



City of Fort Bragg Hazard Mitigation Plan

Adoption Proceeding Presentation
December 14, 2020



Presentation Topics

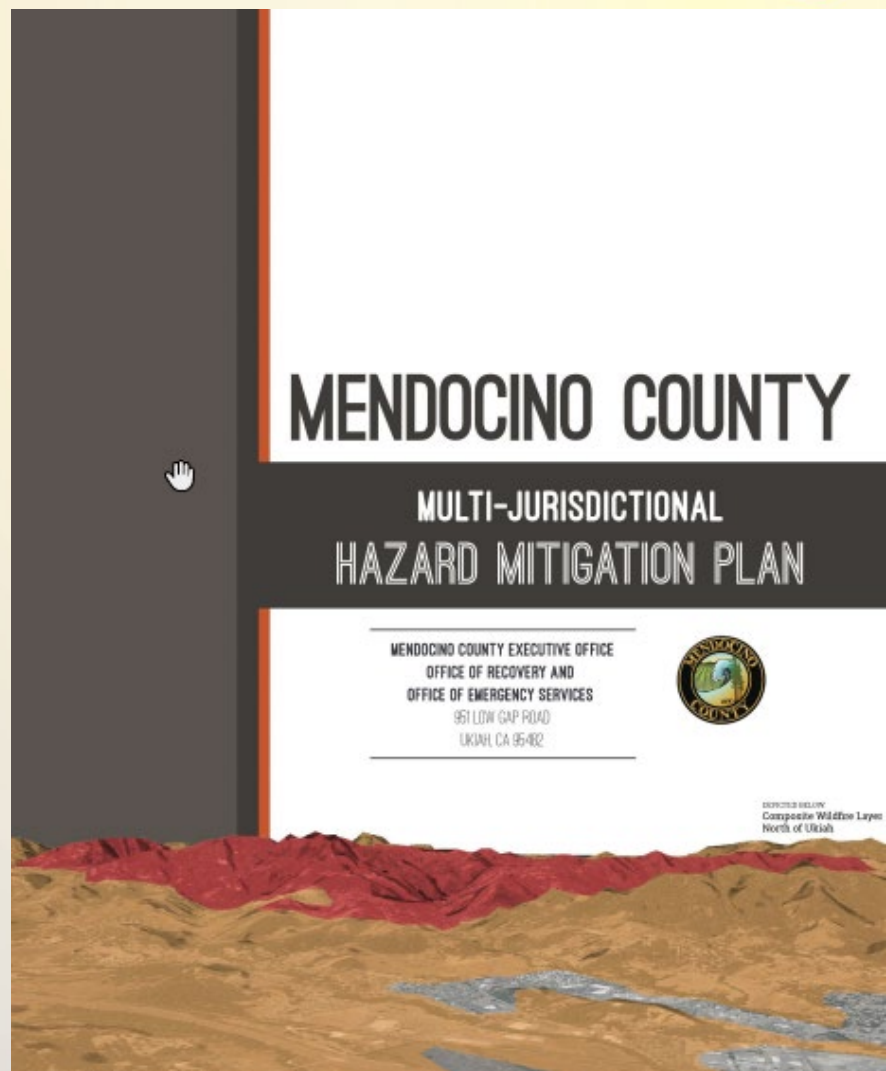
- Mitigation Planning Defined
- Unified FEMA Grant Program
- 2020 Improvements
- Next Steps





Background

- Update of Mendocino County's 2014 multi-jurisdiction HMP
- Approval of plan and updates is condition of mitigation grant assistance
- FEMA requires an update every 5 years to remain grant eligible



FEMA Authority under Disaster Mitigation Act (DMA) 2000 (Public Law 106-390).

MITIGATE HAZARDS



mitigatehazards.com

2020 Participating Jurisdiction Map

Mendocino County

Municipalities

City of Fort Bragg

City of Point Arena

City of Ukiah

City of Willits

Plus

Mendocino County Office of Education





Why have a Mitigation Plan?

- Reduce exposure and increase protection for:
 - Residents.
 - Infrastructure (County, city, and district).
- Assist public to become more self-sustaining and self-reliant.
- Ensure safe development into future.
- Support FEMA / Cal OES grant opportunities.
- Apply directly to Cal OES for funding.





FEMA “Unified” Mitigation Programs



Hazard Mitigation Grant Program (HMGP)



Pre-Disaster Mitigation (PDM)

New in 2020:

Building Resilient Infrastructure and Communities (BRIC)



Flood Mitigation Assistance (FMA)



Hazard Mitigation Assistance Guidance

Hazard Mitigation Grant Program, Pre-Disaster Mitigation Program, and Flood Mitigation Assistance Program






February 27, 2015



Federal Emergency Management Agency
Department of Homeland Security
500 C Street, S.W.
Washington, DC 20472





National Benefit-Cost Ratio (BCR) Per Peril <i>*BCR numbers in this study have been rounded</i> Overall Hazard Benefit-Cost Ratio	Beyond Code Requirements \$4:1	Federally Funded \$6:1	
 Riverine Flood	\$5:1	\$7:1	
 Hurricane Surge	\$7:1	Too few grants	
 Wind	\$5:1	\$5:1	
 Earthquake	\$4:1	\$3:1	
 Wildland-Urban Interface Fire	\$4:1	\$3:1	

Source: National Institute of Building Sciences, 2017 Report





City of Fort Bragg example hazard vulnerability

From City's Annex to the Mendocino County Multi-Jurisdictional Hazard Mitigation Plan, Volume 2



Risk Assessment Matrix Definitions

PROBABILITY RATING

The likelihood of a hazard event occurring within a time period?

PROBABILITY	Highly Likely	Highly likely - 100% annual probability. Or Likely to occur every year in your lifetime.
	Likely	Likely - between 10 & 100% annual probability. Or will occur several times in your lifetime.
	Possible	Possible - between 1 & 10% annual probability. Or Likely to occur some time in your lifetime.
	Unlikely	Unlikely - less than 1% annual probability. Or unlikely but possible to occur in your lifetime.

To concentrate resources, the jurisdictional planning team will focus on "High" and "Extreme" risk hazards. These hazards have the higher probability and greater impact as it relates to the jurisdictions planning area.

Hazard definitions are included in Vol. 1 of this plan. Some hazards are discussed as subset hazards— e.g., "Dam Failure" within the "Flood" hazard profile. If a hazard is not present on the risk matrix or are grey in color, the jurisdictional planning team felt the hazard had a minimal footprint within their planning area and was not ranked.

Hazard Information / Legend:



Climate Change impacts will be addressed at the end of each hazard section within the 2020 plan update and as a stand alone section for each jurisdiction...

For County and Municipal governments you will be required to address climate change impacts in the Safety Element of your General Plan. Climate change may change the frequency, duration and intensity of hazards listed above.



Pandemic will be profiled for every jurisdiction.

IMPACT RATING

In terms of injuries, damage, or death, would you anticipate impacts to be minor, limited, critical, or catastrophic when a significant hazard event occurs? The impact could be in terms of one hazard event (flooding from a culvert failure) or a large-scale event (multiple rivers flooding) in the same jurisdictional boundary.

IMPACT			
Minor	Limited	Critical	Catastrophic









Minor - very few injuries, if any. Only minor property damage & minimal disruption on quality of life. Temporary shutdown of critical facilities.

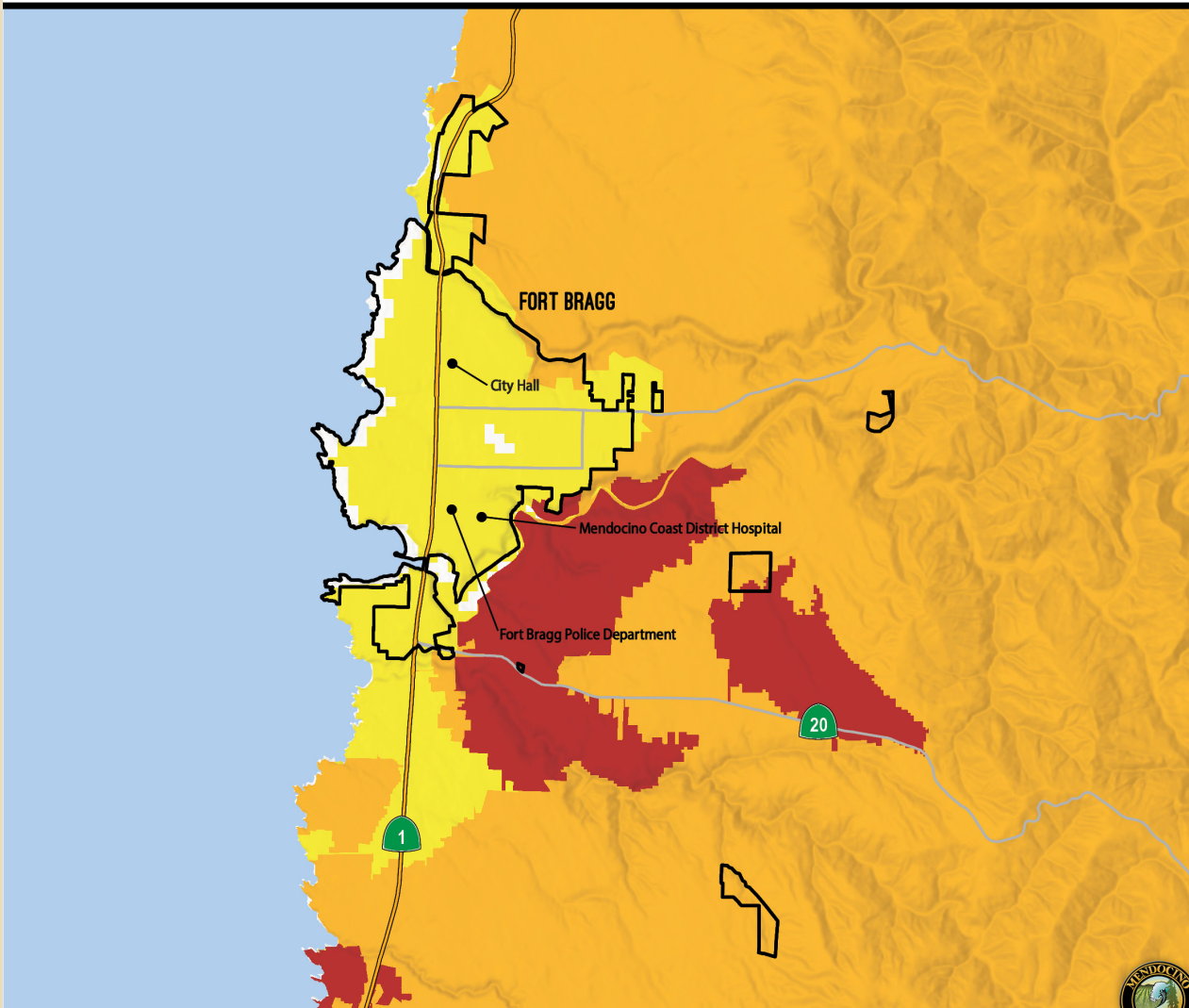
Limited - minor injuries only. Approx. 10% or less of property in disaster footprint damaged or destroyed. Complete shutdown of critical facilities for more than one day.

Critical - multiple deaths/injuries possible. Between 25% and 50% of property in disaster footprint is damaged or destroyed. Complete shutdown of critical facilities for more than one week.

Catastrophic - high number of deaths/injuries possible. More than 50% of property in affected area damaged or destroyed. Complete shutdown of critical facilities for 30 days or more.

City of Fort Bragg Risk Matrix

		IMPACT				
		Minor	Limited	Critical	Catastrophic	
PROBABILITY	Highly Likely	Medium	 EXTREME WEATHER	 SLOPE FAILURE	 WILDFIRE	Extreme
	Likely	 SOIL HAZARD	 FLOOD	 DROUGHT		Extreme
	Possible	Low	Medium	High	 EARTHQUAKE	
	Unlikely	 DAM FAILURE	Low	Medium	Medium	



EXPOSURE SUMMARIES*

POPULATION COUNT IN HAZARD AREA

Count	Exp. Rate**
582	8%
Count Includes:	H VH

PARCEL COUNT IN HAZARD AREA

Count	Exp. Rate**
23	1%
Count Includes:	H VH

PARCEL VALUE IN HAZARD AREA

Sum of Improvement Value	Exp. Rate**
\$5,108,325	1%
Sum of Content Value	
\$3,068,887	1%
Count Includes:	H VH

CRITICAL INFRASTRUCTURE COUNTS IN HAZARD AREA

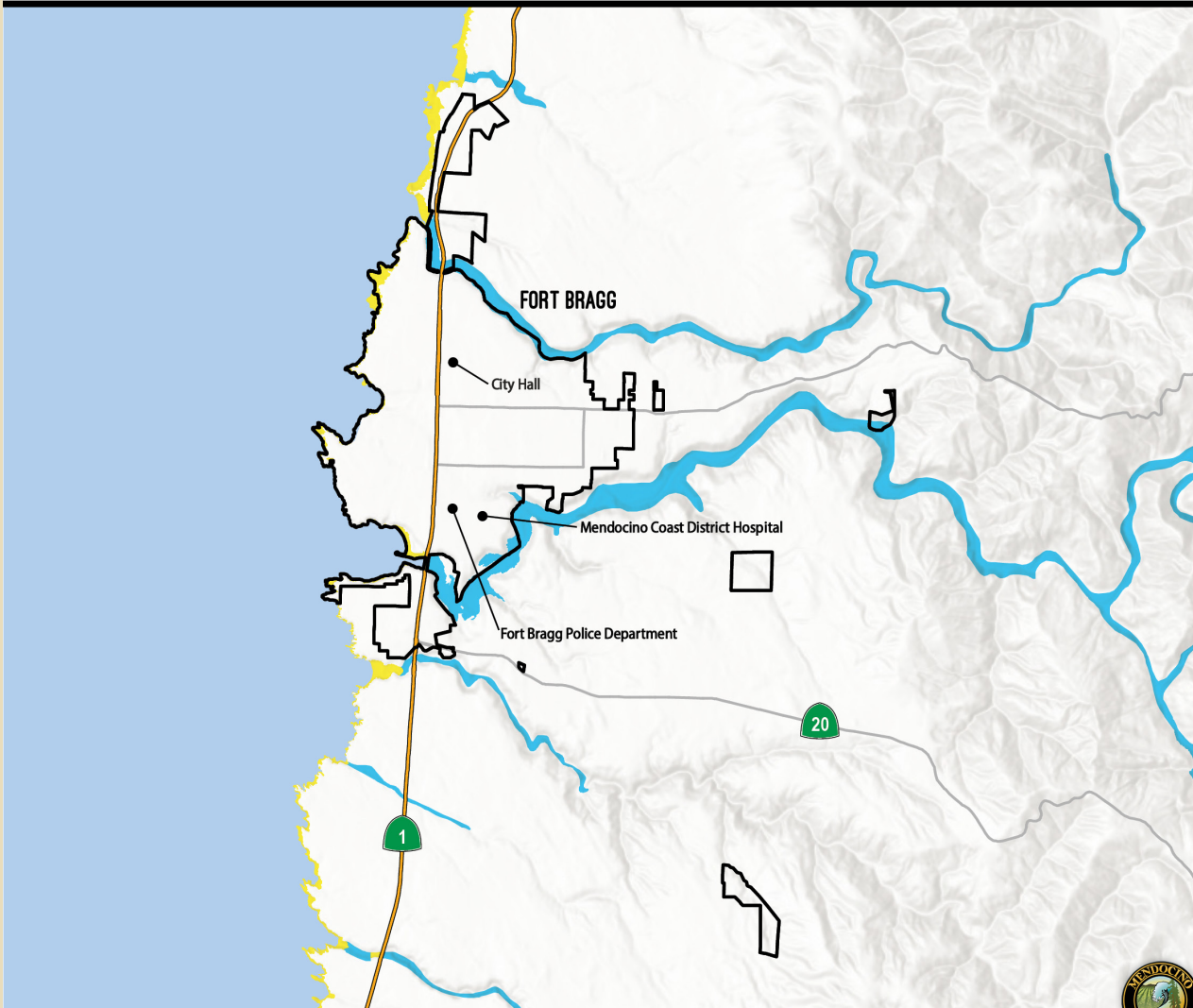
Infrastructure Category	Count	Exp. Rate**	Count/Sum Includes:
Essential Facilities	1	8%	H VH
High Potential Loss	10	7%	
Transportation & Lifeline	0	0%	2 3%

Sum of Transportation & Lifeline Linear Mileage



*Exposure summaries include high and very high wildfire classes. Hazard data source: Cal Fire, CPUC.

**Exposure Rate - Exposed summary or count as a percentage of total summary or count within jurisdiction.



EXPOSURE SUMMARIES*

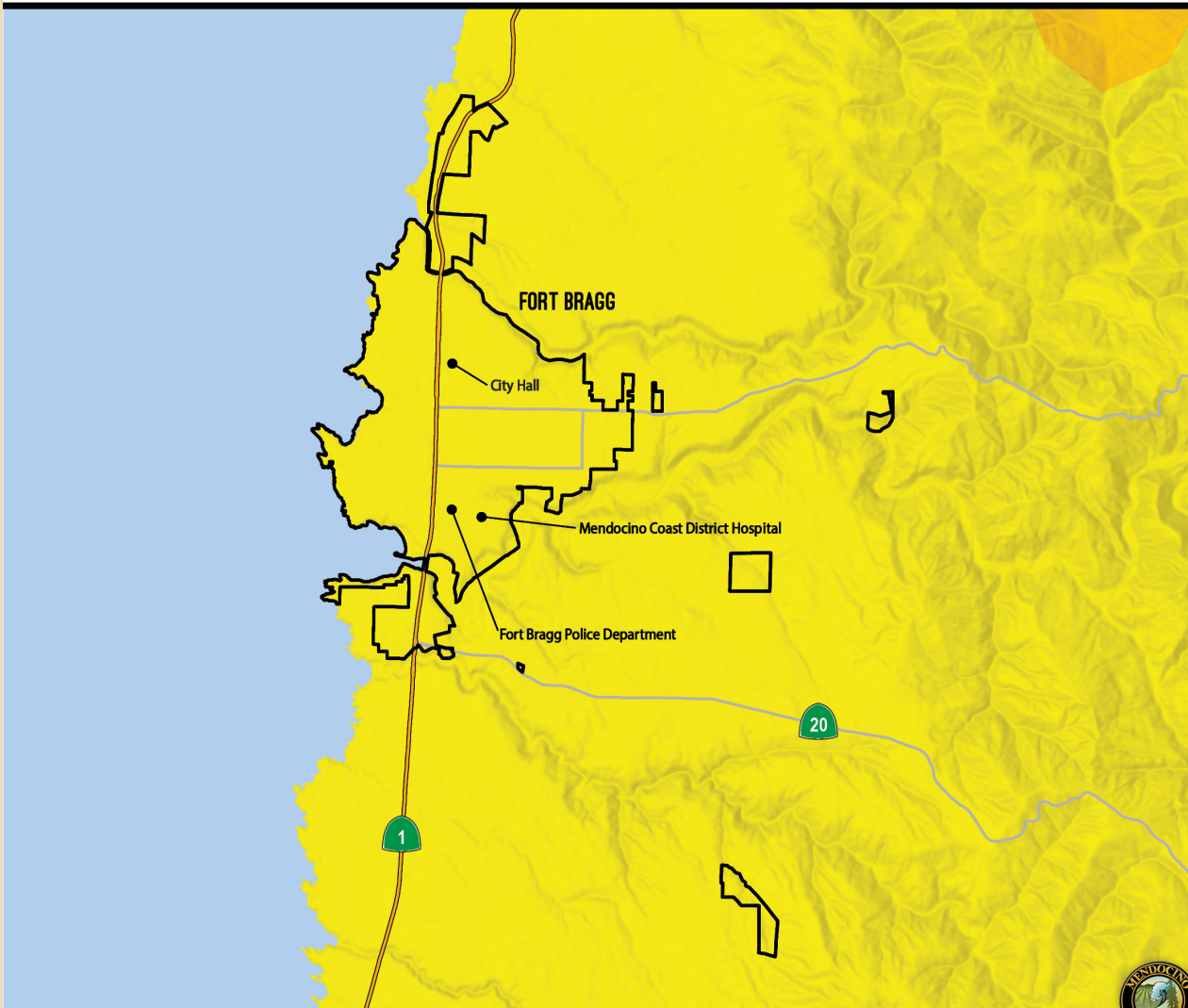
POPULATION COUNT IN HAZARD AREA		PARCEL COUNT IN HAZARD AREA	
Count	Exp. Rate**	Count	Exp. Rate**
348	5%	2	0%
Count Includes: 100 + + 500		Count Includes: 100 + + 500	

PARCEL VALUE IN HAZARD AREA	
Sum of Improvement Value	Exp. Rate**
\$1,797,784	0%
Sum of Content Value	
\$898,892	0%
Count Includes: 100 + + 500	

CRITICAL INFRASTRUCTURE COUNTS IN HAZARD AREA			
Infrastructure Category	Count	Exp. Rate**	Count/Sum Includes:
Essential Facilities	0	0%	100 + + 500
High Potential Loss	2	1%	Sum of Transportation & Lifeline Linear Mileage
Transportation & Lifeline	0	0%	1 1%



*Exposure summaries include 100YR, 500YR and 100YR Coastal Zones. Hazard data source: FEMA.
 **Exposure Rate - Exposed summary or count as a percentage of total summary or count within jurisdiction.



EXPOSURE SUMMARIES*

POPULATION COUNT IN HAZARD AREA

Count	Exp. Rate**
7,269	100%
Count Includes:	S+++E

PARCEL COUNT IN HAZARD AREA

Count	Exp. Rate**
2,290	100%
Count Includes:	S+++E

PARCEL VALUE IN HAZARD AREA

Sum of Improvement Value	Exp. Rate**
\$430,594,668	100%
Sum of Content Value	
\$247,928,168	100%
Count Includes:	S+++E

CRITICAL INFRASTRUCTURE COUNTS IN HAZARD AREA

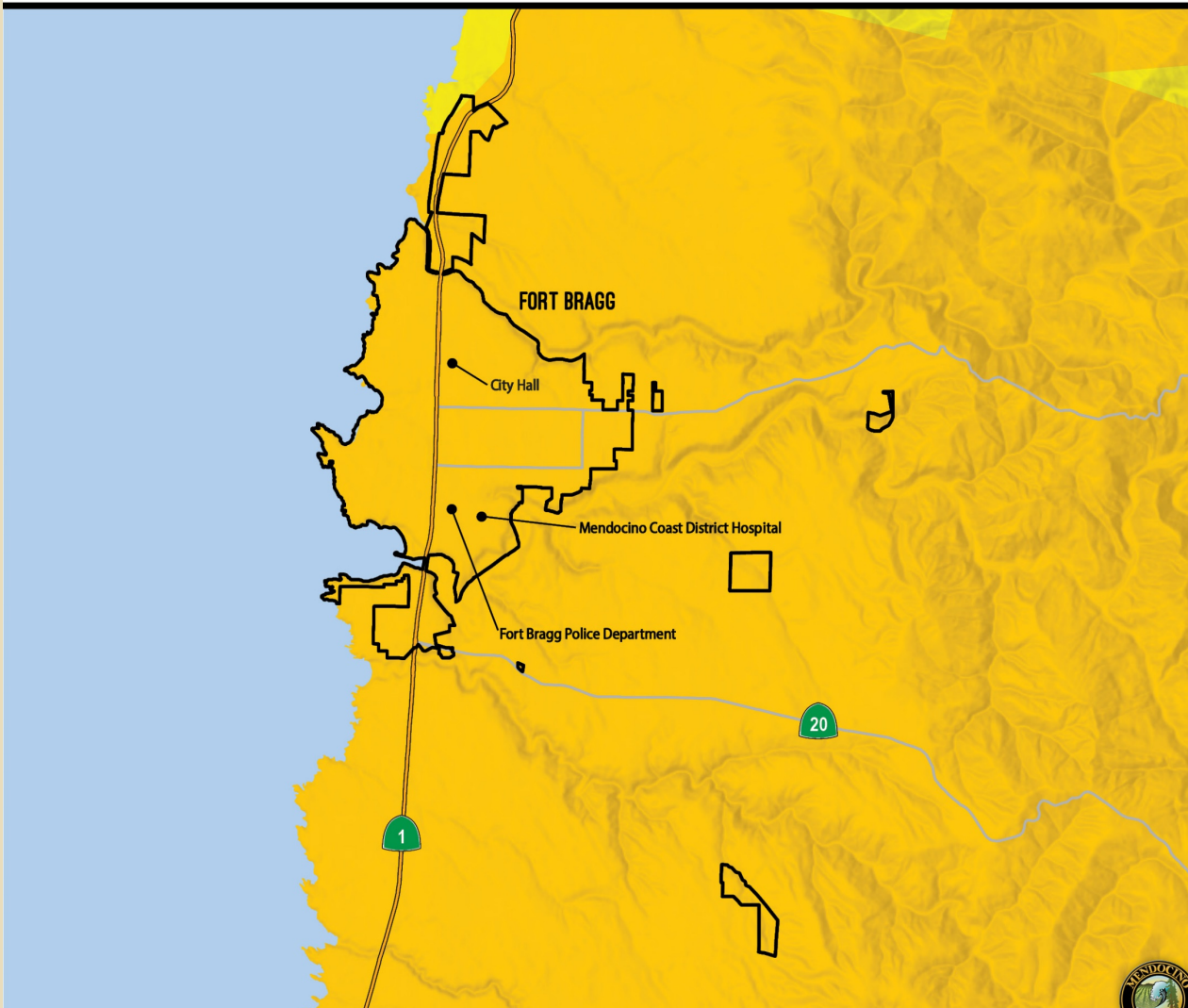
Infrastructure Category	Count	Exp. Rate**	Count/Sum Includes:
Essential Facilities	13	100%	S+++E
High Potential Loss	143	100%	Sum of Transportation & Lifeline Linear Mileage
Transportation & Lifeline	6	100%	

MAP LEGEND



*Exposure summaries include violent, severe, very strong and strong shake zones. Hazard data source: USGS.

**Exposure Rate - Exposed summary or count as a percentage of total summary or count within jurisdiction.



EXPOSURE SUMMARIES*

POPULATION COUNT IN HAZARD AREA

Count: **7,269**
 Exp. Rate**: **100%**
 Count Includes: **S+++E**

PARCEL COUNT IN HAZARD AREA

Count: **2,290**
 Exp. Rate**: **100%**
 Count Includes: **S+++E**

PARCEL VALUE IN HAZARD AREA

Sum of Improvement Value: **\$430,594,668**
 Exp. Rate**: **100%**

Sum of Content Value: **\$247,928,168**
 Exp. Rate**: **100%**
 Count Includes: **S+++E**

CRITICAL INFRASTRUCTURE COUNTS IN HAZARD AREA

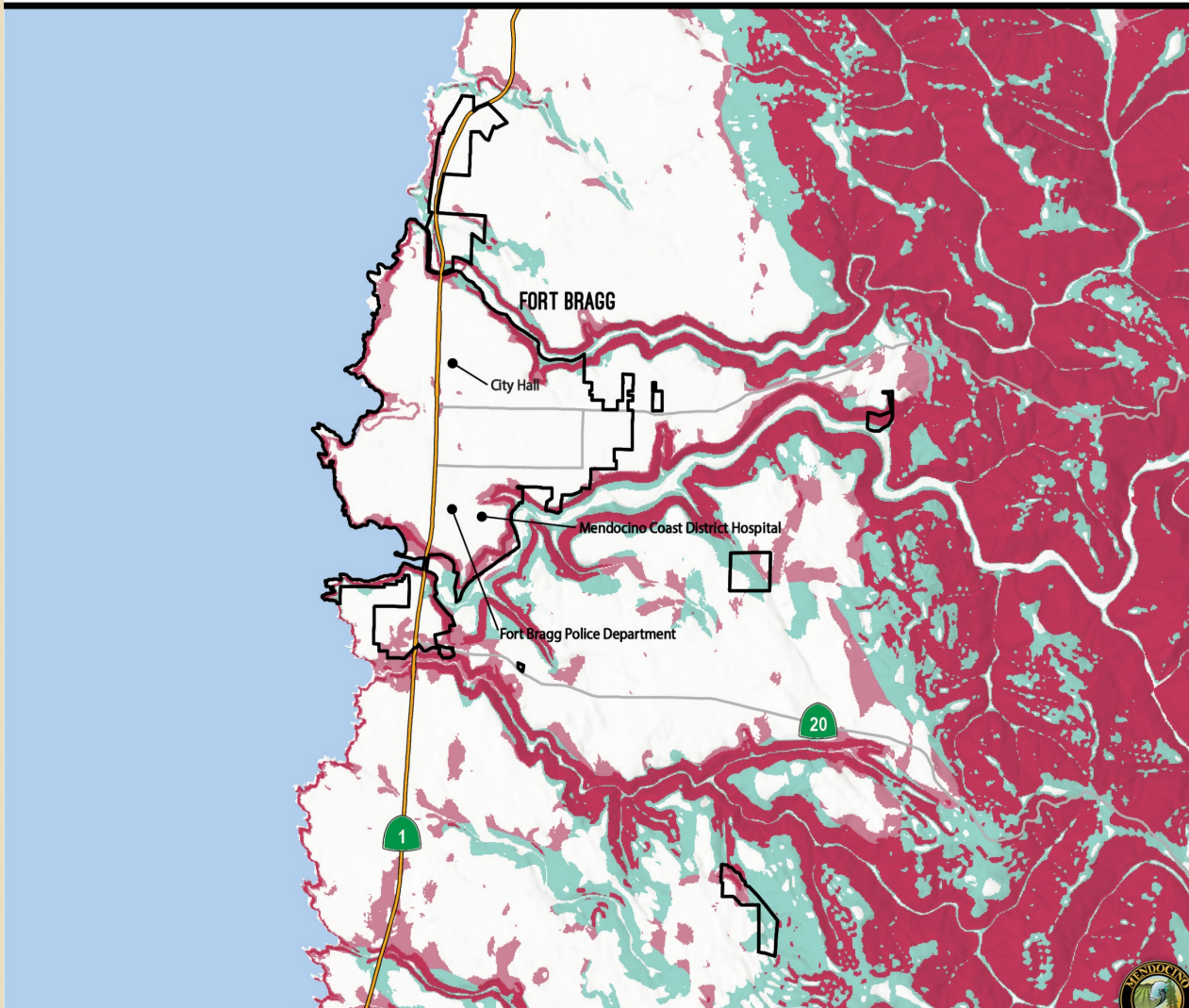
Infrastructure Category	Count	Exp. Rate**	Count/Sum Includes:
Essential Facilities	13	100%	S+++E
High Potential Loss	143	100%	
Transportation & Lifeline	6	100%	85 <small>Sum of Transportation & Lifeline Linear Mileage</small>

MAP LEGEND



*Exposure summaries include violent, severe, very strong and strong shake zones. Hazard data source: USGS.

**Exposure Rate - Exposed summary or count as a percentage of total summary or count within jurisdiction.



EXPOSURE SUMMARIES*

POPULATION COUNT IN HAZARD AREA

Count	Exp. Rate**
544	7%
Count Includes:	HIGH

PARCEL COUNT IN HAZARD AREA

Count	Exp. Rate**
52	2%
Count Includes:	HIGH

PARCEL VALUE IN HAZARD AREA

Sum of Improvement Value	Exp. Rate**
\$11,329,907	3%

Sum of Content Value	Exp. Rate**
\$5,941,677	2%
Count Includes:	HIGH

CRITICAL INFRASTRUCTURE COUNTS IN HAZARD AREA

Infrastructure Category	Count	Exp. Rate**	Count/Sum Includes:
Essential Facilities	0	0%	HIGH
High Potential Loss	1	1%	Sum of Transportation & Lifeline Linear Mileage
Transportation & Lifeline	2	33%	

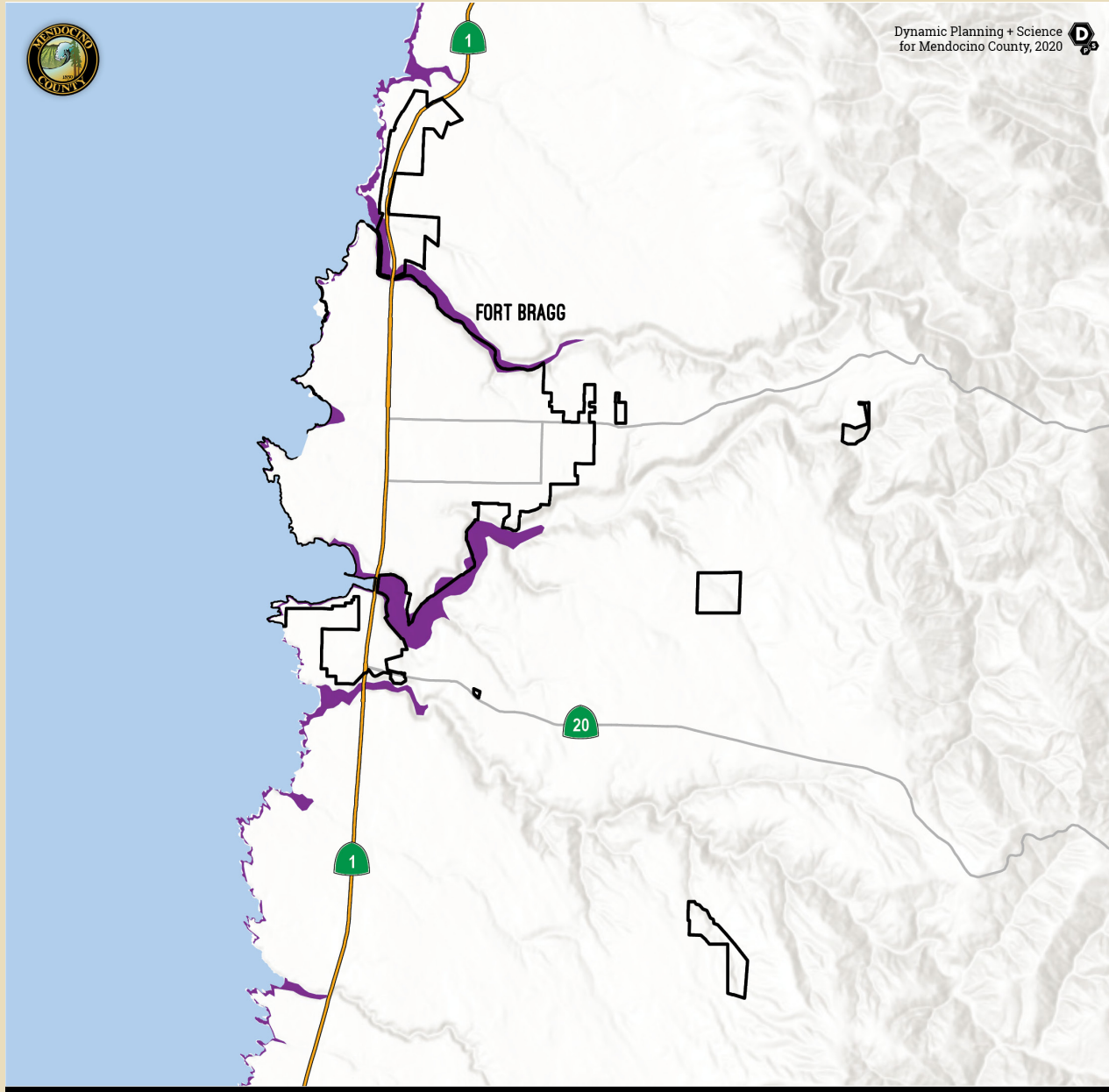
MAP LEGEND



*Exposure summaries include high landslide risk exposure areas. Hazard data source: CGS.

**Exposure Rate - Exposed summary or count as a percentage of total summary or count within jurisdiction.





TSUNAMI RUN-UP AREA FORT BRAGG

*Data sources: CGS.

MAP LEGEND

TSUNAMI RUN-UP



Mitigation Application Support Tool (MAST) Example

Mendocino County MS

This application enables Mendocino County HMP stakeholders to explore & edit their mitigation strategy.

Please visit the more information link below to access video-based tutorials on how to use and this application and contribute to the 2020 HMP. This application enables exploration & edit capabilities to the relational database that stores the 2020 Mendocino County HMP mitigation strategy. This application has been designed to enable direct input from project stakeholders in an effort to create efficiencies and enhanced products for plan participants.

Please visit (url to come) for video-based tutorials on how to use and this application and contribute to the 2020 HMP.

OK

MORE INFORMATION

Mitigation Actions

Earthquake 6

- ! ma-EQ-MCO...**
Conduct seismic evaluations
- ! ma-EQ-MCO...**
Complete DSA Retrofits for n
- ! ma-EQ-MCO...**
Repair and Seismically Upgra
- ! ma-EQ-MCO...**
Install seismic shut-off valve
- ! ma-EQ-MCO...**
Retrofit non-compliant suspe

MA Details

Mitigation No.
! ma-EQ-MCOE-250

Hazard Type
Earthquake

Alternative Type
SP - Structural Projects

Title
Complete DSA Retrofits for non-wood frame structures built before July 1, 1978 (Category 2 Buildings) on AB300 list that require detailed seismic evaluation.

Year
2020

Fort Bragg Mitigation Action EGs

Mitigation No.	Hazard Type	Year	Title/Description
ma-CC-FB-204	Climate Change	2020	Develop project to address increased salinity in drinking water intakes due to reduced river levels (drought) paired with sea level rise or tsunami effects
ma-DR-FB-231	Drought	2020	Explore water supply contingency and alternative water supplies to improve water supply and delivery and wastewater treatment capacity in times of drought
ma-EQ-FB-9	Earthquake	2014	Seismically retrofit or replace public works and/or emergency response facilities that are necessary during and/or immediately after a disaster or emergency. Specific needs for fire department, corporation yard, and hospital.
ma-EQ-FB-12	Earthquake	2008	Develop an unreinforced masonry grant program to correct problems, such as bracing chimneys, on residential and nonresidential buildings.
ma-EW-FB-13	Extreme Weather	2008	Install underground utilities or clear right-of-way for utilities that provide power and communication to critical facilities and are at-risk to failure during a winter storm event.
ma-FL-FB-232	Flood	2020	Develop a public outreach program that informs property owners located in areas of concern for flood but not necessarily in flood zone, such as Ocean Lake Mobile Home Park, about voluntary flood insurance.
ma-PN-FB-236	Pandemic	2020	Develop alternative sheltering/ evacuation locations for distancing required during pandemic and other hazard event
ma-SF-FB-237	Slope Failure	2020	Retrofit well and water delivery pipes frequently subjected to landslides.
ma-WF-FB-7	Wildfire	2014	Develop a community wildfire mitigation plan that identifies and prioritizes areas for hazard fuel reduction treatments and recommends the types of methods of treatments.



Next Steps

- Public Reviews and Submittal Preparation
(completed Oct 26)
- Initial submittal to FEMA and Cal OES for review
(submitted Oct 29)
- Final FEMA and Cal OES review and approval (~2 Months)
- Adoption proceeding from participating jurisdictions **(That's this meeting!)**
- FEMA Approval



Next 5 Years

- Grant Monitoring
- Technical Assistance
- Pre- and Post-Disaster mitigation support
- Bi-Annual Check-Ins of Planning Committee
- Updates to Website and MAST
- Updates to community regarding available resources





Thank You!!!

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