

2017

LOCAL HAZARD MITIGATION PLAN



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CITY OF CORONA
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CITY OF CORONA

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PLAN ADOPTION/RESOLUTION

The City of Corona will submit plans to Riverside County Emergency Management Department who will forward to California Governor's Office of Emergency Services (CALOES) for review prior to being submitted to the Federal Emergency Management Agency (FEMA). In addition, we will wait to receive an "Approval Pending Adoption" letter from FEMA before taking the plan to our local governing bodies for adoption. Upon approval, the City of Corona will insert the signed resolution.

EXECUTIVE SUMMARY

The purpose of this local hazard mitigation plan is to identify the County's hazards, review and assess past disaster occurrences, estimate the probability of future occurrences and set goals to mitigate potential risks to reduce or eliminate long-term risk to people and property from natural and man-made hazards.

The plan was prepared pursuant to the requirements of the Disaster Mitigation Act of 2000 to achieve eligibility and potentially secure mitigation funding through Federal Emergency Management Agency (FEMA) Flood Mitigation Assistance, Pre-Disaster Mitigation, and Hazard Mitigation Grant Programs.

Riverside County's continual efforts to maintain a disaster-mitigation strategy is ongoing. Our goal is to develop and maintain an all-inclusive plan to include all jurisdictions, special districts, businesses and community organizations rather than them writing their own plan to promote consistency, continuity and unification.

The County's planning process followed a methodology presented by FEMA and CAL-OES which included conducting meetings with the Operational Area Planning Committee (OAPC) coordinated by Riverside County Emergency Management Department (EMD) comprised of participating Federal, State and local jurisdictions agencies, special districts, school districts, non-profit communities, universities, businesses, tribes and general public.

The plan identifies vulnerabilities, provides recommendations for prioritized mitigation actions, evaluates resources and identifies mitigation shortcomings, provides future mitigation planning and maintenance of existing plan.

The plan will be implemented upon FEMA approval.

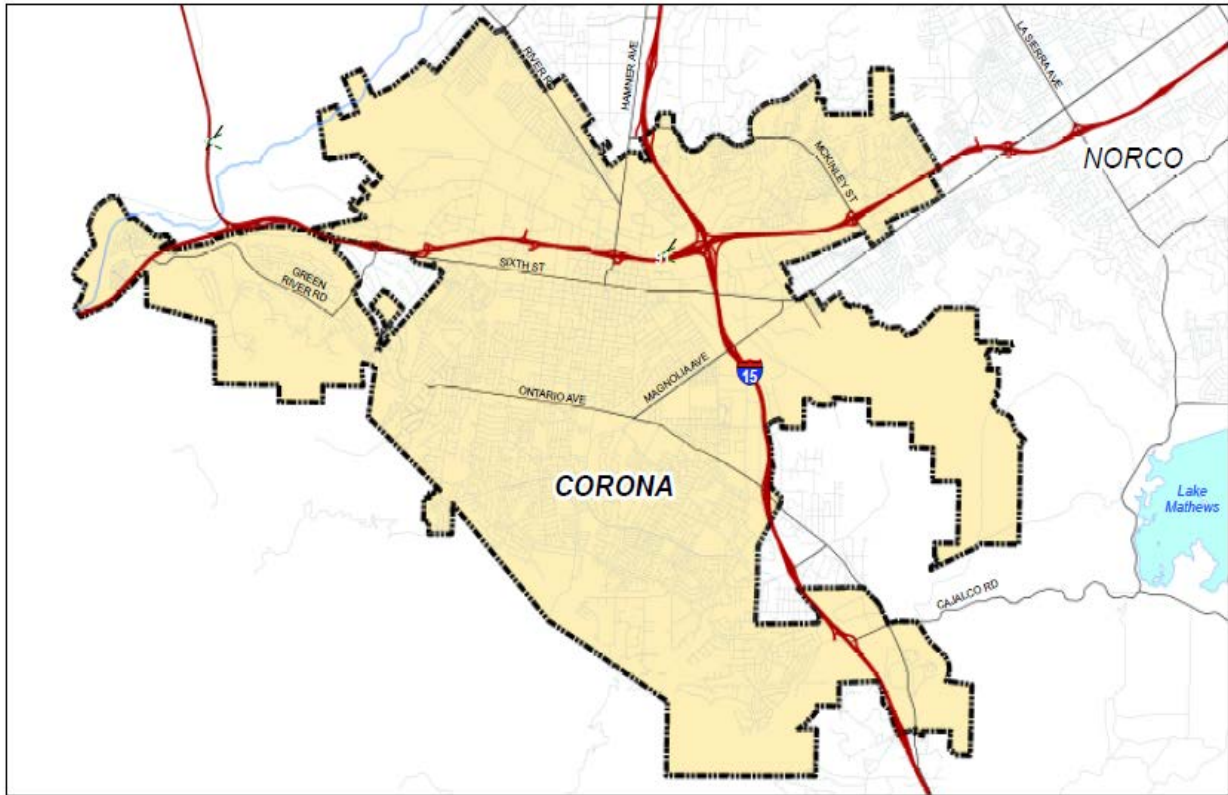
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SECTION 1.0 - COMMUNITY PROFILE

1.1 CITY OF CORONA MAP



1.2 GEOGRAPHY AND CLIMATE DESCRIPTION

The City of Corona is located approximately 45 miles southeast of Los Angeles in western Riverside County. It is located in a valley, framed by mountains and the Prado Basin. Original settlements focused development in an area within and adjacent to Grand Boulevard. As the City grew, the geographic limitations imposed by the Cleveland National Forest to the south and the Prado Basin to the northeast created natural barriers that confined the City. The City is bordered by the City of Norco to the north, the City of Riverside to the east, and Riverside County to the west and south.

The City limits encompass 39.2 square miles and the population is approximately 159,132. A city whose heritage spans more than a century, Corona has emerged as an ethnically diverse community, where a significant percentage of the population is made up of young, well-educated families. The Corona community boasts many amenities that provide a first-rate quality of life for residents. The City has more than

394 acres of parks, with sports fields, basketball courts, playgrounds, tennis courts, two skate parks and an outdoor pool.

Two major freeways and one railroad transect Corona. The Riverside Freeway (SR-91) runs east/west directly north of the City's center, Interstate 15 (I-15) runs north/south near the eastern edge of the City, and the railroad parallels SR-91. These corridors are major transportation routes to the economic center of Orange County from the Inland Empire.

Two geographical areas are considered to be within the boundaries of the City of Corona General Plan Planning area, lands within the City's corporate limits, and lands within its Sphere of Influence (SOI). The City currently includes 39.2 square miles, plus 34.3 square miles in Riverside County designated as being within the SOI.

The SOI was defined by the City, the Southern California Association of Governments (SCAG), and the Riverside County Local Agency Formation Commission (LAFCO). It represents the areas likely to be served by and potentially annexed to the City. The SOI includes three geographically distinct areas including the West, East, and South Spheres. The West Sphere encompasses three geographic areas: the Prado Basin, Coronita, and the Foothill area. The East Sphere includes the areas of Home Gardens, Eagle Valley East, and El Cerrito. Temescal Canyon makes up the South Sphere.

The City of Corona Planning area is within the South Coast Air Basin of California. The air basin is a 6,600-square mile area encompassing the non-desert portions of Riverside, Los Angeles, and San Bernardino Counties and all of Orange County. Bounded by the Pacific Ocean to the west and the San Gabriel, San Bernardino, and San Jacinto Mountains to the north and east, the South Coast Air Basin is an area of high air pollution potential.

The climate of the South Coast Air Basin is dominated by the strength and position of the semi-permanent high-pressure center over the Pacific Ocean near Hawaii. It creates the climate conditions typical of Southern California, (i.e., relatively cool summers, mild winters, infrequent rainfall, cool daytime sea breezes, comfortable humidity, and ample sunshine). Periods of extremely hot weather, winter storms, or Santa Ana wind conditions interrupt this pattern. Unfortunately, the same atmospheric processes that create the desirable living climate combine to restrict the ability of the atmosphere to disperse the air pollution generated by the region's population.

The location of the Planning Area, east of the Chino Hills and Santa Ana Mountains, insulates it from the moderating effect of the ocean. Temperatures and precipitation in Corona vary more dramatically than coastal areas of the basin. Average summertime high temperatures range between about 85 to 92 degrees Fahrenheit from June through September, and average wintertime low temperatures are generally near 40 degrees in December and January. Rainfall is highly variable and confined almost exclusively to the winter months. Rainfall in Corona averages about 12.6 inches annually.

Predominating winds travel from the ocean, across the urbanized coastal areas of Orange and Los Angeles Counties, to Corona through the Santa Ana River Canyon. The canyon acts as a funnel for air masses moving across the basin. Daytime winds are typically channeled through the canyon to create steady, abnormally high (greater than 12mph) wind velocities from the west. Typical nighttime conditions reverse, and light winds (less than 1 mph) drift back towards the ocean. Exceptions to this pattern occur when a high-pressure center forms over the western United States and creates the strong, hot, dry, gusty Santa Ana winds, which move through Corona from the eastern deserts into the canyon.

1.3 BRIEF HISTORY

Corona's historic resources are those physical elements, both structural and natural, which define Corona's past. They help give the City its unique identity, charm, and orientation. These resources, when well preserved and maintained, provide the community with a sense of permanence, which fosters civic pride and stewardship among its residents and businesses. Information describing the historic and cultural resources were derived from the California Environmental Resources Evaluation Systems (CERES) website, as well as the Riverside County Integrated Project (RCIP) (March 2000) existing setting conditions.

Corona's history is an evolution of Native American inhabitation, Missionary influence, agricultural development, and eventual rapid urbanization. The City's growth and development is typical of many other areas in Southern California.

In the early 1700s, prior to the arrival of the Spanish, the Gabrieleno and Luiseno Indians occupied the Corona area. These Native Americans used the hot waters in Temescal Canyon for bathing and religious ceremonies. Current residents and visitors still enjoy the rejuvenating mud baths and hot springs at the Glen Ivy Springs Resort. Luiseno religious ceremonies were strictly followed and remnants of some of their artistic pictographs and petroglyphs can still be found on rocks in undeveloped areas.

In the early 1800s, the agricultural and cattle ranching base developed and portions of Corona became part of the Mexican land grants (Rancho La Sierra Yorba, Rancho Jurupa, Rancho El Rincon, and Rancho El Sobrante de San Jacinto). With the Treaty of Guadalupe Hidalgo (1846), Mexico ceded the Corona area as part of California to the United States. The Yorba, Serrano, Sepulveda, Cot, and Botiller families' ranches sheep and cattle on the original ranchos in the area. Remnants of the Serrano tanning vats are still found on Old Temescal Canyon Road. In 1849, the California gold rush brought prospectors, settlers, and new development to southern California. The Butterfield Stage stops and the Serrano adobes are found along this road.

In 1886, developer Robert Taylor persuaded his partners: Rimpau, Joy, Garretson, and Merrill to form the South Riverside Land and Water Company. Together they raised approximately \$110,000 to purchase approximately 12,000 acres of good agricultural land. Taylor realized the importance of water for the soon to be developed community, and additional funds were used to ensure that sufficient water rights were obtained. Taylor hired Anaheim engineer H. C. Kellogg to design a circular Grand Boulevard three miles round. Early residents used to parade their fancy buggies on this circular street that enclosed the main functions of the community: schools, churches, residences, and stores. To the north along the railroad tracks were the manufacturing plants and packing houses. The southern end of town was left to the citrus industry, and the mining companies were established just outside the city's southeastern and eastern city limits.

The town's founders initially named their development South Riverside after the successful citrus community of Riverside, just a few miles away. Almost all of the new settlers planted orange and lemon trees in hopes of gaining future profits. New groves continued to spring up and, by 1912, there were 5,000 acres of established lemon and orange groves. By 1913, Corona shipped more fruit than any other town in Southern California. In 1961, citrus was still considered the backbone of Corona's economy and the largest source of revenue. In that year, citrus covered 7,500 acres. The labor force fluctuated between 400 and 1,800 workers at the peak of the harvest. An additional 500 people worked at the Exchange Lemon Products plant. By 1982, Corona's agricultural industry faced a bleak future as production costs made the economics of farming financially unsuccessful. Plans then began to replace the groves with approximately 12,500 dwelling units.

On July 13, 1896, residents voted to incorporate and change the name of the community to Corona, which is Spanish for crown, in honor of the City's circular Grand Boulevard. By 1900, the population had reached 1,434 people. On

September 9, 1913, in observance of California's Admission's Day, Corona residents celebrated with an international automobile race on the Boulevard. The event attracted such auto racing greats as: Ralph DePalma, Barney Oldfield, Terrible Teddy Tetzlaff, and Earl Cooper. More than 100,000 people came to the town of 4,000 to watch Cooper win the race and a prize of \$8,250. It was so successful that races were held again in 1914 and 1916. The demise of the Corona road races was due not only to tragic deaths, which occurred in 1916, but also because of the cost and local effort needed to continually stage such an extravagant event.

1.4 ECONOMY DESCRIPTION

Over the years, the City of Corona has seen dilapidated industrial sites converted to Class A office space and old quarries developed into high-end retail shopping opportunities. Throughout all of this activity, the City of Corona has maintained a quality service-level unmatched in the region.

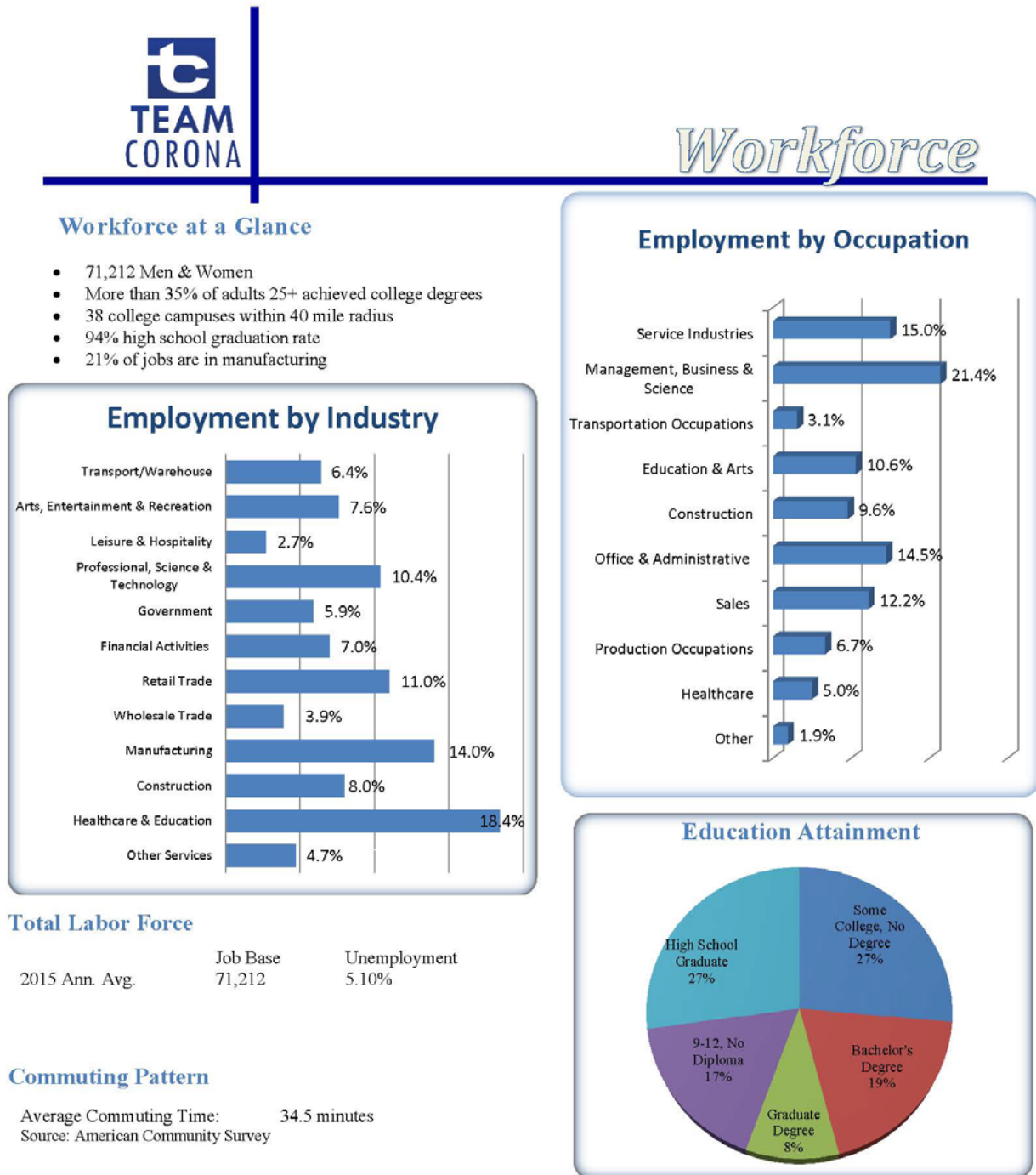
Corona's economy was built on a strong manufacturing and industrial base, which will benefit in coming years from strong export growth and a weak dollar, in addition to rising demand in the city. Currently, Corona has 34 million square feet of industrial space, more than 8 million square feet of retail, and 3 million square feet of office space. Corona continues to see strong retail sales activity with total retail receipts in excess of \$3.4 Billion, a number not seen since the great recession.

Through the years, Corona has maintained the policy that job creation is important for the future of the city. In recent years, this could not have been truer when it comes to vacancy rates within the region. As the space continues to stay occupied, it creates jobs, which in turn creates spendable income in the city. Corona has maintained its position as the dominant leader in Inland Southern California with Industrial vacancy rates approaching 1% and retail vacancy at 4.5% respectably. Corona has four distinct industry clusters: Food Processing, Automotive Aftermarket, R&D Medical & Technology, and Aeronautics. Companies such as Monster Energy, Lucas Oil, and Fender Guitar have expanded several times in recent years. Notably, Veg-Fresh Farms relocated its headquarters to Corona in 2013, to a state of the art temperature controlled facility and added more than 450 Jobs to Corona.

Corona's residential market continues to boom with more than 2,700 homes approved and entitled. Much of this attributed to Corona's Arantine Hills, Corona's newly approved private community consisting of 1,628 single family homes, 65.5 acres of park and open space, as well as a 25 acre retail village. Main Street Metro has given way to a new urban landscape along the North Main corridor adding 860 units in the shape of a fully amenitized mixed use development. While these new exclusive communities attract young affluent families, Corona still boast three-tiers of

housing for consumers: executive-level, workforce, and family dwellings, something not found in surrounding communities.

Figure 1.4.1 – City of Corona Workforce



1.5 POPULATION AND HOUSING

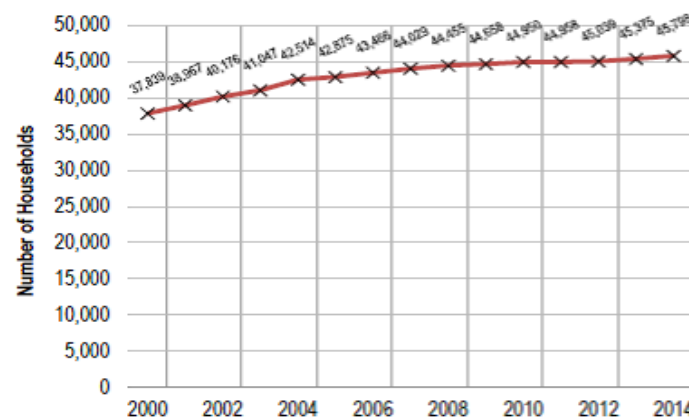
In a little over a century, the City of Corona has evolved from a small town of 1,434 persons with deep agricultural roots to a dynamic, diverse community of in excess of 167,759 persons, an increase in population of 15,385 from the 2010 Census. At the turn of the millennium, Corona's growth had been among the highest in the United States. It's vast agricultural areas at the base of the Santa Ana Mountains, La Sierra Hills, and Chino Hills that centered on a single place of business and civic identity, has evolved to a suburban community of multiple neighborhoods and centers of commerce and employment. The City of Corona's housing units had increased to 48,064 in 2014 from 44,950 in 2010, an increase of approximately 3,114 units.

Figure 1.5.1 – City of Corona Households

III. Households

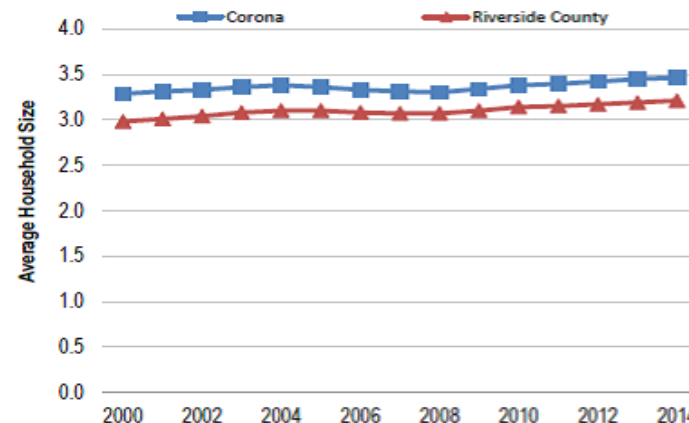
Number of Households (Occupied Housing Units)

Number of Households: 2000 - 2014



Sources: 2000 and 2010 U.S. Decennial Census; California Department of Finance, E-5, 2014

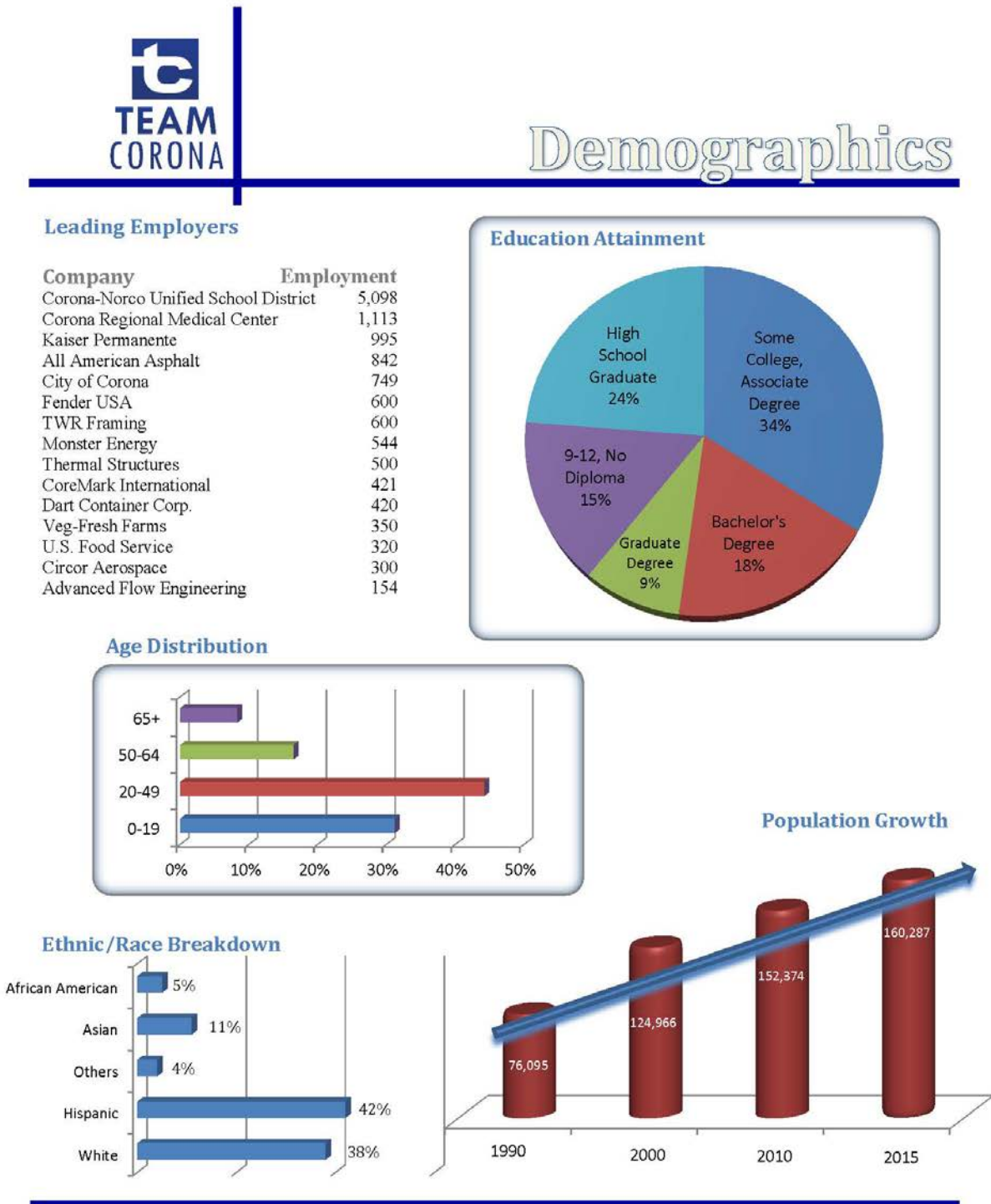
Average Household Size: 2000 - 2014



Source: California Department of Finance, E-5, 2014

- Between 2000 and 2014, the total number of households in the City of Corona increased by 7,975 units, or 21 percent.
- During this 14-year period, the city's household growth rate of 21 percent was lower than the county growth rate of 38.4 percent.
- 6.5 percent of Riverside County's total number of households is in the City of Corona.
- In 2014, the city's average household size was 3.5, higher than the county average of 3.2.

Figure 1.5.2 – City of Corona Demographics



Office of Economic Development | 400 S. Vicentia Ave., Corona CA 92882 | 951.736.2260 | TeamCorona.com

1.6 DEVELOPMENT TRENDS AND LAND USE

JURISDICTION: CITY OF CORONA	DOES YOUR AGENCY HAVE RESPONSIBILITY FOR LAND USE AND/OR DEVELOPMENT ISSUES WITHIN YOUR JURISDICTIONAL BOUNDARIES? YES NO			
	2012 DATA	2017 DATA		2022
Current Population in Jurisdiction or Served	153,649	167,759	Projected Population in Jurisdiction or Served - in 2022	175,000
Current Sq. Miles in Jurisdiction or Served	39.2	39.2	Projected Sq. Miles in Jurisdiction or Served - in 2022	39.2
Does Your Jurisdiction have any ordinances or regulations dealing with disaster mitigation, disaster preparation, or disaster response?	Yes	Yes	If yes, please list ordinance or regulation number. Ordinance No. 2429, 1973, 2077 Corona Municipal Code Chapters 2.52, 3.36, 4.04.80, 7a, 15.12.270 Section 705	
What is the number one land issue your agency will face in the next five years	Economy and Infill/compact development			
Approximate Number of Homes/Apts/etc.	47,182	48,930	Projected Number of Homes/Apts/etc.- in 2022	50,500
Approximate Total Residential Value	\$16.3 billion	\$17.0 billion	Projected Residential Total Value - in 2022	\$19.0 billion
Approximate Number of Commercial Businesses	5,205	9,000	Projected Number of Commercial Businesses - in 2022	9,500
Approximate Percentage of Homes/Apts/etc. in flood hazard zones	0.7%	0.7%	Approximate Percentage of Homes/Apts/etc. in flood hazard zones - in 2022	0.7%
Approximate Percentage of Homes/Apts/etc. in earthquake hazard zones	3.5%	3.5%	Approximate Percentage of Homes/Apts/etc. in earthquake hazard zones - in 2022	3.5%
Approximate Percentage of Homes/Apts/etc. in wildland fire hazard zones	6.55%	6.55%	Approximate Percentage of Homes/Apts/etc. in wildland fire hazard zones - in 2022	6.55%
Approximate Percentage of Commercial Businesses in flood hazard zones	0.003%	0.7%	Approximate Percentage of Commercial Businesses in flood hazard zones - in 2022	0.7%
Approximate Percentage of Commercial Businesses in earthquake hazard zones	1.9%	0.3%	Approximate Percentage of Commercial Businesses in earthquake hazard zones - in 2022	0.3%
Approximate Percentage of Commercial Businesses in wildland fire hazard zones	4.5%	0	Approximate Percentage of Commercial Businesses in wildland fire hazard zones - in 2022	0
Number of Critical Facilities in your Jurisdiction that are in flood hazard zones	0	0	Projected Number of Critical Facilities in your Jurisdiction that are in flood hazard zones - in 2022	0
Number of Critical Facilities in your Jurisdiction that are in earthquake hazard zones	2	2	Number of Critical Facilities in your Jurisdiction that are in earthquake hazard zones - in 2022	2
Number of Critical Facilities in your Jurisdiction that are in wildland fire hazard zones.	7	7	Number of Critical Facilities in your Jurisdiction that are in wildland fire hazard zones - in 2022	7
Does your jurisdiction plan on participating in the County's on-going plan maintenance program every two years as described in Part I of the plan?	Yes	Yes	If not, how will your jurisdiction do plan maintenance? N/A	
Will a copy of this plan be available for the various planning groups within your jurisdiction for use in future planning and budgeting purposes?				Yes

Corona's residential market continues to boom. Included in planned construction are three new housing developments that will be adjacent to high fire hazard severity zones. It is mandated that new development in or adjacent to these zones are in compliance with the 2016 California Building Code Chapter 7A, and Chapter 49 of the 2016 California Fire Code. It is also mandated that a separate fuel modification plan be submitted for review and approval by Corona Fire Department.

SECTION 2.0 - PLANNING PROCESS

2.1 LOCAL PLANNING PROCESS

Representatives from multiple City departments contributed in the updating of the 2012 Local Hazard Mitigation Plan. Personnel involved included senior management and staff from the Fire Department, Police Department, Community Development, Public Works, Administrative Services, Department of Water and Power, Management Services, Maintenance Services, Library and Recreation, Information Technology, City Clerk, and Legal and Risk Management. The group was made up of civil engineers, planners, building officials, city clerk, public information officer, GIS administrator, accountants, managers, emergency managers, analysts, and fire and police officials. Outreach to these key players was done so via, email, phone calls and in person meetings.

The group assisted in the development of mitigation strategies and projects based on the risk and hazard ranking assessment conducted by members of Fire, Police, Public Works, and Department of Water and Power. They identified completion of past projects, and provided updated City data and statistics. For meetings and correspondence reference local planning efforts, see Appendix A.

2.2 PARTICIPATION IN REGIONAL (OA) PLANNING PROCESS

The City of Corona committed to participate in the update of the 2012 Riverside County Multi-jurisdiction Hazard Mitigation Plan. An agency multi-jurisdiction participation form was completed and submitted to Riverside County Emergency Management Department as official notice of participation.

Emergency Management staff attended multiple Operational Area Planning Committee meetings over the course of the planning year where LHMP updates, requirements, and coordinating efforts were conducted. Neighboring communities were invited to participate in the update of the LHMP during these quarterly Operational Area Planning Committee (OAPC) meetings. Several of Corona's neighboring communities were in the process of updating their respective LHMP's, this

allowed the city to cross reference mitigation hazards and risks and identify potential mitigation projects that may lead to future collaborate efforts.

Corona Emergency Management staff attended multiple LHMP workshops hosted by EMD that provided additional information, review, guidance and assistance throughout the plan's updating process. These workshops consisted of representatives from various disciplines such as law, fire, hospitals, and schools lending to a well-rounded planning process. These entities were invited by EMD to participate in these workshops via Operational Area emailing distribution lists and calendar invites.

Emergency Management staff also attended a two day course hosted by EMD which provided plan developers information necessary to prepare and implement a local Hazard Mitigation Plan. This course lent to additional coordinated efforts among other Operational Area Emergency Managers in attendance as well as EMD representatives.

In addition to these group settings, the Corona Emergency Services Coordinator had multiple one on one meetings and email correspondence with EMD planning staff. For meetings and correspondence reference OA planning efforts, see Appendix A.

2.3 DATES AVAILABLE FOR PUBLIC COMMENT

In an effort to involve the residents of Corona in the update process, and to better understand their concerns and opinions regarding hazards threatening their community and the City as a whole, a survey was developed and the 2012 plan was provided for review. In an attempt to reach a large number of community members, the plan and survey were posted on the City's website, as well as on social media. The post on the Corona Fire Department Facebook page, which contained the survey and plan, reached over 3,527 individuals.

In addition to these efforts, LHMP information and input was given and received at multiple community meetings.

No new hazards outside of the current contents of the 2012 LHMP were identified. For public notice documentation, see Appendix A.

2.4 PLANS ADOPTED BY RESOLUTION

Upon approval by FEMA, the LHMP will be presented to the Corona City Council in a public meeting for adoption via an official Resolution.

SECTION 3.0 – MITIGATION ACTIONS/UPDATES

3.1 UPDATES FROM 2012 PLAN

The City of Corona has reviewed the previous plan and has determined there are no new hazards since approval of the 2012 Local Hazard Mitigation Plan. For a complete definition of the hazards, please refer to the Riverside County Multi-Jurisdictional Hazard Mitigation Plan in Section 3.0.

Although no new hazards have been identified, the occurrence or severity of some of these hazards has increased, making them a greater mitigation priority than in previous years. Examples of these heightened risks include drought and climate change, occurrence and threat of pandemic outbreaks, and the threat and occurrence of terrorists' acts, both foreign and domestic. See Section 3.3 – New Hazards or Changes From 2012.

3.2 LIST OF COUNTY AND CITY HAZARDS

The City of Corona is committed to providing protection to residents and businesses from natural and human induced hazards. The City is also committed to coping with and rebuilding from emergency or disaster events in a manner that is efficient, safe, and provides for a quick return to the quality of life that exists daily in Corona. To accomplish this it is imperative that the City is aware of the hazards it is susceptible to in order to prepare, respond, recover, and mitigate for them.

The County of Riverside identified, evaluated, and ranked 23 natural and human-induced public safety risks that could have an impact on the health, safety, and social well-being of the community. The ranking was based on severity of damage and probability of occurrence for each risk. The City of Corona then ranked the same 23 hazards and included the top 10 risks in the City's annex to the Riverside County Multi-Jurisdictional Hazard Mitigation Plan. Identifying the risks posed by these hazards and developing strategies to reduce the impact of these hazards can assist in protecting life and property.

All 23 hazards are not individually addressed in the City of Corona's annex. For those hazards not expanded upon, the City feels that the County Plan provides adequate information to address the hazard as it relates to the City. Below are two tables, one listing the 23 identified hazards with their probability and severity rates and the second the County and City final ranking of the hazards.

Figure 3.2.1 – City of Corona and County Hazard Ranking

City of Corona & Riverside County Hazard Ranking		
Hazard	Corona	County
Earthquake	1	1
Wildland Fire	2	3
Electrical Failure	3	4
Terrorist Event	4	7
Water Supply Disruption/Contamination	5	23
Flood	6	9
Emergent Disease/Contamination	7	5
Transportation Failure	8	14
Communications Failure	9	8
Pandemic Flu	10	2
Cyber Attack	11	6
Pipeline Disruption	12	20
Extreme Weather	13	13
HazMat Incident	14	22
Dam Failure	15	15
Civil Disorder	16	10
Nuclear/Radiological Incident	17	12
Insect Infestation	18	18
Drought	19	11
Landslide	20	21
Jail/Prison Event	21	19
Aqueduct	22	16
Tornado	23	17

Figure 3.2.2 – Hazard Probability and Severity Rates

HAZARD	PROBABILITY	SEVERITY	HEALTH SYSTEM IMPACT			MITIGATION CAPACITY		RISK SCORE
			HEALTHCARE	EMS	BEHAVIORAL / MENTAL HEALTH	RESPONDER AGENCIES	COMMUNITY AGENCIES	
	Improbable: 0 Remote: 1 Occasional: 2 Probable: 3 Frequent: 4	NA: 0 Negligible: 1 Marginal: 2 Critical: 3 Catastrophic: 4	NA: 0 Negligible: 1 Marginal: 2 Critical: 3 Catastrophic: 4	NA: 0 Negligible: 1 Marginal: 2 Critical: 3 Catastrophic: 4	NA: 0 Negligible: 1 Marginal: 2 Critical: 3 Catastrophic: 4	NA: 0 Low: 1 Moderate: 2 High: 3 Extreme: 4	NA: 0 Low: 1 Moderate: 2 High: 3 Extreme: 4	
Aqueduct	2	3	2	2	2	2	3	0.38
Drought	3	3	2	2	2	2	2	1.13
Earthquake	2	4	4	4	3	2	2	3.50
Extreme Weather	2	3	2	2	2	2	2	0.75
Flood	3	3	2	3	2	2	3	1.13
Insect Infestation	3	2	2	1	1	2	2	0.00
Landslide	3	3	1	1	1	2	2	-0.56
Tornado	1	2	2	2	2	2	2	0.25
Wildland Fire	4	3	3	3	3	3	3	2.25
Civil Disorder	2	3	3	3	1	4	0	1.13
Communications Failure	2	3	3	3	3	3	3	1.13
Cyber Attack	4	2	3	2	2	3	1	1.50
Dam Failure	1	3	2	3	2	2	3	0.38
Electrical Failure	4	4	2	2	2	2	2	2.00
HazMat Incident	4	3	2	2	1	3	3	-0.75
Jail/Prison Event	1	2	1	1	1	4	0	-0.13
Nuclear Incident	1	4	2	3	3	2	2	1.00
Pipeline Disruption	2	3	2	2	1	3	3	-0.38
Radiological Incident	1	2	2	3	3	2	2	0.50
Terrorist Event - MCI	1	3	3	3	4	3	1	1.13
Transportation Failure	2	3	2	2	1	2	2	0.38
Water Supply Disruption/Contamination	3	2	0	0	0	2	2	-1.50
Emergent Disease/Contamination	3	3	3	3	2	3	2	1.69
Pandemic Flu	2	4	4	4	4	3	2	3.50

3.3 NEW HAZARDS OR CHANGES FROM 2012

Although no new hazards have been identified from the approval of the 2012 Local Hazard Mitigation Plan the occurrence or severity of some of these hazards has increased, making them a greater mitigation priority than in previous years. These heightened risks include drought and climate change, occurrence and threat of pandemic outbreaks, and the threat and occurrence of terrorists acts both foreign and domestic.

1. Drought – Drought is a period of time of unusually constant dry weather that persists long enough to cause deficiencies in water supply (surface or underground). Droughts are slow-onset hazards, but overtime, they can severely affect crops, municipal water supplies, recreation resources, and wildlife. If drought conditions extend over a number of years, the direct and indirect economic impacts can be significant. High temperatures, high winds, and low humidity can worsen drought conditions and make areas more susceptible to wildfires. In addition, human actions and demands for water resources can be accelerate drought-related impacts.
2. Climate Change – Climate change may well be the pre-eminent challenge of our time and it is already having a significant and measurable impact on California's environment. These impacts include decreasing spring snowmelt runoff, rising seas levels, shrinking glaciers, increasing wildfires, warming lakes and oceans, and the gradual migration of many plants and animals in higher elevations. Weather patterns are becoming more variable, causing more severe winter and spring flooding and longer drier droughts. Climate Changes has already impacted California's water resources. In the future, warmer temperatures, different patterns of precipitation and runoff, and rising sea levels will profoundly affect the ability to manage water supplies and other natural resources.
3. Pandemic – An influenza pandemic is a global outbreak of a new influenza A virus. A novel influenza A virus is one that has caused human infection, but is different from current seasonal human influenza A viruses spreading among people. Novel influenza A viruses can be viruses that originate in animals that gain the ability to infect humans or human viruses that change significantly so as to be different from current human seasonal influenza A viruses. Some novel flu A viruses are believed to pose a greater pandemic threat than others and are more concerning to public health officials because they have caused serious human illness and death and also have been able to spread in a limited manner from person-to-person. Novel influenza A viruses are of extra concern

because of the potential impact they could have on public health if they gained the ability to spread from person-to-person easily, triggering a pandemic. Three subtypes of avian influenza A viruses H5, H7 and H9, along with variant viruses H1N1v, H3N2v and H1N2v are currently most concerning to public health officials.

4. Terrorism – Terrorism, as defined by the FBI, is "the unlawful use of force against persons or property to intimidate or coerce a government, the civilian population or any segment thereof, in the furtherance of political or social objectives. The tactics of terrorism are diverse. As important as the actual attacks is the cultivation in the target population of the fear of such attacks, so that the threat of violence becomes as effective as actual violence. Terrorist tactics tend to favor attacks that avoid effective countermeasures and exploit vulnerabilities. As such, terrorists have the potential to utilize many different types of tactics both conventional and unconventional. Some of these tactics include shootings, kidnappings, bombings, suicide attacks, bioterrorism, agro terrorism, nuclear terrorism, and cyberterrorism. From 2010 to 2016 there have been roughly 40 confirmed domestic terrorist incidents.

3.4 BRIEF STATEMENT OF UNIQUE HAZARDS

The City of Corona faces a diverse array of potential natural and human caused hazards. As with most cities in the Inland Empire, one of the primary concerns is the impact of a large earthquake in the region. Flood risks are also a real concern with several creeks, washes, channels, and flood zones, contained in the planning area of Corona. In addition, the City is nearly surrounded by hills and mountains with the potential and the history of large wildland fires. The shared boundary between the City and the Cleveland National Forest is about 12 miles in length.

The City of Corona's extensive transportation network which includes state highways, public transit, rail lines, and municipal airport provide additional associated incident risks that may cause severe injuries and/or deaths. They could also cause burns and/or illness due to exposure to fires and/or potential hazardous materials on board. Two major freeways and one railroad transect Corona. The Riverside Freeway (SR-91) runs east/west directly north of the City's center, Interstate 15 (I-15) runs north/south near the eastern edge of the City, and the railroad parallels SR-91. These corridors are major transportation routes to the economic center of Orange County from the Inland Empire. The Corona Municipal Airport is home to 350-400 general aviation aircraft and is strictly a recreational airport with no commercial flights. Although small, the airport is extremely active, with approximately 50,000 annual

operations. The City's transportation network of roads, freeways, rail lines and airport has been a priority in the city's planning and mitigation efforts.

Since the original 2005 version of the Local Hazard Mitigation Plan was submitted, the City of Corona has experienced seven federally declared disasters for wildland fires and floods, and an additional State declaration for high winds. Five additional major wildland fires occurred in or around the City of Corona that threatened the community. A list of Historical Disasters for City of Corona is included in the following table.

Figure 3.4.1 - Historical List of Disasters for City of Corona

Disaster Type	Year	Corona Disasters Description of Damage	Fiscal Impact	Federal Disaster Declared
Fire	1889	Santiago Canyon Fire – 300,000 acres of wildland fire from Santa Ana to Elsinore, Corona to Oceanside in 3 days.	Unknown	Unknown
Flood	1938	Flooding included the intersection River Road and Main Street.	\$100,000	Unknown
Fire	1948	Green River Fire – 46,000 acres of wildland and 22 homes destroyed.	Unknown	Unknown
Fire	1967	Paseo Fire – 50,000 acres wildland and 66 homes destroyed.	Unknown	Unknown
Flood	1969	City was declared a local disaster area. One hundred twenty five residents were evacuated. Twenty homes were damaged.	\$750,000	Yes
Freeze	1969	An ice freeze destroyed 75% of Corona's avocado crop; 50% of its lemons; 35% of Valencia oranges; 25% Navel oranges and 20% grapefruit	\$8 million (Riverside County)	Unknown
Fire	1977	Tin Mine Fire - 5,500 acres burned. 1,500 firefighters fought fire at the peak of the fire. 1,610 avocado and fruit trees consumed by fire.	\$5.9 million	Unknown
Flood	1978	Water line broken, 100 residents without drinking water; sewer line washed out; airport flooded.	\$500,000	Unknown
Fire	1979	Paseo Fire - 2,000 acres burned. 100 people evacuated from homes. No significant property damage.	Unknown	Unknown
Fire	1980	Owl Fire - Wildland	Unknown	Unknown
Flood	1980	Street damage, airport damage, property damage.	\$1.6 million	Unknown
Fire	1982	Gypsum Fire – 18,000 acres, 14 homes destroyed.	Unknown	Unknown
Fire	1982	Hagador Fire – Wildland fire, South Corona	Unknown	Unknown
Fire	1987	Silverado Fire – Wildland fire, south Corona	Unknown	Unknown
Fire	1990	Bedford Fire - south of Corona 4,500 Acres, 20 structures. FEMA DR 872	Unknown	Yes
Winds	1990	Powerful winds knocked out power supply to 1,580 homes for as long as two hours.	Unknown	Unknown
Freeze	1991	Crop Freeze-10 nights of temperatures below 27 F. Damage to avocados and citrus.	Unknown	Yes
Flood	1993	Washed out roads, knocked down dikes and damaged public property.	\$1.525 million	Unknown
Flood	1998	Flooding to roads, airport, fallen trees El Nino FEMA DR	\$650,000	Yes
Fire	1999	Chase Fire - Brush fire burns 500 acres near Skyline Drive. One home destroyed.	Unknown	Unknown

Disaster Type	Year	Corona Disasters Description of Damage	Fiscal Impact	Federal Disaster Declared
Fire	2002	Green Fire – Wildland fire Santa Ana River Canyon.	Unknown	Unknown
Fire	2002	Evening Fire – Wildland fire Santa Ana River Canyon.	Unknown	Unknown
Flood	2005	FEMA DR 1577 – Flooding citywide, airport, Debris flow and mudslides.	\$353,928	Yes
Fire	2005	Lincoln Fire – 800 acres wildland Eagle Valley.	Unknown	Unknown
Fire	2006	Sierra Fire – 10,600 acres Santa Ana River Canyon.	Unknown	Unknown
Fire	2007	Santiago Fire - west of Corona 27,000 acres and destroyed more than a dozen homes. FEMA DR 1731	\$52,118	Yes
Winds	2007	Fallen trees and debris. State declaration CDAA DR	\$18,616	Yes
Fire	2007	Cerrito Fire – Wildland fire, Eagle Valley.	Unknown	Unknown
Fire	2008	Freeway Fire – 18 homes damaged or destroyed in the Green River Homes caused by fire near Santa Ana River. FEMA DR 1810	\$78,936	Yes
Flood	2010	Flooding, slope failures, fallen trees and road damage. FEMA DR 1884	\$177,000	Yes
Fire	2010	McKinley Fire – Wildland fire, Eagle Valley.	Unknown	Unknown
Flood	2011	Flooding and damage to roads, fallen trees, airport flooding and damage. FEMA DR 1952	\$370,000	Yes
Fire	2015	Highway Fire – 1,049 acres Hwy71/Hwy91 near Prado Basin	Unknown	No
Flood	2015	Heavy down pore causing flooding and civilian water rescues	Unknown	No
Flood	2017	Flooding and damage to PD facility and fallen trees. FEMA DR 4305	\$67,000	Yes

3.5 MITIGATION PROJECT UPDATES

Since the adoption of the 2012 LHMP the City of Corona has undertaken several measures, and has completed several projects in an effort to lessen the impact of disasters and prevent the loss of life and property. Some of these mitigation actions are identified in the table below.

Figure 3.5.1 – Mitigation Projects Completed

Hazard Type	Project Description	Status
All	Incorporated 2012 Approved Local Hazard Mitigation Plan with City of Corona General Plan	Complete
Fire, Water Supply Disruption	Updated Booster Station buildings to current fire standards (Kraft Ranch, Montana Ranch, SDO, Maybe Canyon, Eagle Glen, Harlin Hills)	Complete
Fire	Purchased 6 portable booster stations for emergency fire response	Complete
Earthquake	All above ground steel storage reservoirs were evaluated to ensure proper venting in the event of an earthquake. Modifications were made where needed.	Complete
Earthquake, Electrical Failure	Installation of emergency generators for 3 groundwater well sites.	Complete
Electrical Failure, Emergent Disease Contamination	Emergency generators installed at all lift stations, plus a portable sewage lift station for emergency bypass	Complete
Flood	Annual maintenance service on storm drains	Complete
Flood	Construction of Main St storm drain. Alleviate flooding from 11th to 8th St.	Complete
Flood	Construction of Harris storm drain. Alleviate flooding on 6th St and apartments of 5th St..	Complete
Water Supply/ Contamination	Converted out of service well to a triple-nested monitoring well. Will increase local ground water supply.	Complete
Water Supply Disruption/ Contamination	Replaced 4,700 feet of 6 and 8 inch waterlines with 12 inch Ductile Iron Waterline pipe	Complete
Flood	Cota Channel restoration	Complete
Terrorism	Became members of the BioWatch Program - BioWatch provides early detection of biological agents in the air used for a bioterrorism attack	Complete
Terrorism	Corona PD & Fire established a Tactical Response to Violent Incidents Team and adopted the RCFA Standard Operating Guidelines	Complete
Pandemic Flu	Partnered with Riverside County Public Health with the development and implementation of the City of Corona Pandemic Influenza Plan	Complete
HazMat, Transportation Failure, Fire	2013 complete update to Hazardous Material Area Plan - to assist in the prevention or mitigation of damage from the release or threatened release of hazardous materials.	Complete

Hazard Type	Project Description	Status
Water Supply Disruption/ Drought	2015 complete update to the Urban Water Management Plan - conservation and efficient water use	Complete
Water Supply Disruption/ Drought	Instituted multiple residential water conservation programs, resulting in a nearly 20% reduction over the declared drought period	Complete
Flood/Water Supply Contamination	2017 complete update to Sewer System Management Plan - preventative maintenance, schedule, response plan	Complete
Transportation Failure	2012 development of Neighborhood Traffic Management Program	Complete
Transportation Failure	2014 development of Corona Municipal Airport Emergency Plan	Complete
Climate Change/Drought, Emergent Disease	2012 developed the City of Corona Climate Action Plan - reduce GHG emissions	Complete
Fire	2015 implementation of a Suppression Inspection Action Plan - facilitates the completion of hazard reduction inspections	Complete
HazMat, Fire	Contracted with G & G Environmental to ensure all on-site hazardous material inspections were completed within required timeframe.	Complete
Communications Failure/Fire	2015 complete update to the SOLAR - Multi-County Mutual Threat Zone Guide	Complete
Communications Failure/Fire	2015 update to the Corona Fire Radio Guide - Internal and external agency communications	Complete
All	Fire Department Annual Master Training Plan - improves the safety and performance of Department's members in order for them to prevent or minimize loss of life, damage to the environment and loss of property.	Complete
All	2015 update to the Corona Fire Department Emergency Medical Services Quality Improvement Program - delivery of consistent, high quality, compassionate pre-hospital patient care.	Complete
All	Police Department Annual Master Training Plan - improves the safety and performance of Department's members in order for them to prevent or minimize loss of life, damage to the environment and loss of property.	Complete
All	2017 implementation of the new Emergency Medical Dispatch Program - delivery of pre arrival medical direction	Complete

SECTION 4.0 – HAZARD IDENTIFICATION AND RISK ASSESSMENT

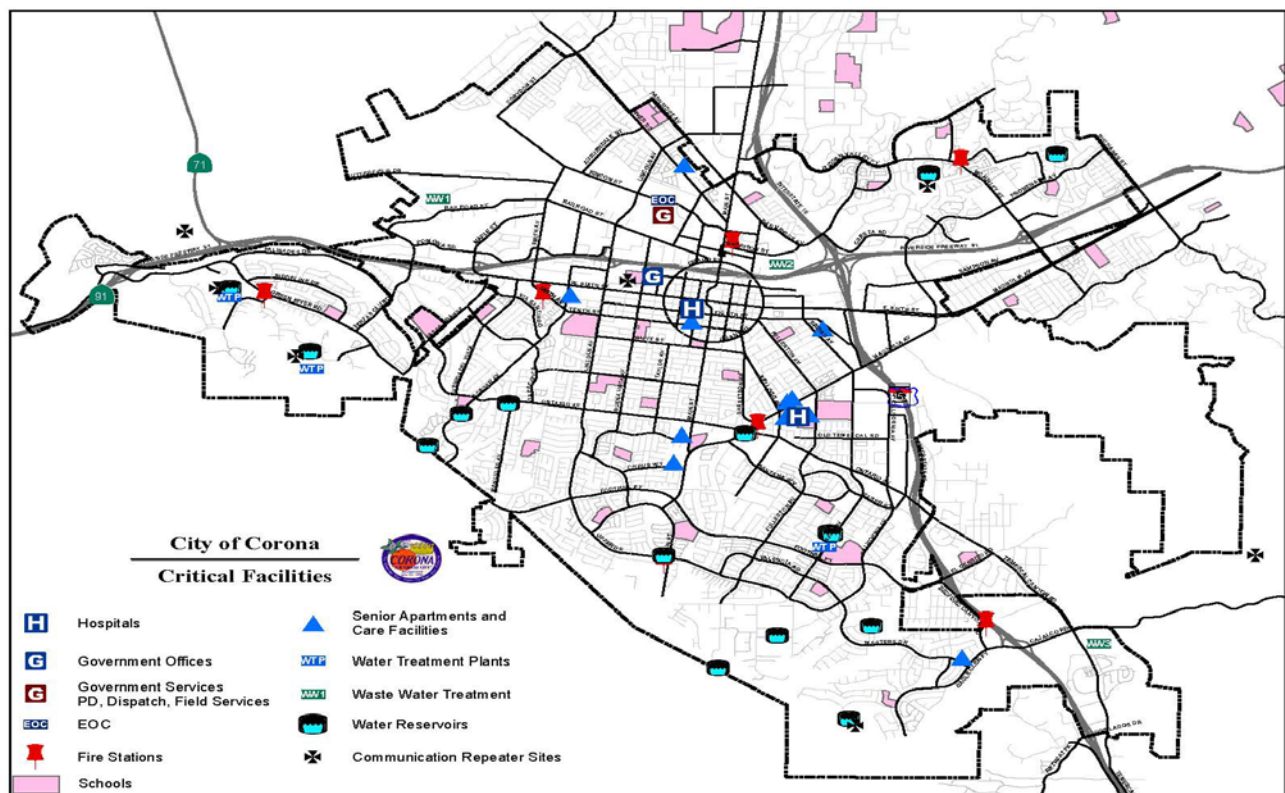
4.1 CRITICAL FACILITIES AND INFRASTRUCTURES

A critical facility may be defined as one that is essential in providing utility or direction either during the response to an emergency or during the recovery operation. An inventory of critical facilities in the City of Corona is included in the table and map below.

Figure 4.1.1 – Critical Facilities for City of Corona

Critical Facilities Type	Number
Public Safety Dispatch	1
Emergency Operations Center	1
City Services	2
Fire Stations	7
Water Reservoirs	15
Water Treatment Plants	3
Waste Water Treatment Plants	3
Hospitals	2
Police facility	1
Maintenance Yards	1
Senior Care	11
Schools	27
Radio Repeaters	7

Figure 4.1.2 Critical Facilities Map for City of Corona



4.2 ESTIMATING POTENTIAL LOSS

The most vulnerable structures in the City are downtown, the fire station, City Hall, Cabots Pueblo Museum, and other unreinforced structures. These facilities are the weakest in the city. The close proximity to the San Andreas Fault is sure to cause damage to any of these facilities in the event of a major earth quake.

Refer to Riverside County Operational Area MJHMP Section 4.2 property loss value for the City of Corona.

(See Appendix B - Development Trends Questionnaire)

4.3 TABLE REPLACEMENT VALUES

Figure 4.3.1 – Assets Table/Replacement Value for City of Corona

Name of Asset	Replacement Value (\$)	Occupancy/ Capacity #	Hazard Specific Info.
City Hall	\$45,094,961	N/A	Unsecured Perimeter
Fire Stations (7)	\$25,200,000	N/A	Unsecured Perimeters
Police Department	\$15,154,127	N/A	Close proximity to railroad
Emergency Operations Center	\$15,976,093	N/A	Close proximity to railroad

4.4 IDENTIFICATION OF RISKS AND VULNERABILITIES

The County of Riverside identified, evaluated, and ranked 23 natural and human-induced public safety risks that could have an impact on the health, safety, and social well-being of the community. The ranking was based on severity of damage and probability of occurrence for each risk. The City of Corona then ranked the same 23 hazards and included the top 10 risks in the City's annex to the Riverside County Multi-Jurisdictional Hazard Mitigation Plan. Below are the top ten hazards in order of ranking. For a complete list of hazards, their probability and severity see Figure 3.2.1 – Hazard Probability and Severity Rates

1. Earthquake

The City of Corona is considered to be seismically active, as is most of Southern California. Several known active or potentially active faults are located in and around Corona. The Elsinore Fault zone is the closest major fault system to the City and one of the largest in Southern California. Historically, the Elsinore Fault zone has also been one of the least active systems. At its northern end, near the City, the Elsinore Fault zone splays into two segments, the Chino-Central Avenue Fault and the Whittier Fault. Along the southwestern portion of the City the Elsinore Fault zone is referred to as the Glen Ivy Fault. See Figure 4.4.1 – Earthquake Fault Zones.

Ground surface rupture due to active faulting is considered possible in the western portion of the City where known active or potentially active faults are mapped. Geological evidence indicates that the Glen Ivy and portions of the Whittier Faults are active and that the Chino-central Avenue Fault is potentially active.

Historically, the Corona region has generally been spared a major destructive earthquake. However, based on a search of earthquake databases of the USGS National Earthquake Information Center, several major earthquakes (magnitude 6.0 or more) have been recorded within approximately 100 kilometers of the City since 1769. The City's General Plan Public Health and Safety Element have identified various implementation programs with respect to fault rupture and other geologic disturbances. These programs specify various requirements including: detailed geologic investigations are to be conducted in conformance with guidelines of the California Division of Mines and Geology (CDMG), for all construction of transportation infrastructure in an Alquist-Priolo Special Study Zone; construction of essential facilities within 200 feet of an active fault or potentially active fault; and field information is to be developed as part of any CEQA investigations, and geologic reports by the City and/or County geologists should be kept current and accessible for use in report preparation, geologic reviews, and policy development.

Additionally, the City's General Plan Public Health and Safety Element have identified various implementation programs to be carried out by the City and county affecting seismic safety of critical facilities. These programs include: detailed site studies for fault future potential are to be conducted as background to the design process for critical facilities under City and county discretionary approval; existing critical facilities are to be reviewed for any significant siting, design, or construction problems that would make them vulnerable in an earthquake. The findings shall be incorporated into emergency operation plans as well as addressed in longer-term programs of facilities upgrading or relocation unless satisfactorily demonstrated that a building setback from

an active or potentially active fault will not adversely impact public health, safety, and welfare. New Essential Facilities shall not be located within 200 feet of an active fault or potentially active fault. (See Riverside County OA MJHMP Section 4.0)

2. Wildland/Urban Fire

The combination of population density, weather, and growing residential and commercial development presents a potential year-round threat of conflagration. Late spring through early fall months are commonly referred to as the “Fire Season.”

The City of Corona is nearly surrounded by hills and mountains with the potential and the history of large wildland fires. To the south, the City sits at the base of the Santa Ana mountain range, and borders against the Cleveland National Forest. The shared boundary between the City and the Forest is about 12 miles in length. The fuels are heavy brush with oaks, sycamore and pines on the slopes and drainages. Residential structures are immediately adjacent to this forest area throughout the entire boundary. Some are newer construction with good clearances, and some are much older with less clearance.

The western portion of the City sits at the base of Prado Dam which is the headwater for the Santa Ana River Canyon. The Santa Ana Canyon’s steep topography and East-West alignment serve as a wind funnel. The geography increases the wind’s speed and magnifies the effects of fire on the available fuel bed, contributing to the rapid rate of fire spread. The northern side of this canyon comprises primarily light flashy fuels due to frequent burning and fuel type-conversion, and the southern side comprises primarily of heavy brush. There is significant fire history in this canyon area. The 91 Freeway parallels the Santa Ana River throughout the canyon. There are areas of development where structures sit adjacent to wildland areas throughout the western areas of the City.

The northwest area of the City sits in the Prado Basin behind the Prado Dam and there are several developments that adjoin some heavy fuels.

The northeast area sits in the Corona Hills, and developments are built up to and on top of the hills. These hills comprise primarily of light flashy fuels due to frequent burning and type-conversion.

The eastern edge of the City is bordered by hills and Eagle Valley. This area has not been developed and is comprised of light flashy fuels due to frequent burning and type-conversion. Fires occur frequently, but there is very little structural threat.

In addition to interface areas within the City Limits, many of these areas also have significant residential development in unincorporated areas that are immediately adjacent to the City.

Over the years, there have been several significant fires, many of sizeable acreage, within the City or areas just outside its borders. Many of these fires have resulted in destroyed and damaged structures. (See Riverside County OA MJHMP Section 4.0)

Weather

Weather patterns combined with certain geographic locations can create a favorable climate for wildfire activity. Areas where annual precipitation is less than 30 inches per year are extremely fire susceptible. High risk areas in Southern California share a hot, dry season in late summer and early fall when high temperatures and low humidity favor fire activity. The frequent occurrence of 40-50 mile per hour Santa Ana or foehn winds, coupled with temperatures in excess of 90 degrees, relative humidity of 20 percent or less and dense and extremely dry ground cover in inaccessible mountain or canyon areas causes the kinds of wildland fires Southern California experiences every year.

Topography

Topography has considerable effect on wildland fire behavior and on the ability of firefighters and their equipment to take action to suppress those fires. Simply because of topography, a fire starting in the bottom of a canyon may expand quickly to the ridge top before initial attack forces can arrive. Rough topography greatly limits road construction, road standards, and accessibility by ground equipment. Steep topography also channels airflow, creating extremely erratic winds on leeward slopes and in canyons. Water supply for fire protection to structures at higher elevations is frequently dependent on pumping units. The source of power for such units is usually from overhead distribution lines, which are subject to destruction by wildland fires.

Vegetation

A key to effective fire control and the successful accommodation of fire in wildland management is the understanding of fire and its environment. Fire environment is the complex of fuel, topographic, and air mass factors that influence the inception, growth, and behavior of a fire. The topography and weather components are, for all practical purposes, beyond man's control, but it is a different story with fuels, which can be controlled before the

outbreak of fires. In terms of future urban expansion, finding new ways to control and understand these fuels can lead to possible fire reduction.

Of these different vegetation types, coastal sage scrub, chaparral, and grasslands reach some degree of flammability during the dry summer months and, under certain conditions, during the winter months. For example, as chaparral gets older, twigs and branches within the plants die and are held in place. A stand of brush 10- to 20- years of age usually has enough dead material to produce rates of spread about the same as in grass fires when the fuels have dried out. In severe drought years, additional plant material may die, contributing to the fuel load.

Wildfire Characteristics

There are three categories of interface fire: The classic wildland/urban interface exists where well-defined urban and suburban development presses up against open expanses of wildland areas; the mixed wildland/urban interface is characterized by isolated homes, subdivisions and small communities situated predominantly in wildland settings; and the occluded wildland/urban interface exists where islands of wildland vegetation occur inside a largely urbanized area. Certain conditions must be present for significant interface fires to occur. The most common conditions include: hot, dry and windy weather; the inability of fire protection forces to contain or suppress the fire; the occurrence of multiple fires that overwhelm committed resources; and a large fuel load (dense vegetation). Once a fire has started, several conditions influence its behavior, including fuel, topography, weather, drought and development. Southern California has two distinct areas of risk for wildland fire: the foothills and lower mountain areas which are most often covered with scrub brush or chaparral and the higher elevations of mountains with heavily forested terrain.

Wildfire Hazard Areas

The State of California Department of Forestry and Fire Protection (CAL FIRE) is required by law to periodically map areas of significant fire hazards based on history, fuels, terrain, weather, and other relevant factors that influence fire potential and behavior. The fire hazard areas are delineated into zones known as Fire Hazard Severity Zones (FHSZ) that influence the construction of buildings and property protection to reduce the risks associated with wildland fires. In addition to areas of state responsibility, the map also displays areas where local governments have financial responsibility for wildland fire protection depicting moderate, high and very high delineations.

The Corona Fire Department collaborated with CAL FIRE in the development of our local Fire Hazard Severity Zone map. The Fire Chief approved the map on May 1, 2010, and it was adopted by the Corona City Council on May 19, 2010. See Figure 4.2.2 – Fire Hazard Zones.

The Fire Hazard Severity Zone Map will be used for:

- Implementing wildland-urban interface building standards for new construction using the 2007 California Building Code, Section 7A (Wildland-Urban Interface);
- Natural hazard real estate disclosure at the time of sale;
- One-hundred foot defensible space clearance requirements around buildings;
- Property development standards such as road widths, water supply and signage;
- Reference for City and County General Plans.

3. Electrical Failure

Corona's electric utility was established on April 4, 2001, by City Council Resolution No. 2001-25 in response to state-wide rolling blackouts and electric price instability. The electric utility provides fully bundled electric service to City owned and operated facilities and eight areas within the City. It also provides energy delivery services to municipal and commercial customers within the City.

Corona's electric utility was established on April 4, 2001, by City Council Resolution No. 2001-25 in response to state-wide rolling blackouts and electric price instability. The electric utility provides fully bundled electric service to City owned and operated facilities and eight areas within the City. It also provides energy delivery services to municipal and commercial customers within the City.

The current lack of back-up electricity at the City's well sites leaves the City and its residents vulnerable to water service interruptions in the event of an electrical power failure. The Corona Department of Water and Power is responsible for the provision of water to more than 40,000 service connections. Currently, approximately half of the City's water is imported (via the Metropolitan Water District) and the other half is produced via local groundwater wells. Most (add %) of the City's groundwater wells do not have back-up generator power. This critical water source has great potential to be compromised by a power failure. A lack of pumping capability could interrupt water supply and delivery to thousands of residents. A power failure could deeply affect water supplies to residents, hospitals and other essential facilities. The loss of potable

water is one of the most devastating effects from a natural disaster and can have long-term and lethal impact. The lack of drinking water quickly leads to water-borne illness and dehydration and these conditions disproportionately affect the elderly, young and infirm.

The City's above ground power lines are susceptible to the high winds that pass through the City. The potential for arcing lines causing sparks to drop onto buildings or brush is a hazard that the utility department continues to address, however there have been few major fires caused by this type of event. In addition to the overhead lines, there is a potential for events relating to underground vaults and power lines. These vaults and lines are susceptible to flooding during heavy rains as well as being broken by contractors digging in the streets and on property where underground utilities are used. (See Riverside County OA MJHMP Section 4.0)

4. Terrorist Event

Terrorism, as defined by the FBI, is "the unlawful use of force against persons or property to intimidate or coerce a government, the civilian population or any segment thereof, in the furtherance of political or social objectives. The tactics of terrorism are diverse. As important as the actual attacks is the cultivation in the target population of the fear of such attacks, so that the threat of violence becomes as effective as actual violence. Terrorist tactics tend to favor attacks that avoid effective countermeasures and exploit vulnerabilities. As such, terrorists have the potential to utilize many different types of tactics both conventional and unconventional. Some of these tactics include shootings, kidnappings, bombings, suicide attacks, bioterrorism, agro terrorism, nuclear terrorism, and cyberterrorism. From 2010 to 2016 there have been roughly 40 confirmed domestic terrorist incidents (See Riverside County OA MJHMP Section 4.0)

5. Water Supply Disruption/Contamination

The Corona Department of Water and Power is responsible for the provision of water, serving approximately 150,000 customers. Currently, approximately half of the City's water is imported (via the Metropolitan Water District) and the other half is produced via local groundwater wells. A majority of the City's groundwater wells do not have back-up generator power. This critical water source has great potential to be compromised by a power failure. A lack of pumping capability could interrupt water supply and delivery to thousands of residents. A power failure could deeply affect water supplies to residents, hospitals and other essential facilities. The loss of potable water is one of the most devastating effects from a natural disaster and can have long-

term and lethal impact. The lack of drinking water quickly leads to water-borne illness and dehydration and these conditions disproportionately affect the elderly, young and infirm.

In addition, water reservoir failure could critically impair the City's fire fighting capabilities. The Corona Fire Department currently uses potable water for fighting fires. Plans are in place for the recycled water to be utilized as new infrastructure is constructed and more water is treated for recycled use. However, city-wide availability of recycled water for firefighting is several years away.

On June 4, 2008, the Governor of the State of California proclaimed a condition of statewide drought and strongly encouraged local agencies to take aggressive, immediate action to reduce water consumption and prepare for potentially worsening conditions. Once again, conditions worsened and on January 17, 2014 California State Governor, Jerry Brown, declared a drought state of emergency. On April 17, 2017, Brown issued Executive Order B-40-17, officially ending the drought state of emergency in all California counties except Fresno, Kings, Tulare, and Tuolumne. During these times the City of Corona adopted, implemented and enforced water conservation programs to reduce the quantity of water used by consumers within the City to ensure that there was sufficient water for human consumption, sanitation, and fire protection. The City was diligent in conserving water, resulting in a nearly 20% reduction in Corona over the declared drought period. The City is authorized to declare a water shortage emergency to prevail within its jurisdiction when it finds and determines that the City will not be able to or cannot satisfy the ordinary demands and requirements of water consumers without depleting the water supply of the City to the extent that there would be insufficient water for human consumption, sanitation, and fire protection.

6. Flood

Several creeks, washes, channels, and flood zones are contained in the Planning area of Corona. Areas of the City adjacent to the Santa Ana River, Temescal Creek and Mabey Canyon Wash are designated as Flood Zone A, which indicates the area is inundated by one percent annual chance flooding. Portions of the Planning Area surrounding the Temescal Wash, Main Street Wash, and the Arlington Channel have been designated as Flood Zone X500, which is inundated by 0.2 percent annual chance flooding. Other portions of the Planning Area are either designated as Flood Zone D, which is an area with undetermined possible flood hazards, or Flood Zone X, which lies outside the one percent and 0.2 percent annual chance flood plains. See Figure 4.7.2 – Flood Zones.

Several creeks, washes, channels, and flood zones are contained in the Planning area of Corona. Areas of the City adjacent to the Santa Ana River, Temescal Creek and Mabey Canyon Wash are designated as Flood Zone A, which indicates the area is inundated by one percent annual chance flooding. Portions of the Planning Area surrounding the Temescal Wash, Main Street Wash, and the Arlington Channel have been designated as Flood Zone X500, which is inundated by 0.2 percent annual chance flooding. Other portions of the Planning Area are either designated as Flood Zone D, which is an area with undetermined possible flood hazards, or Flood Zone X, which lies outside the one percent and 0.2 percent annual chance flood plains. See Figure 4.7.2 – Flood Zones.

Temescal Wash has the highest flooding potential in the Corona Planning Area. Due to the size of the Temescal Watershed and the amount of rainfall received, several peak discharges have been recorded. Based on the stream gauge analysis data obtained from Flood Insurance Study dated September 30, 1992, the peak discharges for the 500-year, 100-year, and 10-year are 110,000 cfs (cubic feet per second), 25,000 cfs, 11,000 cfs, and 2,000cfs, respectively, for the 164-square mile watershed. These discharges are obtained from the Flood Insurance Study Report for the Stream Gauge No. 11-720 near Corona above the 3M plant location. The peak discharges are determined from the stream gauge data analysis, which is based on clear flow and existing conditions.

The Planning Area has experienced major flooding during periods of heavy runoff. The 1969 flooding in Temescal Wash caused extensive damage, which was determined to be higher than 100-year storm levels. Major flooding in the Planning Area could occur along the Temescal Wash and in west Corona, and storm sheet flows would produce a variety of damage depending upon the location. This sheet flow would be the result of overflows from the Oak Street Channel, Lincoln Avenue drain, Main Street Channel, Buena Vista drain, and Taylor Avenue drain. Other significant flooding areas are found along the open channel facilities near the City Yard. These facilities are determined to be inadequate for the 2-year storm event. Several flood control projects including the Main Street Channel and Arlington Channel have been built in the Planning Area to help lessen the severity of heavy flooding.

The City of Corona participates in the National Flood Insurance Program (NFIP), as administered through the Federal Emergency Management Agency (FEMA). Consequently, property owners are able to purchase Federal Flood Insurance. In turn, the City of Corona has identified flood hazard areas and protective controls,

including land use planning measures to reduce the potential risk of flood damage to property and loss of human life. (See Riverside County OA MJHMP Section 4.0)

7. Emergent Disease/Contamination

Infectious diseases have for centuries ranked with wars and famine as major challenges to human progress and survival. They remain among the leading causes of death and disability worldwide. Against a constant background of established infections, epidemics of new and old infectious diseases periodically emerge, greatly magnifying the global burden of infections. Studies of these emerging infections reveal the evolutionary properties of pathogenic microorganisms and the dynamic relationships between microorganisms, their hosts and the environment.

Climate change may well be the pre-eminent challenge of our time and it is already having a significant and measurable impact on California's environment.

Climatic factors influence the emergence and reemergence of infectious diseases, in addition to multiple human, biological, and ecological determinants. Climatologists have identified upward trends in global temperatures and now estimate an unprecedented rise of 2.0°C by the year 2100. Of major concern is that these changes can affect the introduction and dissemination of many serious infectious diseases.

The incidence of mosquito-borne diseases, including malaria, dengue, and viral encephalitides, are among those diseases most sensitive to climate. Climate change would directly affect disease transmission by shifting the vector's geographic range and increasing reproductive and biting rates and by shortening the pathogen incubation period. Climate-related increases in sea surface temperature and sea level can lead to higher incidence of water-borne infectious and toxin-related illnesses, such as cholera and shellfish poisoning. Human migration and damage to health infrastructures from the projected increase in climate variability could indirectly contribute to disease transmission. Human susceptibility to infections might be further compounded by malnutrition due to climate stress on agriculture and potential alterations in the human immune system caused by increased flux of ultraviolet radiation.

8. Transportation Failure

The City of Corona's extensive transportation network which includes state highways, public transit, rail lines, and municipal airport provide additional associated incident risks that may cause severe injuries and/or deaths. Two major freeways and one

railroad transect Corona. The Riverside Freeway (SR-91) runs east/west directly north of the City's center, Interstate 15 (I-15) runs north/south near the eastern edge of the City. Along with the potential for death and injuries from large-scale motor vehicle accidents, there is the potential for hazardous material spills or fires as numerous commercial transportation vehicles travel the highways and freeways with various types and quantities of hazardous materials.

The BNSF Railroad parallels SR-91, it is a strictly commercial freight transportation system. Large quantities and numerous types of hazardous materials are transported through Corona by rail on a daily basis. These corridors are major transportation routes to the economic center of Orange County from the Inland Empire. The primary hazard with rail service has not been any train vs. train or track derailments. There continues to be a large number of train v. vehicle or train v. pedestrian accidents in the City. These accidents have caused both traffic and rail service delays. The danger with these types of accidents is that they can create train derailments or accidents when the train impacts with a vehicle or when the train engineer attempts to stop the train quickly.

The Corona Municipal Airport is home to 350-400 general aviation aircraft and is strictly a recreational airport with no commercial flights. Although small, the airport is extremely active, with approximately 50,000 annual operations. The City's transportation network of roads, freeways, rail lines and airport has been a priority in the city's planning and mitigation efforts.

A Traffic Safety Plan has been implemented for the management of traffic events that occur in the City. Public Works, Police, Fire have identified routes through the city to mitigate traffic issues that might occur. Command Posts, staging areas and other aspects of Incident Command have been addressed in the Traffic Safety Plan.

9. Communication Failure

One of the most immediate and significant impacts of disasters is the sudden and wide-scale breakdown or interruption of communications infrastructure. When public communication networks fail, the impact can be widely felt and has the ability to wipe out access to standard mobile or landline telecommunications, in addition to Internet, fiber-optic cables, and even satellite-based emergency communication devices. Whether these systems are completely or just partially knocked offline, communications systems during a disaster can be the difference between life and death for those affected. Locating those who may be trapped or injured becomes

nearly impossible for emergency responders, and rescue efforts are further complicated by the inability to coordinate via standard methods of communication.

In addition to disruptions caused by physical damage you will more than likely encounter network congestion. When disaster strikes, the “pipes” that make up our communications networks often become congested with exceptionally high levels of data traffic, as those impacted seek to contact family and friends, emergency personnel work to coordinate relief efforts, and hundreds more upload pictures and videos of the damage.

Aggregation hubs are often the failure point for congested networks. This occurs when data from a number of smaller sources flows into a central processing point and creates bottlenecks. When this happens, communications can be severely limited or even cut off completely.

Consequences from these communication infrastructure failures can greatly effect emergency response and lead to the spread of false information and confusion.

10. Pandemic Flu

An influenza pandemic is a global outbreak of a new influenza A virus. A novel influenza A virus is one that has caused human infection, but is different from current seasonal human influenza A viruses spreading among people. Novel influenza A viruses can be viruses that originate in animals that gain the ability to infect humans or human viruses that change significantly so as to be different from current human seasonal influenza A viruses. Some novel flu A viruses are believed to pose a greater pandemic threat than others and are more concerning to public health officials because they have caused serious human illness and death and also have been able to spread in a limited manner from person-to-person. Novel influenza A viruses are of extra concern because of the potential impact they could have on public health if they gained the ability to spread from person-to-person easily, triggering a pandemic.

Three subtypes of avian influenza A viruses H5, H7 and H9, along with variant viruses H1N1v, H3N2v and H1N2v are currently most concerning to public health officials. In September, 2009, the H1N1 influenza received worldwide attention as a threat to public health. Cases of death related to the H1N1 flu surfaced first in Riverside County, as the illness spread throughout the State as well as the Nation. The City of Corona was not exempt and had cases emerge at local schools. Conference calls with the County Health Officer, local government and school officials and emergency managers helped the City to prepare for the threat of a pandemic emergency.

Subsequently, the City of Corona took measures to mitigate and adopted a Plan for Pandemic emergencies. (See Riverside County OA MJHMP Section 4.0)

Figure 4.4.1 – Earthquake Fault Zones for City of Corona

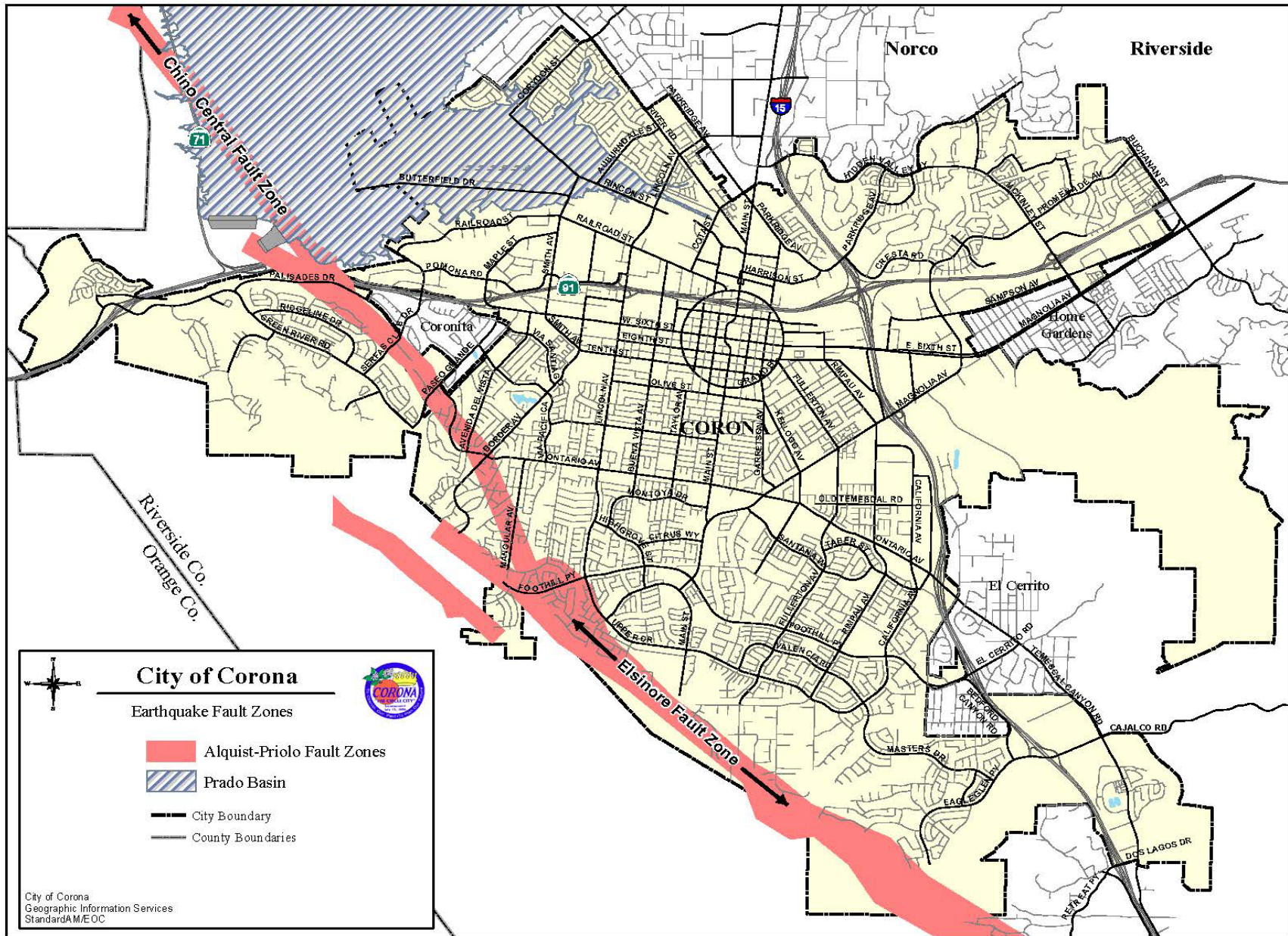


Figure 4.4.2 – Flood Zones for City of Corona

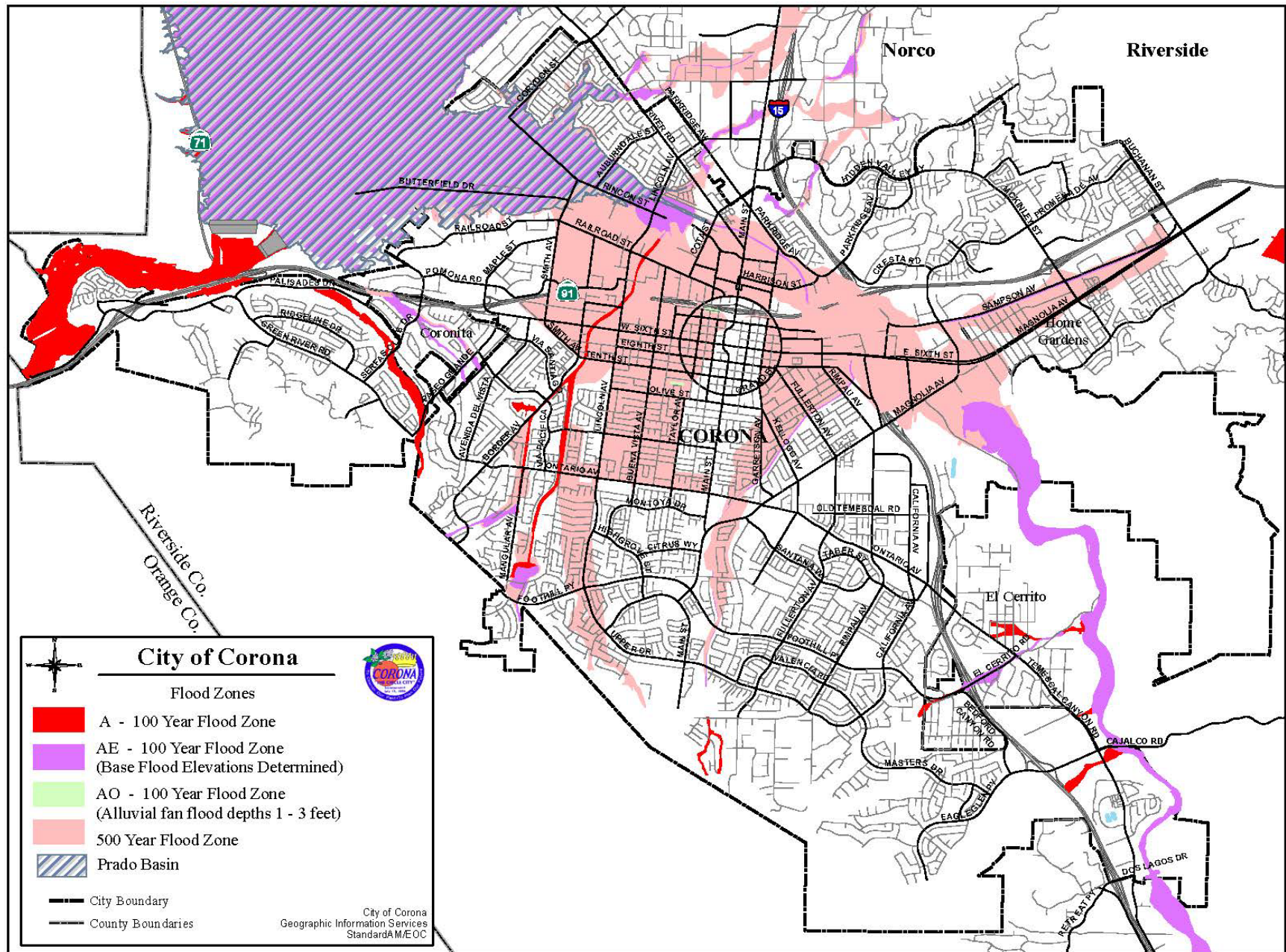
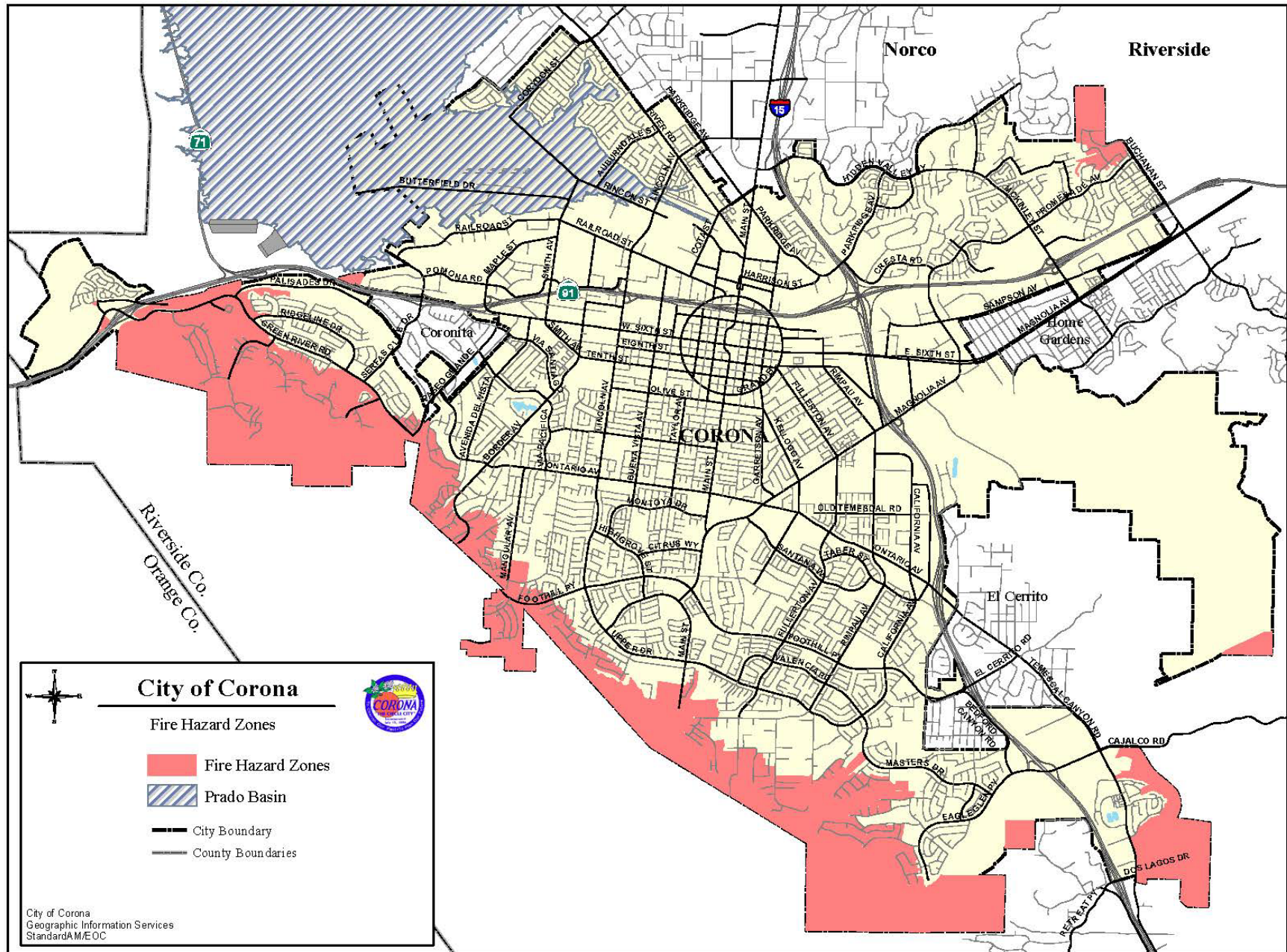


Figure 4.4.3 – Fire Hazard Zones for City of Corona



SECTION 5.0 – COMMUNITY RATING SYSTEM

5.1 REPETITIVE LOSS PROPERTIES

The National Flood Insurance Program's (NFIP) Community Rating System (CRS) is a voluntary incentive program that recognizes and encourages community floodplain management activities that exceed the minimum NFIP requirements.

As a result, flood insurance premium rates are discounted to reflect the reduced flood risk resulting from the community actions meeting the three goals of the CRS:

1. Reduce flood losses;
2. Facilitate accurate insurance rating; and
3. Promote the awareness of flood insurance.

There are 29 repetitive loss properties in the City of Corona based on the information received at time of LHMP preparation with FIRM.

5.2 NATIONAL FLOOD INSURANCE PROPERTIES

The City of Corona has participated in the National Flood Insurance Program since 1978.

- a. Describe participation in NFIP, including any changes since previously approved plan.*** Corona's recent activity related to NFIP includes updated Riverside County Flood Insurance Study and digitized Flood Insurance Rate Maps (FIRM) on August 28, 2008. City of Corona Floodplain Management Ordinance updated on December 3, 2008.
- b. Date first joined NFIP*** - May 15, 1978
- c. Identify actions related to continued compliance with NFIP*** – Corona Floodplain Management Ordinance was updated in 2008 to meet the minimum NFIP requirements pursuant to Title 44 Code of Federal Regulations Sections 59, 60.3-60.6, and 65.3 and the California Department of Water Resources (DWR) Model Ordinance. The Public Works Department reviews development permit applications and plans to ensure they are in compliance with our Ordinances and requires map revisions as necessary and maintains records such as elevation certificates, Letters of Map Changes, and Flood Insurance Rate Maps (FIRMs) for public availability. The Community Development Department and Public Works Department investigate violations and issue enforcement orders to bring developments in compliance with City Ordinances.

- d. **CRS member** – No
- e. **CRS class** – n/a
- f. ***Describe any data used to regulate flood hazard area other than FEMA maps-*** Riverside County Flood Insurance Study issued August 28, 2008; Drainage studies used to support CLOMR and LOMR issuance.
- g. ***Have there been issues with community participation in the program?*** No
- h. ***What are the general hurdles for effective implementation of the NFIP?*** Funding for updating outdated drainage studies and for performing new studies in previously unstudied flood hazard areas.
- i. **Summarize actions related to continued compliance with NFIP** –See item c above.

Other Risks - There are no known risks that differ from the rest of the County planning area.

SECTION 6.0 - CAPABILITIES ASSESSMENT

The City's ability to reduce hazards by improving upon existing mitigation strategies or implementing newly identified mitigation strategies, include its legal and regulatory authorities, its administrative, technical, and fiscal capabilities, and imperative to the success of all these strategies, are its continuous outreach, education and partnership building capabilities.

6.1 REGULATORY MITIGATION CAPABILITIES

The City of Corona formally adopts, reviews and updates regulatory policies and plans, along with implementing regulations such as zoning and subdivision ordinances. The city partners and coordinates with Riverside County Operational Area to ensure we are apprised of all regional efforts and adhere to State and Federal mandates.

The hazard mitigation updating process provided the City with an opportunity to review, evaluate and expand on existing policies, plans and city programs. The updated LHMP data was provided to those involved in the current 2017/2018 updating of the General Plan, as well as the scheduled 2018/2019 updating of the Emergency Operations Plan (EOP) to ensure that consistency is maintained.

Figure 6.1.1 is an example of regulatory capabilities that assist the City of Corona in its mitigation strategies.

Figure 6.1.1 Regulatory Mitigation Capabilities for City of Corona

Regulatory Tool	Yes/No	Comments
General plan	Yes	Comprehensive General Plan for the City and SOI areas 2004, updating began 2017
Zoning ordinance	Yes	Corona Municipal Code (CMC) - Title 17
Subdivision ordinance	Yes	Corona Municipal Code - Title 16
Site plan review requirements	Yes	Development Plan Review CMC 17.102
Growth management ordinance	No	Included in Corona General Plan – Growth Development Plan
Floodplain ordinance	Yes	Corona Municipal Code Title 18
Other special purpose ordinance (storm water, water conservation, wildfire)	Yes	Water Conservation Ordinance, 2009; Chapter 13.26 of the Corona Municipal Code, Airport General Provisions Title 4 CMC, Fire Facilities Fee Chapter 3.36 CMC.
Building code	Yes	Green Buildings Code, CMC 15.05.010, Fuel Modification CMC 15.12.110, Eave Protection Chapter CMC 15.12.270.
Fire department ISO rating	Yes	Rating: Two
Erosion or sediment control program	Yes	CMC 15.36.80 (Ord. 2806 and 2568)
Storm water management program	Yes	CMC 13.27, Riverside County Drainage Area Management Plan (DAMP), Drainage Master Plan-Riverside County NPDES co-permittee
Capital Improvements Program	Yes	Five-year plan; updated annually.
Economic development plan	No	Team Corona, program for expansion, relocation or development of commercial projects since.
Local Emergency Operations Plan	Yes	Emergency Operations Plan, November 1999, replaced 2005, updated 2011 and 2015
Other special plans		<ul style="list-style-type: none"> • Water Master Plan, • Urban Water Management Plan • Corona DWP Standard Plans and Specifications for Sewer & Water • Wildland Urban Interface Strategic Pre Plan 2 • California Fire Code Chapter 49, 2010 • Hazardous Materials Area Plan, California Fire Code, • Certified Unified Program Agency, • Fire Mutual Aid Threat - S.O.L.A.R. Plan
Flood Insurance Study or other engineering study for streams	Yes	Riverside County Flood Insurance Study, which includes City of Corona streams

6.2 ADMINISTRATIVE/TECHNICAL MITIGATION CAPABILITIES

The figure below gives an example of the personnel responsible for or contributing to activities related to mitigation for the City. Their expertise is used in hazard mitigation identification, planning and strategies, where information is shared across various city plans.

Figure 6.2.1 Administrative and Technical Mitigation Capabilities for Corona

Personnel Resources	Yes/No	Department/Position
Planner/engineer with knowledge of land development/land management practices	Yes	Community Development Director
Engineer/professional trained in construction practices related to buildings and/or infrastructure	Yes	Public Works Director and Building Official/Community Development
Planner/engineer/scientist with an understanding of natural hazards	Yes	Public Works Director
Personnel skilled in GIS	Yes	IT – GIS Division
Full time building official	Yes	Building Official/Community Development
Floodplain manager	Yes	City Manager
Emergency manager	Yes	Fire Department/Emergency Services Coordinator
Grant writer	Yes	Fire/ Police and contract with outside consultant.
GIS Data—Land use	Yes	IT – GIS Division
GIS Data—Links to Assessor's data	Yes	IT – GIS Division
Warning systems/services	Yes	Automated emergency notification system.

6.3 FISCAL MITIGATION CAPABILITIES

The figure below identifies financial tools and resources the city could potentially use to help fund mitigation activities. In addition to these resources the city is in constant pursuit of State and Federal grant opportunities to augment our mitigation financial capabilities. See section 6.5 Funding Opportunities.

Figure 6.3.1 - Fiscal Mitigation Capabilities for City of Corona

Financial Resources	Accessible/Eligible to Use (Yes/No)	Comments
Community Development Block Grants	Yes	Depending on budget & grantor approval
Capital improvements project funding	Yes	Depending on available budget
Authority to levy taxes for specific purposes	Yes	With voter/city council approval
Fees for water, sewer, gas, or electric services	Yes	With voter/city council approval
Impact fees for new development	Yes	With city council approval
Incur debt through general obligation bonds	Yes	With voter/city council approval
Incur debt through special tax bonds	Yes	With voter/city council approval
Incur debt through private activities	No	With voter/city council approval
Withhold spending in hazard prone areas	n/a	With voter/city council approval

6.4 MITIGATION OUTREACH AND PARTNERSHIPS

The City of Corona has an active emergency preparedness, education and outreach program. Mitigation strategies are taught throughout the year at various community events, fairs, schools, businesses and other functions. The greatest outreach efforts are being conducted through our Corona CERT Program.

We coordinate with local profit, non-profit, volunteer, and special district entities, such as the school district, the hospital, and the American Red Cross in addition to our Operational Area partners and their volunteer organizations, to plan for and participant in all hazard joint training and exercises. The vast array of knowledge and resources these entities bring to the table greatly improve upon our emergency management capabilities.

An example of these coordinated planning and training efforts is our city's participation in the regional mass care and shelter planning as we incorporate planning for access and functional needs individuals. In addition, the city has designated cooling and warming centers to utilize during severe weather emergencies, when the establishment of a shelter is not necessary.

One of the most successful systems used to improve upon and augment our City's capabilities and resources is our participation and partnership in the various mutual aid systems. Our Police and Fire Departments participate in mutual aid agreements in the event the City's forces are stretched beyond their capabilities. California Emergency Management Agency coordinates the Emergency Management Assistance Act for the response of emergency management resources to assist in the management of emergencies and disasters. Our Corona Department of Water and Power participates in Cal WARN and the local ERNIE water resource mutual aid organizations. The City of Corona manages emergencies under the National Incident Management System (NIMS) which utilizes the Master Mutual Aid concept.

6.5 FUNDING OPPORTUNITIES

In addition to the fiscal capabilities identified in figure 6.3.1 – Fiscal Mitigation Capabilities for City of Corona, some of the greatest funding opportunities come in the form of State and Federal grants, such as the Hazard Mitigation Grant Program.

The Hazard Mitigation Grant Program (HMGP) is authorized by Section 404 of the Robert T. Stafford Disaster Relief and Emergency Assistance Act, as amended (the Stafford Act), Title 42, United States Code (U.S.C.) 5170c. The key purpose of HMGP is to ensure that the opportunities to take critical mitigation measures to reduce the risk of loss of life and property from future disasters are not lost during the reconstruction process following a disaster. HMGP is available, when authorized under a Presidential major disaster declaration, in the areas of the State requested by the Governor. The amount of HMGP funding available to the Applicant is based upon the total Federal assistance to be provided by FEMA for disaster recovery under the Presidential major disaster declaration.

The City of Corona applies for various grants to augment our mitigation financial capabilities. Examples of successful grants awarded to the City to assist in our mitigation efforts are as follows.

1. The city applied for and received a grant award from the California Department of Water Resources (DWR) Flood Emergency Response

Projects – Statewide Grant Round Two. The grant provided funding for the city to prepare the Flood Emergency Response Plan, develop, and conduct a tabletop and functional training exercise to test the plan and prepare the city and other participating agencies for flood response (a flood in the city can be caused by both a storm event and dam failure). The plan development is underway with completion scheduled for December 2018.

2. The city applied for and was awarded Hazard Mitigation Grant Program #4653-307-01R funding for a hydro-seeding project in the burn scar of the 2017 Canyon Fire. The approved activity is to hydro-seed 200,000 square feet of fire damaged area behind a residential area bordering 48 homes and infrastructure using an endemic mixture of California Native Species. The re-establishment of ground cover will assist in the prevention of or lessening the effects of erosion, flash flooding and debris flow. This project will be completed by October 2018

SECTION 7.0 - MITIGATION STRATEGIES

7.1 GOALS AND OBJECTIVES

The City of Corona's updated 2017 mitigation goals and objectives pertinent to the 2017 hazard ranking are the following:

Goal 1: Reduce loss of life and injuries

- Objective 1.1: Provide timely notification and direction to the public in preparation for and response to imminent and potential hazards.
- Objective 1.2: Protect public health and safety through mitigation, preparing for, responding to, and recovering from the effects of natural, technological or man-made disasters.
- Objective 1.3: Reduce hazard impacts and protect life, property and the environment from damages.

Goal 2: Reduce Hazard Related Property Losses

- Objective 2.1: Encourage new development to occur in locations that avoid or minimize exposure to hazards.
- Objective 2.2: Reduce hazard related property losses by enforcing strong building, fire, and municipal codes.
- Objective 2.3: Reduce repetitive losses for fire, flood, and earthquakes by encouraging protective measures and by anticipating future events.
- Objective 2.4: Reduce hazard impacts to critical facilities, utilities and services through the implementation of mitigation strategies.

Objective 2.5: Continue to strengthen land use regulations in high hazard areas.

Goal 3: Protect the environment

Objective 3.1: Mitigate the impact of recurring drought conditions that impact both ground water supply and the agricultural industry.

Objective 3.2: Protect the environment from hazardous material releases or exposures.

Objective 3.3: Protect the environment from sewage, wastewater, and storm water pollution or contamination.

Goal 4: Improve coordination and collaboration with City Departments and partnering agencies throughout all phases of emergency management.

Objective 4.1: Coordinate with County EMD, Cal OES and FEMA to ensure SEMS/NIMS compliancy and to ensure any updates or changes are instituted.

Objective 4.2: Improve City's ability for continuity of operations for all hazard incidents.

Objective 4.3: Incorporate mitigation related activities into other disaster planning mechanisms, such as the General Plan and Capital Improvement Plan.

Objective 4.4: Participate in Operational Area meetings, committees, and exercises.

Goal 5: Improve Community and Agency Awareness

Objective 5.1: Improve mitigation and hazard related outreach to the general public, businesses and other stakeholders to increase their understanding of the various types, locations and effects of hazards and vulnerabilities, and actions they can take to reduce those hazard impacts.

Objective 5.2: Improve, standardize, and expand the emergency preparedness education and outreach program.

7.2 MITIGATION ACTIONS

The City of Corona identified the following mitigation actions to be taken based on the Goals and Objectives established, pertinent to the hazard ranking assessment. These actions are in addition to the on-going mitigation strategies identified in Section 7.3 and the projects to be completed in the comprehensive Five Year Capital Improvement Program (CIP), which provides for the maintenance and improvement of the City's infrastructure. Infrastructure includes such items as: streets, alleyways, sidewalks, sewers, storm drains, water system, street lighting, and traffic signals. For a listing of scheduled Capital Improvement Projects visit <http://www.discovercorona.com/City-Departments/Finance/Operating-and-Capital-Improvement-Budgets.aspx>.

The following mitigation projects have been identified by the responsible city department, scheduled and a funding mechanism has been allocated.

- 1) **Goal 4:** Improve coordination and collaboration with City Departments and partnering agencies throughout all phases of emergency management.

Objective 4.2: Improve City's ability for continuity of operations for all hazard incidents.

Action: Enhance communication interoperability by purchasing Harris Unity Radios; these radios will operate on the Public Safety Enterprise Communications 10.

Responsible Dept: Police Department

Mitigated Hazard: Communications Failure

Status: In progress and ongoing.

Funding: FY 17 State Homeland Security Program

- 2) **Goal 1:** Reduce loss of life and injuries

Objective 1.1: A Provide timely notification and direction to the public in preparation for and response to imminent and potential hazards.

Action: Replace/upgrade current Computer Aided Dispatch system which has been in place for over 30 years.

Responsible Dept: Police Department

Mitigated Hazard: All

Status: In progress will be completed July 2019.

Funding: City General Fund

- 3) **Goal 3:** Protect the environment

Objective 3.2: Protect the environment from hazardous material releases or exposures.

Action: Update the Hazardous Materials Area Plan in coordination with Riverside County Environmental Health to assist in the prevention or mitigation of damage from the release or threatened release of hazardous materials.

Responsible Dept: Fire Department

Mitigated Hazard: HazMat, Fire

Status: Updates to the plan have been completed and it is with the State for review. The approved plan will be taken to Council for formal adoption by October 2018

Funding: City General Fund

4) Goal 1: Reduce loss of life and injuries

Objective 1.3: Reduce hazard impacts and protect life, property and the environment from damages.

Action: Conduct Active Shooter exercise for Tactical Response Team. Enter scene under force protection to provide care to victims that otherwise would have died from preventable death injuries.

Responsible Dept: Police and Fire Department

Mitigated Hazard: Terrorism

Status: Three-day quarterly exercises started in June 2017.

Funding: City General Fund

5) Goal 2: Reduce Hazard Related Property Losses

Objective 2.3: Reduce repetitive losses for fire, flood, and earthquakes by encouraging protective measures and by anticipating future events

Action: Department of Water and Power in conjunction with Emergency Management Division will facilitate the creation of a flood plan for the City of Corona

Responsible Dept: Department of Water and Power and Fire Department

Mitigated Hazard: Flood

Status: Plan development in progress, complete by December 2018

Funding: California Dept. of Water Resources – Flood Emergency Response Projects – Statewide Grant

6) Goal 2: Reduce Hazard Related Property Losses

Objective 2.3: Reduce repetitive losses for fire, flood, and earthquakes by encouraging protective measures and by anticipating future events.

Action: Design and construction of Corona MDP Line 52 to alleviate flooding on Grand Avenue and Joy Street

Responsible Dept: Department of Water and Power

Mitigated Hazard: Flood

Status: In progress will be complete November 2018

Funding: City General Fund – Capital Improvement Project

7) Goal 2: Reduce Hazard Related Property Losses

Objective 2.2: Reduce hazard related property losses by enforcing strong building, fire, and municipal codes.

Action: Three new housing developments are planned adjacent to high risk fire areas. Ensure new development is in compliance with Chapter 49 of the Fire Code. And a separate fuel modification plan to be submitted for review and approval by Fire Department

Responsible Dept: Fire Department/Prevention

Mitigated Hazard: Fire

Status: Initial development stages, developments will be complete by 2021

Funding: Permit and inspection fees

8) Goal 5: Improve Community and Agency Awareness

Objective 5.1: Improve mitigation and hazard related outreach to the general public, businesses and other stakeholders to increase their understanding of the various types, locations and effects of hazards and vulnerabilities, and actions they can take to reduce those hazard impacts.

Action: Provide Community Emergency Response Team training to the community. Offer this training twice a year.

Responsible Dept: Fire Department/Emergency Management Division

Mitigated Hazard: All

Status: Annual and ongoing.

Funding: State Homeland Security Program grant funding

9) Goal 4: Improve coordination and collaboration with City Departments and partnering agencies throughout all phases of emergency management.

Objective 4.3: Incorporate mitigation related activities into other disaster planning mechanisms, such as the General Plan and Capital Improvement Plan.

Action: Coordination with Caltrans, Riverside County Transportation Commission with the Corona Freeway Improvement Projects. These projects hope to reduce traffic, increase capacity and mobility.

- Interstate 15 corridor improvement project
- State Route 91 corridor improvement project
- State Route 91/SR-71 interchange improvement project

Responsible Dept: Public Works

Mitigated Hazard: Transportation Failure

Status: In progress all projects complete by 2020

Funding: Caltrans District 8

10)Goal 4: Improve coordination and collaboration with City Departments and partnering agencies throughout all phases of emergency management.

Objective 4.2: Improve City's ability for continuity of operations for all hazard incidents.

Action: Develop a multi-year EOC responder training and exercise plan, enhancing the city's ability to respond and recover from all hazard incidents, lessening the negative impacts to our residents.

Responsible Dept: Fire Department/Emergency Management Department

Mitigated Hazard: All

Status: In development complete and implemented by July 2018

Funding: City General Fund

7.3 ON-GOING MITIGATION STRATEGY PROGRAMS

The City of Corona has implemented and or updated several policies, procedures, programs and plans in an effort to lessen the impact of disasters and prevent the loss of life and property. Some of these on-going mitigation efforts are identified in the table below.

Figure 7.3.1 On-Going Mitigation Strategy Programs

Hazard Type	Mitigation Action	Mitigation Strategy
All	2017 LHMP Update and annual review	Update 2012 Local Hazard Mitigation Plan to identify projects to lessen the impact of disasters and prevent the loss of life and property. Review to ensure priorities are not changed.
Contamination, Pollution, Flood	Storm Water and Urban Runoff Pollution Prevention Program	Prevents pollution of local waterways, regulates what can be discharged into storm drains.
Terrorism	BioWatch Program Participant	BioWatch provides early detection of biological agents in the air used for a bioterrorism attack.
Transportation Failure, Terrorism	Traffic Management Center	Single location to monitor throughout the City over 70 traffic signals, 15 monitoring cameras and a video and data link between CalTrans District 8 TMC in San Bernardino.
Transportation Failure	Advanced Traffic Management System	Ability to make adjustments to timing of traffic signal systems on local streets and bottom of freeway ramps to assist in moderating congestion.
Terrorism	Train and Exercise PD & Fire Tactical Response Team	Enter scene under force protection to provide care to victims that otherwise would have died from preventable death injuries.
HazMat, Transportation Failure, Fire	Hazardous Material Area Plan	Hazardous Material Area Plan, assists in the prevention or mitigation of damage from the release or threatened release of hazardous materials.
Pandemic Flu	Pandemic Influenza Plan	City of Corona Pandemic Influenza Plan facilitates coordination with County Public Health for an organized and quick response to a pandemic effecting the City, lessening the
Fire, Transportation Failure, Terrorism	Emergency Airport Plan	Corona Municipal Airport Emergency Plan, provides agency coordination, communication procedures and lines of authority.
Flood/Water Supply Contamination	Sewer System Management Plan	Sewer System Management Plan, outlines preventative maintenance, schedule of maintenance and response plan.
Water Supply Disruption/ Drought	Urban Water Management Plan	Urban Water Management Plan - conservation and efficient water use
Climate Change/Drought, Emergent Disease	Climate Action Plan	Climate Action Plan - identifies and implements actions to reduce GHG emissions.
Fire	Suppression Inspection Action Plan	Suppression Inspection Action Plan - facilitates the completion of hazard reduction inspections.
HazMat, Fire	G&G Environmental Contract	Conduct on-site inspections for businesses housing hazardous materials to ensure compliance of State, County and local policies and procedures.
Communications Failure/Fire	SOLAR/Multi - County Mutual Threat Zone Guide	Continued participation with the SOLAR group in contingency planning for communications, resources and response to mutual threat areas.
All	Fire & PD Annual Master Training Plan	Improves the safety and performance of Department's members in order for them to prevent or minimize loss of life, damage to the environment and loss of property.

Hazard Type	Mitigation Action	Mitigation Strategy
Fire	Wildland Urban Interface Strategic Pre Plan	Pre planning lends to an organized multi-agency response to wildland urban interface fires reducing loss of life, injuries and property.
All	Emergency Notification System	Provide timely notification and direction to the public in preparation for imminent and potential hazards, to reduce loss of life, injuries, and property.
Transportation Failure	Traffic Incident Plan	Addresses long term freeway closures, to provide coordinated Unified Command, public information, rapid notification, stranded motorists needs, to better provide for public safety
All	Enforcement of strong building, fire, and municipal codes	Reduce hazard related property losses
All	Emergency Services Quality Improvement Program	Corona Fire Department Emergency Medical Services Quality Improvement Program - delivery of consistent, high quality, compassionate pre-hospital patient care.
All	Emergency Medical Dispatch Program	Emergency Medical Dispatch Program - delivery of pre arrival medical direction

7.4 FUTURE MITIGATION STRATEGIES

The below are identified mitigation strategies. A funding source has either not yet been identified for these projects or the project is only partially funded. The City of Corona is continuously looking for funding opportunities to augment its financial mitigation capabilities.

For example, the city has submitted 2 Notice of Intents in the hopes of being successful recipients of Hazard Mitigation Grant funds, as a result of FEMA-4305-DR. If we are not successful in our efforts we will continue to pursue available funding opportunities and will utilize, when available, financial resources identified in 6.3 Fiscal Mitigation Capabilities. If funding can be secured we will move forward with the following projects.

1) **Goal 2:** Reduce Hazard Related Property Losses

Objective 2.4: Reduce hazard impacts to critical facilities, utilities and services through the implementation of mitigation strategies.

Action: Purchase and install back-up generators at City's groundwater wells and blend station

Responsible Dept: Department of Water and Power

Mitigated Hazard: Electrical Failure, Water Supply Disruption, Earthquake

Status: Not started

Funding: Submitted Notice of Intent for Hazard Mitigation Grant Funds

2) Goal 2: Reduce Hazard Related Property Losses

Objective 2.4: Reduce hazard impacts to critical facilities, utilities and services through the implementation of mitigation strategies.

Action: Ensure four of the city's oldest fire stations with ages ranging from 30 to 50 years of service can withstand a significant seismic event.

Responsible Dept: Fire Department

Mitigated Hazard: Earthquake

Status: Not started

Funding: Submitted Notice of Intent for Hazard Mitigation Grant Funds

3) Goal 2: Reduce Hazard Related Property Losses

Objective 2.4: Reduce hazard impacts to critical facilities, utilities and services through the implementation of mitigation strategies.

Action: Conduct maintenance identified in the Caltrans bridge inspection reports. The passing of SB 1 will provide the City funding for repairs to roads and bridges. Allocation of funds and priorities of projects have not yet been determined.

Responsible Dept: Public Works

Mitigated Hazard: Transportation Failure, Earthquake

Status: TBD

Funding: Senate Bill 1 funds not yet allocated

4) Goal 2: Reduce Hazard Related Property Losses

Objective 2.4: Reduce hazard impacts to critical facilities, utilities and services through the implementation of mitigation strategies.

Action: Conduct inspections of older water treatment facilities to ensure the ability to handle a seismic event and address any deficiencies.

Responsible Dept: Department of Water of Power

Mitigated Hazard: Earthquake, Water Supply Disruption/Contamination

Status: TBD

Funding: Not yet determined

For a listing of all unfunded Capital Improvement Projects visit:

<http://www.discovercorona.com/City-Departments/Finance/Operating-and-Capital-Improvement-Budgets.aspx>

SECTION 8.0 – PLAN IMPLEMENTATION AND MAINTENANCE PROCESS

The City of Corona will monitor and evaluate our LHMP on a yearly basis over the next 5 years and will make updates accordingly. We will review the LHMP and assess:

- The goals and objectives and address current and expected conditions.
- If the nature, magnitude, and/or type of risks have changed
- Current resources for implementing the plan and explore new resources.
- Implementation problems, such as technical, political, legal, or coordination issues with other agencies.
- The outcomes to ensure they are in line with the expected outcome, if not we will modify plan.
- Changes in Federal, State or local ordinances, laws and regulations
- Involve public by posting notices on websites and announcements during public meetings intent to review and update Local Hazard Mitigation Plan allowing for public comment and input.

If we discover changes have occurred during the evaluation, we will update the LHMP Revision Page, and notify Riverside County EMD to update our Annex.

The Fire Department Emergency Services Division will coordinate the monitoring, evaluation and update of the LHMP.

The City has incorporated the Local Hazard Mitigation Plan by adoption into the Safety Element of the City's General Plan.

SECTION 9.0 – INCORPORATION INTO EXISTING PLANNING MECHANISMS

The City has incorporated the Local Hazard Mitigation Plan by adoption into the Safety Element of the City's General Plan. The Safety Element includes discussion of fire, earthquake, flooding, and landslide hazards. Based on the ranking of hazards identified in the LHMP priority of mitigation projects to address these hazards will be determined and used in the development of the City's Capital Improvement Plan.

In addition, the City has often developed plans, policies and adopted ordinance to assist in the mitigation of hazards identified in the LHMP. These mitigation efforts can be seen in the following figures:

See Figure 3.5.1 Mitigation Project Updates

See Figure 6.1.1 Regulatory Mitigation Capabilities

See Figure 7.3.1 On-Going Mitigation Strategy Programs

SECTION 10.0 - CONTINUED PUBLIC INVOLVEMENT

If any changes are made in the Scheduled Plan Maintenance Process, the public will be notified through actions taken at City Council meetings by posting of the Agenda, cable TV viewing of these meetings, posting on the City's website and outreach at community meetings.

APPENDIX A – PUBLIC NOTICES AND MAPS

**RIVERSIDE COUNTY
QUARTERLY OPERATIONAL AREA PLANNING COMMITTEE
(OAPC)**

**October 13, 2016
9:00 a.m. – 11:00 a.m.**

Beaumont City Hall, 550 East 6th St., Beaumont, CA 92223

AGENDA

- I) Pledge of Allegiance, Welcome & Opening Remarks**
Kim Saruwatari, Director, Riverside County Emergency Management Department (EMD)
- II) Introductions**
- III) Approval of Minutes**
OAPC Meeting Minutes of July 14, 2016
- IV) New Business**
 - 1. Designation of the OAPC Vice-Chair
 - 2. Designation of the Emergency Management representatives to serve on the Anti-Terrorism Approval Authority (ATAA) Board
- V) Presentation**
 - a) "ESRI - Emergency Management Tools". Justin Fan, Solutions Engineer for the Environmental Standards and Research Institute (ESRI), will provide an overview of available emergency management tools such as situational awareness dashboards, story maps, etc.
 - b) "Natural Gas Safety for Emergency Responders". Lea Peterson, Southern California Gas Company, will share information about the Gas Company's emergency incident response and safety procedures in and around natural gas pipelines.
- VI) Standing Items**
 - 1. California Operational Area Coalition (COAC) Update
 - 2. Standardized Emergency Management System (SEMS) / National Incident Management System (NIMS) Update / NIMSCAST
 - 3. Grant Updates & Status Reports
 - 4. Sub-Committees/Task Forces
 - a. Training and Exercise
 - b. Communications
 - 5. Community Emergency Response Training (CERT) Program Managers' Update
 - 6. VOAD – Volunteer Organizations Active in Disasters
 - 7. CalOES Update
 - 8. Local Hazard Mitigation Plan (LHMP) Update
- VII. Roundtable & Public Comment**
- VIII. Next Quarterly OAPC MeetingThursday, January 12, 2017**
Next Riverside County Disaster Council Meeting.....Thursday, January 12, 2017
- IX. Adjournment**

RIVERSIDE COUNTY
ANNUAL DISASTER COUNCIL and
QUARTERLY OPERATIONAL AREA PLANNING COMMITTEE
(OAPC)

April 5, 2017
10:00 a.m. to 12:00 p.m.

Beaumont City Hall, 550 East 6th St., Beaumont, CA 92223

AGENDA

- I) **Pledge of Allegiance, Welcome & Opening Remarks**
John Tavaglione, Chair, Riverside County Board of Supervisors and Riverside County Disaster Council
Kim Saruwatari, Director, Riverside County Emergency Management Department
- II) **Introductions**
- III) **Approval of Minutes**
Disaster Council meeting minutes of January 14, 2016.....ATTACHMENT I
OAPC meeting minutes of January 12, 2017.....ATTACHMENT II
- IV) **New Business**
Presentation of Awards
- V) **Presentations**
 - a) Emergency Preparedness and Response from a Large Urban School District Perspective, Jill Barnes, Ed.D, CEM, Coordinator, Office of Emergency Services, Division of District Operations, Los Angeles Unified School District (LAUSD).
 - b) Experience and Lessons-Learned from the February 2017 Oroville Dam Incident, Chief Justin McGough, CalFire/Riverside County Fire Department.
- V) **Standing Items**
 - 1. California Operational Area Coalition (COAC) Update
 - 2. Standardized Emergency Management System (SEMS) / National Incident Management System (NIMS) Update / NIMSCAST
 - 3. Grant Updates & Status Reports
 - 4. Sub-Committees/Task Forces
 - a. Training and Exercise
 - b. Communications
 - 5. Community Emergency Response Training (CERT) Program Managers' Update
 - 6. VOAD – Volunteer Organizations Active in Disasters
 - 7. CalOES Update
 - 8. Local Hazard Mitigation Plan (LHMP) Update
- VI. **Roundtable & Public Comment**
- VII. **Next Annual Disaster Council Meeting**.....Thursday, January 11, 2018
Next Quarterly OAPC MeetingThursday, July 13, 2017
- VIII. **Adjournment**

RIVERSIDE COUNTY
QUARTERLY OPERATIONAL AREA PLANNING COMMITTEE
(OAPC)

January 12, 2017
9:00 a.m. – 11:00 a.m.
Beaumont City Hall, 550 East 6th St., Beaumont, CA 92223

AGENDA

- I) **Pledge of Allegiance, Welcome & Opening Remarks**
Kim Saruwatari, Director, Riverside County Emergency Management Department
- II) **Introductions**
- III) **Approval of Minutes**
OAPC Meeting Minutes of October 13, 2016
- IV) **New Business**
Designation of the OAPC Vice-Chair for 2017
OAPC Appointment of Designee Form
- V) **Presentation**
Crisis Communications and Media Response Training for Today's Leaders. Richard Brundage, President, Center for Advanced Media Studies.
- V) **Standing Items**
 - 1. California Operational Area Coalition (COAC) Update
 - 2. Standardized Emergency Management System (SEMS) / National Incident Management System (NIMS) Update / NIMSCAST
 - 3. Grant Updates & Status Reports
 - 4. Sub-Committees/Task Forces
 - a. Training and Exercise
 - b. Communications
 - 5. Community Emergency Response Training (CERT) Program Managers' Update
 - 6. VOAD – Volunteer Organizations Active in Disasters
 - 7. CalOES Update
 - 8. Local Hazard Mitigation Plan (LHMP) Update
- VI. **Roundtable & Public Comment**
- VII. **Next Annual Disaster Council Meeting**.....Date in April to be determined
Next Quarterly OAPC MeetingDate in April to be determined
- VIII. **Adjournment**

April 3-4, 2017 - Mitigation Planning for Local and Tribal Communities

This course provides plan developers with the information necessary to prepare and implement a local Hazard Mitigation Plan. Objectives: Define hazard mitigation planning and identify the benefits of mitigation planning Develop or update a local mitigation plan Identify resources and guidance available for mitigation plan

Monday, April 3, 2017 at 8:00 AM PDT

-to-

Tuesday, April 4, 2017 at 5:00 PM PDT

C-1/Ben Clark Training Center

16902 Bundy Ave
Riverside, CA 92518

Thank you again for registering for our event. This email is confirmation of your successful registration. If any of the information displayed below is incorrect, please contact us as soon as possible.

Personal Information

First Name: Gina
Last Name: Moran-McGough
Email Address: gina.moran-mcgonough@ci.corona.ca.us

Contact

County of Riverside Emergency Mgt Dept.
County of Riverside Emergency Management Department
951-358-7100
sbjensen@rivco.org

[Add to Calendar](#)

This email was sent to gina.moran-mcgonough@ci.corona.ca.us by sbjensen@rivco.org because you registered for April 3-4, 2017 - Mitigation Planning for Local and Tribal Communities. [Click here if you no longer wish to receive emails about this event.](#)

County of Riverside Emergency Management Department | 4210 Riverwalk Pkwy Suite 300 |
Riverside | California | 92505



Kim Saruwatari, MPH
Director

City LHMP Workshop

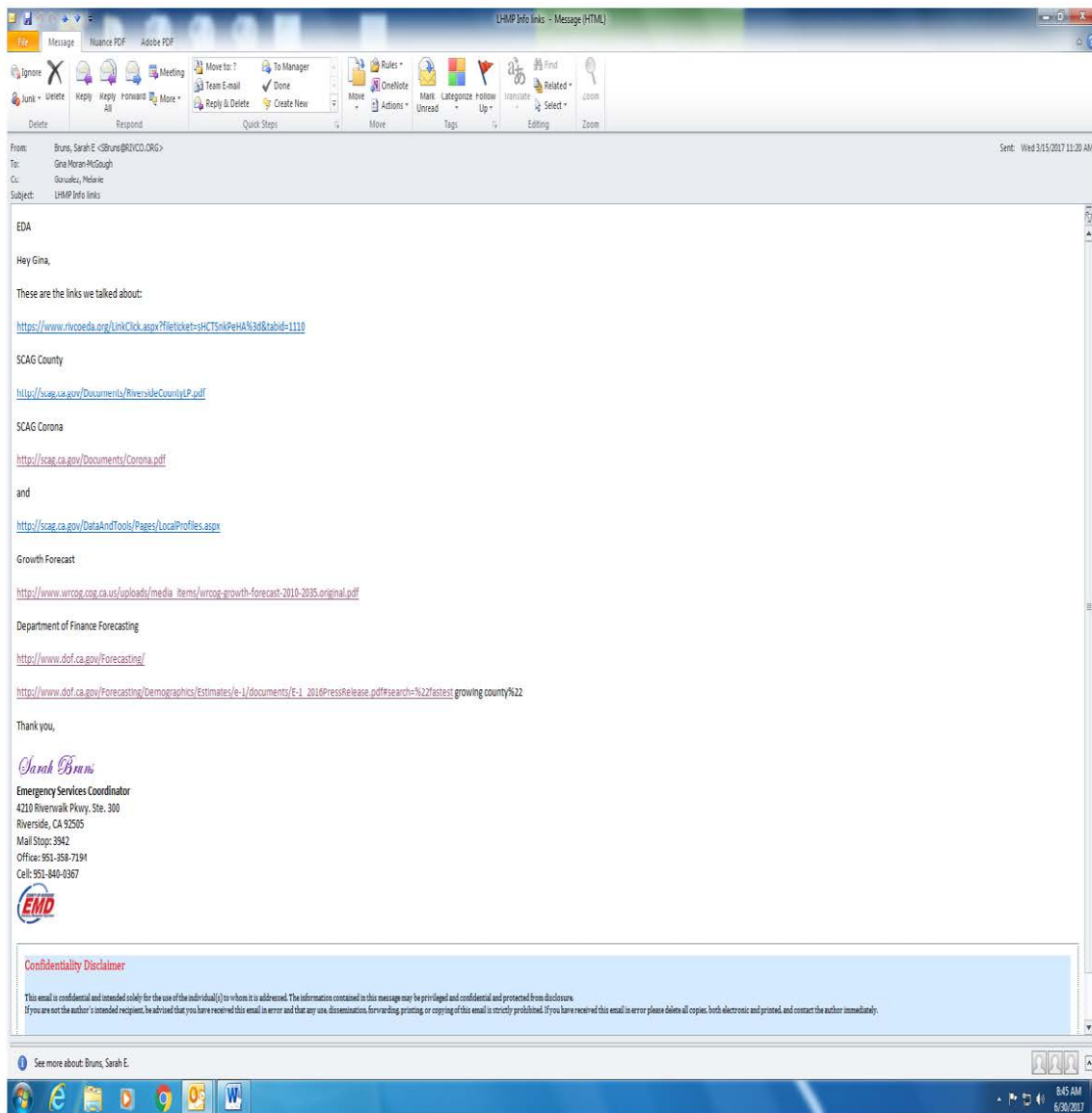
AGENDA

Tuesday June 6, 2017
9:00 a.m. – 10:00 a.m.

Subject	Time	Presented By	Purpose
I. Welcome and Introductions	5 Min.	Sarah Bruns	Inform
II. Hazard Mitigation Grant Program (HMGP)	10 Min.	Sarah Bruns	Inform/Discuss/ Handout
III. Region IX Review Guide	15 Min.	Sarah Bruns	Inform/Handout
IV. County Plan Update	5 Min.	Sarah Bruns	Inform
V. Next Steps <ul style="list-style-type: none">• LHMP Submission & Review Process	10 Min.	Sarah Bruns	Inform
VI. Roundtable	10 Min.	All	
VII. Adjournment	5 Min.	Sarah Bruns	

4210 RIVERWALK PARKWAY, SUITE 300
RIVERSIDE, CALIFORNIA 92505
T: 951.358.7100 ♦ F: 951.358.7105 ♦ WEB: WWW.RIVCOREADY.ORG

County assistance given to City of Corona 3/15/17



From: [Gonzalez, Melanie](#)
To: [Gina Moran-McGough](#)
Subject: RE: LHMP
Date: Tuesday, April 11, 2017 3:11:48 PM
Attachments: 2017 Hazard Ranking.docx
Final Risk Scores.xlsx

Of course! I attached the 2017 county hazards and the risk scores that we gave to each of these county hazards, in regards to their severity and probability. I hope this helps to complete that specific page on the inventory worksheet. If not, please feel free to contact me and I can further assist you on what you may need. Thank you!

Melanie Gonzalez

Health Education Assistant II
Emergency Management Department
4210 Riverwalk Pkwy, Suite 300
Riverside CA 92505
Mail Stop: 3942
Direct Line: 951-955-5505
Work Cell: 951-476-4009
Main Department Line: 951-358-7100
Email: Melanie.Gonzalez@rivco.org



From: Gina Moran-McGough [mailto:Gina.Moran-McGough@ci.corona.ca.us]
Sent: Tuesday, April 11, 2017 2:58 PM
To: Gonzalez, Melanie <Melanie.Gonzalez@RIVCO.ORG>
Subject: LHMP

Hello Melanie,

I am conducting meetings with my City Departments and am reviewing the hazard rankings. In the Inventory worksheet that was included in the CD, the VULNERABILITY WORKSHEET is the one from 2012 which is missing some of the hazards identified in the 2017. Do you have the latest and greatest that you could possibly send me?? PLEASE☺

Thank you,

Gina Moran-McGough
Emergency Services Coordinator
Corona Fire Department – Emergency Services Division
(951) 736-2458

From: Gonzalez, Melanie
To: Gina Hernandez-Gonzalez
Subject: LHMP 2017 Ranking
Date: Wednesday, March 22, 2017 11:02:12 AM
Attachments: 2017 Hazard Ranking.docx

Good
Afternoon!

Training

EMD is in the process of bringing FEMA course G-318, Hazard Mitigation Planning Training, to our Riverwalk location the last week of March. It is a two day course, from 8a.m. to 5p.m. If this is something that you are interested please email Sarah at shouns@rivco.org by **February 22, 2017**.

LHMP 2017 County Hazard Ranking

Attached to this email participants will find the finalized hazard ranking for Riverside County for the 2017 LHMP. Each of these hazards will be addressed in the plan update. Please note, these rankings are for the county plan and do not affect your jurisdiction rankings. However, we do ask that at a minimum you reference our rankings in your plan to illustrate the collaboration between plans.

Mapping Website Link

In previous LHMP workshops, we were informed that some participants were having trouble accessing Hazus. After talking about this issue with the Cal OES, they provided us with an alternative option for jurisdictions to create maps. Unfortunately, we were informed that we are not able to make one whole county map for reference, each jurisdiction must include jurisdiction specific maps. The link to Cal OES's MyPlan system is www.myplan.caloes.ca.gov. This website is very user friendly and includes information on flood, fire, faults zones and licensed healthcare facilities. If you need any further assistance in mapping or using this alternative link, please feel free to reach out to us.

In addition, NOAA has climate mapping that you can add to your plan. The link is <https://www.climate.gov/maps-data>.

Senate Bill 379

We would like to inform all jurisdictions that according to a Senate Bill (SB 379), the county and cities need to incorporate their LHMP into their General Plan by the year 2022. Riverside County's LHMP was adopted into the General Plan in 2015. If your plan is not yet incorporated, we ask that you add this as a mitigation action for the 2017 LHMP update for your jurisdiction. The link to view and read the entire bill is as follows: https://leginfo.ca.gov/faces/billTextClient.xhtml?bill_id=2015201605379

Senate Bill 1000

In addition to SB 379, 1000 must also be incorporated by 2022. This bill states that "climate adaptation and resilience strategies [must be incorporated] upon either the next revision of a local hazard mitigation plan after a specified date or on or before January 1, 2022". The link to view and read the entire bill is as follows: https://leginfo.ca.gov/faces/billTextClient.xhtml?bill_id=20152016051000
If you have any questions or concerns, as always please feel free to contact me or Sarah. Thank you and have a great day!

Thank you,

Melanie Gonzalez

**Health Education Assistant II
Emergency Management Department**
4210 Riverwalk Pkwy, Suite 300
Riverside CA 92505
Mail Stop: 3942
Direct Line: 951-955-5505
Work Cell: 951-476-4009
Main Department Line: 951-358-7100
Email: Melanie.Gonzalez@rivco.org



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County of Riverside California

From: [Bruns, Sarah E](#)
To: [Gina Moran-McGough](#)
Subject: Accepted: LHMP meeting w/ EMD

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HYPERLINK "<http://www.countyofriverside.us/>" County of Riverside California

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Corona Fire Department ✓
@CoronaFireDept

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Photos
Likes
Reviews
Jobs

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Like
Follow
Share
...

4,684 people reached
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Comment
Share

Sharon Andrade, Adolfo Aguilar and 118 others

Write a comment...

Corona Fire Department
Published by Brittany Ritzi Foust [?] · April 13 at 5:38pm ·

[LINK TO SURVEY: <http://www.discovercorona.com/.../Fir.../LHMP-Update-Survey.aspx>]

The City of Corona is conducting a 5-year update to our Local Hazard Mitigation Plan (LHMP). The intent of the plan is to help identify, reduce or remove long-term risk and protect people and property from the effects of events like earthquake, fire, flood, terrorism, etc.

A draft of the current LHMP is available for review and comment by the public and all interested stakeholders. Our hopes ar... [See More](#)

3,527 people reached
Boost Post

Like
Comment
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CERT Leadership Agenda

March 23, 2017 7:00 PM to 9:00 PM

Instructor: Richard Boltinghouse

- I. Welcome
- II. CERT Animal Response Module I
- III. Discussion on Local Hazard Mitigation Plan for the City of Corona- The purpose of the local hazard mitigation plan is to identify the hazards, review and assess past disaster occurrences, estimate the probability of future occurrences and set goals to mitigate potential risks to reduce or eliminate long-term risk to people and property from natural and man-made hazards.
- IV. CERT upcoming Community Events
- V. End of meeting

Corona Fire Department – Emergency Services Division
 Community Discussion: Local Hazard Mitigation Planning
 ESD Representative: Richard Boltinghouse
 March 23, 2017

Name	Signature
SAUD AHMED BORY	
Rebecca Dwyer	
PAT STEET	
Kim Victorine	
Patti Victorine	
Remy Wilbourne	
Jeremy Smith	
Cari Smith	
CJ Roach	
Michelle Kelano	
Beverly Smallwood	
Adriana Miranda	

City of Corona LHMP Planning

Public Meeting Hazard Ranking & Proposed Mitigation Projects 4/27/17

Print Name	Zip Code/Area	Signature
1. <i>Van Victoria</i>	92879	<i>[Signature]</i>
2. <i>Ratti Victorine</i>	92879	<i>Ratti Victorine</i>
3. <i>Chelie Keland</i>	92881	<i>Michelle [unclear]</i>
4. <i>PAT STEET</i>	92879	<i>psteet</i>
5. <i>SEVERLY SMALLWOOD</i>	92882	<i>[Signature]</i>
6. <i>Adrian Miranda</i>	92879	<i>Adrian Miranda</i>
7. <i>Ken Kuehl</i>	92880	<i>Ken Kuehl</i>
8. <i>SAUD AHMADI BORY</i>	92881	<i>[Signature]</i>
9.		
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25.		

City of Corona 2017 Planning

Representatives from multiple City departments contributed in the updating of the 2012 Local Hazard Mitigation Plan. The team assisted in the development of mitigation strategies and projects based on the risk and hazard ranking assessment, they identified completion of past projects, assisted with public outreach, and provided updated City data and statistics.

Name	Title	Signature
David Duffy	Fire Chief	
Mike Samuels	Deputy Fire Chief	M. Samuels
Gina McGough	Emergency Services Coordinator	Gina McGough
Richard Boltinghouse	CERT Program Lead	R. Boltinghouse
Cindi Schmitz	Fire Marshal	C. Schmitz
Jennifer Schaefer	Finance CDBG Manager	Jennifer Schaefer
Nelson Nelson	Public Works Director / City Engineer	Nelson Nelson
Tom Koper	Assistant Public Works Director	Tom Koper
Ryan Cortez	Economic Development Coordinator	Ryan Cortez
Brittany Ritzi	Community Information Specialist	Brittany Ritzi
Tom Moody	Assistant General Manager	Tom Moody
Ed Lockhart	Maintenance Manager	Ed Lockhart
Tracy Martin,	Utility Project Manager	Tracy Martin
Katie Hockett	Operations Manager	Katie Hockett
Jerry Rodriguez	Police Captain	Jerry Rodriguez
Chris Milosevic	Building Official/Inspection Manager	Chris Milosevic

APPENDIX B – INVENTORY WORKSHEETS

RIVERSIDE COUNTY MULTI-JURISDICTIONAL LOCAL HAZARD MITIGATION AGENCY 2016 INVENTORY WORKSHEETS

**City of Corona
June 2017**

TABLE OF CONTENTS

Introduction: These documents are meant to be discussed, used and reviewed by a multi-disciplinary team. The Participation by a wide range of stakeholders who play a role in identifying and implementing mitigation actions is required.

SPECIAL CONCERNS:

- 1. The completed Letter of Commitment has been returned to EMD*
- 2. The completed Letter of Participation has been returned to EMD*

1. Local Jurisdiction Contact Information	Page 3
2. Hazard Identification Questionnaire	Pages 4-6
3. Specific Hazards Summary	Page 7
4. Jurisdiction Vulnerability Worksheet	Pages 8-9
5. Jurisdiction Mitigation Strategies and Goals	Pages 10-14
6. Local Jurisdiction Proposed Mitigation Action and Strategy Proposal	Pages 14-16
7. Local Jurisdiction Development Trends	Pages 17-18
8. Appendix A-Plan Review Tool	Pages A1-10

Appendix A the Plan Review Tool for your reference. This is the document Cal EMA and FEMA will utilize to verify that all of the required information is in the submitted documents.

1. LOCAL JURISDICTION CONTACT INFORMATION

The information on this page identifies:

- Jurisdiction and the contact person
- Jurisdiction's service area size and population
- EOP Plan and a Safety Element of their General Plan

PLEASE PROVIDE THE FOLLOWING INFORMATION:

Agency/Jurisdiction:	City of Corona		
Type Agency/Jurisdiction:	Local Government		
Contact Person:	Title:	Emergency Services Coordinator	
First Name:	Gina	Last Name:	Moran - McGough
Agency Address:	Street:	735 Public Safety Way	
	City:	Corona	
	State:	CA	
	Zip:	92880	
Contact Phone	951-736-2458	FAX	951-736-2497
E-mail	Gina.Moran-McGough@CoronaCA.gov		

Population Served	167,759	Square Miles Served	39.2
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Does your organization have a general plan?	yes
Does your organization have a safety component to the general plan?	yes
What year was your plan last updated?	2008

Does your organization have a disaster/emergency operations plan?	yes
What year was your plan last updated?	2012
Do you have a recovery annex or section in your plan?	yes
Do you have a terrorism/WMD annex or section in your plan?	yes

2. Hazard Identification Questionnaire

The purpose of the questionnaire is to help identify the hazards within your service area. The list was developed from the first round of meetings with the various working groups in the 2005 plan creation, and from the hazards listed in the County's General Plan. Each hazard is discussed in detail in Part I of the 2005 LHMP. The information will be used as the basis for each jurisdiction to evaluate its capabilities, determine its needs, and to assist in developing goals and strategies. The information identifies:

- a) What hazards can be identified within or adjacent to the service area of the jurisdiction.
- b) Which of those hazards have had reoccurring events
- c) What specific hazards and risks are considered by the jurisdiction to be a threat specifically to the jurisdiction? (These locations should be identified by name and location for inclusion in the Specific Hazard Summary Table).
 - a. Specific types of facilities owned and operated by the jurisdiction.
 - b. Locations damaged from prior disasters or hazard causing events.
- d) Information about the jurisdiction's EOC

With your Multi-Disciplinary Planning Team:

- a. Instructions for Updating Jurisdictions, with your planning team: Review your old Questionnaire for accuracy and relevance, mark changes.
- b. Instructions for New Jurisdictions and Special Districts, with your planning team, meet and go over the questionnaire. Fill in YES, NO or NA on the Questionnaire.

HAZARD IDENTIFICATION QUESTIONNAIRE

DOES YOUR ORGANIZATION HAVE:	
AIRPORT IN JURISDICTION	Yes
AIRPORT NEXT TO JURISDICTION	No
DAIRY INDUSTRY	No
POULTRY INDUSTRY	No
CROPS/ORCHARDS	No
DAMS IN JURISDICTION	Yes
DAMS NEXT TO JURISDICTION	Yes
LAKE/RESERVOIR IN JURISDICTION	Yes
LAKE/RESERVOIR NEAR JURISDICTION	Yes
JURISDICTION IN FLOOD PLAIN	Yes
CONTROLLED FLOOD CONTROL CHANNEL	Yes
UNCONTROLLED FLOOD CONTROL CHANNEL	Yes
EARTHQUAKE FAULTS IN JURISDICTION	Yes
EARTHQUAKE FAULTS NEXT TO JURISDICTION	Yes
MOBILE HOME PARKS	Yes
NON-REINFORCED FREEWAY BRIDGES	No
NON-REINFORCED BRIDGES	No
BRIDGES IN FLOOD PLAIN	No
BRIDGES OVER OR ACROSS RIVER/STREAM	Yes
ROADWAY CROSSING RIVER/STREAM	No
NON REINFORCED BUILDINGS	No
FREEWAY/MAJOR HIGHWAY IN JURISDICTION	Yes
FREEWAY/MAJOR HIGHWAY NEXT TO JURISDICTION	Yes
FOREST AREA IN JURISDICTION	No
FOREST AREA NEXT TO JURISDICTION	Yes
WITHIN THE 50 MILES SAN ONOFRE EVACUATION ZONE	Yes
MAJOR GAS/OIL PIPELINES IN JURISDICTION	Yes
MAJOR GAS/OIL PIPELINES NEXT TO JURISDICTION	Yes
RAILROAD TRACKS IN JURISDICTION	Yes
RAILROAD TRACKS NEXT TO JURISDICTION	Yes
HAZARDOUS WASTE FACILITIES IN JURISDICTION	Yes
HAZARDOUS WASTE FACILITIES NEXT TO JURISDICTION	Yes
HAZARDOUS STORAGE FACILITIES IN JURISDICTION	Yes
HAZARDOUS STORAGE FACILITIES NEXT TO JURISDICTION	Yes
DOES YOUR ORGANIZATION OWN OR OPERATE A FACILITY	
IN A FLOOD PLAIN	Yes
NEAR FLOOD PLAIN	Yes
NEAR RAILROAD TRACKS	Yes
NEAR A DAM	Yes
UPSTREAM FROM A DAM	Yes
DOWNSTREAM FROM A DAM	Yes
DOWNSTREAM OF A LAKE	Yes
DOWNSTREAM FROM A RESERVOIR	Yes
NEAR A CONTROLLED FLOOD CONTROL CHANNEL	Yes
NEAR UNCONTROLLED FLOOD CONTROL CHANNEL	Yes
ON AN EARTHQUAKE FAULT	Yes
NEAR AN EARTHQUAKE FAULT	Yes
WITHIN THE 50 MILE SAN ONOFRE EVACUATION ZONE	Yes
IN A FOREST AREA	No
NEAR A FOREST AREA	Yes

NEAR A MAJOR HIGHWAY	Yes
A HAZARDOUS WASTE FACILITY	Yes
NEAR A HAZARDOUS WASTE FACILITY	Yes
A HAZARDOUS STORAGE FACILITY	Yes
NEAR A HAZARDOUS STORAGE FACILITY	Yes
NON REINFORCED BUILDINGS	No
A MAJOR GAS/OIL PIPELINE	No
NEAR A MAJOR GAS/OIL PIPELINE	Yes
DOES YOUR ORGANIZATION HAVE ANY LOCATIONS THAT:	
HAVE BEEN DAMAGED BY EARTHQUAKE AND NOT REPAIRED	No
HAVE BEEN DAMAGED BY FLOOD	Yes
HAVE BEEN DAMAGED BY FLOOD MORE THAN ONCE	Yes
HAVE BEEN DAMAGED BY FOREST FIRE	No
HAVE BEEN DAMAGED BY FOREST FIRE MORE THAN ONCE	No
HAVE BEEN IMPACTED BY A TRANSPORTATION ACCIDENT	Yes
HAVE BEEN IMPACTED BY A PIPELINE EVENT	No
EMERGENCY OPERATIONS INFORMATION	
DOES YOUR ORGANIZATION HAVE AN EOC	Yes
IS YOUR EOC LOCATED IN A FLOOD PLAIN	Yes
NEAR FLOOD PLAIN	Yes
NEAR RAILROAD TRACKS	Yes
NEAR A DAM	Yes
UPSTREAM FROM A DAM	Yes
DOWNSTREAM FROM A DAM	Yes
DOWNSTREAM OF A LAKE	Yes
DOWNSTREAM FROM A RESERVOIR	Yes
NEAR A CONTROLLED FLOOD CONTROL CHANNEL	Yes
NEAR UNCONTROLLED FLOOD CONTROL CHANNEL	Yes
ON AN EARTHQUAKE FAULT	No
NEAR AN EARTHQUAKE FAULT	Yes
WITHIN THE 50 MILE SAN ONOFRE EVACUATION ZONE	Yes
IN A FOREST AREA	No
NEAR A FOREST AREA	Yes
NEAR A MAJOR HIGHWAY	Yes
A HAZARDOUS WASTE FACILITY	Yes
NEAR A HAZARDOUS WASTE FACILITY	Yes
A HAZARDOUS STORAGE FACILITY	Yes
NEAR A HAZARDOUS STORAGE FACILITY	Yes
NON REINFORCED BUILDINGS	No
A MAJOR GAS/OIL PIPELINE	Yes
NEAR A MAJOR GAS/OIL PIPELINE	Yes
OTHER FACILITY INFORMATION	
ARE THERE LOCATIONS WITHIN YOUR JURISDICTION THAT:	
COULD BE CONSIDERED A TERRORIST TARGET	Yes
COULD BE CONSIDERED A BIO-HAZARD RISK	Yes

With your planning team, list the “Yes” answers and discuss. Use the information as a group to summarize your jurisdiction’s hazards and vulnerabilities.

3. SPECIFIC HAZARDS SUMMARY

This table helps to identify the information (name, owner, location, etc.) about the specific hazards identified in the Hazard Questionnaire.

In the Summary Table, list the basic information of the hazards identified by the jurisdiction in the Hazard Identification Questionnaire as a potential threat. These specific hazards were used in the development of response plans, maps, and other analysis data.

- a. Instructions for Updating Jurisdictions and Special Districts: With your planning team, review the “Yes” answers and see if there were any changes, if so summarize why there is a difference from the 2012.
- b. Instructions for New Jurisdictions and Special Districts: With your planning team, review the “Yes” answers and discuss. Use the information as a group to summarize your jurisdiction’s hazards and vulnerabilities.

SPECIFIC HAZARDS SUMMARY

Jurisdiction	Hazard Type	Hazard Name	In Jurisdiction?	Adjacent to Jurisdiction?
Corona	Dam	Lake Mathews	No	Yes
	Dam	Prado	No	Yes
	Fault	Elsinore	Yes	Yes
	Flood Channel	Mabey Canyon	Yes	No
	Flood Channel	Temescal Creek	Yes	Yes
	Hazmat Manufacturing Facility	Downs Energy	Yes	No
	Hazmat Manufacturing Facility	Dart Containers	Yes	No
	Hazmat Manufacturing Facility	G & S Associates	Yes	No
	Hazmat Manufacturing Facility	Golden Cheese	Yes	No
	Hazmat Manufacturing Facility	GTM, Inc.	Yes	No
	Hazmat Manufacturing Facility	Hi-Country	Yes	No
	Hazmat Manufacturing Facility	Us Battery	Yes	No
	Hazmat Manufacturing Facility	Watson Pharmaceuticals	Yes	No
	Hazmat Storage Location	Advanced Fuel Filtration	Yes	No
	Hazmat Storage Location	All American Asphalt	Yes	No
	Hazmat Storage Location	Liston Aluminum	Yes	No
	Hazmat Storage Location	United Agri Products	Yes	No
	Lake	Lake Mathews	No	Yes
	Pipeline	Four Corners Oil Pipeline	Yes	No
	Pipeline	Natural Gas	Yes	No
	Railroad Track	BNSF	Yes	No
	Reservoir	Lake Mathews	No	Yes
	River	Santa Ana River	No	Yes

4. JURISDICTION VULNERABILITY WORKSHEET

This table is a listing of the primary hazards identified by the 2012 LHMP working groups. Each jurisdiction was asked to evaluate the potential for an event to occur in their jurisdiction by hazard. They were also asked to evaluate the potential impact of that event by hazard on their jurisdiction. The impact potential was determined based on:

1. Economic loss and recovery
2. Physical loss to structures (residential, commercial, and critical facilities)
3. The loss or damage to the jurisdictions infrastructure
4. Their ability to continue with normal daily governmental activities
5. Their ability to quickly recover from the event and return to normal daily activities
6. The loss of life and potential injuries from the event.

The jurisdictions were asked to rate the potential and severity using a scale of between 0 and 4 (4 being the most severe). The jurisdictions were also asked to rank the listed hazards as they relate to their jurisdiction from 1 to 19 (1 being the highest overall threat to their jurisdiction).

With the assistance of the RCIP Plan and County Departments, Riverside County EMD conducted an extensive evaluation of the severity and probability potential for the county as a whole. The hazards were also ranked for the County. Those numbers and rankings were provided to the jurisdictions as a comparison guide.

A separate table was created to address the hazards relating to agriculture and was assessed by the agriculture working group.

a. Instructions for Updating Jurisdictions and Special Districts: Please review the table, determine if your ranking from the 2012 LHMP remains the same, and note that Pandemic has been added to the list. Please discuss and document new or unchanged severity and rankings.

b. Instructions for New Jurisdictions and Special Districts: Please evaluate the potential for an event to occur in your jurisdiction by hazard. Then, evaluate the potential impact of that event by hazard on your jurisdiction according to #1-6 from the potential impact list above.

NOTE: Under Medical, Pandemic was added. This was a result of the H1N1 and other incidents.

	COUNTY		CITY OF CORONA		
HAZARD	SEVERITY 0 - 4	PROBABILITY 0 - 4	SEVERITY 0 - 4	PROBABILITY 0 - 4	RANKING 1 - 19
EARTHQUAKE	4	2	4	3	1
WILDLAND FIRE	3	4	3	3	2
FLOOD	3	3	3	3	6
OTHER NATURAL HAZARDS					
DROUGHT	3	3	3	3	12
LANDSLIDES	3	3	2	1	20
INSECT INFESTATION	2	3	1	1	18
EXTREME SUMMER/WINTER WEATHER	3	2	2	2	13
SEVERE WIND EVENT					NA
AGRICULTURAL					
DISEASE/CONTAMINATION	3	3	3	3	7
TERRORISM	3	1	4	2	4
OTHER MAN-MADE					
PIPELINE	3	2	3	2	19
AQUEDUCT	3	2	2	2	22
TRANSPORTATION	3	2	3	2	8
POWER OUTAGE	4	4	4	4	3
HAZMAT ACCIDENTS	3	4	3	2	14
NUCLEAR ACCIDENT	4	1	4	1	17
TERRORISM	3	1	4	2	4
CIVIL UNREST	3	2	2	2	16
JAIL/PRISON EVENT	2	1	1	2	21
MEDICAL					
PANDEMIC	4	2	4	2	10

5. JURISDICTION MITIGATION STRATEGIES AND GOALS

This comprehensive table is a listing of the various mitigation strategies, goals, and objectives developed by the 2012 LHMP working groups. The jurisdictions were also given the opportunity to list additional strategies, goals, and objectives specific to either their jurisdiction or their workgroup (i.e. the hospitals, agriculture, etc.).

LOCAL JURISDICTION MITIGATION STRATEGIES AND GOALS

With your Planning Team

a. Instructions for Updating Jurisdictions and Special Districts: please review the table; determine if your ranking from the 2012 LHMP remains the same.

b. Instructions for New Jurisdictions and Special Districts: please follow below:

Please evaluate the priority level for each listed mitigation goal identified below as it relates to your jurisdiction or facility. If you have any additional mitigation goals or recommendations, please list them at the end of this document.

Place an H (High), M (Medium), L (Low), or N/A (Not Applicable) for your priority level for each mitigation goal in the box next to the activity.

EARTHQUAKE	
M	Aggressive public education campaign in light of predictions
M	Generate new literature for dissemination to:
M	◇ Government employees
M	◇ Businesses
L	◇ Hotel/motel literature
M	◇ Local radio stations for education
M	◇ Public education via utilities
M	◇ Identify/create television documentary content
M	Improve the Emergency Alert System (EAS)
M	◇ Consider integration with radio notification systems
H	◇ Upgrade alerting and warning systems for hearing impaired
H	◇ Training and maintenance
L	Procure earthquake-warning devices for critical facilities
H	Reinforce emergency response facilities
N/A	Provide training to hospital staffs
L	Require earthquake gas shutoffs on remodels/new construction
M	Evaluate re-enforcing reservoir concrete bases
L	Evaluate EOCs for seismic stability
H	Install earthquake cutoffs at reservoirs
M	Install earthquake-warning devices at critical facilities
L	Develop a dam inundation plan for new Diamond Valley Reservoir
M	Earthquake retrofitting
N/A	◇ Bridges/dams/pipelines
L	◇ Government buildings/schools

N/A	◇ Mobile home parks
L	Develop educational materials on structural reinforcement and home inspections (ALREADY DEVELOPED)
M	Ensure Uniform Building Code compliance
M	◇ Update to current compliance when retrofitting
L	Insurance coverage on public facilities
L	Funding for non-structural abatement (Earthquake kits, etc.)
L	Pre - identify empty commercial space for seismic re-location
L	Electrical co-generation facilities need retrofitting/reinforcement (Palm Springs, others?)
L	Mapping of liquefaction zones
L	Incorporate County geologist data into planning
N/A	Backup water supplies for hospitals
M	Evaluate pipeline seismic resiliency
M	Pre-positioning of temporary response structures
M	Fire sprinkler ordinance for all structures
L	Evaluate adequacy of reservoir capacity for sprinkler systems
L	Training/standardization for contractors performing retrofitting
L	Website with mitigation/contractor/retrofitting information
L	◇ Links to jurisdictions
M	◇ Alerting information
L	◇ Volunteer information
M	Evaluate depths of aquifers/wells for adequacy during quakes
L	Evaluate hazmat storage regulations near faults
COMMUNICATIONS IN DISASTER ISSUES	
M	Communications Interoperability
M	Harden repeater sites
H	Continue existing interoperability project
N/A	Strengthen/harden
N/A	Relocate
H	Redundancy
M	Mobile repeaters
FLOODS	
L	Update development policies for flood plains
L	Public education on locations of flood plains
L	Develop multi-jurisdictional working group on floodplain management
L	Develop greenbelt requirements in new developments
L	Update weather pattern/flood plain maps
L	Conduct countywide study of flood barriers/channels/gates/water dispersal systems
M	Required water flow/runoff plans for new development
M	Perform GIS mapping of flood channels, etc.
L	Install vehicular crossing gates/physical barriers for road closure
H	Maintenance of storm sewers/flood channels
M	Create map of flood channels/diversions/water systems etc.
L	Require digital floor plans on new non-residential construction
M	Upgrade dirt embankments to concrete
N/A	Conduct countywide needs study on drainage capabilities

H	Increase number of pumping stations
L	Increase sandbag distribution capacities
M	Develop pre-planned response plan for floods
M	◇ Evacuation documentation
M	◇ Re-examine historical flooding data for potential street re-design
L	Training for city/county PIOs about flood issues
L	Warning systems - ensure accurate information provided
L	◇ Publicize flood plain information (website?)
L	◇ Install warning/water level signage
L	◇ Enhanced public information
L	◇ Road closure compliance
L	◇ Shelter locations
L	◇ Pre-event communications
L	Look at County requirements for neighborhood access
L	◇ Secondary means of ingress/egress
M	Vegetation restoration programs
M	Ensure critical facilities are hardened/backed up
L	Hardening water towers
L	Terrorism Surveillance - cameras at reservoirs/dams
M	Riverbed maintenance
M	Evaluate existing lift stations for adequacy
L	Acquisition of property for on-site retention
M	Evaluate regulations on roof drainage mechanism
M	Erosion-resistant plants
L	Traffic light protection
M	Upkeep of diversionary devices
M	Install more turn-off valves on pipelines
H	Backup generation facilities
H	Identify swift water rescue capabilities across County
WILDFIRES	
M	Aggressive weed abatement program
M	◇ Networking of agencies for weed abatement
N/A	Develop strategic plan for forest management
H	Public education on wildfire defense
M	Encourage citizen surveillance and reporting
L	Identify hydrants with equipment ownership information
M	Enhanced firefighting equipment
L	Fire spotter program/red flag program
L	◇ Expand to other utilities
N/A	Research on insect/pest mitigation technologies
L	Volunteer home inspection program
L	Public education program
L	◇ Weather reporting/alerting
M	◇ Building protection

L	◇ Respiration
M	Pre-identify shelters/recovery centers/other resources
M	Roofing materials/defensive spacing regulations
M	Community task forces for planning and education
M	Fuel/dead tree removal
L	Strategic pre-placement of firefighting equipment
L	Establish FEMA coordination processes based on ICS
M	Brush clearings around repeaters
L	Research new technologies for identifying/tracking fires
M	Procure/deploy backup communications equipment
N/A	"Red Tag" homes in advance of event
N/A	Provide fire-resistant gel to homeowners
L	Involve insurance agencies in mitigation programs
N/A	Clear out abandoned vehicles from oases
H	Code enforcement
H	Codes prohibiting fireworks
H	Fuel modification/removal
L	Evaluate building codes
H	Maintaining catch basins
OTHER HAZARDS	
N/A	Improve pipeline maintenance
N/A	Wetlands mosquito mitigation (West Nile Virus)
M	Insect control study
N/A	Increase County Vector Control capacities
H	General public drought awareness
H	◇ Lawn watering rotation
N/A	Develop County drought plan
H	Mitigation of landslide-prone areas
N/A	Develop winter storm sheltering plan
N/A	Ease permitting process for building transmission lines
L	Evaluate restrictions on dust/dirt/generating activities during wind seasons
N/A	Rotational crop planning/soil stabilization
N/A	Enhance agricultural checkpoint enforcement
N/A	Agriculture - funding of detection programs
M	Communications of pipeline maps (based on need to know)
M	Improved notification plan on runaway trains
M	Improve/maintain blackout notification plan.
M	Support business continuity planning for utility outages
H	Terrorism training/equipment for first responders
H	◇ Terrorism planning/coordination
M	◇ Staffing for terrorism mitigation
M	Create a SONGS regional planning group
L	◇ Include dirty bomb planning
M	Cooling stations - MOUs in place

N/A	Fire Ant eradication program
N/A	White Fly infestation abatement/eradication program
M	Develop plan for supplemental water sources
H	Public education on low water landscaping
N/A	Salton Sea desalinization
N/A	Establish agriculture security standards (focus on water supply)
M	ID mutual aid agreements
M	Vulnerability assessment on fiber-optic cable
N/A	Upgrade valves on California aqueduct
L	Public education
L	◇ Bi-lingual signs
L	◇ Power Outage information
M	Notification system for rail traffic - container contents
H	Control and release of terrorism intelligence
N/A	Develop prison evacuation plan (shelter in place?)

Use the list and rankings to narrow down or identify “your” strategies. The mitigation strategy serves as the long-term blueprint for reducing the potential losses identified in the risk assessment. The mitigation strategy includes the development of goals, objectives, and prioritized mitigation actions.

Goals are general guidelines that explain what you want to achieve. They are broad policy statements and are usually long-term and represent global visions, such as “Protect Existing Property.”

Objectives define strategies or implementation steps to attain the identified goals. Unlike goals, objectives are specific, measurable, and may have a defined completion date. Objectives are more specific, such as “Increase the number of buildings protected from flooding.”

The development of effective goals and objectives enables the planning team to evaluate the merits of alternative mitigation actions and the local conditions in which these activities would be pursued. A potential mitigation action that would support the goal and objective goal example above is “Acquire repetitive flood loss properties in the Acadia Woods Subdivision.”

In the 2012 LHMP, each jurisdiction was required to develop a Mitigation Strategy Proposal based on one of the following:

1. The strategy, goal, or objective rating “High Priority” on the Local Jurisdiction Mitigation Strategies and Goals (WORKSHEET ABOVE)
2. A specifically identified strategy, goal, or objective that was developed as part of one of the working groups planning sessions such as the hospitals or agriculture
3. A specifically identified strategy, goal, or objective that was developed as part of one of the jurisdiction’s internal working group planning sessions

6. LOCAL JURISDICTION PROPOSED MITIGATION ACTION AND STRATEGY PROPOSAL

- a. Instructions for Updating Jurisdictions and Special Districts: With your planning team, please review the table from # 5, and determine if your ranking from the 2012 LHMP remains the same.

Review the chosen Mitigation Strategy that your jurisdiction submitted. The updated plan **must** identify the completed, deleted, or deferred actions or activities from the previously approved plan as a benchmark for progress.

If the mitigation actions or activities remain unchanged from the previously approved plan, the updated plan **must** indicate why changes are not necessary. Further, the updated plan **shall** include in its prioritization any new mitigation actions identified since the previous plan was approved or through the plan update process.

- b. Instructions for New Jurisdictions and Special Districts: With your planning team, Use the “High Priority” rated strategy, goal or objective as a starting point to determine your Mitigation Strategy Proposal.

LOCAL JURISDICTION PROPOSED MITIGATION ACTION AND STRATEGY PROPOSAL

Jurisdiction: City of Corona
Contact: Gina Moran-McGough
Phone: 951-736-2458

MITIGATION STRATEGY INFORMATION

Proposal Name:

DWP Emergency Generators

Proposal Location:

Citywide – Ground Water Wells and Blending station
--

Proposal Type

Place an "X" by the type of mitigation strategy (one or more may apply)

<input type="checkbox"/>	Flood and mud flow mitigation
<input type="checkbox"/>	Fire mitigation
<input type="checkbox"/>	Elevation or acquisition of repetitively damaged structures or structures in high hazard areas
<input type="checkbox"/>	Mitigation Planning (i.e. update building codes, planning develop guidelines, etc.)
<input type="checkbox"/>	Development and implementation of mitigation education programs
<input type="checkbox"/>	Development or improvement of warning systems
<input type="checkbox"/>	Additional Hazard identification and analysis in support of the local hazard mitigation plan
<input type="checkbox"/>	Drinking and/or irrigation water mitigation
<input checked="" type="checkbox"/>	Earthquake mitigation
<input type="checkbox"/>	Agriculture - crop related mitigation
<input type="checkbox"/>	Agriculture - animal related mitigation
<input type="checkbox"/>	Flood inundation/Dam failure
<input type="checkbox"/>	Weather/Temperature event mitigation

DESCRIPTION OF THE PROPOSED MITIGATION STRATEGY

List any previous disaster related events (dates, costs, etc.)

Proposal/Event
History

<p>The proposed project is to purchase emergency generators for each ground water well and blending station as an earthquake mitigation strategy. The Mexico, Easter earthquake of 2010 caused significant damage to the water systems in Imperial County and the action is a result of lessons learned. There have been earthquakes in the region that have made it apparent that emergency generators will be necessary at ground water wells and blending station to lessen the possibility of water disruption.</p>

Description of
Mitigation Goal
Narrative:

Give a detailed description of the need for the proposal, any history related to the proposal. List the activities necessary for its completion in the narrative section below, including estimated timeline. (how long will it take)

<p>Because the City of Corona is in an area of seismic faults, back-up power for pumping water at ground water wells to the community is a good mitigation measure. There have been earthquakes in the region that have made it apparent that emergency generators will be necessary at ground water wells and the blending station to lessen the possibility of water disruption.</p>
--

Does your jurisdiction have primary responsibility for the proposal? If not, what agency does?

Yes	X	No		Responsible Agency: Dept. of Water and Power
-----	---	----	--	--

FUNDING INFORMATION

Place an "X" by the proposed source of funding for this proposal

<input type="checkbox"/>	Unfunded proposal - funds are not available for the proposal at this time
<input type="checkbox"/>	Local jurisdiction General Fund
<input type="checkbox"/>	Local jurisdiction Special Fund (road tax, assessment fees, etc.)
<input type="checkbox"/>	Non-FEMA Hazard Mitigation Funds
<input checked="" type="checkbox"/>	Local Hazard Mitigation Grant Funds - Future Request
<input checked="" type="checkbox"/>	Hazard Mitigation Funds
<input checked="" type="checkbox"/>	Other none general fund source.
<input type="checkbox"/>	Has your jurisdiction evaluated this mitigation strategy to determine its cost benefits? yes (i.e. has the cost of the mitigation proposal been determined to be beneficial in relationship to the potential damage or loss using the attached Cost/Benefit Analysis Sheet or another internal method)

As part of this process, each Submitting Jurisdiction is required to perform a cost-benefit analysis. They were required to answer the question at the bottom of the Proposal page that asks if they had conducted a Cost-Benefit Analysis of some type. This analysis was conducted either by completing a Cost Benefit form or by some other approved method. Many of the jurisdictions used the cost-effective analysis approach outlined in the FEMA publication, *Cost and Benefits of Natural Hazards Mitigation*. This cost-benefit analysis was not restricted to natural hazards.

In some cases, the jurisdiction or working group identified a proposal that highlighted a life- safety issue over a standard hazard proposal. This was done when there was either historical data or other sources of information indicating that the life-safety issue needed to be emphasized or brought to the public's attention.

LOCAL JURISDICTION DEVELOPMENT TRENDS QUESTIONNAIRE

JURISDICTION: CITY OF CORONA	DOES YOUR AGENCY HAVE RESPONSIBILITY FOR LAND USE AND/OR DEVELOPMENT ISSUES WITHIN YOUR JURISDICTIONAL BOUNDARIES? YES NO			
	2012 DATA	2017 DATA		2022
Current Population in Jurisdiction or Served	153,649	167,759	Projected Population in Jurisdiction or Served - in 2022	175,000
Current Sq. Miles in Jurisdiction or Served	39.2	39.2	Projected Sq. Miles in Jurisdiction or Served - in 2022	39.2
Does Your Jurisdiction have any ordinances or regulations dealing with disaster mitigation, disaster preparation, or disaster response?	Yes	Yes	If yes, please list ordinance or regulation number. Ordinance No. 2429, 1973, 2077 Corona Municipal Code Chapters 2.52, 3.36, 4.04.80, 7a, 15.12.270 Section 705	
<i>What is the number one land issue your agency will face in the next five years</i>	Economy and Infill/compact development			
Approximate Number of Homes/Apts/etc.	47,182	48,930	Projected Number of Homes/Apts/etc.- in 2022	50,500
Approximate Total Residential Value	\$16.3 billion	\$17.0 billion	Projected Residential Total Value - in 2022	\$19.0 billion
Approximate Number of Commercial Businesses	5,205	9,000	Projected Number of Commercial Businesses - in 2022	9,500
Approximate Percentage of Homes/Apts/etc. in flood hazard zones	0.7%	0.7%	Approximate Percentage of Homes/Apts/etc. in flood hazard zones - in 2017	0.7%
Approximate Percentage of Homes/Apts/etc. in earthquake hazard zones	3.5%	3.5%	Approximate Percentage of Homes/Apts/etc. in earthquake hazard zones - in 2022	3.5%
Approximate Percentage of Homes/Apts/etc. in wildland fire hazard zones	6.55%	6.55%	Approximate Percentage of Homes/Apts/etc. in wildland fire hazard zones - in 2022	6.55%
Approximate Percentage of Commercial Businesses in flood hazard zones	0.003%	0.7%	Approximate Percentage of Commercial Businesses in flood hazard zones - in 2022	0.7%
Approximate Percentage of Commercial Businesses in earthquake hazard zones	1.9%	0.3%	Approximate Percentage of Commercial Businesses in earthquake hazard zones - in 2022	0.3%
Approximate Percentage of Commercial Businesses in wildland fire hazard zones	4.5%	0	Approximate Percentage of Commercial Businesses in wildland fire hazard zones - in 2022	0
Number of Critical Facilities in your Jurisdiction that are in flood hazard zones	0	0	Projected Number of Critical Facilities in your Jurisdiction that are in flood hazard zones - in 2022	0
Number of Critical Facilities in your Jurisdiction that are in earthquake hazard zones	2	2	Number of Critical Facilities in your Jurisdiction that are in earthquake hazard zones - in 2022	2
Number of Critical Facilities in your Jurisdiction that are in wildland fire hazard zones.	7	7	Number of Critical Facilities in your Jurisdiction that are in wildland fire hazard zones - in 2022	7
Does your jurisdiction plan on participating in the County's on-going plan maintenance program every two years as described in Part I of the plan?	Yes	Yes	If not, how will your jurisdiction do plan maintenance? N/A	
Will a copy of this plan be available for the various planning groups within your jurisdiction for use in future planning and budgeting purposes?				Yes

APPENDIX C – PLAN REVIEW TOOL/CROSSWALK

LOCAL MITIGATION PLAN REVIEW TOOL

The *Local Mitigation Plan Review Tool* demonstrates how the Local Mitigation Plan meets the regulation in 44 CFR §201.6 and offers States and FEMA Mitigation Planners an opportunity to provide feedback to the community.

- The Regulation Checklist provides a summary of FEMA's evaluation of whether the Plan has addressed all requirements.
- The Plan Assessment identifies the plan's strengths as well as documents areas for future improvement.
- The Multi-jurisdiction Summary Sheet is an optional worksheet that can be used to document how each jurisdiction met the requirements of the each Element of the Plan (Planning Process; Hazard Identification and Risk Assessment; Mitigation Strategy; Plan Review, Evaluation, and Implementation; and Plan Adoption).

The FEMA Mitigation Planner must reference this *Local Mitigation Plan Review Guide* when completing the *Local Mitigation Plan Review Tool*.

Jurisdiction: City of Corona	Title of Plan: Local Hazard Mitigation Plan	Date of Plan: 6/16/2017
Local Point of Contact: Gina Moran-McGough	Address: 735 Public Safety Way Corona, CA 92880	
Title: Emergency Services Coordinator		
Agency: Fire Department		
Phone Number: 951-736-2458	E-Mail: Gina.Moran-McGough@CoronaCA.gov	

State Reviewer:	Title:	Date:
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FEMA Reviewer:	Title:	Date:
Date Received in FEMA Region (insert #)		
Plan Not Approved		
Plan Approvable Pending Adoption		
Plan Approved		

SECTION 1: REGULATION CHECKLIST

INSTRUCTIONS: The Regulation Checklist must be completed by FEMA. The purpose of the Checklist is to identify the location of relevant or applicable content in the Plan by Element/sub-element and to determine if each requirement has been 'Met' or 'Not Met.' The 'Required Revisions' summary at the bottom of each Element must be completed by FEMA to provide a clear explanation of the revisions that are required for plan approval. Required revisions must be explained for each plan sub-element that is 'Not Met.' Sub-elements should be referenced in each summary by using the appropriate numbers (A1, B3, etc.), where applicable. Requirements for each Element and sub-element are described in detail in this *Plan Review Guide* in Section 4, Regulation Checklist.

1. REGULATION CHECKLIST		Location in Plan (section and/or page number)	Met	Not Met
Regulation (44 CFR 201.6 Local Mitigation Plans)				
ELEMENT A. PLANNING PROCESS				
A1. Does the Plan document the planning process, including how it was prepared and who was involved in the process for each jurisdiction? (Requirement §201.6(c)(1))	Section 2.1			
A2. Does the Plan document an opportunity for neighboring communities, local and regional agencies involved in hazard mitigation activities, agencies that have the authority to regulate development as well as other interests to be involved in the planning process? (Requirement §201.6(b)(2))	Section 2.2			
A3. Does the Plan document how the public was involved in the planning process during the drafting stage? (Requirement §201.6(b)(1))	Section 2.3			
A4. Does the Plan describe the review and incorporation of existing plans, studies, reports, and technical information? (Requirement §201.6(b)(3))	Section 9.0			
A5. Is there discussion of how the community (ies) will continue public participation in the plan maintenance process? (Requirement §201.6(c)(4)(iii))	Section 10.0 Section 8.0			

1. REGULATION CHECKLIST		Location in Plan (section and/or page number)	Met	Not Met
Regulation (44 CFR 201.6 Local Mitigation Plans)				
A6. Is there a description of the method and schedule for keeping the plan current (monitoring, evaluating and updating the mitigation plan within a 5-year cycle)? (Requirement §201.6(c)(4)(i))		Section 8.0		
<u>ELEMENT A: REQUIRED REVISIONS</u>				
ELEMENT B. HAZARD IDENTIFICATION AND RISK ASSESSMENT				
B1. Does the Plan include a description of the type, location, and extent of all natural hazards that can affect each jurisdiction(s)? (Requirement §201.6(c)(2)(i))		Section 3.4		
B2. Does the Plan include information on previous occurrences of hazard events and on the probability of future hazard events for each jurisdiction? (Requirement §201.6(c)(2)(i))		Section 3.4		
B3. Is there a description of each identified hazard's impact on the community as well as an overall summary of the community's vulnerability for each jurisdiction? (Requirement §201.6(c)(2)(ii))		Section 4.4 Section 3.2		
B4. Does the Plan address NFIP insured structures within the jurisdiction that have been repetitively damaged by floods? (Requirement §201.6(c)(2)(ii))		Section 5.1 Figure 4.4.2 pg.42		
<u>ELEMENT B: REQUIRED REVISIONS</u>				
ELEMENT C. MITIGATION STRATEGY				
C1. Does the plan document each jurisdiction's existing authorities, policies, programs and resources and its ability to expand on and improve these existing policies and programs? (Requirement §201.6(c)(3))		Section 6.1		
C2. Does the Plan address each jurisdiction's participation in the NFIP and continued compliance with NFIP requirements, as appropriate? (Requirement §201.6(c)(3)(ii))		Section 5.2		
C3. Does the Plan include goals to reduce/avoid long-term vulnerabilities to the identified hazards? (Requirement §201.6(c)(3)(i))		Section 7.1		
C4. Does the Plan identify and analyze a comprehensive range of specific mitigation actions and projects for each jurisdiction being considered to reduce the effects of hazards, with emphasis on new and existing buildings and infrastructure? (Requirement §201.6(c)(3)(ii))		Section 7.2 Section 7.3		

1. REGULATION CHECKLIST		Location in Plan (section and/or page number)	Met	Not Met
Regulation (44 CFR 201.6 Local Mitigation Plans)				
C5. Does the Plan contain an action plan that describes how the actions identified will be prioritized (including cost benefit review), implemented, and administered by each jurisdiction? (Requirement §201.6(c)(3)(iv)); (Requirement §201.6(c)(3)(iii))	Section 7.2 Section 7.4			
C6. Does the Plan describe a process by which local governments will integrate the requirements of the mitigation plan into other planning mechanisms, such as comprehensive or capital improvement plans, when appropriate? (Requirement §201.6(c)(4)(ii))	Section 9.0 Section 7.3			
<u>ELEMENT C: REQUIRED REVISIONS</u>				
ELEMENT D. PLAN REVIEW, EVALUATION, AND IMPLEMENTATION (applicable to plan updates only)				
D1. Was the plan revised to reflect changes in development? (Requirement §201.6(d)(3))	Section 1.4 Section 1.5 Section 1.6			
D2. Was the plan revised to reflect progress in local mitigation efforts? (Requirement §201.6(d)(3))	Section 3.5			
D3. Was the plan revised to reflect changes in priorities? (Requirement §201.6(d)(3))	Section 3.1 Section 3.2 Section 3.3			
<u>ELEMENT D: REQUIRED REVISIONS</u>				
ELEMENT E. PLAN ADOPTION				
E1. Does the Plan include documentation that the plan has been formally adopted by the governing body of the jurisdiction requesting approval? (Requirement §201.6(c)(5))	Plan Adoption/ Resolution Page 4 all plans			
E2. For multi-jurisdictional plans, has each jurisdiction requesting approval of the plan documented formal plan adoption? (Requirement §201.6(c)(5))	Plan Adoption/ Resolution Page 4 all plans			
<u>ELEMENT E: REQUIRED REVISIONS</u>				
ELEMENT F. ADDITIONAL STATE REQUIREMENTS (OPTIONAL FOR STATE REVIEWERS ONLY; NOT TO BE COMPLETED BY FEMA)				
F1.				
F2.				
<u>ELEMENT F: REQUIRED REVISIONS</u>				

SECTION 2: PLAN ASSESSMENT

INSTRUCTIONS: The purpose of the Plan Assessment is to offer the local community more comprehensive feedback to the community on the quality and utility of the plan in a narrative format. The audience for the Plan Assessment is not only the plan developer/local community planner, but also elected officials, local departments and agencies, and others involved in implementing the Local Mitigation Plan. The Plan Assessment must be completed by FEMA. The Assessment is an opportunity for FEMA to provide feedback and information to the community on: 1) suggested improvements to the Plan; 2) specific sections in the Plan where the community has gone above and beyond minimum requirements; 3) recommendations for plan implementation; and 4) ongoing partnership(s) and information on other FEMA programs, specifically RiskMAP and Hazard Mitigation Assistance programs. The Plan Assessment is divided into two sections:

1. Plan Strengths and Opportunities for Improvement
2. Resources for Implementing Your Approved Plan

Plan Strengths and Opportunities for Improvement is organized according to the plan Elements listed in the Regulation Checklist. Each Element includes a series of italicized bulleted items that are suggested topics for consideration while evaluating plans, but it is not intended to be a comprehensive list. FEMA Mitigation Planners are not required to answer each bullet item, and should use them as a guide to paraphrase their own written assessment (2-3 sentences) of each Element.

The Plan Assessment must not reiterate the required revisions from the Regulation Checklist or be regulatory in nature, and should be open-ended and to provide the community with suggestions for improvements or recommended revisions. The recommended revisions are suggestions for improvement and are not required to be made for the Plan to meet Federal regulatory requirements. The italicized text should be deleted once FEMA has added comments regarding strengths of the plan and potential improvements for future plan revisions. It is recommended that the Plan Assessment be a short synopsis of the overall strengths and weaknesses of the Plan (no longer than two pages), rather than a complete recap section by section.

Resources for Implementing Your Approved Plan provides a place for FEMA to offer information, data sources and general suggestions on the overall plan implementation and maintenance process. Information on other possible sources of assistance including, but not limited to, existing publications, grant funding or training opportunities, can be provided. States may add state and local resources, if available.

A. Plan Strengths and Opportunities for Improvement

This section provides a discussion of the strengths of the plan document and identifies areas where these could be improved beyond minimum requirements.

Element A: Planning Process

How does the Plan go above and beyond minimum requirements to document the planning process with respect to:

- *Involvement of stakeholders (elected officials/decision makers, plan implementers, business owners, academic institutions, utility companies, water/sanitation districts, etc.);*
- *Involvement of Planning, Emergency Management, Public Works Departments or other planning agencies (i.e., regional planning councils);*
- *Diverse methods of participation (meetings, surveys, online, etc.); and*
- *Reflective of an open and inclusive public involvement process.*

Element B: Hazard Identification and Risk Assessment

In addition to the requirements listed in the Regulation Checklist, 44 CFR 201.6 Local Mitigation Plans identifies additional elements that should be included as part of a plan's risk assessment. The plan should describe vulnerability in terms of:

- 1) *A general description of land uses and future development trends within the community so that mitigation options can be considered in future land use decisions;*
- 2) *The types and numbers of existing and future buildings, infrastructure, and critical facilities located in the identified hazard areas; and*
- 3) *A description of potential dollar losses to vulnerable structures, and a description of the methodology used to prepare the estimate.*

How does the Plan go above and beyond minimum requirements to document the Hazard Identification and Risk Assessment with respect to:

- *Use of best available data (flood maps, HAZUS, flood studies) to describe significant hazards;*
- *Communication of risk on people, property, and infrastructure to the public (through tables, charts, maps, photos, etc.);*
- *Incorporation of techniques and methodologies to estimate dollar losses to vulnerable structures;*
- *Incorporation of Risk MAP products (i.e., depth grids, Flood Risk Report, Changes Since Last FIRM, Areas of Mitigation Interest, etc.); and*
- *Identification of any data gaps that can be filled as new data became available.*

Element C: Mitigation Strategy

How does the Plan go above and beyond minimum requirements to document the Mitigation Strategy with respect to:

- *Key problems identified in, and linkages to, the vulnerability assessment;*
- *Serving as a blueprint for reducing potential losses identified in the Hazard Identification and Risk Assessment;*
- *Plan content flow from the risk assessment (problem identification) to goal setting to mitigation action development;*
- *An understanding of mitigation principles (diversity of actions that include structural projects, preventative measures, outreach activities, property protection measures, post-disaster actions, etc);*
- *Specific mitigation actions for each participating jurisdictions that reflects their unique risks and capabilities;*
- *Integration of mitigation actions with existing local authorities, policies, programs, and resources; and*
- *Discussion of existing programs (including the NFIP), plans, and policies that could be used to implement mitigation, as well as document past projects.*

Element D: Plan Update, Evaluation, and Implementation (Plan Updates Only)

How does the Plan go above and beyond minimum requirements to document the 5-year Evaluation and Implementation measures with respect to:

- *Status of previously recommended mitigation actions;*
- *Identification of barriers or obstacles to successful implementation or completion of mitigation actions, along with possible solutions for overcoming risk;*
- *Documentation of annual reviews and committee involvement;*
- *Identification of a lead person to take ownership of, and champion the Plan;*
- *Reducing risks from natural hazards and serving as a guide for decisions makers as they commit resources to reducing the effects of natural hazards;*
- *An approach to evaluating future conditions (i.e. socio-economic, environmental, demographic, change in built environment etc.);*
- *Discussion of how changing conditions and opportunities could impact community resilience in the long term; and*
- *Discussion of how the mitigation goals and actions support the long-term community vision for increased resilience.*

B. Resources for Implementing Your Approved Plan

Ideas may be offered on moving the mitigation plan forward and continuing the relationship with key mitigation stakeholders such as the following:

- *What FEMA assistance (funding) programs are available (for example, Hazard Mitigation Assistance (HMA)) to the jurisdiction(s) to assist with implementing the mitigation actions?*
- *What other Federal programs (National Flood Insurance Program (NFIP), Community Rating System (CRS), Risk MAP, etc.) may provide assistance for mitigation activities?*
- *What publications, technical guidance or other resources are available to the jurisdiction(s) relevant to the identified mitigation actions?*
- *Are there upcoming trainings/workshops (Benefit-Cost Analysis (BCA), HMA, etc.) to assist the jurisdictions(s)?*
- *What mitigation actions can be funded by other Federal agencies (for example, U.S. Forest Service, National Oceanic and Atmospheric Administration (NOAA), Environmental Protection Agency (EPA) Smart Growth, Housing and Urban Development (HUD) Sustainable Communities, etc.) and/or state and local agencies?*

SECTION 3: MULTI-JURISDICTION SUMMARY SHEET (OPTIONAL)

INSTRUCTIONS: For multi-jurisdictional plans, a Multi-jurisdiction Summary Spreadsheet may be completed by listing each participating jurisdiction, which required Elements for each jurisdiction were 'Met' or 'Not Met,' and when the adoption resolutions were received. This Summary Sheet does not imply that a mini-plan be developed for each jurisdiction; it should be used as an optional worksheet to ensure that each jurisdiction participating in the Plan has been documented and has met the requirements for those Elements (A through E).

MULTI-JURISDICTION SUMMARY SHEET												
#	Jurisdiction Name	Jurisdiction Type (city/borough/ township/ village, etc.)	Plan POC	Mailing Address	Email	Phone	Requirements Met (Y/N)					
							A. Planning Process	B. Hazard Identification & Risk Assessment	C. Mitigation Strategy	D. Plan Review, Evaluation & Implementation	E. Plan Adoption	F. State Requirements
1												
2												
3												
4												
5												
6												
7												
8												
9												
10												
11												

MULTI-JURISDICTION SUMMARY SHEET												
#	Jurisdiction Name	Jurisdiction Type (city/borough/ township/ village, etc.)	Plan POC	Mailing Address	Email	Phone	Requirements Met (Y/N)					
							A. Planning Process	B. Hazard Identification & Risk Assessment	C. Mitigation Strategy	D. Plan Review, Evaluation & Implementatio n	E. Plan Adoptio n	F. State Require -ments
12												
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