



FINAL
JANUARY 28, 2025
Resolution 2025-03
2025 Safety Element Update

SAFETY ELEMENT

Attachment 1 - 2021-55 Reso Adopting 2020
Kern JMHMP_081021

Attachment 2 - City of Arvin 2020 MJHMP

Prepared by:
City of Arvin
Community
Development
Department

SAFETY ELEMENT

Attachment 1 - 2021-55 Reso Adopting 2020 Kern JMHMP_081021

RESOLUTION NO. 2021-55

**A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF ARVIN
ADOPTING THE UPDATED KERN MULTI-JURISDICTION HAZARD
MITIGATION PLAN; AND AUTHORIZING RELATED ACTIONS.**

Section 1. WHEREAS:

- (a) The City of Arvin, a political subdivision of the State of California, is an official participating jurisdiction in the updated Kern Multi-Jurisdiction Hazard Mitigation Plan ("MJHMP"); and
- (b) The City of Arvin recognizes the updated MJHMP as the official hazard mitigation plan for participating jurisdictions; and
- (c) The City of Arvin has gathered information and prepared the updated MJHMP in accordance with Federal Emergency Management Agency (FEMA) requirements at 44 CFR § 201.6; and
- (d) Volume 1 of the updated MJHMP recognizes the threat that natural hazards pose to people and property Kern County-wide; and
- (e) The City of Arvin's Annex to Volume 1 of the updated MJHMP provides additional information specific to the The City of Arvin, with a focus on providing additional details on the planning process, risk assessment, and mitigation strategy for this community; and
- (f) The City of Arvin has reviewed Volume 1 of the updated MJHMP and its Annex and affirms that the plan actions in Volume 1 and its Annex should reduce the potential for harm to people and property from future hazard occurrences within the community; and
- (g) The U. S. Congress passed the Disaster Mitigation Act of 2000 ("Disaster Mitigation Act") emphasizing the need for pre-disaster mitigation of potential hazards; and
- (h) The Disaster Mitigation Act made available mitigation grants to state and local governments; and
- (i) An adopted hazard mitigation plan is required as a condition of future funding for mitigation projects under multiple FEMA pre- and post-disaster mitigation grant programs; and
- (j) The City of Arvin fully participated in the FEMA-prescribed mitigation planning process to prepare this updated MJHMP; and
- (k) The residents were afforded opportunities to comment and provide input in the updated MJHMP and the mitigation actions in the Plan; and
- (l) The City of Arvin, as a fully participating jurisdiction of the updated MJHMP, is an eligible sub-applicant to the State of California under FEMA's hazard mitigation grant program guidance; and

(m) The California Office of Emergency Services (Cal OES), and the FEMA Region IX officials have reviewed the updated MJHMP, and approved it contingent upon this official adoption by the participating governing body; and

(n) The City of Arvin desires to comply with the requirements of the Disaster Mitigation Act and to augment its emergency planning efforts by formally adopting the updated MJHMP; and

(o) Adoption by the governing body for the The City of Arvin demonstrates the jurisdiction's commitment to fulfilling the mitigation goals and objectives outlined in this updated MJHMP; and

(p) Adoption of this plan helps to coordinate the responsible agencies to carry out their responsibilities under the updated MJHMP.

Section 2. NOW, THEREFORE, BE IT RESOLVED THAT: The City Council of the City of Arvin does hereby:

1. This City Council of the City of Arvin finds the facts mentioned above to be true and further finds that this The City Council of the City of Arvin has jurisdiction to consider, approve, and adopt the subject of this Resolution.

2. This City Council of the City of Arvin does hereby adopt the updated Kern Multi-Jurisdiction Hazard Mitigation Plan Volume 1 and its Annex, as approved by FEMA and Cal OES, as the official mitigation plan for The City of Arvin.

3. This City Council of the City of Arvin will consider adopting the updated Kern Multi-Jurisdiction Hazard Mitigation Plan by reference into the safety element of their general plan to conform with AB 2140.

4. This City Council of the City of Arvin authorizes the Director of Kern County Emergency Services to submit an approved and signed copy of this adoption resolution to the California Office of Emergency Services and FEMA Region IX officials to enable the plan's final approval in accordance with the requirements of the Disaster Mitigation Act of 2000.

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I HEREBY CERTIFY that the foregoing resolution was passed and adopted by the City Council of the City of Arvin at a regular meeting thereof held on the 10th day of August 2021 by the following vote:

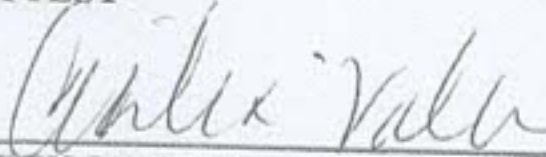
AYES: CM Reyes, CM Horton, CM Borrelli, Mayor Trujillo

NOES: _____

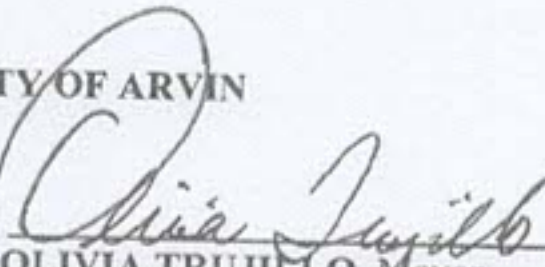
ABSTAIN: _____

ABSENT: MPT Franetovich

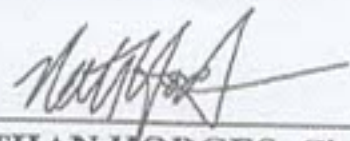
ATTEST


CECILIA VELA, City Clerk

CITY OF ARVIN

By: 
OLIVIA TRUJILLO, Mayor

APPROVED AS TO FORM:

By: 
NATHAN HODGES, City Attorney
Hodges Law Group

I, _____, City Clerk of the City of Arvin, California, **DO HEREBY CERTIFY** that the foregoing is a true and accurate copy of the Resolution passed and adopted by the City Council of the City of Arvin on the date and by the vote indicated herein.

Attachment 2 - City of Arvin 2020 MJHMP



KERN COUNTY

MULTI-JURISDICTION HAZARD MITIGATION PLAN

PARTICIPATING JURISDICTION ANNEX

MUNICIPALITY



CITY OF ARVIN



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Kern County

Multi-Jurisdiction Hazard Mitigation Plan

CITY OF ARVIN (AR.)

Municipal Participating Jurisdiction Annex

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Adoption Record

To comply with DMA 2000, the County Board of Supervisors and participating jurisdictions have officially adopted this Kern County Multi-Jurisdictional Hazard Mitigation Plan Volume 1 and Volume 2. The adoption of the MJHMP in its entirety recognizes the jurisdictions' commitment to reducing the impacts of natural hazards within the County and Cities. See below record of adoption.



Section 1. City of Arvin

1.1 Purpose

This Annex details the hazard mitigation planning elements specific to the City of Arvin. This Annex is not intended to be a standalone document but appends to and supplements the information contained in the umbrella plan document. As such, all sections of the umbrella plan, including the planning process and other procedural requirements apply to and were met by the City of Arvin. This Annex provides additional information specific to the City of Arvin, with a focus on providing additional details on the planning process, risk assessment, and mitigation strategy for this community.

Hazard Mitigation Plan Point of Contact

Primary Point of Contact

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Alternate Point of Contact

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City of Arvin
200 Campus Dr,
Arvin, CA 93203
Telephone: (661) 854-3134
e-mail Address: cvela@arvin.org

1.2 Planning Methodology

The City of Arvin followed the planning process detailed in Volume 1, Section 3, including participating in the County Hazard Mitigation Planning Committee (HMPC) and Steering Committee and formulating their own internal planning team to support the broader planning process. Internal planning participants, their positions, and how they participated in the planning process are shown in Table 1-1.

Table 1-1: Planning Committee Members

Planning Committee Members	Department
Christine Viterelli	Grant Writer
Cecilia Vela	City Clerk
Jerry Breckinridge	City Manager
Olan Armstrong	Lieutenant
Pawan Gill	Director of HR and Administrative Services

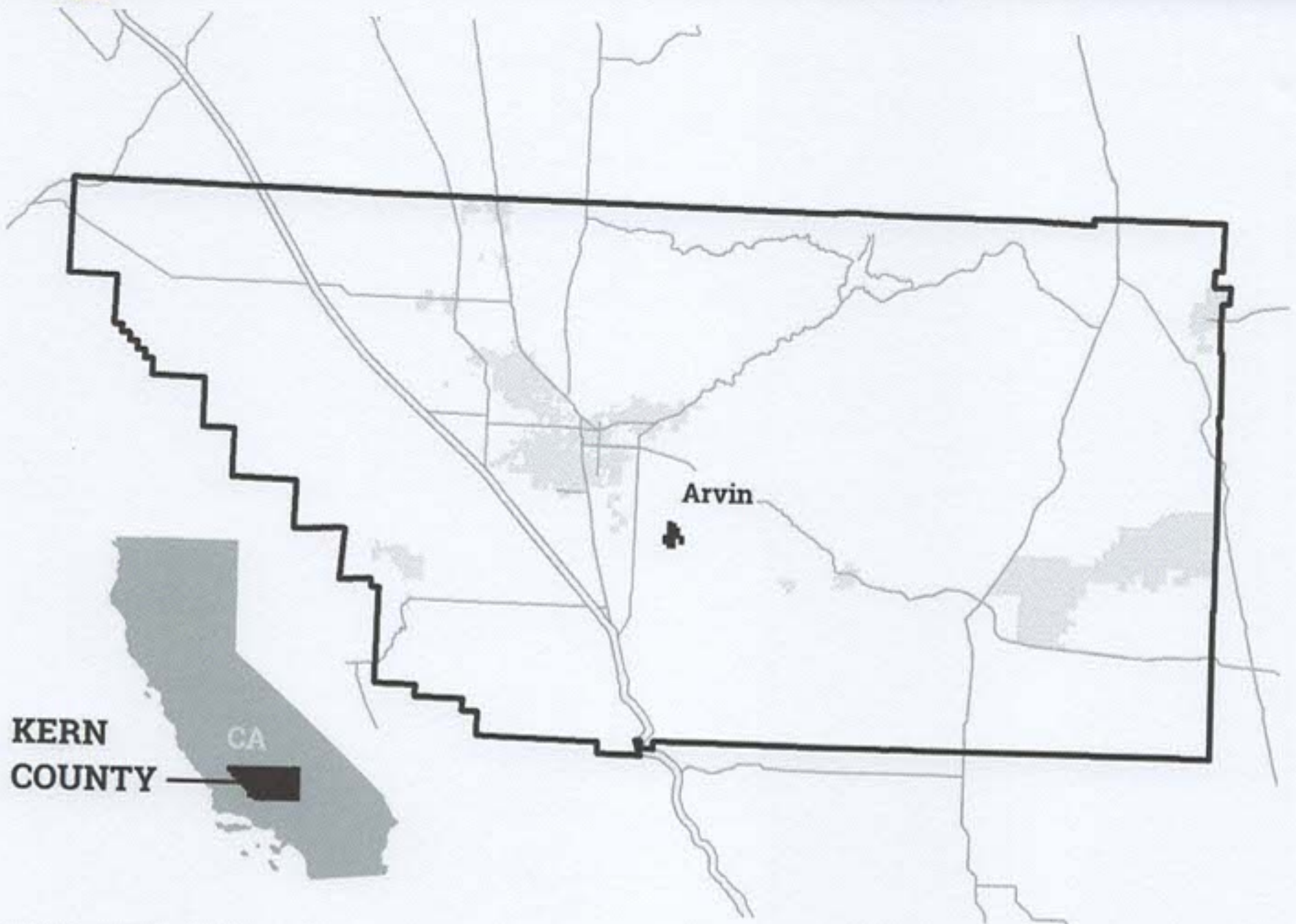


Figure 1-1 City of Arvin Location

1.3 What's New

The City of Arvin has been making improvements toward reducing natural hazard risks to life and property since the existing MJHMP was adopted. The City reevaluated previous mitigation actions, including considerations of progress made on mitigation efforts, and retained them as pending or ongoing; no tables for completed or cancelled mitigation actions are included. Ongoing and pending mitigation actions are described in Table 1-9.



1.4 Risk Assessment

The intent of this section is to profile the City of Arvin's hazards and assess the City's vulnerabilities, distinct from that of the County wide planning area. The hazard profiles in Volume 1 discuss overall impacts to the planning area and describes the hazard problem description, hazard extent, magnitude/severity, previous occurrences of hazard events and the likelihood of future occurrences. For more information on Risk Assessment Methodologies, see Vol. 1 and Appendix A.

1.4.1 Hazard Screening Criteria

Planning Team members from each participating jurisdiction collectively discussed which hazards should be profiled in the Plan and which should not. The results of that discussion can be found in Table 1-2. Detailed hazard profiles of the most significant County wide hazards are described in Section 4 of Volume 1. The Planning Team reviewed previously-prepared hazard mitigation plans and other relevant documents to determine the realm of natural hazards that have the potential to affect the City of Arvin. Table 1-3 provides a crosswalk of hazards identified in Vol. 1 of this plan, the City of Arvin General Plan, and 2018 California State Hazard Mitigation Plan. The crosswalk was used to develop a preliminary hazards list, providing a framework for the Planning Team members to evaluate which hazards were truly relevant to the City of Arvin and which ones were not. Section 1.4.2 below describes the hazard risk ranking process that was performed by the planning team which prioritized hazards that are specifically relevant to the City of Arvin.



Table 1-2. Hazard Prioritization

Hazard Type	Explanation
Climate Change	High priority county wide, profiled as part of Flood, Wildfire, and Severe Weather hazard.
Dam failure	High priority county wide, profiled hazard.
Drought	High priority county wide, profiled hazard
Dust Storms	High priority county wide; profiled as part of Severe Weather
Earthquake/ Geologic Hazards	High priority county wide, profiled hazard
Extreme Heat	Profiled as part of Severe Weather hazard
Extreme Cold	Extreme cold is rare in Kern County and not profiled in this plan
Flood	High priority county wide, profiled hazard
Hail	Hail events are rare in Kern County and not profiled in this plan
Fog	While fog events do occur within Kern County, they are rare and are not considered a priority
Hazardous Material	While hazardous materials can release and impact the County, there are better avenues to address this hazard outside this Plan.
High Winds/ Straight Line Winds	High priority county wide, profiled as part of Severe Weather
Insect Hazards	While insects including Africanized honey bee and pine bark beetle exist in Kern County, this was not considered a priority and pests are not profiled in this plan
Levee Failure	High priority county wide, profiled as part of Dam Failure
Lightning	Lightning was not identified as a priority for this plan.
Pandemic Disease	While pandemic disease can impact the County, there are better avenues to address this hazard outside this plan.
Radon	This hazard was not identified as a priority
Severe Thunderstorm	Severe thunderstorms are rare in Kern County and not profiled in this plan.
Slope Failure	High priority county wide, profiled hazard
Soil Hazards	High priority county wide, profiled hazard
Terrorism/Human Caused Threats	While terrorism is certainly a threat to the County and participating jurisdictions, it is best addressed in other plans as this HMP does not address human caused threats.
Tornado	Impacts to the County from tornados are extremely unlikely, if any.
Volcanic Activity	Due to distance from volcanoes and the limited chance of an eruption, this hazard was not identified as a priority.
Wildfire	High priority county wide, profiled hazard
Winter Storm / Freeze Events	Profiled as part of Severe Weather hazard



Table 1-3 Document Review Crosswalk

Hazards	2014 Kern County MJHMP	2012 Arvin General Plan	2009 Kern County General Plan	2018 California State HMP
Agricultural Pests		■		■
Climate Change	■	■		■
Dam Failure	■		■	■
Drought	■			■
Earthquake	■		■	■
Flood	■	■	■	■
Insect Hazards	■			■
Landslide	■		■	■
Levee Failure	■			■
Manmade Hazards			■	■
Pandemic Disease	■			■
Sea Level Rise				■
Severe Weather	■			■
Soil Hazards	■	■	■	■
Terrorism & Tech Hazards				■
Tsunami				■
Volcano	■			■
Wildfire	■		■	■

1.4.2 Hazard Risk Ranking

The City of Arvin's Planning Team used the same hazard prioritization process as the Kern County Planning Committee. This process is described in detail in Section 4.3.1 of Vol. 1. Figure 1-2 displays the results of the hazard risk ranking exercise that was performed by the Planning Team. The Planning Team chose to assess the City of Arvin's vulnerability to the following hazards:

- flood
- drought
- earthquake
- soil stability

All of these hazards have been profiled in Vol. 1 of this document. The purpose of this annex is to specifically address the City of Arvin's vulnerability to these specifically-identified hazards.



1.4.3 Vulnerability Assessment

Assessing vulnerabilities exposes the unique characteristics of individual hazards and begins the process of narrowing down which areas within the City of Arvin are vulnerable to specific hazard events. The vulnerability assessment considered unique local knowledge of hazards and impacts and a GIS overlaying method for examining such vulnerabilities more in depth. Using these methods, participating jurisdictions estimated vulnerable populations, infrastructure, and potential losses from hazards.

1.4.3.1 Risk Assessment

Each participating jurisdiction developed a risk matrix that assessed the probability and impact of various hazards within the jurisdiction. Figure 1-2 is the jurisdiction's risk assessment, which was completed in part using the web based and interactive Risk Assessment Mapping Platform (RAMP), accessed via the project website at www.mitigatehazards.com. RAMP allows interactive discovery of robust risk, vulnerability, and exposure data developed especially for Kern County. RAMP is a mapping platform built specifically for mitigation planning. It displays County/jurisdiction facilities and buildings overlaid with natural hazards layers to bring interactivity and individual discovery to the GIS analysis performed for the MJHMP. See Vol. 1 for a detailed description of RAMP. The Planning Team used RAMP in meetings and as needed to understand vulnerabilities to the City of Arvin. Users interactively filter facilities and buildings by natural hazard zones and/or construction characteristics.

1.4.3.2 Snapshot Exposure Maps

The included snapshot maps, displayed below in Figure 1-3 through Figure 1-6 illustrates the City of Arvin's vulnerability to specific hazards. Figures include:

- Figure 1-3: City of Arvin – FEMA Flood Zone Vulnerability & Exposure Snapshot
- Figure 1-4: City of Arvin – EQ S. San Andreas Mojave N. Vulnerability & Exposure Snapshot
- Figure 1-5: City of Arvin – Subsidence Vulnerability & Exposure Snapshot
- Figure 1-6: City of Arvin – Drought Severity Timeline – Middle Kern-Upper Tehachapi-Grapevine

Based on the above risk assessment, the snapshot maps focus on those hazards prioritized by the jurisdiction. These maps helped the Planning Team understand the exposure of population, parcels, and critical infrastructure to specific hazards. Each map contains an exposure summary that displays the percent of the population, the improvement and content value of parcels, and the amount of critical infrastructure that is exposed to each respective hazard.



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 may change the frequency, duration and intensity of hazards within each planning area. If applicable Climate Change impacts are described at the end of each section.
	Alluvial Fan deposits and issues in Kern County. This hazard is profiled and defined under "Slope Failure" in Vol. 1 of this plan.
	Soil Stability in Kern County includes Land Subsidence and Wind Erosion. Definitions for each are described in Vol. 1 of this plan.
	If hazard symbol is grey or not present, the jurisdictional planning team did not develop hazard vulnerability information related to the planning areas due to perceived probability and impact described above.

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 Arvin Risk Matrix

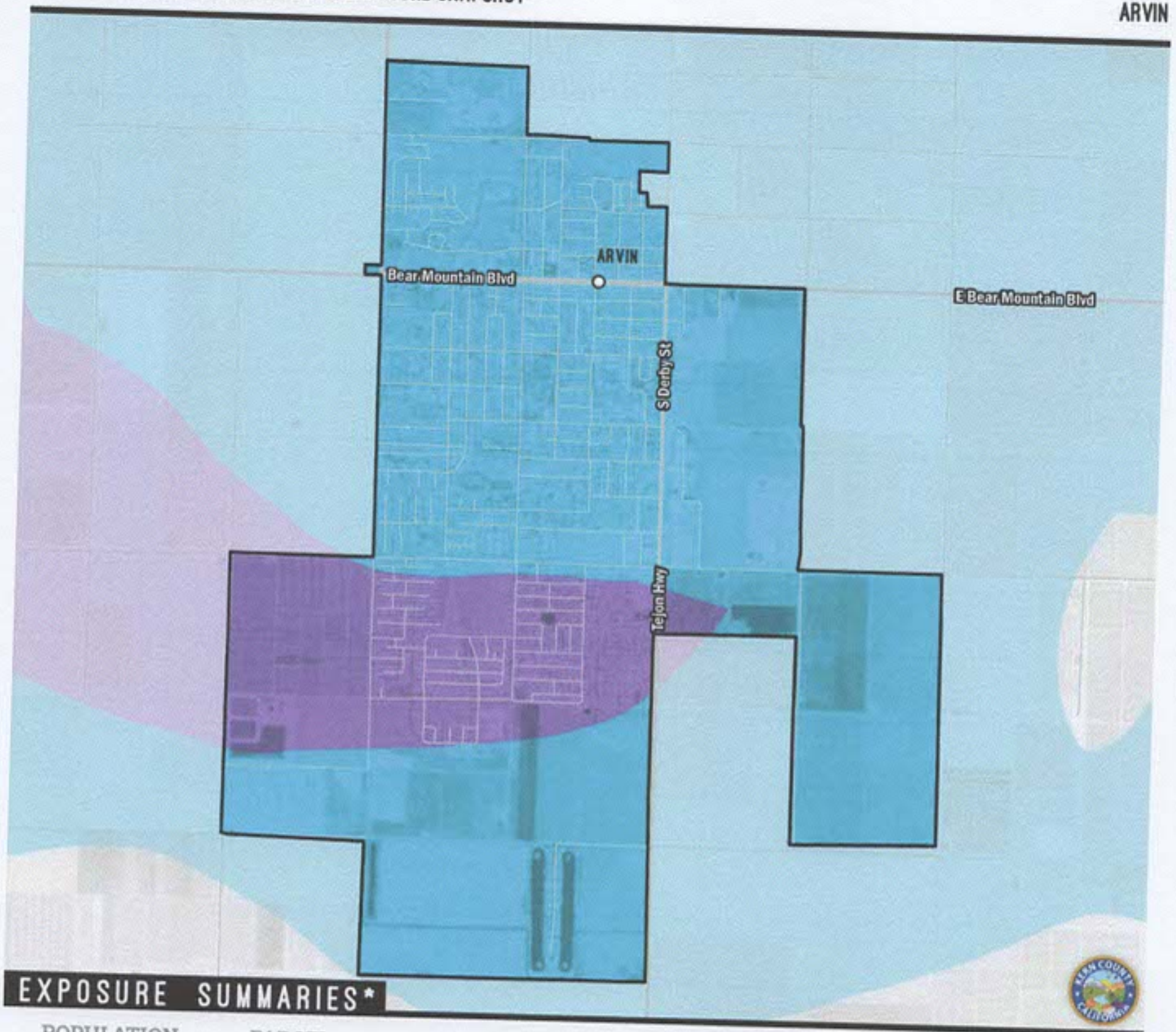
	IMPACT			
	Minor	Limited	Critical	Catastrophic
PROBABILITY	Highly Likely	Medium	High	Extreme
	Likely		High	Extreme
	Possible	Low		High
	Unlikely		Low	Medium

Figure 1-2: City of Arvin Risk Assessment



FEMA FLOOD ZONE VULNERABILITY & EXPOSURE SNAPSHOT

ARVIN



EXPOSURE SUMMARIES*

POPULATION		PARCEL		PARCEL VALUE		CRITICAL INFRASTRUCTURE	
COUNT		COUNT		IMPROVEMENT		COUNT	
20,331	100%	3,611	100%	\$324,972,386	100%	Essential Facilities	1 100%
				CONTENT		High Potential Loss	64 100%
				\$162,522,193	100%	Transportation & Lifeline	1 100%
							58 100%

*Exposure summaries include 100-year and 500-year flood zone areas. Hazard data source: FEMA.
(%) - Percent of respective category totals for jurisdiction.

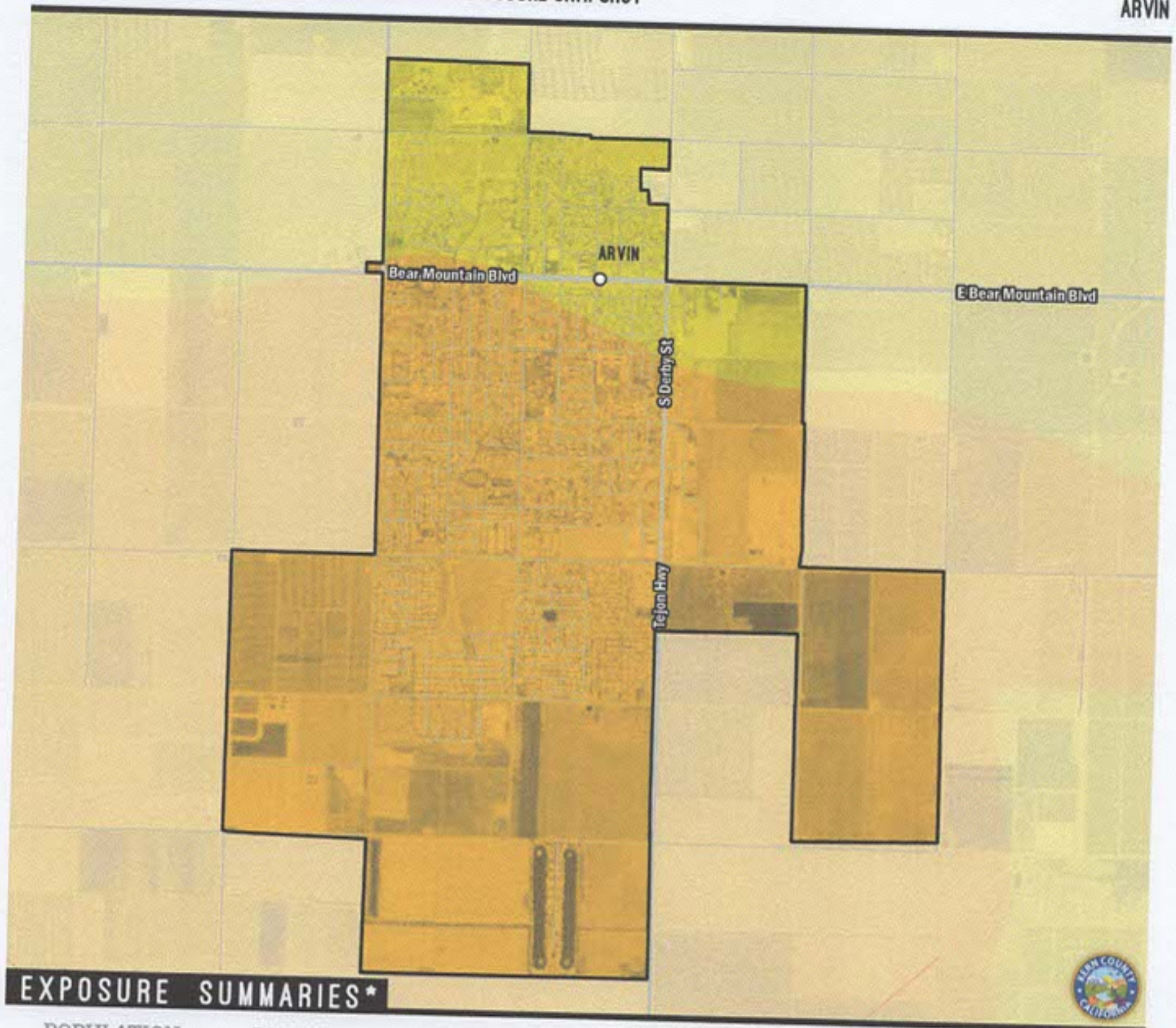
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for Kern County, 2019

Figure 1-3: City of Arvin – FEMA Flood Zone Vulnerability & Exposure Snapshot



EQ - S. SAN ANDREAS MOJAVE N. VULNERABILITY & EXPOSURE SNAPSHOT

ARVIN



EXPOSURE SUMMARIES*

POPULATION		PARCEL		PARCEL VALUE		CRITICAL INFRASTRUCTURE		
COUNT		COUNT		IMPROVEMENT		COUNT		
20,331 100%		3,611 100%		\$324,972,386 100%		Essential Facilities 1 100%		
				CONTENT		High Potential Loss 64 100%		
				\$162,522,193 100%		Transportation & Lifeline 1 100%		
						58 100% LINEAR MILEAGE		

MAP LEGEND

III	IV	V	VI	VII	VIII	IX	X
WEAK MMI	LIGHT	MODERATE	STRONG	VERY STRONG	SEVERE	VIOLENT	EXTREME

*Exposure summaries include strong, very strong, and severe MMI classes. Hazard data source: USGS.
(%) = Percent of respective category totals for jurisdiction.

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MAP LEGEND

III	IV	V	VI	VII	VIII	IX	X
WEAK MMI	LIGHT	MODERATE	STRONG	VERY STRONG	SEVERE	VIOLENT	EXTREME

*Exposure summaries include strong, very strong, and severe MMI classes. Hazard data source: USGS.
(%) - Percent of respective category totals for jurisdiction.

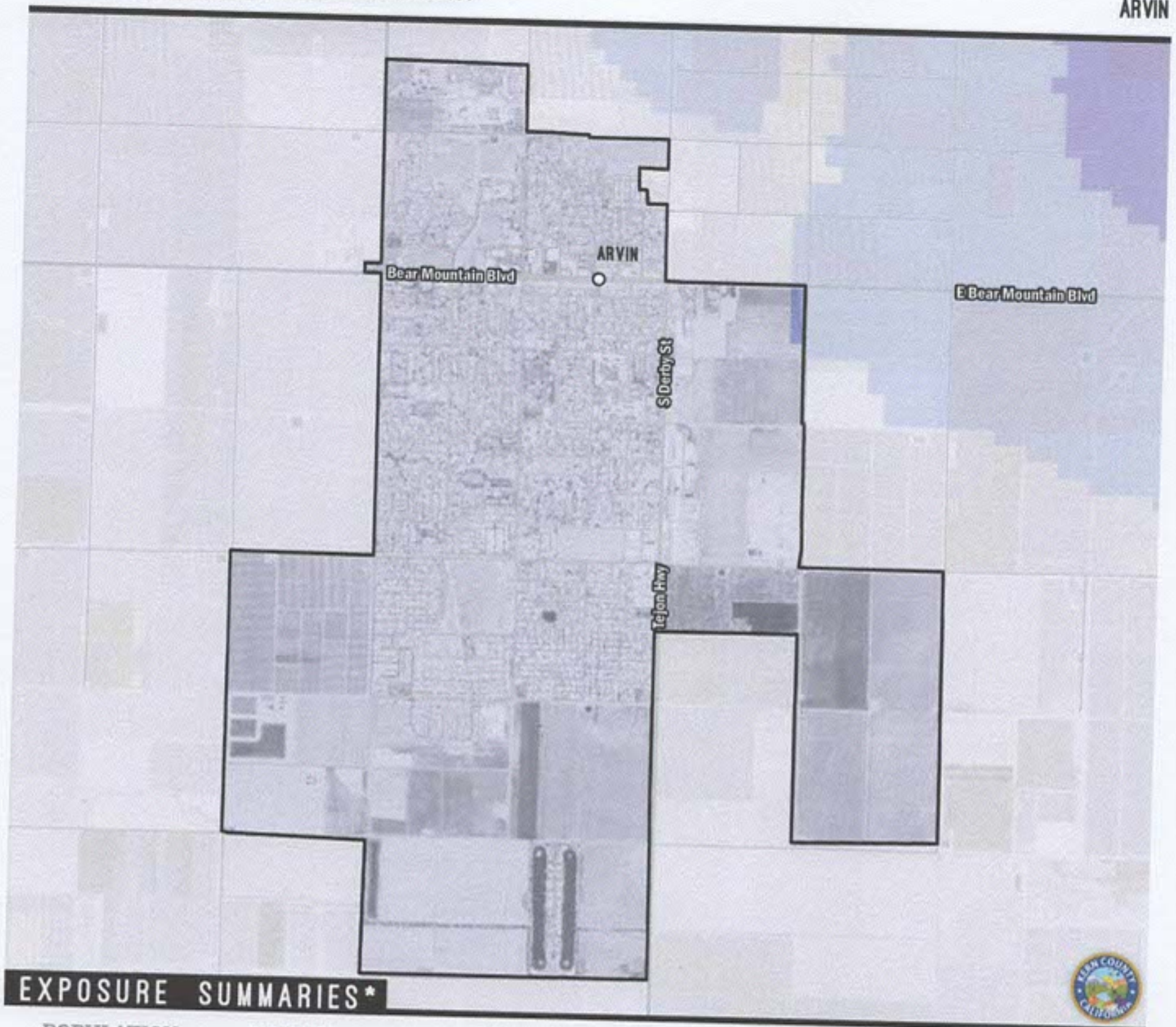
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for Kern County, 2019

Figure 1-4: City of Arvin – EQ S. San Andreas Mojave N. Vulnerability & Exposure Snapshot



SUBSIDENCE VULNERABILITY & EXPOSURE SNAPSHOT

ARVIN



EXPOSURE SUMMARIES*

POPULATION		PARCEL		PARCEL VALUE		CRITICAL INFRASTRUCTURE	
COUNT		COUNT		IMPROVEMENT		COUNT	
20,287	100%	3,611	100%	\$324,972,386	100%	Essential Facilities	1 100%
				CONTENT		High Potential Loss	64 100%
				\$162,522,193	100%	Transportation & Lifeline	1 100% 58 100%

MAP LEGEND

LOW LIFT

LOW SUBSIDENCE

MEDIUM SUBSIDENCE

HIGH SUBSIDENCE

EARTH MOVEMENT

*Exposure summaries include all classes of earth movement.
Hazard data source: DWR.
(%) - Percent of respective category totals for jurisdiction.

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for Kern County, 2019

Figure 1-5: City of Arvin – Subsidence Vulnerability & Exposure Snapshot



DROUGHT SEVERITY TIMELINE

MIDDLE KERN-UPPER TEHACHAPI-GRAPEVINE

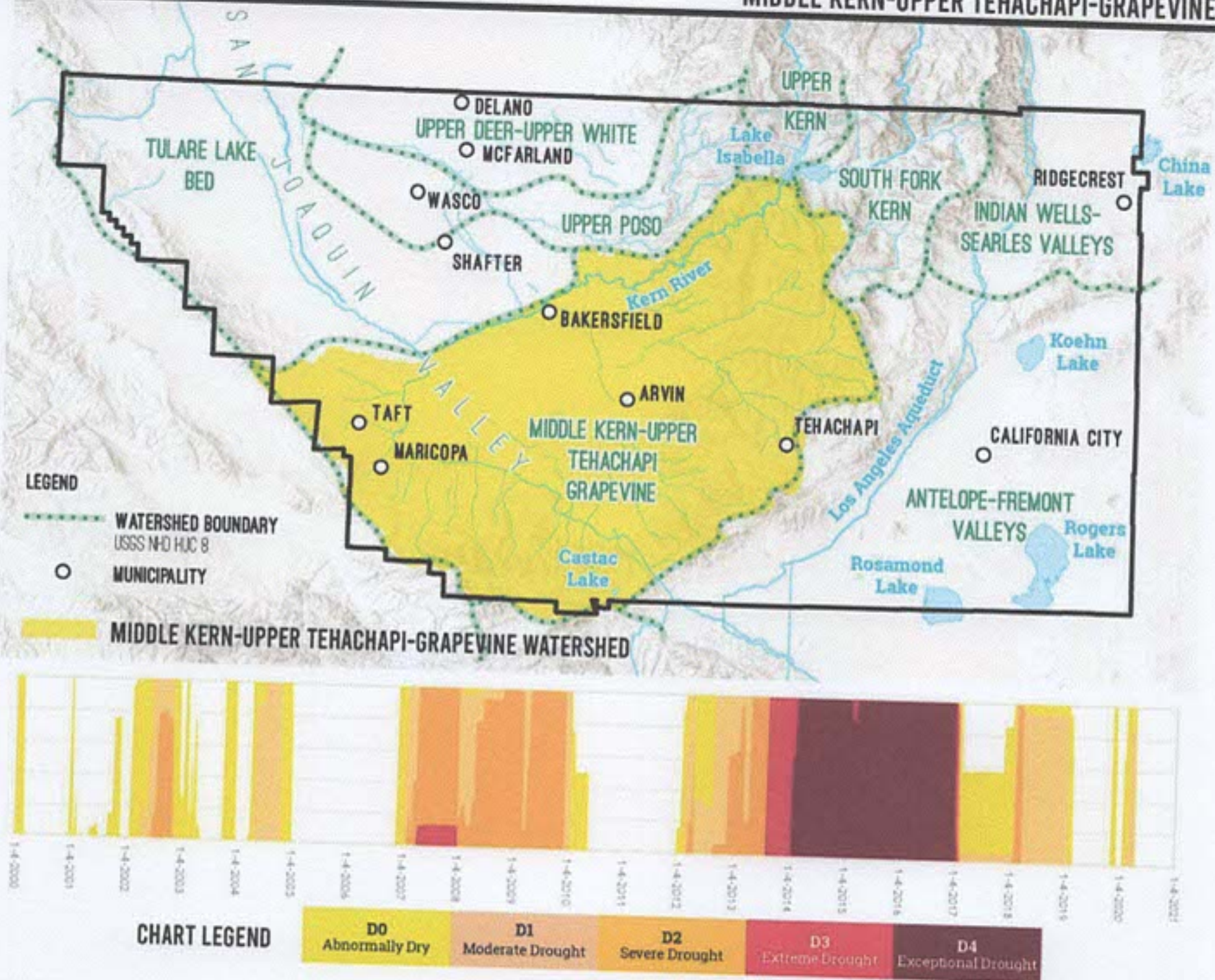


Figure 1-6: City of Arvin – Drought Severity Timeline – Middle Kern-Upper Tehachapi-Grapevine



1.4.3.3 Past and Future Development

The City of Arvin is a general law city that crafts its own development regulations and is subject to State law. Future development is subject to compliance with state and local planning, zoning, subdivision, and architecture laws.

The City of Arvin's General Plan (GP) establishes long-range development policies. The GP is designed to help the City address issues related to land use, circulation (traffic), housing, open space, conservation, noise, and safety. The Land Use portion of the plan helps guide the City in determining the location of future development(s), including possible future annexation. In addition to the GP, the City has other plans that guide development in specific areas, including specific plans, policy plans, and master plans. These plans help to shape future development and dictate the City's Sphere of Influence (SOI). One of the central functions in these planning documents is to decrease risk of impact from natural hazards.

Development since Previous HMP

While growth has occurred in hazard areas in the past, increasing hazard risks to some degree, those risks are also decreased by development standards and plan requirements that serve to mitigate or avoid those risks. Most recently, development since the last HMP has not increased hazard vulnerability for the City of Arvin. Problematic development generally occurred many decades ago; therefore, this HMP Annex has not been revised to reflect any substantial changes in past development and instead focuses on avenues to better mitigate impacts from problematic past development in the 1970's and earlier.

Future Development

City of Arvin is required to update building codes to meet the minimum standards to those required in the California Building Code last updated in 2019. California Building Codes provide some of the safest construction standards in the world and are meant to reduce risk to occupants from high wind, seismic activity, landslides, flood, wildfire, and other natural hazards. In addition to California minimum development standards, all jurisdictions belong to the NFIP, as such, all development must meet minimum flood protection standards set forth by FEMA. See Section 4.3.5 of Volume 1 for more information about past and future development in Kern County.

As the General Plan is updated and incorporates information from this HMP, City of Arvin staff are continually improving hazard information through these hazard mitigation plan updates. With this 2020 update, improved online mapping about natural hazards available on RAMP will inform those responsible for future development to make better decisions where and how future development occurs.

City of Arvin reviewed its general plans under the capability assessments undertaken for this hazard mitigation plan. See Section 1.5.1. Deficiencies revealed by these reviews are identified as mitigation actions to decrease risks to move beyond past trends.

The City's municipal codes includes regulations to mitigate the impact of hazards on new and existing development, including:



- Drainage and stormwater retention requirements,
- Steep slope restrictions for new development,
- Waterbody buffer requirements,
- Floodplain management regulations,
- Zoning that prevents development in hazardous areas of the community such as floodplains, landslide areas, the wildland-urban interface (WUI), or other known hazard areas, and
- Building codes that include the most up-to-date California Fire Code, seismic standards, and many other provisions crafted to protect new construction from hazard events.

Even in the event that limited development did occur within a hazard area, the municipal code should ensure impacts from a hazard event are mitigated and losses are minimal. If development does occur in hazard areas, evacuation and emergency planning should take into consideration the anticipated local impacts of the hazard event, including potential interrupted services or the elimination of access.

The anticipated growth in the City will not cause significant change in vulnerability to the City for identified priority hazards.



National Flood Insurance Program (NFIP)

The NFIP makes federally backed flood insurance available to homeowners, renters, and business owners in participating communities. FEMA has prepared a detailed Flood Insurance Study (FIS) for Kern County and municipalities. The study presents water surface elevations for floods of various magnitudes, including the 1-percent annual chance flood and the 0.2-percent annual chance flood (the 500-YR flood). Base flood elevations and the boundaries of the 100- and 500-YR floodplains are shown on Flood Insurance Rate Maps (FIRMs), which are the principle tool for identifying the extent and location of the flood hazard. FIRMs are the most detailed and consistent data source available, and for many communities they represent the minimum area of oversight under their floodplain management program. See Section 4 of Volume 1 for general information on the NFIP.

The City of Arvin has participated in the NFIP since 1988. The City of Arvin is currently in good standing with the provisions of the NFIP. Compliance is monitored by FEMA regional staff and by the California Department of Water Resources under a contract with FEMA. Maintaining compliance under the NFIP is an important component of flood risk reduction. See Table 1-4 for more information on the City's policies and historic flood insurance claims.

Table 1-4: NFIP Status Table

NFIP Status	Participating since 1/13/1988
Policies in Force	1033
Policies in SFHA	1012
Policies in non-SFHA	21
Total Claims Paid	12
Paid Losses	\$ 546
Repetitive Loss Properties	0
Severe Repetitive Loss Properties	0
Repetitive Loss Payment by NFIP on Building	N/D
Repetitive Loss Payment by NFIP on Contents	N/D

Note: N/D signifies no data.

See Volume 1, Section 4.5 for more information on the NFIP.



1.4.4 Identify Hazard Problem Statements

As part of the mitigation action identification process, the Planning Committee for each jurisdiction identified areas of concern (aka problem statements) for their respective facilities based on the risk assessment and vulnerability analysis, utilizing the RAMP mapping and static snapshot maps. Problem statements focused on the impact, victim, or threat that the hazard could create in the jurisdiction, as described in Figure 1-7. Identifying common issues and weaknesses through these problem statements assisted the Planning Committee in understanding the realm of resources needed for mitigation. Jurisdiction problem statements are listed in Table 1-5.

The goal is to have at least one mitigation action for every problem statement. Projects or actions have been developed to mitigate each problem identified. See Table 1-10 for a full list of mitigation actions and corresponding problem statements that they address. Each problem statement is coded with a problem number for cross-referencing between Table 1-5 and Table 1-10.

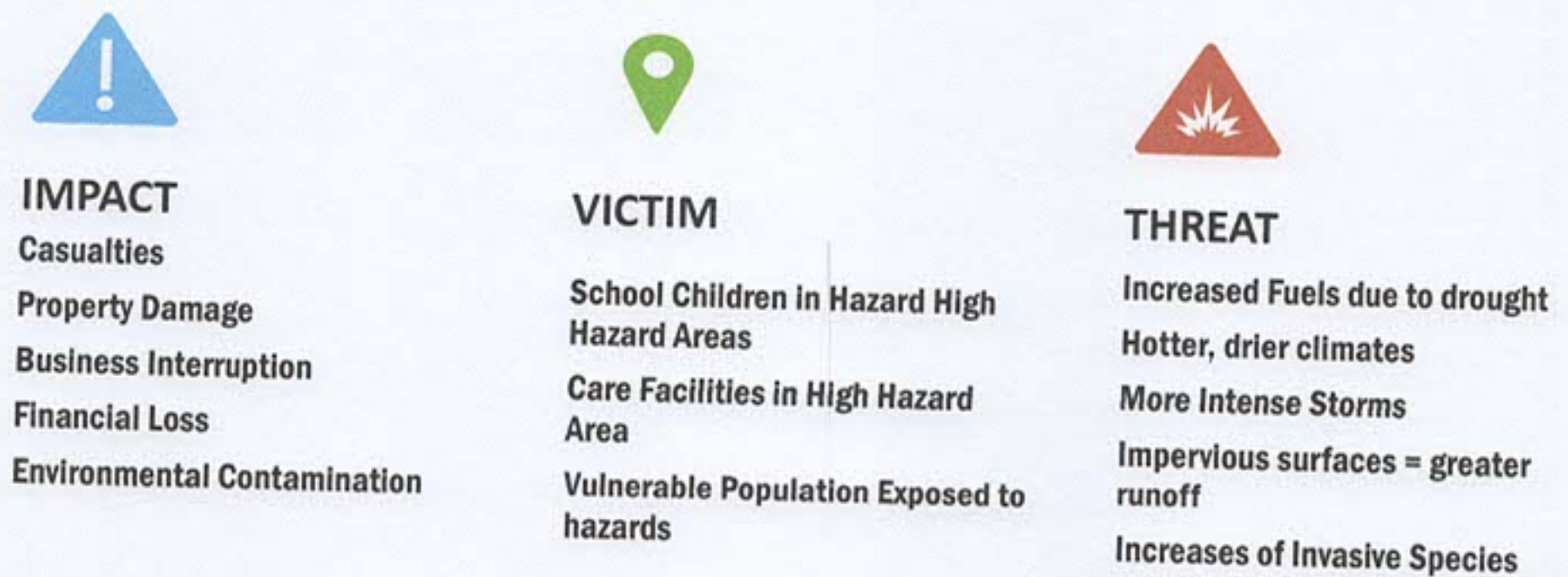


Figure 1-7. Guidance for Problem Statements



Table 1-5 Problem Statements

Problem No.	Hazard	Area of Concern	Mitigation Alternatives	Primary Agency	Problem Description	Related MA
ps-DR-AR-510	Drought	Impact	NRP - Natural Resource Protection	City of Arvin	Because Arvin relies entirely on groundwater, aquifer depletion resulting from drought reduces amount of water available. This affects both public water supplies and private wells.	ma-DR-AR-563
ps-DR-AR-511	Drought	Impact	NRP - Natural Resource Protection	City of Arvin	Drought can cause significant property damage, as well as reductions in crop productivity and livestock, which results in increased cost of food production.	ma-DR-AR-563
ps-DR-AR-512	Drought	Victim	NRP - Natural Resource Protection	City of Arvin	Residents, businesses, and the agricultural industry (which is essential to the local economy).	ma-DR-AR-563
ps-DR-AR-513	Drought	Threat	PRV - Prevention	City of Arvin	Existing City codes and regulations do not require or incentivize water conservation measures, including requiring low-flow toilets and showerheads.	ma-DR-AR-564, ma-EQ-AR-565
ps-EQ-AR-514	Earthquake	Impact	SP - Structural Projects	City of Arvin	Older construction and particularly unreinforced masonry (URM) buildings pose hazards during earthquakes.	ma-EQ-AR-565, ma-EQ-AR-566, ma-EQ-DL-84
ps-EQ-AR-515	Earthquake	Impact	PPRO - Property Protection	City of Arvin	Seismic shaking could damage infrastructure such as roads, water lines, sewer lines, and other critical facilities.	ma-EQ-AR-565, ma-EQ-AR-566
ps-EQ-AR-516	Earthquake	Victim	PRV - Prevention, ES - Emergency Services, SP - Structural Projects	City of Arvin	Arvin's entire population (approximately 20,300) would be subject to severe shaking resulting from a 7.2 magnitude earthquake on the White Wolf fault.	ma-EQ-AR-565, ma-FL-DL-117
ps-EQ-AR-517	Earthquake	Victim	PRV - Prevention, PPRO - Property Protection, PE&A - Public Education & Awareness, ES - Emergency Services, SP - Structural Projects	City of Arvin	The entire city would be subject to severe shaking resulting from a 7.2 magnitude earthquake on the White Wolf fault. This includes 1 Essential Facility (Fire Station) and 64 High Potential Loss Facilities within 100-year Flood Zone (including 32 Family Child Care Homes, 11 Special Needs Facilities, 7 Schools, 6 Child Care Centers, and 3 Health Care Facilities)	ma-EQ-AR-565, ma-EQ-AR-566



Problem No.	Hazard	Area of Concern	Mitigation Alternatives	Primary Agency	Problem Description	Related MA
ps-EQ-AR-518	Earthquake	Victim	PRV - Prevention, PPRO - Property Protection, PE&A - Public Education & Awareness, ES - Emergency Services, SP - Structural Projects	City of Arvin	3,600 residents would be subject to strong shaking resulting from a 7.2 magnitude earthquake on the San Andreas fault, while 16,730 residents would be subject to very strong shaking.	ma-EQ-AR-565
ps-EQ-AR-519	Earthquake	Victim	PRV - Prevention, PPRO - Property Protection, PE&A - Public Education & Awareness, ES - Emergency Services, SP - Structural Projects	City of Arvin	The entire city would be subject to either very strong or strong shaking resulting from a 7.2 magnitude earthquake on the San Andreas fault. This includes 1 Essential Facility (Fire Station) and 64 High Potential Loss Facilities within 100-year Flood Zone (including 32 Family Child Care Homes, 11 Special Needs Facilities, 7 Schools, 6 Child Care Centers, and 3 Health Care Facilities)	ma-EQ-AR-565, ma-EQ-AR-566
ps-FL-AR-520	Flood	Impact	PPRO - Property Protection	City of Arvin	Arvin is subject to sheet flow events, which result in shallow flooding that causes property damage, road washouts, and transportation disruptions.	ma-AH-AR-569, ma-FL-AR-71
ps-FL-AR-521	Flood	Victim	PRV - Prevention, PPRO - Property Protection, PE&A - Public Education & Awareness	City of Arvin	All City residents exposed to flood risk. Approximately 16,260 residents living within or near the 100-year floodplain and 4,060 within or near 500-year floodplain.	ma-FL-AR-71
ps-FL-AR-522	Flood	Victim	PRV - Prevention, PPRO - Property Protection, PE&A - Public Education & Awareness, SP - Structural Projects	City of Arvin	1 Essential Facility within 100-year Flood Zone (Fire Station) and 62 High Potential Loss Facilities within 100-year Flood Zone (including 32 Family Child Care Homes, 11 Special Needs Facilities, 6 Schools, 5 Child Care Centers, and 3 Health Care Facilities)	ma-FL-AR-71



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Problem No.	Hazard	Area of Concern	Mitigation Alternatives	Primary Agency	Problem Description	Related MA
ps-FL-AR-523	Flood	Victim	PRV - Prevention , PPRO - Property Protection , PE&A - Public Education & Awareness , SP - Structural Projects	City of Arvin	Transportation and Lifeline asset within 100-year Flood Zone (power substation)	ma-FL-AR-71
ps-FL-AR-524	Flood	Impact	PRV - Prevention , PPRO - Property Protection , PE&A - Public Education & Awareness , SP - Structural Projects	City of Arvin	Residents, businesses, and agricultural operations are vulnerable to interruptions in transportation access resulting from road washouts.	ma-FL-AR-71
ps-SS-AR-525	Soil Stability	Impact	PPRO - Property Protection , NRP - Natural Resource Protection	City of Arvin	Wind erosion causes soils to become unstable, increasing risk of landslides/rockslides and associated mudflow on Highway 223, east of Arvin. These conditions can lead to hazardous driving conditions and road closures. Highway 223 is the main road through Arvin (Bear Mountain Boulevard), so access interruptions due to road closures are disruptive to the city.	ma-AH-AR-569
ps-SS-AR-526	Soil Stability	Impact	PPRO - Property Protection , NRP - Natural Resource Protection , SP - Structural Projects	City of Arvin	Caving in of land around City sumps and near stormwater runoff sites resulting from groundwater pumping.	ma-SS-AR-567
ps-SS-AR-527	Soil Stability	Victim	PE&A - Public Education & Awareness , NRP - Natural Resource Protection	City of Arvin	Residents, businesses, and agricultural operations are vulnerable to interruptions in access resulting from closures on Highway 223. This includes commuters reliant on Highway 223 to get to and from work.	ma-SS-AR-568



Problem No.	Hazard	Area of Concern	Mitigation Alternatives	Primary Agency	Problem Description	Related MA
ps-SS-AR-528	Soil Stability	Victim	PPRO - Property Protection, PE&A - Public Education & Awareness, NRP - Natural Resource Protection	City of Arvin	Residents living near sumps.	ma-SS-AR-567
ps-SS-AR-529	Soil Stability	Threat	NRP - Natural Resource Protection	City of Arvin	Fallow farms and agricultural fields without crop cover increase susceptibility to wind erosion.	ma-SS-AR-568
ps-SS-AR-530	Soil Stability	Threat	NRP - Natural Resource Protection	City of Arvin	Drought-related drawdown in aquifers and continued groundwater pumping.	ma-SS-AR-567

1.4.4.1 Mitigation Action Support Tool (MAST)

As a living document, hazard problem statements and mitigation activities will be updated through a web interface application developed specifically for participating jurisdictions. The Mitigation Action Support Tool (MAST) is accessible through <http://mitigatehazards.com/county-of-kern/>.

MAST is a web-based interactive tool that enables multiple users to search, view, enter, and update mitigation actions, ideas or projects, and other information. MAST provides participating jurisdictions and plan reviewers (Cal OES/FEMA) access to valuable mitigation information that can be leveraged by future planning or other risk reduction efforts within the County. Participating jurisdictions can update the status of their mitigation projects throughout the planning lifecycle, and this web-based tool will improve participating jurisdiction's ability to apply for FEMA's Hazard Mitigation Assistance (HMA) grant programs including initial grant application processes through Cal OES.



1.5 Mitigation Strategy

The mitigation strategy is the guidebook to future hazard mitigation administration, capturing the key outcomes of the MJHMP planning process. The mitigation strategy is intended to reduce vulnerabilities outlined in the previous section (a.k.a. problem statements) with a prescription of policies and physical projects. These mitigation actions should be compatible with existing planning mechanisms and should outline specific roles and resources for implementation success.

1.5.1 Capabilities Assessment

This section examines the planning and regulatory, administrative, technical, financial, educational, and outreach capabilities to augment known issues and weaknesses from identified natural hazards.

The tables in this section explore various local planning mechanisms, administrative capacity, financial capabilities, and education and outreach initiatives. The columns in each table represent deeper dives into the following questions:

- Is the existing planning or regulatory mechanism used currently? (Column 1, Status)
- Has the HMP been integrated into the planning mechanism currently so that the named mechanism is currently used in HMP planning? (Column 2, Current Mitigation Use)
- Is there a future opportunity to expand, improve upon, and incorporate this 2020 HMP Update into the planning or regulatory mechanism? (Column 3, Future Opportunity)

The capabilities assessment is easily-digestible and based on color coding to indicate which policies and plans are adequate, need improvement or in which the HMP could be integrated. Each table includes a legend that explain how each one of these questions are being answered according to the color indicated: green, yellow, and orange.

For more information on the regulatory environment surrounding each hazard, see hazard-specific sections of Volume 1. Volume 1, Section 5.3.5 includes an extensive list of federal and state funding opportunities as well.



1.5.1.1 Planning and Regulatory Capabilities

Table 1-6. Planning and Regulatory Capabilities Summary

CAPABILITY ASSESSMENT LEGEND			
Status	Current Mitigation Use		Future Opportunity
Currently in use or present.	Used widely for mitigation.		Opportunity to expand and integrate.
(Sort of) Seldomly used or limited presence.	Limited use in mitigation planning.		Limited opportunity to expand and integrate.
(No) Not present or available.	Not used in mitigation planning.		No opportunity to expand or integrate.

Resource	HMP Integration			Notes / Additional Detail
	Status	Current Mitigation Use	Future Opportunity	
Planning and Regulatory Capabilities				
Construction and Future Development Regulations				
Building Codes				City has a building inspector only part time
BCEGS Rating			N/A	Not familiar with this
Public Protection (ISO Class)	N/A	N/A	N/A	City relies on County FD
Hazard Related Development Standards	N/A	N/A	N/A	
Zoning Ordinance				
Hazard-Specific Ordinance	N/A	N/A	N/A	
Growth Management Ordinance	N/A			
Hazard Reduction Programs (Annually Conducted)				
Capital Improvements Program (CIP) or Plan				
Erosion/Sediment Control Program				Notes in standard specifications requiring contractors to comply with NPDES genera permit
Hazard-Related Public Outreach Program				See Education and Outreach Resource Capabilities.
Stormwater Management Program (Annual Inspections)				Maintenance team routinely inspect storm basins and other facilities; and respond to locally flooded areas.
Seismic Safety Program (Non-structural)				
Earthquake Modernization Plan (Building Safety)				
Hazard Plans				
General Plan Safety Element				
Community Wildfire Protection Plan (CWPP)				Countywide CWPP expected 2021.



Resource	HMP Integration			Notes / Additional Detail
	Status	Current Mitigation Use	Future Opportunity	
Planning and Regulatory Capabilities				
Floodplain Management Plan				
Stormwater Management Plan				
Emergency Operations Plan				
Climate Action Plan				
Ground Water Management Planning / Plans				
National Flood Protection Program (NFIP)				
Floodplain Management Regulations				
Flood Insurance Education and Technical Assist.				Actively working to improve educational resources for residents.
Flood Hazard Mapping / Re-Mapping				No program to date, but could be extremely beneficial to city
Community Rating System (CRS)	N/A	N/A	N/A	City not in CRS program

1.5.1.2 Administrative and Technical Capabilities

Table 1-7. Administrative and technical capabilities summary

CAPABILITY ASSESSMENT LEGEND		
Status	Current Mitigation Use	Future Opportunity
Currently in use or present.	Used widely for mitigation.	Opportunity to expand and integrate.
(Sort of) Seldomly used or limited presence.	Limited use in mitigation planning.	Limited opportunity to expand and integrate.
(No) Not present or available.	Not used in mitigation planning.	No opportunity to expand or integrate.

Resource	HMP Integration			Notes / Additional Detail
	Status	Current Mitigation Use	Future Opportunity	
Administrative and Technical Staff Capacity				
Emergency Manager				Provided by general manager.
Civil Engineer				
Dedicated Public Outreach Personnel				
GIS Specialist and Capability				
Grant Manager, Writer, or Specialist				



Resource	HMP Integration			Notes / Additional Detail
	Status	Current Mitigation Use	Future Opportunity	
Administrative and Technical				
Other	N/A	N/A	N/A	
Warning Systems/Services				
General	N/A	N/A	N/A	
Flood	N/A	N/A	N/A	
Wildfire	N/A	N/A	N/A	
Geological Hazards	N/A	N/A	N/A	

1.5.1.3 Financial Capabilities

Table 1-8. Financial capabilities summary

CAPABILITY ASSESSMENT LEGEND		
Status	Current Mitigation Use	Future Opportunity
Currently in use or present.	Used widely for mitigation.	Opportunity to expand and integrate.
(Sort of) Seldomly used or limited presence.	Limited use in mitigation planning.	Limited opportunity to expand and integrate.
(No) Not present or available.	Not used in mitigation planning.	No opportunity to expand or integrate.

Resource	HMP Integration			Notes / Additional Detail
	Status	Current Mitigation Use	Future Opportunity	
Fiscal Capabilities				
Financial Resources for Hazard Mitigation				
Levy for Specific Purposes with Voter Approval				
Utilities Fees				
System Development Fee				
General Obligation Bonds to Incur Debt				
Special Tax Bonds to Incur Debt				
Withheld Spending in Hazard-Prone Areas				
Stormwater Service Fees				
Capital Improvement Project Funding				



1.5.1.4 Education and Outreach

Table 1-9. Education and outreach capabilities summary

Status	CAPABILITY ASSESSMENT LEGEND	
	Current Mitigation Use	Future Opportunity
Currently in use or present.	Used widely for mitigation.	Opportunity to expand and integrate.
(Sort of) Seldomly used or limited presence.	Limited use in mitigation planning.	Limited opportunity to expand and integrate.
(No) Not present or available.	Not used in mitigation planning.	No opportunity to expand or integrate.

Resource	HMP Integration			Notes / Additional Detail
	Status	Current Mitigation Use	Future Opportunity	
Education / Outreach Capabilities				
Education/Outreach Resources				
Website Dedicated to Hazard Topics				
Dedicated Social Media				
Hazard Info. Avail. at Library/ Planning Desk				
Annual Public Safety Events				
Ability to Field Public Tech. Assistance Requests				
Public Safety Newsletters or Printed Outreach				
Fire Safe Councils				
Resource Conservation Districts				
Other	N/A	N/A	N/A	



1.5.2 Mitigation Actions

Mitigation actions were developed based upon the jurisdiction's priorities, risk assessment results, and mitigation alternatives. The mitigation action prioritization method used by all participating jurisdictions is described in Section 5.5.1 of Volume 1. Table 1-10 lists each priority mitigation action, responsible party, time frame, potential funding source, implementation steps, and resources need to implement based upon the Planning Committee consensus.

Each participating jurisdiction, including the City of Arvin, considered ongoing relevancy of mitigation actions from the existing MJHMP and retained or removed such actions while adding new relevant actions as well. Mitigation actions were examined for relevancy and the potential for future implementation and then evaluated for potential follow-up. Some mitigation actions developed during the previous HMP effort were not included because they were an inherent part of the HMP update process or were not detailed enough for implementation at a local Jurisdiction level. the City of Arvin has made significant changes to other mitigation actions because of the updated risk assessment and implementation strategy, to include more detail, or to update based on current mitigation practices. Volume 1, Section 5.5.2 provides a record of County wide mitigation actions, the status, and additional notes for each action.

Table 1-10 lists each mitigation action for the City of Arvin. Each participating jurisdiction developed unique mitigation actions, targeted at their own unique priorities and vulnerabilities. Each mitigation action identifies the responsible party, time frame, potential funding source, implementation steps and resources needed to implement these priority mitigation actions. As a living document, hazard problem statements and mitigation activities will be updated through MAST. The detail in Table 1-10 meets the regulatory requirements of FEMA and DMA 2000.

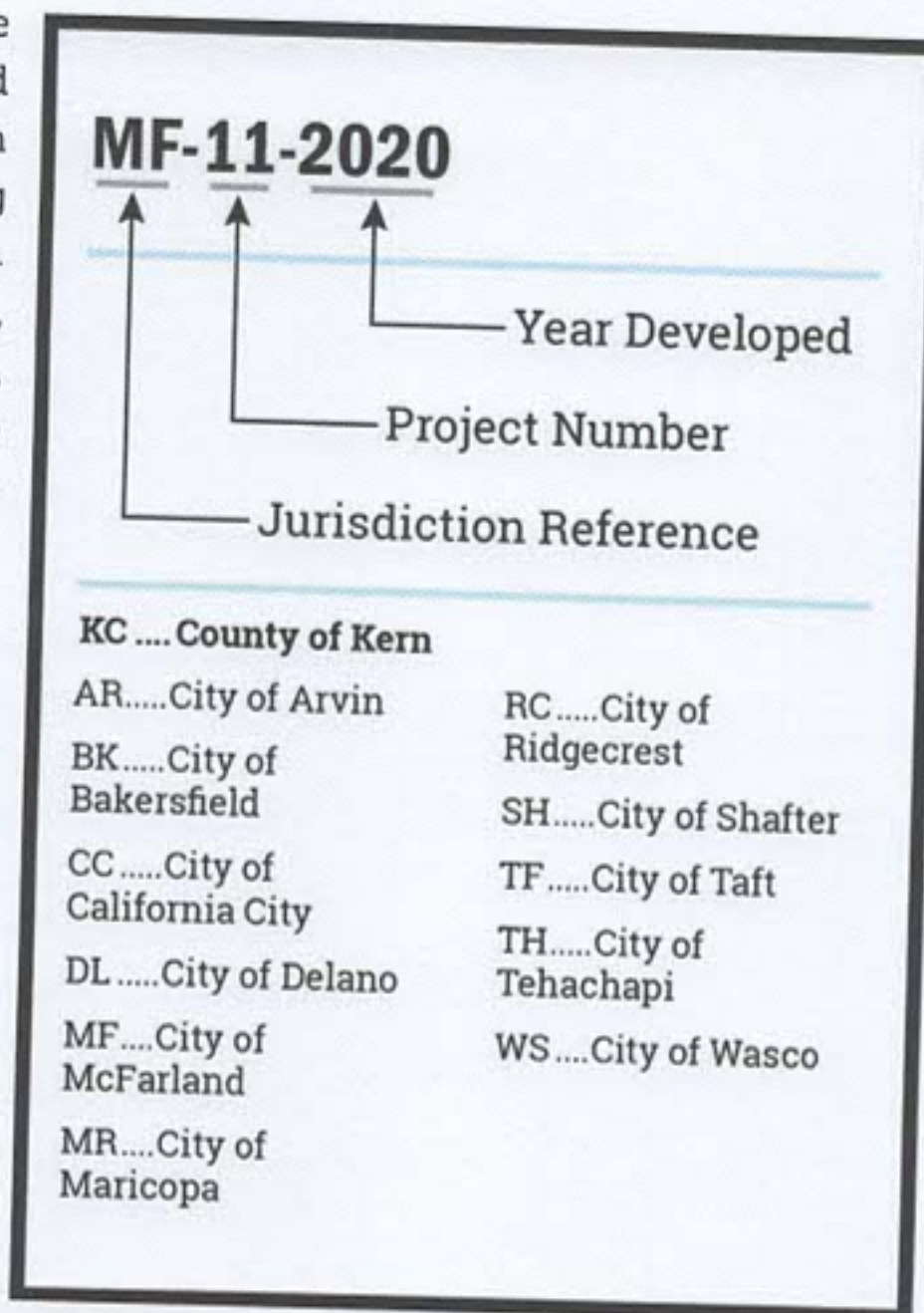


Figure 1-8. Mitigation Action Key



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Table 1-10. City of Arvin Mitigation Actions

Mitigation No.	Hazard Type	Mitigation Type	Status	Year	Primary Agency	Title/Description	Responsible Party	Estimated Cost	Estimated Benefit	Time Frame	HMA Activity Type	Potential Grant Source	Priority	Related Problem Statements
ma-AJ-AR-569	All Hazard	PE&A - Public Education & Awareness	Pending	2020	City of Arvin	Conduct wind erosion awareness outreach, outreach and educational programming to property owners and agricultural operators about wind erosion and mitigation techniques such as introducing cover crops, eliminating tillage, and avoiding over grazing. This could help avoid road closures associated with sheet flooding and landslides on roadways providing access to Arvin.	Administration	Low - The project could be funded under the existing budget. The project is part of or can be part of an ongoing existing program.	Medium - Project will have a long-term impact on the reduction of risk exposure for life and property, or project will not provide an immediate reduction in the risk exposure for property.	1-3 Years	Planning	HMGP / BRAC	Medium	pe-FL-AR-520, pe-DR-AR-525
ma-DR-AR-563	Drought	PE&A - Public Education & Awareness	Pending	2020	City of Arvin	Develop and implement a public education campaign around water conservation.	Administration	Medium - The project could be implemented with existing funding but would require a re-apportionment of the budget or a budget amendment, or the cost of the project would have to be spread over multiple years.	Medium - Project will have a long-term impact on the reduction of risk exposure for life and property, or project will not provide an immediate reduction in the risk exposure for property.	1-3 Years	0%	HMGP / BRAC	High	pe-DR-AR-511, pe-DR-AR-513, pe-DR-AR-512
ma-DR-AR-564	Drought	PRV - Prevention	Pending	2020	City of Arvin	Adopt a new water conservation ordinance for commercial and residential land uses limiting outdoor watering.	Planning	Low - The project could be funded under the existing budget. The project is part of or can be part of an ongoing existing program.	Medium - Project will have a long-term impact on the reduction of risk exposure for life and property, or project will not provide an immediate reduction in the risk exposure for property.	1-3 Years	Planning	HMGP / BRAC	High	pe-DR-AR-513
ma-EQ-AR-565	Earthquake	PRV - Prevention	Pending	2020	City of Arvin	Encourage owners of privately owned critical facilities to conduct seismic evaluations.	Planning	Low - The project could be funded under the existing budget. The project is part of or can be part of an ongoing existing program.	High - Project will provide an immediate reduction of risk exposure for life and property.	1-3 Years	0%	HMGP / BRAC	Medium	pe-DR-AR-513, pe-EQ-AR-503, pe-EQ-AR-505, pe-EQ-AR-507, pe-EQ-AR-518, pe-EQ-AR-519, pe-EQ-AR-514
ma-EQ-AR-566	Earthquake	SP - Structural Projects	Pending	2020	City of Arvin	Seismic Retrofit, Retrofit / harden City-owned critical facilities and buildings to increase their ability to withstand seismic shaking.	Engineering Division	High - Existing funding will not cover the cost of the project; implementation would require new revenue through an alternative source (for example, bonds, grants, and fee increases).	High - Project will provide an immediate reduction of risk exposure for life and property.	2-5 Years	Project	HMGP / BRAC	Medium	pe-EQ-AR-514, pe-EQ-AR-515, pe-EQ-AR-517, pe-EQ-AR-519



Mitigation No.	Hazard Type	Mitigation Type	Status	Year	Primary Agency	Title/Description	Responsible Party	Estimated Cost	Estimated Benefit	Time Frame	JMA Activity Type	Potential Grant Source	Priority	Related Problem Statements
KA-FL-AR-71	Flood	FRV - Prevention	Pending	2014	City of Arvin	Continue to implement Sound Floodplain Management Practices through Participation in the National Flood Insurance Program	City of Arvin Building and Planning Department for zoning regulations and building permit issuance, Engineering Department and Public Works for floodplain management	Low - The project could be funded under the existing budget. The project is part of or can be part of an ongoing existing program.	High - Project will provide an immediate reduction of risk exposure for life and property.	Ongoing	Planning	FMMGP / BRAC, FMA	Medium	pa-FL-AR-520, pa-FL-AR-521, pa-FL-AR-522, pa-FL-AR-523, pa-FL-AR-524
KA-SO-AR-567	Soil Stability	SP - Structural Projects	Pending	2020	City of Arvin	Soil Stability Evaluation: Evaluate potential effect of soil instability in areas surrounding City dumps and stormwater retention facilities. This should include analysis of risk to nearby residential structures.	Engineering Division	Medium - The project could be implemented with existing funding but would require a re-apportionment of the budget or a budget amendment, or the cost of the project would have to be spread over multiple years.	Medium - Project will have a long-term impact on the reduction of risk exposure for life and property, or project will not provide an immediate reduction in the risk exposure for property.	1-3 Years	Planning	FMMGP / BRAC	Medium	pa-SO-AR-524, pa-SO-AR-525, pa-SO-AR-526
KA-SO-AR-568	Soil Stability	NRP - Natural Resource Protection	Pending	2020	City of Arvin	Wind Breaks: In collaboration with Kern County, implement wind breaks to prevent wind erosion leading to soil instability and increasing risk of landslides that could shut down or reduce capacity on Highway 223. Wind break erosion mitigation examples include solid fences, porous fences, straw bales, soil surface modification, terraces, and landscaping.	Engineering Division	High - Existing funding will not cover the cost of the project implementation, would require new revenue through an alternative source (for example, bonds, grants, and fee increases)	Medium - Project will have a long-term impact on the reduction of risk exposure for life and property, or project will not provide an immediate reduction in the risk exposure for property.	3-5 Years	Project	FMMGP / BRAC	Medium	pa-SO-AR-527, pa-SO-AR-528