilize a system to take advantage of statewide and national systems that forecast extreme rainfall events to prepare the City of Petaluma and to warn its citizens of potential slope failures before they occur so the citizens can evacuate.

3.2 § 4.3.4 Wildfire

On p. 4-82 the LHMP discusses **Probability of Future Occurrences** and concludes that the probability is “**Occasional**”. That conclusion is misleading because upon careful reading it refers to the occurrence of wildfires within the City, and although that might be technically correct the probability of increasing occurrence of wildfires near the City is likely and climate change will increase the likelihood of occurrence near the City in the future. Moreover, to mitigate the hazard the City must consider and address the high likelihood of wildfires near Petaluma.

Accordingly, for clarity, on p. 4-82 (p. 164 of pdf) after the existing language add the following:

Likely – Although the probability of future wildfire occurrence within the City is occasional, occurrence of wildfires outside the City must also be considered for areas where occurrence would significantly affect the City. Past experience has demonstrated that wildfires in various areas of Sonoma County and elsewhere can have significant impacts on the City. For example, the Kinkade fire in 2019 resulted in the imminent threat that the fire would move south to Petaluma and Petaluma residents would be required to evacuate, and in fact some residents actually evacuated. Evacuees from other parts of Sonoma Count were provided emergency temporary housing in Petaluma. Moreover, smoke from the Kinkade fire adversely affected Petaluma residents. The likelihood that there will be wildfires near Petaluma in the near future is high, and as climate change progresses that likelihood will increase.¹¹ Furthermore, wildfires can and will disrupt evacuation routes through and from Petaluma. Accordingly the City will prepare for such occurrences.

⁹ Id. at Section 6.2 – Page 346

¹⁰ Id. at Section 6.2 – Page 346 (p. 370 of pdf)

¹¹ According to the Sonoma County’s 2016 Regional CAP, climate change is expected to result in more frequent and intense wildfires (see below at p. 4-84.)

3.2.1 In §4.3.4 “Wildfire” on p. 4-84 make the following changes to the language under the heading Climate Change Considerations

Increases in greenhouse gases coupled with population growth and development are expected to continue impacting California’s forests and natural resources. Likewise, the effects of climate change ~~have the potential to~~ will impact wildfire behavior, the frequency of ignitions, fire management, and fuel loads. Increasing temperatures ~~may~~ will intensify wildfire threat and susceptibility to more frequent wildfires in the grasslands that surround the Planning Area as well as wildlands throughout Sonoma County and elsewhere.

Uncertainty exists in how climate change will affect total precipitation, but models suggest that there is a tendency for wetter conditions in the northern part of the state and drier conditions in the south (California Natural Resources Agency 2018). Forests are also sensitive to variable precipitation events, and damaging droughts such as the multi-year event from 2012-2017 contributed to widespread tree mortality as warmer temperatures stressed trees and made them more susceptible to pests and pathogens (California Natural Resources Agency 2018). While the CAL FIRE program actively collaborates with state, local, and national agencies to reduce climate change impacts, current scientific models expect California will be affected by increased numbers of forest fires with added intensity due to longer warmer seasons, reduced distribution of biodiversity, lack of moisture, changes in ecosystems, drought impacts (e.g. pest diseases and continued spread of invasive species), and other such impacts in coming years. Due to these increasingly worsening ~~or~~ and recurring issues, the City will develop a plan for addressing the threat. ~~wildfire hazards should be carefully studied with regards to future negative effects in or near the City Planning Area due to expected growth and development, even if it does not prove a prominent danger to Petaluma and its residents in present times.~~

BOH-7

3.2.2 In §4.3.4 “Wildfire” on p. 4-90 please make the following changes to the language under the heading Future Development - -

Population growth and development in the City of Petaluma is increasing, as noted on the Petaluma City Profile Report released in 2018., [sic] Petaluma is expected to grow 3.2 percent

BOH-8

by the year 2022, which results in an increase of 62,700 residents. The increasing urbanization of the Planning Area makes wildfire vulnerability a growing issue, as future development in the WUI ~~should~~ will increase risk to this hazard citywide. WUI related risks can however be managed with strong land use regulations and building code requirements. For example, development in the WUI can be prohibited or if allowed can require firebreaks between development and grasslands, as well as ~~enforce~~ require that building construction be compliant with CBC Chapter 7A: Materials and Construction Methods for Exterior Wildfire Exposure. Petaluma will consider amending its General Plan and IZO accordingly.

BOH-8

3.2.3 In §4.3.4 “Wildfire” on p. 4-90 make the following changes to the language under the heading Risk Summary

- The overall risk significance of wildfire hazards to the City of Petaluma is ~~Medium~~ High.
- The level of risk will likely increase in the future due to climate change, and the City will regularly assess and monitor the level of risk and adjust the City’s response accordingly.
- In most of the City Wildfires are expected to have a probability of occasional occurrence in the future, given the local fuel, topography, and weather conditions and the extent of the WUI. Based on recent CAL FIRE future fire occurrence probability mapping, the City of Petaluma is mostly expected to have a low likelihood of fire from years 2026 to 2050.

The areas of the City with high or very high fire threat, which in turn pose the highest risk to life and property, are located on the south- of the Planning Area, near Windsor Drive. However, all of the City’s parcels falling fire hazard severity zones are in the “moderate” zone, with 1,015 parcels vulnerable to wildfire (within LRA as defined by CAL FIRE).

BOH-9

- Although the probability of future wildfire occurrence within the City is occasional, future occurrence of wildfires outside the City is likely and must also be considered for areas where occurrence would significantly affect the City. Past experience has demonstrated that wildfires in various areas of Sonoma County and elsewhere can have significant impacts on the City. For example, the Kinkade fire in 2019 resulted in the imminent threat that the fire would move south to Petaluma and Petaluma residents would be required to evacuate, and in fact some residents actually evacuated. Evacuees from other parts of Sonoma County were provided emergency temporary housing in Petaluma. Moreover, smoke from the Kinkade fire adversely affected Petaluma residents. The likelihood that there will be wildfires near Petaluma in the near future is high, and as climate change progresses that likelihood will increase. According to the

Sonoma County's 2016 Regional CAP, climate change is expected to result in more frequent and intense wildfires (see below at p. 4-84.) Furthermore, wildfires can and will disrupt evacuation routes through and from Petaluma. Accordingly, the City will develop a plan to prepare for such occurrences.

BOH-9

§4.3.5 Flood on pp. 4-91 et seq.

In general this section is excessively detailed and technical and for the most part would not be accessible to the general public. Language and summaries should be added to inform the public and facilitate public engagement with the process. Furthermore the document lacks clarity in significant places. The following are some examples of the lack of clarity.

All significant figures in Section 4.3.5 are too small. For example, Figure 4-28 (p. 4-99) is far too small for the amount of information involved. It should be significantly enlarged and divided into multiple pages so individuals can understand the effect on their home.

The LHMP states:

Petaluma pledged to pursue certification of several of these existing levees in order to better protect the City's infrastructure, including the wastewater treatment plant and wetland areas. (p. 4-101)

It is not clear what is meant by this statement. What is "certification" and how does it protect the City's infrastructure? Will it be done?

The LHMP states:

It is expected that when construction has been fully completed the Payran levee project will be certified by the U.S. Army Corps of Engineers, and this zone will switch to a flood zone of type "X" (i.e. areas of minimal flood hazard) (City of Petaluma 2015b). (p.4-101)

It is not clear what is meant by this statement. When will construction be fully completed? What is the meaning of "minimal flood hazard." Will there be future projects to completely eliminate the hazard?

The LHMP states:

Overall, while the historic extent of flooding hazards was likely critical, today, flooding hazards were rated by the City and HMPC as being limited in terms of magnitude or severity for the City of Petaluma. (p. 4-102)

Again, the meaning of the statement is not clear. What is meant by, "limited in terms of magnitude or severity" in quantitative terms? Will the magnitude and severity be reduced in the future by projects that are under construction or planned?

The probability of future occurrences is "Likely." (p. 4-104) Frankly, that is disappointing in view of the time and money that has been spent on mitigation. Is further work planned to reduce the

BOH-10

likelihood of occurrence? Why is development still being allowed in flood prone areas if flooding there will be likely? Since it is likely that flooding will occur in the future, mitigation should be proposed in this LHMP to reduce the likelihood of occurrence, and further development should not be allowed unless and until such mitigation is in place.

The LHMP states:

Based on Sonoma County's 2016 CAP and GHG emission modelling, climate change is projected to result in an increased risk of extreme flood, and an increased seasonal variability of precipitation, runoff, and stream flows for Sonoma County, along with increased likelihood of "extreme" precipitation and drought events. (p. 4-113)

What will this mean to flooding in Petaluma? Will the situation be worse than that described in the prior section? How is Petaluma planning for this?

The LHMP states (emphasis added):

The potential for flooding may increase as stormwater is channelized due to land development. Such changes can create localized flooding problems inside and outside of natural floodplains by altering or confining natural drainage channels. Floodplain modeling and master planning should be based on buildout land use to ensure that all new development remains safe from future flooding. While certain local floodplain management and water quality regulations and policies exist, as well as specific regulatory control of building codes, flood insurance requirements, and other such aspects at the federal or state level, the cumulative effects of flood related hazards can have a negative impact on the floodplain and the community into the future. Water and flood control infrastructure such as dams and levees can additionally be stressed due to increased development and municipal water supply needs coupled with a changing environment which causes environmental and weather conditions to become more and more unpredictable (e.g. through storm events, climate change). (p. 4-113)

Here again this statement raises more questions than it answers. For example: Will future land development in Petaluma increase flooding? What planning is being done to insure that does not happen?

The LHMP states:

New development that adheres to the elevation requirements in addition to other requirements for maintaining elevation certificates, implementing stormwater program elements, and erosion or sediment controls for all new development in the floodplain may protect new constructions from 100-year and possibly other floods events. (p. 4-113)

Here again this statement raises more questions than it answers. In Petaluma is new development required to adhere to the listed requirements?

BOH-10

§4.3.6 Sea Level Rise on pp. 4-114 et seq.

The LHMP states:

The southern portion of the City of Petaluma, the marsh and tidal lands within Petaluma Marsh Wildlife Area, the areas along Petaluma River, and existing urban development and natural resources in the City are already exposed to riverine and localized flooding, which will be exacerbated by sea level rise. The hazards in these areas are projected to become more severe when combined with sea level rise. (p. 4-115)

This is a very concerning statement! The obvious question is: What is the City doing to plan for the more severe hazards? Unfortunately the LHMP does not provide the answer.

The LHMP states:

It is worth noting that sea level rise modeling used for the vulnerability assessment assumes some level of shoreline protection or adaptation strategies, such as large-scale levees are in place (e.g. CoSMoS includes levee structures that are visible on LiDAR data and can be included in digital elevation models). (p. 4-115)

BOH-11

However, the LHMP says the exact opposite at p. 4-114 where the LHMP states:

As previously discussed, sea level rise modeling used for the vulnerability assessment assumes no shoreline protection or adaptation strategies, such as levees or floodwalls are in place. (p. 4-118).

The LHMP states:

Probability of Future Occurrences

Occasional - Scientific understanding of sea level rise is advancing at a rapid pace; projections of future sea level rise continue to change as new studies become available. (p. 117)

My question is: What is the meaning of “occasional” in this context. Obviously the sea will not rise occasionally. Since sea level rise will exacerbate flooding and flooding is already a serious problem in Petaluma then it is clear that Petaluma must be attentive to the rapid advancement of the science of sea level rise and promptly respond to the new information. That is one reason I am recommending that Petaluma hire a Resilience Officer.

BOH-12

2.3 In §4.3.8 “Severe Weather: Extreme Heat” on p. 4-138-139 make the following changes to the language under the heading Risk Summary

Risk Summary

- The highest recorded temperature in Planning Area is 110°F on June 2, 1960.
- Extreme heat can have severe impacts on human health, the natural environment, and the economy.
- The very young, the elderly, people with poor physical health, and the homeless are more susceptible to the impacts of extreme temperatures.
- The average number of days per year in the United States with a heat index above 100°F will double, while the number of days per year above 105°F will quadruple if no actions to reduce heat-trapping emissions are taken.
- Climate change is expected to result in higher average temperature and more extreme heat events.
- Overall, the significance of extreme heat is **Medium** at the present time. However, in the future, due to climate change the risk will grow. The significance of planning for that expected growth is High.

BOH-13

2.4 In §4.3.9 “Severe Weather: Heavy Rain/ Thunderstorms/ Hail/ Lightning/ Dense Fog” on p. 4-149 make the following changes to the language under the heading Climate Change Considerations

It is ~~difficult impossible~~ at this point in time to ~~summarize accurately predict~~ the effects climate change ~~may will~~ have on these hazards. However, as average temperatures increase over time, this generally will result in higher extreme temperatures. More warming in the atmosphere ~~can~~ will trigger climate changes, which ~~could will~~ result in more frequent extreme weather events. Much of the U.S. has already experienced prolonged periods of heavy downpours and severe flooding as a result of more extreme heavy rain and thunderstorm events.

Because of the currently imprecise nature of prediction and the significance of the issue, considerable scientific resources throughout the world are being devoted to improving predictions. Accordingly, Petaluma will keep up to date on the latest science in this area and utilize that information in its planning process.

BOH-14

4. §5.3.3 Mitigation Action Plan

I have a number of questions and comments concerning the Mitigation Actions as discussed below

BOH-15

Flood mitigation

F-1 Enhance structural flood mitigation projects to reduce near annual floods on north end of City (p. 5-26)

The title of this Section suggests that the mitigation measure comprises improving or adding to existing projects. However, Measure F-1 only discusses existing measures. The LHMP should clarify this and either the title should be changed or the additional enhancement work should be discussed.

F-2 Floodplain property protection, acquisition, and relocation (p. 5-28)

The indicated Priority for this measure is “Low”, which seems incorrect especially if “Low” priority means that the measure will be accomplished only after other Mitigation measures with higher priorities are done. The title suggests that the measure should be a High priority. Perhaps the action should be explained better.

F-3 Continue annual stream and creek channel maintenance (p. 5-29)

The indicated Priority for this measure is “Low”, which seems incorrect especially if “Low” priority means that the measure will be accomplished only after other Mitigation measures with higher priorities are done. The title suggests that the measure should be a High priority. Perhaps the action should be explained better.

F-4 Higher regulatory standards for flood protection (p. 5-30)

This measure states under the heading **Project Description, Issue/Background:** “Implement flood protection policies in the General Plan 2025” This raises a number of significant questions.

The General Plan was adopted in 2008, 12 years ago, yet apparently the flood protection policies have not been implemented. This is concerning since flooding has been a serious problem for years.

I assume that the General Plan Policies referred to are 8-P-28, through 8-P-34. The LHMP should include a detailed discussion of those policies and Petaluma’s efforts to implement them including which if any have been implemented. An explanation of the consequences of not implementing the policies should be provided in the LHMP, including a discussion in terms easily understandable to the general public. The discussion should include an explanation of why those policies have not been implemented and what will be required to implement them.

BOH-15

3.1 Mitigation for Multiple Hazards

On p. 5-62 add the following new MH-8

Climate change will exacerbate many of the hazards facing Petaluma. Because climate change will impact multiple hazards, mitigation should address the problem comprehensively. In my opinion, to

BOH-16

do this requires that a person be hired with the sole responsibility of addressing climate change issues as it affects all of the types of hazards facing the City. If sufficient funding is not available to do so then make the task of managing and implementing this program a part time position for a person who also has other tasks.

MH-8 Develop a Program to Plan for Climate Change

<u>Mitigation Project Title</u>	<u>Planning for Climate Change</u>
<u>Hazards Mitigated</u>	<u>Climate change will have significant impact on many types of the hazards facing Petaluma as discussed throughout the LHMP.</u>
<u>Project Description, Issue/Background</u>	<u>Develop a Program to monitor the science of climate change and best practices in the field and regularly update the City’s practices and programs as necessary. Petaluma will hire a Resiliency Officer for this task or if sufficient funding is not available to do so make the task of managing and implementing this program a part time position for a person who also has other tasks. One of the tasks of the RO would be to solicit grants to fund the position.</u> <u>Petaluma’s planning for the effects of climate change will be based on potential or modeled scenarios that account for shifts in historic conditions due to anticipated climate change, and planning will incorporate predicted changes in frequency, severity, and location of hazards due to climate change. Moreover, anticipated climate change and its related hazards will be reassessed frequently to account for the most current scientific data and predictions.</u>
<u>Related Planning Mechanisms</u>	<u>To be developed</u>
<u>Other Alternatives</u>	
<u>Responsible Office/Agency</u>	<u>Resiliency Officer (New Hire)</u>
<u>Partners</u>	<u>Sonoma County, State of California</u>
<u>Priority (High, Medium, Low)</u>	<u>High</u>
<u>Cost Estimate</u>	<u>unknown</u>
<u>Benefits (Avoided Losses)</u>	<u>As explained throughout this LHMP</u>
<u>Potential Funding</u>	<u>General Fund and there are many sources of grants</u>
<u>Schedule</u>	<u>2020 and for the indefinite future</u>

BOH-16

I hope that my comments will be helpful to the City in finalizing the LHMP. I would be happy to discuss them with you if you like.

Sincerely,

A handwritten signature in blue ink that reads "Hal Bohner". The signature is written in a cursive style and is contained within a thin black rectangular border.

Hal Bohner

Comment Letter #2

Respondent

< Respondent 1 >

29:50
Time to complete

1. Does the Hazard Mitigation Plan meet your expectations?

- Yes
- No

2. If you answered "no" above, why did the plan not meet your expectations?

page 11 state flood issues as low or medium priority. Flood is BY FAR the biggest threat to Petaluma. Simply look at our history. City wants to build where USACE said not to - flood hazard/plane areas above Payran flood wall and dam. STOP THE CC FROM DOING THAT. Even when Planning Commission says no, CC overturns it -- and approves development that put all of town in danger. How can you say flood risk lower than earthquake when Petaluma suffered only minimal damage during big SF quake.

3. Please share your comments about the draft Local Hazard Mitigation Plan. Please include the document page number, section number, section name and paragraph location. We really want to match your comments to the plan.

Page 11 states "Higher Regulatory Standards for Flood Protection" is "medium" priority -- Wrong -- City uses lowest bar CEQA as guidelines. Cities are free to choose higher standards than CEQA. Petaluma should aim higher because we have clearly made disastrous mistakes with EIRs, which you see with auto mall and outlet mall flooding regularly. Also, CC just over turned planning commission denial -- and approved -- a flood zone project called Sid Commons. Bad.

ANO-1

4. Please share your comments about the draft Local Hazard Mitigation Plan. Please include the document page number, section number, section name and paragraph location. We really want to match your comments to the plan.

Page ii -- all sea level rise should be high priority. Our City is incompetent and behind when it comes to understanding science and proper planning, and the standards should be dialed way up to get them to pay attention to what is needed. Wetlands are the best defense of climate change on our entire planet. Get with it and protect these areas instead of destroying them every time a developer who has given a CC member campaign funds submits a bad project.

5. Please share your comments about the draft Local Hazard Mitigation Plan. Please include the document page number, section number, section name and paragraph location. We really want to match your comments to the plan.

Page ii -- all sea level rise should be high priority. Our City is incompetent and behind when it comes to understanding science and proper planning, and the standards should be dialed way up to get them to pay attention to what is needed. Wetlands are the best defense of climate change on our entire planet. Get with it and protect these areas instead of destroying them every time a developer who has given a CC member campaign funds submits a bad project.

ANO-1

6. Please provide your contact information (name and email address)

We are a flood town yet throughout this plan, there is no evidence we are addressing what has historically delivered the most disasters to Petaluma: Floods. Why the downplaying of flood (100/500 year) when on Page 4-10 says our new climate emergency should holds us to "Increased Risk of Extreme Floods: Climate scenarios project increased seasonal variability of precipitation, runoff, and stream flows for Sonoma County, along with increased likelihood of "extreme" precipitation and drought events. There may be more years with more frequent storm events and occasional events that are much stronger than historical ones and the length of season over which storm events occur is predicted to increase."

Comment Letter #3

Respondent

< Respondent 2 >

03:04
Time to complete

1. Does the Hazard Mitigation Plan meet your expectations?

- Yes
- No

2. If you answered "no" above, why did the plan not meet your expectations?

Please see my comments that I submitted May 7.

3. Please share your comments about the draft Local Hazard Mitigation Plan. Please include the document page number, section number, section name and paragraph location. We really want to match your comments to the plan.

Please see my comments that I submitted May 7.

4. Please share your comments about the draft Local Hazard Mitigation Plan. Please include the document page number, section number, section name and paragraph location. We really want to match your comments to the plan.

Please see my comments that I submitted May 7.

HAL-1

5. Please share your comments about the draft Local Hazard Mitigation Plan. Please include the document page number, section number, section name and paragraph location. We really want to match your comments to the plan.

Please see my comments that I submitted May 7.

6. Please provide your contact information (name and email address)

Hal Bohner hbohner100@gmail.com

HAL-1

Stakeholder Comments #1: Climate Action Commission Adaptation Committee

Comments on the Draft Local Hazard Mitigation Plan

By: the Climate Action Commission Adaptation Ad Hoc Committee

Date: May, 28, 2020

Thank you for reviewing these comments and suggested edits. Recommended Changes to the draft LHMP are shown in red with added language underlined and deleted language stricken through.

§4.1.5 The Climate Change Emergency

As indicated above, Petaluma has declared a climate emergency as have many other government agencies. The following is a summary of why climate change is an emergency and how this LHMP will address the emergency.

Climate change is very different from all of the other hazards addressed in this LHMP for a number of reasons. These differences are what make climate change an emergency. 1) Many greenhouse gases persist for a long time in the atmosphere and therefore as long as humans keep adding them to the atmosphere the problem will become exponentially worse over time.[Greenhouse Gases: How Long Will They Last? By Lisa Moore, Ph. D. Environmental Defense Fund, February 26, 2008, http://blogs.edf.org/climate411/2008/02/26/ghg_lifetimes/] 2) We will not perceive the results of exceeding certain critical levels of the concentration of greenhouse gases until it is too late to rectify the problem, at least without great expense, difficulty and suffering. (This is the so-called problem of tipping points [Climate tipping points — too risky to bet against by Timothy M. Lenton, Nature.com <https://www.nature.com/articles/d41586-019-03595-0>]). 3) Although the problem is an emergency demanding an urgent response the necessary mitigation and adaptation can take considerable time and expense to plan for and implement. 4) The collapse of many environmental systems, such as the melting of polar ice caps, is accelerating at a rate more rapid than scientists anticipated in the recent past, indicating that we have less time to act than has been previously thought.

Risk assessment for climate change is significantly different from risk assessment for all other hazards, and the methodology used for addressing other types of risks that humans have faced in the past is not adequate for the task of planning for the effects of climate change. Put bluntly, in the past planners have based their analyses on the assumption that historic occurrence rates and magnitudes of hazards are a good predictor of future probability. However, for climate change that is not the case – Instead, for climate change, history is not a good predictor of the future – what we do know is that over time the hazards will very likely get more extreme.

Not only do we know that the effects of climate change will become more severe, but the effects will also vary over increasingly wide ranges. Some call this climate chaos. Moreover, climate change is not a single hazard, but climate change will affect many different types of hazards. These challenges to planning are explained well in the California State Hazard Mitigation Plan of September 2018 (SHMP). The SHMP explains

that, “Climate change exacerbates hazards already experienced in California and also introduces new hazards. In addition to increasing global average temperature, climate change results in an increase in variance of climate patterns”[California State Hazard Mitigation Plan September 2018, Section 4.3.2 – p. 129 https://www.caloes.ca.gov/HazardMitigationSite/Documents/002-2018%20SHMP_FINAL_ENTIRE%20PLAN.pdf] The SHMP explained this as follows:

The increase in variance means that extreme events—disasters—may exhibit changes in severity, frequency, and location. For example, the increased variance in climate patterns will result in more frequent incidence of severe events, such as extreme rainfall, wind, wildfire, extreme heat, and extended drought.

The increased variance therefore creates challenges for hazards planning, which previously used historic recurrence rates to predict future events, and now must incorporate changes to frequency, severity, and location due to climate change influences.

It can seem counterintuitive to, for example, plan for increased floods when total rainfall is projected to decrease. However, this is exactly the type of planning needed due to the increasing variance in climate patterns. For this reason, climate change must be incorporated into the assessment of hazards risk. As explained below, however, including climate change in hazards management requires a shift from traditional risk assessment to new methods of evaluating the impacts of climate change on hazard events.

Risk assessment for hazards is built on the frequency of past events and the assumption that historic occurrence rates are generally a good predictor of future event probability. With the onset of climate change, history has become an inadequate predictor of future occurrence. As a result, planning now must be based on potential (or modeled) scenarios that account for shifts in historic conditions due to anticipated climate change. [California State Hazard Mitigation Plan September 2018, Section 4.3 – pp. 128-129 https://www.caloes.ca.gov/HazardMitigationSite/Documents/002-2018%20SHMP_FINAL_ENTIRE%20PLAN.pdf]

As will be discussed further below, Petaluma’s planning for the effects of climate change will be based on potential or modeled scenarios that account for shifts in historic conditions due to anticipated climate change, and planning will incorporate predicted changes in frequency, severity, and location of hazards due to climate change. Moreover, anticipated climate change and its related hazards will be reassessed frequently to account for the most current scientific data and predictions.

1. Risk Assessment (4-1 to 4-166):

- a.
 - i. Hazard Identification (4-2 to 4-9)
 - P. 4-4 Air pollution is an Environmental Justice and public health issue for those communities along the freeway and near pollution sources like manufacturing plants, other businesses which use toxic products. When there is an existing public health disparity and then wildfire smoke is added on top of this it can create an emergency situation especially for front line and vulnerable groups.
 - Energy Shortage and Energy Resiliency should not have been eliminated from the report without clear links directing to documents that cover these subjects. As we have seen in recent fire weather related power shut offs, the impacts are very disparate and planning for a disaster during a power shut off event would be more complicated.
 - Vector borne disease, like West Nile Virus will become a bigger problem as climate change progresses.
 - ii. Asset Summary (4-11 to 4-12)
 - iii. Hazards Summary (4-166)
- b.
 - i. Hazard Profiles and Risk Assessment (Earthquakes, Wildfires) (4-42 to 4-91)

ADPT-2

ADPT-3

ADPT-4

§4.3.3 Earthquakes

On p. 4-46 under the heading “Landslide Potential and Susceptibility” following the existing text on that page please add the following language:

Precipitation adds moisture to the soil and can result in landslides. Extreme precipitation events which will occur more frequently due to climate change will result in increasing frequency of landslides. The State of California discusses this in the SHMP as follows:

During heavy rainfall conditions, the added weight of rain-saturated hill slopes and the weakening of slopes caused by the pressure the groundwater exerts on porous hillside materials are triggering agents of slope failure. [California State Hazard Mitigation Plan September 2018, Section 4.3 – pp. 128-129 https://www.caloes.ca.gov/HazardMitigationSite/Documents/002-2018%20SHMP_FINAL_ENTIRE%20PLAN.pdf]

ADPT-5

To mitigate this problem the State is improving the forecasting of extreme rainfall events and Improved forecasting of El Nino events or other potentially high rainfall years now provides advanced warning which allows for better preparation and response to potential slope failures and flood events. [Id. at Section 6.2 – Page 346]

ADPT-5
(cont.)

Petaluma will develop and utilize a system to take advantage of statewide and national systems to forecast extreme rainfall events to prepare for and respond to potential slope failures before they occur.

§ 4.3.4 Wildfire

On p. 4-82 after the existing language add the following:

Likely – Although the probability of future wildfire occurrence within the City is occasional, occurrence of wildfires outside the City must also be considered for areas where occurrence would significantly affect the City. Past experience has demonstrated that wildfires in various areas of Sonoma County and elsewhere can have significant impacts on the City. For example, the Kincaide fire in 2019 resulted in the imminent threat that the fire would move south to Petaluma and Petaluma residents would be required to evacuate, and in fact some residents actually evacuated. Evacuees from other parts of Sonoma Count were provided emergency temporary housing in Petaluma. Moreover, smoke from the Kincaide and other recent fires adversely affected Petaluma residents. The likelihood that there will be wildfires near Petaluma in the near future is high, and as climate change progresses that likelihood will increase. [According to the Sonoma County’s 2016 Regional CAP, climate change is expected to result in more frequent and intense wildfires (see below at p. 4-84.)] Furthermore, wildfires can and will disrupt evacuation routes through and from Petaluma. Accordingly the City will prepare for such occurrences.

ADPT-6

§ 4.3.4 Wildfire

On p. 4-84 make the following changes to the language under the heading Climate Change Considerations.

Increases in greenhouse gases coupled with population growth and development are expected to continue impacting California’s forests and natural resources. Likewise, the effects of climate change ~~have the potential to will~~ impact wildfire behavior, the frequency of ignitions, fire

ADPT-7

management, and fuel loads. Increasing temperatures ~~may will~~ intensify wildfire threat and susceptibility to more frequent wildfires in the grasslands that surround the Planning Area ~~as well as wildlands throughout Sonoma County and elsewhere. Additionally studies have shown that as development moves further into wildland urban interface areas the chance of human ignition of wildfire during high wind events rises.~~

Uncertainty exists in how climate change will affect total precipitation, but models suggest that there is a tendency for wetter conditions in the northern part of the state and drier conditions in the south (California Natural Resources Agency 2018). Forests are also sensitive to variable precipitation events, and damaging droughts such as the multi-year event from 2012-2017 contributed to widespread tree mortality as warmer temperatures stressed trees and made them more susceptible to pests and pathogens (California Natural Resources Agency 2018). While the CAL FIRE program actively collaborates with state, local, and national agencies to reduce climate change impacts, current scientific models expect California will be affected by increased numbers of forest fires with added intensity due to longer warmer seasons, reduced distribution of biodiversity, lack of moisture, changes in ecosystems, drought impacts (e.g. pest diseases and continued spread of invasive species), and other such impacts in coming years. Due to these increasingly worsening ~~or and~~ recurring issues, ~~the City will develop a plan for addressing the threat. wildfire hazards should be carefully studied with regards to future negative effects in or near the City Planning Area due to expected growth and development, even if it does not prove a prominent danger to Petaluma and its residents in present times.~~

ADPT-7
(cont.)

§ 4.3.4 Wildfire

~~On p. 4-90 please make the following changes to the language under the heading Future Development - -~~

Population growth and development in the City of Petaluma is increasing, as noted on the Petaluma City Profile Report released in 2018., ~~[sic]~~ Petaluma is expected to grow 3.2 percent by the year 2022, which results in an increase to 62,700 residents. The increasing urbanization of the Planning Area makes wildfire vulnerability a growing issue, as future development in the WUI ~~should will~~ increase risk to this hazard citywide. WUI related risks can however be managed with strong land use regulations and building code requirements. For example, development in the WUI ~~can be prohibited or if allowed must be certified by a professional expert to be safe and~~ can require firebreaks between development and grasslands, as well as ~~enforce require~~ that building construction be

ADPT-8

compliant with CBC Chapter 7A: Materials and Construction Methods for Exterior Wildfire Exposure. **Petaluma will consider amending its General Plan and IZO accordingly.**

ADPT-8
(cont.)

§ 4.3.4 Wildfire

On p. 4-90 please make the following changes to the language under the heading Risk Summary

· The overall risk significance of wildfire hazards to the City of Petaluma is **Medium High.**

· The level of risk will likely increase in the future due to climate change, and the City will regularly assess and monitor the level of risk and adjust the City's response accordingly.

· In most of the City wildfires are expected to have a probability of occasional occurrence in the future, given the local fuel, topography, and weather conditions and the extent of the WUI. Based on recent CAL FIRE future fire occurrence probability mapping, the City of Petaluma is mostly expected to have a low likelihood of fire from years 2026 to 2050.

The areas of the City with high or very high fire threat, which in turn pose the highest risk to life and property, are located on the south- of the Planning Area, near Windsor Drive. However, all of the City's parcels falling within the fire hazard severity zones are in the "moderate" zone, with 1,015 parcels vulnerable to wildfire (within LRA as defined by CAL FIRE).

ADPT-9

· (if not used in p 4-82 please use here) Although the probability of future wildfire occurrence within the City is occasional, future occurrence of wildfires outside the City is likely and must also be considered for areas where occurrence would significantly affect the City. Past experience has demonstrated that wildfires in various areas of Sonoma County and elsewhere can have significant impacts on the City. For example, the Kinkade fire in 2019 resulted in the imminent threat that the fire would move south to Petaluma and Petaluma residents would be required to evacuate, and in fact some residents actually evacuated. Evacuees from other parts of Sonoma County were provided emergency temporary housing in Petaluma. Moreover, smoke from the Kincaide fire adversely affected Petaluma residents. The likelihood that there will be wildfires near Petaluma in the near future is high, and as climate change progresses that likelihood will increase.[According to the Sonoma County's 2016 Regional CAP, climate change is expected to result in more frequent

and intense wildfires (see below at p. 4-84.)] Furthermore, wildfires can and will disrupt evacuation routes through and from Petaluma. Accordingly the City will develop a plan to prepare for such occurrences.

ADPT-9
(cont.)

§ 4.3.4 Wildfire

On pp. 4-138-139 make the following changes to the language under the heading Risk Summary

Risk Summary

- The highest recorded temperature in Planning Area is 110°F on June 2, 1960.
- Extreme heat can have severe impacts on human health, the natural environment, and the economy.
- The very young, the elderly, people with poor physical health, and the homeless are more susceptible to the impacts of extreme temperatures.
- The average number of days per year in the United States with a heat index above 100°F will double, while the number of days per year above 105°F will quadruple if no actions to reduce heat-trapping emissions are taken.
- Climate change is expected to result in higher average temperature and more extreme heat events.
- Overall, the significance of extreme heat is Medium at the present time. However, in the future, due to climate change the risk will grow. The significance of planning for that expected growth is High.

ADPT-10

- c.
 - i. Hazard Profiles and Risk Assessment (Flood, Sea Level Rise, Severe Weather: General)
(9-91 to 4-132)
Please consider adding the data provided in the Sea Level Rise presentation to the commission (available from Patrick Carter).
- d.

ADPT-11

- i. Hazard Profiles and Risk Assessment (Severe Weather: Extreme Heat, Severe Weather: Heavy Rain/Thunderstorm/Hail/Lightning/Dense Fog, Severe Weather: High Winds)
4.3.7 Severe Weather

e.

- i. § 5.3.3 Mitigation Action Plan

Please consider making all climate, extreme heat and drought related actions higher priorities as they are predicted to increase over time and we may have series of hazards or those occurring. Wildfire smoke is a greater hazard to public health than wildfire is to property and safety in Petaluma at present. Improving structure resistance to fire ignition from flying embers in particular is where monies should be spent in Petaluma for wildfire risk reduction to reduce change of structure fire resulting from wildland fire. Sonoma Mt. risk also should be evaluated for possibly greater long term risk than west side as dry high winds in the high fire risk season from Sept.- November generally come from Northeast not the south or west and can accelerate down steep slopes.

On p. 5-62 add the following new MH-8

MH-8 Develop a Program to Plan for Climate Change

<u>Mitigation Project Title</u>	<u>Planning for Climate Change</u>
<u>Hazards Mitigated</u>	<u>Climate change will have significant impact on many types of the hazards facing Petaluma as discussed throughout the LHMP.</u>

<u>Project Description, Issue/Background</u>	<u>Develop a Program to constantly monitor the Science of Climate Change and Best Practices in the Field and Regularly Update the City's practices and programs as necessary. In this way Petaluma can develop a proactive approach to reducing climate impacts rather than continue to mitigate risks that are slowly growing regardless of mitigation actions.</u> <u>Petaluma's planning for the effects of climate change will be based on potential or modeled scenarios that account for shifts in historic conditions due to anticipated climate change, and planning will incorporate predicted changes in frequency, severity, and location of hazards due to climate change. Moreover, anticipated climate change and its related hazards will be reassessed frequently to account for the most current scientific data and predictions.</u>
<u>Related Planning Mechanisms</u>	<u>To be developed</u>
<u>Other Alternatives</u>	
<u>Responsible Office/Agency</u>	<u>Climate Change Adaptation, Public Works(& Environmental Services) Dept.</u>
<u>Partners</u>	<u>Sonoma County, State of California</u>
<u>Priority (High, Medium, Low)</u>	<u>High</u>
<u>Cost Estimate</u>	<u>unknown</u>

<u>Benefits (Avoided Losses)</u>	<u>As explained throughout this LHMP</u>
<u>Potential Funding</u>	<u>Cost Avoidance Resilience Bond</u>
<u>Schedule</u>	<u>2020 and for the indefinite future</u>

Stakeholder Comment Letter #2: Climate Action Commission Equity Committee

Comments Regarding the City of Petaluma Draft Hazard Mitigation Plan

By: Climate Action Commission Equity Ad Hoc Committee

Date: 5/28/20

Thank you for reviewing these comments provided by the Committee. Please consider incorporating the following edits, suggestion and comments into the final report.

Comments by Paragraph:

1. Executive Summary (i to iv):

Says “four goals” but five listed.

- Goal #1 should look at economic damage in addition to property damage or is property damage a limiting frame of FEMA Hat. Mit.?
- Goal #2 needs editing. More description of actions beyond “preserve and protect”.
- Re Goal #5: FEMA timeframe is too short for climate change related issues. We need to look at 15-50 year time frames to prepare, avoid, and budget for a number of increasing hazards due to climate change. Staying in a short term FEMA frame for planning, prioritizing and budgeting actions will lead to bigger costs down the road than early and proactive action on growing long term hazards.
- Overall this plan is in a reactive frame rather than a proactive one, for example it could describe the pathway to achieving a higher flood insurance rating

EQTY-1

Table ES.1 Mitigation Action Summary Table

- Mitigation actions should be re-organized from high to low priority categories and from larger scale to targeted actions
- News recently says we are possibly entering a “mega-drought”- is this part of the planning effort or outside the parameters? Given the risk of mega-drought is managing groundwater is a low priority? It not only affects the viability of local agriculture, it also affects the lifespan of larger trees that ameliorate heat, provide habitat etc. Dropping groundwater means trees like Black Walnuts, and Redwoods that are adapted here will become less able to survive over time.
- Should there not be some direction to property owners to move toward more drought tolerant landscaping to reduce horticultural losses due to drought and climate change?
- Assess whether structural flood mitigation on the north end of the city for near annual floods, will cause more flooding elsewhere. Need to incorporate planning guidelines to ensure new projects do not worsen flooding in nearby and hydrologically connected areas.
- Move map and assess vulnerability to sea level rise to High and update IZO accordingly should also be high.
- Severe Weather - instead of fossil fuel based back-up generators, use micro-grids and/or cogeneration facilities at minimum

EQTY-2

- Severe Weather - evaluate buildings for cooling centers, if not efficient net zero buildings w/ passive cooling/heating, then plan for a new buildings to provide community cooling centers.
- Wildfire: the local impacts of wildfire are at present in fairly limited areas that should be addressed and local firesmart councils/watershed councils supported to address and coordinate. In general dollars spend upgrading home protection eg. roofs, vents, windows, first 5' especially of landscape, and defensible space are most effective. Inspections in WUI areas to enact this would prevent/reduce risk of structure fire which is the more significant incident. Messaging around these issues should be targeted so that people are not removing large trees and naturally vegetated areas unnecessarily or being afraid to plant them as we will need large trees for air quality, heat amelioration, and livability/walkability and carbon sequestration.
- Smoke from wildfires in other parts of the county and region are a bigger issue for Petalumans due to air quality impacts, energy shutdowns and economic impacts.

EQTY-2
(cont.)

2. Introduction

1.1 Background and Scope: a general statement “1:6 savings on hazard mitigation” - where are these savings for Petaluma? Where are the biggest savings near term and long term?

EQTY-3

There is good language about decreasing vulnerability, but fewer specifics about increasing sustainability and resilient response capability.

1.2 It appears that the public outreach strategy to vulnerable and disadvantaged communities was not successful. How will this be remedied prior to finalizing and approving report?

EQTY-4

1.3.1 As the federal government is currently downplaying climate change we cannot anticipate that a federal program will help us in this area nearly enough and the document should so state. Would be better to follow the State of California, BCDC and Coastal Conservancy science based directives re climate change preparedness.

EQTY-5

1.3.2 the plan states, “It should be noted that the “planning area” defined in the Local Hazard Mitigation Plan (LHMP) is different than the “planning area” defined in the City’s General Plan. State law allows cities to identify a planning area during their General Plan process. This is typically an area outside of city boundaries and generally outside the UGB. It is designed to act as a signal to the County and other nearby local authorities that Petaluma recognizes that development may occur within these areas.” These areas should be evaluated for future development as development may cause long term hazard mitigation to become more difficult.

EQTY-6

2.3 History

Should start with Miwok Indian peoples, the types of ecosystems in the area and not a group of hunters. Should also include Spanish, Mexican era history in the area

EQTY-7

2.4.1 Compare population growth with new housing and with trends in the shelterless or housing burdened population. There is some overcrowding in existing housing that should be documented as well.

2.4.3 Housing - affordable housing program... 1,336 units for “low income” families equates to 22% of all new housing in last 15 years....”ensures affordable and stable housing services are provided to a broad spectrum of the community’s “low and moderate income residents” (should be consistent not low, then low and moderate) This statement does not seem fully accurate with other statistics on low income housing units since 2008 and there clearly is not enough affordable housing currently and the document should so state. Compare percent low income to percent housing available to low income, and same for moderate, high.

EQTY-8

2.4.5 Income and Poverty

“Percentage of residents in poverty” is NOT addressed (as stated) in Table 2-5 (should be Table 2-6)

And why is 2008 used as baseline. This makes it look like Petaluma has improved over time; use 2006 (or similar year) in these comparisons.

EQTY-9

Figure 2-10 is an interesting one and perhaps should be the focus of follow up work, and community surveys.

2.6 Economy and Employment

Table 2-6 should include a pre-recession year

The percentage of all people below poverty has risen slightly even in this “good” economy from 7.9% to 8.5%. .

2.7 Commuter Population: nearly 33.7 % travel to another county to work. Of people commuting outside the county to work: 36% drive alone, 41.5% carpool, and 7.2% use public transportation. For in county commutes 22% use public transportation.

EQTY-10

2.8 Growth and Development

Would be good to see table 2-9 represented in a map, showing where housing types are clustered.

2.9.1 City of Petaluma’s Regulatory Mitigation Capabilities: Chapter 6 IZO has Floodplain regulations based on a 1979 study. This needs to be updated. In general, no further projects should be built in flood zones unless they can be shown to not only protect the buildings themselves but also add no cumulative impacts to flooding on any other parcel.

EQTY-11

Pg 2-26 Housing Element

Saying that it addresses “housing needs for ALL economic segments” is simply

EQTY-12

NOT true.

Pg 2-28 Emergency Operations Plan

Should also address future public health emergencies/pandemics. Should address expected percent of population in shelterless conditions in the Emergency Operations Plan.

EQTY-13

2.95 Opportunities for Enhancement - these opportunities listed below table 2-16 should be looked at with an equity lens and a climate action priority lens. Work toward larger annual savings by getting to a higher rating. 540 Drainage System Maintenance seems a clear area for action, but best to move away from gray infrastructure to green and reduce capital and maintenance expense for infrastructure over time.

EQTY-14

Planning Process (3-1 to 3-23):

Ch 3 has very little to say about equity. It does refer to Appendix C, which mentions equity on pg 6 and includes the phrase "maintain effective relationships with Community Based Organizations (CBOs)". Were any CBOs specifically invited to the planning meetings or to a relationship. We see no mention of the Latino(Spanish-speaking) community, which had to develop its own addendum to the County's Disaster Plan. They should be involved now, not again forced to add an addendum.

EQTY-15

3.3.3 Develop Mitigation Plan, this portion of the plan should be conducted with greater public representation and feedback than just review of the entire LHMP now being conducted.

EQTY-16



Community Outreach Strategy

City of Petaluma Local Hazard Mitigation Plan
Petaluma, California

Prepared for:

City of Petaluma

202 North McDowell Boulevard, Petaluma, CA 94954

July 24, 2019

Project No. SA19170580

Community Outreach Strategy

City of Petaluma Local Hazard Mitigation Plan
Petaluma, California

Prepared for:

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Public Works & Utilities Department
202 North McDowell Boulevard
Petaluma, CA 94954

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July 24, 2019

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1.0 Purpose of the Community Outreach Strategy

The purpose for the Community Outreach Strategy is to provide for a meaningful process through which the City of Petaluma and its citizens, public officials, and stakeholder groups may effectively participate in the preparation of the City of Petaluma Local Hazard Mitigation Plan (LHMP). The City is preparing the LHMP to develop a hazard mitigation strategy for the City's planning area. This strategy will be developed based upon the understanding that citizens and groups are the source of tremendous 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 City's planning area.
3. Recognizing the City of Petaluma'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 City of Petaluma 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 City of Petaluma 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 City is also encouraged to conduct a public workshop or open house within 60 days of the project kick-off, or first HMPC meeting to maximize the number of credits they can achieve under the National Flood Insurance Program (NFIP) Community Rating System (CRS).

- To meet DMA requirements as well as the goals of the Community Outreach Strategy, the City 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 City's website to the project website or providing a hardcopy of the plan in a public location, such as a municipal building (e.g. library).
 - Follow the recommendations for continued public involvement as designated in the implementation chapter of the LHMP.

The City of Petaluma can implement a robust community outreach process by asking citizens to share local knowledge of the City's vulnerability to hazards based on past occurrences. For the City of Petaluma this may include vulnerability to flooding and wildfires. Public involvement can be solicited by working with community-based organizations, or through direct outreach via multiple media platforms, including the City'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 City'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 public meeting or open house
- Notification of availability of Final LHMP
- Announce City Council Hearing

3.1 Outreach Coordinator

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

3.2 Communication Platforms

3.2.1 Community-Based Organizations

Inviting community-based organizations 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, community-based organizations represent various segments of the community. In some cases, community based-organizations may represent disadvantaged communities and engagement can be most successful when it is started early in the process. Outreach to community-based organizations is useful when providing information to members of the public whose first language is not English. A community-based organization 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. Community-based organizations may include neighborhood groups, the business community, educational groups, faith-based organizations, or healthcare advocates. Several community-based organizations were invited to participate on the HMPC, including the Petaluma Health Care District (consortium of health care providers in southern Sonoma County), Petaluma Community Access, Petaluma Chamber of Commerce, and Petaluma People Services. Ongoing outreach with these community-based organizations will enhance communication and outreach to a larger segment of the citizens in Petaluma.

¹ According to the California Office of Environmental Health Hazard Assessment (OEHHA) CalEnviroScreen Data and SB 535 Disadvantaged Community GIS databases, there are no census tracts that intersect with the City of Petaluma 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 Website

At the beginning of the process, the City should create a website to keep the public informed on the development of the LHMP and to solicit public input. This website can also be designed to complement the City's existing Disaster Preparedness 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 City can also keep the website active after the plan is completed to keep the public informed about the status of the mitigation actions (see Photo 1).

3.2.3 Social Media

The City of Petaluma can use the following social media platforms to circulate information on the LHMP:

- City Facebook (2,350+ followers)
- City Twitter (1,300+ followers)

At a minimum, the social media platforms should announce the kick-off of the LHMP planning process, advertise the City'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. The City can also share LHMP information with other social media groups/organizations.

The City of Petaluma may also want to post information about the LHMP on other agency social media platforms. The City could circulate information regarding the LHMP on the Sonoma County Fire and Emergency Services Department Emergency Management Division webpage, as well as the Sonoma County Water Agency (Sonoma Water) webpage and social media feeds.

3.2.4 Newspapers

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

- Petaluma Star News
- Petaluma-Argus Courier
- Sonoma County Gazette
- Sonoma Index-Tribune
- Sonoma West Times & News
- Press Democrat
- Santa Rosa Democrat

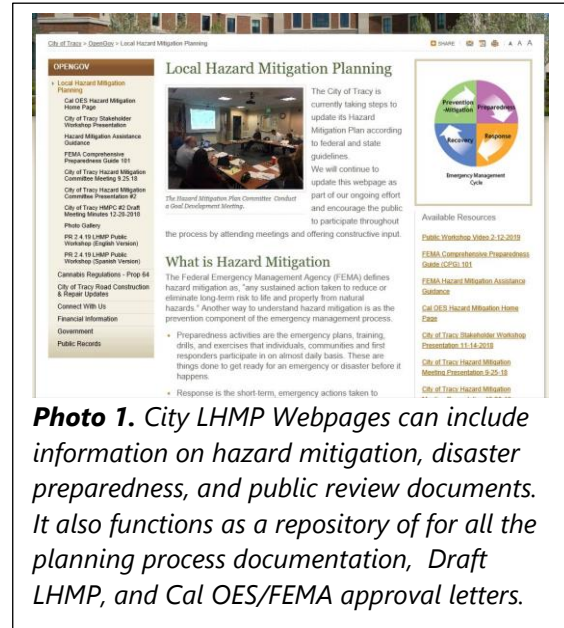


Photo 1. City LHMP Webpages can include information on hazard mitigation, disaster preparedness, and public review documents. It also functions as a repository of for all the planning process documentation, Draft LHMP, and Cal OES/FEMA approval letters.

3.2.5 Press Releases

The City 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 City’s 2015-2023 Housing Element (Chapter 11 of Petaluma’s General Plan 2025), the racial/ethnic distribution of Petaluma residents between 2000 and 2010 included 80 percent White, 20 percent Hispanic, and a small percentage of African American, American Indian, Asian, Native Hawaiian/Pacific Islander, and other races. According to the 2013-2017 American Community Survey 5-Year Estimates, the Hispanic population increased to 21.6 percent. Approximately 25% of the population speaks another language at home other than English. Of this percentage, approximately 16 percent spoke Spanish. Based on this information, press releases will be published in English, and it is recommended that press releases be available in Spanish.

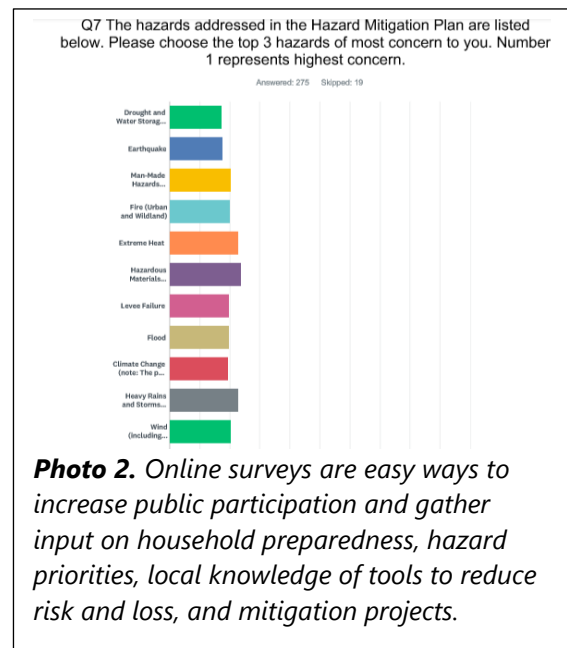
Advertisements can focus on emergency planning, natural hazards, mitigation projects, and how to get the community prepared for disasters. The press releases can also include posts and links to the City’s website and the online public survey. As previously mentioned, the press releases should announce the kick-off of the LHMP planning process, advertise the City’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 City can prepare and distribute a LHMP 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 20 to 30 questions. The questions are designed to help the City and HMPC understand local hazards and select mitigation actions.

The survey should be made available on the LHMP website, 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 survey is designed to help the City 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 City can advertise the LHMP planning process and seek public input at informational booths during local events or booths displayed at the local library or other public repositories. During local events, informational booths can be staffed by HMPC participants, or by other City staff. HMPC participants or City staff should be able to speak to the public about the LHMP project, invite them to visit the LHMP website, and ask them to take the online survey. Tablets, if available, could be provided at the informational booths for easy access to the online survey. Paper copies can also be provided. Some cities have provided real-time hazard mapping services to the public interested in viewing hazard assessments for their property. For the City, 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 City of Petaluma and HMPC may also want to consider advertising the LHMP process during the following upcoming events:

- Live Outdoor Summer Music Series (weekly events)
- Community Farmer's Market (Sunday event)

This event is a good opportunity for the City to advertise the LHMP or set-up an informational booth.

3.2.9 Public Meetings/Workshops

The City should invite the public to attend a public workshop at the beginning of the planning process. The public workshop should cover the purpose of the plan, the components of the LHMP, background on hazard mitigation planning, and next steps. The City can also provide regular and ongoing project status updates on the LHMP during City Council hearings. Wood recommends the City host the public workshop within 60 days of the kick-off meeting or in early September after the second HMPC meeting.

During the public comment period, the City can hold a public meeting, either as a stand-alone public workshop, or as part of a regularly scheduled City Council 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 City Council.



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.

3.2.10 Utility Roundtable

The City can schedule a roundtable meeting with local utility providers, such as Pacific Gas & Electric (PG&E) and Sonoma County Water Agency (Sonoma Water/SCWA) 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 City 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 following community engagement steps and activities are outlined 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.

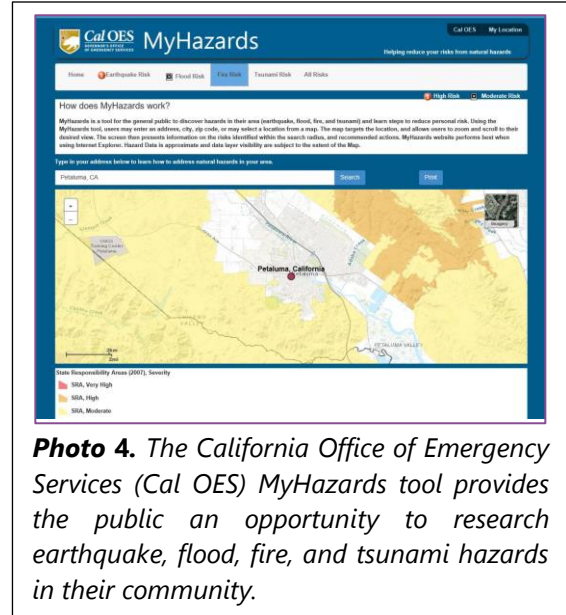




Table 1. Community Outreach Strategy Schedule of Activities

Timeframe	Mitigation and CRS Flood Mitigation Planning Steps	Public Participation Steps/Ideas	Specific Activities/Actions
July – September 2019	<ol style="list-style-type: none"> 1. Getting Organized 2. Plan for public involvement 3. Coordinate with other departments and agencies 	<ul style="list-style-type: none"> • Consider inviting community-based organizations to participate in the process. • Set-up an informational booth or display at a local event or local library. • Create a website for the LHMP (new webpage or one linked to the Disaster Preparedness webpage): what is hazard mitigation, invitation to take an online survey, input on mitigation actions/projects (Wood can provide the LHMP backgrounder content for webpage). • Build public awareness through media channels/platforms, such as Facebook and Twitter. • Outreach through other groups, Private, Non-Profit. Non-governmental organizations • Possible public groups include: Local media, Chamber of Commerce, Petaluma Visitor's Center, Petaluma People Services, Petaluma Community Access, Petaluma School District, and Santa Rosa Junior College 	<ul style="list-style-type: none"> • HMPC formed in July 2019 (5 representatives on City Steering Committee; 5 public/stakeholder representatives on Steering Committee) (Working Group) • HMPC Meeting #1 – Planning Process • Design a stand-alone LHMP Website • Advertisement for Public Workshop via: Facebook, Twitter, Newspapers, Website, Paper Flyers • Invite stakeholders to Workshop and extend invitation for HMPC #2 to: <ul style="list-style-type: none"> ○ Sonoma County ○ SCWA ○ PG&E ○ Cal FIRE ○ Cal OES ○ CNRA ○ FEMA Region IX ○ NOAA/NQA ○ Petaluma School District Managers/Facilities ○ CHP, Caltrans ○ Army Corps of Engineers ○ BAAQMD ○ Others • Schedule Utility Roundtable (if desired) • Develop and display content on the LHMP update project website <ul style="list-style-type: none"> ○ Assessment Summary • Design and circulate an Online Survey (via Survey Monkey)





<p>September 2019 – November 2019</p>	<p>4. Identify the hazards 5. Assess the risks</p>	<ul style="list-style-type: none"> • 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 	<ul style="list-style-type: none"> • Plan and circulate press releases, post on website posting, • Re-circulate Online Survey • Collect public comments from a survey developed specifically for the plan update. • HMPC Meeting #2 – Hazard Identification (Afternoon) • Public Workshop #1 • HMPC Meeting #3 – Mitigation Strategy (Morning) • Additional outreach for Online Survey • Collection and compilation of survey results
<p>November 2019 – February 2020</p>	<p>6. Set planning goals 7. Review mitigation alternatives 8. Draft an action plan</p>	<ul style="list-style-type: none"> • Place draft plan online on City’s LHMP Website • Advertise the plan and public comment period • Email list of interested citizens identified in previous step about the public review draft 	<ul style="list-style-type: none"> • Develop links from City website to project website, encourage review and comment on draft plan. • Develop Online Form so public could leave comments on Draft LHMP • Public Workshop #2
<p>March – April 2020</p>	<p>9. Adopt the plan 10. Implement the plan, evaluate its worth, and revise as needed</p>	<ul style="list-style-type: none"> • Encourage public review of Final Draft LHMP • Continue to host the LHMP on the City 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. 	<ul style="list-style-type: none"> • Presentation at City Council meeting during adoption • Annual HMPC Meeting (to discuss status of mitigation projects) • 5-Year Update (scheduled for 2024)





wood.



Hazard Mitigation Plan Data Collection Guide

City of Petaluma

Hazard Mitigation Planning Committee (HMPC)

Prepared by

Wood Environment & Infrastructure Solutions, Inc.

June 2019

Overview

The contents of this workbook have been designed to assist the City of Petaluma (City) in the 2019 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 City'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 City based on, but not limited to the following documents:

- City of Petaluma General Plan 2025 (Adopted May 2008; Revised January 2012)
- City of Petaluma Floodplain Management Plan (October 2015)
- Taming Natural Hazards – Association of Bay Area Governments (ABAG) Multi-Jurisdictional Local Hazard Mitigation Plan for the San Francisco Bay Area 2010 [City of Petaluma – Annex to 2010 ABAG Plan]
- San Francisco Bay Area 2017 Risk Profile
- City of Petaluma 2015 Watershed Enhancement Plan
- 1996 Petaluma River Access and Enhancement Plan/Area Plan)
- 2016 California Building Standards Code

Other documentation may include 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 City's technical and organizational capabilities to perform hazard mitigation/loss prevention functions. It is important that the plan shows what the City is doing now to limit future disaster losses and capture any mitigation success stories based on actions documented in other plans (e.g. Public Works Floodplain Administration, Zoning Ordinance development regulations, National Flood Insurance Program (NFIP) and Community Rating System (CRS) participation).

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 City'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 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 \$4 in avoided future losses in addition to saving lives and preventing injuries (National Institute of Building Science Multi-Hazard Mitigation Council 2005). An update to this report in 2017 (Natural Hazard Mitigation Saves: 2017 Interim Report) indicates that mitigation grants funded through select federal government agencies, on average, can save the nation \$6 in future disaster costs for every \$1 spent on hazard mitigation.

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 City Council 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 City Council.

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 City 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 12th to Juliana Prosperi.

Project Contacts

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Project Manager
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Steps to prepare the City of Petaluma LHMP

1. Attend planning meetings for the City of Petaluma 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 50 percent of group consists of stakeholders/general public for CRS Credit.
 - a. Include departments such as planning, engineering, public works, GIS, police, fire, 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 City of Petaluma HMPC Coordinator (Diane Ramirez).
 - i. Example: City of Petaluma Floodplain Management Plan. This plan was approved in October 2015 and summarizes ongoing floodplain management efforts lead by the City since FEMA first issued Flood Insurance Rate Maps (FIRMs) in 1980 and the City joined the NFIP in 1983. The plan also describes the public process followed in pursuing a reduction of flood losses in the City and the magnitude of past flooding events that have occurred, as well as floodplain management activities implemented to address flood problems. More information is available here: <http://www.cityofpetaluma.net/pubworks/plan-flood.html>

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 City, department, special district, or utility.

Note: Wood will be evaluating the flood, earthquake and wildfire analyses based on current City of Petaluma GIS datasets and recent Digital FIRMs (effective February 19, 2014) and current wildfire hazard data.

6. Review Worksheet #4 Capability Assessment in LHMP (once available)

- a. Review the Jurisdiction-Specific Existing Capabilities, Development Trends
- 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. Note any changes in hazard significance or reduction in vulnerability through the implementation of mitigation projects such as defensible space, stormwater improvements, public education efforts etc.
- d. Note any changes in development trends. Provide an estimate of future trends (building types and counts).
 - i. According to the City's 2015-2013 Housing Element, most growth in the City occurred from the 1950's to 1970's, which resulted in the adoption of its residential growth management program. Residential growth has since slowed and cannot exceed 500 units per year; the annual growth rate is now just one-half percent. The citizens of Petaluma also approved an urban growth boundary (UGB) in 1998 that represents the limit of urban development and the provision of city water and sewer services until 2019.
 - ii. Residential Growth Management System (1972)
 - iii. City of Petaluma Municipal Services Review and Sphere of Influence Update (2011)
- e. Upload either 'Track Changed' Word version of Worksheet #4 to the file sharing site Provide this and notify the City of Petaluma HMPC coordinator by **August 12th**.

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, with due date TBD (after HMPC #3).
 - d. Consider ideas for other projects in the City. These can be 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 neighboring jurisdictions. 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 General Plan Safety Element, ect.)
 - 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 City of Petaluma 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:

- General Plan 2025 Health and Safety Element/Chapter (May 2008)
- Implementing Zoning Ordinance (IZO)
- Petaluma Historic Districts: Petaluma Historic Commercial District, Oakhill-Brewster Historic District, "A" Street Historic District
- Central Petaluma Specific Plan (2003)
- Architectural Guidelines
- Station Area Master Plan (2013)
- River Enhancement Plan (1996)
- Public Art Master Plan (2013)
- Major Development Projects (list of current and recent projects)

- Major Development Project (California Environmental Quality Act documentation)
- City Standards
- 2016 Building Standards Code – Municipal Code
- Floodplain Management Plan (2015)
- Community Rating System Annual Recertification Report (2014)
- Elevation Certificates (provides online link to certificate form and instructions)
- Floodway and Floodplain Districts (land use regulations for properties in floodway and floodplain)
- Flood Alert System
- Sonoma County Hazard Mitigation Plan Update (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
- 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):
 - City of Santa Rosa Community Wildfire Protection Plan (under development, will be added as a Wildfire Annex to the 2016 LHMP)
 - Marin County Community Wildfire Protection Plan (2016) Available for download here: <https://www.firesafemarin.org/cwpp>
 - City of Rohnert Park Local Hazard Mitigation Plan (2018) Available for download here: https://www.rpcity.org/city_hall/departments/development_services/planning_development_activity/local_hazard_mitigation_plan
- Capital Improvement Projects
- Local Building codes/regulations

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 City's current vulnerability to the hazards that will be assessed in the plan. The intent is to identify the significance or risks to these hazards.

City of Petaluma Local Hazard Mitigation Plan

Worksheet #1: Hazard Identification

Name of Department: _____

Use this worksheet to identify possible hazards that may impact the City of Petaluma. Hazards identified in the 2018 California State Hazard Mitigation Plan are listed, and not all hazards may be applicable to the City. 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					
Earthquakes					
Floods (including stormwater drainage)					
Agricultural and Silvicultural Pests/Disease					
Air Pollution					
Aquatic Invasive Species					
Avalanches					
Energy Shortage and Energy Resiliency					
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: _____

City of Petaluma 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 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:

City of Petaluma 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 your community 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. Alternately you can edit your jurisdiction'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
<ul style="list-style-type: none">▪ Hospitals and other medical facilities▪ Police stations▪ Fire station▪ Emergency Operations Centers	<ul style="list-style-type: none">▪ Power plants▪ Dams/levees▪ Military installations▪ Hazardous material sites▪ Schools▪ Shelters▪ Day care centers▪ Nursing homes▪ Main government buildings	<ul style="list-style-type: none">▪ 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.

Additional Vulnerability Questions

Describe growth and development trends and future growth areas and how they relate to hazard areas and vulnerability concerns/issues.

Prepared by: _____

Phone: _____

Email: _____

City of Petaluma Local Hazard Mitigation Plan Worksheet #4: Capability Assessment

Name of Department: _____

Capabilities are the programs and policies currently in use to reduce hazard impacts or that could be used to implement hazard mitigation activities. The region has developed innovative initiatives over the past decade to increase disaster resilience. Please complete this worksheet from your department’s perspective and provide supporting documentation if possible.

Regulatory

The following planning and land management tools are typically used by local jurisdictions to implement hazard mitigation activities. Please indicate which 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 ftp, 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

<p>Does your community have any hazard-related certifications, such as Storm Ready certification or Firewise Communities certification?</p>	
<p>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.</p>	
<p>Describe any other past or ongoing projects or programs designed to reduce disaster losses. These may include projects to protect critical facilities.</p>	

Prepared by: _____

Phone: _____

Email: _____

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HMPC Meeting #1 Agenda

Date: 8 July 2019
1:00 PM PST

Meeting at: Conference Room (To be Determined)
City of Petaluma
11 English Street
Petaluma, CA 94952

Project: City of Petaluma 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 Requirements
3. Role of the Hazard Mitigation Planning Committee (HMPC)
4. Objectives of the LHMP
5. Review of Potential Natural and Human-Caused Hazards
6. Coordination and Collaboration with Stakeholders
7. Community Outreach Strategy
8. Data Collection Guide
9. Schedule
10. Questions and Answers

Local Hazard Mitigation Plan

Sign-In Sheet

City of Petaluma Local Hazard Mitigation Plan Hazard Mitigation Planning Committee (HMPC) Meeting #1

Monday, July 8, 2019

1:00 p.m. - 3:00 p.m.

Petaluma Community Center

320 N. McDowell Boulevard

Petaluma, CA 94954

This sign-in sheet documents the attendees at the City of Petaluma Hazard Mitigation Planning Committee (HMPC) Meeting #1. This meeting summarizes the planning process to prepare a Local Hazard Mitigation Plan (LHMP). It enables the City of Petaluma to evaluate their risks and vulnerabilities to natural hazards and to identify mitigation strategies to reduce hazard-related losses and to make their jurisdiction more resilient.

Name	Representing Agency or Department and Title	Phone	Email
Brian Miller	Petaluma PD, LT	707-778-4572	BMiller@CITYOFPETALUMA.CA.GOV
Jan Williamson	Petaluma IT Mgr	-4573	Jwilliamson@cityofpetaluma.org
Cecilia A. Quiambao	Petaluma HR/Risk Risk & Safety Officer	707-776-3780	CQuiambao@cityofpetaluma.org
Mike Ielmorini	Asst. OP. Manager	707-778-4436	mielmorini@cityofpetaluma.org
Jessica Power	Fire Marshal	707-778-4389	jpower@cityofpetaluma.org
Leah Walker	Elis Creek Water Recycling	707-778-4588	LWalker@CityofPetaluma.org
Graham Schamboldt	CITY OF SEBASTIAN	707 823 8597	gschamboldt@cityofsebastian.org
Doug Hughes	Chief Building Official	707 778 4306	dhughes@cityofpetaluma.org
Jason Bratty	Asst. Director, Public Works & Utilities	(707) 778-4514	JBratty@CITYOFPETALUMA.ORG

Name	Representing Agency or Department and Title	Phone	Email
Kert Carothers	Operations Manager COP	707-778-4580	Kcarothers@CityofPetaluma.org
JESSICA MCKEIGHAN	AERIAL MARINA MANAGER	707-778-4404	JMCKEIGHAN@CityofPetaluma.org
Jill Duran	Deputy Director County EMS Unit	707 565 6160	Jill.Duran@Sonoma-County.org

HMPC Meeting #1 Facilitated by: <i>Juliana Prospero</i>		
Project Manager: <i>Juliana Prospero</i>	Date: <i>7/8/19</i>	Signature: <i>Juliana Prospero</i>



HMPC #1 Meeting Minutes

Date/Time: Monday July 8, 2019 1:00 PM - 3:00 PM

Location: Upstairs Conference Room
City of Petaluma
Public Works and Utilities Department
202 North McDowell Boulevard
Petaluma, CA 94952

Project No.: SA19170580

Written By: Juliana Prosperi (Wood, Project Manager)

Present: Jeff Brislaw (Wood, Hazard Mitigation Lead)
Diane Ramirez (City of Petaluma, Project Manager)
Brian Miller (City of Petaluma, Police Department, Lieutenant)
Tim Williamson (City of Petaluma, IT Manager)
Cecilia A. Quiambau (City of Petaluma, HR/Risk and Safety Officer)
Mike Ielmorini (City of Petaluma, Assistant Operations Manager)
Jessica Power (City of Petaluma, Fire Marshall)
Leah Walker (City of Petaluma, Ellis Creek Water Recycling Facility)
Glenn Schainblatt (City of Sebastopol, Building Official)
Doug Hughes (City of Petaluma, Chief Building Official)
Jason Beatty (City of Petaluma, Assistant Director Public Works and Utilities)
Kent Carothers (City of Petaluma, Operations Manager)
Joshua McKeighan (City of Petaluma, Airport and Marina Manager)
Jeff Durran (Sonoma County, Emergency Management, Deputy Director)

Subject: City of Petaluma Hazard Mitigation Planning Committee Meeting #1

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. Mitigation Planning and the Disaster Mitigation Act
3. Role of the Hazard Mitigation Planning Committee (HMPC)
4. Objectives of the LHMP
5. Review of Potential Natural and Human-Caused Hazards
6. Team Coordination and Collaboration
7. Community Outreach Strategy
8. Data Collection Guide
9. Schedule
10. Questions and Answers

As HMPC participants arrived for the meeting Ms. Prosperi passed out 3x5 sticky notes and asked each person to write down the top three natural or human-caused hazards that need to be addressed in the City's Local Hazard Mitigation Plan (LHMP).

1. Introductions

Ms. Ramirez initiated the meeting, thanked everyone one for attending, and explained the purpose of the meeting was to prepare the City's LHMP. The previous plan was prepared by the Association of Bay Area Governments (ABAG) in 2005 and updated in 2010. Mr. Beatty added that the plan was not comprehensive and needed to be drafted with detailed mitigation actions.

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 consultants. Mr. Miller stated he was with the City Police Department and has wildland fire experience. Ms. Quiambao is the City's Health and Safety Officer; she oversees the City's commercial insurance program. Mr. Ielmorini has flooding experience and oversees the operations of the City's water infrastructure system and stated there is a firm updating the City's water system vulnerability assessment. Ms. Power has urban and wildland fire expertise. Ms. Walker oversees the operations and environmental planning for the City's Ellis Creek Water Recycling Facility. Mr. McKeighan manages the operation of the airport and marina; he noted the importance of both facilities in the event of a natural disaster as they are bases for helicopters and flight planes, serve as fueling stations, and provide generator back-up. He has Marine Corps disaster recovery and vector-borne disease experience.

Mr. Schainblatt is with the City of Sebastopol and has provided recovery support for wildland fires over the past decade and recently the Tubbs Fire in Sonoma County and the Camp Fire in Butte County. Mr. Hughes noted he has worked on two LHMPs in the past. Mr. Beatty has US Coast Guard experience and ICS Training background. He explained the City has an EOC Plan, and stated the preparation of a LHMP is an opportunity for the City to flush out details on natural hazards and identify specific shortcomings related to capabilities.

Mr. Duvall is with Sonoma County Emergency Management and is participating as the County's Liaison. He has hazard mitigation experience and expertise tracking and applying for hazard mitigation 404 and 406 grant funding. The HMPC participants listed in the beginning of this meeting summary were present for the first meeting. They are also listed on the sign-in sheet (See Attachment A).

2. Mitigation Planning and Disaster Mitigation Act

Ms. Prosperi explained that the purpose of the meeting is to discuss the LHMP update process; identify planning committee members, partners, and stakeholders; discuss the public engagement strategy and GIS data needs; and review the scope of work and schedule. She began a PowerPoint presentation that described the goals for the LHMP, discussed the trends resulting in increased costs for disaster response and recovery, specifically related to the recovery costs associated with the Camp Fire and Tubbs Fire, and introduced the concept of hazard mitigation planning. She introduced the Disaster Mitigation Act of 2000, the legislation that

requires local governments to have a LHMP to be eligible for hazard mitigation grant funding from FEMA.

3. 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 the second meeting may be formatted as an all-day workshop or two consecutive half-day workshops;
- Providing available data requested by the HMPC Coordinator or Ms. Ramirez,
- Providing hazard profiles and vulnerability details specific to the City's planning area,
- Developing the local mitigation strategies,
- Advertising and assisting with the public input process, including up to two public workshops or open houses (where HMPC participants can help facilitate booths/stations of specific hazards),
- Reviewing and commenting on the Draft LHMP, and
- Coordinating formal re-adoption of the updated plan.

Ms. Prosperi explained the objectives behind the structure of the HMPC given the City and Wood are aiming to align the LHMP update with maximizing credits under the National Flood Insurance Program's (NFIP) Community Rating System (CRS). She said the CRS program is structured and it requires an equal number of stakeholders (other agencies, academic institutions, etc.) and the public to participate as City employees for City to achieve the highest number of credits. She noted the program requires participation by the City's Floodplain Manager among other departments.

4. Objectives of the LHMP

Ms. Prosperi provided a general overview of a LHMP, what is summarized in the plan, and the planning process. During the discussion, she explained the level of detail that goes into the LHMP, as well as how it relates to the Sonoma County Operational Area LHMP. Ms. Ramirez mentioned she saved examples of single-jurisdictional plans from Sonoma County on the project folder drive. The City of Santa Rosa LHMP and the Draft City of Rohnert Park LHMP are available.

Ms. Prosperi discussed the City's planning boundary by mentioning various options for study areas: the city limits, Urban Growth Boundary (UGB), or water and wastewater service areas. She explained that limiting the planning areas to only the UGB may exclude certain City utilities and key facilities. Ms. Power noted that the City's fire service boundary and ambulance service boundary encompasses a much larger area, and while they support wildland fire suppression on the west side of the City given the prevailing winds area from that direction, there is spotty access in this area and limited local authority. She stated that their coverage area ends at the city limits. Mr. Beatty noted the City's water and wastewater infrastructure extends further north of the City and includes the Penngrove area. Ms. Ramirez stated she will coordinate with Mr.

Cooper to ensure the Wood GIS Team has the latest water and wastewater service boundaries, the UGB, and other service area information so the boundary includes all critical infrastructure.

5. Review of Potential Natural and Human-Caused Hazards

Ms. Prosperi described the hazards her team considers for each LHMP starts by reviewing the hazards listed in the 2018 California Multi-Hazard Mitigation Plan, but noted that some of the hazards listed may not apply to the City because they are not present or they are present, but have a low probability of future occurrence. Ms. Prosperi explained the City may prioritize the hazards differently based on the results of the Hazard Identification and Risk Assessment.

Ms. Prosperi stated we are required to consider all potential hazards, but if it is a hazard that does not occur within the planning area, we can note that in the plan, and dismiss it from further analysis. Ms. Prosperi compiled the 3x5 sticky notes from the HMPC. Below is a list of all the potential hazards that the HMPC agrees we should profile in the risk assessment:

- Flood: 100/500 year
- Flood: Localized Stormwater Flooding
- Earthquake: Ground Shaking, Seismicity, Liquefaction, Settlement, Faulting, Soil instability
- Drought
- Severe Weather: Heavy Rains and Storms
- Severe Weather: High Winds (Extended Power Outages, Infrastructure Outages/Failures)
- Fire: Urban and Wildland (Wildland Urban Interface, Lack of Fire Department Access)
- Hazardous Material Releases (Grain Silos, Fixed Hazardous Facilities, Chemical Facilities)
- Sea Level Rise
- Extended Power Outages/Infrastructure Failures (associated with natural disasters)
- Mass Casualty
- Cyber Threats (Malware/Ransomware)

Wood will investigate the following hazards in the LHMP, but expect we will not provide a detailed profile on each due to the lack of coastal areas, distance to San Pablo Bay, or past occurrences in the City:

- Dam/Levee Failure
- Coastal Erosion/Tropical Storms
- Hurricanes
- Tsunami

Ms. Prosperi asked about the grain silos hazard and Ms. Power explained they are considered a potential wildfire hazard and some also contain hazardous materials. She stated there are other facilities in the City with hazardous materials. Mr. Williamson also noted the constant cyber threats and malware impacts they need to manage at the City.

6. Team Coordination and Collaboration

There was a discussion among the HMPC on other federal, state, regional, and local agencies to invite to participate in the development of the LHMP. Ms. Ramirez explained she invited six stakeholders to participate and expects they will be present at the next two meetings.

7. Community Outreach Strategy

Ms. Prosperi reviewed the public involvement requirements. She stated that a public workshop should be timed based on what would work best for the City and the community. She stated that one workshop can be scheduled during the development of the Draft LHMP and a second workshop once the Public Review Draft LHMP is available. Ms. Ramirez stated the City's Outreach Specialist can set up the Project Webpage, distribute notices, and provide outreach support.

8. Data Collection Guide

Ms. Prosperi indicated their Wood's GIS Specialist, Marta Blanco Castano is working with the City's GIS Manager, Trae Cooper to compile, organize, and prepare LHMP maps. There were questions from the HMPC regarding the level of detail needed to complete the Hazard Identification and Historical Event worksheets. Ms. Quiambao asked whether she needed to provide information on all hazards. Ms. Ramirez explained that she would expect that City staff can provide input on all hazards based on both their role at the City and based on personal experience living/working in Petaluma. Ms. Prosperi noted she understands greater detail on hazard events will be based on departments experience with that hazard (e.g. Building Department working on earthquake or flood hazards, base flood elevation certificates, etc.). Ms. Walker and Ms. Quiambao asked about the replacement value information needed. Ms. Prosperi stated a comprehensive list of replacement value data should accompany the GIS database that lists the City's critical facilities, buildings, and infrastructure. Ms. Quiambao stated she can work with Mr. Cooper to compile the database on replacement value information. Ms. Prosperi emphasized that the detail provided helps her team tailor the LHMP for the City of Petaluma.

Ms. Power noted that in 2004 the City implemented a Sprinkler Ordinance in the downtown historic district of Petaluma that addresses urban fire hazards by requiring all buildings to have interior sprinklers installed by 2029. She noted that approximately half of the buildings inspected were required to have sprinklers installed by 2016 and not all of these retrofits have been completed, and the deadline for compliance was extended for another 12 years.

Ms. Prosperi and Ms. Ramirez asked the HMPC to provide Worksheet #1 – Hazard Identification and Worksheet #2 – Historic Hazard Events by August 8th (one month from today), so she can incorporate the information in to the Hazard Identification and Risk Assessment by September.

9. Schedule

Ms. Prosperi stated they expect to complete the Draft LHMP in 8 to 9 months and submit the plan to Cal OES in March 2020. Ms. Ramirez and Ms. Prosperi stated their preference for the next meeting is to schedule two meetings over a two-day period during the week of September 9th


through September 12th and schedule a Public Workshop in August, or preferably in September once the hazard profile information is available.

Questions and Answers

At the end of the meeting, there were no additional questions. The meeting adjourned at 3:05 p.m.

ACTION ITEMS

No.	Item	Action	Completion Date
1.	Submit HMPC Meeting #1 Minutes	(Wood)	9 July 2019
2.	Provide GIS Data on Service Areas	(City)	19 July 2019
3.	Provide GIS Data on Critical Facilities	(City)	19 July 2019
4.	Provide Climate Initiative Information	(City)	19 July 2019
5.	Community Engagement Strategy	(HMPC)	25 July 2019
6.	Provide Webpage Backgrounder	(Wood)	2 August 2019
7.	Launch Project Webpage	(City)	8 August 2019
8.	Complete Worksheets #1 and #2	(Wood)	8 August 2019
9.	Schedule 1 st Public Open House	(Wood/City)	8 August 2019
10.	Submit Draft Online Survey	(Wood)	16 August 2019



wood.

City of Petaluma
Local Hazard Mitigation Plan

Hazard Mitigation Planning Committee Meeting #1

City of Petaluma
Public Works and Utilities Department
202 North McDowell Boulevard, Petaluma, CA 94954

July 8, 2019

woodplc.com

Recent Natural Disasters around Petaluma



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

2 City of Petaluma HMPC Meeting #1

Agenda

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

3 City of Petaluma HMPC Meeting #1

Introductions

Introductions

- City of Petaluma, Public Works and Utilities Department
 - Diane Ramirez
 - Project Manager
- Wood Environment & Infrastructure Solutions, Inc.
 - Jeff Brislawn, CFM
 - Hazard Mitigation Lead
 - Juliana Prospero, AICP
 - Project Manager

5 City of Petaluma HMPC Meeting #1

Mitigation Planning and the Disaster Mitigation Act

Trends Resulting in Increased Costs for Disaster Response & Recovery

- Population and community growth
 - More people living in hazardous areas
 - Greater exposure to risk
 - People, infrastructure, buildings
- More hazards
 - Technological, civil, terrorist hazards
- Continual increase in expenses
- More disaster declarations



7 City of Petaluma HRMC Meeting #1



Why addressing these trends is a priority?

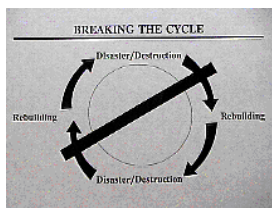
- The spiraling costs of response and recovery
 - The cost of “doing nothing” is too much
- Many events are predictable and repetitive
- Loss reduction activities can be undertaken
 - They work
 - They’re cost-effective and environmentally sound
 - There are funds available to help
- There are legal and moral responsibilities

8 City of Petaluma HRMC Meeting #1



How can we reverse these trends?

- Mitigation defined: Any SUSTAINED action taken to reduce or eliminate long-term risk to human life and property from hazards



9 City of Petaluma HRMC Meeting #1



Disaster Mitigation Act of 2000

- Requires local governments to have hazard mitigation plans for continued eligibility for mitigation funds, pre- and post- disaster
- Guide mitigation activities in a coordinated & economic manner
- Incorporate into other existing planning mechanisms
- Future Development: plan and build wisely
- Reduce losses
- Make community more disaster resistant (Resilience!)



10 City of Petaluma HRMC Meeting #1



National Flood Insurance Program Community Rating System

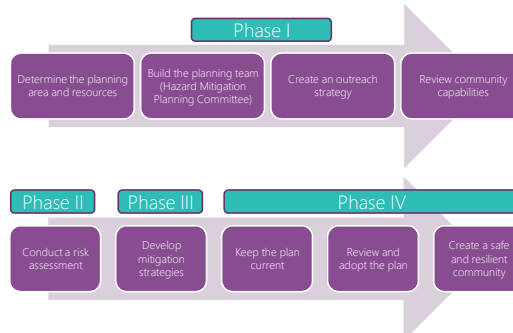
- Created in 1990 as a voluntary incentive program
- Recognizes communities that manage their floodplains beyond the minimum standards by providing discounted flood insurance rates
- Floodplain Management Planning earns credits in CRS
- Petaluma is a CRS participant



11 City of Petaluma HRMC Meeting #1



FEMA's 4-Phase DMA Planning Guidance



12 City of Petaluma HRMC Meeting #1



CRS 10-Step Process within 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

15 City of Peabody HMPC Meeting #1



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

16 City of Peabody HMPC Meeting #1



Phase I: Organize Resources

- 1) Get organized
- 2) Plan for public involvement
- 3) Coordinate with other department and agencies



16 City of Peabody HMPC Meeting #1



1) Get Organized – To Prepare the Plan

- Obtain community commitment to mitigation
- Determine and assign staff
- Establish your mitigation planning team

16 City of Peabody HMPC Meeting #1



1) Get Organized – Establishing Your Hazard Mitigation Planning Committee (HMPC)

- **City Departments**
 - City Attorney
 - City Clerk
 - City Manager
 - Economic Development
 - Housing
 - Information Technology
 - Building
 - Planning
 - Finance
 - Fire
 - Human Resources
 - Risk Management
 - Recreation Services
 - Police
 - Public Works and Utilities
 - Water Resources and Conservation
 - Transit
 - Public Works
 - Airport

17 City of Peabody HMPC Meeting #1



2) Plan for Public Involvement

- **Requirement:** Provide Two Opportunities
 - During drafting stage
 - Prior to approval
- **Advantages:**
 - Solutions fit local needs better
 - Strengthens local support for plan
 - Special interests are considered; avoids being "Blind-Sided"
 - It is a fair process
 - Generates new ideas

18 City of Peabody HMPC Meeting #1



2) Plan for Public Involvement - Options

- Include on planning team
- Host public input meetings/workshops/open houses
- Piggy back on other public forums or related meetings (develop a Community Outreach Strategy)
- Use questionnaires/surveys
- Post draft plan online for comment prior to finalization
- Document process for 2019/2020 in plan

19 City of Petaluma HRPC Meeting #1



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
- Cal Fire
- CNRA
- Cal OES
- Neighboring Communities and Counties
- FEMA Region IX
- US Bureau of Reclamation
- US Forest Service
- National Oceanic Atmospheric Administration/National Weather Service
- Petaluma City Schools
- Petaluma Health Care District
- Hospitals (Petaluma Valley Hospital)

20 City of Petaluma HRPC Meeting #1



Phase II: Risk Assessment

Three Components

- 4) Hazard Identification (what can happen here?)
- 5) Vulnerability Assessment (what will be affected?)
 - Includes a Mitigation Capability Assessment



21 City of Petaluma HRPC Meeting #1



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

22 City of Petaluma HRPC Meeting #1



4) Hazard Identification – Profile the Hazards

- Hazard / Problem description
- Hazard extent (magnitude/severity)
- Past occurrences
- Seasonal patterns
- Speed of onset / duration
- Magnitude / secondary effects
- Significance
- Frequency / likelihood of future occurrences



23 City of Petaluma HRPC Meeting #1



5) Vulnerability Assessment – What Will Be Affected?

- Inventory residential and commercial structures
- 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

24 City of Petaluma HRPC Meeting #1



Mitigation Capability Assessment

- Inventory of the community'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 City'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

- Prevention
- Property protection
- Natural resource protection
- Emergency services
- Structural projects
- Public information
- Multi-hazard measures and considerations
- No action



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Review of Mitigation Alternatives – Criteria for Selecting Mitigation Measures

- 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:
- Wildfire**
 - Defensible space
 - Hazardous fuels reduction activities (e.g. vegetation removal)
 - Implement ignition-resistant construction techniques
 - Flood**
 - Dry and wet flood proofing
 - Flood reduction projects (e.g. detention ponds, channel stabilization)
 - Other-General**
 - Utility protection/infrastructure retrofit
 - Adding generators

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Phase IV: Adopt & Implement the Plan

- 9) Adopt the Plan
 - Official Adoption by Council
 - Public input before 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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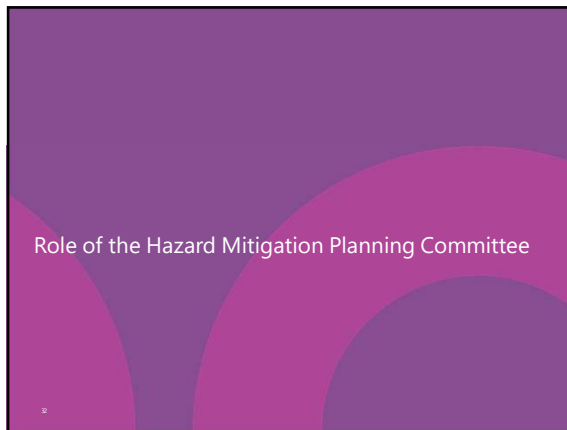


Compliance and Beyond

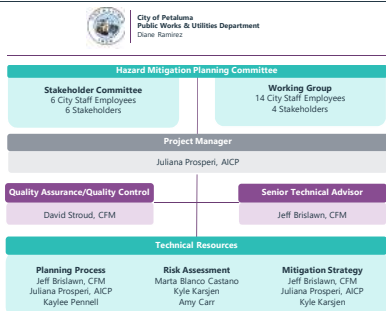
- **SB 379:** Requires inclusion of climate adaptation strategies in General Plan Safety Elements and encourages inclusion of climate change discussion in LHMPs.
- **SB 1000:** Requires inclusion of Environmental Justice and Equity into General Plan Safety Elements.
- **AB 2140:** Encourages the adoption of LHMPs into General Plan Safety Element (after LHMP Approval).
- **SB 1241:** Revised safety element requirement of General Plans to address risk of State Responsibility Areas (SRA) and Very High Fire Hazard Severity Zones



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Organizational Chart



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Role of the HMPC and the Benefits

- Coordination and 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 specific to department; provide status
- Assist with and participate in the public input process
- Coordinate formal adoption



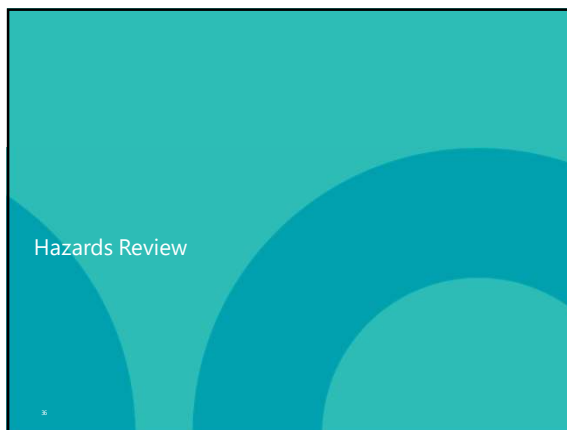
34 City of Petaluma HMPC Meeting #1



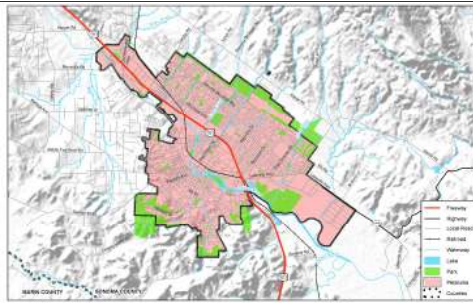
What goes into the plan?

- 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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Planning Area



27 City of Tracy HRPC Meeting #1

Hazards of Concern

- Flooding – Riverine and Stormwater
- Dam and Levee Failure
- Seismic Hazards
- Landslides/Mudslides
- Fire – Urban and Wildfire
- Drought and Water Shortage
- Meteorological Hazards
- Health Hazards
- Human-Caused Hazards
- Climate Change – Sea Level Rise
- Transportation-Related Hazards

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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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Hazard Profiles

- Hazard/Problem Description**
 - Area, Seasonal Patterns, Speed of Onset/Duration
- Geographic Extent (or Spatial Extent)**
 - **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
- 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
- Significance**
 - **Low:** Minimal potential impact
 - **Medium:** Moderate potential impact
 - **High:** Widespread potential impact
- Frequency/Likelihood 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

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Other Hazard and Climate Resiliency Topics

- Flood Mitigation
 - Flood terracing project
 - Adaptation projects
- Climate Resiliency
 - Sea Level Rise
 - Higher Wildfire Frequency
 - Sustainability Focus
 - Adoption of Climate Emergency Resolution



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Example Goals and Policies from Related Plans

- Provide surface drainage and flood protection facilities to meet the community's needs of reducing flood hazards and potential property damage
- Protect lives, property, and the environment by providing the highest quality of service in prevention, fire protection, emergency medical services, and community preparedness
- Provide a safe, reliable, high-quality, economical and sustainable source of water to meet the community's needs
- Minimize risk of property damage and personal injury posed by natural hazards
- Protect the community from risks associated with seismically induced surface ruptures, ground-shaking, ground failure, slope instability leading to mudslides and landslides, subsidence, liquefaction, and other seismic, geologic, and fire hazards
- Protect public health and welfare by eliminating or minimizing the effects of existing noise problems, and by minimizing the increase of noise levels in the future
- Minimize the risk of life and property from the production, use, storage, and transportation of hazardous materials and waste by complying with all applicable State and local regulations

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Example Mitigation Projects from Other Plans

- Become a "StormReady" community
- Improve grading and drainage of wastewater effluent storage ponds
- City CWPP implementation
- Increase web-based public information outreach
- Acquire property in High Hazard Zones
- Implement facility-specific flood mitigation projects
- Retrofit manhole covers
- Enhance on-site coordination with Cal FIRE during fire events
- Construct fire resistant electrical control panels
- Develop mutual aid agreements with water providers and local and regional agencies for support during emergencies

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Related Planning Efforts

- General Plan 2025 Health and Safety Element/Chapter (May 2008)
- Implementing Zoning Ordinance (IZO)
- Petaluma Historic Districts: Petaluma Historic Commercial District, Oakhill-Brewster Historic District, "A" Street Historic District
- Central Petaluma Specific Plan (2003)
- River Enhancement Plan (1996)
- 2016 Building Standards Code – Municipal Code
- Floodplain Management Plan (2015)
- Community Rating System Annual Recertification Report (2014)
- Elevation Certificates
- Floodway and Floodplain Districts (land use regulations for properties in floodplain)
- Flood Alert System
- Sonoma County Hazard Mitigation Plan Update (2017)
- Sonoma County Water Agency Local Hazard Mitigation Plan Update (2018)
- Sonoma County Community Wildfire Protection Plan (2016)

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Community Outreach Strategy

Planning for Public Involvement

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



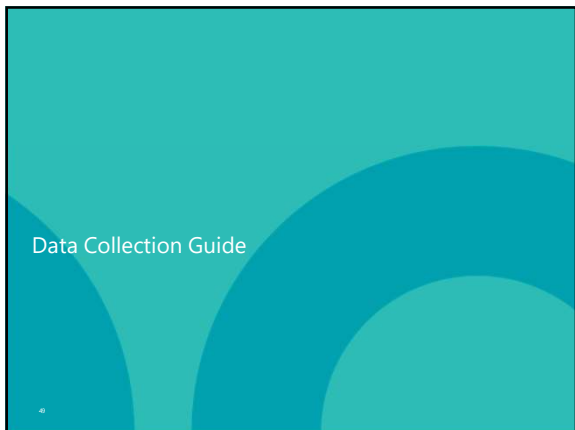
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Local Hazard Mitigation Plan Webpage

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What's New in Mitigation Planning

- FEMA Local Hazard Mitigation Planning Guidance 2013
- Cal OES requires Capability Assessment in LHMPs
- Cal OES suggests incorporating climate change considerations
- Cal OES MyPlan and MyHazards Internet tools
- FEMA Plan Review Tool
 - Replaces old Plan Review Crosswalk
- New CRS guidance
- As a result of disasters, more FEMA \$ has been available for communities with HMPs to leverage for projects!

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Hazard Information Resources

- What existing or recent plans, reports or studies exist?
 - Master plans
 - Floodplain map revisions
 - Safety Element updates to General Plans
 - Subsidence studies
 - Wildfire hazards



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Initial Data Needs

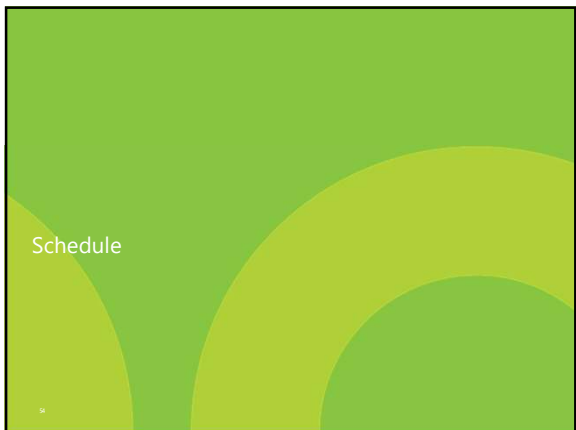
- **GIS Data Needs List**
- Data Collection Guide
 - Worksheets #1 Hazard Identification
 - Worksheet #2 Historic Hazard Event
 - Worksheet #3 Vulnerability Assessment
 - Worksheet #4 Capability Assessment
- Recent hazard events
- Growth and development trends
- Recent updated plans and policies
- Follow-up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

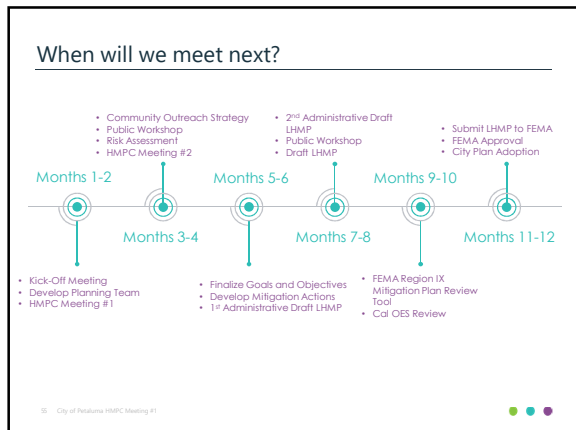
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Maximizing the Effectiveness of your Work Strategies

- Follow a Prescribed Planning Process
- Coordinate with ALL other Community Goals and Plans
- Seek Diversified Participation and Input
- Ask for Technical Assistance
- Establish Partnerships for Implementation

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Detailed Schedule

Activity	Anticipated Date
Notice to Proceed	April 17, 2019
Project Kick-off Meeting	June 10, 2019
Submit Planning Team Invite List	June 13, 2019
Planning Team Session #1 (Half-Day Workshop)	July 8, 2019
1 st Public Workshop	August 8, 2019
Prepare Hazard Identification and Risk Assessment	September 6, 2019
Planning Team Session #2 (All-Day Workshop)	September 12, 2019
Finalize Goals and Objectives	September 30, 2019
Complete Mitigation Action Worksheets	October 18, 2019
Submit 1 st Administrative Draft LHMP	November 1, 2019
City and Planning Team provides Comments on 1 st Administrative Draft LHMP	November 22, 2019
Submit 2 nd Administrative Draft LHMP	December 6, 2019
Circulate Public Review Draft LHMP (20-day public review period)	December 9, 2019
2 nd Public Workshop	December 12, 2019
Public Review Ends	December 30, 2019
Incorporate Public Comments	January 10, 2020
Complete FEMA Region IX Mitigation Plan Review Tool	January 17, 2020
Submit LHMP to Cal OES for Review	January 24, 2020
Cal OES Review	45 Days
Cal OES SHMO Tele-Conference Call	TBD (mid-March 2020)
Submit LHMP to FEMA for Review (via Cal OES)	TBD (mid-April 2020)
City Council Hearing**	TBD

*City Council Meetings are held on the first and third Monday of each month.

City of Palmdale HMPC Meeting #1

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!

The diagram is a circular flow with three arrows forming a loop. The top arrow is labeled 'MITIGATION', the right arrow is 'RECOVERY', and the bottom arrow is 'RESPONSE'.

City of Palmdale HMPC Meeting #1

Questions?

Juliana Prosperi, AICP
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Rancho Cordova, CA 95670
Juliana.Prosperti@woodpic.com
(916) 636-3200

Jeff Brislaw, CFM
1942 Broadway, Suite 314
Boulder, CO 80302
jeff.brislaw@woodpic.com
(303) 820-4654

City of Palmdale HMPC Meeting #1



DROUGHT

Sea Level Rise

Earthquake

HAZARDS

- ① Major Casualty
- ② Earthquake / natural
- ③ Infrastructure
collapse / failure

- Flood
- Earthquake
- ~~Flood~~ Fires

Top 3 Hazards

Flood
Wild fire
Earthquake

Grain Clos

WUT lack staff

FD Access
Hazz Mat safe

Addressed
Downtown Sprink

Cyber - malware/ransom
ware

Extended power outage

Earthquake

Earthquake

High winds

Extended Power
outage

FLOOD

FIRE - WILD FIRE

EARTHQUAKE

POWER OUTAGES

SLR[?] -
SEA LEVEL RISE ?

Earthquakes

Wild Fire



HMPC Meeting #2 Agenda

Date: 7 October 2019
1:30 PM – 3:30 PM

Meeting at: City of Petaluma
Public Works and Utilities Department
Upstairs Conference Room
202 North McDowell Boulevard
Petaluma, CA 94954

Project: City of Petaluma 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 from the General Plan 2025 and other relevant plans.

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
-

2008 City of Petaluma General Plan 2025 (2008, Revised 2012)

Community Facilities, Services and Education Element

This element lists all city-owned public facilities in Petaluma, including those that will be assessed in the LHMP. It also summarizes broad policies that ensure adequate public facilities and services exist and are maintained to meet the needs of the community.

Public Facilities and Services

- **Goal 7-G-1:** Ensure adequate public facilities and services exist and are maintained to meet the needs of the community for an array of high quality services and programs.

Fire Protection

- **Goal 7-G-5:** Protect lives, property, and the environment by providing the highest quality of service in prevention, fire protection, emergency medical services, and community preparedness.

Water Resources Element

The water resources element summarizes four components: water supply and demand, recycled water, wastewater, and surface water. This element also covers flood hazards, groundwater supply, and drought issues, as they relate to water conservation.

Surface Water Management

- **Goal 8-G-8:** Provide surface drainage and flood protection facilities to meet the community's needs of reducing flood hazards and potential property damage.
- **Goal 8-G-9:** Preserve the design conveyance capacity of the surface water drainage system.

Health and Safety Element

The City's Health and Safety Element aims to minimize risks posed by environmental hazards, including geologic and seismic hazards, noise, and hazardous materials and waste. The element also addresses emergency preparedness and management.

Natural Hazards

- **Goal 10-P-1:** Minimize risks of property damage and personal injury posted by natural hazards.
- **Goal 10-P-2:** Protect the community from risks associated with seismically induced surface ruptures, ground-shaking, ground failure, slope instability leading to mudslides and landslides, subsidence, liquefaction, and other seismic, geologic, and fire hazards.
- **Goal 10-P-3:** Protect public health and welfare by eliminating or minimizing the effects of existing noise problems, and by minimizing the increase of noise levels in the future.



- **Goal 10-P-4:** Minimize the risk to life and property from the production, use, storage, and transportation of hazardous materials and waste by complying with all applicable state and local regulations.

FY2019-2020 City Council and Community Goals

- **Goal 1:** Ensure a fiscally and organizationally sustainable City that is innovative, efficient, provides valued services promptly and professionally, engages the community, and proactively funds, designs, installs and maintains City infrastructure that is safe, functional, and sustainable and serves the needs of our residents.
- **Goal 2:** Preserve and protect Petaluma's environment for future generations and become a municipal leader in sustainability by protecting our river and open space, reducing and drawing down greenhouse gas emissions, and encouraging sustainable development.
- **Goal 3:** Support facilities and design programs that create a healthy, resilient, and engaged community that is prepared, safe and housed.
- **Goal 4:** Encourage a thriving business environment that results in a strong, diverse, resilient economy and supports community prosperity.
- **Goal 5:** Create inviting natural and built places and spaces for contemplation, play, arts, and connection while celebrating our history and encouraging community pride.

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 California State Hazard Mitigation Plan

- **Goal 1:** Significantly reduce life loss and injuries.
- **Goal 2:** Minimize damage to structures and property, as well as minimizing interruption of essential services and activities.



- **Goal 3:** Protect the environment.
- **Goal 4:** Promote community resilience through integration of hazard mitigation with public policy and standard business practices.

2018 Sonoma County Water 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.

2016 City of Santa Rosa Local Hazard Mitigation Plan

- **Goal 1:** Implement the Local Hazard Mitigation Plan to better prepare Santa Rosa for disaster and minimize impacts associated with natural and man-made hazards.
- **Goal 2:** Provide for the safety of Santa Rosa community members by maintaining efficient, well trained, and adequately equipped City personnel.
- **Goal 3:** Preserve and enhance the City's water infrastructure by maintaining and enhancing an operational drainage system, preserving drainage capacity, and protecting water quality.
- **Goal 4:** Maintain and enhance a disaster-resistant region by reducing the potential for loss of life, property damage, and environmental degradation from natural disasters, while accelerating the capacity for economic recovery from those disasters.
- **Goal 5:** Reduce the vulnerability of public and private buildings to the effects of earthquakes, flooding, wildfire, and landslides.



HMPC Meeting #2 Minutes

Date/Time: Monday 7 October 2019, 1:30 PM – 3:30 PM

Location: Upstairs Conference Room
City of Petaluma
Public Works and Utilities Department
202 North McDowell Boulevard
Petaluma, CA 94952

Project No.: SA19170580

Written By: Juliana Prosperi (Wood, Project Manager)

Present: Jeff Brislawn (Wood, Hazard Mitigation Lead)
Diane Ramirez (City of Petaluma, Project Manager)
Ron Klein (City of Petaluma, Police Department, Lieutenant)
Cecilia A. Quiambau (City of Petaluma, HR/Risk and Safety Officer)
Jeff Schach (City of Petaluma, Fire Department)
Jessica Power (City of Petaluma, Fire Marshall)
Kari Svanstrom (City of Sebastopol, Planning Director)
Doug Hughes (City of Petaluma, Chief Building Official)
Jason Beatty (City of Petaluma, Assistant Director Public Works and Utilities)
Kent Carothers (City of Petaluma, Operations Manager)
Gina Petnic (City of Petaluma, Floodplain Manager)

Subject: City of Petaluma 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. Capabilities Assessment
5. Developing Goals for the Mitigation Strategy
6. Update on Community Outreach
7. Schedule and Next Steps
8. Questions and Answers

1. Introductions

Ms. Ramirez initiated the meeting, thanked everyone one for attending given the recent notification of the planned PG&E power outages. She explained the purpose of the meeting was to review the preliminary results of the risk assessment and develop goals for the LHMP. Ms. Prosperi asked the group to state their name, agency and role. Ms. Prosperi and Mr. Brislawn introduced themselves as the Wood Environment & Infrastructure Solutions consultants. The

participants listed in the beginning of this meeting summary were present for the first meeting. They are also listed on the sign-in sheet (See Attachment A).

2. Review of Planning Process

Ms. Ramirez asked that Ms. Prosperi summarize the reason the committee is preparing a new LHMP. Ms. Prosperi explained that the purpose of the meeting is to develop a new LHMP for Petaluma that follows the requirements of the Disaster Mitigation Act and the Federal Emergency Management Agency (FEMA) planning process. Given the City previously participated in the 2010 Association of Bay Area Governments plan, this plan will be considered an update.

3. Review of Identified Hazards

Mr. Brislaw reviewed the hazards profiled in the risk assessment. These hazards included: flood, earthquake, wildfire, drought, severe weather (heavy rains, fog, high winds, etc.), sea level rise, dam failure, hazardous material releases, and cyber threats. He asked the group whether there were additional hazards that needed to be addressed. He explained there are several other hazards the committee acknowledged during the first meeting, but dismissed from further analysis because a lack of previous occurrences within the City's planning area. Ms. Ramirez explained that one of the hazards they dismissed from further analysis was landslides. Ms. Prosperi clarified that the committee did discuss the lack of landslide concerns in the City, but that landslide potential was included in the risk assessment based on available mapping data that showed landslide potential around the edges of the City. Mr. Hughes also noted there was a landslide several years ago along the northwest edge of the City that resulted in property damage. The committee discussed whether to include additional human-caused hazards, such as civil disturbance and terrorism. Mr. Brislaw noted we can include those hazards, but that FEMA will focus their review on the natural hazards. Based on input during the previous meeting, the Wood team assessed hazardous material releases and cyber threats.

The following section highlights comments made by the stakeholder committee regarding specific hazard addressed in the LHMP:

Flood

Mr. Brislaw reviewed the extent and past occurrences related to flood hazards, and also the reduction of flood hazards associated with the Petaluma River Flood Control Project. He explained the northern portion of the City is still susceptible to flood hazards, but that there are numerous existing capabilities in place at the City, including participation with the Community Rating System (CRS) program and the implementation of the City's 2015 Floodplain Management Plan. Mr. Ramirez noted that the flood map needs to be updated to show the Urban Growth Boundary (UGB) as the City's planning area.

Sea Level Rise

Sea level rise (SLR) data was recently provided from the U.S. Geological Survey (USGS) as part of the Our Coasts, Our Future program. Mr. Brislaw reviewed sources of best available data from the National Oceanic and Atmospheric Association, Pacific Institute, FEMA, and the USGS Coastal Storm Modeling System (CoSMoS) program. He then reviewed three SLR scenarios with the

committee: 25 cm, 75 cm, and 200 cm scenarios, each with the average annual flood. He explained that the Wood team has recently incorporated SLR scenarios from the CoSMoS program for their vulnerability assessments being conducted for municipalities on the central coast. Ms. Prosperi asked the group to consider what SLR scenarios they will like to see incorporated into the risk and vulnerability assessments. Ms. Svanstrom mentioned the Sonoma County Regional Climate Protection Authority completed a Climate Action Plan and that the plan addressed SLR scenarios. Ms. Prosperi stated her team will review the models incorporated into that plan; she asked Ms. Ramirez whether Mr. Carothers can provide information on which model was assessed in the City's water supply vulnerability assessment, so the models are consistent in all planning documents.

Dam Failure

Mr. Brislawn noted there was one high hazard dam identified in the risk assessment: the La Crema Winery dam located on the eastern side of the City. He explained that while there is no history of dam failure in the region, the La Crema Winery dam does not have inundation mapping information, nor an Emergency Action Plan in place. The committee discussed the significance of this dam and the permitting process. They agreed to look into it more during their review of the risk assessment. Mr. Brislawn noted the downstream facilities appear to be the City's wastewater treatment ponds.

Earthquake Hazards

The committee reviewed and discussed various earthquake hazards in the region, and the potential for ground shaking and liquefaction in the City. Several committee participants inquired about the HAZUS modelling and difference between a probabilistic and deterministic earthquake hazard. Mr. Brislawn explained that deterministic models are used to assess the worst-case scenario earthquakes (e.g. largest magnitude, closest distance) for specific scenarios, whereas a probabilistic model considers multiple scenarios with associated probabilities of occurrence. Mr. Brislawn discussed the 2014 earthquake in southern Napa. Mr. Hughes also provided information on the unreinforced masonry buildings in the City and the retrofit program. He noted the City's museum is one of the few buildings that has not been retrofitted.

Wildfire

Mr. Brislawn explained there are numerous properties in the City in the moderate fire hazard severity zone, and recent regional fires that have affected the City. The committee discussed the significance of the hazard (medium or high) given the extent and past occurrences of the hazard. They discussed relevance of promoting hazard mitigation projects outside the City's jurisdiction that may benefit the City. Ms. Prosperi stated these types of hazard projects may already be outlined in the County's Operational Area HMP and Community Wildfire Protection Plans.

Drought

There have been numerous drought declarations in recent years and six multi-year droughts since 1950. Mr. Brislawn discussed the City's drought and water shortage capabilities.

Severe Weather

The committee discussed heavy rain, thunderstorm, hail, dense fog, lightning, and high wind hazards, and how these hazards (i.e. wind) have resulted in the planned power outages. Given the planned power outage scheduled to begin Wednesday, the committee discussed the mitigation actions and City's efforts to minimize disruptions associated with utilities.

Hazardous Materials Incidents

Mr. Brislaw provided an overview of what types of hazardous materials are broadly summarized in this section of the plan: hazardous material releases, gas pipelines, chemical facility incidents, and transportation-related incidents.

Cyber Threat

The manager of the City's Information Technology department was not present, but the committee discussed the importance of this human-caused hazard and reference to this hazard in the Emergency Operation Plan for the City.

4. Capability Assessment

Ms. Prosperi and Mr. Brislaw 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 City.

5. 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 2025 General Plan, 2019-202 City Council and Community Goals, 2015 Floodplain Management Plan, and 2016 Sonoma County Operational Area HMP, and 2018 State HMP. The committee developed goals for the plan on sticky notes by reviewing example goals from HMP plans. The preliminary goal statements developed by the committee are summarized below:

- **Goal 1:** Minimize loss of life and property damage and protect people and property from hazards
- **Goal 2:** Preserve and protect Petaluma's environment as an efficient resource to build community resilience against natural hazards
- **Goal 3:** Educate and build community awareness on natural hazard risks and the importance of resiliency and emergency preparedness
- **Goal 4:** Enhance City staff coordination, training, and response during disasters and ensure City facilities and infrastructure provide safe places for the community to shelter during such events
- **Goal 5:** Implement the Local Hazard Mitigation Plan to prepare the City for natural and human-caused hazards

Objectives were developed and participants will categorize and refine them at the next meeting.

6. Update on Outreach Strategy

Ms. Prosperi reviewed the public involvement requirements. In September, the City launched the project webpage, circulated advertisements, and opened the public survey for input.

7. Schedule and Next Steps

The first public workshop is scheduled for Tuesday October 8th at 6:00 pm at the Community Center and a second workshop will occur after the Public Review LHMP is circulated.

8. Questions and Answers

At the end of the meeting, there were no additional questions. The meeting adjourned at 4:10 p.m.

ACTION ITEMS

No.	Item	Action	Completion Date
1.	Submit HMPC Meeting #2 Minutes	(Wood)	12 October 2019
2.	Provide SLR scenarios	(Wood)	16 October 2019
3.	City input on SLR scenarios	(City)	22 October 2019
4.	Submit LHMP introduction chapters	(Wood)	29 October 2019

GOAL DEVELOPMENT GROUP EXERCISE #1



Photo 1: HMPC reviewing hazards profiled in the Risk Assessment



Photo 2: HMPC reviewing City of Petaluma Health and Safety Element goals



Photo 3: Preliminary mitigation goals developed during the planning meeting



Photo 4: HMPC participants reviewing goal statements during the planning meeting

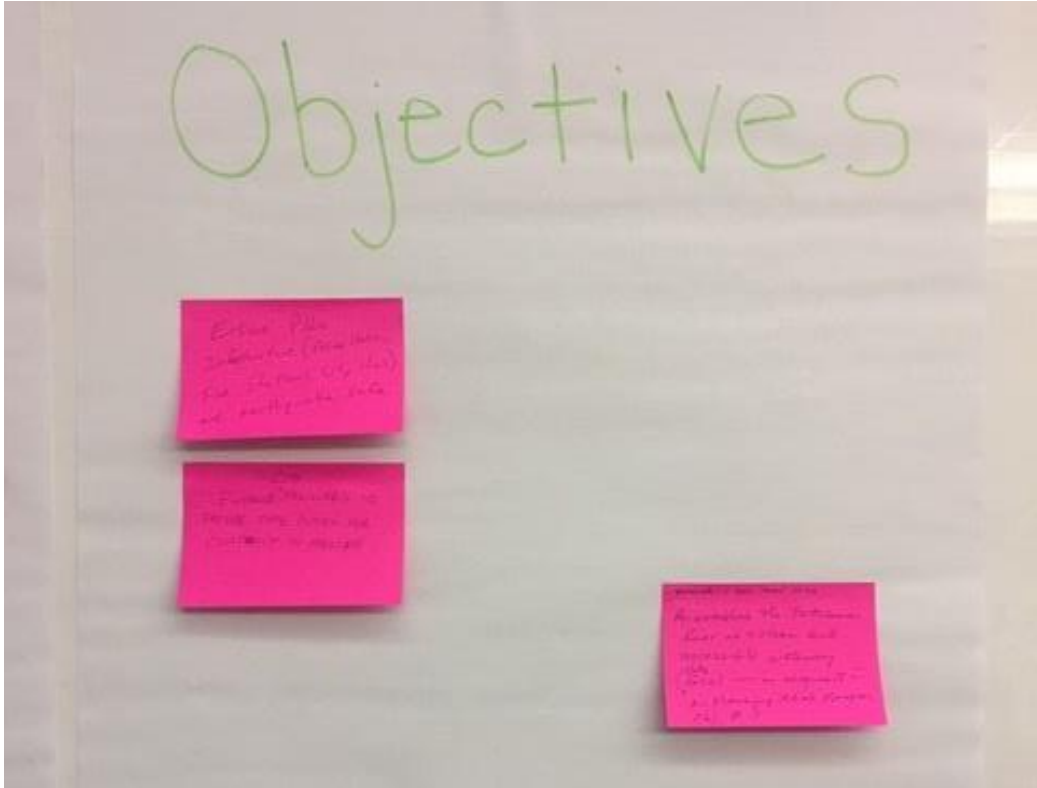


Photo 5: Preliminary objectives developed during the planning meeting

Local Hazard Mitigation Plan

Sign-In Sheet

City of Petaluma Local Hazard Mitigation Plan Hazard Mitigation Planning Committee (HMPC) Meeting #2

Monday, October 7, 2019

1:30 p.m. – 3:30 p.m.

City of Petaluma Public Works and Utilities Department – Upstairs Conference Room
202 North McDowell Boulevard
Petaluma, CA 94954

This sign-in sheet documents the attendees at the City of Petaluma Hazard Mitigation Planning Committee (HMPC) Meeting #2. This meeting summarizes the results of the Hazard Identification and Risk Assessment. It enables the City of Petaluma to evaluate their risks and vulnerabilities to natural hazards and to identify mitigation strategies to reduce hazard-related losses and to make their jurisdiction more disaster resilient.

Name	Representing Agency or Department and Title	Phone	Email
Cecilia A. Quiambao	HR/RISK	707-776-3780	CQuiambao@cityofpetaluma.org
Bob Klein	Police	707-778-4530	rklein@cityofpetaluma.org
Kari Swanson	City of Sebastopol - Planning Director	707-823-6167	kswanson@cityofsebastopol.org
Doug Hughes	Business Official	707-778-4306	dhughes@cityofpetaluma.org
Kent Cothran	COP PW&U	778-4580	KCothran@ " "
Jeff Schack	Fire	778-4492	jschack@ " "
JASON BEATTY	COP PW&U	778-4514	JBEATTY@cityofpetaluma.org
Diane Ramirez	City of Petaluma	707 776 3658	dramirez@cityofpetaluma.org
Jeff Brislawn	Wood	303-704-5506	Jeff.Brislawn@woodpk.com

<u>Name</u>	<u>Representing Agency or Department and Title</u>	<u>Phone</u>	<u>Email</u>

HMPC Meeting #2 Facilitated by:		
Project Manager: <i>Juliana Prospero</i>	Date: <i>10/7/19</i>	Signature: <i>Juliana Prospero</i>

**City of Petaluma
Draft Hazard Identification & Risk Assessment Summary**

Hazard	Geographic Extent	Probability of Future Occurrences	Magnitude/Severity	Overall Significance
Dam Failure	Limited	Unlikely	Limited	Low
Drought	Extensive	Likely	Limited	Medium
Earthquake	Extensive	Likely	Significant	High
Flood	Limited	Likely	Limited	Medium
Sea Level Rise	<i>Under Analysis</i>			
Severe Weather: Extreme Heat	Extensive	Likely	Limited	Low
Severe Weather: Heavy Rain/Thunderstorms/Hail/Lighting	Extensive	Likely	Limited	Medium
Severe Weather: High Winds	Extensive	Likely	Limited	Medium
Wildfire	Significant	Occasional	Critical	Medium
Hazardous Material Releases	Significant	Likely	Limited	Medium
Cyber Threat	Extensive	Occasional	Critical	Low

Geographic Extent

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

Probability of Future Occurrences

Highly Likely: Near 100% chance of occurrence in next year, or happens every year.
 Likely: Between 10 and 100% chance of occurrence in next year, or a recurrence interval of 10 years or less.
 Occasional: Between 1 and 10% chance of occurrence in the next year, or has a recurrence interval of 11 to 100 years.
 Unlikely: Less than 1% chance of occurrence in next 100 years, or has a recurrence interval of greater than every 100 years.

Magnitude/Severity

Catastrophic—More than 50 percent of property severely damaged; shutdown of facilities for more than 30 days; and/or multiple deaths
 Critical—25-50 percent of property severely damaged; shutdown of facilities for at least two weeks; and/or injuries and/or illnesses result in permanent disability
 Limited—10-25 percent of property severely damaged; shutdown of facilities for more than a week; and/or injuries/illnesses treatable do not result in permanent disability
 Negligible—Less than 10 percent of property severely damaged, shutdown of facilities and services for less than 24 hours; and/or injuries/illnesses treatable with first aid

Significance

Low: minimal potential impact
 Medium: moderate potential impact
 High: widespread potential impact




**City of Petaluma
Local Hazard Mitigation Plan**

Hazard Mitigation Planning Committee Meeting #2

City of Petaluma
Public Works and Utilities Department
202 North McDowell Boulevard, Petaluma, CA 94954

October 7, 2019

woodplc.com

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 City of Petaluma HMPC #2 Meeting

Introductions

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Introductions

- City of Petaluma, Public Works and Utilities Department
 - Diane Ramirez
 - Project 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

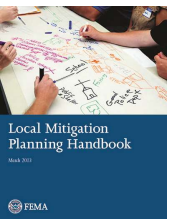
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Review of Planning Process

Disaster Mitigation Act of 2000

What it is, why its important, and why we are here today!

- Requires local governments to have hazard mitigation plans for continued eligibility for mitigation funds, pre- and post- disaster
- Guide mitigation activities in a coordinated & economic manner
- Integrates into other existing planning mechanisms
 - 2025 General Plan
 - 2015 Floodplain Management Plan
- Directs future development: plan and build wisely
- Reduces losses
- Make communities more disaster resilient



6 City of Petaluma HMPC #2 Meeting

Mitigation Planning and Disaster Mitigation Act

National Flood Insurance Program/Community Rating System

- Created in 1990 as a voluntary incentive program
- Recognizes communities that manage their floodplains beyond the minimum standards by providing discounted flood insurance rates
- Floodplain Management Planning earns credits in CRS
- Petaluma is a CRS participant



7 City of Petaluma HMPC #2 Meeting

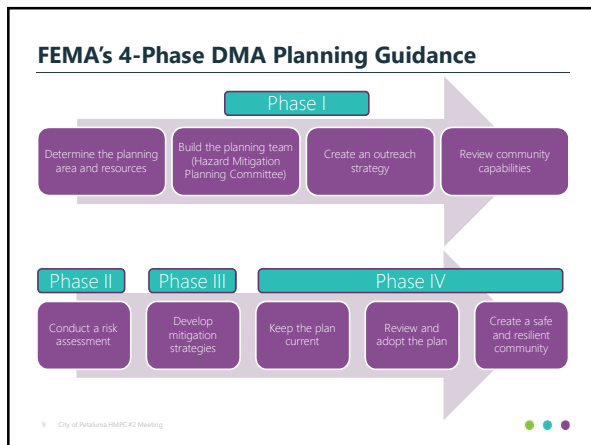
Mitigation Planning and Disaster Mitigation Act

California Legislation

- SB 379:** Requires climate adaptation strategies in General Plan Safety Elements and encourages climate change discussion in LHMPs.
- SB 1000:** Requires Environmental Justice and Equity goals in General Plan.
- AB 2140:** Encourages the adoption of LHMPs into General Plan Safety Element (after LHMP Approval).
- SB 1241:** Revised safety element requirement of General Plans to address risk of State Responsibility Areas (SRA) and Very High Fire Hazard Severity Zones



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CRS breaks FEMA 4-Phases into 10 steps

<p>Phase I: Organize Resources</p> <ol style="list-style-type: none"> 1. Get organized 2. Plan for public involvement 3. Coordinate with other departments and agencies 	<p>Phase III: Develop a mitigation plan</p> <ol style="list-style-type: none"> 6. Set planning goals 7. Review mitigation alternatives 8. Draft an action plan
<p>Phase II: Risk Assessment</p> <ol style="list-style-type: none"> 4. Identify the hazard(s) 5. Assess the risks 	<p>Phase IV: Adoption and Implementation</p> <ol style="list-style-type: none"> 9. Adopt the plan 10. Implement the plan, evaluate its worth, and revise as needed

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Review of Planning Process

Progress So Far

- Established and Convened a Hazard Mitigation Planning Committee (HMPC) in July
- Facilitating Public Workshop in October
- Collected and reviewed hazards information and identified hazards to evaluate in Risk Assessment
- Organized and reviewed City parcel database
- Conducted spatial analysis using Geographic Information Systems (GIS) and FEMA HAZUS Software
- Reviewed City's existing capabilities for hazard mitigation
- Circulated Online Public Survey**

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Review of Planning Process

Hazard Mitigation Planning Committee

- City Departments**
 - City Attorney
 - City Clerk
 - City Manager
 - Economic Development
 - Housing
 - Information Technology
 - Building
 - Planning
 - Finance
 - Fire
 - Human Resources
 - Risk Management
 - Recreation Services
 - Police
 - Public Works and Utilities
 - Water Resources and Conservation
 - Transit
 - Public Works
 - Airport

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Review of Planning Process

Stakeholder Participation

- 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
- Cal Fire
- CNRA
- Cal OES
- Neighboring Communities and Counties: City of Sebastopol
- FEMA Region IX
- US Bureau of Reclamation
- US Forest Service
- National Oceanic Atmospheric Administration/National Weather Service
- Petaluma City Schools
- Petaluma Health Care District
- Hospitals (Petaluma Valley Hospital)

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What goes into a Local Hazard Mitigation 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

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Review of Identified Hazards

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Review of Identified Hazards

Planning Area: Urban Growth Boundary

Map compiled 1/2019
 Intended for planning purposes only.
 Data Source: City of Petaluma GIS Team,
 US Census TIGER Database

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Review of Identified Hazards

Hazards of Concern

- Flood
- Earthquake
- Wildfire
- Drought
- Severe Weather: Heavy Rains, Thunderstorms, Hail, Lightning, Dense Fog
- Severe Weather: High Winds
- Severe Weather: Extreme Heat
- Sea Level Rise
- Dam Failure
- Human-Caused Hazards
 - Hazardous Materials Releases
 - Cyber Threat
- Climate Change as part of existing natural hazards

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Review of Identified Hazards

Other Hazards

Additional Hazards Assessed

- Landslide/Debris Flow
- Land Subsidence

Hazards Dismissed from Further Analysis


- Coastal Erosion/Tropical Storms
- Tsunami
- Volcanoes
- Human-Health Hazards

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Review of Identified Hazards

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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Hazard Identification and 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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Review of Identified Hazards

Hazard Profiles

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

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Vulnerability Assessment

What will be affected?

- 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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Review of Identified Hazards

Risk Summary

Hazard	Geographic Extent	Probability of Future Occurrences	Magnitude/Severity	Overall Significance
Dam Failure	Limited	Unlikely	Limited	Low
Drought	Extensive	Likely	Limited	Medium
Earthquake	Extensive	Likely	Significant	High
Flood	Limited	Likely	Limited	Medium
Sea Level Rise	<i>Under Analysis</i>			
Severe Weather: Extreme Heat	Extensive	Likely	Limited	Medium
Severe Weather: Heavy Rain/Thunderstorms/Hail/Lighting	Extensive	Likely	Limited	Medium
Severe Weather: High Winds	Extensive	Likely	Limited	Medium
Wildfire/Wildland Urban Interface	Significant	Occasional	Critical	Medium
Hazardous Material Releases	Significant	Likely	Limited	Medium
Cyber Threat	Extensive	Occasional	Critical	Low

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Review of Identified Hazards

Declared Disaster Declarations in Sonoma County

Event/Hazard	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
Severe Storm(s)	1997	1155	Major Disaster Declaration
Severe Storm(s)	1998	1203	Major Disaster Declaration
Fire	2004	2554	Fire Management
Severe Storm(s)	2006	1646	Major Disaster Declaration
Severe Storm(s)	2017	4301	Major Disaster Declaration
Flood	2017	4308	Major Disaster Declaration
Wildfires	2017	4344	Major Disaster Declaration

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Review of Identified Hazards

Flood

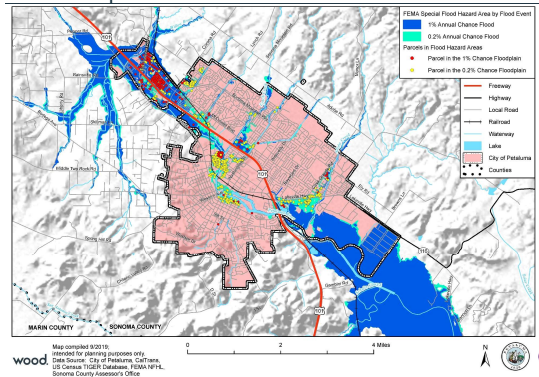
- **Hazard/Problem Description:** South-southeast and north-northwest of Petaluma River. Smaller areas along Lakeville Highway and Casa Grade Rd. on Adobe Creek. Washington St. and McDowell Blvd. on Lynch Creek.
- **Geographic Extent:** Limited
- **Past Occurrences:** 4 federally declared disasters in Sonoma County. 22 events (NCEI) since 1997 resulting in \$211,001,100 in property damage and \$6,159,000 in crop damages.
- **Magnitude/Severity:** Limited
- **Significance:** Medium
- **Likelihood of Future Occurrences:** Likely
- **Existing Capabilities:** City's General Plan, Flood Management Plan, Flood Insurance Studies, NFIP and CRS Participation; Petaluma River Flood Control Project, Levees

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Review of Identified Hazards

Flood: Properties at Risk



wood

Review of Identified Hazards

Flood: Properties at Risk

Flood Event	Parcel Count	Structure Value	Content Value	Total Value	Loss Estimate	Population at Risk
1% Annual Chance	200	\$214,756,108	\$209,727,206	\$424,483,314	\$106,120,829	147
0.5% Annual Chance	620	\$409,940,146	\$289,297,902	\$699,238,048	\$174,809,512	1,396
Total	820	\$624,696,254	\$499,025,108	\$1,123,721,362	\$280,930,340	1,544

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Review of Identified Hazards

Flood: Properties at Risk – Details by Type

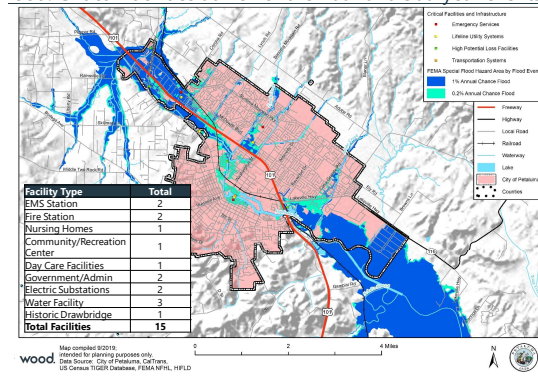
Parcel Type	Total Parcels	Improved Value	Contents Value	Total Value	Loss Estimate (25% of the Total Value)	Population at Risk
Commercial	244	\$373,353,961	\$373,353,961	\$746,707,922	\$186,676,981	--
Residential	564	\$128,369,717	\$64,184,859	\$192,554,576	\$48,138,644	1,512
Multi-Family	12	\$122,972,576	\$61,486,288	\$184,458,864	\$46,114,716	32
TOTAL	820	\$624,696,254	\$499,025,108	\$1,123,721,362	\$280,930,340	1,544

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Review of Identified Hazards

Flood: Critical Facilities at Risk of the 100- and 500-year events



wood

Review of Identified Hazards

Flood Insurance Statistics

- 415 Flood Insurance Policies, \$145 Million in Coverage
- 373 total closed losses, amounting to \$8,703,708 in payments
- 30 Repetitive Loss buildings, 13 of which are insured
 - Mostly in Payran Neighborhood
 - 89 total losses totaling \$3,179,133 in payments
 - Losses in past 10 years reduced by Petaluma River Flood Control Project


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Review of Identified Hazards

Sea Level Rise

- Identify the nearest tide gauge
- Evaluate project lifespan
- Identify the range of SLR projections relevant to the planning area and nearest tide gauge
 - Time vs. Elevation
 - Spatial coverage
 - Type of hazards mapped
 - Ease of use/availability
- Evaluate potential impacts and adaptive capacity across the range of projections
- Select risk projections and develop adaptation strategies that increase resiliency



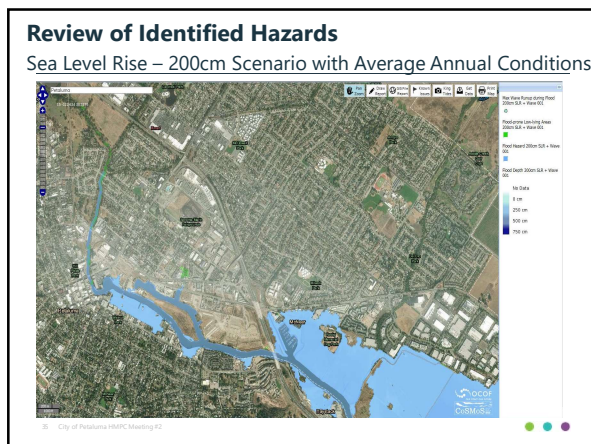
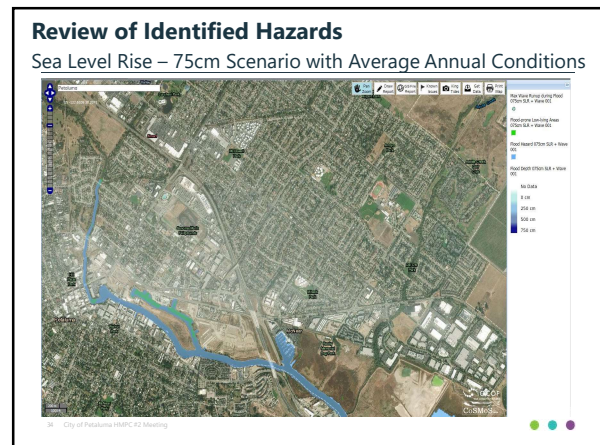
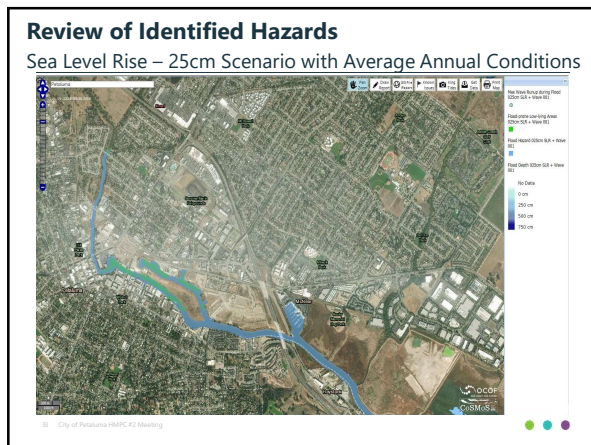
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Review of Identified Hazards

Sea Level Rise

- NOAA SLR Viewer and Climate Central <https://coast.noaa.gov/slr/>
 - Screening level tool to look at tidal inundation
- Pacific Institute (2008) www.pacinst.org
 - Initial model study for coastal flooding coastal erosion from SB North
- FEMA <http://www.r9map.org/Pages/CCAMP-Open-Pacific-Coast-Study.aspx>
 - Existing regulatory maps
- COSMOS (USGS) www.ocof.org
 - 1.0 Southern California, 2.0 North Central Coast , 2.1 SF Bay, 3.0 Southern California (Barnard et al, Erikson et al, 2016, 2017 etc)

City of Palatka HMPC #2 Meeting

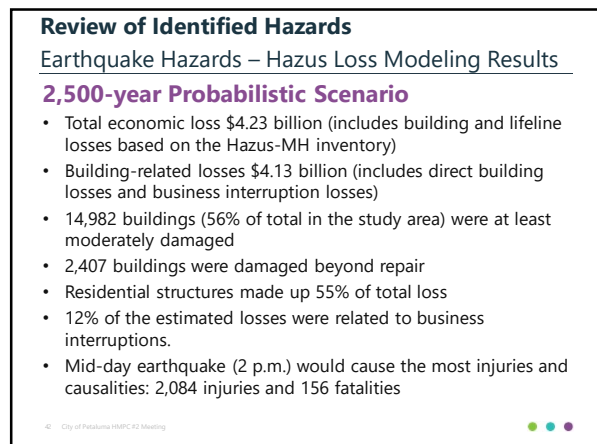
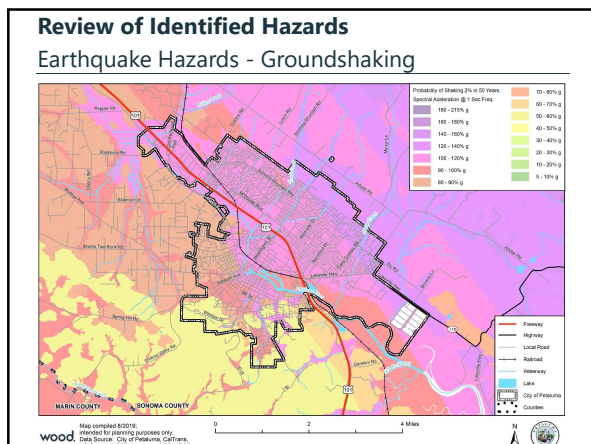
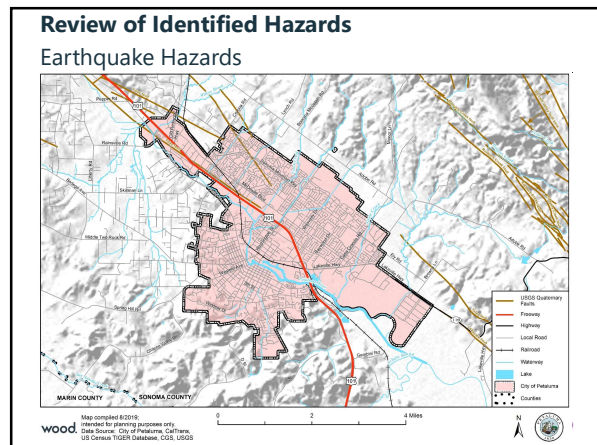
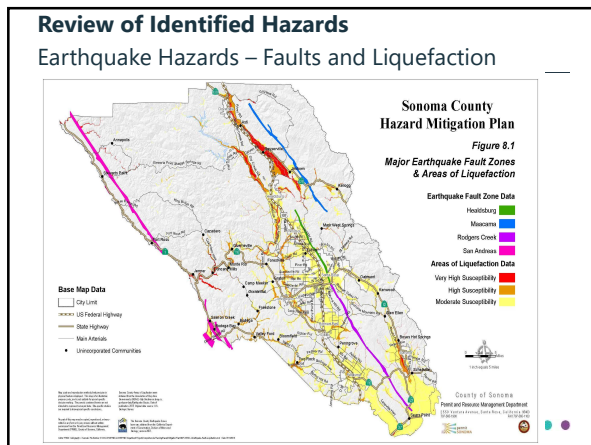
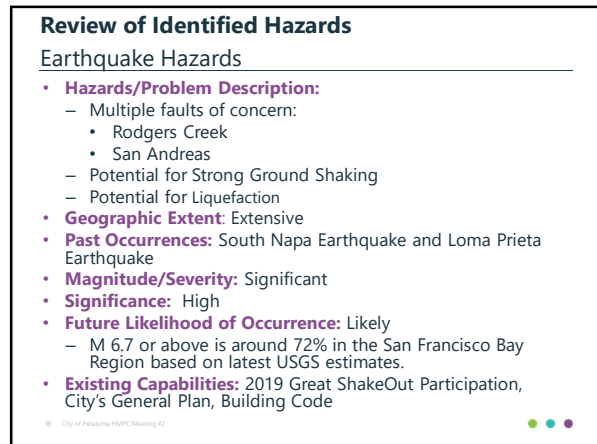
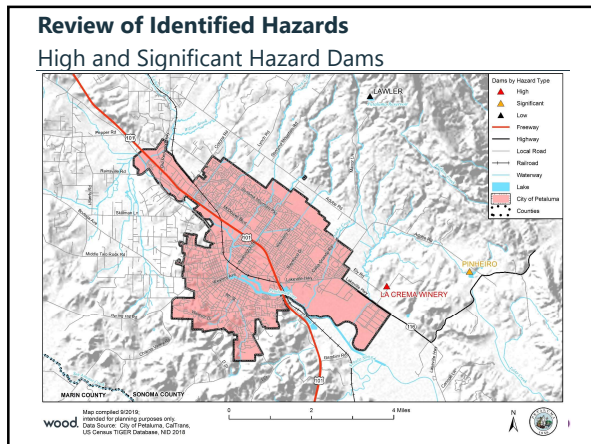


Review of Identified Hazards

Dam Failure

- Hazard/Problem Description:**
 - 1 high hazard dam in close proximity (La Crema Winery)
- Geographic Extent:** Limited
- Past Occurrences:** No history, but potential exists
- Magnitude/Severity:** Limited
- Significance:** Low
- Future Likelihood of Occurrence:** Unlikely
- Existing Capabilities:** EAP's, GIS mapping

City of Palatka HMPC #2 Meeting



Review of Identified Hazards

Wildfire

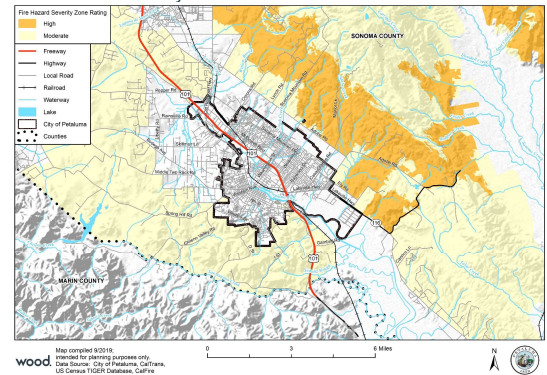
- **Hazard/Problem Description:** Edges of city boundaries eastern and northern sides where moderate and high severity zone intermingle.
- 18,003 properties at risk (mostly moderately ranked).
- 101 critical facilities at moderate risk.
- **Geographic Extent:** Significant
- **Past Occurrences:** Since 1941 26 fires have affected the boundaries of the City.
- **Magnitude/Severity:** Critical
- **Significance:** Medium or High?
- **Future Likelihood of Occurrence:** Occasional
- **Existing Capabilities:** Fire Authority partnerships, Fire Department Reports, CalFire Strategic Fire Plan, Building Code

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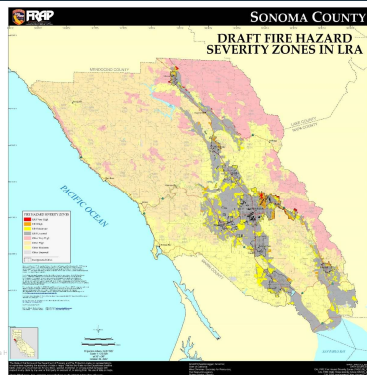
Review of Identified Hazards

Fire Hazard Severity Zones in SRAs



Review of Identified Hazards

Draft Fire Hazard Severity Zones in LRAs

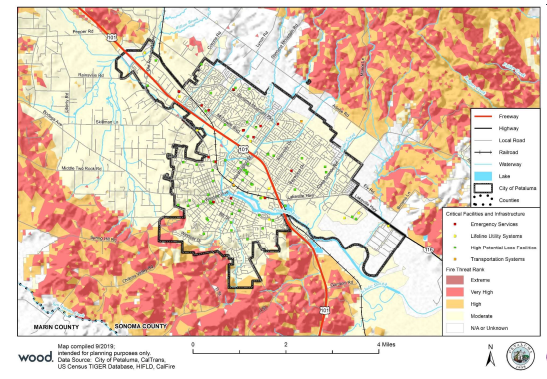


46 City of Petaluma



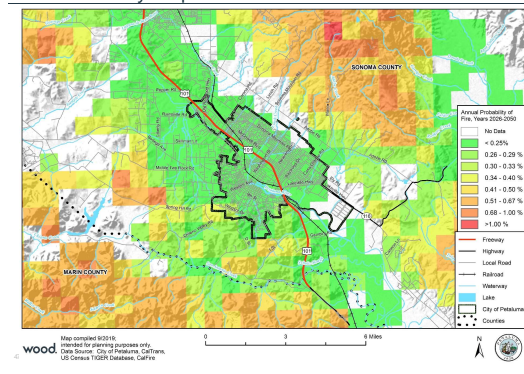
Review of Identified Hazards

Fire Threat Rank – Critical Facilities at Risk



Review of Identified Hazards

Burn Probability Map



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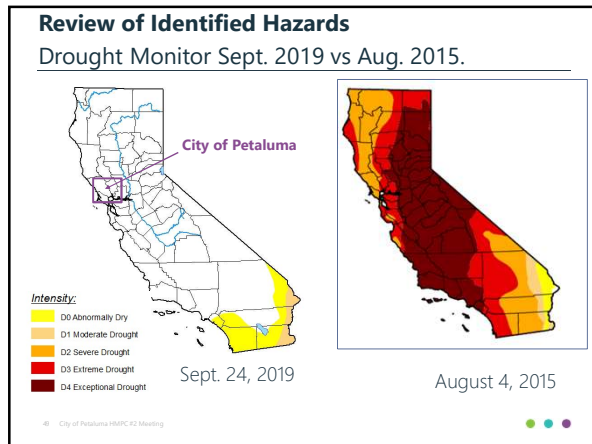
Review of Identified Hazards

Drought

- **Hazard/Problem Description:**
 - Latest USDA declaration was in 2017
 - 13 USDA declarations between 2012-2017
- **Geographic Extent:** Extensive
- **Past Occurrences:**
 - 6 Multi-Year Droughts since 1950
- **Magnitude/Severity:** Limited
- **Significance:** Medium
- **Future Likelihood of Occurrence:** Likely
- **Existing Capabilities:** 2015 Urban Water Management Plan, City's General Plan, Recycled water system

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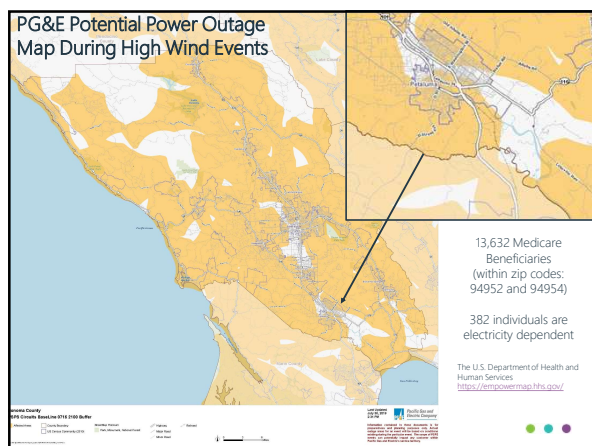




- ### Review of Identified Hazards
- #### Severe Weather: Extreme Heat
- **Hazard/Problem Description:**
 - Period when high temperatures are expected to have a significant impact on public safety. Extreme temperatures have an adverse impact on human health.
 - **Geographic Extent:** Extensive
 - **Past Occurrences:**
 - Heat waves have claimed more lives in state than all other declared disaster event combined
 - Highest recorded daily extreme temperature was 110°F on June 2, 1960
 - Cal-Adapt Climate Projections for the Bay Area region show the region is expected to experience 6-10 heatwaves per year by 2100
 - **Magnitude/Severity:** Limited
 - **Significance:** Medium
 - **Future Likelihood of Occurrences:** Likely
 - **Existing Capabilities:** Designated Cooling Centers
- 47 City of Petaluma HMPC Meeting #2

- ### Review of Identified Hazards
- #### Severe Weather: Other
- **Hazard/Problem Description:** Heavy Rain, Thunderstorms, Hail, Lighting and Dense Fog
 - **Geographic Extent:** Extensive
 - **Past Occurrences:**
 - 42 Hail, Heavy Rain, Lightning, and Dense Fog events in past 68 Years in Sonoma County
 - Average annual precipitation: 24.89 inches
 - Highest recorded annual precipitation: 31.48 inches (1998)
 - Highest recorded in 24-hour period was 4.29 inches on December 12, 2004.
 - **Magnitude/Severity:** Limited
 - **Significance:** Medium
 - **Future Likelihood of Occurrence:** Likely
 - **Existing Capabilities:** Under Analysis
- 48 City of Petaluma HMPC Meeting #2

- ### Review of Identified Hazards
- #### Severe Weather: High Wind
- **Hazard/Problem Description:** Wind and tornadoes cause potential property and critical facilities damage, loss of life
 - **Geographic Extent:** Extensive
 - **Past Occurrences:**
 - 211 combined high wind events have occurred in Sonoma County in past 68 years.
 - Downed trees and power lines are common impacts
 - **Magnitude/Severity:** Limited
 - **Significance:** Medium
 - **Future Likelihood of Occurrence:** Likely
 - **Existing Capabilities:** Under Analysis
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- ### Review of Identified Hazards
- #### Hazardous Materials Incidents
- **Hazard/Problem Description:**
 - Hazardous Materials, Gas Pipelines, Chemical Facilities, transportation related
 - 1 Risk Management Plan (RMP) facility in the City
 - **Geographic Extent:** Significant
 - **Past Occurrences:**
 - Over 13 incidents in past 20 years in City limits.
 - On average, 1 incidents that leads to casualties, injuries or evacuations occur every 3 years
 - **Magnitude/Severity:** Limited
 - **Significance:** Medium
 - **Future Likelihood of Occurrence:** Likely
 - **Existing Capabilities:** City's General Plan, CUPA, Sonoma County Operational Area HazMat Incident Response Plan
- 51 City of Petaluma HMPC Meeting #2

Review of Identified Hazards

Cyber Threat

- Hazard/Problem Description:** Attempts by cyber criminals to attack a government, organization, or private party by damaging or disrupting a computer or computer network, or by stealing data from a computer or computer network for malicious use.
 - Among the most common is a direct denial of service, or DDoS attack.
- Past Occurrences:** Petaluma has not been the victim of major cyber or ransomware attacks, examples from across the country show both the prevalence of cyber-attacks and potential impacts.
- Magnitude/Severity:** There is no universally accepted scale to quantify the severity of cyber-attacks.
- Significance:** Medium
- Future Likelihood of Occurrence:** Likely
- Existing Capabilities:** City FY2019 budget notes increase on spending for cyber security measures

Review of Identified Hazards

Risk Summary

Hazard	Geographic Extent	Probability of Future Occurrences	Magnitude/Severity	Overall Significance
Dam Failure	Limited	Unlikely	Limited	Low
Drought	Extensive	Likely	Limited	Medium
Earthquake	Extensive	Likely	Significant	High
Flood	Limited	Likely	Limited	Medium
Sea Level Rise	<i>Under Analysis</i>			
Severe Weather: Extreme Heat	Extensive	Likely	Limited	Medium
Severe Weather: Heavy Rain/Thunderstorms/Hail/Lighting	Extensive	Likely	Limited	Medium
Severe Weather: High Winds	Extensive	Likely	Limited	Medium
Wildfire/Wildland Urban Interface	Significant	Occasional	Critical	Medium
Hazardous Material Releases	Significant	Likely	Limited	Medium
Cyber Threat	Extensive	Occasional	Critical	Low

Capability Assessment

Capability Assessment

- Inventory the City of Petaluma'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 City's technical and fiscal abilities to implement mitigation initiatives. Include ability to attract and leverage funding

Capability Assessment

- 2025 General Plan Health and Safety Element (2008, Revised 2012)
- Floodplain Management Plan (2015)
- 2010 "Taming Natural Disasters" – Multi-Jurisdictional Local Hazard Mitigation Plan for the San Francisco Bay Area
- Engineering City Construction Standards
- Capital Improvement Program
- Water Conservation Plan
- Stormwater Management Plan (2003)
- Urban Water Management Plan (2015)
- 2016 Sewer System Management Plan
- Petaluma Water Recycling Expansion Program
- Fire Sprinkler Ordinance

Developing Goals for the Mitigation Strategy

Developing Goals for the Mitigation Plan
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. transportation utility lines?)
 - At-risk critical facilities
 - At-risk cultural and natural resources
- Goals from other existing plans
 - 2025 General Plan (2008, revised 2012)
 - FY 2019-2020 City Council and Community Goals
 - 2017 Sonoma County HMP
 - 2018 State HMP
 - 2018 Sonoma County Water Agency HMP
 - 2015 Floodplain Management Plan

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Developing Goals for the Mitigation Plan
Goal Development

Sticky Note Exercise

- Write goals for mitigation planning effort on each note
- Review example goals on handout
- Review sample goals from other Plans
- Use one note for each goal

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Developing Goals for the Mitigation Plan
Example Goal Statements

- Minimize risk and vulnerability from natural hazards
- Increase communities' awareness of vulnerability to hazards
- Increase the use of shared resources
- Improve communities' capabilities to mitigate losses
- Maintain coordination of disaster plans with changing OES/FEMA needs
- Maintain FEMA eligibility and position the City for grant funding
- Enhance the flood mitigation program to provide 200/500-year flood protection
- Maintain current service levels
- Provide protection for existing buildings from hazards
- Provide protection for future development from hazards
- Provide protection for natural and cultural resources from hazard impacts
- Provide protection for people's lives from hazards
- Provide protection for public health
- Provide protection for critical services (fire, police, etc.) from hazard impacts
- Provide protection for critical lifeline utilities from hazard impacts
- Reduce exposure to hazard related losses
- Reduce the number of emergency incidents
- Make better use of GIS and other technologies

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Community Outreach Update

Update on Community Outreach
Planning for Public Involvement

- Community Outreach Strategy
 - Hazard Mitigation Plan Website
 - Regular Website Postings
 - Event Flyers and Advertisements
 - Newsletters
 - Online Public Survey
 - Public Workshop
 - Hazard Mapping
 - Farmer's Market Informational Booth
- Other ideas/recommendations?



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Schedule and Next Steps

Schedule and Next Steps

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 Plan areas
- Recently updated plans and policies
- Follow-up with key staff and stakeholders where needed
- Next meeting will focus on updating mitigation actions

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When will we meet next?

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Detailed Schedule

Task	Anticipated Date
Notice to Proceed	April 17, 2019
Project Kick-off Meeting	June 10, 2019
Submit Planning Team Invite List	June 13, 2019
Planning Team Session #1 (Half-Day Workshop)	July 8, 2019
Planning Team Session #2 (Half-Day Workshop)	October 7, 2019
Planning Team Session #3 (Half-Day Workshop)	October 8, 2019
Public Workshop #1	October 8, 2019
Finalize Goals and Objectives	October 11, 2019
Compile Mitigation Action Worksheets	November 1, 2019
Submit 1st Administrative Draft LHMP	December 13, 2019
City and Planning Team provides Comments on 1st Administrative Draft LHMP	December 27, 2019
Submit 2nd Administrative Draft LHMP	January 17, 2020
Circulate Public Review Draft LHMP (20-day public review period)	January 24, 2020
2nd Public Workshop	February 5, 2020
Public Review Ends	February 12, 2020
Incorporate Public Comments	February 17, 2020
Complete FEMA Region IX Mitigation Plan Review Tool	February 21, 2020
Submit LHMP to Cal OES for Review	February 28, 2020
Cal OES Review	45 Days
Cal OES SHMO Tele-Conference Call	TBD (late-March 2020)
Submit LHMP to FEMA for Review (via Cal OES)	TBD (late-April 2020)
City Council Hearing**	TBD

*City Council Meetings are held on the first and third Monday of each month.

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Schedule and Next Steps

When will we meet next?

- HMPC #3 – October 8, 2019 from 10:00 – 12:00 PM**
- Public Workshop – October 8, 2019 @ 6:00 PM

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Questions?

Juliana Prosperi, AICP
10940 White Rock Rd, Suite 190
Rancho Cordova, CA 95670
Juliana.Prosperti@woodplc.com
(916) 853-3200

Jeff Brislaw, CFM
2000 South Colorado Blvd, Suite 2-1000
Denver, CO 80222
jeff.brislaw@woodplc.com
(303) 704-5506



Public Workshop #1 Agenda

Date: 8 October 2019
6:00 PM – 8:00 PM

Workshop at: Lucchesi Community Center
320 North McDowell Boulevard
Petaluma, CA 94954

Project: City of Petaluma Local Hazard Mitigation Plan

Subject/Purpose

The purpose of the workshop is to introduce the Disaster Mitigation Act of 2000 and the hazard mitigation planning process for the City of Petaluma's Local Hazard Mitigation Plan (LHMP). The LHMP is intended to identify natural and human-caused hazards, vulnerabilities, and assets at risk, and ways to reduce impacts through long-term sustainable mitigation projects. The intent of the workshop is also to answer questions and gather public input and feedback on the planning process.

1. Introductions
2. Mitigation Planning and the Disaster Mitigation Act
3. Sections of a Local Hazard Mitigation Plan
4. Community Outreach
5. Hazard Identification and Risk Assessment
6. Preliminary Goals for the LHMP
7. Mitigation Action Strategies
8. Schedule and Next Steps
9. Questions and Answers

Local Hazard Mitigation Plan



Sign-In Sheet

City of Petaluma Local Hazard Mitigation Plan Public Workshop #1

Tuesday, October 8, 2019
6:00 p.m. – 8:00 p.m.
Lucchesi Community Center
320 North McDowell Boulevard
Petaluma, CA 94954

This sign-in sheet documents the attendees at the City of Petaluma 1st Public Workshop on the development of the Local Hazard Mitigation Plan. This meeting summarizes the planning process for preparing the Local Hazard Mitigation Plan. The workshop provides the public an opportunity to participate in the planning process. It also allows the public to comment and provide input on the City's risks and vulnerabilities to natural hazards and to identify mitigation strategies to reduce hazard-related losses and to make their community more disaster resilient.

<u>Name</u>	<u>Representing Agency or Department</u>	<u>Phone</u>	<u>Email</u>
Rita E. Wenter	SELF	707-762-1607	
DALE WESTERLIP	"	707-9414	
Mark Lilly	"	202-2788217	
Nancy Sands	City of Petaluma	707-778-4484	
Diane Ramirez	City of Petaluma	707-776-3658	dramirez@cityofpetaluma.org
Simone Nystrom		707-774-6659	
Richard Stelzner	SELF	707-484-8151	MUSICOLAGOY@HOTMAIL.COM
Cornelia Bell	Self	415 309 2128	embell2012@gmail.com
Suzi Grady	Petaluma Bounty	707-364-9118	suzi@petalumbounty.org



City of Petaluma
Local Hazard Mitigation Plan

Public Workshop #1

City of Petaluma
Lucchesi Community Center
320 North McDowell Boulevard, Petaluma, CA 94954

October 8, 2019

woodplc.com

Recent Natural Disasters around Petaluma



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

2 Public Workshop #1

Agenda

1. Introductions
2. Mitigation Planning and the Disaster Mitigation Act
3. Sections of a Local Hazard Mitigation Plan (LHMP)
4. Community Outreach
5. Hazard Identification and Risk Assessment
6. Preliminary Goals for the LHMP
7. Action Strategies
8. Schedule and Next Steps
9. Questions and Answers

3 Public Workshop #1

Introductions

4

Introductions

- City of Petaluma, Public Works and Utilities Department
 - Diane Ramirez
 - Project Manager
- Wood Environment & Infrastructure Solutions, Inc.
 - Juliana Prospero, AICP
 - Project Manager

5 Public Workshop #1

Mitigation Planning and the Disaster Mitigation Act

6

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 federal disaster funding
 - 2010 Taming Natural Disasters*
 - previous regional multi-jurisdictional local hazard mitigation plan prepared on behalf of the City by the Association of Bay Area Governments
 - Any federally declared disaster in the City of Petaluma means they are eligible to apply for reimbursement
 - Having a plan ensures the City will be ready with mitigation project ideas whenever funding becomes available

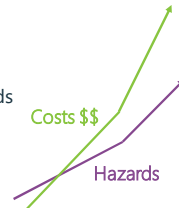
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Mitigation Planning and Disaster Mitigation Act

Trends Resulting in Increased Costs for Disaster Response and Recovery

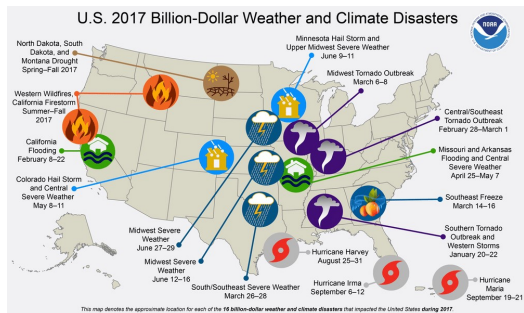
- Population and community growth
 - More people
 - More infrastructure and buildings
- More hazards
 - Technological, civil, terrorist hazards
- More disaster declarations
- Increase in disaster response and recovery costs



8 Public Workshop #1



Mitigation Planning and Disaster Mitigation Act



9 Public Workshop #1



Mitigation Planning and Disaster Mitigation Act

Most Expensive Disasters in US History

Hurricanes Katrina (2005)	\$166.3 billion
Hurricane Harvey (2017)	\$128.8 billion
Hurricane Maria (2017)	\$92.7 billion
Hurricane Sandy (2012)	\$72.8 billion
Hurricane Irma (2017)	\$51.5 billion
Hurricane Andrew (1992)	\$49.7 billion
U.S. Drought/Heatwave (1988)	\$44.0 billion
Midwest Flooding (1993)	\$37.3 billion
Hurricane Ike (2008)	\$36.0 billion
US Drought/Heatwave (2012)	\$33.6 billion
Central/Eastern Drought/Heatwave (1980)	\$32.8 billion
Hurricane Ivan (1989)	\$18.7 billion
Hurricane Wilma (2005, FL)	\$25.3 billion
Hurricane Michael (2018)	\$25.2 billion
Hurricane Rita (2005)	\$24.6 billion
Hurricane Florence (2018)	\$24.2 billion

Estimated figures from NOAA's NCEI, CPI adjusted to 2018 dollars

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Mitigation Planning and Disaster Mitigation Act

Why addressing these trends is a priority!

- Increasing** costs of response and recovery
 - The cost of "doing nothing" is too much
- Many events are **predictable and repetitive**
- Loss reduction/Mitigation Projects**
 - They work well
 - Cost-effective and environmentally sound
 - Funds are available to help
- Legal and moral responsibilities**

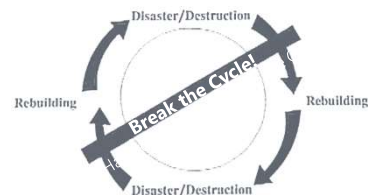
11 Public Workshop #1



Mitigation Planning and Disaster Mitigation Act

How can we reverse these trends?

Mitigation: Any *sustained* action taken to reduce or eliminate long-term risk to human life and property from hazards



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Mitigation Planning and Disaster Mitigation Act

DMA Planning – What it is, why its important, and why we are here today!

- Requires local governments to have hazard mitigation plans for continued eligibility for mitigation funds, pre- and post- disaster
- Guides mitigation activities in a coordinated & economic manner
- Integrates into other existing planning mechanisms
 - 2025 General Plan
 - 2015 Floodplain Management Plan
- Directs future development: plan and build wisely
- Reduces losses
- Make community more disaster resilient



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Mitigation Planning and Disaster Mitigation Act

National Flood Insurance Program/Community Rating System

- Created in 1990 as a voluntary incentive program
- Recognizes communities that manage their floodplains beyond the minimum standards by providing discounted flood insurance rates
- Floodplain Management Planning earns credits in CRS
- Petaluma is a CRS participant



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Mitigation Planning and Disaster Mitigation Act

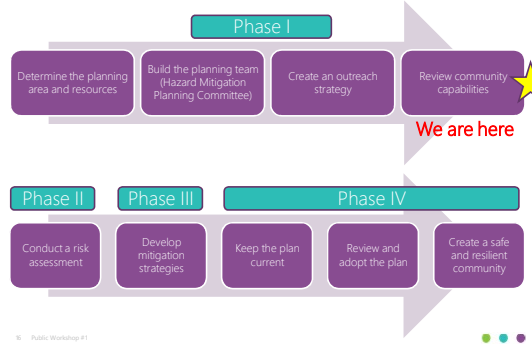
California Legislation

- **SB 379:** Requires climate adaptation strategies in General Plan Safety Elements and encourages climate change discussion in LHMPs.
- **SB 1000:** Requires Environmental Justice and Equity into General Plan.
- **AB 2140:** Encourages the adoption of LHMPs into General Plan Safety Element (after LHMP Approval).
- **SB 1241:** Revised safety element requirement of General Plans to address risk of State Responsibility Areas (SRA) and Very High Fire Hazard Severity Zones



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FEMA's 4-Phase DMA Planning Guidance



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CRS breaks FEMA 4-Phases into 10 steps

<p>Phase I: Organize Resources</p> <ol style="list-style-type: none"> 1. Get organized 2. Plan for public involvement 3. Coordinate with other departments and agencies 	<p>Phase III: Develop a mitigation plan</p> <ol style="list-style-type: none"> 6. Set planning goals 7. Review mitigation alternatives 8. Draft an action plan
<p>Phase II: Risk Assessment</p> <ol style="list-style-type: none"> 4. Identify the hazard(s) 5. Assess the risks 	<p>Phase IV: Adoption and Implementation</p> <ol style="list-style-type: none"> 9. Adopt the plan 10. Implement the plan, evaluate its worth, and revise as needed

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Phase I: Organize Resources

- 1) Get organized
- 2) Plan for public involvement
- 3) Coordinate with other department and agencies



18 Public Workshop #1

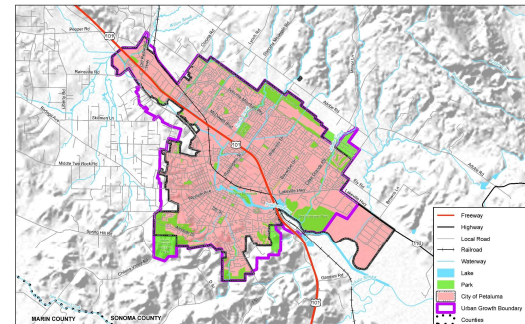
1) Get Organized – Establishing Your Hazard Mitigation Planning Committee (HMPC)

- **City Departments**
 - City Attorney
 - City Clerk
 - City Manager
 - Economic Development
 - Housing
 - Information Technology
 - Building
 - Planning
 - Finance
 - Fire
 - Human Resources
 - Risk Management
 - Recreation Services
 - Police
 - Public Works and Utilities
 - Water Resources and Conservation
 - Transit
 - Public Works
 - Airport

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Planning Area: Urban Growth Boundary



Map completed 7/2016. Intended for planning purposes only. Data source: City of Petaluma, Caltrans, US Census TIGER Database



2) Plan for Public Involvement

- Create an Outreach Strategy
 - Public Workshop #1
 - LHMP Webpage
 - Newspaper Notice
- **Requirement:** Provide Two Opportunities
 - During drafting stage
 - Review of draft plan
- **Advantages:**
 - Solutions fit local needs better
 - Strengthens local support for plan
 - Special interests are considered; avoids being "Blind-Sided"
 - It is a fair process
 - Generates new ideas

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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
- Cal Fire
- CNRA
- Cal OES
- **Neighboring Communities and Counties: City of Sebastopol**
- FEMA Region IX
- US Bureau of Reclamation
- US Forest Service
- National Oceanic Atmospheric Administration/National Weather Service
- Petaluma City Schools
- **Petaluma Health Care District**
- **Hospitals (Petaluma Valley Hospital)**

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Phase II: Risk Assessment

Two Components

- 4) Hazard Identification (what can happen here?)
- 5) Vulnerability Assessment (what will be affected?)
 - Includes a Mitigation Capability Assessment



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4) Identify the Hazards – Has It Happened Here Before?

- Identify all possible hazards affecting the planning area
- Profile the hazards
- Information sources:
 - Past disaster declarations
 - Planning committee / 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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4) Identify the Hazards – Profile the Hazards

- Hazard / Problem description
- Hazard extent (magnitude/severity)
- Past occurrences
- Seasonal patterns
- Speed of onset / duration
- Magnitude / secondary effects
- Significance
- Frequency / likelihood of future occurrences



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5) Assess the Risks – What Will Be Affected?

Vulnerability Assessment

- Inventory residential and commercial structures
- 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

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5) Assess the Risks – What are our capabilities?

Capability Assessment

- Inventory of the community's existing and proposed policies, programs, and ordinances that may affect its vulnerability to hazards
 - General Plan 2025 Health and Safety Element
 - 2016 Sonoma County Hazard Mitigation Plan Update
 - 2015 Floodplain Management Plan
 - 2010 "Taming Natural Disasters" – Multi-Jurisdictional Local Hazard Mitigation Plan for the San Francisco Bay Area
- 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 City'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



28 Public Workshop #1



6) Set Planning Goals – Using the Risk Assessment

- Broad statements of what the plan will 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

- Prevention
- Property protection
- Natural resource protection
- Emergency services
- Structural projects
- Public information
- Multi-hazard measures and considerations
- No action



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7) Review Mitigation Alternatives

- Integration of climate adaptation strategies that align with the hazard mitigation actions



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Review of Mitigation Alternatives – Criteria for Selecting Mitigation Measures

- 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:
- Wildfire
- Defensible space
 - Hazardous fuels reduction activities (e.g. vegetation removal)
 - Implement ignition-resistant construction techniques
- Flood
- Dry and wet flood proofing
 - Flood reduction projects (e.g. detention ponds, channel stabilization)
- Other-General
- Utility protection/infrastructure retrofit
 - Adding generators

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Planning Progress So Far

Progress So Far

- Established and convened a Hazard Mitigation Planning Committee at three meetings
- Launched City of Petaluma LHMP webpage
- Conducted spatial analysis using Geographic Information Systems (GIS) and FEMA HAZUS-MH software
- Reviewed City's existing capabilities for hazard mitigation
- Circulated an Online Survey (October 1st to December 1st)

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Sections of a Hazard Mitigation Plan

Sections of a Hazard Mitigation Plan

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

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Schedule and Next Steps

Community Outreach

- Community Outreach Strategy
 - Hazard Mitigation Plan Website
 - Regular Website Postings
 - Event Flyers and Advertisements
 - Newsletters
 - Online Public Survey: bit.ly/petalumahazardplanning
 - Two Public Workshops
 - Hazard Mapping
 - Farmer's Market Booth
 - Social Media Blasts
- Draft Local Hazard Mitigation Plan
 - Anticipated to be available for public review in April

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Community Outreach

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Hazard Identification and Risk Assessment

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Hazard Identification and Risk Assessment

Natural Hazards

- Flooding
 - 100-, 200-, and 500-year floods
- Dam and Levee Failure
- Seismic Hazards
 - Liquefaction, Subsidence, Ground shaking
- Landslides/Mudslides
- Fire – Urban and Wildfire
- Drought and Water Shortage
- Meteorological Hazards
- Sea Level Rise
- Climate Change

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Hazard Identification and Risk Assessment

Human-Caused Hazards

- Cyber Threats
- Hazardous Materials

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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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Hazard Identification and 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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Hazard Identification and Risk Assessment

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

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Risk Summary

Hazard	Geographic Extent	Probability of Future Occurrences	Magnitude/Severity	Overall Significance
Dam Failure	Limited	Unlikely	Limited	Low
Drought	Extensive	Likely	Limited	Medium
Earthquake	Extensive	Likely	Significant	High
Flood	Limited	Likely	Limited	Medium
Sea Level Rise				
Severe Weather: Extreme Heat	Extensive	Likely	Limited	Medium
Severe Weather: Heavy Rain/Thunderstorms/Hail/Lighting	Extensive	Likely	Limited	Medium
Severe Weather: High Winds	Extensive	Likely	Limited	Medium
Wildfire/Wildland Urban Interface	Significant	Occasional	Critical	Medium
Hazardous Material Releases	Significant	Likely	Limited	Medium
Cyber Threat	Extensive	Occasional	Critical	Low

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Declared Disaster Declarations in Sonoma County

Event/ Hazard	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
Severe Storm(s)	1997	1155	Major Disaster Declaration
Severe Storm(s)	1998	1203	Major Disaster Declaration
Fire	2004	2554	Fire Management
Severe Storm(s)	2006	1646	Major Disaster Declaration
Severe Storm(s)	2017	4301	Major Disaster Declaration
Flood	2017	4308	Major Disaster Declaration
Wildfires	2017	4344	Major Disaster Declaration

Preliminary Goals for the LHMP

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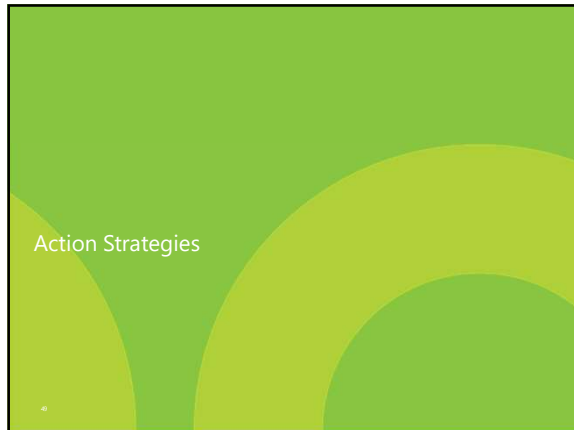
Preliminary Goals for the LHMP

- Planning committee recently developed preliminary goals and objectives for the LHMP




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Action Strategies

- ▶ **Alter the Hazard**
 - Prescribed burns or fuels management to reduce wildfire intensity and severity
 - Draining lakes behind weakened dams
 - "Seeding" clouds to increase rain or snow



42 Public Workshop #1

Action Strategies

- **Avert the Hazard**
 - Floodwalls
 - Debris basins
 - Drainage improvements
 - Channels and Culverts
 - Fire Breaks




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Action Strategies

- **Adapt to the Hazard**
 - Building Codes
 - Construction Standards
 - Land Use and Development Regulations
 - Design Standards
 - Monitoring and Warning Systems
 - Safe Rooms



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Action Strategies

- **Avoid the Hazard**
 - Acquisition
 - Relocation
 - Open Space
 - Land Use Designation
 - Natural System Protection

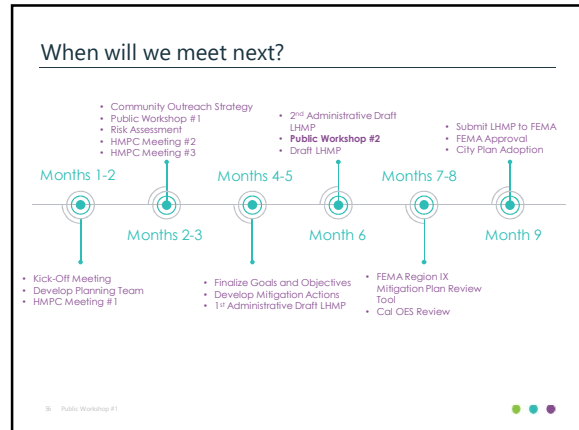
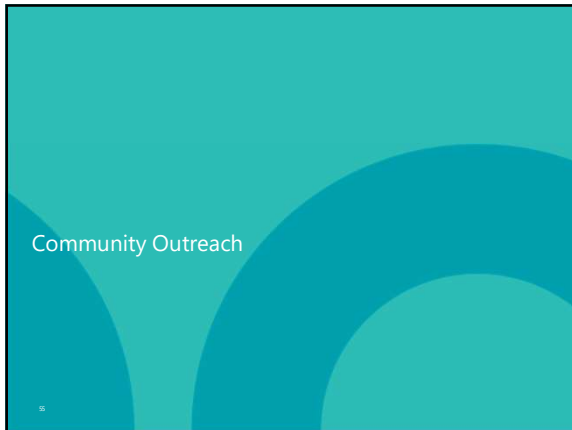



45 Public Workshop #1

Action Strategies

<p>Based on Risk</p> <ul style="list-style-type: none"> ▶ Estimated losses ▶ At-risk existing facilities ▶ At-risk critical facilities ▶ At-risk cultural and natural resources 	<p>Other Opportunities</p> <ul style="list-style-type: none"> ▶ At-risk areas slated for future development ▶ At-risk facilities slated for future development ▶ Public Education ▶ Increased insurance coverage ▶ Include projects from other existing plans (General Plan)
----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

46 Public Workshop #1



Detailed Schedule

Task	Anticipated Date
Notice to Proceed	April 17, 2019
Project Kick-off Meeting	June 10, 2019
Submit Planning Team Invite List	June 13, 2019
Planning Team Session #1 (Half-Day Workshop)	July 8, 2019
Planning Team Session #2 (Half-Day Workshop)	October 7, 2019
Planning Team Session #3 (Half-Day Workshop)	October 8, 2019
Public Workshop #1	October 8, 2019
Finalize Goals and Objectives	October 11, 2019
Complete Mitigation Action Worksheets	November 1, 2019
Submit 1 st Administrative Draft LHMP	December 13, 2019
City and Planning Team provides Comments on 1 st Administrative Draft LHMP	December 27, 2019
Submit 2 nd Administrative Draft LHMP	January 17, 2020
Circulate Public Review Draft LHMP (20-day public review period)	January 24, 2020
2nd Public Workshop	February 5, 2020
Public Review Ends	February 12, 2020
Incorporate Public Comments	February 17, 2020
Complete FEMA Region IX Mitigation Plan Review Tool	February 21, 2020
Submit LHMP to Cal OES for Review	February 28, 2020
Cal OES Review	45 Days
Cal OES SHMO Tele-Conference Call	TBD (late-March 2020)
Submit LHMP to FEMA for Review (via Cal OES)	TBD (late-April 2020)
City Council Hearings**	TBD

*City Council Meetings are held on the first and third Monday of each month.

Schedule and Next Steps

- Fill out a Comment Card and place it in the Comment Box!
- Include any mitigation action or adaptation strategy ideas.

A teal-colored rectangular box with a white label in the center that reads "COMMENT BOX".

Questions?

Juliana Prosperi, AICP
10940 White Rock Rd, Suite 190
Rancho Cordova, CA 95670
juliana.prosperi@woodpic.com
(916) 853-3200

Jeff Brislaw, CFM
2000 South Colorado Blvd, Suite 2-1000
Denver, CO 80222
jeff.brislaw@woodpic.com
(303) 704-5506

wood.
Environment & Infrastructure Solutions
www.woodpic.com

COMMENT CARD

City of Petaluma Local Hazard Mitigation Plan: Public Workshop #1 – October 8, 2019

Please leave a comment related to the City of Petaluma's Local Hazard Mitigation Plan. Please provide your contact info if you would like to receive ongoing updates and information related to the LHMP by email, phone, or mail.

Name:

Email:

Phone Number:

Mailing Address:

Comment:

Comment cards must be delivered to the comment box by the end of the Workshop.

If you have any questions, please contact Diane Ramirez at (707) 776-3658 or
dramirez@cityofpetaluma.org



Public Workshop #2 Agenda

Date: 30 April 2020
4:00 PM – 6:00 PM

Workshop at: Zoom Webinar Available at this URL:
https://zoom.us/j/97878301501?tk=WIjYgPtKSlyPfEkhDTx1biFVCD06k9Vnr4N73RRnh8o.DQEAAAAYygBbPRYyQkZKdDJSUVJWeVdxZ1p3S0NKSDI3AA&uuid=WN_aaryrxCkQ1uyxinYhQ7nYQ

Project: City of Petaluma Local Hazard Mitigation Plan

Subject/Purpose


The purpose of the workshop is to provide an overview of the Disaster Mitigation Act of 2000 and the planning process for the City of Petaluma's Local Hazard Mitigation Plan (LHMP). The LHMP is intended to identify natural and human-caused hazards, vulnerabilities, and assets at risk, and ways to reduce impacts through long-term sustainable mitigation projects. The intent of the workshop is to answer questions and gather input on the Public Review Draft LHMP.

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

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

(916) 636-3200

woodplc.com



wood.

City of Petaluma
Local Hazard Mitigation Plan

Public Workshop #2

City of Petaluma Live Webinar
April 30, 2020

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

2

Introductions

3

3

Introductions

City of Petaluma

- Public Works and Utilities Department
 - Aaron Zavala, Senior Management Analyst (Coordinator)
 - Diane Ramirez, Project Manager (Moderator)
 - Gina Benedetti-Petnic, City Engineer
 - Jason Betty, Director of Public Works and Utilities
 - Kent Carothers, Deputy Director of Operations
- Environmental Services Division
 - Leah Walker, Deputy Director
 - Chelsea Thompson, Environmental Services Analyst
- City Manager's Office
 - Patrick Carter, Senior Management Analyst
- Building Department
 - Doug Hughes, Chief Building Official
- Fire Department
 - Jeff Schach, Assistant Chief
 - Jessica Power, Fire Marshall

Wood Environment & Infrastructure Solutions, Inc.

- Juliana Prosperi, AICP, Project Manager

4 Public Workshop #2

4

Meeting Etiquette

5

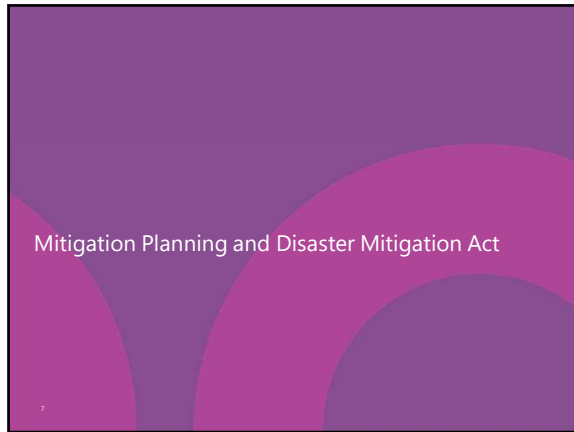
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Meeting Etiquette

- 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 #2

6



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 federal disaster funding (Hazard Mitigation Grant Program)
 - 2010 Taming Natural Disasters**
 - Regional multi-jurisdictional local hazard mitigation plan prepared on behalf of the City by the Association of Bay Area Governments
- Any federally declared disaster in the City of Petaluma means they are eligible to apply for reimbursement
- Plan ensures the City will be ready with mitigation projects when funding becomes available
- California General Plan Statutes:** Government Code § 65302(g)

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Mitigation Planning and Disaster Mitigation Act

California Legislation
Government Code § 65302(g)(3)(4)((5))

- SB 1000 (2017):** Requires Environmental Justice and Equity Element in General Plan [65302(h)].
- SB 379 (2015):** Requires climate adaptation strategies in General Plan Safety Elements and encourages climate change vulnerability assessment in LHMPs.
- SB 1241 (2012):** Revised safety element requirement in General Plans to address risk of State Responsibility Areas (SRAs) and Very High Fire Hazard Severity Zones (FHSZs) and review by State Board of Forestry and Fire Protection
- AB 2140 (2006):** Encourages the adoption of LHMPs into General Plan Safety Element (ties funding eligibility to plan approval).

11

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

12

Mitigation Planning and Disaster Mitigation Act

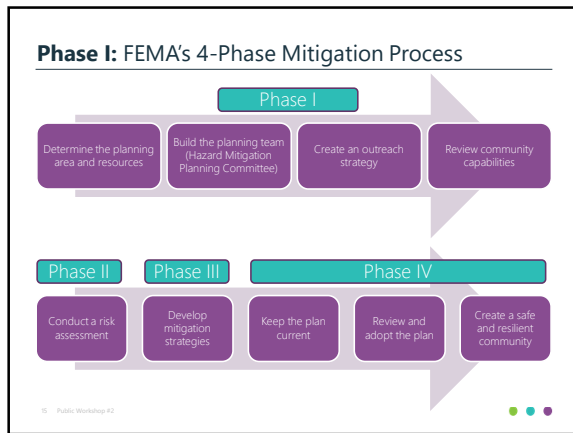
Why do we need a Local Hazard Mitigation Plan?

- Increasing costs of response and recovery
- Prevents loss of life and injury and protects public safety
- Guides mitigation activities in a coordinated and economic manner
- Eligibility for mitigation funds, pre- and post- disaster
- Integrates into other existing planning mechanisms
 - 2025 General Plan
 - 2015 Floodplain Management Plan
 - City Council's 2019-2020 Strategic Plan
 - Capital Improvement Program
 - City Municipal Code
- Reduces risk to existing and future development
- Make community safer and more disaster resilient

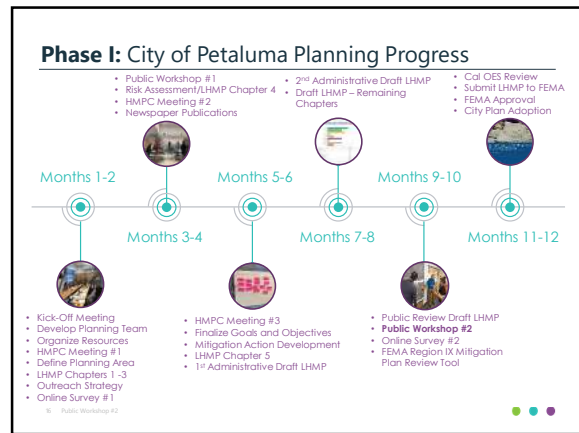
13

Planning Process

14



15



16

Risk Assessment

17

Phase II: Risk Assessment

Hazard Identification and Profile (what can happen here?)

Natural Hazards

- Dam Failure
- Earthquake Hazards (Liquefaction, Subsidence, Ground shaking)
- Drought
- Flooding
- Sea Level Rise
- Severe Weather: Extreme Heat, Thunderstorms, Hail, Lightning, Dense Fog, High Winds
- Wildfire


Human-Caused Hazards

- Cyber Threats
- Hazardous Materials

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Phase II: Hazard Identification and 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



19 Public Workshop #2

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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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20

Phase II: Risk Assessment

Vulnerability Assessment (What will be affected?)

- Critical Asset Inventory
- Mitigation Capability Assessment



21 Public Workshop #2

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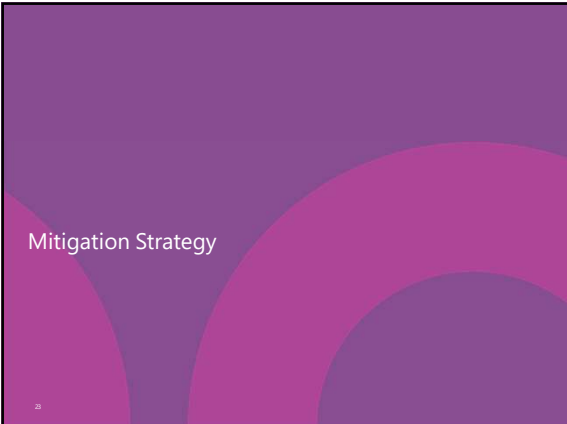
Phase II: Risk Summary

Hazard	Geographic Extent	Probability of Future Occurrences	Magnitude/Severity	Overall Significance
Dam Failure	Limited	Unlikely	Limited	Low
Drought	Extensive	Likely	Limited	Medium
Earthquake	Extensive	Likely	Significant	High
Flood	Limited	Likely	Limited	Medium
Sea Level Rise	Limited	Likely	Limited	Medium
Severe Weather: Extreme Heat	Extensive	Likely	Limited	Medium
Severe Weather: Heavy Rain/Thunderstorms/Hail/Lighting	Extensive	Likely	Limited	Medium
Severe Weather: High Winds	Extensive	Likely	Limited	Medium
Wildfire/Wildland Urban Interface	Significant	Occasional	Critical	Medium
Hazardous Material Releases	Significant	Likely	Limited	Medium
Cyber Threat	Extensive	Occasional	Critical	Low

22 Public Workshop #2

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Mitigation Strategy



23

23

Phase III: Develop a Mitigation Strategy

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



24 Public Workshop #2

24

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
- Adaptation Planning Guide (APG Version 2.0)

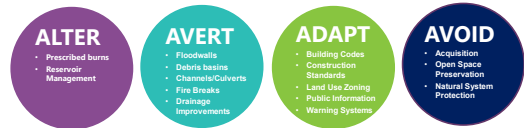
25 Public Workshop #2

25

Phase III: Develop a Mitigation Strategy

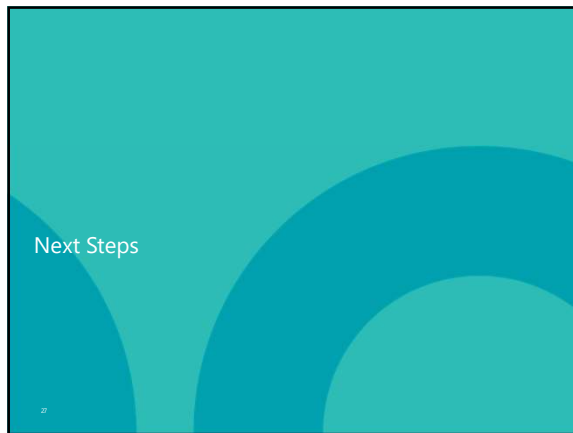
Mitigation Action Plan

- 5 Goals, 12 Objectives
- Incorporation of the 2010 City of Petaluma LHMP Annex
- 34 mitigation actions organized by hazard type



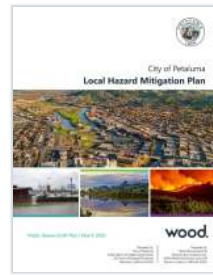
26 Public Workshop #2

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Next Steps: Public Review Draft LHMP



Download the Public Review Draft LHMP here:
<https://cityofpetaluma.org/hazard-mitigation-plan-2/>

28 Public Workshop #2

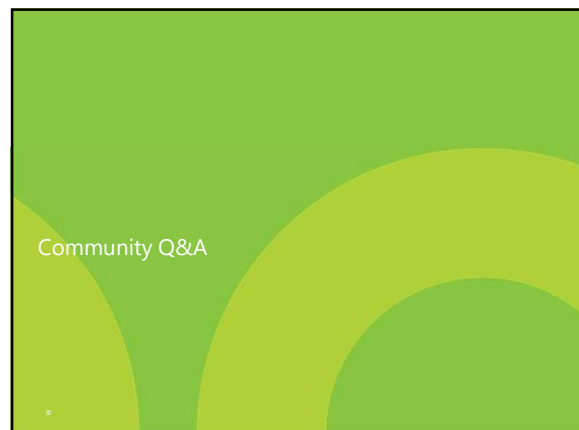
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Next Steps: Project Webpage



29 Public Workshop #2

29



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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.
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Public Workshop #2

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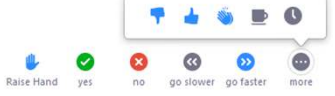
Community Q&A

Q&A Button

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

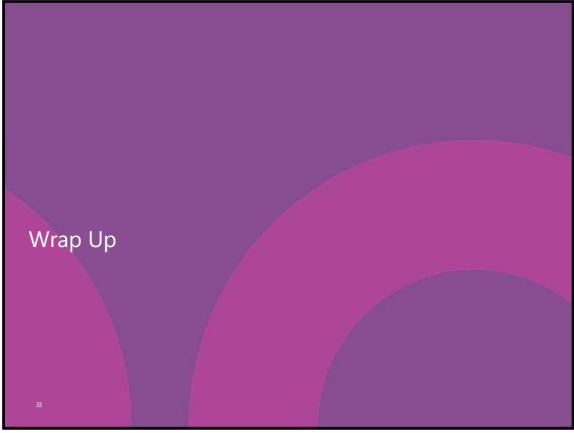


- To speak, please click the "Raise Hand" button.



Public Workshop #2

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Wrap Up

Public Workshop #2

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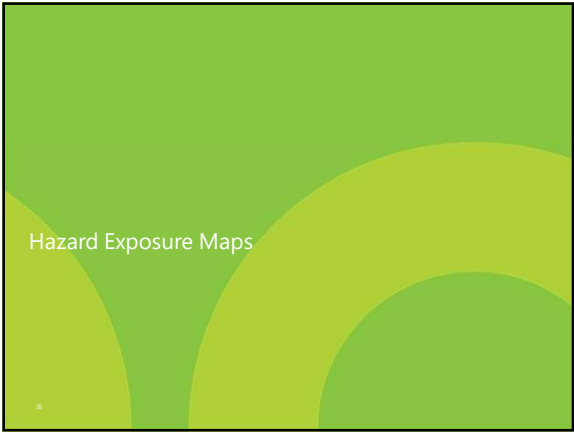
Wrap Up

Thank you for participating!

- Recording will be posted.
- Follow-up questions will be answered and posted.
- Additional comments can be submitted until May 15, 2020.
- Go to the link below to fill out an online comment form: https://bit.ly/Petaluma_LHMP_Feedback_Survey
- Or email Diane Ramirez, Project Manager at: dramirez@cityofpetaluma.org

Public Workshop #2

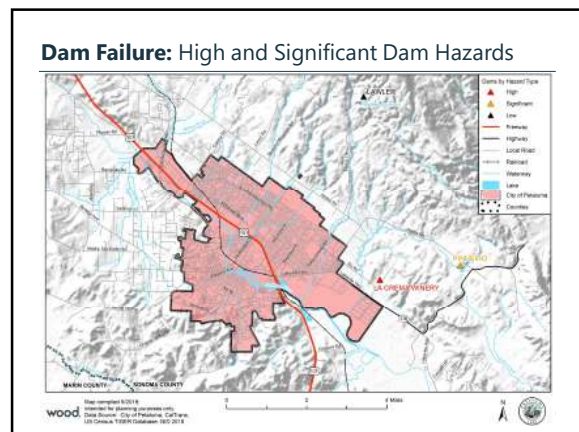
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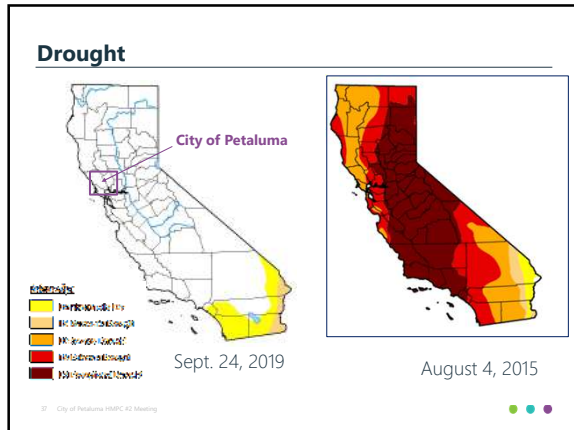
Hazard Exposure Maps

Public Workshop #2

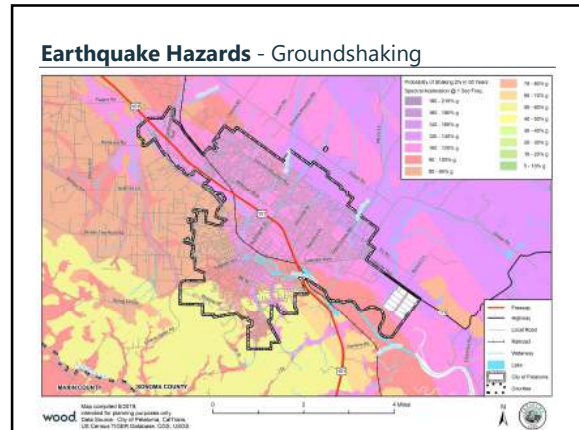
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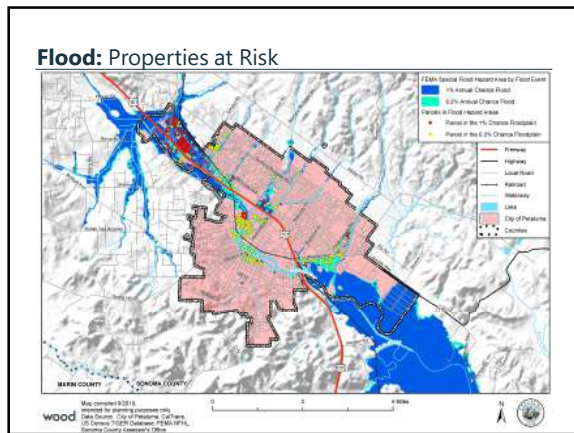
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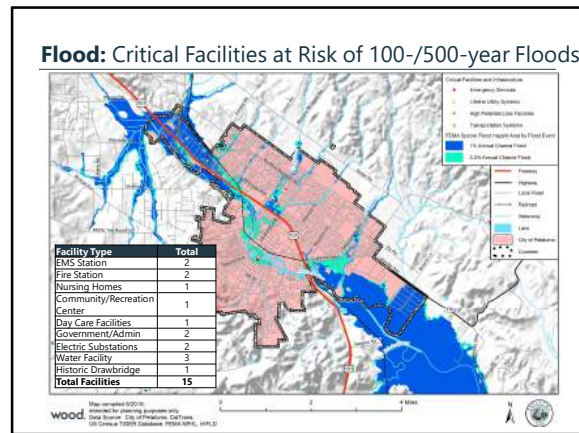
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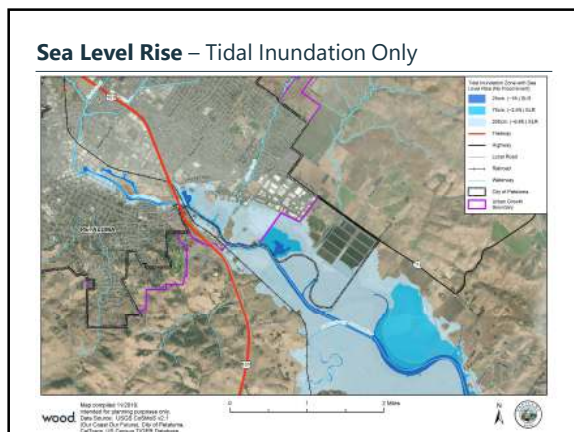
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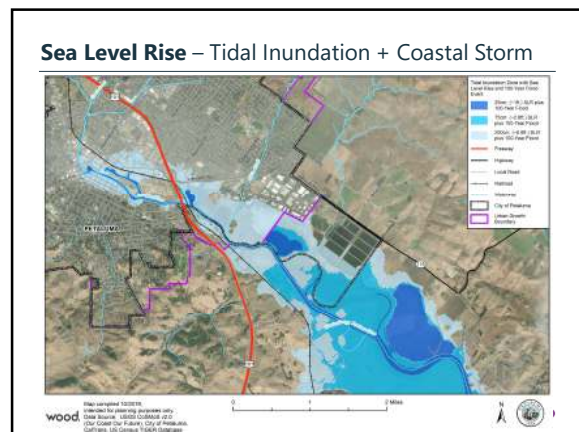
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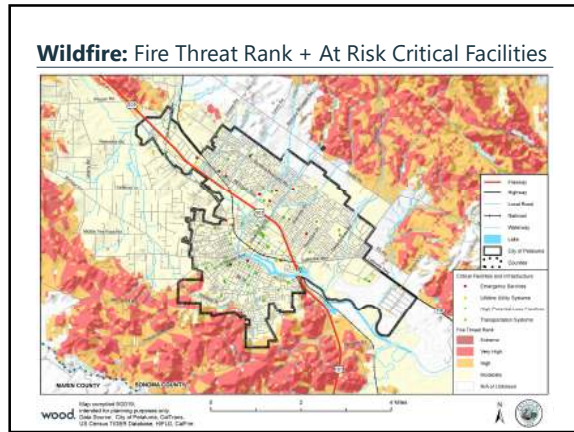
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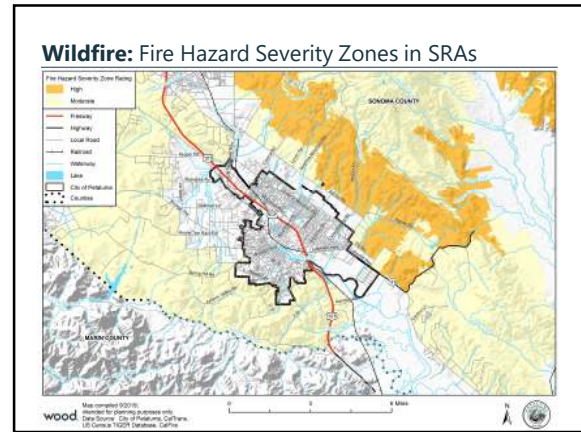
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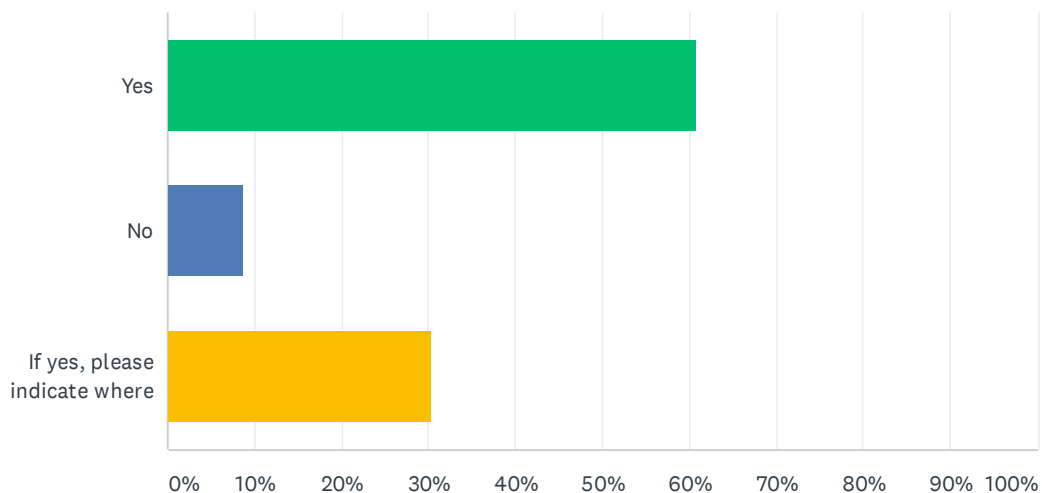
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Q1 Are you a resident of the City of Petaluma or an unincorporated area near the City? If unincorporated, please indicate where.

Answered: 23 Skipped: 1

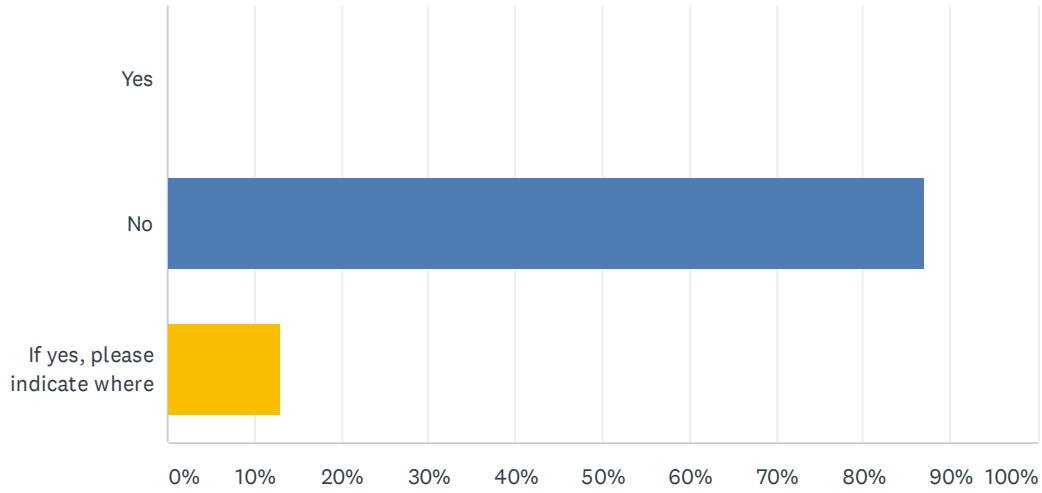


ANSWER CHOICES	RESPONSES	
Yes	60.87%	14
No	8.70%	2
If yes, please indicate where	30.43%	7
TOTAL		23

#	IF YES, PLEASE INDICATE WHERE	DATE
1	Petaluma	10/9/2019 11:45 AM
2	Petaluma	10/8/2019 12:41 AM
3	Glenwood Drive	10/7/2019 9:58 PM
4	City of petaluma	10/7/2019 9:44 PM
5	Resident City of Petaluma	10/7/2019 9:18 AM
6	City of Petaluma	10/7/2019 8:59 AM
7	east side	10/4/2019 7:48 AM

Q2 Are you representing a business or community group? (e.g. resident, business, community organization, non-profit, agency)

Answered: 23 Skipped: 1

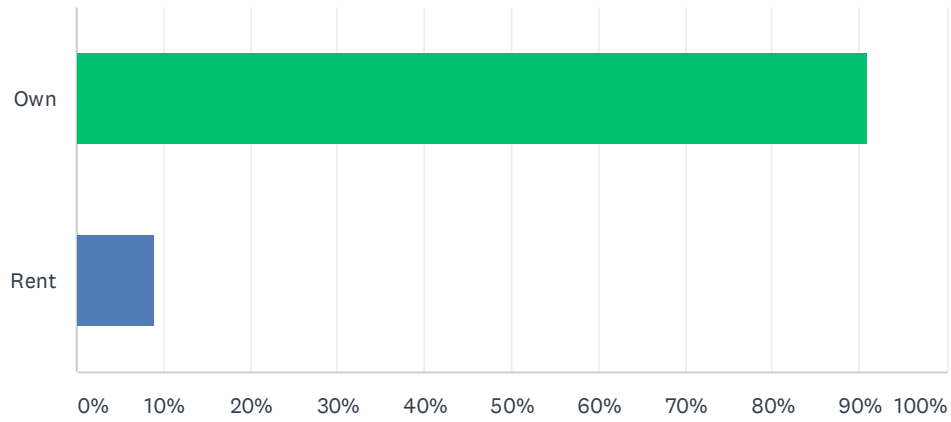


ANSWER CHOICES	RESPONSES	
Yes	0.00%	0
No	86.96%	20
If yes, please indicate where	13.04%	3
TOTAL		23

#	IF YES, PLEASE INDICATE WHERE	DATE
1	Petaluma	10/9/2019 11:45 AM
2	Q	10/7/2019 11:09 PM
3	Petaluma Bounty	10/2/2019 8:37 AM

Q3 Do you own or rent your home?

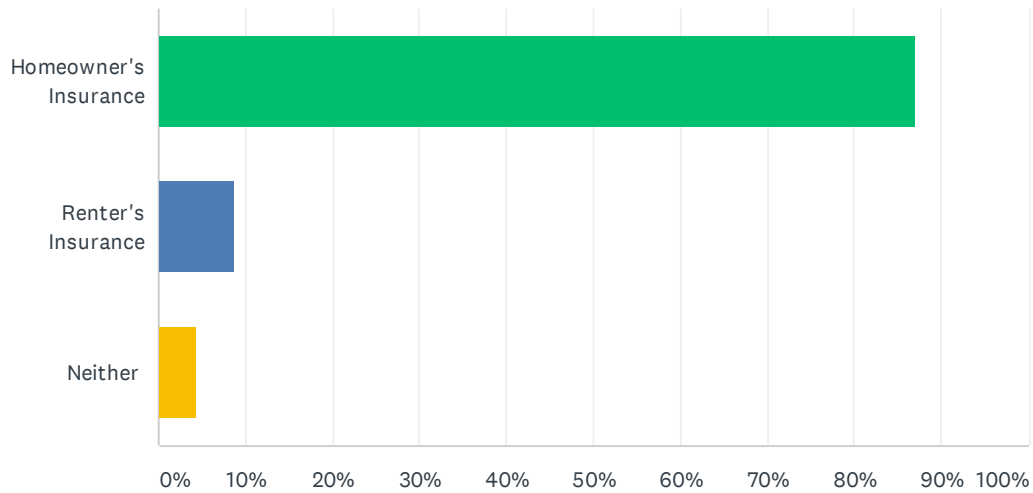
Answered: 22 Skipped: 2



ANSWER CHOICES	RESPONSES
Own	90.91% 20
Rent	9.09% 2
TOTAL	22

Q4 Do you have homeowner's insurance or renter's insurance for your home?

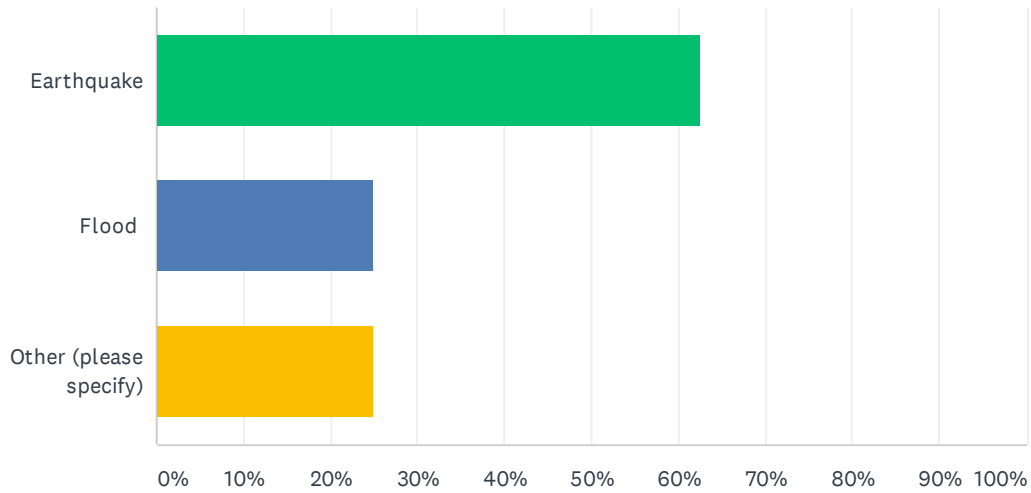
Answered: 23 Skipped: 1



ANSWER CHOICES	RESPONSES	
Homeowner's Insurance	86.96%	20
Renter's Insurance	8.70%	2
Neither	4.35%	1
TOTAL		23

Q5 Do you have specialty insurance for your property?

Answered: 8 Skipped: 16

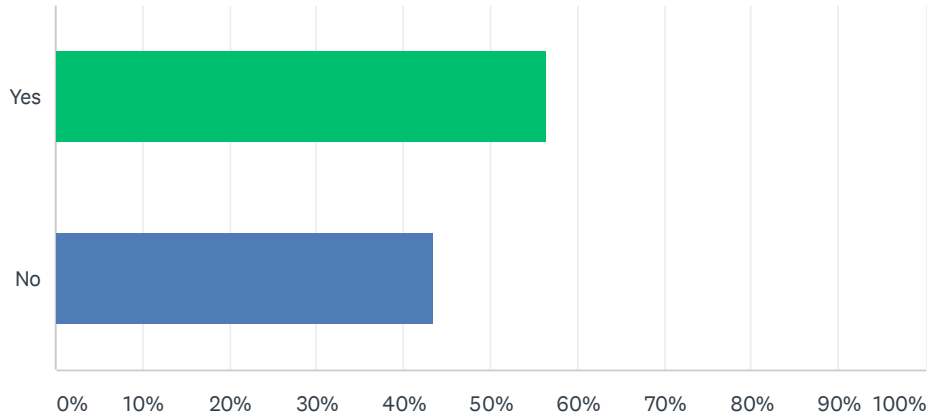


ANSWER CHOICES	RESPONSES
Earthquake	62.50% 5
Flood	25.00% 2
Other (please specify)	25.00% 2
Total Respondents: 8	

#	OTHER (PLEASE SPECIFY)	DATE
1	No	10/7/2019 11:09 PM
2	No	10/2/2019 8:37 AM

Q6 Do you commute outside the City for work?

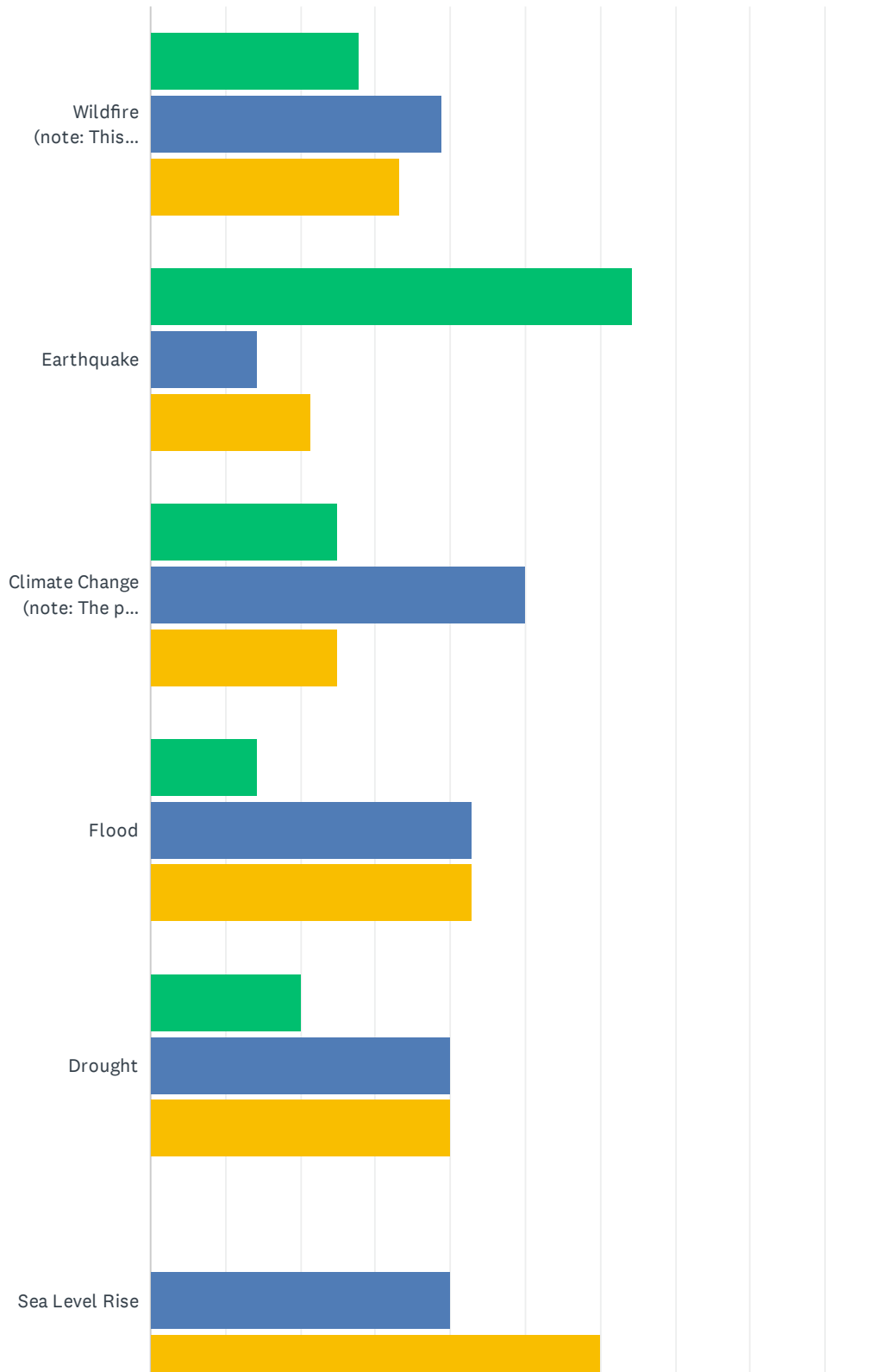
Answered: 23 Skipped: 1



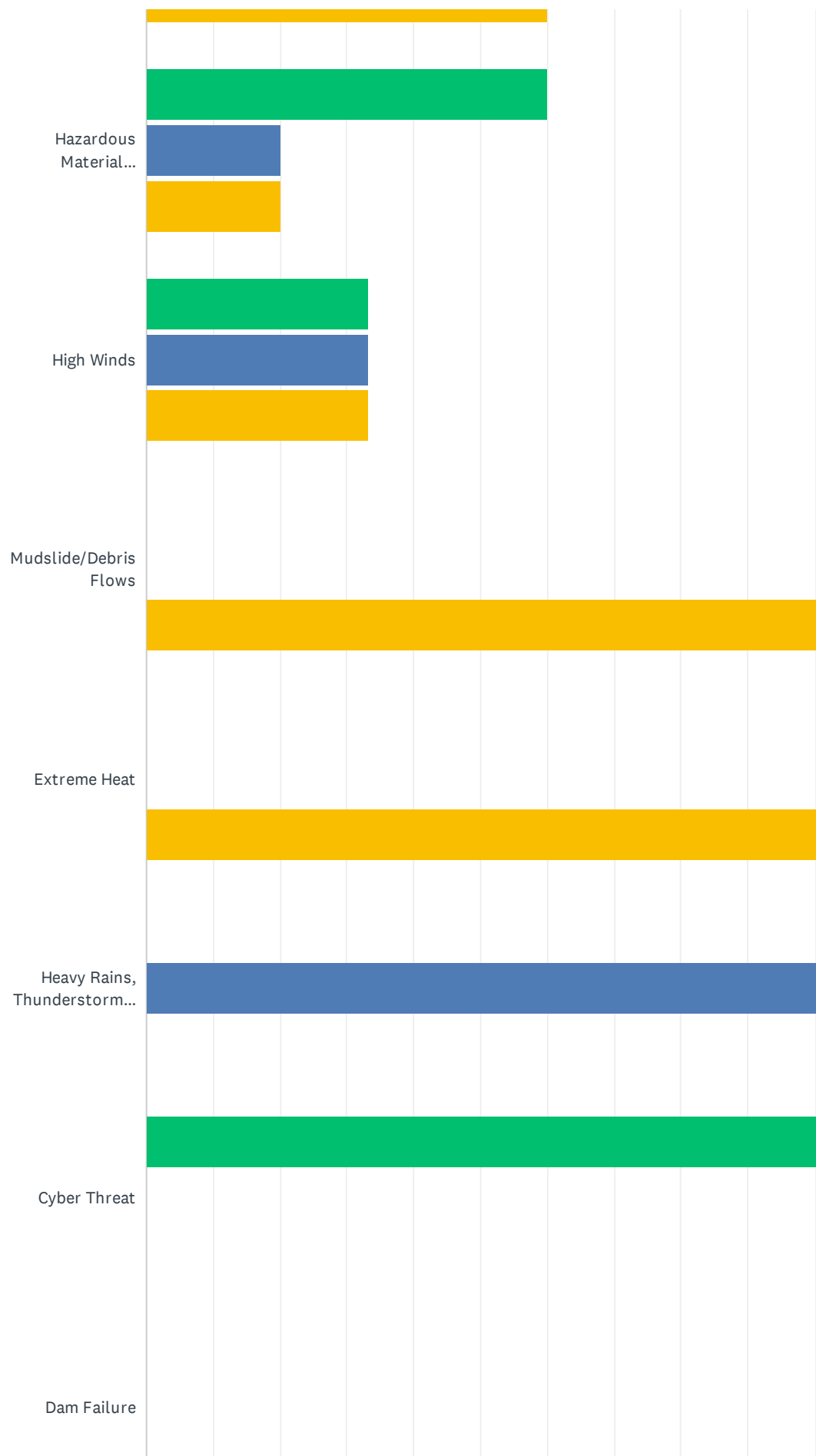
ANSWER CHOICES	RESPONSES	
Yes	56.52%	13
No	43.48%	10
TOTAL		23

Q7 The hazards addressed in the Hazard Mitigation Plan are listed below. Please choose the top 3 hazards of most concern to you. Number 1 represents highest concern.

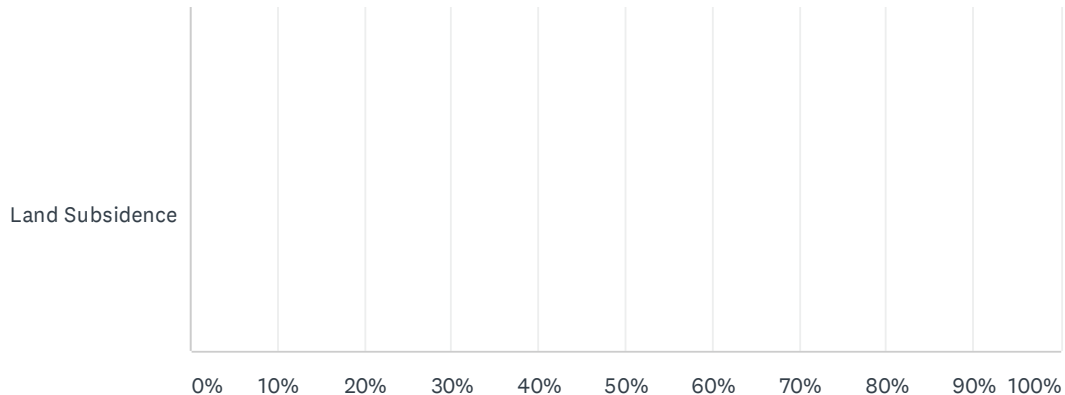
Answered: 23 Skipped: 1



City of Petaluma Hazard Mitigation Plan Public Input Survey



City of Petaluma Hazard Mitigation Plan Public Input Survey

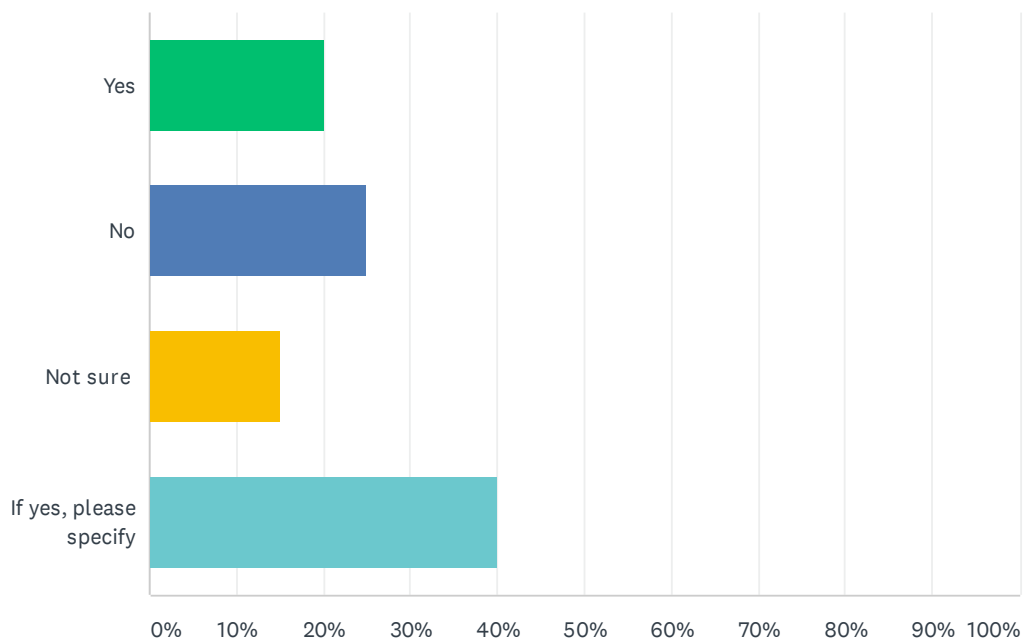


1 2 3

	1	2	3	TOTAL	WEIGHTED AVERAGE
Wildfire (note: This section will also address Mass Casualty and Air Quality)	27.78% 5	38.89% 7	33.33% 6	18	2.06
Earthquake	64.29% 9	14.29% 2	21.43% 3	14	1.57
Climate Change (note: The plan will discuss climate change within each hazard not separately)	25.00% 2	50.00% 4	25.00% 2	8	2.00
Flood	14.29% 1	42.86% 3	42.86% 3	7	2.29
Drought	20.00% 1	40.00% 2	40.00% 2	5	2.20
Sea Level Rise	0.00% 0	40.00% 2	60.00% 3	5	2.60
Hazardous Material Releases	60.00% 3	20.00% 1	20.00% 1	5	1.60
High Winds	33.33% 1	33.33% 1	33.33% 1	3	2.00
Mudslide/Debris Flows	0.00% 0	0.00% 0	100.00% 1	1	3.00
Extreme Heat	0.00% 0	0.00% 0	100.00% 1	1	3.00
Heavy Rains, Thunderstorms, Lightning and Hail	0.00% 0	100.00% 1	0.00% 0	1	2.00
Cyber Threat	100.00% 1	0.00% 0	0.00% 0	1	1.00
Dam Failure	0.00% 0	0.00% 0	0.00% 0	0	0.00
Land Subsidence	0.00% 0	0.00% 0	0.00% 0	0	0.00

Q8 Is your home in an area prone to natural hazards (earthquake, flooding, wildfire etc.)?

Answered: 20 Skipped: 4

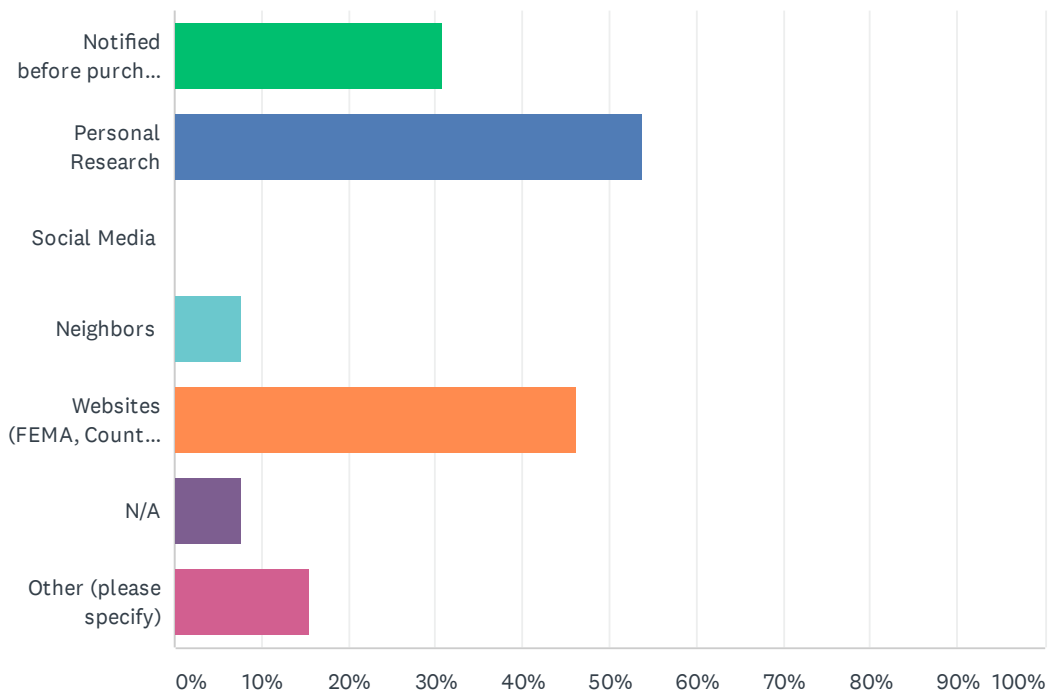


ANSWER CHOICES	RESPONSES
Yes	20.00% 4
No	25.00% 5
Not sure	15.00% 3
If yes, please specify	40.00% 8
TOTAL	20

#	IF YES, PLEASE SPECIFY	DATE
1	Earthquake	10/8/2019 12:43 AM
2	Earthquake	10/7/2019 10:00 PM
3	Earthquakes, flooding	10/7/2019 9:46 PM
4	Lynch Creek over flowing along with other area creeks and flood plain drainage	10/7/2019 3:46 PM
5	FEMA flood zone	10/7/2019 10:40 AM
6	possibly wildfire; most certainly earthquake	10/7/2019 9:19 AM
7	previously in flood zone. I understand it has been fixed by the ACE	10/7/2019 8:15 AM
8	Wildfire	9/30/2019 2:59 PM

Q9 How do you know your home is located in an area prone to natural hazards?

Answered: 13 Skipped: 11



ANSWER CHOICES	RESPONSES	
Notified before purchase of home/before signing rental agreement	30.77%	4
Personal Research	53.85%	7
Social Media	0.00%	0
Neighbors	7.69%	1
Websites (FEMA, County, City)	46.15%	6
N/A	7.69%	1
Other (please specify)	15.38%	2
Total Respondents: 13		

#	OTHER (PLEASE SPECIFY)	DATE
1	notified after work was completed	10/7/2019 8:15 AM
2	Firsthand experience	9/30/2019 2:59 PM

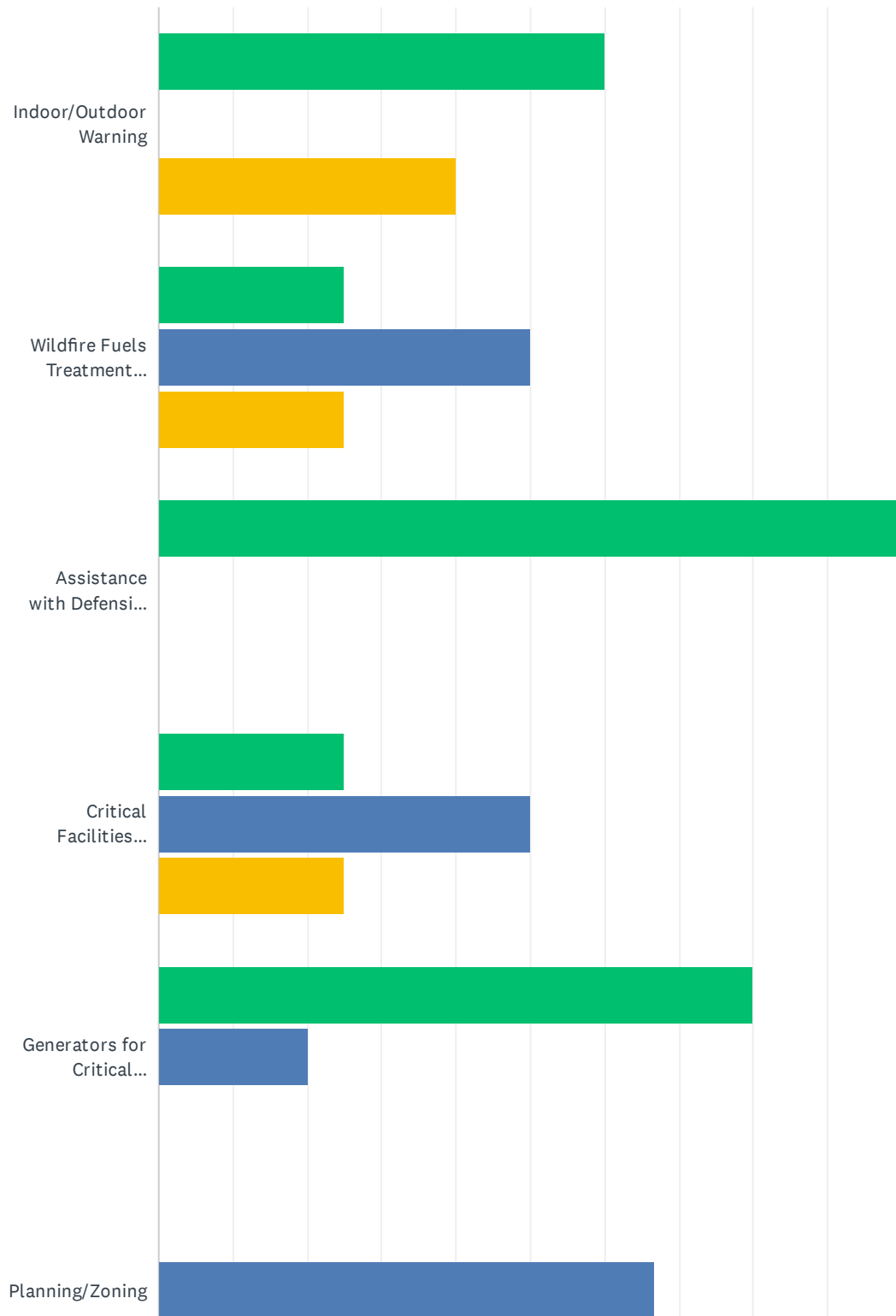
Q10 Do you have information on specific hazard issues/problem areas that you would like the planning committee to consider? Note where in the city it applies:

Answered: 7 Skipped: 17

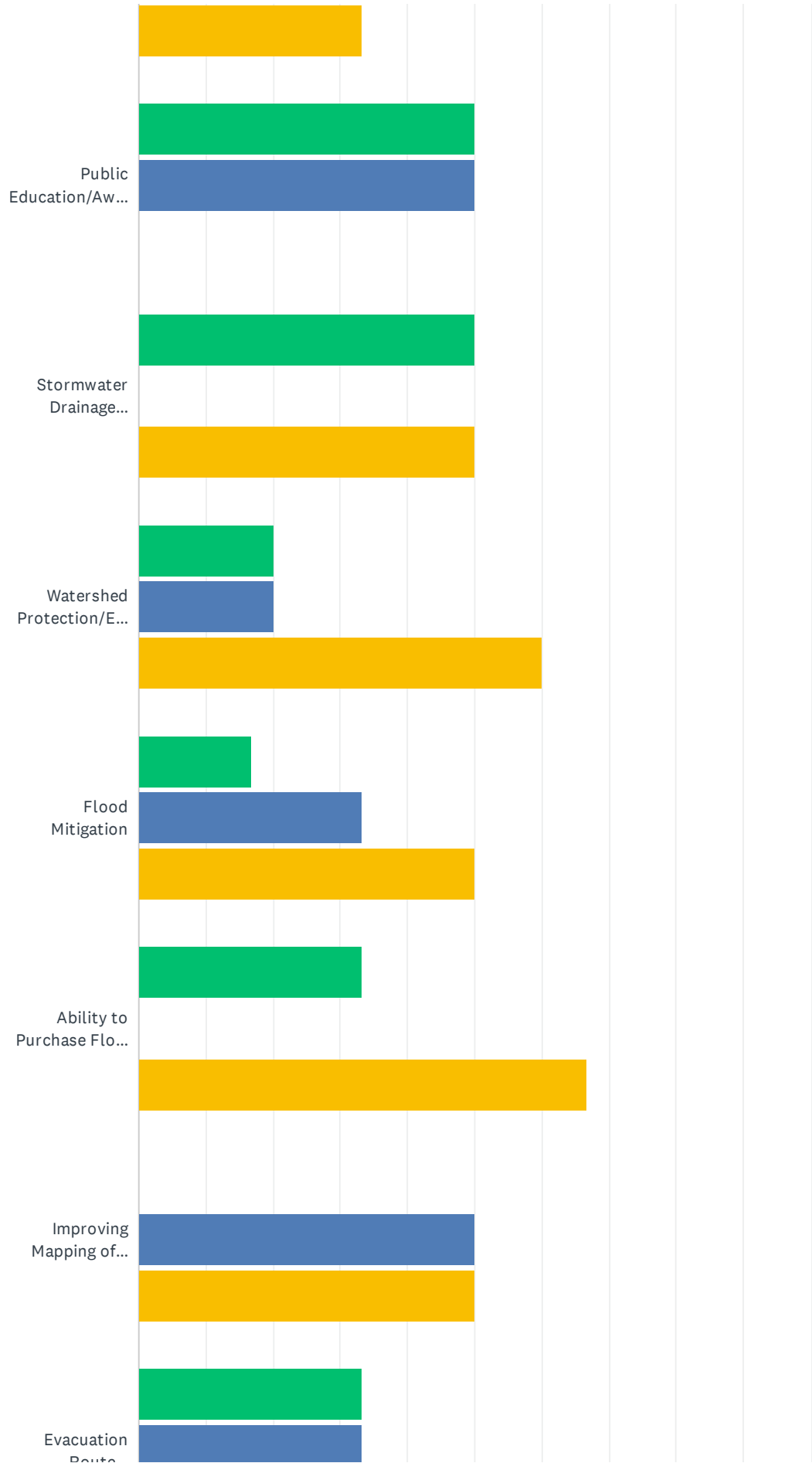
#	RESPONSES	DATE
1	Please ban all leaf blowers due to extreme air pollution, noise mitigation and resulting gas powered emissions that contribute to climate change.	11/8/2019 3:27 PM
2	racist/nativist political violence anywhere	10/9/2019 11:49 AM
3	Bracing of post pier foundations	10/8/2019 12:43 AM
4	Stop building in flood plains!!!!	10/7/2019 11:11 PM
5	Demam Reach allong Petaluma River and Lynch Creek junction	10/7/2019 3:46 PM
6	Food Safety after Wildfire	10/2/2019 8:40 AM
7	Sea Level Rise will affect the Petaluma River	9/30/2019 2:59 PM

Q11 The following types of mitigation actions may be considered for the City. Please indicate the top 3 mitigation actions that you think should have the highest priority in the City of Petaluma Hazard Mitigation Plan. Number 1 represents highest priority.

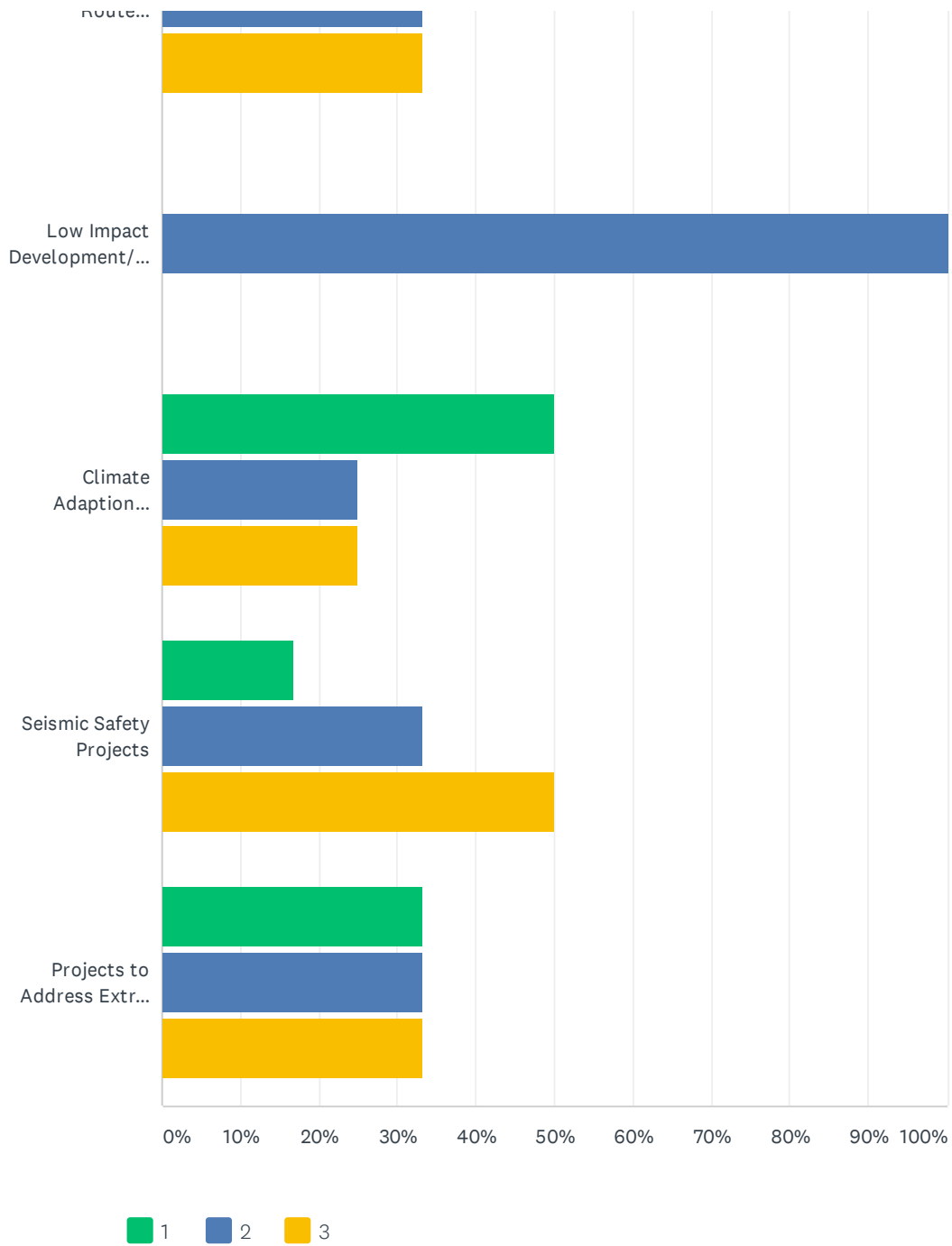
Answered: 22 Skipped: 2



City of Petaluma Hazard Mitigation Plan Public Input Survey



City of Petaluma Hazard Mitigation Plan Public Input Survey



City of Petaluma Hazard Mitigation Plan Public Input Survey

	1	2	3	TOTAL	WEIGHTED AVERAGE
Indoor/Outdoor Warning	60.00% 3	0.00% 0	40.00% 2	5	1.80
Wildfire Fuels Treatment Projects	25.00% 1	50.00% 2	25.00% 1	4	2.00
Assistance with Defensible Space	100.00% 1	0.00% 0	0.00% 0	1	1.00
Critical Facilities Protection	25.00% 1	50.00% 2	25.00% 1	4	2.00
Generators for Critical Facilities	80.00% 4	20.00% 1	0.00% 0	5	1.20
Planning/Zoning	0.00% 0	66.67% 2	33.33% 1	3	2.33
Public Education/Awareness	50.00% 1	50.00% 1	0.00% 0	2	1.50
Stormwater Drainage Improvements	50.00% 1	0.00% 0	50.00% 1	2	2.00
Watershed Protection/Environmental Restoration	20.00% 1	20.00% 1	60.00% 3	5	2.40
Flood Mitigation	16.67% 1	33.33% 2	50.00% 3	6	2.33
Ability to Purchase Flood Insurance	33.33% 1	0.00% 0	66.67% 2	3	2.33
Improving Mapping of Hazards	0.00% 0	50.00% 1	50.00% 1	2	2.50
Evacuation Route Development	33.33% 1	33.33% 1	33.33% 1	3	2.00
Low Impact Development/Green Infrastructure Projects	0.00% 0	100.00% 4	0.00% 0	4	2.00
Climate Adaption Projects	50.00% 4	25.00% 2	25.00% 2	8	1.75
Seismic Safety Projects	16.67% 1	33.33% 2	50.00% 3	6	2.33
Projects to Address Extreme Heat	33.33% 1	33.33% 1	33.33% 1	3	2.00

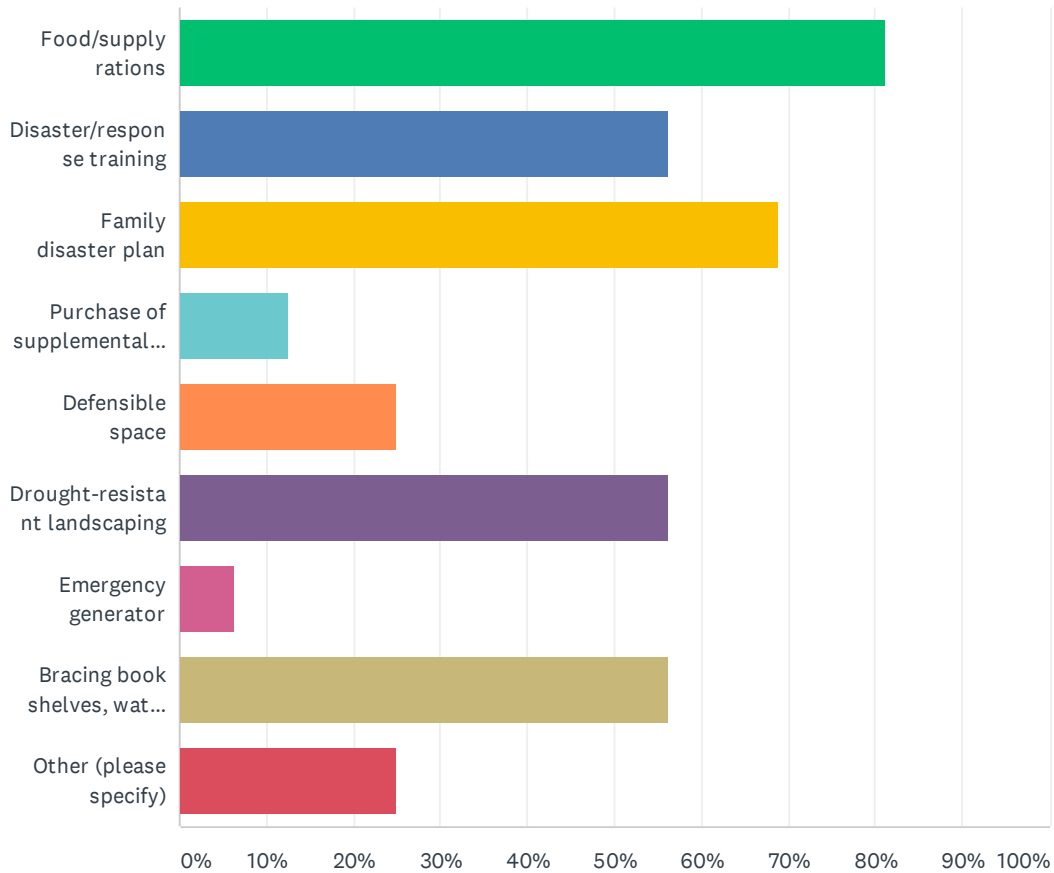
Q12 Please comment on any other pre-disaster strategies that the planning committee should consider for reducing future losses caused by disasters:

Answered: 8 Skipped: 16

#	RESPONSES	DATE
1	The City and Sonoma County should improve their systems for notifying residents when to evacuate.	11/17/2019 10:28 AM
2	Cell tower hardening (backup power, emergency call capacity, fire resistance)	10/9/2019 6:48 PM
3	organize community preparedness groups; map community resources. organize first aid incl. CPR/AED trainings.	10/9/2019 12:47 PM
4	Community member response team training	10/8/2019 12:45 AM
5	Enforce the implementation of EIRs from outside reputable parties	10/7/2019 11:16 PM
6	Evacuation routes and eathquate sizemic rerofitting Hwy 101 overcrossings: Corona Rd,bike/ped Maria	10/7/2019 3:54 PM
7	less building. The city is large enough. Traffic is becoming a nightmare and adding to that would be dangerous.	10/7/2019 8:20 AM
8	Grazing of public lands, strengthening food access network to address chronic food insecurity and activate in case of an emergency	10/2/2019 8:44 AM

Q13 Have you taken any actions to make your home or business more disaster-resistant? If so, which of the following measures have you or your household members taken to prepare for a disaster.

Answered: 16 Skipped: 8



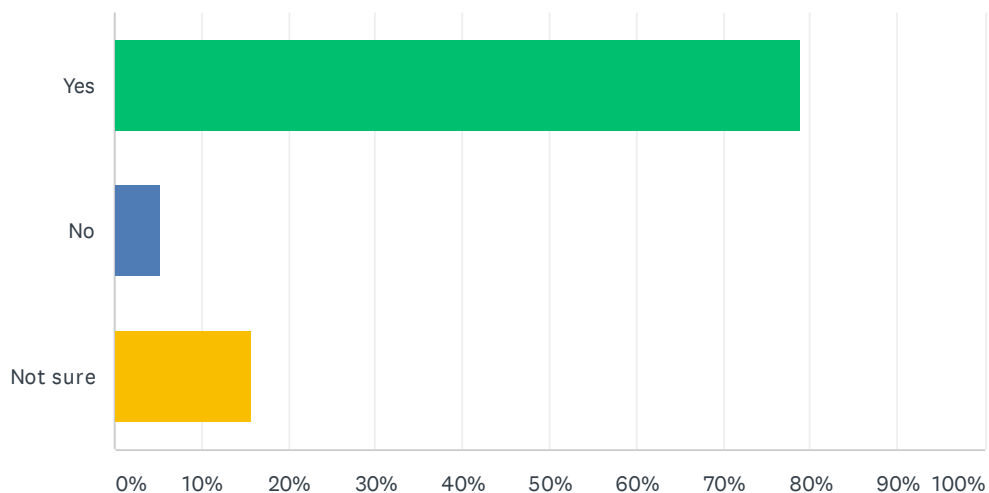
ANSWER CHOICES	RESPONSES	
Food/supply rations	81.25%	13
Disaster/response training	56.25%	9
Family disaster plan	68.75%	11
Purchase of supplemental insurance	12.50%	2
Defensible space	25.00%	4
Drought-resistant landscaping	56.25%	9
Emergency generator	6.25%	1
Bracing bookshelves, water heater etc.	56.25%	9
Other (please specify)	25.00%	4
Total Respondents: 16		

City of Petaluma Hazard Mitigation Plan Public Input Survey

#	OTHER (PLEASE SPECIFY)	DATE
1	stored water. medical supplies. first aid training. batteries, chargers, etc. solar shower. go bags. supplies in our cars. bedside shoes, light, radio. bookmarked PGE PSPS pages. have checklists. know my neighbors.	10/9/2019 12:47 PM
2	I	10/7/2019 11:16 PM
3	COPE organization for neighbors to help each other	10/7/2019 3:54 PM
4	Shear wall/ bolting to foundation	10/7/2019 9:04 AM

Q14 Are you interested in making your home, business or neighborhood more resistant to hazards?

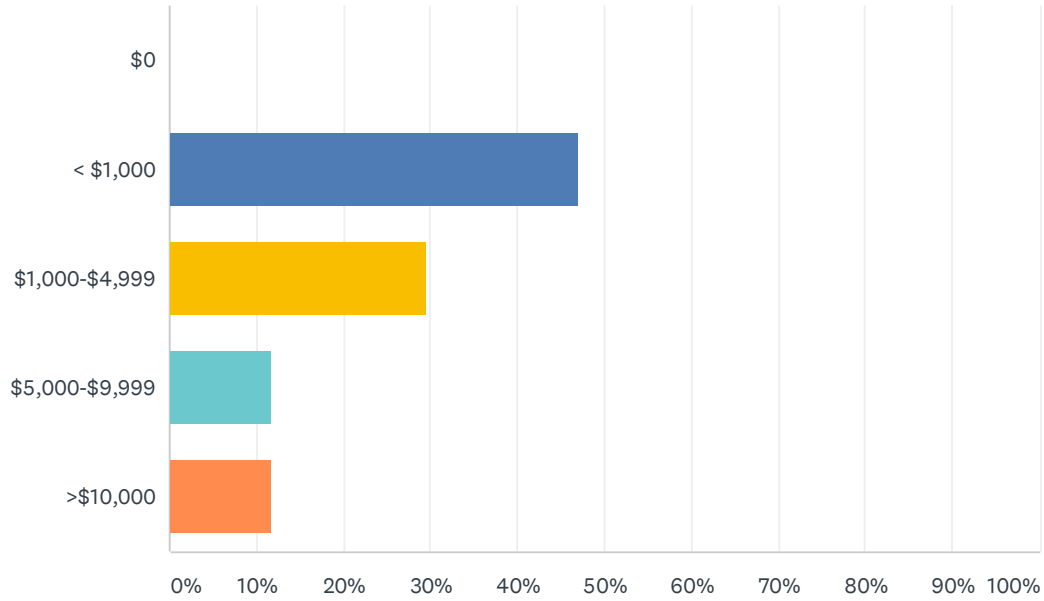
Answered: 19 Skipped: 5



ANSWER CHOICES	RESPONSES	
Yes	78.95%	15
No	5.26%	1
Not sure	15.79%	3
TOTAL		19

Q15 How much are you willing to spend to make safety improvements on your property?

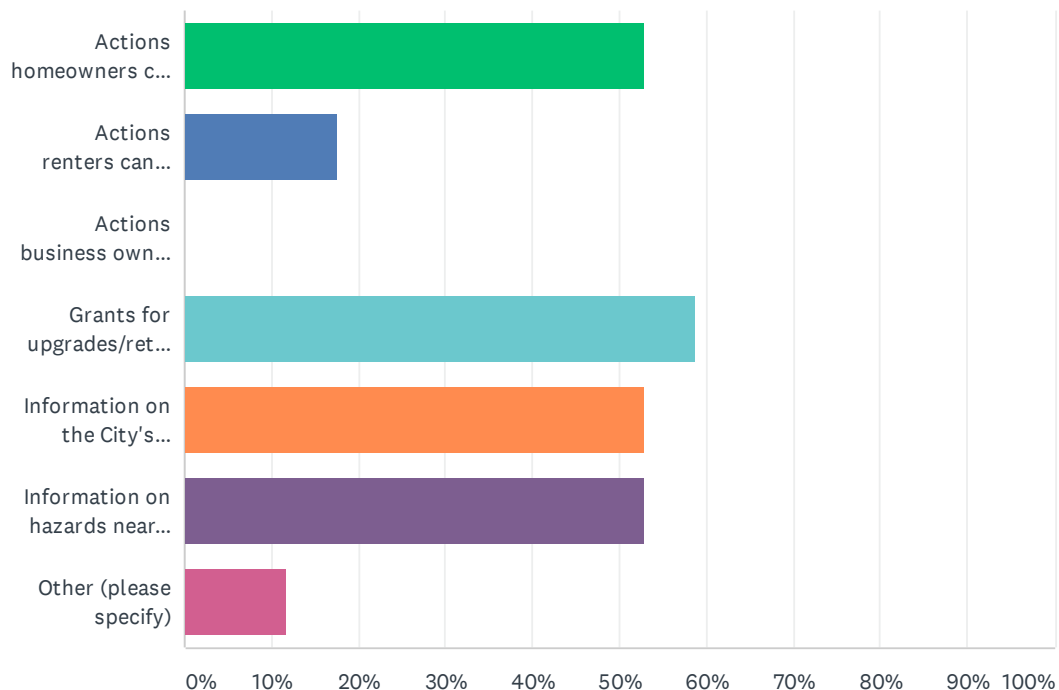
Answered: 17 Skipped: 7



ANSWER CHOICES	RESPONSES	
\$0	0.00%	0
< \$1,000	47.06%	8
\$1,000-\$4,999	29.41%	5
\$5,000-\$9,999	11.76%	2
>\$10,000	11.76%	2
TOTAL		17

Q16 What other types of information would be valuable/helpful to reduce your disaster risk?

Answered: 17 Skipped: 7

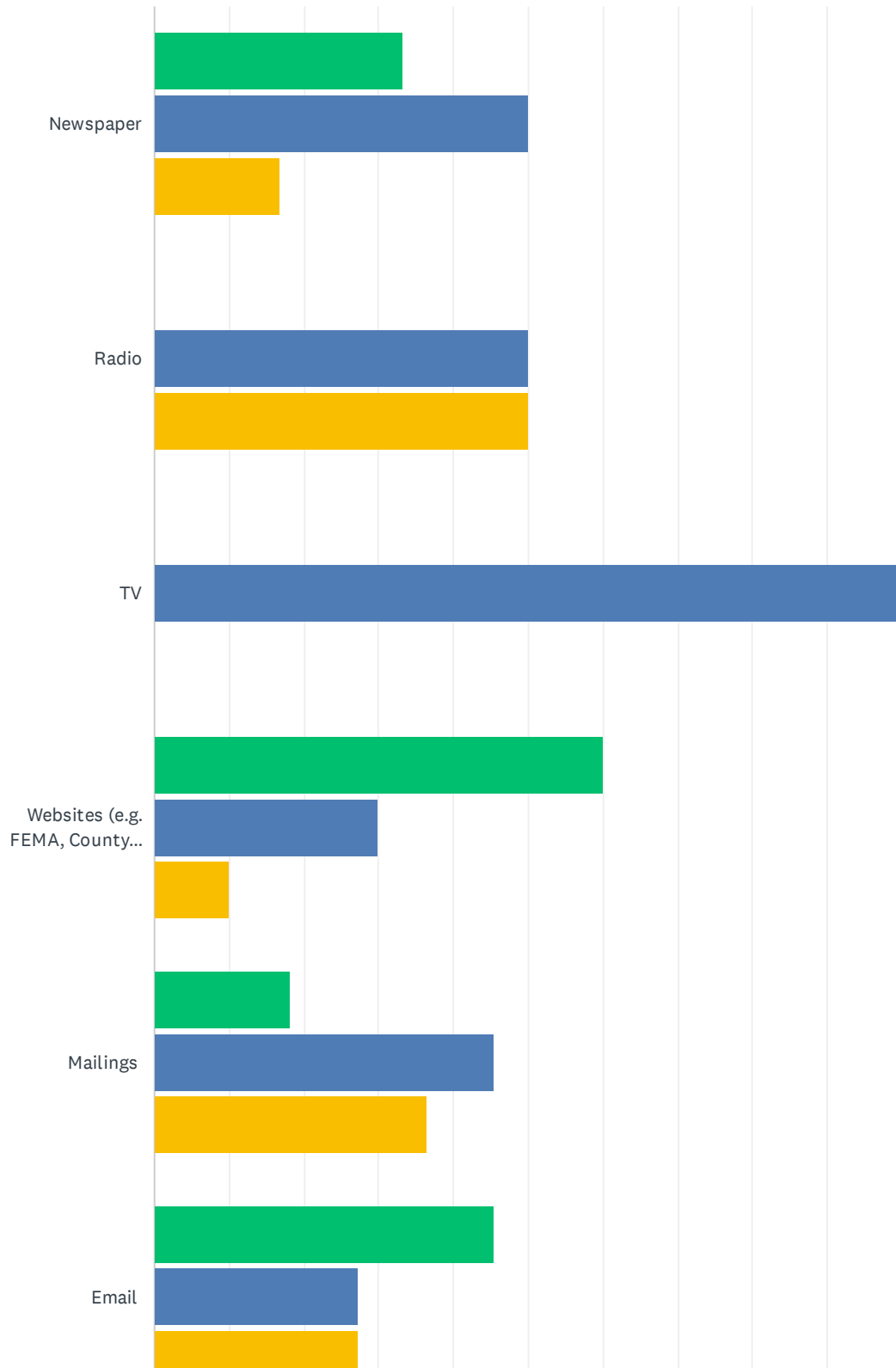


ANSWER CHOICES	RESPONSES
Actions homeowners can take to protect property	52.94% 9
Actions renters can take to protect property	17.65% 3
Actions business owners can take to protect property	0.00% 0
Grants for upgrades/retrofits, and Rebate Programs	58.82% 10
Information on the City's capabilities	52.94% 9
Information on hazards near property	52.94% 9
Other (please specify)	11.76% 2
Total Respondents: 17	

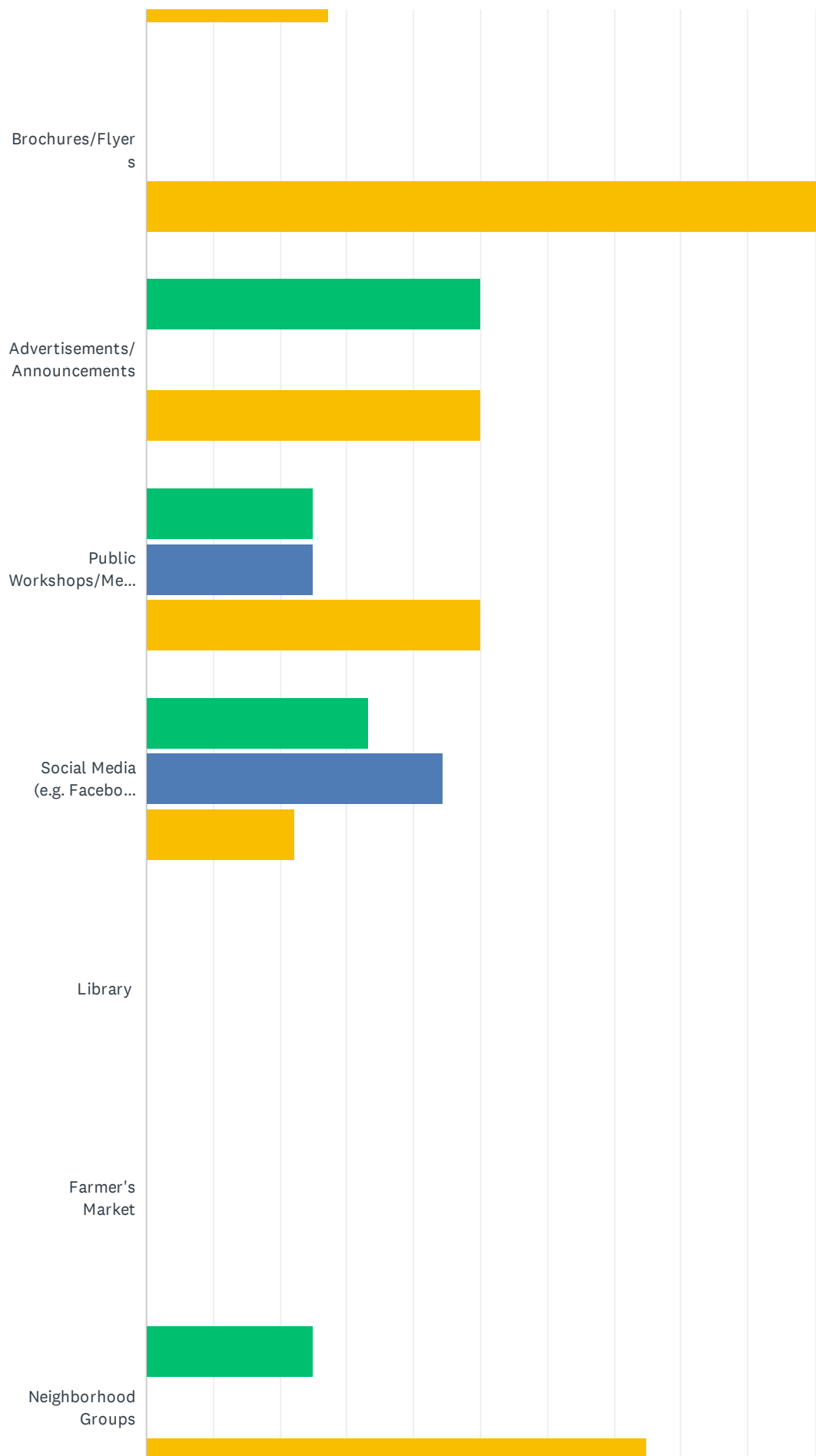
#	OTHER (PLEASE SPECIFY)	DATE
1	The City and county should improve their systems notify residents of evacuation orders	11/17/2019 10:28 AM
2	An online portal with links to tools for n'hoods to self-organize for disaster preparedness. look at recovers.org which is for after-the-fact; we need similar for prep.	10/9/2019 12:47 PM

Q17 What are the best ways to provide information about the City's Hazard Mitigation Plan and disaster preparedness? Please indicate the top 3 ways for the city to share information.

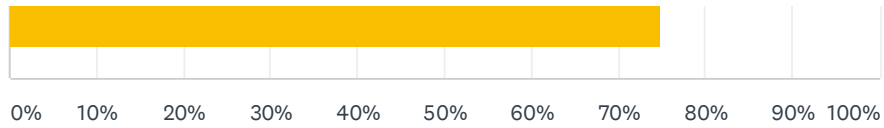
Answered: 21 Skipped: 3



City of Petaluma Hazard Mitigation Plan Public Input Survey



City of Petaluma Hazard Mitigation Plan Public Input Survey



■ 1
 ■ 2
 ■ 3

	1	2	3	TOTAL	WEIGHTED AVERAGE
Newspaper	33.33% 2	50.00% 3	16.67% 1	6	1.83
Radio	0.00% 0	50.00% 1	50.00% 1	2	2.50
TV	0.00% 0	100.00% 1	0.00% 0	1	2.00
Websites (e.g. FEMA, County, City)	60.00% 6	30.00% 3	10.00% 1	10	1.50
Mailings	18.18% 2	45.45% 5	36.36% 4	11	2.18
Email	45.45% 5	27.27% 3	27.27% 3	11	1.82
Brochures/Flyers	0.00% 0	0.00% 0	100.00% 3	3	3.00
Advertisements/Announcements	50.00% 1	0.00% 0	50.00% 1	2	2.00
Public Workshops/Meetings	25.00% 1	25.00% 1	50.00% 2	4	2.25
Social Media (e.g. Facebook, Twitter, NextDoor)	33.33% 3	44.44% 4	22.22% 2	9	1.89
Library	0.00% 0	0.00% 0	0.00% 0	0	0.00
Farmer's Market	0.00% 0	0.00% 0	0.00% 0	0	0.00
Neighborhood Groups	25.00% 1	0.00% 0	75.00% 3	4	2.50

Q18 Optional: Provide your name and email address if you would like to be added to a distribution list for upcoming activities related to the City of Petaluma Hazard Mitigation Plan

Answered: 11 Skipped: 13

#	RESPONSES	DATE
1	Hal Bohner hbohner100@gmail.com	11/17/2019 10:29 AM
2	Stevenwoody1@gmail.com	10/9/2019 6:49 PM
3	karennnyhus@earthlink.net - name Karen Nyhus. Thanks.	10/9/2019 12:49 PM
4	Katherine Duncan katiebarnesrx@gmail.com	10/9/2019 11:11 AM
5	Bzweir@gmail.com	10/8/2019 12:47 AM
6	mazcolhouse@gmail.com	10/7/2019 10:04 PM
7	Jessica Cosci - jessicacosci@me.com	10/7/2019 9:52 PM
8	Bernie Album allbernie5@gmail.com	10/7/2019 3:55 PM
9	dustincathcart@gmail.com	10/7/2019 10:42 AM
10	Shanna Fleming -shanfle@sbcglobal.net	10/7/2019 8:22 AM
11	Suzi@petalumabounty.org	10/2/2019 8:45 AM

Respondent

Respondent 1

05:10
Time to complete

Community and Demographic Information

1. Are you a resident of the City of Petaluma or an unincorporated area near the City? If unincorporated, please indicate where.

- Yes
- No
- Other

2. If yes, please indicate where

West Side

3. Are you representing a business or community group? (e.g. resident, business, community organization, non-profit, agency)

- Yes
- No

4. If yes, please indicate where

5. Do you own or rent your home?

Own

Rent

6. Do you have homeowner's insurance or renter's insurance for your home?

Homeowner's Insurance

Renter's Insurance

Neither

7. Do you have specialty insurance for your property?

Earthquake

Flood

Other

8. Do you commute outside the City for work?

Yes

No

9. The hazards addressed in the Hazard Mitigation Plan are listed below. Please choose the top 3 hazards of most concern to you. Number 1 represents highest concern.

	1	2	3
Dam Failure	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Drought	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Earthquake	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Flood	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Mudslide/Debris Flows	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Extreme Heat	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Heavy Rains, Thunderstorms, Lightning and Hail	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
High Winds	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Wildfire (note: This section will also address Mass Casualty and Air Quality)	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Land Subsidence	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Sea Level Rise	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Cyber Threat	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Hazardous Material Releases	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Climate Change (note: The plan will discuss climate change within each hazard not separately)	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>

Specific Hazard Issues/Problems

10. Is your home in an area prone to natural hazards (earthquake, flooding, wildfire etc.)?

- Yes
- No
- Not sure

11. How do you know your home is located in an area prone to natural hazards?

- Notified before purchase of home/before signing rental agreement
- Personal Research
- Social Media
- Neighbors
- Websites (FEMA, County, City)
- N/A

12. Do you have information on specific hazard issues/problem areas that you would like the planning committee to consider? Note where in the city it applies:

Mitigation Activities

13. The following types of mitigation actions may be considered for the City. Please indicate the top 3 mitigation actions that you think should have the highest priority in the City of Petaluma Hazard Mitigation Plan. Number 1 represents highest priority.

	1	2	3
Indoor/Outdoor Warning	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Wildfire Fuels Treatment Projects	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Assistance with Defensible Space	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Critical Facilities Protection	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Generators for Critical Facilities	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Planning/Zoning	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Public Education/Awareness	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Stormwater Drainage Improvements	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Watershed Protection/Environmental Restoration	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Flood Mitigation	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Ability to Purchase Flood Insurance	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Improving Mapping of Hazards	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Evacuation Route Development	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>

	1	2	3
Low Impact Development/Green Infrastructure Projects	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Climate Adaption Projects	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Seismic Safety Projects	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Projects to Address Extreme Heat	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>

Pre-Disaster Strategies

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

15. Have you taken any actions to make your home or business more disaster-resistant? If so, which of the following measures have you or your household members taken to prepare for a disaster.

- Food/supply rations
- Disaster/response training
- Family disaster plan
- Purchase of supplemental insurance
- Defensible space
- Drought-resistant landscaping

- Emergency generator
- Bracing book shelves, water heater etc.
-

16. Are you interested in making your home, business or neighborhood more resistant to hazards?

- Yes
- No
- Not sure

17. How much are you willing to spend to make safety improvements on your property?

- \$0
- <\$1,000
- \$1,000-\$4,999
- \$5,000-\$9,999
- >\$10,000

18. What other types of information would be valuable/helpful to reduce your disaster risk?

- Actions homeowners can take to protect property
- Actions renters can take to protect property
- Actions business owners can take to protect property
- Grants for upgrades/retrofits, and Rebate Programs

- Information on the City's capabilities
- Information on hazards near property
-

Outreach

19. What are the best ways to provide information about the City's Hazard Mitigation Plan and disaster preparedness? Please indicate the top 3 ways for the city to share information.

	1	2	3
Newspaper	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Radio	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
TV	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Websites (e.g. FEMA, County, City)	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Mailings	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Email	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Brochures/Flyers	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Advertisements/Announcements	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Public Workshops/Meetings	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Social Media (e.g. Facebook, Twitter, NextDoor)	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Library	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>

	1	2	3
Farmer's Market	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Neighborhood Groups	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>

Contact Information

20. Optional: Provide your name and email address if you would like to be added to a distribution list for upcoming activities related to the City of Petaluma Hazard Mitigation Plan

Respondent

< Respondent 2 >

12:58
Time to complete

Community and Demographic Information

1. Are you a resident of the City of Petaluma or an unincorporated area near the City? If unincorporated, please indicate where.

- Yes
- No
- Other

2. If yes, please indicate where

Joan Dr

3. Are you representing a business or community group? (e.g. resident, business, community organization, non-profit, agency)

- Yes
- No

4. If yes, please indicate where

5. Do you own or rent your home?

Own

Rent

6. Do you have homeowner's insurance or renter's insurance for your home?

Homeowner's Insurance

Renter's Insurance

Neither

7. Do you have specialty insurance for your property?

Earthquake

Flood

Other

8. Do you commute outside the City for work?

Yes

No

9. The hazards addressed in the Hazard Mitigation Plan are listed below. Please choose the top 3 hazards of most concern to you. Number 1 represents highest concern.

	1	2	3
Dam Failure	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Drought	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Earthquake	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Flood	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Mudslide/Debris Flows	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Extreme Heat	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Heavy Rains, Thunderstorms, Lightning and Hail	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
High Winds	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Wildfire (note: This section will also address Mass Casualty and Air Quality)	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Land Subsidence	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sea Level Rise	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Cyber Threat	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Hazardous Material Releases	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Climate Change (note: The plan will discuss climate change within each hazard not separately)	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>

Specific Hazard Issues/Problems

10. Is your home in an area prone to natural hazards (earthquake, flooding, wildfire etc.)?

- Yes
- No
- Not sure

11. How do you know your home is located in an area prone to natural hazards?

- Notified before purchase of home/before signing rental agreement
- Personal Research
- Social Media
- Neighbors
- Websites (FEMA, County, City)
- N/A

12. Do you have information on specific hazard issues/problem areas that you would like the planning committee to consider? Note where in the city it applies:

No

Mitigation Activities

13. The following types of mitigation actions may be considered for the City. Please indicate the top 3 mitigation actions that you think should have the highest priority in the City of Petaluma Hazard Mitigation Plan. Number 1 represents highest priority.

	1	2	3
Indoor/Outdoor Warning	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Wildfire Fuels Treatment Projects	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Assistance with Defensible Space	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Critical Facilities Protection	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Generators for Critical Facilities	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Planning/Zoning	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Public Education/Awareness	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Stormwater Drainage Improvements	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Watershed Protection/Environmental Restoration	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Flood Mitigation	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Ability to Purchase Flood Insurance	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Improving Mapping of Hazards	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Evacuation Route Development	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>

	1	2	3
Low Impact Development/Green Infrastructure Projects	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Climate Adaption Projects	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Seismic Safety Projects	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Projects to Address Extreme Heat	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>

Pre-Disaster Strategies

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

15. Have you taken any actions to make your home or business more disaster-resistant? If so, which of the following measures have you or your household members taken to prepare for a disaster.

- Food/supply rations
- Disaster/response training
- Family disaster plan
- Purchase of supplemental insurance
- Defensible space
- Drought-resistant landscaping

- Emergency generator
- Bracing book shelves, water heater etc.
-

16. Are you interested in making your home, business or neighborhood more resistant to hazards?

- Yes
- No
- Not sure

17. How much are you willing to spend to make safety improvements on your property?

- \$0
- <\$1,000
- \$1,000-\$4,999
- \$5,000-\$9,999
- >\$10,000

18. What other types of information would be valuable/helpful to reduce your disaster risk?

- Actions homeowners can take to protect property
- Actions renters can take to protect property
- Actions business owners can take to protect property
- Grants for upgrades/retrofits, and Rebate Programs

- Information on the City's capabilities
- Information on hazards near property
-

Outreach

19. What are the best ways to provide information about the City's Hazard Mitigation Plan and disaster preparedness? Please indicate the top 3 ways for the city to share information.

	1	2	3
Newspaper	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Radio	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
TV	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Websites (e.g. FEMA, County, City)	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Mailings	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Email	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Brochures/Flyers	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Advertisements/Announcements	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Public Workshops/Meetings	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Social Media (e.g. Facebook, Twitter, NextDoor)	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Library	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>

	1	2	3
Farmer's Market	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Neighborhood Groups	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>

Contact Information

20. Optional: Provide your name and email address if you would like to be added to a distribution list for upcoming activities related to the City of Petaluma Hazard Mitigation Plan

Respondent

← Respondent 3 ↓

40:03
Time to complete

→

Community and Demographic Information

1. Are you a resident of the City of Petaluma or an unincorporated area near the City? If unincorporated, please indicate where.

- Yes
- No
- Other

2. If yes, please indicate where

unincorporated

3. Are you representing a business or community group? (e.g. resident, business, community organization, non-profit, agency)

- Yes
- No

4. If yes, please indicate where

5. Do you own or rent your home?

Own

Rent

6. Do you have homeowner's insurance or renter's insurance for your home?

Homeowner's Insurance

Renter's Insurance

Neither

7. Do you have specialty insurance for your property?

Earthquake

Flood

Other

8. Do you commute outside the City for work?

Yes

No

9. The hazards addressed in the Hazard Mitigation Plan are listed below. Please choose the top 3 hazards of most concern to you. Number 1 represents highest concern.

	1	2	3
Dam Failure	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Drought	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Earthquake	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Flood	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Mudslide/Debris Flows	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Extreme Heat	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Heavy Rains, Thunderstorms, Lightning and Hail	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
High Winds	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Wildfire (note: This section will also address Mass Casualty and Air Quality)	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Land Subsidence	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Sea Level Rise	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Cyber Threat	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Hazardous Material Releases	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Climate Change (note: The plan will discuss climate change within each hazard not separately)	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>

Specific Hazard Issues/Problems

10. Is your home in an area prone to natural hazards (earthquake, flooding, wildfire etc.)?

- Yes
- No
- Not sure

11. How do you know your home is located in an area prone to natural hazards?

- Notified before purchase of home/before signing rental agreement
- Personal Research
- Social Media
- Neighbors
- Websites (FEMA, County, City)
- N/A

12. Do you have information on specific hazard issues/problem areas that you would like the planning committee to consider? Note where in the city it applies:

Mitigation Activities

13. The following types of mitigation actions may be considered for the City. Please indicate the top 3 mitigation actions that you think should have the highest priority in the City of Petaluma Hazard Mitigation Plan. Number 1 represents highest priority.

	1	2	3
Indoor/Outdoor Warning	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Wildfire Fuels Treatment Projects	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Assistance with Defensible Space	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Critical Facilities Protection	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Generators for Critical Facilities	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Planning/Zoning	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Public Education/Awareness	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Stormwater Drainage Improvements	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Watershed Protection/Environmental Restoration	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Flood Mitigation	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Ability to Purchase Flood Insurance	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Improving Mapping of Hazards	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Evacuation Route Development	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>

	1	2	3
Low Impact Development/Green Infrastructure Projects	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Climate Adaption Projects	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Seismic Safety Projects	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Projects to Address Extreme Heat	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>

Pre-Disaster Strategies

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

15. Have you taken any actions to make your home or business more disaster-resistant? If so, which of the following measures have you or your household members taken to prepare for a disaster.

- Food/supply rations
- Disaster/response training
- Family disaster plan
- Purchase of supplemental insurance
- Defensible space
- Drought-resistant landscaping

- Emergency generator
- Bracing book shelves, water heater etc.
-

16. Are you interested in making your home, business or neighborhood more resistant to hazards?

- Yes
- No
- Not sure

17. How much are you willing to spend to make safety improvements on your property?

- \$0
- <\$1,000
- \$1,000-\$4,999
- \$5,000-\$9,999
- >\$10,000

18. What other types of information would be valuable/helpful to reduce your disaster risk?

- Actions homeowners can take to protect property
- Actions renters can take to protect property
- Actions business owners can take to protect property
- Grants for upgrades/retrofits, and Rebate Programs

- Information on the City's capabilities
- Information on hazards near property
-

Outreach

19. What are the best ways to provide information about the City's Hazard Mitigation Plan and disaster preparedness? Please indicate the top 3 ways for the city to share information.

	1	2	3
Newspaper	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Radio	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
TV	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Websites (e.g. FEMA, County, City)	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Mailings	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Email	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Brochures/Flyers	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Advertisements/Announcements	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Public Workshops/Meetings	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Social Media (e.g. Facebook, Twitter, NextDoor)	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Library	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>

	1	2	3
Farmer's Market	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Neighborhood Groups	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>

Contact Information

20. Optional: Provide your name and email address if you would like to be added to a distribution list for upcoming activities related to the City of Petaluma Hazard Mitigation Plan

Respondent

Respondent 4

29:06
Time to complete

Community and Demographic Information

1. Are you a resident of the City of Petaluma or an unincorporated area near the City? If unincorporated, please indicate where.

- Yes
- No
- Other

2. If yes, please indicate where

City of petaluma

3. Are you representing a business or community group? (e.g. resident, business, community organization, non-profit, agency)

- Yes
- No

4. If yes, please indicate where

5. Do you own or rent your home?

Own

Rent

6. Do you have homeowner's insurance or renter's insurance for your home?

Homeowner's Insurance

Renter's Insurance

Neither

7. Do you have specialty insurance for your property?

Earthquake

Flood

Other

8. Do you commute outside the City for work?

Yes

No

9. The hazards addressed in the Hazard Mitigation Plan are listed below. Please choose the top 3 hazards of most concern to you. Number 1 represents highest concern.

	1	2	3
Dam Failure	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Drought	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Earthquake	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Flood	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Mudslide/Debris Flows	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Extreme Heat	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Heavy Rains, Thunderstorms, Lightning and Hail	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
High Winds	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Wildfire (note: This section will also address Mass Casualty and Air Quality)	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Land Subsidence	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sea Level Rise	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Cyber Threat	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Hazardous Material Releases	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Climate Change (note: The plan will discuss climate change within each hazard not separately)	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>

Specific Hazard Issues/Problems

10. Is your home in an area prone to natural hazards (earthquake, flooding, wildfire etc.)?

- Yes
- No
- Not sure

11. How do you know your home is located in an area prone to natural hazards?

- Notified before purchase of home/before signing rental agreement
- Personal Research
- Social Media
- Neighbors
- Websites (FEMA, County, City)
- N/A

12. Do you have information on specific hazard issues/problem areas that you would like the planning committee to consider? Note where in the city it applies:

I have questions about how the city does not seem to address certain issues in planning and building.

Mitigation Activities

13. The following types of mitigation actions may be considered for the City. Please indicate the top 3 mitigation actions that you think should have the highest priority in the City of Petaluma Hazard Mitigation Plan. Number 1 represents highest priority.

	1	2	3
Indoor/Outdoor Warning	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Wildfire Fuels Treatment Projects	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Assistance with Defensible Space	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Critical Facilities Protection	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Generators for Critical Facilities	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Planning/Zoning	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Public Education/Awareness	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Stormwater Drainage Improvements	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Watershed Protection/Environmental Restoration	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Flood Mitigation	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Ability to Purchase Flood Insurance	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Improving Mapping of Hazards	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Evacuation Route Development	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>

	1	2	3
Low Impact Development/Green Infrastructure Projects	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Climate Adaption Projects	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Seismic Safety Projects	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Projects to Address Extreme Heat	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>

Pre-Disaster Strategies

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

It may be too late for these but building in historic flood zones seems like an obvious no no. Our infrastructure was never prepared for the level of growth the city allowed, as evidenced by our ridiculous traffic congestion. This all has to be successfully addressed for ANY effective evacuation planning. Planning and building seem to allow for a lot of residential and commercial growth in the face of continual drought. Where does all of this extra water usage come from when we are already strapped? It would be great to see petaluma on the forefront of smart growth vis a vis climate change. Thus having to address everything from water usage, green energy, public transportation, green space, zero waste, and disaster preparedness on a neighborhood level. A version of Americore, lumacore, for interested petalumans to be in the forefront of disaster preparedness and volunteerism. Perhaps looking, in part, at the Rockefeller Foundations 100 resilient cities program as a touchstone to certain applicable issues for us. We have the ability to stop being reactionary and start planning for a smarter future.

15. Have you taken any actions to make your home or business more disaster-resistant? If so, which of the following measures have you or your household members taken to prepare for a disaster.

Food/supply rations

- Disaster/response training
- Family disaster plan
- Purchase of supplemental insurance
- Defensible space
- Drought-resistant landscaping
- Emergency generator
- Bracing book shelves, water heater etc.
-

16. Are you interested in making your home, business or neighborhood more resistant to hazards?

- Yes
- No
- Not sure

17. How much are you willing to spend to make safety improvements on your property?

- \$0
- <\$1,000
- \$1,000-\$4,999
- \$5,000-\$9,999
- >\$10,000

18. What other types of information would be valuable/helpful to reduce your disaster risk?

- Actions homeowners can take to protect property
- Actions renters can take to protect property
- Actions business owners can take to protect property
- Grants for upgrades/retrofits, and Rebate Programs
- Information on the City's capabilities
- Information on hazards near property
-

Outreach

19. What are the best ways to provide information about the City's Hazard Mitigation Plan and disaster preparedness? Please indicate the top 3 ways for the city to share information.

	1	2	3
Newspaper	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Radio	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
TV	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Websites (e.g. FEMA, County, City)	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Mailings	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Email	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Brochures/Flyers	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>

	1	2	3
Advertisements/Announcements	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Public Workshops/Meetings	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Social Media (e.g. Facebook, Twitter, NextDoor)	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Library	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Farmer's Market	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Neighborhood Groups	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>

Contact Information

20. Optional: Provide your name and email address if you would like to be added to a distribution list for upcoming activities related to the City of Petaluma Hazard Mitigation Plan

info@decarlihouse.com Christine Nardone

Respondent

23:20
Time to complete

Respondent 5

Community and Demographic Information

1. Are you a resident of the City of Petaluma or an unincorporated area near the City? If unincorporated, please indicate where.

- Yes
- No
- Other

2. If yes, please indicate where

406 Dana Street

3. Are you representing a business or community group? (e.g. resident, business, community organization, non-profit, agency)

- Yes
- No

4. If yes, please indicate where

My business is downtown; 7 Fourth Street (McNear Building)

5. Do you own or rent your home?

Own

Rent

6. Do you have homeowner's insurance or renter's insurance for your home?

Homeowner's Insurance

Renter's Insurance

Neither

7. Do you have specialty insurance for your property?

Earthquake

Flood

Other

8. Do you commute outside the City for work?

Yes

No

9. The hazards addressed in the Hazard Mitigation Plan are listed below. Please choose the top 3 hazards of most concern to you. Number 1 represents highest concern.

	1	2	3
Dam Failure	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Drought	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Earthquake	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Flood	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Mudslide/Debris Flows	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Extreme Heat	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Heavy Rains, Thunderstorms, Lightning and Hail	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
High Winds	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Wildfire (note: This section will also address Mass Casualty and Air Quality)	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Land Subsidence	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Sea Level Rise	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Cyber Threat	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Hazardous Material Releases	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Climate Change (note: The plan will discuss climate change within each hazard not separately)	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>

Specific Hazard Issues/Problems

10. Is your home in an area prone to natural hazards (earthquake, flooding, wildfire etc.)?

- Yes
- No
- Not sure

11. How do you know your home is located in an area prone to natural hazards?

- Notified before purchase of home/before signing rental agreement
- Personal Research
- Social Media
- Neighbors
- Websites (FEMA, County, City)
- N/A

12. Do you have information on specific hazard issues/problem areas that you would like the planning committee to consider? Note where in the city it applies:

If sea level rises 10 feet by the end of the century, what happens to downtown?

Mitigation Activities

13. The following types of mitigation actions may be considered for the City. Please indicate the top 3 mitigation actions that you think should have the highest priority in the City of Petaluma Hazard Mitigation Plan. Number 1 represents highest priority.

	1	2	3
Indoor/Outdoor Warning	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Wildfire Fuels Treatment Projects	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Assistance with Defensible Space	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Critical Facilities Protection	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Generators for Critical Facilities	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Planning/Zoning	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Public Education/Awareness	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Stormwater Drainage Improvements	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Watershed Protection/Environmental Restoration	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Flood Mitigation	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Ability to Purchase Flood Insurance	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Improving Mapping of Hazards	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Evacuation Route Development	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>

	1	2	3
Low Impact Development/Green Infrastructure Projects	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Climate Adaption Projects	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Seismic Safety Projects	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Projects to Address Extreme Heat	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>

Pre-Disaster Strategies

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

Do not allow development in the river flood plane. Use projected, not historic, estimates of sea level rise and timing.

15. Have you taken any actions to make your home or business more disaster-resistant? If so, which of the following measures have you or your household members taken to prepare for a disaster.

- Food/supply rations
- Disaster/response training
- Family disaster plan
- Purchase of supplemental insurance
- Defensible space

- Drought-resistant landscaping
- Emergency generator
- Bracing book shelves, water heater etc.
- Other

16. Are you interested in making your home, business or neighborhood more resistant to hazards?

- Yes
- No
- Not sure

17. How much are you willing to spend to make safety improvements on your property?

- \$0
- <\$1,000
- \$1,000-\$4,999
- \$5,000-\$9,999
- >\$10,000

18. What other types of information would be valuable/helpful to reduce your disaster risk?

- Actions homeowners can take to protect property
- Actions renters can take to protect property
- Actions business owners can take to protect property

- Grants for upgrades/retrofits, and Rebate Programs
- Information on the City's capabilities
- Information on hazards near property
-

Outreach

19. What are the best ways to provide information about the City's Hazard Mitigation Plan and disaster preparedness? Please indicate the top 3 ways for the city to share information.

	1	2	3
Newspaper	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Radio	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
TV	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Websites (e.g. FEMA, County, City)	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Mailings	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Email	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Brochures/Flyers	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Advertisements/Announcements	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Public Workshops/Meetings	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>

	1	2	3
Social Media (e.g. Facebook, Twitter, NextDoor)	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Library	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Farmer's Market	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Neighborhood Groups	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>

Contact Information

20. Optional: Provide your name and email address if you would like to be added to a distribution list for upcoming activities related to the City of Petaluma Hazard Mitigation Plan

Bill Wolpert & Megan Donner / 406 Dana Street / Petaluma / 94952

Respondent

Respondent 6 06:10
Time to complete

Community and Demographic Information

1. Are you a resident of the City of Petaluma or an unincorporated area near the City? If unincorporated, please indicate where.

- Yes
- No
- Other

2. If yes, please indicate where

736 Keller Court

3. Are you representing a business or community group? (e.g. resident, business, community organization, non-profit, agency)

- Yes
- No

4. If yes, please indicate where

5. Do you own or rent your home?

Own

Rent

6. Do you have homeowner's insurance or renter's insurance for your home?

Homeowner's Insurance

Renter's Insurance

Neither

7. Do you have specialty insurance for your property?

Earthquake

Flood

Other

8. Do you commute outside the City for work?

Yes

No

9. The hazards addressed in the Hazard Mitigation Plan are listed below. Please choose the top 3 hazards of most concern to you. Number 1 represents highest concern.

	1	2	3
Dam Failure	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Drought	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Earthquake	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Flood	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Mudslide/Debris Flows	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Extreme Heat	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Heavy Rains, Thunderstorms, Lightning and Hail	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
High Winds	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Wildfire (note: This section will also address Mass Casualty and Air Quality)	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Land Subsidence	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sea Level Rise	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Cyber Threat	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Hazardous Material Releases	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Climate Change (note: The plan will discuss climate change within each hazard not separately)	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>

Specific Hazard Issues/Problems

10. Is your home in an area prone to natural hazards (earthquake, flooding, wildfire etc.)?

- Yes
- No
- Not sure

11. How do you know your home is located in an area prone to natural hazards?

- Notified before purchase of home/before signing rental agreement
- Personal Research
- Social Media
- Neighbors
- Websites (FEMA, County, City)
- N/A

12. Do you have information on specific hazard issues/problem areas that you would like the planning committee to consider? Note where in the city it applies:

Please see my comments concerning the LHMP that I submitted May 7.

Mitigation Activities

13. The following types of mitigation actions may be considered for the City. Please indicate the top 3 mitigation actions that you think should have the highest priority in the City of Petaluma Hazard Mitigation Plan. Number 1 represents highest priority.

	1	2	3
Indoor/Outdoor Warning	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Wildfire Fuels Treatment Projects	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Assistance with Defensible Space	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Critical Facilities Protection	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Generators for Critical Facilities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Planning/Zoning	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Public Education/Awareness	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Stormwater Drainage Improvements	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Watershed Protection/Environmental Restoration	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Flood Mitigation	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Ability to Purchase Flood Insurance	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Improving Mapping of Hazards	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Evacuation Route Development	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	1	2	3
Low Impact Development/Green Infrastructure Projects	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Climate Adaption Projects	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Seismic Safety Projects	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Projects to Address Extreme Heat	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Pre-Disaster Strategies

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

Please see my comments concerning the LHMP that I submitted May 7.

15. Have you taken any actions to make your home or business more disaster-resistant? If so, which of the following measures have you or your household members taken to prepare for a disaster.

- Food/supply rations
- Disaster/response training
- Family disaster plan
- Purchase of supplemental insurance
- Defensible space
- Drought-resistant landscaping

- Emergency generator
- Bracing book shelves, water heater etc.
-

16. Are you interested in making your home, business or neighborhood more resistant to hazards?

- Yes
- No
- Not sure

17. How much are you willing to spend to make safety improvements on your property?

- \$0
- <\$1,000
- \$1,000-\$4,999
- \$5,000-\$9,999
- >\$10,000

18. What other types of information would be valuable/helpful to reduce your disaster risk?

- Actions homeowners can take to protect property
- Actions renters can take to protect property
- Actions business owners can take to protect property
- Grants for upgrades/retrofits, and Rebate Programs

- Information on the City's capabilities
- Information on hazards near property
-

Outreach

19. What are the best ways to provide information about the City's Hazard Mitigation Plan and disaster preparedness? Please indicate the top 3 ways for the city to share information.

	1	2	3
Newspaper	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Radio	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
TV	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Websites (e.g. FEMA, County, City)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Mailings	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Email	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Brochures/Flyers	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Advertisements/Announcements	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Public Workshops/Meetings	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Social Media (e.g. Facebook, Twitter, NextDoor)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Library	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	1	2	3
Farmer's Market	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Neighborhood Groups	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Contact Information

20. Optional: Provide your name and email address if you would like to be added to a distribution list for upcoming activities related to the City of Petaluma Hazard Mitigation Plan

Hal Bohner hbohner100@gmail.com

Respondent

Respondent 7

08:43
Time to complete

Community and Demographic Information

1. Are you a resident of the City of Petaluma or an unincorporated area near the City? If unincorporated, please indicate where.

- Yes
- No
- Other

2. If yes, please indicate where

West side (McNear/Sunnyslope)

3. Are you representing a business or community group? (e.g. resident, business, community organization, non-profit, agency)

- Yes
- No

4. If yes, please indicate where

5. Do you own or rent your home?

Own

Rent

6. Do you have homeowner's insurance or renter's insurance for your home?

Homeowner's Insurance

Renter's Insurance

Neither

7. Do you have specialty insurance for your property?

Earthquake

Flood

Umbrella

8. Do you commute outside the City for work?

Yes

No

9. The hazards addressed in the Hazard Mitigation Plan are listed below. Please choose the top 3 hazards of most concern to you. Number 1 represents highest concern.

	1	2	3
Dam Failure	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Drought	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Earthquake	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Flood	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Mudslide/Debris Flows	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Extreme Heat	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Heavy Rains, Thunderstorms, Lightning and Hail	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
High Winds	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Wildfire (note: This section will also address Mass Casualty and Air Quality)	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Land Subsidence	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
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Specific Hazard Issues/Problems

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- Yes
- No
- Not sure

11. How do you know your home is located in an area prone to natural hazards?

- Notified before purchase of home/before signing rental agreement
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- N/A

12. Do you have information on specific hazard issues/problem areas that you would like the planning committee to consider? Note where in the city it applies:

Flooding (McNear/Sunnyslope)

Mitigation Activities

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Pre-Disaster Strategies

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COVID-19

15. Have you taken any actions to make your home or business more disaster-resistant? If so, which of the following measures have you or your household members taken to prepare for a disaster.

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