Annex J Sacramento Metropolitan Fire District

J.1 Introduction

This Annex details the hazard mitigation planning elements specific to the Sacramento Metropolitan Fire District (Metro Fire), a new participating jurisdiction to the Sacramento County Local Hazard Mitigation Plan (LHMP) Update. This Annex is not intended to be a standalone document, but appends to and supplements the information contained in the Base Plan document. As such, all sections of the Base Plan, including the planning process and other procedural requirements apply to and were met by Metro Fire. This Annex provides additional information specific to Metro Fire, with a focus on providing additional details on the planning process, risk assessment, and mitigation strategy for this District.

J.2 Planning Process

As described above, the District followed the planning process detailed in Section 3 of the Base Plan. In addition to providing representation on the Sacramento County Hazard Mitigation Planning Committee (HMPC), Metro Fire formulated its own internal planning team to support the broader planning process requirements. Internal planning participants, their positions, and how they participated in the planning process are shown in Table J-1. Additional details on plan participation and Metro Fire representatives are included in Appendix A.

Table J-1 Metro Fire Planning Team

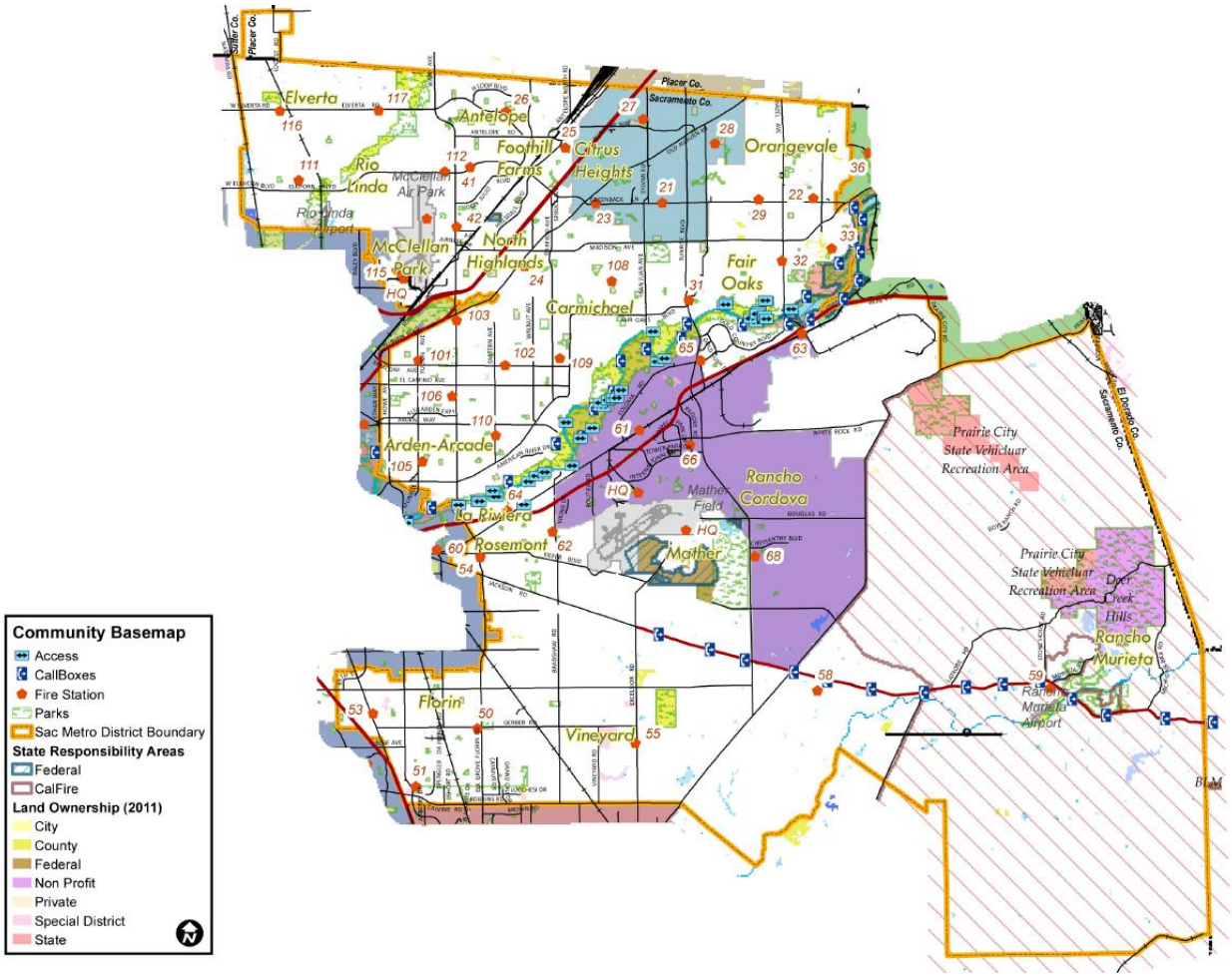
Name	Position/Title	How Participated
Greg Casentini	Asst. Chief/Fire Marshal	Program administration, reviewed draft documents. Attended HMPC meetings.
Michael Teague	Fire Captain	Research, Data collection, drafted documents. Attended HMPC meetings.

Source: Metro Fire

J.3 Community Profile

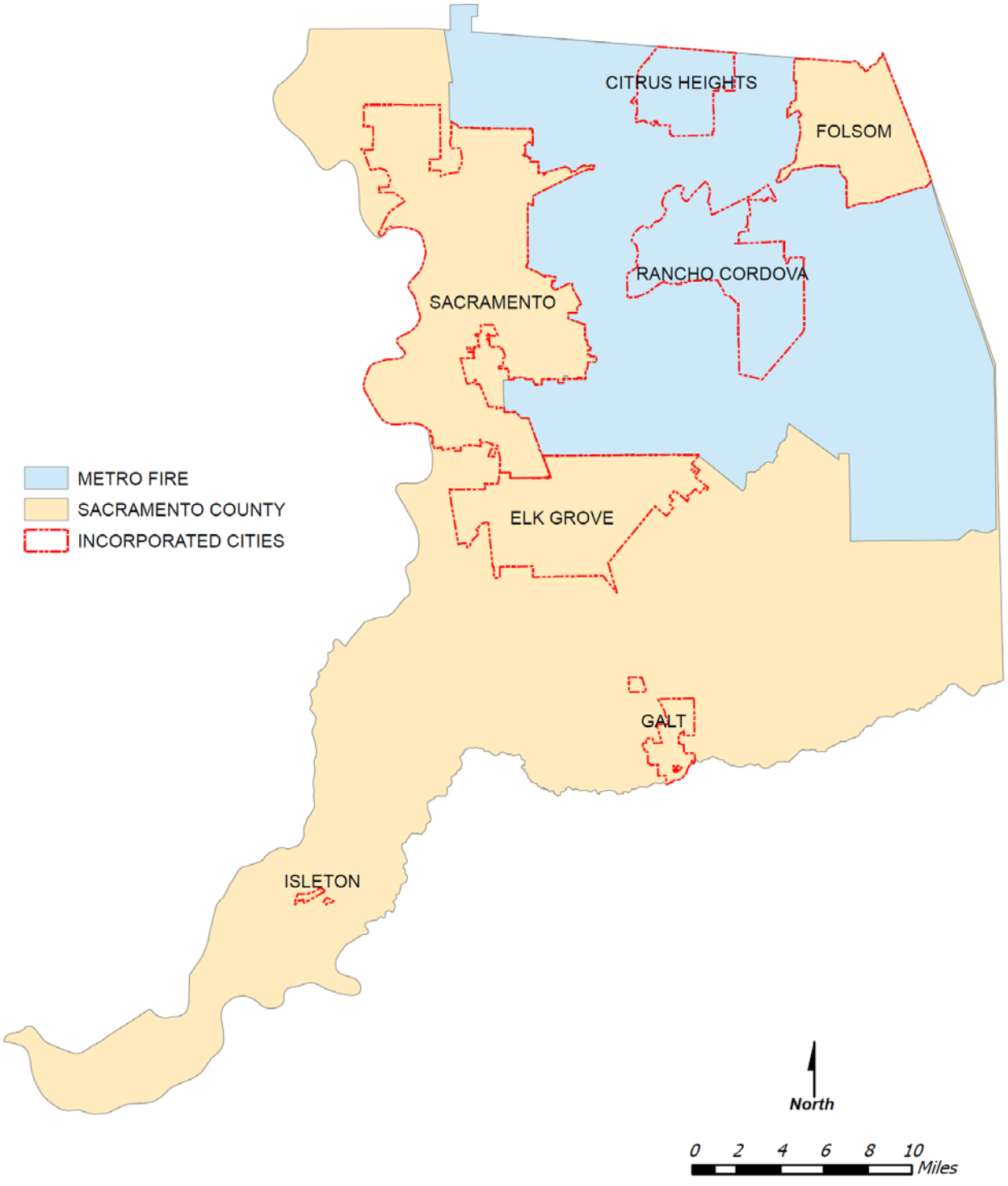
The community profile for Metro Fire is detailed in the following sections. Figure J-1 and Figure J-2 displays a map and the location of Metro Fire boundaries within Sacramento County.

Figure J-1 Sacramento Metropolitan Fire District Map



Source: American River Community Wildfire Protection Plan

Figure J-2 Location of Metro Fire in Sacramento County



Source: Sacramento Metro Fire District

J.3.1. District Overview, History, and Background

On September 25, 1999 by unanimous vote, the Board of Directors of the American River Fire District adopted an application for reorganization resolution with the Sacramento County Fire Protection District. On September 23, 1999, the Board of Directors of Sacramento County Fire adopted the application for reorganization with the American River Fire District. The adoptions of these resolutions officially called for the reorganization of both districts, which occurred on December 1, 2000.

The administration and membership of the District recognize the contribution and rich history of its predecessor departments. There are 16 prior fire departments represented in the Metro Fire organization. The predecessor agencies include:

- Arcade 1/26/42 to 6/30/86
- Arden 1/4/43 to 7/31/83
- Carmichael 1/30/42 to 7/31/83
- Citrus Heights 12/31/33 to 6/30/89
- Elverta 10/22/25 to 12/31/86
- Fair Oaks 3/27/28 to 11/2/93
- Florin 1/26/42 to 6/30/97
- Mather Field 1918 to 9/3/93
- McClellan Field 1937 to 4/1/01
- Michigan Bar 1/1/43 to 11/9/47
- Mills 6/8/22 to 11/1/59
- North Highlands 9/24/51 to 6/2/84
- Orangevale 3/2/36 to 12/1/45
- Rancho Cordova 11/2/59 to 6/30/89
- Rio Linda 6/23/23 to 12/31/86
- Sloughhouse 11/1/47 to 6/30/90

The Sacramento Metropolitan Fire District, serves a population of over 727,000 in a 417 square mile service area. Metro Fire is the 7th largest fire agency in the State of California.

Metro Fire is a combination of 16 smaller fire departments that, over the years, merged to create this California Special District. The last merger was in December 2000 when American River Fire Department and Sacramento County Fire Protection District merged to form the Sacramento Metropolitan Fire District, pursuant to Government Code Section 56839. As a special district, Metro Fire is governed by a Board of Directors; each member is elected by the voters within a geographical area, or division, of Metro Fire's operational area.

On any given day, there are 155 on-duty personnel to serve the District's communities. Routine and emergency operations are managed with five (5) Battalion Chiefs with oversight through an Assistant Chief assigned a 24-hour shift. Metro Fire is comprised of three branches - Operations, Administration, and Support Services.

- **Operations** includes Fire & Rescue, Emergency Medical, Training & Safety, Special Operations, Homeland Security, Fire Investigation, and Health & Wellness Divisions.
- The **Administration** Branch consists of Economic Development, Finance, Human Resources, and Information Technology Divisions.

- **Support Services** oversees Community Risk Reduction, Community Services, Facilities, Fleet Maintenance, and Logistics Divisions.

J.4 Hazard Identification

Metro Fire's planning team identified the hazards that affect the District and summarized their geographic extent, probability of future occurrences, potential magnitude/severity, and significance specific to Metro Fire (see Table J-2).

Table J-2 Metro Fire—Hazard Identification

Hazard	Geographic Extent	Probability of Future Occurrences	Magnitude/ Severity	Significance
Agricultural Hazards	Limited	Occasional	Limited	Low
Bird Strike	Limited	Likely	Negligible	Low
Climate Change	Significant	Likely	Limited	Low
Dam Failure	Limited	Unlikely	Critical	Medium
Drought and Water Shortage	Extensive	Highly Likely	Limited	Medium
Earthquake	Significant	Likely	Limited	Medium
Earthquake: Liquefaction	Limited	Likely	Limited	Low
Flood: 100/200/500-year	Extensive	Occasional	Catastrophic	High
Flood: Localized Stormwater Flooding	Significant	Highly Likely	Limited	Low
Landslides	Limited	Unlikely	Negligible	Low
Levee Failure	Limited	Occasional	Negligible	Medium
River/Stream/Creek Bank Erosion	Limited	Occasional	Negligible	Low
Severe Weather: Extreme Temperatures – Cold/Freeze	Significant	Likely	Limited	Low
Severe Weather: Extreme Temperatures – Heat	Significant	Highly Likely	Limited	Low
Severe Weather: Fog	Significant	Likely	Limited	Low
Severe Weather: Heavy Rains and Storms (Thunderstorms, Hail, and Lightning)	Extensive	Highly Likely	Limited	Low
Severe Weather: Wind and Tornadoes	Significant	Likely	Limited	Low
Subsidence	Limited	Unlikely	Limited	Low
Volcano	Limited	Unlikely	Limited	Low
Wildfire:(Burn Area/Smoke)	Significant	Highly Likely	Limited	Medium

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 has 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

J.5 Hazard Profile and Vulnerability Assessment

The intent of this section is to profile Metro Fire's hazards and assess the District's vulnerability separate from that of the Planning Area as a whole, which has already been assessed in Sections 4.2 and 4.3 Hazard Profiles and Vulnerability Assessment in the main plan. The hazard profiles in the main plan 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. Hazard profile information specific to Metro Fire is included in this Annex. This vulnerability assessment analyzes the property, population, critical facilities, and other assets at risk to hazards ranked of medium or high significance specific to the District. For more information about how hazards affect the County as a whole, see Chapter 4 Risk Assessment in the main plan.

J.5.1. Hazard Profiles

Each hazard vulnerability assessment in Section J.5.3, includes a description as to how the hazard affects the Metro Fire and information on past occurrences. The intent of this section is to provide jurisdictional specific information on hazards and further describe how the hazards and risks differ across the Planning Area.

J.5.2. Vulnerability Assessment and Assets at Risk

This section identifies Metro Fire's assets at risk, including values at risk, critical facilities and infrastructure, economic assets, natural resources, historic and cultural resources, and growth and development trends.

Assets at Risk and Critical Facilities

This section considers the District's assets at risk, with a focus on key District assets such as critical facilities, infrastructure, and other District assets and their values. With respect to District assets, the majority of these assets are considered critical facilities as defined for this plan:

> *Any facility (a structure, infrastructure, equipment or service), that is adversely affected during a hazardous event may result in interruption of services and operations for the District at any time before, during and after the hazard event. A critical facility is classified by the following categories: (1) Essential Services Facilities, (2) At-risk Populations Facilities, and (3) Hazardous Materials Facilities.*

Table J-3 lists particular critical facilities and other District assets identified by the Metro Fire's planning team as important to protect in the event of a disaster. Metro Fire's physical assets, valued at over $165 million, consist of the buildings and infrastructure to support the Metro Fire operations.

Table J-3 Metro Fire's Critical Facilities, Infrastructure, and Other District Assets

Name of Asset	Facility Type	Address	Replacement Value	Hazard Info
Fire Station 21	Essential	7641 Greenback Ln Citrus Heights, CA 95610	$5,000,000	Earthquake
Fire Station 22	Essential	6248 Chestnut Ave., Orangevale 95662	$3,000,000	Earthquake
Fire Station 23	Essential	6421 Greenback Ln., Citrus Heights 95621	$4,000,000	Earthquake
Fire Station 24	Essential	4942 College Oak Dr., Sacramento 95841	$3,000,000	Earthquake
Fire Station 25	Essential	7352 Roseville Rd., Sacramento 95842	$3,000,000	Earthquake
Fire Station 26	Essential	8000 Palmerson Dr., Antelope 95843	$3,000,000	Earthquake
Fire Station 27	Essential	7474 Grand Oaks Bl., Citrus Heights 95621	$3,000,000	Earthquake
Fire Station 28	Essential	8189 Oak Ave., Citrus Heights 95610	$3,000,000	Earthquake
Fire Station 29	Essential	8681 Greenback Ln., Orangevale 95662	$3,000,000	Earthquake
Fire Station 31	Essential	7950 California Ave., Fair Oaks 95628	$3,000,000	Earthquake
Fire Station 31	Essential	8890 Roediger Lane, Fair Oaks 95628	$3,000,000	Earthquake
Fire Station 33	Closed	5148 Main Ave., Orangevale 95662	$2,000,000	Earthquake, Wildfire
Fire Station 41	Essential	6900 Thomas Dr., North Highlands 95660	$3,000,000	Earthquake

Name of Asset	Facility Type	Address	Replacement Value	Hazard Info
Fire Station 42	Essential	5608 North Haven, North Highlands 95660	$2,000,000	Earthquake
Fire Station 50	Essential	8880 Gerber Rd., Sacramento 95828	$3,000,000	Earthquake, Dam Failure
Fire Station 51	Essential	8210 Meadowhaven Dr., Sacramento 95828	$2,000,000	Earthquake, 500 year flood, Dam Failure
Fire Station 53	Essential	6722 Fleming Ave., Sacramento 95828	$2,000,000	Earthquake, 200 year flood, 500 year flood, Dam Failure
Fire Station 54	Essential	8900 Fredric Ave., Sacramento 95826	$1,500,000	Earthquake, 200 year flood, 500 year flood, Dam Failure
Fire Station 55	Essential	7776 Excelsior Rd., Sacramento 95829	$2,000,000	Earthquake, Wildfire
Fire Station 58	Essential	7250 Sloughhouse Rd., Elk Grove 95624	$2,000,000	Earthquake, Wildfire
Fire Station 59	Essential	7210 Murieta Drive, Rancho Murieta 95683	$2,000,000	Earthquake
Fire Station 61	Essential	10595 Folsom Bl., Rancho Cordova 95670	$3,000,000	Earthquake, 500 year flood, Dam Failure
Fire Station 62	Essential	3646 Bradshaw Rd., Sacramento 95827	$3,000,000	Earthquake, Dam Failure
Fire Station 63	Essential	12395 Folsom Bl., Rancho Cordova 95742	$1,500,000	Earthquake, Dam Failure
Fire Station 64	Essential	9116 Vancouver Dr., Sacramento 95826	$1,500,000	Earthquake, 500 year flood, Dam Failure
Fire Station 65	Essential	11201 Coloma Rd., Rancho Cordova 95670	$3,000,000	Earthquake, 500 year flood, Dam Failure
Fire Station 66	Essential	3180 Kilgore Rd., Rancho Cordova 95670	$2,000,000	Earthquake, Dam Failure

Name of Asset	Facility Type	Address	Replacement Value	Hazard Info
Fire Station 68	Essential	4381 Anatolia Dr., Rancho Cordova, 95742	$2,000,000	Earthquake
Fire Station 101	Essential	3000 Fulton Ave., Sacramento 95821	$2,000,000	Earthquake
Fire Station 102	Essential	4501 Marconi Ave., Sacramento 95821	$1,500,000	Earthquake
Fire Station 103	Essential	3824 Watt Ave., Sacramento 95821	$2,000,000	Earthquake
Fire Station 105	Essential	2691 Northrop Ave., Sacramento 95864	$2,000,000	Earthquake, 200 year flood, 500 year flood, Dam Failure
Fire Station 106	Essential	2200 Park Towne Cir., Sacramento 95825	$3,000,000	Earthquake, Dam Failure
Fire Station 108	Essential	6701 Winding Way, Fair Oaks 95628	$2,000,000	Earthquake
Fire Station 109	Essential	5634 Robertson Ave., Carmichael 95608	$2,000,000	Earthquake
Fire Station 110	Essential	1432 Eastern Ave., Sacramento 95864	$2,000,000	Earthquake, Dam Failure
Fire Station 111	Essential	6609 Rio Linda Blvd., Rio Linda, CA 95673	$2,000,000	Earthquake, Dam Failure
Fire Station 112	Essential	6801 34th St., North Highlands 95660	$1,500,000	Earthquake
Fire Station 114	Essential	5824 Kelly Way, McClellan 95652	$2,000,000	Earthquake
Fire Station 115	Essential	4727 Kilzer Ave., McClellan 95652	$2,000,000	Earthquake

Name of Asset	Facility Type	Address	Replacement Value	Hazard Info
Fire Station 116	Essential	7995 Elwyn Ave., Elverta 95626	$1,500,000	Earthquake, Dam Failure
Fire Station 117	Essential	7961 Cherry Brook Dr., Elverta 95626	$1,500,000	Earthquake, Dam Failure
Headquarters	Essential	10545 Armstrong Ave Mather, CA 95665	$20,000,000	Earthquake
Fleet Maintenance Facility	Essential	4425 Dudley Blvd McClellan Ca 95652	$20,000,000	Earthquake
Logistics/Training	Essential	3012 Gold Canal DR Rancho Cordova CA 95670	$5,000,000	Earthquake
Sacramento Regional Fire and EMS Communications Center	Essential	10230 Systems Parkway, Sacramento CA 95827	$20,000,000	Earthquake, Dam Failure

Source: Metro Fire

Natural Resources

Land uses within the District include urban, suburban, and undeveloped (natural or agricultural). The terrain throughout is primarily flat or composed of gently rolling hills, with the steepest terrain being located in the eastern portion of the District, where the Central Valley begins to transition into the Sierra Foothills, and along the American River.

The northern portion of the District is the most developed, and includes the urban and suburban development within the cities of Citrus Heights and Rancho Cordova, and surrounding unincorporated communities. Citrus Heights is located north of the American River, where it covers approximately 14 square miles immediately adjacent to Interstate 80. Rancho Cordova occupies nearly 34 square miles on the south side of the American River. A much larger area of urban and suburban development surrounds these communities, and is loosely circumscribed by Interstate 80 to the north and Highway 50 to the south. The American River runs between these two roadways, and forms a green belt through the developed area.

The southern portion of the District is occupied by scattered unincorporated communities, and extensive areas of grassland, pasture, and cropland. Other natural habitats include oak woodland, vernal pools, riparian habitat, and wetlands. There are numerous seasonal and perennial waterways within the District. The largest of the rivers is the American River, which traverses the northern portion of the District, and is bordered by riparian forest. It flows out of the man-made reservoir Folsom Lake, which is located just to the east of the District. The other primary river in the District is Cosumnes River, which flows across the

southern portion, roughly between the communities of Wilton and Rancho Murieta. Most rivers and streams are ephemeral, and dewater during the dry season.

There are many special-status plant species that have been documented in the CNDDB within a 5-mile radius around the District and are also included a USFWS quad search encompassing the District. These include:

- Big-scale balsamroot
- Peruvian Dodder
- Dwarf downingia
- Tuolumne Button-celery
- Boggs Lake hedge-hyssop
- Ahart's dwarf rush
- Northern California Black Walnut
- Legenere
- Pincushion navarretia
- Slender Orcutt grass
- Sacramento Orcutt grass

According to California Fish and Wildlife the following special status animals likely reside in Metro Fire's jurisdiction:

- Valley Elderberry Longhorn Beetle
- California Red-legged Frog
- Foothill Yellow-legged Frog
- Western Spadefoot
- Western Pond Turtle
- California Horned Lizard
- Bald Eagle
- Golden Eagle
- Peregrine Falcon
- Prairie Falcon
- Burrowing Owl
- Osprey
- Northern harrier
- Sharp-shinned hawk
- Cooper's hawk
- Ferruginous hawk
- Merlin (Falco columbarius)
- Long-eared owl
- Short-eared owl
- Loggerhead Shrike
- Tricolor blackbird
- Yellow-breasted Chat
- Yellow Warbler
- Greater Sandhill Crane
- Willow Flycatcher
- Purple Martin
- Pallid bat
- Townsends big-eared bat

- California mastiff bat

Historic and Cultural Resources

The Planning Team for the District put together a table of historic and cultural resources for the District. These were compiled by the District and are shown on Table J-4.

Table J-4 Points of Historical or Cultural Interest

Name of Asset	Address	Type of Landmark
American River Grange Hall N0 172	2720 Kilgore Rd, Rancho Cordova	National Register of Historic Places
Brighton School	3312 Bradshaw Road Sacramento	National Register of Historic Places
Indian Stone Corral	Orangevale	National Register of Historic Places
Nisenan Village Site	Carmichael	National Register of Historic Places
Old Fair Oaks Bridge	Bridge St Fair Oaks	National Register of Historic Places
Sacramento Air Depot Historic District	McClellan Air Force Base	National Register of Historic Places
Slocum House	7992 California Ave, Fair Oaks	National Register of Historic Places
Fifteen Mile House – Overland Pony Express Route	White Rock & Gold Valley Rd Rancho Cordova	California Historical Landmark
Sacramento Assembly Center- Camp Kohler	Walerga Park	California Historical Landmark
Sheldon Grist Mill	Meiss Rd and Hwy 16, Sloughouse	California Historical Landmark
Sloughhouse	Meiss Rd and Hwy 16 Sloughhouse	California Historical Landmark

Source: Metro Fire District

Growth and Development Trends

CITY OF CITRUS HEIGHTS

The City of Citrus Heights is a mostly built-out suburban city surrounded by similar development in unincorporated areas. A variety of commercial and office uses line the historic Auburn Boulevard commercial corridor and occupy small centers along a number of arterials including: Antelope Road, Fair Oaks Boulevard, Madison Avenue and San Juan Avenue. Although some of the older commercial centers along these arterials are beginning to show signs of deterioration, retail development has shifted over the past decades to the Sunrise MarketPlace, where Sunrise Mall and Marketplace at Birdcage serve as regional shopping centers.

The older residential area of the north-central city is comprised of primarily large lots and has retained a more rural setting, with large parcels accommodating hobby farming and livestock grazing. Smaller subdivisions and multi-family developments form the majority of the residential areas, with many of the denser multi-family neighborhoods surrounding the Sunrise MarketPlace.

Approximately 97 percent of the city is currently developed. Development of the remaining 3 percent of vacant land under the City of Citrus Heights General Plan could result in an increase of approximately 149

acres of residential development and 46 acres of commercial development. Future land uses consistent with the General Plan could result in an increase of approximately 3,577 residential dwelling units by 2035, which is an increase of approximately 10 percent over 2010 levels. Development of future land uses consistent with the General Plan could also result in an increase in population of approximately 15,880 or 18 percent from 2010 to 2035 (AECOM 2011).

The city was incorporated in 1997 with 88 percent of the homes built before 1989 and 36 percent were built in the 1970s. The majority of these homes were constructed as tract homes associated with the building boom of that decade. The majority of these homes were built quickly with inconsistent construction quality. Many of these homes are now experiencing failing roofs and HVAC systems. In addition, 861 homes were built prior to 1939, some of which lack complete plumbing and may be dilapidated. Most of these homes utilize electronic wiring and plumbing that can pose potential fire risk.

CITY OF RANCHO CORDOVA

The City of Rancho Cordova grew substantially after World War II, fueled by employment demand at Aerojet and Mather Air Force Base. The city contains relatively large amounts of undeveloped land, with even more undeveloped land within its Planning Area. Between 2003 and 2013, 5,000 new homes were built in the city. The city was incorporated in 2003. The City is currently working on four specific plans to guide development is several large undeveloped areas within the city, including: the Sunridge Specific Plan (10,000 dwelling units on 2,600 acres); Westborough Specific Plan (6,000 dwelling units on 1,700 acres); the Arboretum-Waegell Specific Plan (5,000 dwelling units on 1.350 acres); and the Mather Field Specific Plan. In addition, the completed Rio Del Oro Specific Plan allows 11,600 new dwelling units on 3,800 acres.

UNINCORPORATED COMMUNITIES

Antelope

Antelope is a residential community bounded by the Sacramento-Placer County line to the north, Antelope Road to the south, the Southern Pacific Railroad line to the east, and Dry Creek to the west. Antelope was established in the mid-1800s. Planning policies that have guided growth include the Antelope Community Plan, adopted in 1985 and the subsequent East Antelope Specific Plan, adopted in 1995. The community is nearly built out. One large vacant property remains undeveloped at the northwest intersection of Don Julio and Elverta Roads. The County's Housing Element projects construction of about 2,700 new dwelling units between 2005 and 2025.

Arden-Arcade

The Arden-Arcade community is located at the heart of Sacramento County and is marked by the convergence of several major freeways and thoroughfares. Arden-Arcade is bound by the American River to the south, Interstate 80 to the north, Ethan Avenue to the west and Mission Avenue on the east. Arden-Arcade includes nearly 40 distinct neighborhood areas and a number of shopping areas. The Arden-Arcade Community offers a range of housing options, everything from apartments to mansions. California State University, Sacramento (CSUS) is located just west of the Arden-Arcade boundary. Much of Arden-Arcade

began to develop in the 1940s with the Town and Country Village shopping center (the first suburban shopping center in Northern California). Most of the population growth in Arden-Arcade occurred up through the 1960s and 1970, when it is estimated that 75-80 percent of the community was developed with urban uses, and it is now one of the most fully developed areas of urban Sacramento. The County's Housing Element projects construction of about 200 new dwelling units between 2005 and 2025 in this community.

Carmichael and Old Foothill Farms

Carmichael and Old Foothill Farms is a fully developed community located 10 miles northeast of downtown Sacramento. It is bounded by Mission Avenue on the west, the American River on the south, San Juan Avenue on the east, and by the City of Citrus Heights on the north. The first settlers of Carmichael lived on 10-acre parcels, but following World War II, the community experienced rapid growth and its rural character began changing to a more suburban nature. Carmichael maintains its village feel, featuring a number of small shops, restaurants, and recreational activities. The community offers a complete range of homes, from apartments and townhouses to beautiful residences overlooking the American River and its parkway. Fair Oaks Boulevard is one of the community's major commercial corridors featuring shops, restaurants and services. A corridor plan was created for the boulevard (as well as a portion of Manzanita Avenue) that designates distinct local planning districts, including the creation of a SPA for the "Main Street District" that functions as the community's town center. The County's Housing Element projects construction of about 300 new dwelling units between 2005 and 2025 in this community.

Rancho Murieta

Rancho Murieta is a gated master planned community begun in the 1970s consisting of single family dwellings and townhouses. Rancho Murieta is surrounded by commonly-held open space and contains a small lake, golf course, and a few community services buildings (such as churches). It is located on eastern boundary of the District, and straddles the Jackson Highway (Highway 16). While Rancho Murieta itself is almost built to capacity, the Sacramento County Housing Element projects construction of about 3,000 new dwelling units between 2005 and 2025.

Fair Oaks

Fair Oaks is a well-established community of nearly 31,000 residents. The Fair Oaks community is bounded by the American River on the south, San Juan Avenue on the west, Madison Avenue on the north, and Blue Ravine on the east. It consists of a mix of small business district, suburban and semi-rural neighborhoods spanning over 11 square miles. The area is home to rolling hills and numerous native oaks. The County's Housing Element projects construction of about 300 new dwelling units between 2005 and 2025 in this community.

North Highlands - Foothill Farms

North Highlands is a diverse suburban community of 43,000 residents that is located approximately 10 miles northeast of downtown Sacramento. The North Highlands – Foothill Farms area is bounded by Antelope Road to the north, the city of Citrus Heights to the east, Arcade Creek and the city of Sacramento to the south, and on the west by Sacramento and McClellan Park, 28th Street, and Dry Creek. The community was formally established in 1952 and grew with the development of the McClellan Air Force

Base (now known as McClellan Business Park). McClellan Business Park is one of the largest business parks in California and will ultimately employ up to 34,000 individuals. The County's Housing Element projects construction of about 300 new dwelling units between 2005 and 2025.

Orangevale

Orangevale is a well-established community in northeastern Sacramento County. The Orangevale community is bounded by the Sacramento-Placer County line to the north, Madison Avenue to the south, Folsom to the east, and Kenneth Avenue and Fair Oaks Boulevard to the west. Most of the commercial property is in the southern portion of the community, along Greenback Lane. The northern portion of Orangevale is a rural and wildland island in the more densely developed portion of Sacramento County. This area also contains oak-covered Orangevale Community Park. Some residential properties are zoned to accommodate horses and orchards. The County's Housing Element projects construction of about 500 new dwelling units between 2005 and 2025 in this community.

Rio Linda and Elverta

The Rio Linda and Elverta community is located in the north-central section of Sacramento County and is bounded on the north by the Sutter and Placer County boundaries, on the west by the Western Pacific Railroad and Steelhead Creek, on the south by the City of Sacramento, and on the east by McClellan Park, 28th Street and Dry Creek. In addition to typical suburban and multi-family housing types, these two communities have large rural residential areas. The County's Housing Element projects construction of about 3,000 new dwelling units between 2005 and 2025.

Vineyard

The Vineyard area is located ten miles from downtown Sacramento in the geographic center of Sacramento County. It is bounded by Jackson Highway and Kiefer Boulevard on the north, Calvine Road on the south, Grantline Road on the east, Elk Grove-Florin Road on the west. Vineyard is currently home to over 24,000 residents, with many more expected once several planned new communities are built out. The northern border of the Vineyard area is shared with the former Mather Air Force Base. The Sacramento County General Plan Housing Element projects construction of about 16,000 new dwelling units between 2005 and 2025.

PROJECTED URBANIZATION

Future Growth Areas within the Urban Service Boundary

The County's General Plan contains objectives to encourage sustainability and accessibility while protecting valuable and sensitive environmental resources. To further these objectives, the plan has sustainable growth management policies including policies to limit new development to areas inside the Urban Service Description of Metro Fire Community Wildfire Protection Plan 6-26 Sacramento Metropolitan Fire District Boundary (USB) as shown on Figure 6-7. The General Plan also contains commercial corridor plans that will be implemented to provide multi-modal access along certain main corridors and revitalize some of the existing unincorporated communities. Future growth will occur as infill within the existing communities and development of currently undeveloped or lightly developed areas

within the adopted Urban Services Boundary (area as designated as Urban Service Areas). New Growth Areas identified by the County in 2012 include the Cordova Hills Master Plan area; the Mather Specific Plan area; New Bridge Master Plan area; Jackson Township Master Plan area. In addition, new development would continue in the other approved Master Plan areas shown on the attached figure showing Master Plan areas (e.g. Elverta Specific Plan area). As described previously, the County Housing Element projects substantial growth by 2025 in the community Vineyard (which likely includes the community of Cordova), moderate growth (2,500-3,000 new units) in Antelope and Rio Linda/Elverta. Little growth is projected in Arden-Arcade, Carmichael/Old Foothill Farms, Orangevale, North Highlands – Foothill Farms, and Fair Oaks.

Development Potential Outside the Urban Services Boundary

There is some potential for new development outside the USB. One of these potential growth areas is the eastern part of the county between Highway 50 and Rancho Murieta. This is the area that supports almost all the oak woodland in the District. Accordingly, it is the part of the District most at risk from wildfire. Other than the Rancho Murieta community area, this area is designated in the General Plan as Agriculture, 80-acre minimum parcel size. Future 80-acre ranchettes in or adjacent to the woodland areas could experience relatively high wildfire risk. It is noted that despite the General Plan land use designations for this area, the County Housing Element projects substantial growth (20,000 new dwelling units) in the Cosumnes and Rancho Murieta communities between 2005 and 2025.

In 2012, the City of Folsom annexed 3,585 acres for the Folsom South of U.S. Highway 50 Specific Plan, located between Highway 50 and White Road, Prairie City Road, and El Dorado County. Up to 11,000 residential units may eventually be developed in this area. The EIR/EIS prepared for that project noted that the land was within a State Responsibility Area and that the State has mapped the area as having a "moderate" fire hazard rating. On that basis, the EIR/EIS found that future development in the area would not be exposed to a substantial risk from wildfires.4 There are current plans to begin development of the area with one developer proposing in 2013 to build 900 new homes on 441 acres by 2015.

J.5.3. Vulnerability to Specific Hazards

This section provides the vulnerability assessment, including any quantifiable loss estimates, for those hazards identified above in Table J-2 as high or medium significance hazards. Impacts of past events and vulnerability of the Metro Fire to specific hazards are further discussed below (see Section 4.1 Hazard Identification in the Base Plan for more detailed information about these hazards and their impacts on the Sacramento County Planning Area). Methodologies for calculating loss estimates are the similar to those described in Section 4.3 of the Base Plan and are based on data provided by the District as described further below. In general, the most vulnerable structures are those located within the floodplain or within levee and dam inundation areas, such as older facilities that may be constructed with unreinforced masonry and buildings built prior to the introduction of modern building codes, or wildfire areas.

An estimate of the vulnerability of the Metro Fire to each identified priority hazard, in addition to the estimate of probability of future occurrence, is provided in each of the hazard-specific sections that follow. Vulnerability is measured in general, qualitative terms and is a summary of the potential impact based on

past occurrences, spatial extent, and damage and casualty potential. It is categorized into the following classifications:

- **Extremely Low—**The occurrence and potential cost of damage to life and property is very minimal to nonexistent.
- **Low—**Minimal potential impact. The occurrence and potential cost of damage to life and property is minimal.
- **Medium—**Moderate potential impact. This ranking carries a moderate threat level to the general population and/or built environment. Here the potential damage is more isolated and less costly than a more widespread disaster.
- **High—**Widespread potential impact. This ranking carries a high threat to the general population and/or built environment. The potential for damage is widespread. Hazards in this category may have occurred in the past.
- **Extremely High—**Very widespread with catastrophic impact.

Dam Failure

Likelihood of Future Occurrence–Unlikely
Vulnerability–Medium

Hazard Profile and Problem Description

Dam failures can result from a number of natural or manmade causes such as earthquakes, erosion of the face or foundation, improper siding, rapidly rising flood waters, structural/design flaws, and deliberate human actions. Folsom Dam is the major dam which affects Metro Fire and the populations in the inundation areas. Folsom Dam is owned by the US Bureau of Reclamation. The flood waters from a dam failure would likely affect the District's service area.

The ability to warn downstream communities in the event of a flood event caused by a dam failure is generally dependent on conditions such as the frequency of inspections for the dam's structural integrity, the flood wave arrival time (the time it takes for the flood wave to reach its maximum distance of inundation), or the ability to notify persons downstream and their ability to evacuate or take preventative actions to minimize damage to utilities or infrastructure. The existence and frequency of updating and exercising an evacuation plan that is site-specific assists in warning and evacuation functions.

A dam failure will cause loss of life, damage to property, and other ensuing hazards, as well as the displacement of persons residing in the inundation path.

Past Occurrences

There have been no incidents of a dam failure that have affected Metro Fire Assets. In 1995 a failure of a flood gate resulted in an uncontrolled release of water from the Folsom Dam. The American River levee system was able to contain the water.

Vulnerability to Dam Failure

Assets/Critical Facilities at Risk

The Bureau of Reclamation provided several dam and dike failure scenarios. The worst case scenario would be the failure of Folsom Dam. The resulting inundation would affect 17 fire district facilities considered essential. Warning time would vary from 1 hour to 3 hours for these facilities. The following facilities are at risk of damage due to dam failure.

- Station 50
- Station 51
- Station 53
- Station 54
- Station 61
- Station 62
- Station 63
- Station 64
- Station 65
- Station 66
- Station 105
- Station 106
- Station 110
- Station 111
- Station 116
- Station 117
- Sacramento Regional Fire and EMS Communications Center

Natural Resources at Risk

Much of the American River Parkway would be damaged during a failure of Folsom Dam. This could destroy vital habitat for both special status plants and animals.

Historic and Cultural Resources at Risk

All of the Points of Historical and Culture Interest listed in Table J-4 would be at risk during a dam failure.

Future Development

Most of the development in Metro Fire's jurisdiction is occurring in the northwest portion (Elverta/Rio Linda) of Sacramento County, the south east portion of the City of Rancho Cordova and the Vineyard area. A failure of any of the dikes north of the Folsom Dam would inundate Elverta with flood waters causing damage to the new development in the area. The development in the southeast portion of Rancho Cordova is not threatened by dam failure.

Drought and Water Shortage

Likelihood of Future Occurrence–Highly Likely
Vulnerability–Medium

Hazard Profile and Problem Description

Drought is different than many of the other natural hazards in that it is not a distinct event and usually has a slow onset. Drought can severely impact a region both physically and economically. Drought affects different sectors in different ways and with varying intensities. Adequate water is the most critical issue and is critical for manufacturing, tourism, recreation, and commercial and domestic use. As the population in the area continues to grow, so will the demand for water.

Drought is a significant hazard, especially to the forested areas of the District. Drought conditions stress and leave the forest susceptible to disease and insect infestation. As a result of recent drought conditions throughout California, infestations of the Pine Beetle are on the rise. Drought also stresses grasslands, and leaves them more susceptible to wildfire.

Past Occurrences

Droughts occur in California with regularity. The current drought started in 2011. Previous droughts occurred in 2007-2009, 1986-1991, and 1976-1977.

Vulnerability to Drought and Water Shortage

Assets a Risk

Unlike other natural disasters, drought does not affect individual properties. The effects of continued drought are felt area-wide. The greatest change to Metro Fire would be the decrease in the amount of training using water. During previous droughts, firefighting training using water was reduced to save this resources.

Natural Resources at Risk

Prolonged drought can cause an increase for wildfire occurrence and intensity. Drought can cause tree death which can create a significant increase in wildfire behavior.

Historic and Cultural Resources at Risk

No historic or cultural resources are at risk from drought.

Future Development

Prolonged drought could cause a reduction in future development due to the lack of water resources for new dwellings.

Earthquake

Likelihood of Future Occurrence–Likely
Vulnerability–Medium

Hazard Profile and Problem Description

An earthquake is caused by a sudden slip on a fault. Stresses in the earth's outer layer push the sides of the fault together. Stress builds up, and the rocks slip suddenly, releasing energy in waves that travel through the earth's crust and cause the shaking that is felt during an earthquake. Earthquakes can cause structural damage, injury, and loss of life, as well as damage to infrastructure networks, such as water, power, gas, communication, and transportation. Earthquakes may also cause collateral emergencies including dam and levee failures, hazmat incidents, fires, avalanches, and landslides. The degree of damage depends on many interrelated factors. Among these are: the magnitude, focal depth, distance from the causative fault, source mechanism, duration of shaking, high rock accelerations, type of surface deposits or bedrock, degree of consolidation of surface deposits, presence of high groundwater, topography, and the design, type, and quality of building construction.

Past Occurrences

Since 1931 there have been 17 significant earthquakes within 30 miles of Sacramento. The US Geological Survey predicts that there is a 45% chance of a 5.0 earthquake over the next 50 years.

Vulnerability to Earthquake

Assets a Risk

Many Fire District facility were constructed before seismic upgrades were required. Only 4 fire stations have been built in the last 10 years. All other stations are in excess of 20 years old. Some stations are unreinforced masonry construction which is especially vulnerable during earthquakes. At least 30 fire stations do not meet current seismic guidelines.

Natural Resources at Risk

No natural resources are at risk for earthquake damages.

Historic and Cultural Resources at Risk

All historical buildings are at risk for damage during an earthquake.

Future Development

California Building Code requires all new construction to have features that will reduce damage due to an earthquake.

Flood: 100/200/500-year

Likelihood of Future Occurrence–Occasional
Vulnerability–High

Hazard Profile and Problem Description

Flooding is the rising and overflowing of a body of water onto normally dry land. History clearly highlights floods as one of the most frequent natural hazards impacting Sacramento County. Floods are among the most costly natural disasters in terms of human hardship and economic loss nationwide. Floods can cause substantial damage to structures, landscapes, and utilities as well as life safety issues. Floods can be extremely dangerous, and even six inches of moving water can knock over a person given a strong current. A car will float in less than two feet of moving water and can be swept downstream into deeper waters. This is one reason floods kill more people trapped in vehicles than anywhere else. During a flood, people can also suffer heart attacks or electrocution due to electrical equipment short outs. Floodwaters can transport large objects downstream which can damage or remove stationary structures, such as dam spillways. Ground saturation can result in instability, collapse, or other damage. Objects can also be buried or destroyed through sediment deposition. Floodwaters can also break utility lines and interrupt services. Standing water can cause damage to crops, roads, foundations, and electrical circuits. Direct impacts, such as drowning, can be limited with adequate warning and public education about what to do during floods. Where flooding occurs in populated areas, warning and evacuation will be of critical importance to reduce life and safety impacts from any type of flooding.

Metro Fire has two major rivers running though the district. The American River runs east to west from Folsom Dam until the confluence with the Sacramento River in the City of Sacramento. The Cosumnes River crosses the District in the southern part of the county. Both rivers have been subject to flooding in the past.

The American River bisects the Fire District. There are a limited number of bridges that cross the river. Large scale flooding could damage the bridge crossing, creating significant problems maintaining response levels during flooding.

There are several stream groups that can affected Metro Fire. These include Arcade Creek, Dry Creek and Cripple Creek in the north part of the District. Morrison Creek and Deer Creek are in the southern portions of the District. These creeks often flood during heavy rain. Deer Creek overtops and blocks Scott Rd between Boys Ranch Rd and Latrobe RD during many storms.

Past Occurrences

In 1986 severe weather over a ten day period caused flooding in the area. The American River was flowing beyond its predicted safe flow for several days.

The New Years flood of 1996-1997 caused widespread stream flooding and a levee failure on the Cosumnes river.

Vulnerability to Flood

Assets a Risk

Three Metro Fire Facilities are within the 200 year flood plain. According to the flood depth maps published by the Sacramento Area Flood Control Agency these stations would likely be exposed to water that is over 5 feet deep. The facilities are:

- Station 54
- Station 53
- Station 105

For additional facilities are within the 5000 year flood plain. These facilities are:

- Station 51
- Station 61
- Station 64
- Station 65

Natural Resources at Risk

Extensive flooding along the American River Parkway would damage sensitive habitat of many special-status plants and animals.

Historic and Cultural Resources at Risk

Most of the Points of Historical and Cultural Interest are with the flood plains. Flooding would cause severe damage to historic buildings as they were not built to resist flooding.

Future Development

Most of the future development in the Fire District is occurring in areas that are not susceptible to flooding.

Levee Failure

Likelihood of Future Occurrence–Occasional
Vulnerability–Medium

Hazard Profile and Problem Description

Flooding caused by levee failure can occur as the result of partial or complete collapse of an impoundment, and often results from prolonged rainfall and flooding. The primary danger associated with dam or levee failure is the high velocity flooding of properties downstream of the breach. Section 4.2.15 Levee Failure describes the levee inventory in the Sacramento County Planning Area.

Flooding caused by levee failure would vary in the District depending on which structure fails and the nature and extent of the failure and associated flooding. Flooding may present a threat to life and property depending on buildings or facilities flooded. Damage may include buildings, their contents and loss of

critical services to the community. Large flood events can affect lifeline utilities (e.g., water, sewerage, and power), transportation, jobs, tourism, the environment, agricultural industry, and the local and regional economies.

Levee Flood Protection Zones estimate the maximum area that may be inundated if a project levee fails when water surface elevation is at the top of a project levee. Zones depicted on Figure 4.69 of the Base Plan do not necessarily depict areas likely to be protected from flow events for which project levees were designed. Figure 4.69 of the Base Plan illustrates the depths of flooding should a levee that protects that area fail.

Past Occurrences

In January 1997, a private levee on the Cosumnes River failed. This levee breach flooded mostly agricultural land in southeastern Sacramento County. There was not a significant impact on Metro Fire facilities or operations.

There have been no failures of the American River Levee System in recent history.

Vulnerability to Levee Failure

Assets a Risk

The facilities that are at risk for flooding are also at risk of levee failure.

Natural Resources at Risk

Extensive flooding from levee failure along the American River Parkway would damage sensitive habitat of many special-status plants and animals.

Historic and Cultural Resources at Risk

Most of the Points of Historical and Cultural Interest are with the flood plains. Flooding would cause severe damage to historic buildings as they were not built to resist flooding from levee failures.

Future Development

Most of the future development in the Fire District is occurring in areas that are not susceptible to flooding and levee failure.

Wildfire

Likelihood of Future Occurrence–Highly Likely
Vulnerability–Medium

Hazard Profile and Problem Description

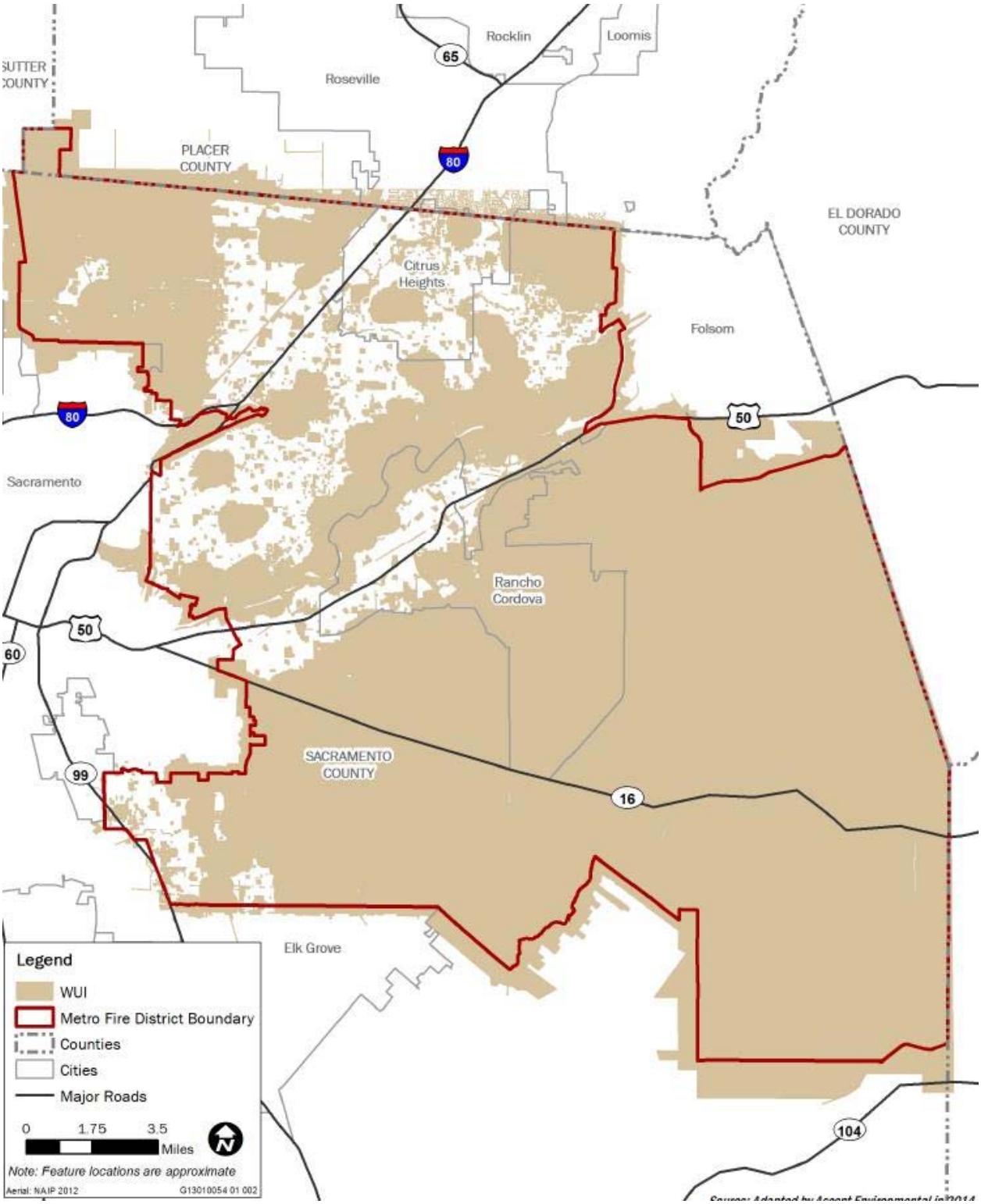
According to the American River CWPP, wildland fires are common in open space areas with vegetation that exhibits low fuel moisture. The threat for wildland fires is increased during the warmer months which are typically from late May until late October of every year. High winds can also contribute to the spread and severity of the fire. Specifically winds from the north which is drying winds they will support extreme wildland fire behavior, as opposed to winds from the west which have the ability to add moisture to fuels minimizing extreme fire behavior.

The WUI is the meeting point between wildland vegetation or fuels and structures (Figure J-3). At this interface, the structure and vegetation are sufficiently close that a wildfire could spread to a structure or a structure fire could ignite vegetation. The proximity of vegetation and structures needed to spread fire varies with the vegetation (fuel) type, the siting of the structure, and the exterior characteristics (building material and design) of the structure itself. WUI is defined on a scale larger than one lot or neighborhood.

In the past, the vast majority of wildfires occurred in remote locations and caused little damage to property or loss of human life. During the last 50 years, however, history is replete with examples of destructive fires in the WUI throughout California. Almost all of the wildfires within the District are caused by humans, and are closer to developed areas. Because of the increased values that accompany structures and other improvements, most losses from wildfire occur in the WUI.

Much of the development occurring in Metro Fire's jurisdiction is in the WUI. The current development projects in the Elverta area and the City of Rancho Cordova are in the WUI. There are also development occurring in the Rancho Murieta area.

Figure J-3 WUI in the Metro Fire District



Source: American River CWPP Appendix A

Past Occurrences

Metro Fire responds to an average of 869 wildfires per year (based on records from 2008-2013). This comprises 37 percent of all fires, even though wildlands cover only 15 percent of the District's 417 square mile jurisdictional area.

The number of wildfires in the District is rising, with a 5 percent increase in 2012 alone (Sacramento Metropolitan Fire District 2013). Simultaneously, major residential development has begun throughout the District, with a forecasted population increase of 200,000. Because most wildfires are human-caused, this higher population may well translate into more wildfires. The risk of wildfire is especially concerning because the wildland areas in these communities are not restricted to the outskirts of the District's jurisdictional area, but rather are interspersed amongst residential and commercial areas, creating a large wildland urban interface area. Additional risk factors for Metro Fire include topographical challenges in the ARP area that could impact fire suppression efforts, environmental considerations in the community, diversity of terrain, and increased residential development and population growth within WUI areas.

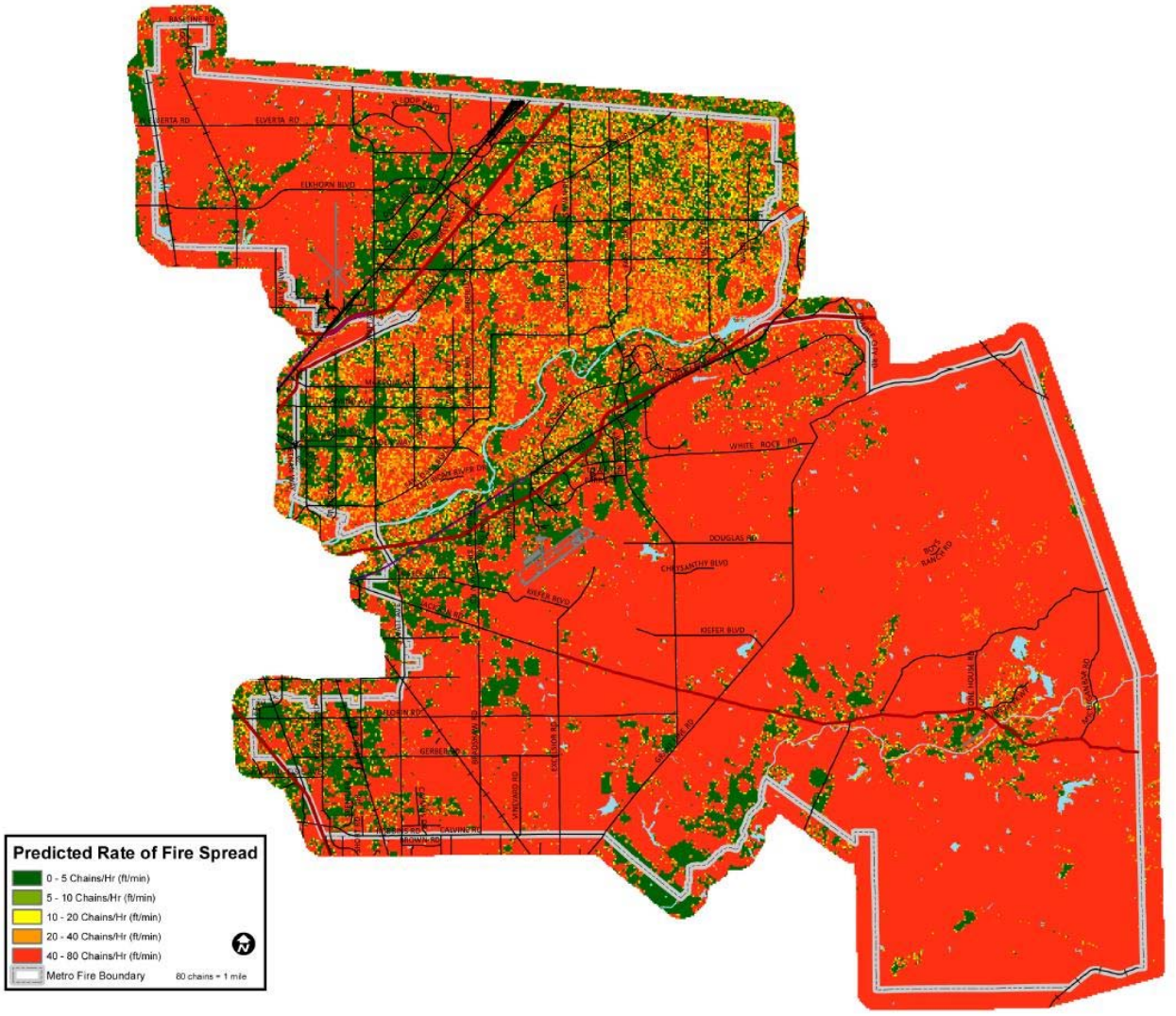
On June 10, 2008 a wildland fire started on Jackson Road east of Bradshaw Road. The Jackson Fire eventually burned 6400 acres, destroyed 5 homes and cause severe injuries to one firefighter. This fire required the extensive use of both automatic and mutual aid from both within Sacramento County and out-of-county resources.

Vulnerability to Wildfire

There are many ways to assess fire hazard; most utilize fuels, weather and topography, with possible inclusions of elevation, or fire history. Fire behavior modeling was used to assess the potential hazards within the District because it:

- integrates the effects of fuels, weather, and topography;
- denotes where containment may be easiest as well as where access may be precluded during a time of fire; and
- warns where natural resources may be unduly harmed by a wildfire as well as where fire may be inconsequential to natural resources.

Figure J-4 Predicted Rate of Fire Spread in the Metro Fire District



Source: American River CWPP Appendix A

Much of the land within the District is not predicted to have the capacity to burn under a wildfire, due to a lack of vegetation. Areas where surface fire can spread are located north of the American River, near Mather Air Field and the southeastern portion of the District. These generally coincide with lands mapped as WUI.

Assets a Risk

Only two Fire District facilities are at risk for wildfire: Station 58 and Station 33 (currently closed).

Natural Resources at Risk

The District Planning Team noted that all special status species and plant communities in the District are at risk to wildfire.

Historic and Cultural Resources at Risk

The following Points of Historic or Cultural Interest are at risk to wildfire:

- Indian Stone Corral
- Niscenan Village Site
- Sheldon Grist Mill'
- Sloughhouse

Future Development

The areas that are experiencing the greatest development are the southeastern portion of the City of Rancho Cordova, the Vineyard area and the northwestern portion of the county in the Elverta/Rio Linda area. All these areas are part of the WUI and are at greater risk for wildfire. Metro Fire has not formally designated a WUI area so the WUI components of the California Building Code do not apply except in the High Fire Severity Zone that is designated along the American River Parkway.

J.6 Capability Assessment

Capabilities are the programs and policies currently in use to reduce hazard impacts or that could be used to implement hazard mitigation activities. This capabilities assessment is divided into five sections: regulatory mitigation capabilities, administrative and technical mitigation capabilities, fiscal mitigation capabilities, mitigation education, outreach, and partnerships, and other mitigation efforts.

J.6.1. Regulatory Mitigation Capabilities

Table J-5 lists regulatory mitigation capabilities, including planning and land management tools, typically used by local jurisdictions to implement hazard mitigation activities and indicates those that are in place in the Metro Fire.

Table J-5 Metro Fire's Regulatory Mitigation Capabilities

Plans	Y/N Year	Does the plan/program address hazards? Does the plan identify projects to include in the mitigation strategy? Can the plan be used to implement mitigation actions?
Comprehensive/Master Plan		
Capital Improvements Plan		
Economic Development Plan		
Local Emergency Operations Plan	Y 2004	This plan is currently being updated. Hazards are identified. The plan does not identify mitigation strategy.
Continuity of Operations Plan		
Transportation Plan	N/A	
Stormwater Management Plan/Program	N/A	
Engineering Studies for Streams	N/A	

Community Wildfire Protection Plan	Y 2014	This plan addresses the wildfire hazards in the Fire District and recommends mitigation actions.
Other special plans (e.g., brownfields redevelopment, disaster recovery, coastal zone management, climate change adaptation)		
Building Code, Permitting, and Inspections	**Y/N**	**Are codes adequately enforced?**
Building Code	Y	Version/Year:
Building Code Effectiveness Grading Schedule (BCEGS) Score	N/A	Score:
Fire department ISO rating:	Y	Rating: 3/9
Site plan review requirements	Y	
Land Use Planning and Ordinances	**Y/N**	**Is the ordinance an effective measure for reducing hazard impacts? Is the ordinance adequately administered and enforced?**
Zoning ordinance		
Subdivision ordinance		
Floodplain ordinance		
Natural hazard specific ordinance (stormwater, steep slope, wildfire)		
Flood insurance rate maps		
Elevation Certificates		
Acquisition of land for open space and public recreation uses		
Erosion or sediment control program		
Other		
How can these capabilities be expanded and improved to reduce risk?		

Source: Metro Fire

J.6.2. Administrative/Technical Mitigation Capabilities

Table J-6 identifies the department(s) responsible for activities related to mitigation and loss prevention for Metro Fire.

Table J-6 Metro Fire's Administrative and Technical Mitigation Capabilities

Administration	Y/N	Describe capability Is coordination effective?
Planning Commission		
Mitigation Planning Committee		

Maintenance programs to reduce risk (e.g., tree trimming, clearing drainage systems)		
Mutual aid agreements		
Other		
Staff	**Y/N FT/PT**	**Is staffing adequate to enforce regulations? Is staff trained on hazards and mitigation? Is coordination between agencies and staff effective?**
Chief Building Official		
Floodplain Administrator	N	
Emergency Manager		
Community Planner		
Civil Engineer		
GIS Coordinator		
Other		
Technical		
Warning systems/services (Reverse 911, outdoor warning signals)		
Hazard data and information		
Grant writing		
Hazus analysis		
Other		
How can these capabilities be expanded and improved to reduce risk?		

Source: Metro Fire

J.6.3. Fiscal Mitigation Capabilities

Table J-7 identifies financial tools or resources that the Metro Fire could potentially use to help fund mitigation activities.

Table J-7 Metro Fire's Fiscal Mitigation Capabilities

Funding Resource	Access/ Eligibility (Y/N)	Has the funding resource been used in past and for what type of activities? Could the resource be used to fund future mitigation actions?
Capital improvements project funding		
Authority to levy taxes for specific purposes	Y	This has not been attempted
Fees for water, sewer, gas, or electric services	N	
Impact fees for new development	Y	Impact fees have been use open new fire stations
Storm water utility fee	N/A	

Funding Resource	Access/ Eligibility (Y/N)	Has the funding resource been used in past and for what type of activities? Could the resource be used to fund future mitigation actions?
Incur debt through general obligation bonds and/or special tax bonds	Y	
Incur debt through private activities		
Community Development Block Grant		
Other federal funding programs	Y	SAFER, AFG, HSGP
State funding programs		
Other		
How can these capabilities be expanded and improved to reduce risk?		

Source: Metro Fire

J.6.4. Mitigation Education, Outreach, and Partnerships

Table J-8 identifies education and outreach programs and methods already in place that could be/or are used to implement mitigation activities and communicate hazard-related information.

Table J-8 Metro Fire's Mitigation Education, Outreach, and Partnerships

Program/Organization	Yes/No	Describe program/organization and how relates to disaster resilience and mitigation. Could the program/organization help implement future mitigation activities?
Local citizen groups or non-profit organizations focused on environmental protection, emergency preparedness, access and functional needs populations, etc.	Y	
Ongoing public education or information program (e.g., responsible water use, fire safety, household preparedness, environmental education)	Y	
Natural disaster or safety related school programs	Y	
StormReady certification		
Firewise Communities certification		
Public-private partnership initiatives addressing disaster-related issues		
Other		
How can these capabilities be expanded and improved to reduce risk?		

J.6.5. Other Mitigation Efforts

As stated in the American River CWPP, there are mitigation efforts ongoing by the District. This includes:

- Fuel reductions projects
- Treatment of structural ignitability
- Vegetation treatments

Information on these items may be found in greater detail in the CWPP.

J.7 Mitigation Strategy

J.7.1. Mitigation Goals and Objectives

Metro Fire adopts the hazard mitigation goals and objectives developed by the HMPC and described in Chapter 5 Mitigation Strategy.

J.7.2. Mitigation Actions

The planning team for Metro Fire identified and prioritized the following mitigation actions based on the risk assessment. Background information and information on how each action will be implemented and administered, such as ideas for implementation, responsible office, potential funding, estimated cost, and timeline are also included.

Action 1. Relocate the essential facilities in the 200 year flood plain.

Hazards Addressed: Flooding

Goals Addressed: 1, 2, 3, 4

Issue/Background: 3 Fire stations (54, 53, 105) are located within the 200 year flood plain of the American River. These stations would become uninhabitable during a significant flood. Apparatus and equipment are vulnerable to damage.

Project Description: Locate suitable properties. Construct new fire stations to replace the 3 in the flood plain.

Other Alternatives: Raising station above flood level.

Existing Planning Mechanism(s) through which Action Will Be Implemented: Capital Improvement Plan

Responsible Office/Partners: Sacramento Metropolitan Fire District Facilities Director

Project Priority: Medium

Cost Estimate: $15,000,000

Benefits (Losses Avoided): Prevents the loss of essential emergency facilities.

Potential Funding: Capital improvement funds, grant funding

Timeline: 3-5 years

Action 2. Perform seismic study of all district facilities and identify those facilities at greatest risk for earthquake damage.

Hazards Addressed: Earthquake

Goals Addressed: 1, 3, 4

Issue/Background: Except for 4 fire stations rebuilt of the last 7 years all other district fire stations are more than 20 years old. Many stations are unreinforced masonry construction and have a substantial risk of collapse during an earthquake.

Project Description: Perform a study of all district facilities to assess the risk of damage from earthquakes. Develop a list of seismic retrofit priorities for district facilities. Identify funding sources for seismic retrofitting of fire stations.

Other Alternatives: None

Existing Planning Mechanism(s) through which Action Will Be Implemented: Capital Improvement Plan

Responsible Office/Partners: Metro Fire Facilities

Project Priority: Low

Cost Estimate: $250,000

Benefits (Losses Avoided): Will identify those district facilities that need to be retrofitted or replaced to avoid earthquake damage.

Potential Funding: Grant funding

Timeline: 1-3 years

Action 3. Implement a Wildland Urban Interface (WUI) Building/Fire Code

Hazards Addressed: Wildfire

Goals Addressed: 1, 3, 4

Issue/Background: Metro Fire does not have a designated WUI area and has implement a WUI Building/Fire Code. By designating a WUI area, WUI provisions of the California Building Code will become enforceable.

Project Description: Designate a WUI area within Metro Fire based on the information in the Community Wildfire Protection Plan. Develop WUI building code and defensible space ordinances

Other Alternatives: None

Existing Planning Mechanism(s) through which Action Will Be Implemented: Community Wildfire Protection Plan

Responsible Office/Partners: Metro Fire Community Risk Reduction Division

Project Priority: High

Cost Estimate: $10,000

Benefits (Losses Avoided): New construction in the WUI will meet guidelines to reduce the ignition potential of the structures in the WUI.

Potential Funding: Staff time, grant founding

Timeline: 1 year

Action 4. Develop and Implement a comprehensive WUI fuels management program.

Hazards Addressed: Wildfire

Goals Addressed: 1, 2, 3, 4

Issue/Background: Reducing wildland fuels in the WUI will reduce the possibility of structure loss during a WUI fire. There are many stakeholders who will want to be involved in the fuels management program, citizens, property owners, county parks, state parks, and water districts. Fuel reduction can take on several different mechanism including grazing, hand clearing, mechanical clearing and prescribed burning.

Project Description: Hire a fuels management officer. Develop a fuels management policy. Convene a stakeholders group to prioritize projects. Implement fuels reductions as described in the CWPP. Develop an invasive species reduction program using prescribed burning and hand and mechanical clearing of non-native plants.

Other Alternatives: None

Existing Planning Mechanism(s) through which Action Will Be Implemented: CWPP

Responsible Office/Partners: Community Risk Reduction Division

Project Priority: High

Cost Estimate: $750,000 per year

Benefits (Losses Avoided): Reducing fuels in the WUI will decrease the likely hood of building ignition reducing structural losses during a wildfire.

Potential Funding: Grant founding

Timeline: 1-5 years

Action 5. Deploy 2 remote automated weather stations (RAWS) in Metro Fire jurisdiction

Hazards Addressed: Wildfire

Goals Addressed: 1, 2, 3, 4

Issue/Background: There are no weather stations in Metro Fires jurisdiction that provide readings that are compatible with the National Fire Danger Rating System (NFDRS). Having the correct reading will allow Metro Fire to issue weather advisories..

Project Description: Develop locations to place 1-2 RAWS in Sacramento County. Purchase and install the equipment. Develop a policy for issuing wildfire warnings. Develop policies relating to fire danger and the amount of equipment dispatched to a wildland fire incident.

Other Alternatives: None

Existing Planning Mechanism(s) through which Action Will Be Implemented: CWPP

Responsible Office/Partners: Community Risk Reduction Division

Project Priority: High

Cost Estimate: $20,000 per RAWS, yearly maintenance $3000

Benefits (Losses Avoided): Providing real time wildfire weather report would allow the district issue warnings about dangerous outdoor activities reducing the risk of wildfire.

Potential Funding: Grant found

Timeline: 2-3

Action 6. Defensible space ordinance

Hazards Addressed: Wildfire

Goals Addressed: 1, 2, 3, 4

Issue/Background: Metro Fire does not have a defensible space ordinance or inspection program

Project Description: Develop and implement a defensible space ordinance for all WUI areas. Perform defensible space inspections.

Other Alternatives: None

Existing Planning Mechanism(s) through which Action Will Be Implemented: CWPP

Responsible Office/Partners: Community Risk Reduction

Project Priority: Medium

Cost Estimate: $10,000 to implement ordinance, $300,000 per year for inspections

Benefits (Losses Avoided): Defensible space will reduce the structure loss from wildland fires.

Potential Funding: Staff time, fines and fees, grant founding

Timeline: 2-4 years