



City Council Meeting Agenda

June 18, 2024
7:00 PM – Regular Meeting
Council Chambers
400 N. Douty St.

Council Members will meet in-person in the Council Chambers. The meeting will also be lived streamed on the City's website: <http://livestream.hanford.city/>

4:00 PM CALL TO ORDER STUDY SESSION AND CLOSED SESSION:

ROLL CALL BY THE CITY CLERK:

PUBLIC COMMENT:

*Study Sessions are considered Special Meetings under the Brown Act. Accordingly, comments from the public are limited to items listed on the agenda (GC 54954.3a). Public Comment will be accepted during each agenda item. A maximum of **three minutes** is allowed for each speaker. Please begin your comments by stating your name and providing your city of residence.*

STUDY SESSION:

- A. Council review of Draft Ballot Language for the Resolution and Ordinances necessary for a Potential Revenue Measure and direction from Council regarding any proposed changes.
- B. Presentation of the proposed City of Hanford Fire Department Guiding Documents: Community Risk Assessment and Standards of Response Coverage and Direction from Council as appropriate.

CLOSED SESSION FOR DISCUSSION OF THE FOLLOWING:

- A. CONFERENCE WITH LEGAL COUNSEL - EXISTING LITIGATION (GC 54956.9)(d)(1))
Paula Lofgren v. City of Hanford
Kings County Case No. 21C0188

Mendoza, et al. v. City of Hanford, Fabian Avalos
Eastern District of California Case No. 1:21-cv-00721

- B. CONFERENCE WITH LEGAL COUNSEL-ANTICIPATED LITIGATION (54956.9 (d)(2))
1 Case.

CALL TO ORDER REGULAR SESSION:

ROLL CALL:

INVOCATION:

FLAG SALUTE:

RECOGNITION:

- A. Westland Water District Representative Jason Mendez presents scholarship awards to Isabella Silva, Brayson Gillio, and Sofia Godinho.
- B. Recognition of Dispatcher of the Year Stephanie Hernandez

COUNCIL REPORTS/GENERAL REPORTS:

Brief information-only reports from City Council and/or Staff, including committee reports and reports by City Council related to meetings attended at City expenses (AB1234).

PUBLIC COMMENT:

This is the time for citizens to comment on subject matters within the jurisdiction of the Hanford City Council. This is also the public's opportunity to request an item from the Consent Calendar be pulled for discussion purposes or to comment on any item on the agenda. State law does not allow the Council to discuss or take action on issues not on the agenda, except that members of the Council or staff may briefly respond to statements made or questions posed by persons exercising their public testimony rights (Gov. Code sec. 54954.2). A maximum of three minutes is allowed for each speaker. Please begin your comments by stating your name and providing your city of residence.

CONSENT CALENDAR:

Consent Calendar items are considered routine and will be enacted in one motion. There will be no separate discussion of these matters unless a request is made and then the item will be removed from the Consent Calendar to be discussed and voted upon by a separate motion.

- A. Procedural Waiver: Waive reading in full of resolutions and ordinances and approval and adoption of same by reading title the only.
- B. Public Works: Approval of twenty-four (24) Annual Blanket Purchase Orders (BPO) over \$50,000 for various divisions in the Public Works Department for a total of \$7,799,106.43, which is already approved in the FY24/25 Budget.
- C. Utilities and Engineering: Authorization for the City Manager to enter into a contract with Structure Cast, of Bakersfield, CA, for the design, construction, and installation of a Prefabricated Restroom and Concession stand building at the Youth Athletic Complex for the amount of \$585,079 (CIP Project No. 821611). .
- D. Utilities and Engineering: Approval of the Notice of Completion for the Hanford Airport FBO Building Roof Restoration Project, for a final project cost of \$56,060.00, and

Authorization for the Mayor to execute and the City Clerk to file said Notice with the Kings County Recorder's Office.

- E. Fire: Approval of a renewal of the Services Agreement, between City of Hanford and County of Fresno to provide emergency dispatch services for the Hanford Fire Department at an annual cost of \$256,320 the first year with annual increases.
- F. Fire: Adoption of Resolution No. 24-19-R, formally adopting the Kings County Local Hazard Mitigation Plan (LHMP).
- G. Police: Approval of the renewal of the existing contract with AXON Enterprises, Inc. for body cameras and tasers at an annual cost of \$210,478.73 for a 5-year contract term.
- H. Police: Approval of payment in the amount of \$70,000.00 from the City of Hanford Police Department to the Kings County Fire Department due to an onsite compliance assessment performed by California Office of Emergency Services (CALOES).
- I. Police: Approval of amended annual contracts for the 2024-2025 school year, with the Pioneer Union Elementary School District, Kings County Office of Education, Hanford Joint Union High School District, and Hanford Elementary School District for the School Resource Officer Program.
- J. Finance: Award and authorization for the City Manager to enter into a professional services agreement with Randle Communications (Sacramento, CA) for \$72,500 for potential ballot measure information outreach services and appropriate the amount in the General Fund.
- K. Finance: Approval of Blanket Purchase Orders (BPO's) over \$50,000 for the Finance Division in the amount of \$484,420 for fiscal year 2024/2025
- L. Finance: Adoption of Resolution 24-18-R establishing the 2024/2025 appropriations limit of \$90,635,466 for the City of Hanford's General Fund

GENERAL BUSINESS:

- A. Parks and Community Services: Adoption of Resolution 24-17-R, Approving the Annual Engineer's Report and Intention to Levy for Fiscal Year 2024/20205 and Collect Assessments as outlined in the Annual Engineer's Report, which has been prepared pursuant to Chapter 3 of the Landscape and Lighting Act of 1972. The proposed assessments outlined in the Engineer's Report are less than or equal to the authorized maximum assessment for each landscape assessment district, and set July 2, 2024, as the Public Hearing date to consider the increases in assessments as proposed.
- B. Finance: Council review and Final Approval of the Revenue Measure Expenditure Plan which specifies the uses of the proceeds of the potential transactions and use (sales) tax
- C. Council: Further Council discussion about the Central Parking and Business Improvement Area Advisory Board and proposed amendments to the Municipal Code regarding the board composition and how it's filled.
- D. Council: Review and discuss the committees that will have a vacancy due to the resignation of Kalish Morrow and make new Appointments as appropriate.

ITEMS FOR FUTURE AGENDAS:

At this time, any Council Member may ask a question for clarification or may request a matter, which is not otherwise scheduled on a City Council agenda, to be placed on a future agenda. The Council Member referring the item shall provide sufficient information as to the nature of the item. The City Council, by concurrence of a majority, may direct the City Manager to put the item on a future agenda. (GOV. CODE SEC. 54954.2)

A. Council Future Agenda Items

B. Upcoming Events and Important Dates:

June 22: 2024 Law Enforcement Torch Run 9:00 am Kings County Government Center
1400 W. Lacey Blvd. [More info](#)

July 2: Regular City Council Meeting

July 4: City offices will be closed in observance of Independence Day

July 16: Regular City Council Meeting

ADJOURNMENT:

Materials related to an item on this Agenda submitted to the City Council after distribution of the agenda packet are available to public inspection in the City Clerk's Office located at 319 N. Douty Street, Hanford, California 93230, during normal business hours. Such agendas are also available at the city's website, www.cityofhanfordca.com subject to staff's ability to post the agenda before the meeting. If you need a disability-related modification or accommodation, including auxiliary aids or services, to participate in this meeting, please contact the City Clerk's office, 559-585-2515, 319 N. Douty Street, Hanford, California 93230, at least 2 days prior to the meeting {28 CFR 35.102.35.104 ADA Title II}



AGENDA STAFF REPORT

MEETING DATE: 6/18/2024

AGENDA SECTION: STUDY SESSION

SUBJECT:

Council review of Draft Ballot Language for the Resolution and Ordinances necessary for a Potential Revenue Measure and direction from Council regarding any proposed changes.

RECOMMENDATION:

Recommendation: Discuss Potential Revenue Measure Draft Ballot Language Resolution and Ordinances and provide direction to staff on any modifications directed by a majority of Council.

BACKGROUND:

Overview

Revenue and Taxation Code Section 7285.9 authorizes city council to levy a transactions and use tax for general revenue purposes via an ordinance approved by a two-thirds vote of all members of the City Council and if approved by a majority vote of the qualified voters of the city voting in an election on the issue.

The draft resolution and ordinance, including the proposed ballot language and proposed Hanford Municipal Code amendments, are included with this staff report.

Council may, at a future meeting, adopt the proposed resolution which would place a revenue measure on the ballot.

Draft Ballot Language

The draft ballot language, included in the draft resolution, was formulated based on input and priorities provided by the Revenue Measure Committee, information from community surveys and polling, Staff review, input from Randle Communications, and direction from City Council.

The draft ballot language includes funding categories consistent with the draft expenditure plan, a transaction tax rate that would cover the expenses outlined in the draft expenditure plan (1%), the establishment of citizen's oversight, audit requirements, a statement indicating that the funds would remain local and that the measure could be ended by voters.

The draft language is provided below:

PROPOSITION " ": Essential City Services Protection Measure

To provide funding that would remain local and cannot be taken by the State to preserve/improve all essential city services including police, fire, 911 emergency response, neighborhood police patrols, reducing crime; maintain city streets and parks; address homelessness; improve youth and senior programs; attract/retain local businesses/jobs; shall the City of Hanford increase by 1¢ the

transactions and use (sales) tax, providing approximately \$19,200,000 annually, until ended by voters; requiring annual independent audits and citizen's oversight?

Draft Resolution

If approved at a future date, the attached draft resolution would call for an election that includes the full text of the Measure's ballot language (above), approve the introduction of the City of Hanford Transaction and Use Tax Ordinance of 2024, authorize the preparation of an impartial analysis of the measure, and request that Kings County render election services including the proposed measure.

Draft City of Hanford Transactions and Use Tax Ordinance of 2024

The draft resolution would authorize the introduction of the City of Hanford Transaction and Use Tax Ordinance of 2024. The Ordinance includes the proposed transactions and use tax rate (1%), a provision giving voters the authority to end the levy of the tax, a provision allowing the Council, by a four-fifths vote to suspend the tax, and authorization to amend the Hanford Municipal Code to include accountability measures for the sales and use tax.

Draft Sales and Use Tax Accountability Measures

If a sales and use tax were to be passed by Council and voters, the City could amend the Hanford Municipal Code to include specific accountability measures. A draft version of Chapter 3.60 Sales and Use Tax Accountability Measures is attached with this agenda. The language in the draft amendment includes the following accountability measures:

1. Requirements for an expenditure plan that outlines implementation of the sales and use tax for the fiscal year
2. Requirements that any changes to the expenditure plan require a resolution adopted by the majority of Council following the recommendation by the Sales Tax Oversight Board and a public hearing.
3. The initial expenditure plan, annual budgets, and amendments to the expenditure plan are made publicly available.
4. The initial expenditure plan shall dedicate fifteen percent (15%) of budgeted revenues for the initial year of the plan to establish an economic uncertainty fund, which may only be accessed in times of fiscal emergencies. Council may direct that the economic uncertainty fund be accessed in order to fund the remainder of the plan in the case of a fiscal emergency, as determined by 4/5ths vote of the City Council as a whole.
5. Each expenditure plan shall fund department activities as may be recommended from time to time by the Board and approved by the City Council within the parameters approved by the voters.
6. The Council will appoint a seven-member standing oversight committee to constitute the Sales Tax Oversight Board (Board)
7. Each member of the Board shall be a Hanford resident and the members of the Board shall serve two year terms, and may be reappointed for up to two additional two-year terms for a total of three (3) consecutive two (2) year terms.
8. Board members will be selected as follows: A) Each City Council member shall select one (1) member for the Board by district; B) The City Council shall select two (2) members at large to serve as members of the Board;
9. The City shall provide an annual independent audit that accounts for the tax revenues received and expenditures made. The audits will be made available to the Board.

Next Steps

Based on feedback from City Council, a resolution calling for a general municipal election;

introducing ordinance enacting a transaction and use tax; and submittal of the ordinance to voters may be considered at the July 2nd meeting.

FISCAL IMPACT:

Should a revenue measure be approved by voters, an Expenditure Plan will serve as the basis for how revenues will be spent. A one (1) cent/percent Transactions and Use (Sales) Tax is projected to bring in approximately \$19.2 million annually with all funds to remain local.

ATTACHMENTS:

1. Draft Resolution

RESOLUTION NUMBER 24-xx-R

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF HANFORD CALLING AND PROVIDING FOR A GENERAL MUNICIPAL ELECTION TO BE CONSOLIDATED WITH THE STATEWIDE GENERAL ELECTION TO BE HELD IN THE CITY OF HANFORD ON TUESDAY, NOVEMBER 5, 2024; INTRODUCING ORDINANCE ENACTING A TRANSACTIONS AND USE (SALES) TAX TO BE ADMINISTERED BY THE STATE DEPARTMENT OF TAX AND FEE ADMINISTRATION; AND ORDERING THE SUBMITTAL OF THE ORDINANCE TO THE VOTERS AT THE GENERAL ELECTION

WHEREAS, Revenue and Taxation Code Sections 7251 and following provide for the establishment of transactions and use taxes by cities; and

WHEREAS, under the provisions of the laws relating to general law cities in the State of California, a General Municipal Election shall be held on November 5, 2024; and

WHEREAS, Revenue and Taxation Code Section 7285.9 authorizes the governing board of any city to levy a transactions and use tax for general revenue purposes as required by Sections 7251 and following, in an ordinance approved by a two-thirds vote of all members of the City Council; and

WHEREAS, Section 2(b) of Article XIII C of the California Constitution, added by Proposition 218, effective November 1996, requires that a measure proposing a general tax be submitted to the voters at an election consolidated with a regularly scheduled general election for members of the governing body, except in cases of emergency declared by a unanimous vote of the governing body; and

WHEREAS, the City Council is the governing body for the City of Hanford, and the November 5, 2024, statewide general election will be consolidated with a regularly scheduled general election for members of the City Council; and

WHEREAS, pursuant to California Constitution Article XIII C, Section 2(b) and Elections Code Section 10201, the City Council of the City of Hanford, California desires to submit to the voters of Hanford a measure to enact an ordinance establishing a transactions and use tax to offset state mandates and to maintain and restore essential services; and

NOW, THEREFORE, THE CITY COUNCIL OF THE CITY OF HANFORD DOES RESOLVE AND PROCLAIM AS FOLLOWS:

Section 1. Calling General Municipal Election: Pursuant to the requirements of the laws of the State of California relating to General Law Cities, the City Council hereby orders that a general municipal election in and for the City of Hanford shall be held on Tuesday, November 5, 2024 for the purpose of submitting a transaction and use (sales) tax measure. The full text of the proposed City of Hanford Transaction and Use Tax Ordinance of 2024, attached to this Resolution as Exhibit A and incorporated herein by reference, shall be available to voters upon request made to the City Clerk. The measure to be submitted to the voters shall appear and be printed on the ballot as follows:

<i>PROPOSITION "___": Essential City Services Protection Measure</i>	
<i>To provide funding that would remain local and cannot be taken by the State to preserve/improve all essential city services including police, fire, 911 emergency response, neighborhood police patrols, reducing crime; maintain city streets and parks; address homelessness; improve youth and senior programs; attract/retain local businesses/jobs; shall the City of Hanford increase by 1¢ the transactions and use (sales) tax, providing approximately \$19,200,000 annually, until ended by voters; requiring annual independent audits and citizen's oversight?</i>	Yes
	No

Section 2. Introduction of Ordinance: The City Council hereby approves the Introduction of Ordinance 2024-XX, the City of Hanford Transaction and Use Tax Ordinance of 2024, attached to this Resolution as Attachment A, and approves submittal of such Ordinance to the voters of the City of Hanford. The proposed measure is a general tax as defined in Article XIIC of the California Constitution and shall not take effect unless and until: (i) approved by a majority of the voters voting on the question at the election; and (ii) approved by a two-thirds vote of the Hanford City Council.

Section 3. Impartial Analysis: The City Attorney is hereby directed to prepare an impartial analysis of the measure pursuant to Elections Code Section 9280.

Section 4. Requesting Consolidation of Elections: Pursuant to the State of California Elections Code Sections 10400 — 10403.5, the City Council of the City of Hanford hereby requests the consolidation of the general municipal election described in Section 2 above with the statewide general election to be held on November 5, 2024. Within the City of Hanford, the election precincts, polling places, and voting booths shall in every case be the same, and there shall be only one set of election officers in each of the precincts; provided that no person not a qualified elector of the City of Hanford shall be permitted to vote for the measure placed on the ballot by the City Council. The election precincts, polling places, and election officers within the City of Hanford for the general municipal election shall be the same as those selected and designated by the Kings County Registrar of Voters. Per Elections Code Section 10403(a)(3), the consolidated election will be held and conducted in a manner prescribed in Elections Code Section 10418.

Section 5. Requesting Kings County to Render Election Services: The Board of Supervisors of Kings County is hereby requested to permit the County Registrar of Voters to render services to the City of Hanford relating to the conduct of the November 5, 2024, General Municipal Election as follows:

- a. Distribute and file all papers submitted in connection with the proposed ordinance.
- b. Make all required publications.

- c. Prepare, print and mail to the qualified electors of the City of Hanford sample ballots and voter pamphlets. Full text of the ballot measure will be made available upon request at the Hanford City Clerk's Office.
- d. Provide vote-by-mail ballots for said Municipal Election for use by the qualified electors who may be entitled to vote by mail ballots in the manner provided by law.
- e. Order consolidation of precincts, appoint precinct boards, designate polling places and instruct election officer concerning their duties.
- f. Conduct and canvass the returns of the election and certify the votes cast for the proposed measure.
- g. Receive and process Vote-By-Mail voter applications.
- h. Prepare, print and deliver to the polling places supplies, including the official ballots and a receipt for said supplies.
- i. Recount votes, if requested, in accordance with State law.
- j. Conduct the above election duties in accordance with the Voting Right Act of 1975.
- k. Perform all other pertinent services required to perform for said election other than the requirements of the Fair Political Practices Commission, with said Fair Political Practices Commission requirements to be performed by the City Clerk.

Section 6. Application of State Law: Regarding particulars not recited in this Resolution, the election shall be held and conducted as provided by State law for the holding of municipal elections.

The City Clerk is hereby authorized and directed to transmit certified copies of this Resolution to the Board of Supervisors and to the County Registrar of Voters.

THEREFORE, BE IT RESOLVED, the City Council of the City of Hanford hereby approves submission to the voters the question identified above relating to the establishment of the transactions and use tax described above.

Passed and adopted at a regular meeting of the City Council of the City of Hanford duly called and held on July 2, 2024, by the following vote:

AYES: _____
 NOES: _____
 ABSTAIN: _____
 ABSENT: _____

PASSED, APPROVED AND ADOPTED:

 TRAVIS PADEN
 Mayor

Attest: _____
 NATALIE CORRAL, CITY CLERK

STATE OF CALIFORNIA)
COUNTY OF KINGS) ss.
CITY OF HANFORD)

I, Natalie Corral, City Clerk of the City of Hanford, certify the foregoing is the full and true Resolution 2024-XX passed and adopted by the Council of the City of Hanford at a regular meeting held on July 16, 2024.

Dated:

NATALIE CORRAL, CITY CLERK

Attachment A

Ordinance 2024-XX

City of Hanford Transactions and Use Tax Ordinance of 2024

Ordinance 2024-XX
City of Hanford Transactions and Use Tax Ordinance of 2024

AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF HANFORD IMPOSING A TRANSACTIONS AND USE TAX TO BE ADMINISTERED BY THE STATE DEPARTMENT OF TAX AND FEE ADMINISTRATION, SUBJECT TO ADOPTION BY THE ELECTORATE, TO PROVIDE FUNDS TO: PRESERVE AND IMPROVE ALL ESSENTIAL CITY SERVICES, INCLUDING POLICE, FIRE, 911 EMERGENCY RESPONSE, NEIGHBORHOOD POLICE PATROLS, REDUCING CRIME; MAINTAIN CITY STREETS AND PARKS; ADDRESS HOMELESSNESS; IMPROVE YOUTH AND SENIOR PROGRAMS; ATTRACT AND RETAIN BUSINESSES/JOBS

WHEREAS, the City of Hanford’s prime responsibilities are to protect the public’s safety, maintain fiscal stability, and provide a high quality of life for its residents; and

WHEREAS, over the last several years the State of California has gone from one financial crisis to another with no end in sight; and

WHEREAS, during each of the past several years the State of California has reduced or taken funding from cities, counties and school districts in order to fund its deficits and may continue to do so into the foreseeable future; and

WHEREAS, the State of California has shifted responsibility for many programs back to cities, like Hanford, without the necessary funds to provide the services residents need and expect; and

WHEREAS, the State of California has recently changed its criminal sentencing laws thereby releasing hundreds of parolees into Kings County and negatively impacting the City of Hanford by an increase in crime, substance abuse and homelessness; and

WHEREAS, over the last decade calls to 911 have risen dramatically, and police responded to 47,000 service calls in 2023; and

WHEREAS, Hanford’s street funding is currently millions of dollars short of what it needs to properly maintain its more than 200 miles of City streets, with nearly half of Hanford’s streets rated as “poor” or worse, and without additional funding streets will continue to deteriorate and future road repairs will become more expensive; and

WHEREAS, the residents have identified their essential city services priorities such as: maintain 911 emergency response times for police and fire service calls, investigate crimes, help attract businesses and jobs, maintain streets and parks, address homelessness, and provide services for youth and seniors; and

WHEREAS, sales and property tax revenues, which have been the significant source of locally controlled funds available to pay for essential City services are limited; and

WHEREAS, the City of Hanford needs dependable and local sources of revenue to fund and to support essential, necessary and appropriate general City services provided to the public; and

WHEREAS, the City's general fund expenditures are projected to outpace revenues in the near future causing the City to be unable to maintain all levels of service and will not have capacity to fund facilities that are necessary to deliver services that the community desires; and

WHEREAS, a local funding measure would provide a protected, local revenue source to limit or prevent additional cuts to essential, necessary and appropriate general City services; and

WHEREAS, this measure requires compliance with the City of Hanford Sales Tax Accountability Ordinance, requiring establishment of annual expenditure plans, citizen oversight and mandatory financial audits to ensure funds will be properly spent; and

WHEREAS, this measure will give the City of Hanford local control over local funds for local needs and no funds from this measure can be taken by Sacramento; and

NOW THEREFORE, the City Council of the City of Hanford does ordain as follows:

Section 3.50.010. **TITLE.** This ordinance shall be known as the Essential City Services Protection Measure Transactions and Use Tax Ordinance. The City of Hanford hereinafter shall be called "City." This ordinance shall be applicable in the incorporated territory of the City.

Section 3.50.020. **OPERATIVE DATE.** "Operative Date" means the first day of the first calendar quarter commencing more than 110 days after the adoption of this ordinance, the date of such adoption being as set forth below.

Section 3.50.030. **PURPOSE.** This ordinance is adopted to achieve the following, among other purposes, and directs that the provisions hereof be interpreted in order to accomplish those purposes:

A. To impose a retail transactions and use tax in accordance with the provisions of Part 1.6 (commencing with Section 7251) of Division 2 of the Revenue and Taxation Code and Section 7285.9 of Part 1.7 of Division 2 which authorizes the City to adopt this tax ordinance which shall be operative if a majority of the electors voting on the measure vote to approve the imposition of the tax at an election called for that purpose.

B. To adopt a retail transactions and use tax ordinance that incorporates provisions identical to those of the Sales and Use Tax Law of the State of California insofar as those provisions are not inconsistent with the requirements and limitations contained in Part 1.6 of Division 2 of the Revenue and Taxation Code.

C. To adopt a retail transactions and use tax ordinance that imposes a tax and provides a measure therefor that can be administered and collected by the California Department of Tax and Fee Administration in a manner that adapts itself as fully as practicable to, and requires the least possible deviation from, the existing statutory and administrative procedures followed by the California Department of Tax and Fee Administration in administering and collecting the California State Sales and Use Taxes.

D. To adopt a retail transactions and use tax ordinance that can be administered in a manner that will be, to the greatest degree possible, consistent with the provisions of Part 1.6 of Division 2 of the Revenue and Taxation Code, minimize the cost of collecting the transactions and use taxes, and at the same time, minimize the burden of record keeping upon persons subject to taxation under the provisions of this

ordinance.

Section 3.50.040. CONTRACT WITH STATE. Prior to the operative date, the City shall contract with the California Department of Tax and Fee Administration to perform all functions incident to the administration and operation of this transactions and use tax ordinance; provided, that if the City shall not have contracted with the California Department of Tax and Fee Administration prior to the operative date, it shall nevertheless so contract and in such a case the operative date shall be the first day of the first calendar quarter following the execution of such a contract.

Section 3.50.050. TRANSACTIONS TAX RATE. For the privilege of selling tangible personal property at retail, a tax is hereby imposed upon all retailers in the incorporated territory of the City at the rate of one percent (1%) of the gross receipts of any retailer from the sale of all tangible personal property sold at retail in said territory on and after the operative date of this ordinance.

Section 3.50.060. PLACE OF SALE. For the purposes of this ordinance, all retail sales are consummated at the place of business of the retailer unless the tangible personal property sold is delivered by the retailer or his agent to an out-of-state destination or to a common carrier for delivery to an out-of-state destination. The gross receipts from such sales shall include delivery charges, when such charges are subject to the state sales and use tax, regardless of the place to which delivery is made. In the event a retailer has no permanent place of business in the State or has more than one place of business, the place or places at which the retail sales are consummated shall be determined under rules and regulations to be prescribed and adopted by the California Department of Tax and Fee Administration.

Section 3.50.070. USE TAX RATE. An excise tax is hereby imposed on the storage, use or other consumption in the City of tangible personal property purchased from any retailer on and after the operative date of this ordinance for storage, use or other consumption in said territory at the rate of one percent (1%) of the sales price of the property. The sales price shall include delivery charges when such charges are subject to state sales or use tax regardless of the place to which delivery is made.

Section 3.50.080. ADOPTION OF PROVISIONS OF STATE LAW. Except as otherwise provided in this ordinance and except insofar as they are inconsistent with the provisions of Part 1.6 of Division 2 of the Revenue and Taxation Code, all of the provisions of Part 1 (commencing with Section 6001) of Division 2 of the Revenue and Taxation Code are hereby adopted and made a part of this ordinance as though fully set forth herein.

Section 3.50.090. LIMITATIONS ON ADOPTION OF STATE LAW AND COLLECTION OF USE TAXES. In adopting the provisions of Part 1 of Division 2 of the Revenue and Taxation Code:

A. Wherever the State of California is named or referred to as the taxing agency, the name of this City shall be substituted therefor. However, the substitution shall not be made when:

1. The word "State" is used as a part of the title of the State Controller, State Treasurer, State Treasury, or the Constitution of the State of California;

2. The result of that substitution would require action to be taken by or against this City or any agency, officer, or employee thereof rather than by or against the California Department of Tax and Fee Administration, in performing the functions incident to the administration or operation of this

Ordinance.

3. In those sections, including, but not necessarily limited to sections referring to the exterior boundaries of the State of California, where the result of the substitution would be to:

a. Provide an exemption from this tax with respect to certain sales, storage, use or other consumption of tangible personal property which would not otherwise be exempt from this tax while such sales, storage, use or other consumption remain subject to tax by the State under the provisions of Part 1 of Division 2 of the Revenue and Taxation Code, or;

b. Impose this tax with respect to certain sales, storage, use or other consumption of tangible personal property which would not be subject to tax by the state under the said provision of that code.

4. In Sections 6701, 6702 (except in the last sentence thereof), 6711, 6715, 6737, 6797 or 6828 of the Revenue and Taxation Code.

B. The word "City" shall be substituted for the word "State" in the phrase "retailer engaged in business in this State" in Section 6203 and in the definition of that phrase in Section 6203.

1. "A retailer engaged in business in the District" shall also include any retailer that, in the preceding calendar year or the current calendar year, has total combined sales of tangible personal property in this state or for delivery in the State by the retailer and all persons related to the retailer that exceeds five hundred thousand dollars (\$500,000). For purposes of this section, a person is related to another person if both persons are related to each other pursuant to Section 267(b) of Title 26 of the United States Code and the regulations thereunder.

Section 3.50.010. PERMIT NOT REQUIRED. If a seller's permit has been issued to a retailer under Section 6067 of the Revenue and Taxation Code, an additional transactor's permit shall not be required by this ordinance.

Section 3.50.011. EXEMPTIONS AND EXCLUSIONS.

A. There shall be excluded from the measure of the transactions tax and the use tax the amount of any sales tax or use tax imposed by the State of California or by any city, city and county, or county pursuant to the Bradley-Burns Uniform Local Sales and Use Tax Law or the amount of any state-administered transactions or use tax.

B. There are exempted from the computation of the amount of transactions tax the gross receipts from:

1. Sales of tangible personal property, other than fuel or petroleum products, to operators of aircraft to be used or consumed principally outside the county in which the sale is made and directly and exclusively in the use of such aircraft as common carriers of persons or property under the authority of the laws of this State, the United States, or any foreign government.

2. Sales of property to be used outside the City which is shipped to a point outside the City, pursuant to the contract of sale, by delivery to such point by the retailer or his agent, or by delivery by the retailer to a carrier for shipment to a consignee at such point. For the purposes of this paragraph, delivery to a point outside the City shall be satisfied:

a. With respect to vehicles (other than commercial vehicles) subject to registration pursuant to Chapter 1 (commencing with Section 4000) of Division 3 of the Vehicle Code, aircraft licensed in compliance with Section 21411 of the Public Utilities Code, and undocumented vessels registered under Division 3.5 (commencing with Section 9840) of the Vehicle Code by registration to an out-of-City address and by a declaration under penalty of perjury, signed by the buyer, stating that such address is, in fact, his or her principal place of residence; and

b. With respect to commercial vehicles, by registration to a place of business out-of-City and declaration under penalty of perjury, signed by the buyer, that the vehicle will be operated from that address.

3. The sale of tangible personal property if the seller is obligated to furnish the property for a fixed price pursuant to a contract entered into prior to the operative date of this ordinance.

4. A lease of tangible personal property which is a continuing sale of such property, for any period of time for which the lessor is obligated to lease the property for an amount fixed by the lease prior to the operative date of this ordinance.

5. For the purposes of subparagraphs (3) and (4) of this section, the sale or lease of tangible personal property shall be deemed not to be obligated pursuant to a contract or lease for any period of time for which any party to the contract or lease has the unconditional right to terminate the contract or lease upon notice, whether or not such right is exercised.

C. There are exempted from the use tax imposed by this ordinance, the storage, use or other consumption in this City of tangible personal property:

1. The gross receipts from the sale of which have been subject to a transactions tax under any state-administered transactions and use tax ordinance.

2. Other than fuel or petroleum products purchased by operators of aircraft and used or consumed by such operators directly and exclusively in the use of such aircraft as common carriers of persons or property for hire or compensation under a certificate of public convenience and necessity issued pursuant to the laws of this State, the United States, or any foreign government. This exemption is in addition to the exemptions provided in Sections 6366 and 6366.1 of the Revenue and Taxation Code of the State of California.

3. If the purchaser is obligated to purchase the property for a fixed price pursuant to a contract entered into prior to the operative date of this ordinance.

4. If the possession of, or the exercise of any right or power over, the tangible personal property arises under a lease which is a continuing purchase of such property for any period of time for which the lessee is obligated to lease the property for an amount fixed by a lease prior to the operative date of this ordinance.

5. For the purposes of subparagraphs (3) and (4) of this section, storage, use, or other consumption, or possession of, or exercise of any right or power over, tangible personal property shall be deemed not to be obligated pursuant to a contract or lease for any period of time for which any party to the contract or lease has the unconditional right to terminate the contract or lease upon notice, whether or not such right is exercised.

6. Except as provided in subparagraph (7), a retailer engaged in business in the City shall not be required to collect use tax from the purchaser of tangible personal property, unless the retailer ships or delivers the property into the City or participates within the City in making the sale of the property, including, but not limited to, soliciting or receiving the order, either directly or indirectly, at a place of business of the retailer in the City or through any representative, agent, canvasser, solicitor, subsidiary, or person in the City under the authority of the retailer.

7. "A retailer engaged in business in the City" shall also include any retailer of any of the following: vehicles subject to registration pursuant to Chapter 1 (commencing with Section 4000) of Division 3 of the Vehicle Code, aircraft licensed in compliance with Section 21411 of the Public Utilities Code, or undocumented vessels registered under Division 3.5 (commencing with Section 9840) of the Vehicle Code. That retailer shall be required to collect use tax from any purchaser who registers or licenses the vehicle, vessel, or aircraft at an address in the City.

D. Any person subject to use tax under this ordinance may credit against that tax any transactions tax or reimbursement for transactions tax paid to a district imposing, or retailer liable for a transactions tax pursuant to Part 1.6 of Division 2 of the Revenue and Taxation Code with respect to the sale to the person of the property the storage, use or other consumption of which is subject to the use tax.

Section 3.50.012. AMENDMENTS. All amendments subsequent to the effective date of this ordinance to Part 1 of Division 2 of the Revenue and Taxation Code relating to sales and use taxes and which are not inconsistent with Part 1.6 and Part 1.7 of Division 2 of the Revenue and Taxation Code, and all amendments to Part 1.6 and Part 1.7 of Division 2 of the Revenue and Taxation Code, shall automatically become a part of this ordinance, provided however, that no such amendment shall operate so as to affect the rate of tax imposed by this ordinance.

Section 3.50.013. ENJOINING COLLECTION FORBIDDEN. No injunction or writ of mandate or other legal or equitable process shall issue in any suit, action or proceeding in any court against the State or the City, or against any officer of the State or the City, to prevent or enjoin the collection under this ordinance, or Part 1.6 of Division 2 of the Revenue and Taxation Code, of any tax or any amount of tax required to be collected.

Section 3.50.014. SEVERABILITY. If any provision of this ordinance or the application thereof to any person or circumstance is held invalid, the remainder of the ordinance and the application of such provision to other persons or circumstances shall not be affected thereby.

Section 3.50.015. EFFECTIVE DATE. This ordinance relates to the levying and collecting of the City transactions and use taxes and shall take effect immediately.

Section 3.50.016. TERMINATION DATE. The authority to levy the tax imposed by this ordinance shall not expire, except as may be approved by voters to end the levy of the tax under this Ordinance. In addition, such authority shall be suspended, and no tax levied thereafter, upon the adoption of a resolution directing such suspension by the Council, by a four-fifths vote of the entire Council. The Council shall receive a report no later than ten (10) years following the Operative Date, and every ten (10) years thereafter, regarding the continuing need for the tax imposed by this Ordinance, and upon receiving such report may either take no action, in which case the authority to impose the tax shall continue uninterrupted, or adopt a resolution to suspend this Ordinance by a four-fifths vote of the entire Council. The tax collection would end at the next available quarter, except for residual payments. In any event that this Ordinance is suspended, such authority shall remain suspended

unless and until the Council approves a resolution, by four-fifths vote of the entire Council, which it may consider at any time, to reinstate the authority to levy the tax authorized by this Ordinance, which if so adopted shall be effective without submission to the electorate. The collection would resume at the beginning of the next quarter.

SECTION 3.50.017. COORDINATION WITH PROVISIONS OF SALES TAX ACCOUNTABILITY

MEASURES ORDINANCE. The expenditure of funds collected pursuant to the tax imposed by this Ordinance shall be subject to the provisions of Hanford Municipal Code Chapter 3.60 Sales and Use Tax Accountability Measures Ordinance.

SECTION 3.50.018. Any provision of the Hanford Municipal Code or appendices thereto inconsistent with the provisions of this Ordinance, to the extent of such inconsistencies and no further, is hereby repealed or modified to that extent necessary to effect the provisions of this Ordinance, except that any existing, duly adopted sales and use tax existing as of date of adoption of this Ordinance shall remain in effect and the sales and use tax imposed by this Ordinance shall be additive thereto.

SECTION 3.50.019. The Mayor shall sign and the City Clerk shall attest to the passage of this Ordinance. The City Clerk shall cause the same to be published once in the official newspaper within 15 days after its adoption.

PASSED AND ADOPTED by the _____,
State of California, on _____, by the following vote:

AYES:

NOES:

ABSTAIN:

ABSENT:

APPROVED:

TRAVIS PADEN, MAYOR

ATTEST:

NATALIE CORRAL, CITY CLERK

APPROVED BY CITY ATTORNEY

STATE OF CALIFORNIA)
COUNTY OF KINGS) ss.
CITY OF HANFORD)

I NATALIE CORRAL, City Clerk of the City of Hanford, do hereby certify the foregoing ordinance was duly introduced at a regular meeting of the City Council of the City of Hanford on the _____ day of _____, 202__, and it was duly passed and adopted at a regular meeting of the City Council of the City of Hanford held on the _____ day of _____, 202__.

Dated:

NATALIE CORRAL, CITY CLERK

Chapter 3.60

SALES AND USE TAX ACCOUNTABILITY MEASURES

Sections:

3.60.010 Title.

3.60.020 Applicability.

3.60.030 Initial and subsequent expenditure plans.

3.60.040 Sales Tax Oversight Board.

3.60.050 Annual audit.

3.60.010 Title.

This chapter shall be known as the City of Hanford Sales Tax Accountability Ordinance.

3.60.020 Applicability.

The provisions of this Chapter shall apply to the proceeds of any sales and use tax that is made specifically subject to this Chapter by the ordinance that enacts such sales and use tax.

3.60.030 Initial and subsequent expenditure plans.

A. The City Council shall, prior to the imposition of a transactions and use (sales) tax that is subject to the provisions of this Chapter, adopt, by resolution approved by a majority of the Council, an initial spending plan specifying the uses of the proceeds of the transactions and use (sales) tax. The initial expenditure plan (budget) shall cover the period between implementation of the sales and use tax and the end of the subsequent fiscal year.

B. Prior to expiration of the initial expenditure plan and as part of adoption of an annual city general fund budget, the City Council shall adopt an annual expenditure plan specifying the uses of the proceeds of the sales or use tax that is subject to the provisions of this chapter, applicable to the coming fiscal year.

C. Adoption of the initial expenditure plan, subsequent annual expenditure plans, and amendments to such plans, shall occur by resolution adopted by a majority of the Council, following:

1) submission for comment and recommendation to the Sales Tax Oversight Board as established pursuant to Section 3.60.040, and

2) public hearing occurring at a regularly scheduled and appropriately noticed meeting of the City Council.

D. Following adoption, the city shall make the initial expenditure plan, any subsequent annual expenditure plan (budget), and any amended expenditure plan (budget) publicly available.

E. The initial expenditure plan shall dedicate fifteen percent (15%) of budgeted revenues for the initial year of the plan to establish an economic uncertainty fund, which may only be accessed in times of fiscal emergencies, defined as a deficit in expected revenues such that the other features of the plan are not able to be funded as planned. The Council may direct that the economic uncertainty fund be accessed in order to fund the remainder of the plan in the case of a fiscal emergency, as determined by

four-fifths (4/5ths) vote of the City Council as a whole. Annual expenditure plans shall provide for the dedication of such budgeted funds as are necessary to maintain the economic uncertainty fund at fifteen percent (15%) of budgeted revenues and to replenish any amounts used in the event of a fiscal emergency in the prior year.

F. Each expenditure plan shall fund department activities as may be recommended from time to time by the Board and approved by the City Council within the parameters approved by the voters.

3.60.040 Sales Tax Oversight Board.

A. The Council will appoint a seven (7) member standing oversight committee to constitute the Sales Tax Oversight Board (the "Board").

B. The members of the Board shall serve two (2) year terms, and may be reappointed for up to two (2) additional two (2) year terms for a total of three (3) consecutive two (2) year terms; provided however, for initial Board members who are appointed mid-year, their initial two (2) year terms shall be deemed to have started on January 1 of the following calendar year. Thereafter, at the first council meeting in January of each year, the council shall endeavor to fill any vacancies caused by the regular expiration of Board members' terms. Upon expiration of a member's term, the member shall, however, continue to serve until his or her replacement is appointed. No individual, having served the maximum allowable number of consecutive terms may be reappointed to the Board for at least one (1) year from the last date served.

C. The members of the Board shall be selected in the following manner:

1. Each city council member shall select one (1) Board member from his or her district; and
2. The city council shall select two (2) members on an at-large basis.

D. Vacancies shall be noticed in a manner consistent with Municipal Code Section 2.20.030. Appointment shall be made at the earliest possible date for mid-term vacancies. Vacancies shall be advertised so that any interested city resident may apply.

E. City residency shall be required for all Board members and shall be confirmed by each applicant and each Board member under penalty of perjury. The city may require a Board member to confirm his or her residence throughout the member's term.

F. Board members serve at the pleasure of the city council and may be removed for cause or no-cause. Members may be removed for cause for various reasons, including, without limitation, three (3) consecutive Board meeting absences.

G. The Board shall annually elect a chairperson and vice-chairperson from amongst its members.

H. In accordance with the public meeting laws of the state of California: (i) all meetings of the Board shall be open to the public and noticed; and (ii) minutes of Board meetings shall be kept.

I. Board members shall serve without compensation.

3.60.050 Annual audit.

The city shall provide for an annual independent audit of transactions and use tax measure funds to account for the tax revenues received and expenditures made in relation to the tax that is subject to this chapter, and to ensure consistency with the expenditure plan required by Section 3.60.030. Such audits will be provided to the Sales Tax Oversight Board as established by Section 3.60.040.



AGENDA STAFF REPORT

MEETING DATE: 6/18/2024

AGENDA SECTION: STUDY SESSION

SUBJECT:

Presentation of the proposed City of Hanford Fire Department Guiding Documents: Community Risk Assessment and Standards of Response Coverage and Direction from Council as appropriate.

RECOMMENDATION: That the City Council receive a presentation on the proposed Guiding documents Community Risk Assessment, Standards of Response Coverage and Proposed Spending Plan for Hanford Fire Department and provide direction as appropriate.

BACKGROUND: In 2021, the City of Hanford contracted with Krauss Consulting LLC for the development of three documents: a neutral- third-party Community Risk Assessment (CRA) and the subsequent development of a Standards of Response Coverage (SORC) as well as a Fire Department Proposed Master Spending Plan to address the needs identified within the assessment documents. The documents that were produced are usual and customary to most organized and professional Fire Service agencies throughout the world. These foundational documents assist departments to align the identified risks within their community with current, planned, and forecasted resource requirements in the sense of hardware, personnel, infrastructure and funding necessary to meet the identified needs.

This process is a vetted industry standard identified by the International Association of Fire Chiefs as well as the Center for Public Safety Excellence. Both entities have been instrumental in developing a process by which Fire Service Agencies can adopt a standardized method that fosters the creation of a set of guiding documents as a road map for success for public safety fire service agencies-this process is known as accreditation.

The three documents produced thus far, out of four recommended documents, work in tandem to assist agencies to develop organized and cohesive plans to address the risks within their communities. The three current proposed guiding documents are part of a 'phased-approach' wherein organizations undertake the processes of accreditation in three distinct phases. The first phase includes the adoption of the three proposed guiding documents; the second phase, includes formation of the departmental strategic plan; the third phase, includes the development of a Self-Assessment Manual; all aimed at ensuring an efficient and effective utilization of public resources.

The first guiding document; the Community Risk Assessment, identifies the relevant fire and non-fire risks and then documents those findings by addressing key areas that take into consideration the threats, consequences and impacts of known risks within the community. This allows internal planning to be addressed through specific measurable goals that address the identified needs of the community.

The second Guiding document; the Standards of Response Coverage, assists to specifically identify the benchmarks of the CRA and with what, how much, and how long, each of the identified areas are measured. These measurements are typically equated to response times, effective response force, percentile measurements, station locations, call types and volumes all allowing the accurate assessment of functionality, efficiency, and effectiveness of the department to be quantified.

These two documents are not static documents but are living documents in the sense that constant adjustments are made as new information, technology and capabilities are increased or decreased. The current capabilities of the agency are then quantified and compared to the goals established by the community in relation to the accepted risk of the adopted plans. The identified gap between risks, capabilities and consequences is what the purpose of the guiding documents are: real-time assessments of the status of emergency response capabilities and the suggested means to allow that agency to meet the current and future needs of their community.

The third document, although less mentioned, is the Proposed Master Spending Plan. This plan identifies the hardware, software, equipment, personnel and facilities that are identified within the Gap analysis, as identified within the first two documents, to be acquired or planned for in order to meet the agency's identified goals. This plan is a financial road map for the agency to refer to when developing the agency's requests for funding.

As guiding documents, all three assist with the development of a salient cohesive set of industry best practices that would lead to the development of the Short, Mid and Long-Term Plan for improvement, growth and effectiveness of the agency.

The Second Phase of Three involves a document that has yet to be developed but is essential in effective growth of the Hanford Fire Department is the Strategic Plan. Although the Strategic Plan was not developed, all the essential elements to adopt the current set of guiding documents to create such a plan have been completed and aligned with additional items that have been identified in other third-party assessments.

The other third-party assessments completed within the same time period were an Insurance Service Offices (ISO) classification that produced a downgraded assessment of the department's capabilities as a result of the same identified inabilities as the CRA had-the negatively impacted ability of the department to effectively meet the needs of our growing community. This speaks to the professional accuracy in most areas of the guiding documents as presented.

As current and close to accurate as the guiding documents are, there were areas in which staff have identified, upon further review, where gaps in contextual impacts regarding three key areas: Hazardous Materials Response Capabilities, Technical Rescue Capabilities as well as the overall Fire Threat for the community (i.e. large downtown areas of un-sprinklered buildings, many contiguous with one another, built prior to or around 1900, Brick-constructed, multi-story, with large basements). Although the documents do mention these areas, the third element of a three-axis risk assessment, the consequence, was vastly understated and would beg the question of further assessment in the form of an addendum and update upon further assessment after the documents are adopted for all three key areas.

The ability of the department to have a well-thought-out and identified road map for purposes of planning and growth lies in the adoption of these guiding documents. Although the documents do not set city policy nor do they supersede the direction of the city council, they do allow for a blueprint of actions and an identified plan and direction of the Hanford Fire Department.

FISCAL IMPACT:

None Identified

ATTACHMENTS:

1. 03 HFD CRA-SORC 2022
2. 05 HFD Master and Comprehensive Spending Plan - 2022-2035
3. RESOLUTION GUIDING DOCS DP 6_18_24



City of Hanford

Fire Department

Community Risk Assessment and Standards of Response Coverage



Prepared for the Hanford Fire Department

Prepared by **Mike Kraus Leadership**

February 14, 2022

Introduction

This Community Risk Assessment/Standards of Response Coverage (CRA/SORC) report of the City of Hanford is intended to serve as an update to the 1999 Fire Standards of Cover Analysis. References utilized and data retrieved from the following resources: City of Hanford Comprehensive Annual Financial Report, City of Hanford Fire Department, City of Hanford 2035 General Plan, FBI Uniform Crime Report, Institution of Fire Engineers 20/20 Vision, Insurance Services Office, Kings County Local Hazard Mitigation Plan, National Fire Protection Association, and the National Institute of Science and Technology. The content contained herein was modeled after the Center for Public Safety Excellence and the Commission on Fire Accreditation International manual.

The purpose of conducting a CRA/SORC evaluation is to obtain an accurate picture of the community risks, and where the entity and the fire department stand between what is presently delivered in the fire and life safety services baseline, and what the industry standards and best practices recommend as benchmarks. It is the first in a series of three planning documents utilized by the fire service. It is followed by a Strategic Plan for short or mid range goals, then a Master Plan, containing longer range goals. These documents, linked together, support a Planning Continuum, intended to inform and assist elected and appointed officials in improving fire and life safety platforms in their communities.

It is important to clarify that industry standards and best practices are not laws or mandates. The final decisions as to what level of fire and life safety services are provided to the community are determined by the elected officials of each entity. These decisions are based upon public expectations, available funding, and what level of acceptable risk the policy makers are willing to assume. It is also important to understand the benefits of continually improving the local delivery system. Benefits include, but are not limited to, protecting the health and welfare of the citizens and the vital job and tax producing businesses from fire and other hazards, resulting in a more vibrant and economically successful community.

It is critical, if this document is to continue to be of value, that it is referenced, reviewed, updated (minimum of every 5 years), and expanded, on a regular basis; along with the linked Strategic and Master Plans. It should be considered a dynamic tool to assist the fire department and local appointed and elected officials as they strive to improve the fire and life safety element of their community. The accuracy of the data within this document is dependent upon the accuracy of the data entered and then extracted from the department records management system.

Mike Kraus Leadership has made every effort to ensure all enclosed information is accurate. Recommendations are based upon the knowledge, experience, and research of Mr. Kraus (Sole Proprietor), and should be evaluated as to their potential effectiveness by local officials before being implemented.

As this document is updated, the City of Hanford Fire Department, after saving the original document, is hereby given express permission to remove all markings and references to Mike Kraus Leadership.

Introduction	3
Executive Summary	7
Documentation of Area Characteristics.....	11
Description of Agency Programs and Services	13
All-Hazard Risk Assessment of the Community.....	15
Emergency Medical Service Hazard	15
Structure Fire Hazard	16
Hazardous Material Hazard.....	17
Technical Rescue Hazard	17
Wildland Fire Hazard	18
Earthquake Hazard.....	18
Current Deployment and Performance.....	20
Performance Measures	20
Critical Tasking and Effective Response Force	23
Emergency Medical	24
Structure Fire	25
Wildland Fire	27
Hazardous Material.....	27
Technical Rescue	29
Community Risk Reduction	30
Station and Apparatus Deployment.....	31
Workload and System Reliability.....	32
Evaluation of Current Deployment and Performance	34
Hazard Specific Risk Levels	34
Performance Measures.....	35
Critical Tasking and Effective Response Forces.....	36
Community Risk Reduction	37
Station and Apparatus Deployment.....	39
Workload and System Reliability	42
Plan for Maintaining and Improving Response and Risk Reduction Capabilities	43
Correlation of CRA-SORC Document to Accreditation Model	44
Appendices.....	45

Executive Summary

The City of Hanford is an incorporated city within the county of Kings and the state of California, and has a population of approximately 60,000 people. Fire and life safety services are provided by the City of Hanford Fire Department from three fire stations located within the city limits. Additional resources are available from Kings County, but must respond from outside city limits and with limited staffing.

The purpose of this Community Risk Assessment/Standards of Response Cover document is to establish a baseline of the current fire and life safety system in the City of Hanford, as compared to industry standard and best practice benchmarks, exposing gaps that can then be addressed and prioritized by the policy makers.

It is important to state that industry standards and best practices are not mandates and they are not laws. Local policy makers are the ones who ultimately decide what level of fire and life safety services are provided to the community. The goal is to provide the elected officials with the facts necessary to make informed decisions on what level of risk they are willing to accept.

Within Kings County, and specific to the City of Hanford, there are certain man-made and natural hazards to which the community is exposed. Each hazard has a varying degree of potential risk, and each level of potential risk will require a certain level of emergency response to stop the progression of the hazard and ultimately mitigate it. The most common of these hazards include emergency medical incidents, structure fires, wildland fires, hazardous material incidents, technical rescue incidents, and earthquakes.

After evaluating the various levels of risk associated with these hazards, and comparing them to the current fire and life safety platform in and around Hanford, the following opportunities for improvement have been recommended:

- (1) Expand the current Hanford Fire Department Response Matrix to more accurately distinguish between the different hazard/risk levels in this report.*

- (2) *Maintain and expand the current Target Hazard program for all hazard types listed in this report, and integrate into the Hanford Fire Department Response Matrix. Additionally, improve the present Target Hazard pre-planning program for shift personnel.*
- (3) *Establish “Call Answering” and “Call Processing” performance measures and review monthly.*
- (4) *Conduct “Turnout Time” trials to determine standards that are realistic to local conditions.*
- (5) *Establish “First Unit Total Response Time” performance measures for Emergency Medical Service and Fire incidents, and review monthly.*
- (6) *Establish an “Effective Response Force Total Response Time” performance measure, and review monthly.*
- (7) *Evaluate through exercise, the generic Critical Tasking numbers in this report for adequacy to Hanford Fire Department needs.*
- (8) *Assemble a working group of stakeholders to evaluate the Community Risk Reduction concept, explore ways to overcome fiscal constraints, and coordinate and expand its limited use in the Hanford Fire Department.*
- (9) *Establish a mission statement for the present Fire Prevention Division, reflecting what is to be delivered on a daily basis, in accordance with the Community Risk Reduction concept. Additionally, establish a vision statement, creating a goal of where these efforts should ultimately lead.*
- (10) *Evaluate and update for approval, a current and comprehensive fee schedule for fire prevention services to ensure maximum allowable cost recovery. The goal being, to increase staffing and expand efforts toward improved Community Risk Reduction.*

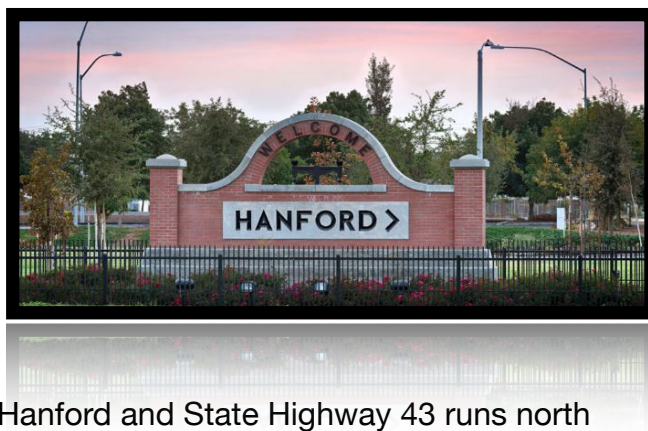
- (11) Conduct a cost/benefit analysis and position justification evaluation in an effort to determine the number of additional personnel needed in the Fire Prevention Division. This should be based upon the ability to establish a productive community risk reduction program.*
- (12) Begin dialogue with Kings County Office of Emergency Services to collaboratively improve the communication, cooperation, and bolstering of both City and County Emergency Management programs.*
- (13) Work collaboratively with City of Hanford to increase staffing on Engines 41, 43, and Truck 42 to a level of 4 each, and maintain this level as minimum staffing of future units.*
- (14) Work collaboratively with City of Hanford to create shift battalion chief positions, in the effort to meet the NFPA 1710 standard on Effective Response Force.*
- (15) Work collaboratively with City of Hanford to begin master planning an additional fire station and engine company in the general area of 13th Ave. and Grangeville Blvd.*
- (16) Work collaboratively with City of Hanford to begin master planning an additional fire station and engine company in the general area of 9th Ave. and Lacey Blvd.*
- (17) Work collaboratively with City of Hanford to forecast and master plan the probable need to relocate Fire Station 1 east and north of its present location, in the general area of 10th Ave. and E. Fargo Ave.*
- (18) Work collaboratively with City of Hanford to implement the above opportunities for improvement. Successful completion of these items will result in an Effective Response Force of 16 arriving within the 8 minute travel time standard, meeting Low and Moderate Critical Task standards for structure fire hazards, and leaving one engine company available for subsequent calls for service, all without the use of automatic aid.*

(19) Work collaboratively with City of Hanford to implement the above opportunities for improvement in the effort to increase the firefighter to population ratio to 1 per 1,000.

Documentation of Area Characteristics

Hanford, California (36 degrees 19'39"N 119 degrees 38'44"W), is located in the northeastern part of Kings County, approximately 30 miles to the southwest of the City of Fresno. It is about equal distant from the Sierra Nevada and the Coast Ranges. State

Highway 198 runs east and west through Hanford and State Highway 43 runs north and south along the easterly boundary of the city. Presently, the city limits of Hanford covers 17.4 square miles. The ultimate growth boundary, which is based on the city's current general plan, includes the incorporated city and its sphere-of-influence and encompasses approximately 30 square miles (*See Appendix A*).



Hanford was named after James Madison Hanford, a paymaster for the Central and Southern Pacific Railroad, in 1877. It was incorporated in 1891, after 14 years of destructive fires in the downtown area, to improve Response services and provide utilities and paved streets. The settlement quickly grew into a bustling pioneer town with shops, schools, hotels, saloons, and churches. As the county seat, Hanford has developed into the residential, commercial, and industrial center of Kings County. The current population is approximately 60,000.

The terrain in Hanford is generally flat and made up of sandy, loam soils. It slopes from the Northeast to the Southwest. Elevations range from 255' to 240' above mean sea level. Like the rest of Kings County, Hanford is in a semiarid climate. It receives average annual precipitation of 8.6 inches. The average high temperature in summer is 96°F and in winter is 49°F. The People's Ditch in the northeastern section of the city is a manmade facility designed as part of a water delivery system that diverts water from the Kings River and distributes it to agricultural areas to the South.

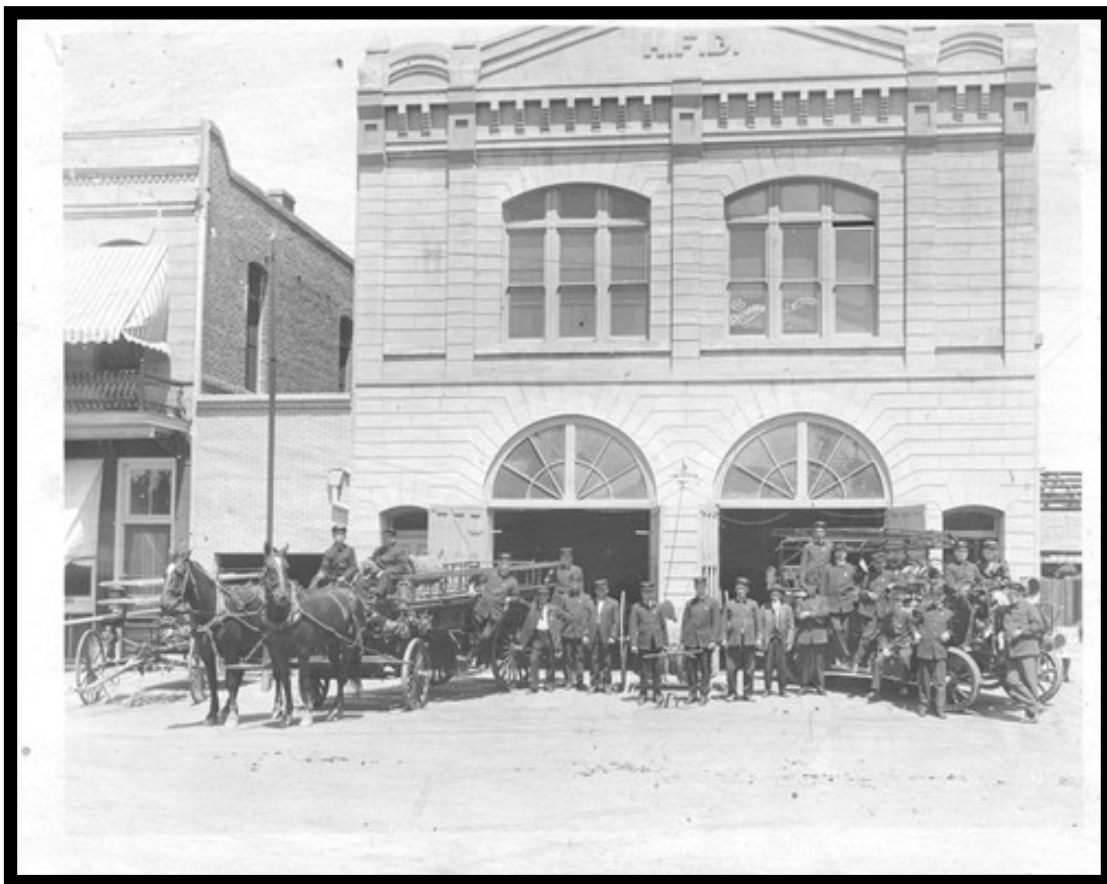
Hanford is a California General Law City. Policy is established by a council/weak mayor type of government, with five council members elected by district. A city manager oversees the daily responsibilities of the City. The City's 2020 General Fund was approximately \$35,000,000.

The majority of land use (See *Appendix B*), in Hanford is residential, with significant supporting commercial and a large industrial tract within the southern city limits. Major employers include Warmerdam Packing, Kings County, City of Hanford, Kings County Education, Nichols Farms, and M. Green and Company. Additionally, Faraday Future electric vehicles plans to open a major facility in the former Pirelli tire plant, with a projection of up to 1,300 jobs.

- *Founded: 1877*
- *Incorporated: 1891*
- *City Limit Square Miles: 17.4*
- *Sphere of Influence Square Miles: Approximately 30*
- *Population: 59,167*
- *Density: 3,400.4 per sq. mi.*
- *Growth Rate Since 2010: 9.6%*
- *Average Citizen Age: 33.5*
- *Median Household Income: \$62,413*
- *Race and Ethnicity: Hispanic 50.4%, White 35.9, Black 4.9%*
- *Primary Language: English 63%, Spanish 31%*
- *Crime Rate Per 100,000: 447.87*
- *Response Area Designation: Urban*

Description of Agency Programs and Services

Fire and life safety services for the City of Hanford are provided by the Hanford Fire Department (HFD). The HFD is a professional organization consisting of 35 full time and 2 part time employees. (See *Appendix C*) Services include community risk reduction and emergency response. It was formed in 1891 by Council resolution due to several large and destructive downtown fires. The HFD has a rich history of dedicated service to its citizens.



Mission Statement

“The mission of the Hanford Fire Department is to deliver effective, professional fire prevention and emergency response.”

Diversity Statement

“The Hanford Fire Department is an organization set to represent our community. Members of the department come from many socio-economic, ethnic, and cultural backgrounds. Our common thread is our passion to serve in whatever capacity is needed. Diversity provides perspective, experience, and understanding which only enhances the fire service and the people of Hanford.”

Core Values

“Compassion, Integrity, Accountability, Teamwork, Family, Respect”

Vision Statement

“The Hanford Fire Department strives to advance public safety through metrics, self-assessment and industry advancements. The men and women of the Hanford Fire Department will remain proactive and in control of our future. We accept the challenges that will come with the same discipline and integrity of our forebears.”

All-Hazard Risk Assessment of the Community

The Kings County Local Hazard Mitigation Plan (LHMP) lists a number of natural and manmade hazards that could possibly affect the City of Hanford. Of these, those most likely to occur, and require fire department response are fog, wildfire, and earthquake. Additionally, and much more likely to occur, are emergency medical, structure fire, hazardous material, and technical rescue incidents.

Listed below are hazards that have occurred, or may potentially occur, in the City of Hanford. These hazards are listed from those most frequently occurring, to those occurring less frequently.

Emergency Medical Service Hazard

City of Hanford EMS		
2018	2019	2020
3,694	3,762	3,746

Emergency medical service (EMS), incidents (See *Appendix D*), occur in the City of Hanford on a daily basis. The majority of the incidents responded to per day are emergency medical related. The complaint may be anything from feeling ill, to having a baby, to suffering from a heart attack. Brain death can occur in as little as 4 to 6 minutes from the time of heart stoppage. Arriving expeditiously is of utmost importance in these incidents.

HFD personnel are trained to the Emergency Medical Technician (EMT) level, also know as Basic Support (BLS), and can quickly assess the patient and assist them with breathing, circulation, the stoppage of bleeding, and childbirth for example. Advanced Life Support (ALS), treatment and transport is provided by a private ambulance company.

Additionally, when the incident involves an auto accident, HFD personnel can assist in extricating the patient from the wreckage. The typical response strategy for the HFD is to dispatch one engine company with 3 personnel for an emergency medical incident.

For an auto accident with occupants trapped in the wreckage, an engine, a truck company, and a battalion chief are dispatched, for a total of 7 personnel.

Structure Fire Hazard

City of Hanford Structure Fires		
2018	2019	2020
74	67	69

Structure fires (*See Appendix E*), occur in and around Hanford on a regular basis. Depending on the type of building, its purpose, the occupant load, and the time of day, a structure fire threat includes not only property damage, but more importantly, the life safety of the occupants. Studies show that unchecked, structure fires can double in size every minute. Expeditious fire department arrival with sufficient emergency personnel to implement critical tasks, is necessary in mitigating these threats to life and property.

Most structure fires occur in residential buildings. The majority of structures in Hanford are of this type. Residential fires are made more complicated and dangerous when in multi-unit buildings such as apartments and multi-story hotels and custodial facilities, which are also present in Hanford . These types of fires require additional fire personnel to be on the scene in a timely manner to effect life safety and incident stabilization.

Commercial and industrial buildings are vital to an entity's tax base. These buildings also present greater challenges to fire departments, mainly due to their larger size and the variety of fire loads present. Getting sufficient personnel on scene to stop the fire in its early stages is critical in saving the business and its contribution to the local economy. Hanford contains numerous commercial and industrial buildings with an array of challenges to the fire department. One example is the unreinforced masonry buildings downtown which are built to older building standards, which under fire conditions present a significant collapse threat to interior and exterior operating firefighters. Many of these buildings are tied together in city blocks, allowing fire to spread from building to building in hidden areas.

Structures/Buildings are categorized into 4 Risk levels, determined by their size, purpose, and occupancy:

- Low Risk: Detached garages, small sheds and outbuildings
- Moderate Risk: Single family residences of 2,500 sq.' or less (R-3), small retail 10,000 sq.' or less (M)
- High Risk: Schools (E), strip shopping centers and large commercial 10,000 sq.' or greater (M), hotel/motel (R-1), garden style and 2 story plus apartments (R-2), single family residences of 2,500 sq.' or greater, (R-3), warehouses (S)
- Maximum Risk: High rise buildings of 7 floors and above or 75' or greater, hospitals (I-1), buildings with large amounts of hazardous materials etc.(H)

Hazardous Material Hazard

City of Hanford HazMats		
2018	2019	2020
59	82	68

Hazardous material incidents (*See Appendix F*), can range from a small fuel spill to a large industrial ammonia leak, to a pressurized propane tank under fire and threatening to explode. These incidents can occur in all areas of a community, including residential, commercial, and industrial. There are several industrial businesses within the City of Hanford that present significant potential hazards, many including agricultural chemicals or gasses. Additionally, hazardous materials are transported through the city on daily basis via the two State highways and the major railroad, adding another potential level of risk.

Many of these incidents will be mitigated by the initial fire unit arriving on the scene. However, there are those incidents that will require Hazardous Material Specialist intervention. All HFD personnel are trained to the Hazardous Material First Responder Operational level, with a number of personnel trained to the Specialist level. Additionally, the department is an active partner in the Kings/Tulare Hazardous Material Response Team.

Technical Rescue Hazard

The potential for incidents requiring technical rescue expertise (*See Appendix F*), is relatively high in Hanford . Examples are high speed traffic accidents with entrapments

City of Hanford Tech Rescues		
2018	2019	2020
4	4	3

on State highways 43 and 198, mechanical entrapments in the many agriculture processing and industrial businesses, or building collapse due to severe earthquakes. Additional personnel are typically needed to mitigate these types of hazards,

depending upon incident circumstances. The HFD is currently increasing the levels of training and certification to improve the response capabilities for this hazard type.

Wildland Fire Hazard

City of Hanford Wildland Fires		
2018	2019	2020
47	81	68

Wildland, or vegetation type fires (*See Appendix E*) occur on a semi regular basis in the incorporated and unincorporated areas of Hanford. Most of these fires are quickly contained and controlled by the initial arriving fire units. This is critical due to the

potential of these fires spreading to structures, endangering the buildings and their respective occupants.

Fog Hazard

Fog is primarily classified as a hazard in Hanford due to the related traffic accidents resulting from poor visibility. Not only do these traffic accidents occur on Hanford surface streets, they also occur on two major state highways running through the city limits. The incidents occurring on the highways have an even higher potential of resulting in multi-casualty incidents, resulting in the taxing of responding resources.

Earthquake Hazard

There are over 500 active earthquake faults in California. While the vast majority of these earthquakes aren't felt, there are an average of 100 tremors per day in the State. Hanford has experienced several ground shaking events from earthquakes over the past few years, both from the San Andreas fault and from the Mammoth area, more than 100 miles to the North.

Soils in Hanford are not mapped as having significant liquefaction potential and the Hazards Management Element of the General Plan finds that Hanford is located in a stable geologic formation so that the effects of ground shaking should be minimal. The community's vulnerability increased due to its large number of unreinforced masonry buildings, many of them historic properties. The city has created a database of the locations of these buildings, which includes many of significance to the community, such as the Kings County Courthouse, Masonic Temple, Episcopal Church, and the Hanford Elementary District Offices.

The Kings County Office of Emergency Services (OES), coordinates emergency management functions for the County, and offers training and support to all incorporated cities, including Hanford . Additionally, and as mentioned above, the HFD is increasing the levels of training and certification to improve the response capabilities for this hazard type.

Current Deployment and Performance

There are three fire stations located within the 17.4 square miles of the city limits of Hanford (See *Appendix G*). Station 1 is located at 350 W. Grangeville Blvd. and is staffed with one 3-0 engine company. Station 2 is located at 10553 Houston Ave. and is staffed with one 3-0 quint truck company. Station 3 is located at 1070 S. 12th St. and is staffed with a 3-0 engine company, resulting in a total of 9 on-duty personnel. While these three companies are stationed within Hanford, they also respond into unincorporated areas due to an automatic aid agreement with the Kings County Fire Department approximately 5% of the time. The next closest engine and quint companies respond into the City from Kings County fire stations 2, 4, and 5. With the exception of Station 4, which is staffed with 3, these companies are minimally staffed with 2 personnel. Additionally, Hanford chief officers respond from their administrative duties or from home, and are not a guaranteed response.

Performance Measures

The Hanford Emergency Dispatch does not acknowledge or track Call Answering or Call Processing times as stated by the National Fire Protection Association (NFPA) 1221. The examples below demonstrate what these Performance Measures would look like.

“95% of emergency calls will be answered within 15 seconds”

Call Answering %		
2018	2019	2020

“90% of all emergency calls will be processed and dispatched within 64 seconds”

Call Processing %		
2018	2019	2020

The HFD has established a 60 second “turnout” time from dispatch to responding to the incident for non-fire emergency calls, and an 80 second “turnout” time for fire calls. In addition, a “travel time” of 4 minutes has been adopted (*See Appendix G*). Both of these are in accordance with Industry Standards and Best Practices for responses in urban and suburban areas. The current HFD Performance Measure for Turnout Time states,

“Turnout time, from dispatch to response, for EMS calls will be 60 seconds or less, with 90% dependability.

Turnout Time for EMS			
	2018	2019	2020
Engine 41	55%	32%	28%
Truck 42	42%	26%	26%
Engine 43	N/A	21%	19%

“Turnout time, from dispatch to response, for Fire calls will be 80 seconds or less, with 90% dependability.”

Turnout Time for Fire			
	2018	2019	2020
Engine 41	34%	23%	29%
Truck 42	43%	26%	24%
Engine 43	N/A	13%	23%

The current HFD Performance Measures for Travel Time states,

“First arriving fire units will arrive at an emergency within 4 minutes or less travel time, with 90% dependability.”

4 Minute Travel Time %			
	2018	2019	2020
Engine 41	54%	68%	69%
Truck 42	59%	58%	54%
Engine 43	N/A	60%	53%

Industry Standards and Best Practices dictate that the above standards should be added together, resulting in a “First Unit Total Response” performance measure. Currently, Call Answering and Processing not tracked or included below.

15 Seconds Answering + 64 Seconds Processing/Dispatch + 60 Second Turnout + 4 Minutes Travel = 6 Minutes 19 Seconds > First Unit Total Response Time for EMS Incidents

First Unit Total Response Time for EMS%			
	2018	2019	2020
Engine 41	52%	66%	52%
Truck 42	48%	49%	35%
Engine 43	N/A	43%	36%

15 Seconds Answering + 64 Seconds Processing/Dispatch + 80 Second Turnout + 4 Minutes Travel = 6 Minutes 39 Seconds > First Unit Total Response Time for Fire Incidents

First Unit Total Response Time for Fire%			
	2018	2019	2020
Engine 41	35%	54%	50%
Truck 42	17%	0%	42%
Engine 43	N/A	37%	40%

Critical Tasking and Effective Response Force

Critical tasks are those tasks that must be promptly put into operation at the scene of an emergency to stop the negative progression and begin the mitigation of the incident.

NFPA 1710 recommends *minimum* numbers of personnel to be on the scene of the incident, rated by the level of risk associated with the hazard, and the critical tasks that must be performed to effectively mitigate the emergency. These recommendations state that the Effective Response Force (ERF), be on the scene within 8 minutes travel time (10 minutes 10 seconds for Maximum Risk/High Rise), for urban and suburban response areas, with 90% dependability. **Currently, Call Answering and Processing not tracked or included below. Additionally, metrics based upon 15 personnel.**

15 Seconds Answering + 64 Seconds Processing/Dispatch + 80 Second Turnout + 8 Minutes Travel = 10 Minutes 39 Seconds > Effective Response Force Total Response Time

*ERF Total Response Time %		
2018	2019	2020
22%	31%	57%

** For Low and Moderate Risk Structure Fires*

Listed below are the common hazards faced in Hanford, each specific risk level, the associated critical tasking and ERF numbers, as well as the respective current deployments by the Hanford Emergency Dispatch Center:

Emergency Medical

Current Dispatch Level
 1 Engine (3) or Truck (3)
 1 Private Ambulance (2)
 Total: **5**

Critical Tasks - Low/Moderate Risk EMS	
Task	Personnel
Command/Safety	1
Patient Assessment/Care	2
Patient Transport Ambulance	2
Effective Response Force	5

Current Dispatch Level
 1 Engine (3) or Truck (3)
 1 Private Ambulance (2)
 Total: **5**

Critical Tasks - High Risk EMS	
Task	Personnel
Incident Commander w/Aide	2
Scene Safety	1
Triage	2
Treatment	4
Patient Transport Ambulance	4
Effective Response Force	12

Structure Fire

Current Dispatch Level

HFD 2 Engines (6), 1 Truck (3), 1 BC (1)

KCFD 1 Engine (2), 1 Truck (2)

Total: **14**

Critical Tasks - Low Risk Structure Fire	
Task	Personnel
Incident Commander	1
Attack Line	2
Back Up Line	2
Water Supply/Pump Operation	2
Search	2
Ventilation	3
Utilities	1
RIC (1 Officer, 2 FF's)	3
Effective Response Force	16

Current Dispatch Level

HFD 2 Engines (6), 1 Truck (3), 1 BC (1)

KCFD 1 Engine (2), 1 Truck (2)

Total: **14**

Critical Tasks - Moderate Risk Structure Fire	
Task	Personnel
Incident Commander	1
Attack Line	2
Back Up Line	2
Water Supply/Pump Operation	2
Search	2
Ventilation	3
Utilities	1
RIC (1 Officer, 2 FF's)	3
Effective Response Force	16

Current Dispatch Level

HFD 2 Engines (6), 1 Truck (3), 1
BC (1)

KCFD 1 Engine (2), 1 Truck (2)

Total: **14**

Critical Tasks - High Risk Structure Fire

Task	Personnel
Incident Commander w/Aide	2
3 Attack Lines	9
Water Supply/Pump Operation	2
Search Team	3
Ventilation + Aerial Operator	4
Ground Ladders	2
RIC (1 Officer and 3 FF)	4
EMS/Rehab	2
Effective Response Force	28

Current Dispatch Level

HFD 2 Engines (6), 1 Truck (3), 1
BC (1)

KCFD 1 Engine (2), 1 Truck (2)

Total: **14**

Critical Tasks - Maximum Risk Structure Fire

Task	Personnel
Incident Commander w/Aide	2
Incident Safety Officer	2
Fire Floor Division	1
Fire Floor Attack	9
Evacuation	4
Search	4
Ventilation	3
Floor Above Division	4
Staging	4
RIC	4
Lobby/Systems	4
Base	2
Effective Response Force	43

Wildland Fire

Current Dispatch Level
1 Engine (3), 1 Patrol (3)
Total: **6**

Critical Tasks - Low Risk Wildland	
Task	Personnel
Command/Safety	1
Investigation	2
Effective Response Force	3

Current Dispatch Level
1 Engine (3), 1 Patrol (3)
Total: **6**

Critical Tasks - Moderate Risk Wildland	
Task	Personnel
Incident Commander w/Aide	1
Safety	2
Perimeter Control	5
Evacuation	3
Defensive Containment	3
Effective Response Force	14

Hazardous Material

Current Dispatch Level
1 Engine (3), 1 Truck (3), 1 BC (1)
Total: **7**

Critical Tasks - Low Risk Haz-Mat	
Task	Personnel
Command/Safety	1
Investigation	2
Effective Response Force	3

Current Dispatch Level
 1 Engine (3), 1 Truck (3), 1 BC (1)
 Total: **7**

Critical Tasks - Moderate Risk Haz-Mat	
Task	Personnel
Incident Commander w/Aide	1
Safety	2
Perimeter Control	5
Evacuation	3
Defensive Containment	3
Effective Response Force	14

Current Dispatch Level
 1 Engine (3), 1 Truck (3), 1 BC (1)
 Total: **7**

Critical Tasks - High Risk Haz-Mat	
Task	Personnel
Incident Commander w/Aide	1
Incident Safety Officer	1
Assistant Safety Officer	1
Haz-Mat Tech Reference	1
Haz-Mat Group Supervisor	1
Entry Team	2
Back Up Team	2
Site Access Control	1
Medical Monitoring	1
Site Refuge	1
Decontamination	3
Effective Response Force	15

Technical Rescue

Current Dispatch Level

1 Engine (3), 1 Truck (3), 1 BC (1)

Total: **7**

Critical Tasks - Moderate Risk Tech-Rescue	
Task	Personnel
Incident Commander	1
Scene Safety	1
Stabilization	2
Extrication	3
Fire Protection	2
Patient Care	3
Effective Response Force	12

Current Dispatch Level

1 Engine (3), 1 Truck (3), 1 BC (1)

Total: **7**

Critical Tasks - High Risk Tech-Rescue	
Task	Personnel
Incident Commander w/Aide	2
Incident Safety Officer	1
Tech-Rescue Safety Officer	1
Entry Group Supervisor	1
Attendant	1
Entrant/Backup Entrant	2
Rigging/Hauling Team	8
Ventilation	2
Atmosphere Monitoring	2
Patient Assessment	1
Patient Treatment	2
Effective Response Force	23

Community Risk Reduction

Fire and life safety organizations should strive to prevent potential hazards from actually occurring, and lessen their impact when they do occur. The American fire service has historically been response oriented, resulting in the vast majority of available funds being allocated to fire and emergency suppression platforms. It has been proven that it is more cost-effective to prevent fires and other emergencies from occurring than it is to respond/suppress and recover from them. According to the Federal Emergency Management Agency (FEMA), “Response” is only one component of a Comprehensive Emergency Management Program. The other components include Mitigation, Preparation, and Recovery.

The Institution of Fire Engineers established the Vision 20/20 program of Community Risk Reduction (CRR). This effort focuses heavily on reducing risk in communities through 5 specific strategies: Education, Engineering, Enforcement, Economic Incentives, and Emergency Response (as focused with this document). NFPA 1300 defines Community Risk Reduction as “a process to identify and prioritize local risks, followed by the integrated and strategic investment of resources to reduce their occurrence and impact.” The overall goal being to identify current community risks, or incident trends, and proactively work within the appropriate 5 strategies to reduce those risks or control those incident trends for the good of the community. The effective use of CRR requires a combined effort between the fire department and the community. Within the fire department, the CRR concept must become part of the organizational culture, coordinated and shared between fire administration, fire prevention/education, fire suppression, and emergency management/preparation.

Current CRR efforts in Hanford are limited to new construction review, an attempt to identify and complete state mandated inspections, fire cause investigation, limited fire education programs, and Cardio-Pulmonary Resuscitation (CPR) classes.

Station and Apparatus Deployment

The Insurance Services Office (ISO), is an organization which evaluates fire departments and their ability to suppress building fires. Categories such as fire station location, apparatus, staffing, training, water supply, emergency communications, and community risk reduction efforts are evaluated. A resulting rating number from 1 to 10 is issued, with 10 indicating virtually no fire suppression ability and a 1 indicating excellent fire suppression ability. These ratings are then utilized by the insurance industry to assist in setting rates for customers. Generally speaking, the higher the rating number, the higher the premiums, and the lower the number, the lower the premiums. Currently, the ISO rating for the City of Hanford is 2.

ISO recommends that in an urban/suburban area of response, a building be no further than 1 1/2 miles from an engine company and 2 1/2 miles from a truck company (Truck company required for 5 buildings of 3 floors or higher, and/or large buildings needing fire flow over 3,500 gallons per minute. Both exist in Hanford). Additionally, an engine company should not cover more than 9 square miles, and a truck company more than 25 square miles.

Station 1 is 2.3 miles from Station 3 with State Route 198 separating them, and 3.4 miles from Station 2. Stations 2 and 3 are 1.8 miles apart, with Kings County Stations 4 and 5 to the East and the West respectively, and within 4 minutes travel time. Additionally, Kings County Station 2 is located to the North, however, with current roadway infrastructure it is well beyond the 4 minute travel time to the City. While the quint is not counted as a full engine or truck company by the ISO, it does serve as an aerial device within the city limits of approximately 17 square miles, which is within ISO standards. None of the 3 Hanford stations cover more than 9 square miles.

NFPA 1710 states that a minimum of 4 personnel should staff an engine or a truck company. Documented studies https://www.nist.gov/system/files/documents/el/fire_research/Report-on-Residential-Fireground-Field-Experiments.pdf

demonstrating the improved efficiency of increased company staffing are published. Presently, HFD engine and quint companies are each staffed with 3 personnel.

Workload and System Reliability

Total Responses			
	2018	2019	2020
Station 1	4,934	4,025	3,375
Station 2	1,446	1,104	907
Station 3	N/A	1,441	2,092

Determining how busy fire units are is important for establishing their availability for the next call and because it provides insight on how much capacity various units have to handle more work, or whether additional units are needed. This is a critical part of a system's overall reliability. The first factor to determine

is the unit demand, or call volume. General guidelines for demand are:

- Very Low (Less than 500 responses per year)
- Low (500-999 responses per year)
- Moderate (1,000-1,999 responses per year)
- High (2,000-2,999 responses per year)
- **Very High** (3,000-3,999 responses per year)
- **Extremely High** (more than 4,000 responses per year)

The benchmark for consideration of additional units in a response area is 3,000 responses per year.

Unit Hour Utilization			
	2018	2019	2020
Station 1	29%	16%	22%
Station 2	8.6%	4.3%	6%
Station 3	N/A	5.7%	13%

The second factor in determining workloads is the Unit Hour Utilization (UHU). The UHU is a calculation that estimates the amount of time a unit is occupied on emergency calls as a percentage of the total amount of hours a unit is staffed and available for response. The specific formula used to calculate the UHU is:

$$\text{UHU}\% = \frac{\text{number of responses per year} \times \text{average call duration in hours}}{8,760 \text{ hours per year}}$$

The generally accepted UHU numbers should be between 5 and 15 percent. Which means the unit will be unavailable for calls between 5-15 percent of the time, and available for calls between 95 and 85 percent of the time. An UHU number higher than 15 is an indicator of a fire unit that may be too busy, and lowers the overall system reliability.

Outside Resource Called In			
	2018	2019	2020
Station 1	U/A	U/A	U/A
Station 2	U/A	U/A	U/A
Station 3	N/A	U/A	U/A

A third indicator as to the system reliability is determining what percentage of time an outside resource (a fire unit other than the first due), was called in to address an emergency because the regularly assigned unit was not available. It is important to clarify that a fire unit not being available for

a response doesn't necessarily mean it is occupied on an emergency call. While most of the time this would be the case, there are times the unit may be unavailable due to a mechanical issue, a training session, or at the hospital; restocking or picking up a firefighter that assisted the ambulance for a critical medical call.

Fire Loss vs. Fire Saved			
	2018	2019	2020
Property Value	U/A	\$22,001,146	\$69,618,692
Fire Loss	U/A	\$4,029, 981	\$1,830,538
Fire Saved	U/A	\$17,971,165	\$67,788,154

A fourth, and more subjective indicator as to the reliability of the system, are the annual fire loss vs. fire save dollar amounts. Reviewed on an annual basis, and compared to other more objective indicators, this information can be utilized

to evaluate the overall system effectiveness from year to year. This is especially valuable when reducing or adding personnel and apparatus to the fire delivery platform.

Evaluation of Current Deployment and Performance

Hazard Specific Risk Levels

Opportunity for Improvement #1: *Expand the current HFD Response Matrix to more accurately distinguish between the different hazard/risk levels in this report.*

The HFD Response Matrix is basic. It is not comprehensive enough to differentiate between the varied Risk levels of each specific Hazard. Comparing and aligning that information with the Hazard/Risk information in this report will create a more effective matrix, resulting in a more accurate matching of hazard/risk levels with the appropriate Effective Response Force.

Specifically, Structure Fire hazard types are not evaluated for the various risk levels. For example, structures are not differentiated in the Response Matrix between Low, Moderate, High, and Maximum. This means that a High Risk structure fire dispatch will receive an ERF equal to that of a Moderate Risk structure fire.

Opportunity for Improvement #2: *Maintain and expand the current Target Hazard program for all hazard types listed in this report, and integrate into the HFD Response Matrix. Additionally, improve the present Target Hazard pre-planning program for shift personnel.*

There is a limited Target Hazard program within the HFD, including a robust inventory. By expanding this program, and also applying the obtained knowledge to the Response Matrix, a higher percentage of adequate ERF's will be dispatched to each Target Hazard incident. Most importantly, this will ensure that responding personnel have as much information as possible regarding the emergency. By utilizing a collaborative effort between fire suppression companies, fire prevention personnel, and City of Hanford building officials, an even more robust Target Hazard system can be created and utilized, resulting in a more comprehensive community risk assessment

and response plan. The lack of pre-planning Target Hazards by suppression companies resulted in loss of points during the latest ISO evaluation (See *Appendix H*).

Performance Measures

Opportunity for Improvement #3: *Establish “Call Answering” and “Call Processing” performance measures and review monthly.*

“Call Answering” and “Call Processing” performance measures do not exist and therefore are not monitored, reviewed, or acted upon. This issue negatively impacted the latest ISO evaluation (See *Appendix H*). Examples:

“95% of emergency calls will be answered within 15 seconds”

“90% of all emergency calls will be processed and dispatched within 64 seconds”

Performance measures should be evaluated at regular monthly intervals.

Opportunity for Improvement #4: *Conduct “Turnout Time” trials to determine standards that are realistic to local conditions.*

Current “Turnout Time” percentages are well below the 90% goal. While 60 and 80 seconds respectively are the NFPA standards, the time should reflect local conditions such as station layout. Additionally, promptness must be balanced with safety. Conducting time trials to determine what is adequate for local conditions will assist in creating HFD turnout standards that are not only realistic, but enforceable.

Opportunity for Improvement #5: *Establish “First Unit Total Response Time” performance measures for EMS and Fire incidents, and review monthly.*

A “First Unit EMS Total Response Time” or “First Unit Fire Total Response Time” performance measure does not exist. The content of such should include the Call Answering, Call Processing, Turnout, and Travel time standards. Examples:

“The Total Response Time for the First Arriving Unit at an EMS Incident should be 6 minutes and 19 seconds or less, with 90% dependability.”

“The Total Response Time for the First Arriving Unit at a Fire Incident should be 6 minutes and 29 seconds or less, with 90% dependability.”

The performance measure for Call Answering, Call Processing, Turnout Time, and Travel Time should be broken down under the “Total Response Time” standard to allow fire management to evaluate potential problem areas. This evaluation should take place at regular monthly intervals.

Opportunity for Improvement #6: *Establish an “Effective Response Force Total Response Time” performance measure, and review monthly.*

An “Effective Response Force Total Response Time” performance measure does not exist. Example:

“The Total Response Time for an Effective Response Force at an incident should be 10 minutes and 39 seconds or less, with 90% dependability”

The difference in the first arriving unit standard and the Effective Response Force standard is the 4 additional minutes “Travel Time” for the balance of the ERF to arrive on scene, per NFPA 1710.

The performance measures for Call Answering, Call Processing, Turnout Time, and Travel Time should be broken down under the “Total Response Time” standard to allow fire management to evaluate potential problem areas. This evaluation should take place at regular monthly intervals.

Critical Tasking and Effective Response Forces

Opportunity for Improvement #7: *Evaluate through exercise, the generic Critical Tasking numbers in this report for adequacy to HFD needs.*

The Critical Tasking charts provided in this report are generic and based upon industry standards and best practices. However, they have not been verified as to their relevancy to the HFD. Critical Tasking exercises should be conducted by every fire department to determine what specific personnel numbers are required for each specific need. Once HFD Critical Tasking numbers are determined, they should be compared to the Response Matrix for each hazard and risk level to ensure compliance and consistency. For example, as previously mentioned, it is clear at this time that the Response Matrix is not adequate for High Risk Structure Fire incidents. By verifying Critical Tasking numbers and matching them to the Response Matrix, the ERF dispatched will meet the risk level of the hazard.

Community Risk Reduction

Opportunity for Improvement #8: *Assemble a working group of stakeholders to evaluate the CRR concept based upon NFPA 1300 Standard, explore ways to overcome fiscal constraints, and coordinate and expand its limited use in the HFD.*

Opportunity for Improvement #9: *Establish a mission statement for the present Fire Prevention Division, reflecting what is to be delivered on a daily basis, in accordance with the community risk reduction concept. Additionally, establish a vision statement, creating a goal of where these efforts should ultimately lead.*

Opportunity for Improvement #10: *Evaluate and update for approval, a current and comprehensive fee schedule for fire prevention (CRR) services to ensure maximum allowable cost recovery. The goal, being to increase staffing and expand efforts toward improved community risk reduction.*

Opportunity for Improvement #11: *Conduct a cost/benefit analysis and position justification evaluation in an effort to determine the number of additional personnel needed in the Fire Prevention Division. This should be based upon the ability to establish a productive community risk reduction program.*

Opportunity for Improvement #12: *Begin dialogue with Kings County OES to collaboratively improve the communication, cooperation, and bolstering of both City and County Emergency Management programs.*

There is a need to greatly expand the CRR efforts in Hanford due to minimal legacy related attention. Under current leadership there is a desire to move in this proactive direction, however, with a limited fire prevention budget and resulting minimal staff, simply establishing a basic inspection program has been a challenge. Staff is largely concentrating on state mandated inspections, (apartments, schools, hotels/motels, etc.). Even so, state mandated fire inspections are not all being completed, or even accurately inventoried at this time. This includes buildings with sprinklers, fire alarms, and hood systems. Additionally, only a small number of annual business inspections are being conducted, including hazardous material permitted occupancies. New construction plan reviews and approvals are coordinated between the building and fire departments and a third party contractor.

Public fire and life safety education efforts include school programs presented by on-duty fire companies, public CPR classes, weekly street faire booths, and station tours.

There does not appear to be a collaborative effort between Kings County OES and the HFD in the areas of emergency management, disaster preparation/training of entity personnel, or community disaster education. This is a significant CRR issue, considering that the bulk of the county population is based in the City of Hanford, as well as the City and County local governments and related infrastructure.

Tracking, identifying, and acting upon negative community trends is not presently occurring. For example, noticing an increase in cooking fires, chimney fires, incendiary fires, drownings or other medical emergencies, and then taking positive steps to prevent those occurrences within the strategies of CRR. These efforts are paramount to embracing the CRR concept, and will result in a safer community.

There does appear to be the basis of a Target Hazard program. These structures have been identified within the city, resulting in what appears to be a thorough inventory.

This inventory includes, but is not limited to, Pre-1933 unreinforced masonry buildings, which present a significant collapse hazard to emergency personnel and citizens under fire conditions and during an earthquake. Additionally, a new follow up practice is being initiated which assigns on-duty fire companies to review and preplan these hazardous buildings on a rotating basis.

Station and Apparatus Deployment

Opportunity for Improvement #13: *Work collaboratively with City of Hanford to increase staffing on Engines 41, Truck 42, and Engine 43 to a level of 4 each, and maintain this level as minimum staffing for future units.*

The City of Hanford has an ISO rating of 2 (See Appendix H). This is a respectable number, however it does leave considerable room for improvement. In the most recent evaluation (See Appendix H), the majority of points were lost due to low daily staffing. This issue is also directly related to the inability to assemble an Effective Response Force within the NFPA 1710 Standard of 8 minutes travel time. Staffing each company with a minimum of 4 personnel increases the amount of firefighters arriving on scene in the initial minutes of the emergency. Increasing these numbers also reduces the amount of companies that must be ultimately dispatched to meet the standard, which leaves more companies available for subsequent incidents. Additionally, increasing the minimum staffing levels to 4, greatly increases the efficiency of each company.

The latest update of the City of Hanford General Plan acknowledges these standards:

“NFPA 1710 is a standard concerning engine and ladder company crew size to respond with the appropriate number of firefighters in the minimum amount of time to fires and medical emergencies. The standard calls for 4 firefighters to arrive at a fire scene within 5 minutes, 90% of the time. The 5-minute standard includes 1 minute to get into turnout gear. The standard also calls for 14 or 15 people to arrive at a “Full Alarm Assignment” within 9 minutes, 90% of the time. The 9-minute standard includes 1 minute to get into turnout gear. Currently the Hanford Fire Department can put a maximum of 7 firefighters on an emergency incident at any given time.”

Opportunity for Improvement #14: *Work collaboratively with City of Hanford to create shift battalion chief positions, in the effort to meet the NFPA 1710 standard on Effective Response Force.*

To meet the NFPA 1710 standard, in regard to an Effective Response Force, a command officer must arrive within the 8 minute travel time. Presently, the HFD does not have shift battalion chief positions. As a result, a command officer must respond from administrative duties or from home. This is not a guaranteed response and can and has resulted in delays or the absence of a command officer arriving on scene.

Opportunity for Improvement #15: *Work collaboratively with City of Hanford to begin master planning an additional fire station and engine company in the general area of 13th Ave. and Grangeville Blvd.*

Opportunity for Improvement #16: *Work collaboratively with City of Hanford to begin master planning an additional fire station and engine company in the general area of 9th Ave. and Lacey Blvd.*

Opportunity for Improvement #17: *Work collaboratively with City of Hanford to forecast and master plan the probable need to relocate Fire Station 1 east and north of its present location, in the general area of 10th Ave. and E. Fargo Ave.*

Opportunity for Improvement #18: *Work collaboratively with City of Hanford to implement the above opportunities for improvement. Successful completion of these items will result in an ERF of 16 arriving within the 8 minute travel time standard, meeting Low and Moderate Critical Task standards for structure fire hazards, and leaving one engine company available for subsequent calls for service, all without the use of automatic aid.*

ISO states that in an urban/suburban environment, engine companies should be no further than 1 1/2 miles from the furthest building. This logically translates that engine companies should be no further than 3 miles apart. ISO also states that truck companies should be no further than 2 1/2 miles from the furthest building, or 5 miles

from each other. The current 3 stations and engine and truck placement generally meet this standard. However, there are current and future issues when the NFPA 1710 4 minute travel time standard is applied. Currently, areas in the Southeast, the Northwest, and the North are beyond the 4 minute time standard. Times are extended even more when the sphere of influence proposed city limits are laid over the current city limits.

To improve travel times within the current city limits, as well as meet the travel time standard in the proposed city limits (City of Hanford General Plan), two additional stations and one current station relocation are needed.

Opportunity for Improvement #19: *Work collaboratively with City of Hanford to implement the above opportunities for improvement, in the effort to increase the firefighter to population ratio to 1 per 1000. It is important to note that whether the above opportunities for improvement are carried out specifically as recommended, or in some other manner, the significance of this gap between what currently exists and industry standards and best practices - cannot be overstated. Increasing the fire department daily staffing is the most critical need facing the Hanford Fire Department.*

The generally accepted industry standard ratio of career firefighters to an entity's population is 1 firefighter for every 1,000 citizens. In 2013, when the current City of Hanford General Plan was updated, that ratio was at .49 firefighters per 1000 citizens. While firefighters have been added since 2013, the population has also increased. As a result, that ratio continues to be generally accurate.

The current City of Hanford General Plan states, in part:

"Fire and Rescue Personnel. The following guidelines are identified in the International City/County Management Association (ICMA) Yearbook (2011). ICMA identifies leading practices to address the needs of local governments and professionals serving communities globally. The Yearbook recommends 1.02 firefighters per 1,000 population. With that recommendation, the Hanford fire department would have 55 fire suppression personnel. Currently, the department has 27 fire suppression personnel, which is a ratio of .49 firefighters per 1,000 population."

“The national average is 1.3 per 1,000 and the statewide average is .92/1,000. The neighboring city of Tulare currently staffs .70 firefighters per 1,000.”

Workload and System Reliability

The current HFD Workload and System Reliability evaluation consists of annual response numbers and UHU percentages for each engine and truck. Presently, accurate data on outside resources being dispatched into a primary unit's area is not available. Utilizing two of the three evaluation tools, the following observations can be made:

1. Engine 41 has surpassed the 3,000 call benchmark to consider adding a second unit.
2. Engine 41 is over the desired 15% maximum Unit Hour Utilization benchmark.

Note: Adhering to the Opportunities for Improvement in this report should remedy the Workload and System Reliability observations listed above. Other options include, but are not limited to: 1) Ensure appropriate 911 call triaging is as efficient as possible to reduce unnecessary dispatches, and/or 2) Add a squad or second company to Station 1.

Plan for Maintaining and Improving Response and Risk Reduction Capabilities

The goal of establishing, maintaining, reviewing, and improving this Community Risk Assessment/Standards of Response Coverage document is based upon the concept of continual improvement. By clarifying the baseline performance of the organization, then comparing it to established industry standards and best practice benchmarks, gaps in performance become evident, as well as the need to think strategically, and develop plans to overcome them. This is the easy part of the process.

The difficult part of the process includes maintaining continual focus on the benchmarks, improving data input as well as creating, reviewing, and interpreting useful status output reports, adjusting strategic action plans as necessary, and most importantly, holding each other accountable for our responsibilities within the process.

The Hanford Fire Department, as an organization, commits to utilizing, maintaining, expanding, and annually updating this document as a useful tool in the continual process of organizational strategic planning, in the pursuit of attaining the stated vision.

Correlation of CRA-SORC Document to Accreditation Model

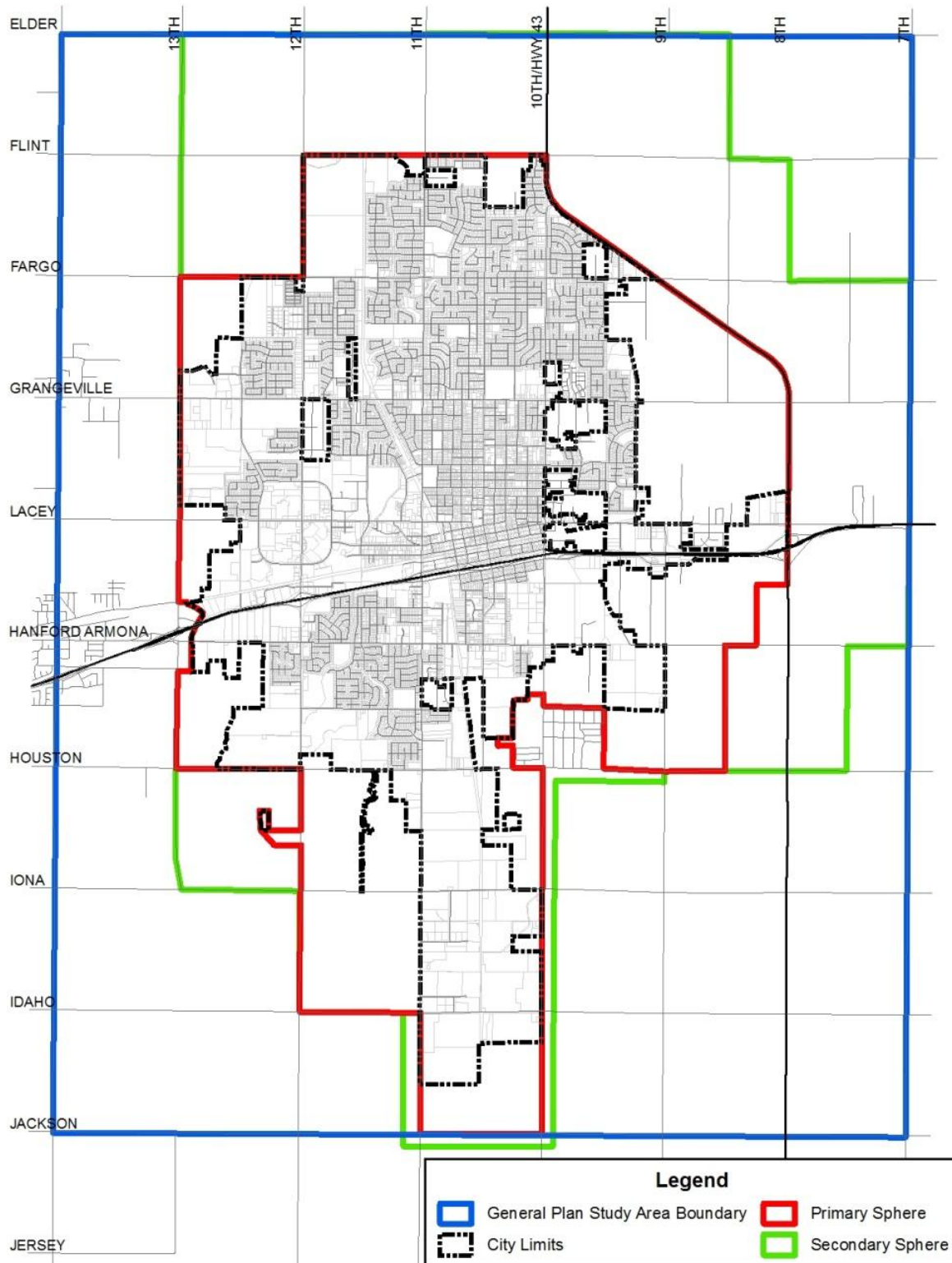
It is the goal of the Hanford Fire Department to, at some point, become an accredited agency under the Commission on Fire Accreditation International (CFAI). The creation of this Community Risk Assessment/Standards of Response Coverage document is a core competency requirement of this process. The Department understands that the organization cannot be considered for evaluation by the CFAI until at minimum, 3 years of response data are established, and all other core competency requirements listed in the Center for Public Safety Excellence (CPSE), Fire and Emergency Service Self-Assessment Manual are completed.

The HFD also understands that this document is an industry best practice and should be fully utilized to continually improve service to the citizens, irrelevant of the attainment of Fire Accreditation.

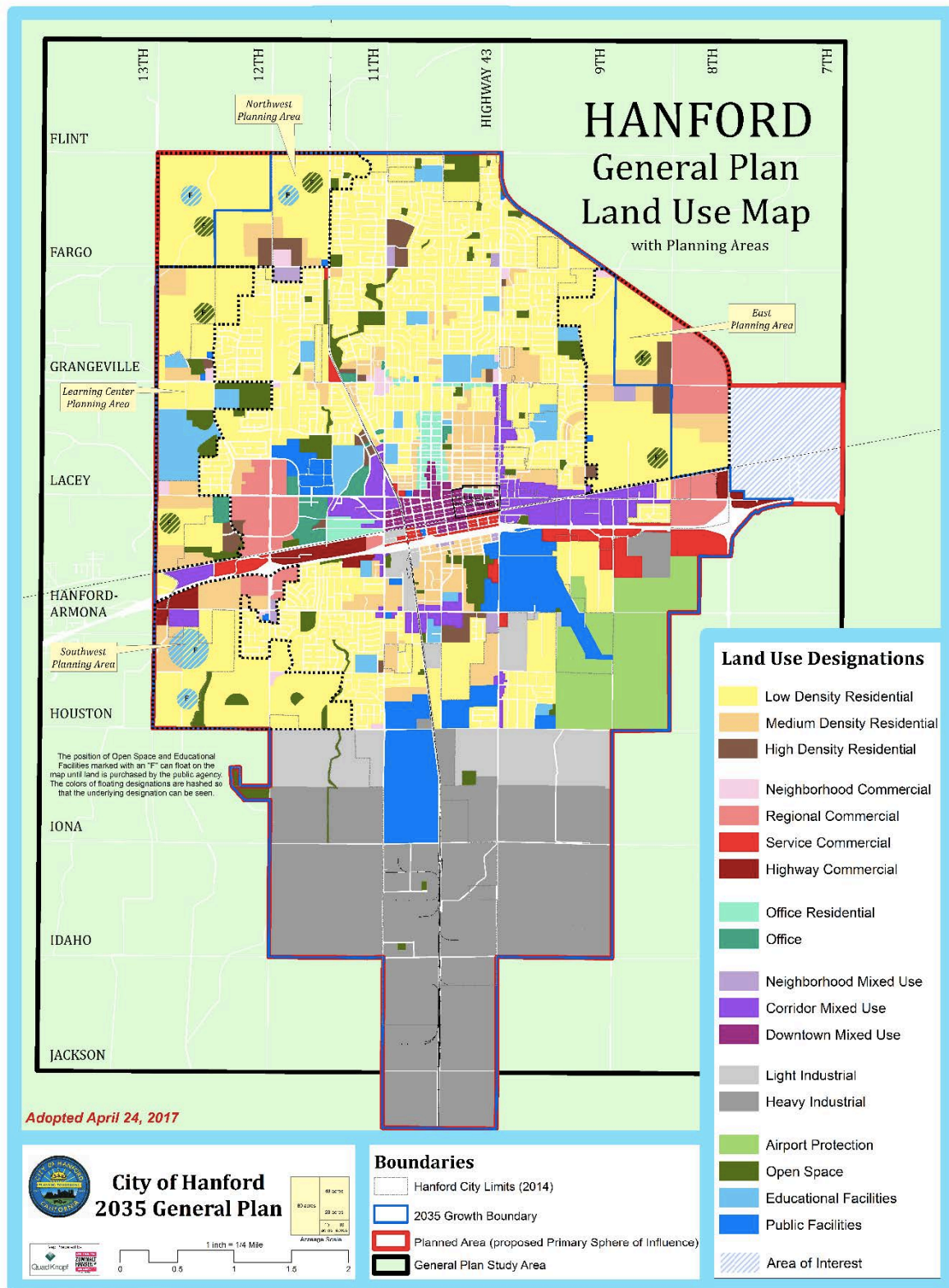
Appendices

Appendix A

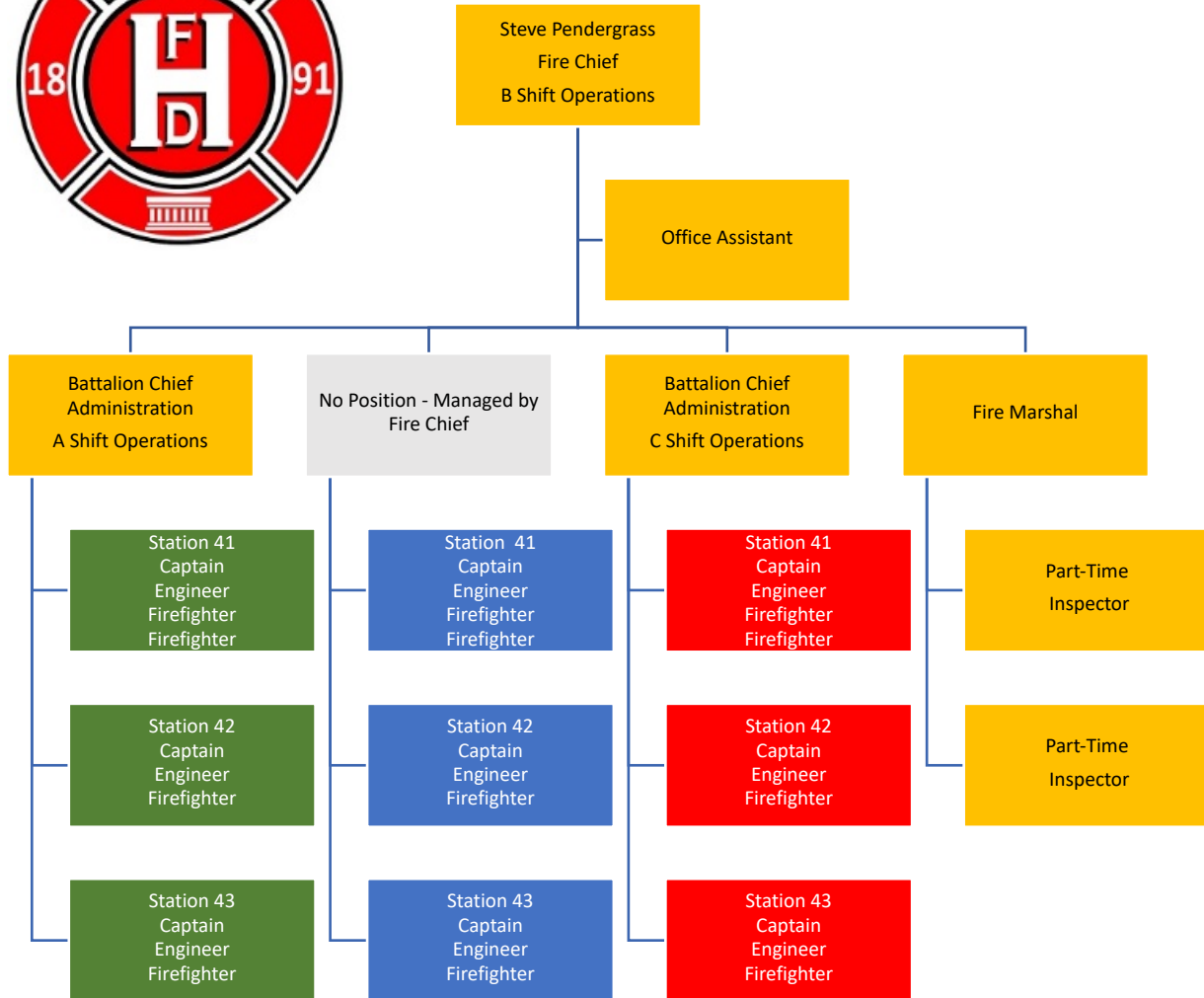
Planning Area, SOI & City Limits



Appendix B Land Use Map



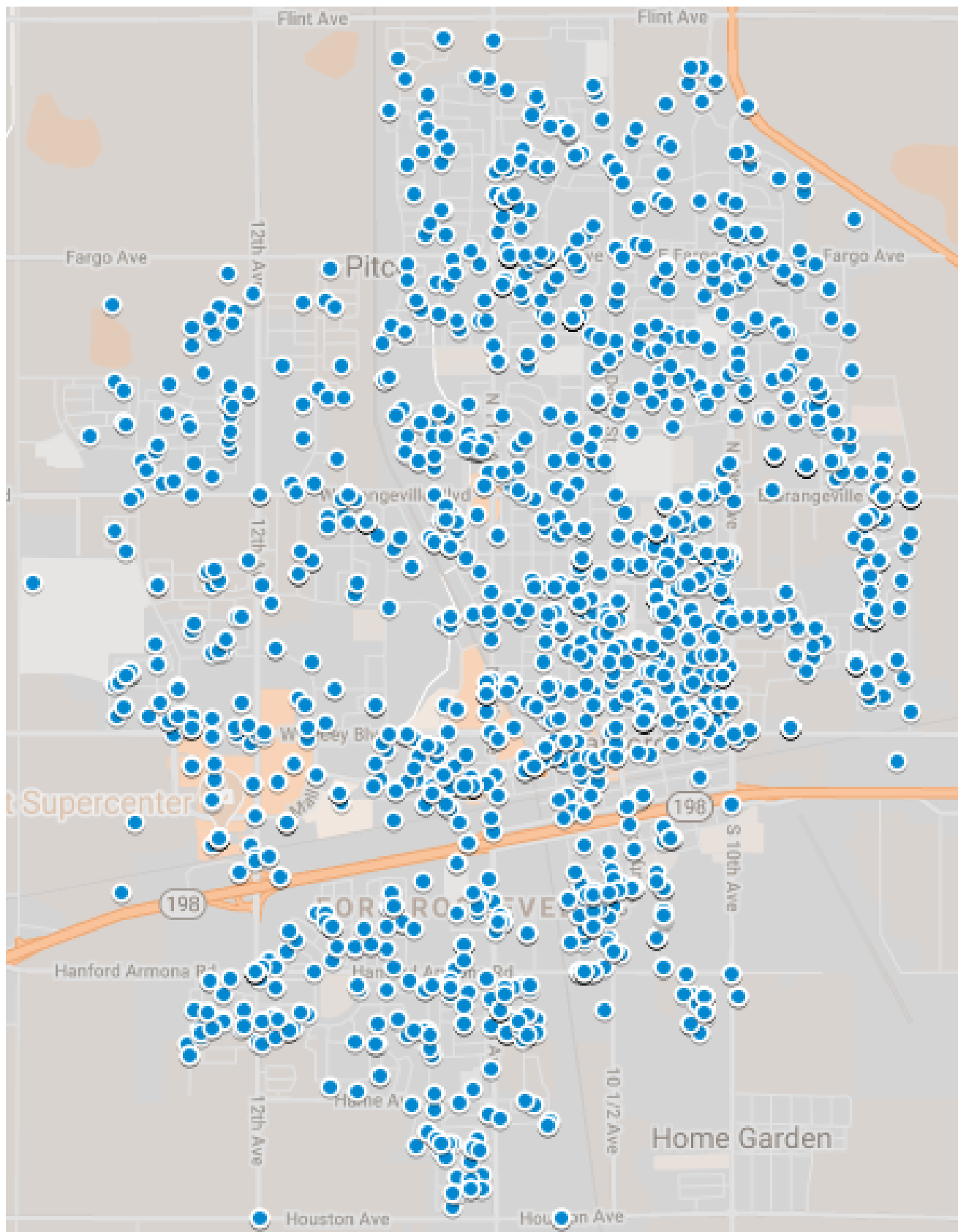
Appendix C



40 Hour Administrative Schedule
56 Hour Schedule "A" Shift
56 Hour Schedule "B" Shift
56 Hour Schedule "C" Shift

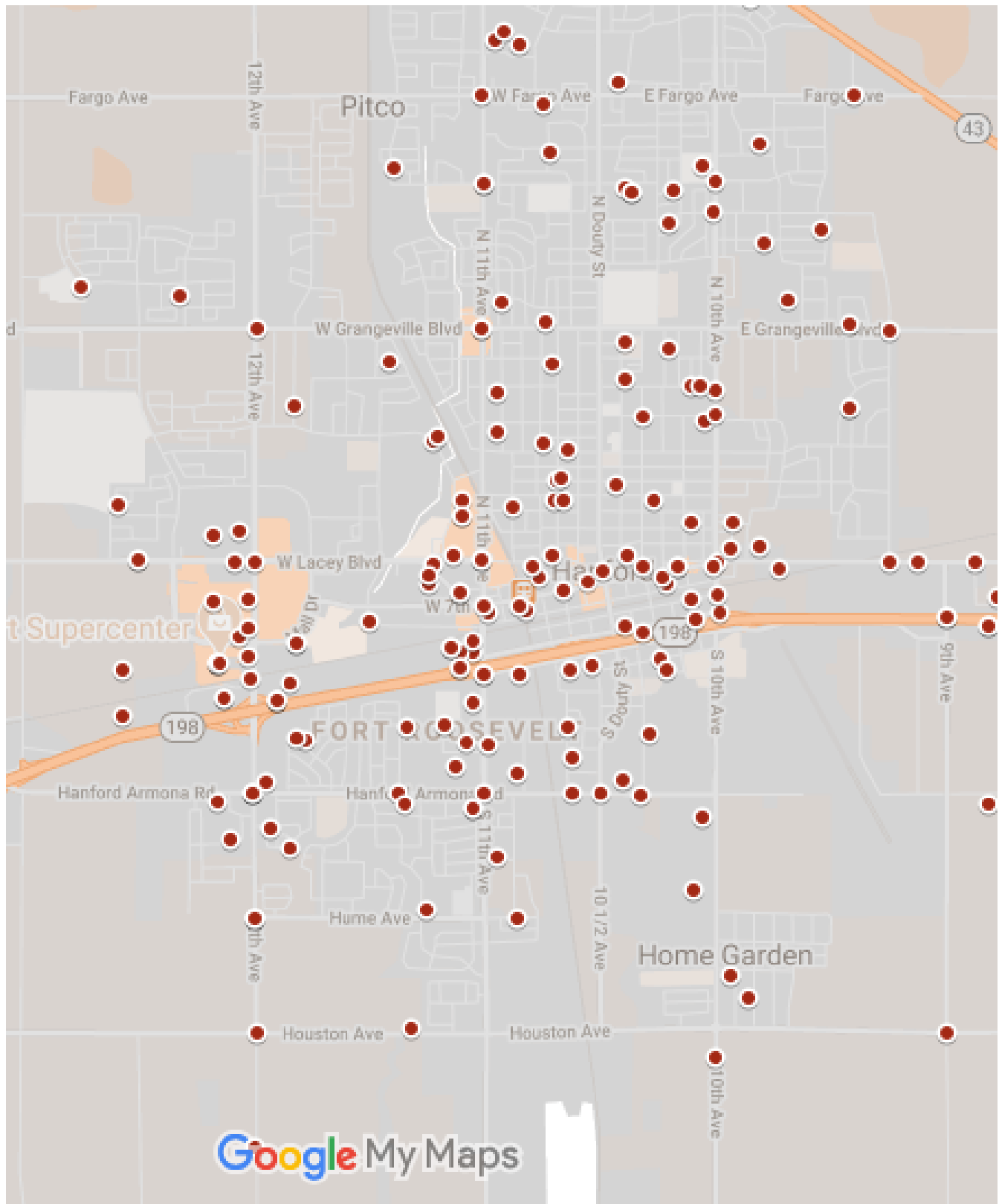
HANFORD FIRE DEPARTMENT - 2020 EMS

Reflects all EMS types; medical response, traffic accident with injury, rescue, etc.



HANFORD FIRE DEPARTMENT - 2020 FIRES

Reflects all fire types; structure, vehicle, vegetation, other



TARGET HAZARD

Name :	Hazard :
Adventist Medical Center	Life Construction
Kings County Courthouse	Life, Construction
Sierra Pacific High School	Life
College of the Sequoias	Life
Frontier Elementary School	Life
Pioneer Elementary School	Life
Edgewater Isle Apartments	Life
River Oaks Apartments	Life
Washington Elementary School	Life
11 th at Fargo Condos	Life
Cortner Square Apartments	Life
Monroe Elementary School	Life
Simas Elementary School	Life
55+ Mobile Home Park	Life
Cedarbrook Apartments	Life
Hanford High School	Life
Sierra Vista Mobile Home Park	Life
Hanford del Arroyo Mobile home Park	Life
Hamilton Elementary School	Life
Lee Richmond Elementary School Life	Life
Shelly Baird School	Life
JFK Middle School	Life
Kings Garden Apartments	Life
EFJ High school	Life
Central Valley General	Life, construction
St.Rose McCarthy School	Life
Redington at Florinda Apartments	Life
Woodrow Wilson Middle School	Life
Shilo Apartments	Life
Greenfield Condos	Life
Apartments on Greenfield	Life
Casa del Rio Apartments	Life

TARGET HAZARD

Outrigger Apartments	Life
Normandy Apartments	Life
Kerr outpatient surgery center	Life, construction
Hanford West High School	Life
Kings County Jail	Life, construction
Centennial Place Apartments	Life
Heritage Park Retirement	Life
Four season mobile home park	Life
Opera House	Life, construction
Vendome	Life, construction
Carnegie Building	Construction
Bastille	Construction
Original courthouse	Construction
Marquez Brothers	Hazmat
Amberwood Apartment complex	Life
Bel Air Mobile home park	Life
Casa del sol apartments complex	Life
Diamond Terrace Retirement	Life
Hacienda Healthcare Assisted Living	Life
Windgate Apartments Complex	Life
Terra Vista Apartment Complex	Life
Hanford Apartments	Life
Martin Luther King Elementary	Life
Hanford Mall	Life
Hanford Post-Acute Assisted Living	Life
Jordan Way Apartment Complex	Life
Jana Way and Emma lee Apartments	Life
Kings Nursing and Rehab Assisted Living	Life
Lacey West Apartments Complex	Life
Leslie Lane Apartments Complex	Life
Lincoln plaza Apartments complex	Life
Lincoln elementary school	Life
Redwood Apartments complex	Life

TARGET HAZARD

Sequoia Inn hotel	Life, construction
Home2Suites Hotel	Life, construction
View road Apartments complex	Life
Verdegaal Brothers	Hazmat
Tessengerlo Kerley Inc.	Hazmat
Walmart Distribution Center	Hazmat
Nitrogen Ag Solution	Hazmat
Simplot	Hazmat
Wastewater Treatment	Hazmat
Faraday Futures Electric Cars	Construction, Hazmat
BNSF Railroad	Hazmat
Artesian Building	Construction



QK Sources: ERSI Drive Time Analysis
ESRI Source: Esri, Maxar, GeoEye

**Public Protection Classification
(PPC™)
Summary Report**

Hanford

California (N)

Prepared by

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May 2016

Background Information

Introduction

ISO collects and evaluates information from communities in the United States on their structure fire suppression capabilities. The data is analyzed using our Fire Suppression Rating Schedule (FSRS) and then a Public Protection Classification (PPC™) grade is assigned to the community. The surveys are conducted whenever it appears that there is a possibility of a PPC change. As such, the PPC program provides important, up-to-date information about fire protection services throughout the country.

The FSRS recognizes fire protection features only as they relate to suppression of first alarm structure fires. In many communities, fire suppression may be only a small part of the fire department's overall responsibility. ISO recognizes the dynamic and comprehensive duties of a community's fire service, and understands the complex decisions a community must make in planning and delivering emergency services. However, in developing a community's PPC grade, only features related to reducing property losses from structural fires are evaluated. Multiple alarms, simultaneous incidents and life safety are not considered in this evaluation. The PPC program evaluates the fire protection for small to average size buildings. Specific properties with a Needed Fire Flow in excess of 3,500 gpm are evaluated separately and assigned an individual PPC grade.

A community's investment in fire mitigation is a proven and reliable predictor of future fire losses. Statistical data on insurance losses bears out the relationship between excellent fire protection – as measured by the PPC program – and low fire losses. So, insurance companies use PPC information for marketing, underwriting, and to help establish fair premiums for homeowners and commercial fire insurance. In general, the price of fire insurance in a community with a good PPC grade is substantially lower than in a community with a poor PPC grade, assuming all other factors are equal.

ISO is an independent company that serves insurance companies, communities, fire departments, insurance regulators, and others by providing information about risk. ISO's expert staff collects information about municipal fire suppression efforts in communities throughout the United States. In each of those communities, ISO analyzes the relevant data and assigns a PPC grade – a number from 1 to 10. Class 1 represents an exemplary fire suppression program, and Class 10 indicates that the area's fire suppression program does not meet ISO's minimum criteria.

ISO's PPC program evaluates communities according to a uniform set of criteria, incorporating nationally recognized standards developed by the National Fire Protection Association and the American Water Works Association. A community's PPC grade depends on:

- **Needed Fire Flows**, which are representative building locations used to determine the theoretical amount of water necessary for fire suppression purposes.
- **Emergency Communications**, including emergency reporting, telecommunicators, and dispatching systems.
- **Fire Department**, including equipment, staffing, training, geographic distribution of fire companies, operational considerations, and community risk reduction.
- **Water Supply**, including inspection and flow testing of hydrants, alternative water supply operations, and a careful evaluation of the amount of available water compared with the amount needed to suppress fires up to 3,500 gpm.

Data Collection and Analysis

ISO has evaluated and classified over 48,000 fire protection areas across the United States using its FSRS. A combination of meetings between trained ISO field representatives and the dispatch center coordinator, community fire official, and water superintendent is used in conjunction with a comprehensive questionnaire to collect the data necessary to determine the PPC grade. In order for a community to obtain a grade better than a Class 9, three elements of fire suppression features are reviewed. These three elements are Emergency Communications, Fire Department, and Water Supply.

A review of the **Emergency Communications** accounts for 10% of the total classification. This section is weighted at **10 points**, as follows:

- Emergency Reporting 3 points
- Telecommunicators 4 points
- Dispatch Circuits 3 points

A review of the **Fire Department** accounts for 50% of the total classification. ISO focuses on a fire department's first alarm response and initial attack to minimize potential loss. The fire department section is weighted at **50 points**, as follows:

- Engine Companies 6 points
- Reserve Pumpers 0.5 points
- Pump Capacity 3 points
- Ladder/Service Companies 4 points
- Reserve Ladder/Service Trucks 0.5 points
- Deployment Analysis 10 points
- Company Personnel 15 points
- Training 9 points
- Operational considerations 2 points
- Community Risk Reduction 5.5 points (in addition to the 50 points above)

A review of the **Water Supply** system accounts for 40% of the total classification. ISO reviews the water supply a community uses to determine the adequacy for fire suppression purposes. The water supply system is weighted at **40 points**, as follows:

- Credit for Supply System 30 points
- Hydrant Size, Type & Installation 3 points
- Inspection & Flow Testing of Hydrants 7 points

There is one additional factor considered in calculating the final score – **Divergence**.

Even the best fire department will be less than fully effective if it has an inadequate water supply. Similarly, even a superior water supply will be less than fully effective if the fire department lacks the equipment or personnel to use the water. The FSRs score is subject to modification by a divergence factor, which recognizes disparity between the effectiveness of the fire department and the water supply.

The Divergence factor mathematically reduces the score based upon the relative difference between the fire department and water supply scores. The factor is introduced in the final equation.

PPC Grade

The PPC grade assigned to the community will depend on the community's score on a 100-point scale:

PPC	Points
1	90.00 or more
2	80.00 to 89.99
3	70.00 to 79.99
4	60.00 to 69.99
5	50.00 to 59.99
6	40.00 to 49.99
7	30.00 to 39.99
8	20.00 to 29.99
9	10.00 to 19.99
10	0.00 to 9.99

The classification numbers are interpreted as follows:

- Class 1 through (and including) Class 8 represents a fire suppression system that includes an FSRs creditable dispatch center, fire department, and water supply.
- Class 8B is a special classification that recognizes a superior level of fire protection in otherwise Class 9 areas. It is designed to represent a fire protection delivery system that is superior except for a lack of a water supply system capable of the minimum FSRs fire flow criteria of 250 gpm for 2 hours.
- Class 9 is a fire suppression system that includes a creditable dispatch center, fire department but no FSRs creditable water supply.
- Class 10 does not meet minimum FSRs criteria for recognition, including areas that are beyond five road miles of a recognized fire station.

New PPC program changes effective July 1, 2014

We have revised the PPC program to capture the effects of enhanced fire protection capabilities that reduce fire loss and fire severity in Split Class 9 and Split Class 8B areas (as outlined below). This new structure benefits the fire service, community, and property owner.

New classifications

Through ongoing research and loss experience analysis, we identified additional differentiation in fire loss experience within our PPC program, which resulted in the revised classifications. We based the differing fire loss experience on the fire suppression capabilities of each community. The new PPC classes will improve the predictive value for insurers while benefiting both commercial and residential property owners. Here are the new classifications and what they mean.

Split classifications

When we develop a split classification for a community — for example 5/9 — the first number is the class that applies to properties within 5 road miles of the responding fire station and 1,000 feet of a creditable water supply, such as a fire hydrant, suction point, or dry hydrant. The second number is the class that applies to properties within 5 road miles of a fire station but beyond 1,000 feet of a creditable water supply. We have revised the classification to reflect more precisely the risk of loss in a community, replacing Class 9 and 8B in the second part of a split classification with revised designations.

What's changed with the new classifications?

We've published the new classifications as "X" and "Y" — formerly the "9" and "8B" portion of the split classification, respectively. For example:

- A community currently displayed as a split 6/9 classification will now be a split 6/6X classification; with the "6X" denoting what was formerly classified as "9".
- Similarly, a community currently graded as a split 6/8B classification will now be a split 6/6Y classification, the "6Y" denoting what was formerly classified as "8B".
- Communities graded with single "9" or "8B" classifications will remain intact.

Prior Classification	New Classification
1/9	1/1X
2/9	2/2X
3/9	3/3X
4/9	4/4X
5/9	5/5X
6/9	6/6X
7/9	7/7X
8/9	8/8X
9	9

Prior Classification	New Classification
1/8B	1/1Y
2/8B	2/2Y
3/8B	3/3Y
4/8B	4/4Y
5/8B	5/5Y
6/8B	6/6Y
7/8B	7/7Y
8/8B	8/8Y
8B	8B

What's changed?

As you can see, we're still maintaining split classes, but it's how we represent them to insurers that's changed. The new designations reflect a reduction in fire severity and loss and have the potential to reduce property insurance premiums.

Benefits of the revised split class designations

- To the fire service, the revised designations identify enhanced fire suppression capabilities used throughout the fire protection area
- To the community, the new classes reward a community's fire suppression efforts by showing a more reflective designation
- To the individual property owner, the revisions offer the potential for decreased property insurance premiums

New water class

Our data also shows that risks located more than 5 but less than 7 road miles from a responding fire station with a creditable water source within 1,000 feet had better loss experience than those farther than 5 road miles from a responding fire station with no creditable water source. We've introduced a new classification —10W— to recognize the reduced loss potential of such properties.

What's changed with Class 10W?

Class 10W is property-specific. Not all properties in the 5-to-7-mile area around the responding fire station will qualify. The difference between Class 10 and 10W is that the 10W-graded risk or property is within 1,000 feet of a creditable water supply. Creditable water supplies include fire protection systems using hauled water in any of the split classification areas.

What's the benefit of Class 10W?

10W gives credit to risks within 5 to 7 road miles of the responding fire station and within 1,000 feet of a creditable water supply. That's reflective of the potential for reduced property insurance premiums.

What does the fire chief have to do?

Fire chiefs don't have to do anything at all. The revised classifications went in place automatically effective July 1, 2014 (July 1, 2015 for Texas).

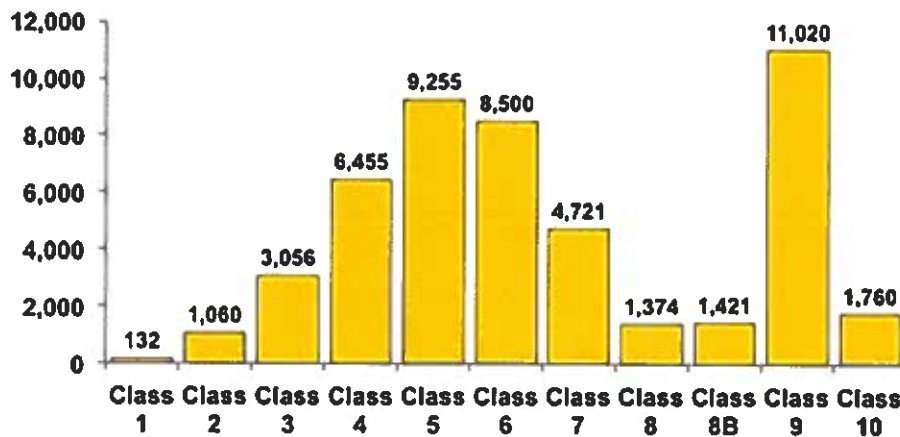
What if I have additional questions?

Feel free to contact ISO at 800.444.4554 or email us at PPC-Cust-Serv@iso.com.

Distribution of PPC Grades

The 2015 published countrywide distribution of communities by the PPC grade is as follows:

Countrywide



Assistance

The PPC program offers help to communities, fire departments, and other public officials as they plan for, budget, and justify improvements. ISO is also available to assist in the understanding of the details of this evaluation.

The PPC program representatives can be reached by telephone at (800) 444-4554. The technical specialists at this telephone number have access to the details of this evaluation and can effectively speak with you about your questions regarding the PPC program. What's more, we can be reached via the internet at www.isomitigation.com/talk/.

We also have a website dedicated to our Community Hazard Mitigation Classification programs at www.isomitigation.com. Here, fire chiefs, building code officials, community leaders and other interested citizens can access a wealth of data describing the criteria used in evaluating how cities and towns are protecting residents from fire and other natural hazards. This website will allow you to learn more about the PPC program. The website provides important background information, insights about the PPC grading processes and technical documents. ISO is also pleased to offer Fire Chiefs Online — a special, secured website with information and features that can help improve your PPC grade, including a list of the Needed Fire Flows for all the commercial occupancies ISO has on file for your community. Visitors to the site can download information, see statistical results and also contact ISO for assistance.

In addition, on-line access to the FSRs and its commentaries is available to registered customers for a fee. However, fire chiefs and community chief administrative officials are given access privileges to this information without charge.

To become a registered fire chief or community chief administrative official, register at www.isomitigation.com.

PPC Review

ISO concluded its review of the fire suppression features being provided for Hanford. The resulting community classification is **Class 02**.

If the classification is a single class, the classification applies to properties with a Needed Fire Flow of 3,500 gpm or less in the community. If the classification is a split class (e.g., 6/XX):

- The first class (e.g., "6" in a 6/XX) applies to properties within 5 road miles of a recognized fire station and within 1,000 feet of a fire hydrant or alternate water supply.
- The second class (XX or XY) applies to properties beyond 1,000 feet of a fire hydrant but within 5 road miles of a recognized fire station.
- Alternative Water Supply: The first class (e.g., "6" in a 6/10) applies to properties within 5 road miles of a recognized fire station with no hydrant distance requirement.
- Class 10 applies to properties over 5 road miles of a recognized fire station.
- Class 10W applies to properties within 5 to 7 road miles of a recognized fire station with a recognized water supply within 1,000 feet.
- Specific properties with a Needed Fire Flow in excess of 3,500 gpm are evaluated separately and assigned an individual classification.

FSRS Feature	Earned Credit	Credit Available
Emergency Communications		
414. Credit for Emergency Reporting	3.00	3
422. Credit for Telecommunicators	3.34	4
432. Credit for Dispatch Circuits	1.72	3
440. Credit for Emergency Communications	8.06	10
Fire Department		
513. Credit for Engine Companies	6.00	6
523. Credit for Reserve Pumpers	0.50	0.50
532. Credit for Pump Capacity	3.00	3
549. Credit for Ladder Service	0.61	4
553. Credit for Reserve Ladder and Service Trucks	0.00	0.50
561. Credit for Deployment Analysis	5.76	10
571. Credit for Company Personnel	9.02	15
581. Credit for Training	8.06	9
730. Credit for Operational Considerations	2.00	2
590. Credit for Fire Department	34.95	50
Water Supply		
616. Credit for Supply System	30.00	30
621. Credit for Hydrants	3.00	3
631. Credit for Inspection and Flow Testing	4.80	7
640. Credit for Water Supply	37.80	40
Divergence	-4.92	—
1050. Community Risk Reduction	4.75	5.50
Total Credit	80.64	105.50

Emergency Communications

Ten percent of a community's overall score is based on how well the communications center receives and dispatches fire alarms. Our field representative evaluated:

- Communications facilities provided for the general public to report structure fires
- Enhanced 9-1-1 Telephone Service including wireless
- Computer-aided dispatch (CAD) facilities
- Alarm receipt and processing at the communication center
- Training and certification of telecommunicators
- Facilities used to dispatch fire department companies to reported structure fires

	Earned Credit	Credit Available
414. Credit Emergency Reporting	3.00	3
422. Credit for Telecommunicators	3.34	4
432. Credit for Dispatch Circuits	1.72	3
Item 440. Credit for Emergency Communications:	8.06	10

Item 414 - Credit for Emergency Reporting (3 points)

The first item reviewed is Item 414 "Credit for Emergency Reporting (CER)". This item reviews the emergency communication center facilities provided for the public to report fires including 911 systems (Basic or Enhanced), Wireless Phase I and Phase II, Voice over Internet Protocol, Computer Aided Dispatch and Geographic Information Systems for automatic vehicle location. ISO uses National Fire Protection Association (NFPA) 1221, *Standard for the Installation, Maintenance and Use of Emergency Services Communications Systems* as the reference for this section.

Item 410. Emergency Reporting (CER)	Earned Credit	Credit Available
A./B. Basic 9-1-1, Enhanced 9-1-1 or No 9-1-1 For maximum credit, there should be an Enhanced 9-1-1 system, Basic 9-1-1 and No 9-1-1 will receive partial credit.	20.00	20
1. E9-1-1 Wireless Wireless Phase I using Static ALI (automatic location identification) Functionality (10 points); Wireless Phase II using Dynamic ALI Functionality (15 points); Both available will be 25 points	25.00	25
2. E9-1-1 Voice over Internet Protocol (VoIP) Static VoIP using Static ALI Functionality (10 points); Nomadic VoIP using Dynamic ALI Functionality (15 points); Both available will be 25 points	25.00	25
3. Computer Aided Dispatch Basic CAD (5 points); CAD with Management Information System (5 points); CAD with Interoperability (5 points)	15.00	15
4. Geographic Information System (GIS/AVL) The PSAP uses a fully integrated CAD/GIS management system with automatic vehicle location (AVL) integrated with a CAD system providing dispatch assignments.	15.00	15
Review of Emergency Reporting total:	100.00	100

Item 422- Credit for Telecommunicators (4 points)

The second item reviewed is Item 422 "Credit for Telecommunicators (TC)". This item reviews the number of Telecommunicators on duty at the center to handle fire calls and other emergencies. All emergency calls including those calls that do not require fire department action are reviewed to determine the proper staffing to answer emergency calls and dispatch the appropriate emergency response. NFPA 1221, *Standard for the Installation, Maintenance and Use of Emergency Services Communications Systems*, recommends that ninety-five percent of emergency calls shall be answered within 15 seconds and ninety-nine percent of emergency calls shall be answered within 40 seconds. In addition, NFPA recommends that ninety percent of emergency alarm processing shall be completed within 60 seconds and ninety-nine percent of alarm processing shall be completed within 90 seconds of answering the call.

To receive full credit for operators on duty, ISO must review documentation to show that the communication center meets NFPA 1221 call answering and dispatch time performance measurement standards. This documentation may be in the form of performance statistics or other performance measurements compiled by the 9-1-1 software or other software programs that are currently in use such as Computer Aided Dispatch (CAD) or Management Information System (MIS).

Item 420. Telecommunicators (CTC)	Earned Credit	Credit Available
A1. Alarm Receipt (AR) Receipt of alarms shall meet the requirements in accordance with the criteria of NFPA 1221	20.00	20
A2. Alarm Processing (AP) Processing of alarms shall meet the requirements in accordance with the criteria of NFPA 1221	13.48	20
B. Emergency Dispatch Protocols (EDP) Telecommunicators have emergency dispatch protocols (EDP) containing questions and a decision-support process to facilitate correct call categorization and prioritization.	20.00	20
C. Telecommunicator Training and Certification (TTC) Telecommunicators meet the qualification requirements referenced in NFPA 1061, <i>Standard for Professional Qualifications for Public Safety Telecommunicator</i> , and/or the Association of Public-Safety Communications Officials - International (APCO) <i>Project 33</i> . Telecommunicators are certified in the knowledge, skills, and abilities corresponding to their job functions.	20.00	20
D. Telecommunicator Continuing Education and Quality Assurance (TQA) Telecommunicators participate in continuing education and/or in-service training and quality-assurance programs as appropriate for their positions	10.00	20
Review of Telecommunicators total:	83.48	100

Item 432 - Credit for Dispatch Circuits (3 points)

The third item reviewed is Item 432 "Credit for Dispatch Circuits (CDC)". This item reviews the dispatch circuit facilities used to transmit alarms to fire department members. A "Dispatch Circuit" is defined in NFPA 1221 as "A circuit over which an alarm is transmitted from the communications center to an emergency response facility (ERF) or emergency response units (ERUs) to notify ERUs to respond to an emergency". All fire departments (except single fire station departments with full-time firefighter personnel receiving alarms directly at the fire station) need adequate means of notifying all firefighter personnel of the location of reported structure fires. The dispatch circuit facilities should be in accordance with the general criteria of NFPA 1221. "Alarms" are defined in this Standard as "A signal or message from a person or device indicating the existence of an emergency or other situation that requires action by an emergency response agency".

There are two different levels of dispatch circuit facilities provided for in the Standard – a primary dispatch circuit and a secondary dispatch circuit. In jurisdictions that receive 730 alarms or more per year (average of two alarms per 24-hour period), two separate and dedicated dispatch circuits, a primary and a secondary, are needed. In jurisdictions receiving fewer than 730 alarms per year, a second dedicated dispatch circuit is not needed. Dispatch circuit facilities installed but not used or tested (in accordance with the NFPA Standard) receive no credit.

The score for Credit for Dispatch Circuits (CDC) is influenced by monitoring for integrity of the primary dispatch circuit. There are up to 0.90 points available for this Item. Monitoring for integrity involves installing automatic systems that will detect faults and failures and send visual and audible indications to appropriate communications center (or dispatch center) personnel. ISO uses NFPA 1221 to guide the evaluation of this item. ISO's evaluation also includes a review of the communication system's emergency power supplies.

Item 432 "Credit for Dispatch Circuits (CDC)" = 1.72 points

Fire Department

Fifty percent of a community's overall score is based upon the fire department's structure fire suppression system. ISO's field representative evaluated:

- Engine and ladder/service vehicles including reserve apparatus
- Equipment carried
- Response to reported structure fires
- Deployment analysis of companies
- Available and/or responding firefighters
- Training

	Earned Credit	Credit Available
513. Credit for Engine Companies	6.00	6
523. Credit for Reserve Pumpers	0.50	0.5
532. Credit for Pumper Capacity	3.00	3
549. Credit for Ladder Service	0.61	4
553. Credit for Reserve Ladder and Service Trucks	0.00	0.5
561. Credit for Deployment Analysis	5.76	10
571. Credit for Company Personnel	9.02	15
581. Credit for Training	8.06	9
730. Credit for Operational Considerations	2.00	2
Item 590. Credit for Fire Department:	34.95	50

Basic Fire Flow

The Basic Fire Flow for the community is determined by the review of the Needed Fire Flows for selected buildings in the community. The fifth largest Needed Fire Flow is determined to be the Basic Fire Flow. The Basic Fire Flow has been determined to be 3500 gpm.

Item 513 - Credit for Engine Companies (6 points)

The first item reviewed is Item 513 "Credit for Engine Companies (CEC)". This item reviews the number of engine companies, their pump capacity, hose testing, pump testing and the equipment carried on the in-service pumpers. To be recognized, pumper apparatus must meet the general criteria of NFPA 1901, *Standard for Automotive Fire Apparatus* which include a minimum 250 gpm pump, an emergency warning system, a 300 gallon water tank, and hose. At least 1 apparatus must have a permanently mounted pump rated at 750 gpm or more at 150 psi.

The review of the number of needed pumpers considers the response distance to built-upon areas; the Basic Fire Flow; and the method of operation. Multiple alarms, simultaneous incidents, and life safety are not considered.

The greatest value of A, B, or C below is needed in the fire district to suppress fires in structures with a Needed Fire Flow of 3,500 gpm or less: **3 engine companies**

- a) **2 engine companies** to provide fire suppression services to areas to meet NFPA 1710 criteria or within 1½ miles.
- b) **3 engine companies** to support a Basic Fire Flow of 3500 gpm.
- c) **3 engine companies** based upon the fire department's method of operation to provide a minimum two engine response to all first alarm structure fires.

The FSRs recognize that there are **3 engine companies** in service.

The FSRs also reviews Automatic Aid. Automatic Aid is considered in the review as assistance dispatched automatically by contractual agreement between two communities or fire districts. That differs from mutual aid or assistance arranged case by case. ISO will recognize an Automatic Aid plan under the following conditions:

- It must be prearranged for first alarm response according to a definite plan. It is preferable to have a written agreement, but ISO may recognize demonstrated performance.
- The aid must be dispatched to all reported structure fires on the initial alarm.
- The aid must be provided 24 hours a day, 365 days a year.

FSRS Item 512.D "Automatic Aid Engine Companies" responding on first alarm and meeting the needs of the city for basic fire flow and/or distribution of companies are factored based upon the value of the Automatic Aid plan (up to 1.00 can be used as the factor). The Automatic Aid factor is determined by a review of the Automatic Aid provider's communication facilities, how they receive alarms from the graded area, inter-department training between fire departments, and the fire ground communications capability between departments.

For each engine company, the credited Pump Capacity (PC), the Hose Carried (HC), the Equipment Carried (EC) all contribute to the calculation for the percent of credit the FSRs provides to that engine company.

Item 513 "Credit for Engine Companies (CEC)" = 6.00 points

Item 523 - Credit for Reserve Pumpers (0.50 points)

The item is Item 523 "Credit for Reserve Pumpers (CRP)". This item reviews the number and adequacy of the pumpers and their equipment. The number of needed reserve pumpers is 1 for each 8 needed engine companies determined in Item 513, or any fraction thereof.

Item 523 "Credit for Reserve Pumpers (CRP)" = 0.50 points

Item 532 – Credit for Pumper Capacity (3 points)

The next item reviewed is Item 532 "Credit for Pumper Capacity (CPC)". The total pump capacity available should be sufficient for the Basic Fire Flow of 3500 gpm. The maximum needed pump capacity credited is the Basic Fire Flow of the community.

Item 532 "Credit for Pumper Capacity (CPC)" = 3.00 points

Item 549 – Credit for Ladder Service (4 points)

The next item reviewed is Item 549 "Credit for Ladder Service (CLS)". This item reviews the number of response areas within the city with 5 buildings that are 3 or more stories or 35 feet or more in height, or with 5 buildings that have a Needed Fire Flow greater than 3,500 gpm, or any combination of these criteria. The height of all buildings in the city, including those protected by automatic sprinklers, is considered when determining the number of needed ladder companies. Response areas not needing a ladder company should have a service company. Ladders, tools and equipment normally carried on ladder trucks are needed not only for ladder operations but also for forcible entry, ventilation, salvage, overhaul, lighting and utility control.

The number of ladder or service companies, the height of the aerial ladder, aerial ladder testing and the equipment carried on the in-service ladder trucks and service trucks is compared with the number of needed ladder trucks and service trucks and an FSRS equipment list. Ladder trucks must meet the general criteria of NFPA 1901, *Standard for Automotive Fire Apparatus* to be recognized.

The number of needed ladder-service trucks is dependent upon the number of buildings 3 stories or 35 feet or more in height, buildings with a Needed Fire Flow greater than 3,500 gpm, and the method of operation.

The FSRS recognizes that there are **1 ladder companies** in service. These companies are needed to provide fire suppression services to areas to meet NFPA 1710 criteria or within 2½ miles and the number of buildings with a Needed Fire Flow over 3,500 gpm or 3 stories or more in height, or the method of operation.

The FSRS recognizes that there are **0 service companies** in service.

Item 549 "Credit for Ladder Service (CLS)" = 0.61 points

Item 553 – Credit for Reserve Ladder and Service Trucks (0.50 points)

The next item reviewed is Item 553 “Credit for Reserve Ladder and Service Trucks (CRLS)”. This item considers the adequacy of ladder and service apparatus when one (or more in larger communities) of these apparatus are out of service. The number of needed reserve ladder and service trucks is 1 for each 8 needed ladder and service companies that were determined to be needed in Item 540, or any fraction thereof.

Item 553 “Credit for Reserve Ladder and Service Trucks (CRLS)” = 0.00 points

Item 561 – Deployment Analysis (10 points)

Next, Item 561 “Deployment Analysis (DA)” is reviewed. This Item examines the number and adequacy of existing engine and ladder-service companies to cover built-upon areas of the city.

To determine the Credit for Distribution, first the Existing Engine Company (EC) points and the Existing Engine Companies (EE) determined in Item 513 are considered along with Ladder Company Equipment (LCE) points, Service Company Equipment (SCE) points, Engine-Ladder Company Equipment (ELCE) points, and Engine-Service Company Equipment (ESCE) points determined in Item 549.

Secondly, as an alternative to determining the number of needed engine and ladder/service companies through the road-mile analysis, a fire protection area may use the results of a systematic performance evaluation. This type of evaluation analyzes computer-aided dispatch (CAD) history to demonstrate that, with its current deployment of companies, the fire department meets the time constraints for initial arriving engine and initial full alarm assignment in accordance with the general criteria of in NFPA 1710, *Standard for the Organization and Deployment of Fire Suppression Operations, Emergency Medical Operations, and Special Operations to the Public by Career Fire Departments*.

A determination is made of the percentage of built upon area within 1½ miles of a first-due engine company and within 2½ miles of a first-due ladder-service company.

Item 561 “Credit Deployment Analysis (DA)” = 5.76 points

Item 571 – Credit for Company Personnel (15 points)

Item 571 "Credit for Company Personnel (CCP)" reviews the average number of existing firefighters and company officers available to respond to reported first alarm structure fires in the city.

The on-duty strength is determined by the yearly average of total firefighters and company officers on-duty considering vacations, sick leave, holidays, "Kelley" days and other absences. When a fire department operates under a minimum staffing policy, this may be used in lieu of determining the yearly average of on-duty company personnel.

Firefighters on apparatus not credited under Items 513 and 549 that regularly respond to reported first alarms to aid engine, ladder, and service companies are included in this item as increasing the total company strength.

Firefighters staffing ambulances or other units serving the general public are credited if they participate in fire-fighting operations, the number depending upon the extent to which they are available and are used for response to first alarms of fire.

On-Call members are credited on the basis of the average number staffing apparatus on first alarms. Off-shift career firefighters and company officers responding on first alarms are considered on the same basis as on-call personnel. For personnel not normally at the fire station, the number of responding firefighters and company officers is divided by 3 to reflect the time needed to assemble at the fire scene and the reduced ability to act as a team due to the various arrival times at the fire location when compared to the personnel on-duty at the fire station during the receipt of an alarm.

The number of Public Safety Officers who are positioned in emergency vehicles within the jurisdiction boundaries may be credited based on availability to respond to first alarm structure fires. In recognition of this increased response capability the number of responding Public Safety Officers is divided by 2.

The average number of firefighters and company officers responding with those companies credited as Automatic Aid under Items 513 and 549 are considered for either on-duty or on-call company personnel as is appropriate. The actual number is calculated as the average number of company personnel responding multiplied by the value of AA Plan determined in Item 512.D.

The maximum creditable response of on-duty and on-call firefighters is 12, including company officers, for each existing engine and ladder company and 6 for each existing service company.

Chief Officers are not creditable except when more than one chief officer responds to alarms; then extra chief officers may be credited as firefighters if they perform company duties.

The FSRs recognizes **8.66 on-duty personnel** and an average of **2.00 on-call personnel** responding on first alarm structure fires.

Item 571 "Credit for Company Personnel (CCP)" = 9.02 points

Item 581 – Credit for Training (9 points)

Training	Earned Credit	Credit Available
A. Facilities, and Use For maximum credit, each firefighter should receive 18 hours per year in structure fire related subjects as outlined in NFPA 1001.	35.00	35
B. Company Training For maximum credit, each firefighter should receive 16 hours per month in structure fire related subjects as outlined in NFPA 1001.	25.00	25
C. Classes for Officers For maximum credit, each officer should be certified in accordance with the general criteria of NFPA 1021. Additionally, each officer should receive 12 hours of continuing education on or off site.	12.00	12
D. New Driver and Operator Training For maximum credit, each new driver and operator should receive 60 hours of driver/operator training per year in accordance with NFPA 1002 and NFPA 1451.	5.00	5
E. Existing Driver and Operator Training For maximum credit, each existing driver and operator should receive 12 hours of driver/operator training per year in accordance with NFPA 1002 and NFPA 1451.	5.00	5
F. Training on Hazardous Materials For maximum credit, each firefighter should receive 6 hours of training for incidents involving hazardous materials in accordance with NFPA 472.	1.00	1
G. Recruit Training For maximum credit, each firefighter should receive 240 hours of structure fire related training in accordance with NFPA 1001 within the first year of employment or tenure.	5.00	5
H. Pre-Fire Planning Inspections For maximum credit, pre-fire planning inspections of each commercial, industrial, institutional, and other similar type building (all buildings except 1-4 family dwellings) should be made annually by company members. Records of inspections should include up-to date notes and sketches.	1.56	12

Item 580 “Credit for Training (CT)” = 8.06 points

Item 730 – Operational Considerations (2 points)

Item 730 "Credit for Operational Considerations (COC)" evaluates fire department standard operating procedures and incident management systems for emergency operations involving structure fires.

Operational Considerations	Earned Credit	Credit Available
Standard Operating Procedures The department should have established SOPs for fire department general emergency operations	50	50
Incident Management Systems The department should use an established incident management system (IMS)	50	50
Operational Considerations total:	100	100

Item 730 "Credit for Operational Considerations (COC)" = 2.00 points

Water Supply

Forty percent of a community's overall score is based on the adequacy of the water supply system. The ISO field representative evaluated:

- the capability of the water distribution system to meet the Needed Fire Flows at selected locations up to 3,500 gpm.
- size, type and installation of fire hydrants.
- inspection and flow testing of fire hydrants.

	Earned Credit	Credit Available
616. Credit for Supply System	30.00	30
621. Credit for Hydrants	3.00	3
631. Credit for Inspection and Flow Testing	4.80	7
Item 640. Credit for Water Supply:	37.80	40

Item 616 – Credit for Supply System (30 points)

The first item reviewed is Item 616 "Credit for Supply System (CSS)". This item reviews the rate of flow that can be credited at each of the Needed Fire Flow test locations considering the supply works capacity, the main capacity and the hydrant distribution. The lowest flow rate of these items is credited for each representative location. A water system capable of delivering 250 gpm or more for a period of two hours plus consumption at the maximum daily rate at the fire location is considered minimum in the ISO review.

Where there are 2 or more systems or services distributing water at the same location, credit is given on the basis of the joint protection provided by all systems and services available.

The supply works capacity is calculated for each representative Needed Fire Flow test location, considering a variety of water supply sources. These include public water supplies, emergency supplies (usually accessed from neighboring water systems), suction supplies (usually evidenced by dry hydrant installations near a river, lake or other body of water), and supplies developed by a fire department using large diameter hose or vehicles to shuttle water from a source of supply to a fire site. The result is expressed in gallons per minute (gpm).

The normal ability of the distribution system to deliver Needed Fire Flows at the selected building locations is reviewed. The results of a flow test at a representative test location will indicate the ability of the water mains (or fire department in the case of fire department supplies) to carry water to that location.

The hydrant distribution is reviewed within 1,000 feet of representative test locations measured as hose can be laid by apparatus.

For maximum credit, the Needed Fire Flows should be available at each location in the district. Needed Fire Flows of 2,500 gpm or less should be available for 2 hours; and Needed Fire Flows of 3,000 and 3,500 gpm should be obtainable for 3 hours.

Item 616 "Credit for Supply System (CSS)" = 30.00 points

Item 621 – Credit for Hydrants (3 points)

The second item reviewed is Item 621 "Credit for Hydrants (CH)". This item reviews the number of fire hydrants of each type compared with the total number of hydrants.

There are a total of 2060 hydrants in the graded area.

620. Hydrants, - Size, Type and Installation	Number of Hydrants
A. With a 6 -inch or larger branch and a pumper outlet with or without 2½ -inch outlets	2060
B. With a 6 -inch or larger branch and no pumper outlet but two or more 2½ -inch outlets, or with a small foot valve, or with a small barrel	0
C./D. With only a 2½ -inch outlet or with less than a 6 -inch branch	0
E./F. Flush Type, Cistern, or Suction Point	0

Item 621 "Credit for Hydrants (CH)" = 3.00 points

Item 630 – Credit for Inspection and Flow Testing (7 points)

The third item reviewed is Item 630 "Credit for Inspection and Flow Testing (CIT)". This item reviews the fire hydrant inspection frequency, and the completeness of the inspections. Inspection of hydrants should be in accordance with AWWA M-17, *Installation, Field Testing and Maintenance of Fire Hydrants*.

Frequency of Inspection (FI): Average interval between the 3 most recent inspections.

Frequency	Points
1 year	30
2 years	20
3 years	10
4 years	5
5 years or more	No Credit

Note: The points for inspection frequency are reduced by 10 points if the inspections are incomplete or do not include a flushing program. An additional reduction of 10 points are made if hydrants are not subjected to full system pressure during inspections. If the inspection of cisterns or suction points does not include actual drafting with a pumper, or back-flushing for dry hydrants, 20 points are deducted.

Total points for Inspections = 2.40 points

Frequency of Fire Flow Testing (FF): Average interval between the 3 most recent inspections.

Frequency	Points
5 years	40
6 years	30
7 years	20
8 years	10
9 years	5
10 years or more	No Credit

Total points for Fire Flow Testing = 2.40 points

Item 631 "Credit for Inspection and Fire Flow Testing (CIT)" = 4.80 points

Divergence = -4.92

The Divergence factor mathematically reduces the score based upon the relative difference between the fire department and water supply scores. The factor is introduced in the final equation.

Community Risk Reduction

	Earned Credit	Credit Available
1025. Credit for Fire Prevention and Code Enforcement (CPCE)	1.71	2.2
1033. Credit for Public Fire Safety Education (CFSE)	2.06	2.2
1044. Credit for Fire Investigation Programs (CIP)	0.98	1.1
Item 1050. Credit for Community Risk Reduction	4.75	5.50

Item 1025 – Credit for Fire Prevention Code Adoption and Enforcement (2.2 points)	Earned Credit	Credit Available
Fire Prevention Code Regulations (PCR) Evaluation of fire prevention code regulations in effect.	10.00	10
Fire Prevention Staffing (PS) Evaluation of staffing for fire prevention activities.	2.84	8
Fire Prevention Certification and Training (PCT) Evaluation of the certification and training of fire prevention code enforcement personnel.	3.10	6
Fire Prevention Programs (PCP) Evaluation of fire prevention programs.	15.10	16
Review of Fire Prevention Code and Enforcement (CPCE) subtotal:	31.04	40

Item 1033 – Credit for Public Fire Safety Education (2.2 points)	Earned Credit	Credit Available
Public Fire Safety Educators Qualifications and Training (FSQT) Evaluation of public fire safety education personnel training and qualification as specified by the authority having jurisdiction.	10.00	10
Public Fire Safety Education Programs (FSP) Evaluation of programs for public fire safety education.	27.50	30
Review of Public Safety Education Programs (CFSE) subtotal:	37.50	40

Item 1044 – Credit for Fire Investigation Programs (1.1 points)	Earned Credit	Credit Available
Fire Investigation Organization and Staffing (IOS) Evaluation of organization and staffing for fire investigations.	8.00	8
Fire Investigator Certification and Training (IQT) Evaluation of fire investigator certification and training.	3.90	6
Use of National Fire Incident Reporting System (IRS) Evaluation of the use of the National Fire Incident Reporting System (NFIRS) for the 3 years before the evaluation.	6.00	6
Review of Fire Investigation Programs (CIP) subtotal:	17.90	20

Summary of PPC Review

for

Hanford

FSRS Item	Earned Credit	Credit Available
Emergency Communications		
414. Credit for Emergency Reporting	3.00	3
422. Credit for Telecommunicators	3.34	4
432. Credit for Dispatch Circuits	1.72	3
440. Credit for Emergency Communications	8.06	10
Fire Department		
513. Credit for Engine Companies	6.00	6
523. Credit for Reserve Pumpers	0.50	0.5
532. Credit for Pumper Capacity	3.00	3
549. Credit for Ladder Service	0.61	4
553. Credit for Reserve Ladder and Service Trucks	0.00	0.5
561. Credit for Deployment Analysis	5.76	10
571. Credit for Company Personnel	9.02	15
581. Credit for Training	8.06	9
730. Credit for Operational Considerations	2.00	2
590. Credit for Fire Department	34.95	50
Water Supply		
616. Credit for Supply System	30.00	30
621. Credit for Hydrants	3.00	3
631. Credit for Inspection and Flow Testing	4.80	7
640. Credit for Water Supply	37.80	40
Divergence	-4.92	-
1050. Community Risk Reduction	4.75	5.50
Total Credit	80.64	105.5

Final Community Classification = 02

INSURANCE SERVICES OFFICE, INC.
HYDRANT FLOW DATA SUMMARY

City Hanford State California (N) Witnessed by: Insurance Services Office Date: Apr 20, 2016
County Kings State (04)

TEST NO.	TYPE DIST.*	TEST LOCATION	SERVICE	FLOW - GPM $Q=(29.83(C(d^2)p^{0.5}))$		PRESSURE PSI		FLOW -AT 20 PSI		REMARKS***	MODEL TYPE
				INDIVIDUAL HYDRANTS	TOTAL	STATIC	RESID.	NEEDED **	AVAIL.		
1		Crown & Industry	Hanford City, Main	0	0	100	56	750	5000		
10		W. Lacey (1500 blk)	Hanford City, Main	0	0	60	34	2500	3800		
10.1		W. Lacey (1500 blk)	Hanford City, Main	0	0	60	34	4000	3800		
11		N. 11th (1716)	Hanford City, Main	0	0	57	39	3500	4500		
12		Douty & Grangeville	Hanford City, Main	0	0	62	37	2500	3000		
13		Lemonswood & Greenwood	Hanford City, Main	0	0	57	34	1500	3200		
14		N. 11th & Fargo	Hanford City, Main	0	0	51	38	3000	3200		
15		102 S 11th	Hanford City, Main	0	0	0	0	7500	3174		
16		112 E 7th	Hanford City, Main	0	0	0	0	5500	1612		
17		103 S Williams	Hanford City, Main	0	0	0	0	5000	1979		
18		101 S 11th	Hanford City, Main	0	0	0	0	4500	3114		
19		113 S Douty	Hanford City, Main	0	0	0	0	4500	5123		
2		Woodland & Hanford-Armona	Hanford City, Main	0	0	52	26	1000	3100		
20		602 E 6th	Hanford City, Main	0	0	0	0	4000	2716		
21		112 E 7th	Hanford City, Main	0	0	0	0	4000	4271		
22		140 N 12th	Hanford City, Main	0	0	0	0	4000	1767		

THE ABOVE LISTED NEEDED FIRE FLOWS ARE FOR PROPERTY INSURANCE PREMIUM CALCULATIONS ONLY AND ARE NOT INTENDED TO PREDICT THE MAXIMUM AMOUNT OF WATER REQUIRED FOR A LARGE SCALE FIRE CONDITION.

THE AVAILABLE FLOWS ONLY INDICATE THE CONDITIONS THAT EXISTED AT THE TIME AND AT THE LOCATION WHERE TESTS WERE WITNESSED.

*Comm = Commercial; Res = Residential.

**Needed is the rate of flow for a specific duration for a full credit condition. Needed Fire Flows greater than 3,500 gpm are not considered in determining the classification of the city when using the Fire Suppression Rating Schedule.

*** (A)-Limited by available hydrants to gpm shown. Available facilities limit flow to gpm shown plus consumption for the needed duration of (B)-2 hours, (C)-3 hours or (D)-4 hours.

INSURANCE SERVICES OFFICE, INC.

City Hartford State California (N)
County Kings State (04)

Witnessed by: Insurance Services Office

Date: Apr 20, 2016

[illegible]

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City of Hanford Fire Department

Master and Comprehensive Spending Plan 2022-2035



*Prepared for the Hanford Fire Department
Prepared by **Mike Kraus Leadership**
February 14, 2022*

Table of Contents

Introduction	3
Executive Summary	5
Our City	7
Our Fire Department	8
Capital Facilities:	10
Capital Apparatus:	11
Capital Equipment:	13
City of Hanford 2035 General Plan	14
Fire Service Industry Standards and Best Practices	21
Performance Measures	23
Comprehensive Spending Plan	24
Projected Significant Improvements Through 2035	24
Projected Budget Impacts Through 2035	28

Introduction

The Hanford Fire Department Master Plan is a long-range planning document. It serves as a blueprint for long-range goals, supporting the visionary policy established in the City of Hanford 2035 General Plan. This document is the third in a series of three planning documents for the City of Hanford Fire Department. All three documents, “Community Risk Assessment/Standards of Response Coverage,” “Strategic Plan,” and “Master Plan,” are companion documents which build upon and support each other with short-, mid-, and long-term assessments and opportunities for improvement. This process is referred to as the Planning Continuum.

Included in this Master Plan are public safety policies established by the City’s comprehensive 2035 General Plan, as specified to the fire department. These include, but are not limited to, projected facilities, apparatus, and personnel needed to provide adequate fire and life safety protection for the citizens, as the land area and population of Hanford expand into the sphere of influence and planning area.

Additionally, industry standard and best practice benchmarks are included for reference, as well as recommended replacement schedules and estimated costs for Capital Improvement Projects. The intent being, to allow appointed and elected-officials adequate time to secure funding for these projects, with the goal of said projects being realized prior to the anticipated need.

It is critical, if this document is to continue to be of value, that it be referenced, reviewed, and adjusted as necessary, in accordance with the updating of the other fire department planning documents, and certainly with any update of the City of Hanford General Plan. It should be

considered a dynamic tool to assist the fire department and the appointed and elected officials of Hanford, as they strive to improve the fire and life safety element of our community. As this document is updated, the City of Hanford Fire Department, after saving the original, is hereby given express permission to remove all markings and references to “Mike Kraus Leadership.”

Executive Summary

The Fire Department Master Plan is the third in a series of documents (Community Risk Assessment/Standards of Response Coverage, Strategic Plan, Master Plan), referred to as the Planning Continuum. Based upon the City of Hanford 2035 General Plan and its goals and policies, it is a road map for the next 14 years of projected Fire Department growth. The intent of the document is to educate and assist appointed and elected officials as they evaluate community needs and prioritize limited funding.

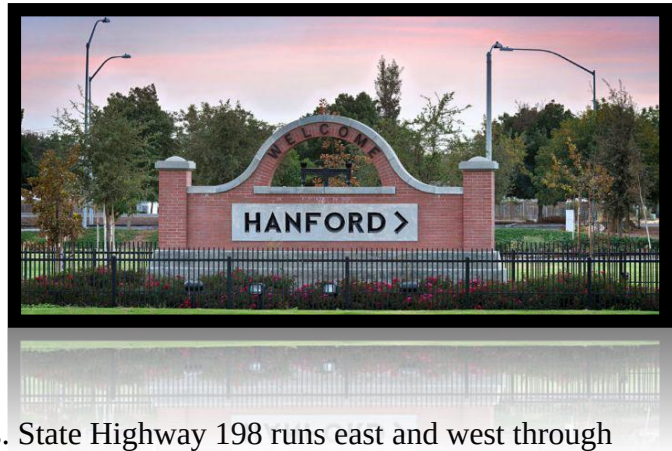
These projected needs are tied to fire service industry standards and best practices referenced to the “Community Risk Assessment/Standards of Response Coverage” and 5 year “Strategic Plan” documents. The following is a summary of projected needs supported by Hanford General Plan goals and policy through the year 2035:

- 1. Improve/increase Community Risk Reduction efforts by adding an assistant fire marshal, 3 fire inspectors, and an administrative assistant.*
- 2. Improve emergency response times by building and staffing 2 additional fire stations.*
- 3. Improve ability to assemble necessary numbers of fire personnel on the scene of an emergency to mitigate critical tasks. Increase the ratio of firefighters to population.*
- 4. Improve shift/administrative oversight and support by adding 3 additional chief officers.*
- 5. Improve training and operational readiness by adding 1 training officer and building a practical training facility.*
- 6. Expand functional administrative office space.*

7. *Improve emergency response apparatus and staff fleet by purchasing necessary fire engines, trucks, utility, and staff vehicles.*

Our City

Hanford, California (36 degrees 19'39"N 119 degrees 38'44"W), is located in the northeastern part of Kings County, approximately 30 miles to the southwest of the City of Fresno. It is about equal distant from the Sierra Nevada and the Coast Ranges. State Highway 198 runs east and west through Hanford and State Highway 43 runs north and south along the easterly boundary of the city. Presently, the city limits of Hanford covers 17.4 square miles. The ultimate growth boundary, which is based on the city's 2035 General Plan, includes the incorporated city and its sphere-of-influence and encompasses approximately 30 square miles. The General Plan also projects a population of 90,000 citizens.



Hanford is a California General Law City. Policy is established by a council/weak mayor form of government, with five council members elected by district to four-year terms. The mayor is selected by the Council on an annual basis. A manager oversees the daily responsibilities of the City.

Our Fire Department

Fire and life safety services for the City of Hanford are provided by the Hanford Fire Department (HFD). The HFD is a professional organization consisting of 35 full time and 2 part time employees. Services include community risk reduction and emergency response. It was formed in 1891 by Council resolution due to several large and destructive downtown fires. The HFD has a rich history of dedicated service to its citizens.



Mission Statement

“The mission of the Hanford Fire Department is to deliver effective, professional fire prevention and emergency response.”

Diversity Statement

“The Hanford Fire Department is an organization set to represent our community. Members of the department come from many socio-economic, ethnic, and cultural backgrounds. Our common thread is our passion to serve in whatever capacity is needed. Diversity provides perspective, experience, and understanding which only enhances the fire service and the people of Hanford.”

Core Values

“Compassion, Integrity, Accountability, Teamwork, Family, Respect”

Vision Statement

“The Hanford Fire Department strives to advance public safety through metrics, self-assessment and industry advancements. The men and women of the Hanford Fire Department will remain proactive and in control of our future. We accept the challenges that will come with the same discipline and integrity of our forebears.”

Capital Facilities:

Fire Station 1

Located: 350 W. Grangeville Blvd.

Built: 1990

Houses: Fire Administration/Engine

Anticipated Replacement: 2040



Fire Station 2

Located: 10553 Houston Ave.

Built: 1989

Houses: Truck

Anticipated Replacement: 2039



Fire Station 3

Located: 1070 S. 12th St.

Built: 2019

Houses: Engine

Anticipated Replacement: 2069



Capital Apparatus:

Engine 41

Manufacturer/Model:

Year: 2014

Anticipated Replacement: 2034

Projected Cost: \$1,000,000



Truck 42

Manufacturer/Model: Pierce

Year: 2019

Anticipated Replacement: 2039

Projected Cost: \$2,000,000



Engine 43

Manufacturer/Model:

Year: 2015

Anticipated Replacement: 2035

Projected Cost: \$1,000,000



Patrol 42

Manufacturer/Model:

Year: 2012

Anticipated Replacement: 2032

Projected Cost: \$500,000



Patrol 43

Manufacturer/Model:

Year: 2018

Anticipated Replacement: 2038

Projected Cost: \$600,000



Reserve Engine 1

Manufacture/Model: Pierce Saber

Year: 2004

Anticipated Replacement: 2024

Projected Cost: \$750,000



Capital Equipment:

Emergency Breathing Apparatus Platform

Manufacturer: Scott

Year: 2015

Anticipated Replacement: 2030

Projected Cost: \$1,000,000



City of Hanford 2035 General Plan

The following information has been extracted from the City of Hanford 2035 General Plan, as it pertains to the City of Hanford Fire Department.

Projection

“After reviewing historical growth rates and projected growth trends, the Citizens Advisory Committee determined that the General Plan Update would assume Hanford’s average annual population growth rate should be roughly 2.1%, which would result in a projected population of 90,000 persons in the year 2035.”

Note: Calculating a growth rate of 2.1% from the year 2021 would result in a population projection of approximately 79,000 in the year 2035. Additionally, the 2020 census data states that the 10-year growth rate between the last two surveys was only 9.6%. It appears highly unlikely that the original projection of 90,000 will be reached by 2035. As a result, for purposes of this Fire Department Master Plan, an adjusted annual increase of 1.6% will be utilized, resulting in a 2035 projected population of 75,000.

(Mike Kraus Leadership)

Policy

Fire Protection and Emergency Services Goals

Goal P10: Prevention of loss of life and property from fire or other disaster.

Goal P11: Functional public buildings to house fire and emergency services personnel and equipment.

Policy P50 Fire Master Plan

Prepare and periodically update a Fire Master Plan to plan for new growth identified in the land use element.

Policy P51 Fire Station Locations

Provide for five City fire station locations within the 2035 Growth Boundary on the General Plan Land Use Map.

Policy P52 Impact Fees for Fire Facilities

Require developers to contribute impact fees to fund the cost of providing fire facilities needed to support new population growth and development.

Policy P53 Fire Protection Personnel

Provide adequate fire suppression personnel and staff at each fire station to meet increased demands from population growth.

Policy P54 Provision of Fire Protection Equipment

Provide for fire protection vehicles and safety equipment to meet increased demands from population growth.

Policy P55 Water Supply to Meet Fire Demand

Provide adequate water supply and fire flow throughout the Hanford water system to meet fire demand during times of peak domestic water demand.

Policy P56 Emergency Transport Services

Support the expansion of emergency transport services at locations within the Planning Area that can most effectively improve service.

Policy P57 Automatic Aid Agreement

Maintain automatic aid agreements with Kings County Fire Department.

Policy P58 Mutual Aid Agreements

Maintain mutual aid agreements with other local and regional agencies.

Policy P59 Fire and Building Codes

Continue to enforce the California Fire Code, California Building Code, and Hanford Municipal Code to mitigate threats to safety and property.

Policy P60 Sprinklers for Commercial Buildings

Require that new commercial and industrial buildings less than 5,000 square feet that are outside of a 2-mile response distance include fire suppression sprinkler systems.

Policy P61 Emergency Preparedness

Continue to upgrade preparedness strategies and techniques so as to be prepared when natural or manmade disaster occurs.

Policy P62 Fire Protection Education Programs

Continue to provide public education programs to raise awareness of potential fire and safety threats.

Emergency Preparedness Goals

Goal H1: Reduced impacts to human life, property, the local economy, and the environment resulting from natural hazards, human-trade hazards, and noise.

Goal H2: High quality emergency services to protect life and property.

Policy H1 Kings County Multi-jurisdictional Hazard Mitigation Plan

Integrate the mitigation measures of the Kings County Multi-jurisdictional Hazard Mitigation Plan where relevant and applicable.

Policy H2 Update to the Multi-jurisdictional Hazard Mitigation Plan

Collaborate with the Kings County Office of Emergency Management in the development of updates to the Kings County Multi-jurisdictional Hazard Mitigation Plan.

Policy H3 Disaster Preparedness

Lead in the preparation for natural and man-made disasters by taking a proactive approach.

Policy H4 Emergency Preparedness Plan

Update and implement the Emergency Preparedness Plan annually to respond to changes in land use, population, and incorporated boundaries, including evacuation routes, locations of critical facilities, peak load water supply requirements, minimum road widths and turning radii, and identification of risks.

Policy H5 City Hall as the Emergency Operations Center

Maintain City Hall as the Emergency Operations Center (EOC) in Hanford.

Policy H6 Disaster Preparedness Information

Educate the public about disaster preparedness by providing information on supplies, training, evacuation routes, communication systems and shelter locations.

Policy H7 Disaster Preparedness for Special Needs Populations

Identify and develop communication systems, evacuation methods, shelter locations and other services for special needs populations.

Policy H8 Provide for Adequate Levels of Service

Evaluate safety service limitations on an annual basis to provide for adequate levels of service.

Policy H9 Water Facilities in Emergencies

Ensure that public and private water facilities have adequate capacity to supply emergency needs.

Policy H10 Emergency Routes

Continue to collaborate with Kings County Office of Emergency Management to establish and maintain an Emergency Operations Plan that includes identification of Hanford's emergency evacuation routes and operational needs for first responders.

Policy H11 Emergency Response Facilities

Establish the capability to relocate critical emergency response facilities such as fire, police, and essential services facilities, if needed.

Policy H12 Quantify Emergency Preparedness Levels

Develop a procedure to quantify community emergency preparedness levels.

Policy H13 Volunteer Programs for Disaster Preparedness

Encourage City employees through a volunteer program to obtain training in disaster preparedness and basic first aid skills.

Natural Hazards Goal

Goal H3: Reduced risk to public health and safety and disruption of social, economic, and environmental welfare resulting from natural hazards.

Policy H15 Building Codes and Standards for Earthquakes

Maintain and enforce current buildings codes and standards to reduce the potential for structural failure caused by ground shaking and other geologic hazards.

Policy H18 Extreme Heat Emergency Plan

Support the maintenance and implementation of the Kings County Extreme Heat Emergency Plan to support vulnerable populations during times of extreme heat.

Policy H19 Cooling Centers

Periodically evaluate the effectiveness of existing cooling centers and determine the need for additional cooling centers as population increases.

Policy H20 New Development Requirements for Flood Protection

Require new development to provide onsite drainage or contribute towards their fair share cost of off-site drainage facilities to handle surface runoff.

Policy H24 Warming Centers

Periodically evaluate the effectiveness of warming center and determine the need for additional warming center as population increases.

Manmade Hazards Goals

Goal H4: Quality fire protection services throughout the City of Hanford.

Goal H5: Protection from the harmful effects of hazardous materials.

Goal H6: Avoidance of properties contaminated by toxic or hazardous materials.

Policy H27 Fire Code

Ensure that all new buildings are constructed to current Fire Code Standards.

Policy H28 Weed Abatement

Continue with an intensive weed abatement program to minimize fire hazards near urban uses.

Policy H29 Household Hazardous Materials

Coordinate with other public agencies to educate consumers about the proper household use and disposal of hazardous materials.

Policy H30 Industrial Hazardous Materials

Require industrial uses that rely extensively on the use of hazardous materials to adopt an acceptable use, storage, disposal, and emergency response program that has been approved by appropriate agencies.

Fire Service Industry Standards and Best Practices

Fire service industry standards and best practices are not laws or mandates. The final decisions as to what level of fire and life safety services are provided to the community are determined by the elected officials of each entity. These decisions are based upon public expectations, available funding, and what level of acceptable risk the policy makers are willing to assume. It is also important to understand the benefits of continually improving the local delivery system. Benefits include, but are not limited to, protecting the health and welfare of the citizens and the vital job and tax producing businesses from fire and other hazards, resulting in a more vibrant and economically successful community.

Below are Industry Standards and Best Practices as applied to the 2022 Community Risk Assessment/Standards of Response Coverage, 2022-2026 Fire Department Strategic Plan, and this 2022-2035 Fire Department Master Plan:

National Fire Protection Association (NFPA)

NFPA Standard 1221:

911 Calls Answered within 15 Seconds

911 Calls Processed with 64 Seconds

NFPA Standard 1710:

4-0 Staffing on Engine/Truck

4 Minute Travel Time for First Unit (Urban/Suburban)

8 Minute Travel Time for Effective Response Force (Urban/Suburban)

<https://www.iaff.org/wp>

[content/uploads/Departments/Fire_EMS_Department/30541_Summary_Sheet_NFPA_1710_standard.pdf](https://www.iaff.org/wp-content/uploads/Departments/Fire_EMS_Department/30541_Summary_Sheet_NFPA_1710_standard.pdf)

NFPA Firefighter to Population Ratio: Average of .87 to 1.32 Firefighters per 1,000 population in communities over 25,000 (2018 Survey)

<https://www.nfpa.org/-/media/files/News-and-Research/Fire-statistics-and-reports/Emergency-responders/osfdprofile.pdf>

Insurance Services Organization (ISO)

ISO Fire Service Rating Schedule (FSRS):

No building farther than 1.5 miles from Engine Company

No Building farther than 2.5 miles from Truck Company

Aerial device required for any combination of 5: 3 story buildings or buildings requiring 3,500 GPM or more

<https://www.isomitigation.com/ppc/fsrs/items-considered-in-the-fsrs/>

California State Fire Code (OSFM)

Certain State mandated building inspections shall be completed on an annual and biennial basis.

Status of these inspections must be presented to local elected officials annually.

[https://osfm.fire.ca.gov/media/7652/sfm-regulated-occupancies-march-2011-final .pdf](https://osfm.fire.ca.gov/media/7652/sfm-regulated-occupancies-march-2011-final.pdf)

Performance Measures

Performance Measures are evaluation tools showing the organization how it is performing in relation to its mission, as well as applicable industry standards and best practices. Below are the performance measures presently utilized by the Hanford Fire Department, taken from the most current policy and procedures manual.

On an annual basis, complete 100% of State Mandated fire inspections

On an annual basis, complete Fire Education Programs at 90% of all elementary schools

On an annual basis, maintain a 3-week turnaround time for 90% of all Plan Checks

On an annual basis, determine the origin and cause of 90% of all fires

Maintain a Total Response Time of 6 minutes and 19 seconds for the first arriving unit at 90% of all emergency medical calls

Maintain a Total Response Time of 6 minutes and 39 seconds for the first arriving unit at 90% of all fire-rescue calls

Maintain a Total Response Time of 10 minutes and 39 seconds for the arrival of an Effective Response Force at 90% of all structure fires

On an annual basis, complete all Mandated Training for 95% of safety personnel Projected Fire Department Growth Through 2035

Comprehensive Spending Plan

Projected Significant Improvements Through 2035

(Years in **Green** are itemized in the 2022-2027 Strategic Plan)

2023

1. Improve Shift support and oversight. Hire 1 additional Battalion Chief.
2. Begin completing all State Mandated inspections. Hire 1 full time Fire Inspector.
(Possible offset from inspection fees)
 - Purchase sedan
3. Improve inspection fee billing. Hire one full time civilian CRR Administrative Assistant.
4. Improve emergency apparatus fleet. Purchase used Truck/Quint for reserve status.

2024

1. Continue completing all State Mandated inspections. Hire 1 additional full time civilian Fire Inspector. (Possible offset from inspection fees)
 - Purchase sedan
2. Improve emergency apparatus fleet. Purchase 2 new engines. (1 for Engine 42, 1 for future Station Engine 44)
3. Design Station 4.

2025

1. Begin improving response times, effective response force, and firefighter to population ratio. Hire 3 Captains, 3 Engineers, and 3 Firefighters

2. Build Station 4.

2026

1. Begin Improving Training program. Hire 1 Captain.
 - Purchase 1 4x4 Utility Pickup
2. Continue improving emergency apparatus fleet. Hire 1 civilian Mechanic.
3. Improve CRR Division. Consider sharing plan checking position with Building Department.
4. Open Station 4.
 - Purchase 1 4x4 utility pickup

2027

1. Continue improving Fire Suppression Division support and oversight. Hire 1 Deputy Chief.
 - Purchase 1 4x4 utility pickup
2. Continue improving Fire Suppression Division support. Hire 1 civilian Administrative Assistant.
3. Improve Emergency Preparedness. Hire 1 full time Assistant Fire Marshal/Emergency Preparedness officer. (Possible offset from grant funding)
 - Purchase 1 sedan
4. Design Station 5, including fire station and training facility.

2028

1. Improve Administration Division and reduce Battalion Chief overtime. Hire 1 Administrative Battalion Chief/Shift Command Relief.

- Purchase 1 4x4 utility pickup

2. Hire 1 full time civilian Fire Inspector. (Possible offset with inspection fees)

- Purchase 1 sedan

Achieve annual completion of State mandated inspections.

3. Build Station 5, including fire station and training facility.

2029

1. Continue improving response time, effective response force, and firefighter to population ratio. Hire 3 Captains, 3 Engineers, and 3 Firefighters.

2030

1. Open Station 5 and training facility.

- Purchase 1 4x4 utility pickup

2. Replace SCBA platform.

Achieve Hanford 2035 General Plan 5th Fire Station.

Achieve Improving Response Times.

Achieve Effective Response Force of 16.

2031

1. Continue improving firefighter to population ratio. Hire 3 Firefighters for Truck 42.

2032

1. Continue improving firefighter to population ratio. Hire 3 Firefighters for Engine 41.

2033

1. Continue improving firefighter to population ratio. Hire 3 Firefighters for Engine 43.

2034

1. Continue improving firefighter to population ratio. Hire 3 Firefighters for Engine 44.

2035

1. Continue improving firefighter to population ratio. Hire 3 Firefighters for Engine 45.

Achieve 4-0 staffing.

2036

1. Hire 3 Captains, 3 Engineers, 6 Firefighters for Engine 42. Move Truck 42 to Station 1 as Truck 41 (Task Force Station).

Achieve firefighter to population ratio.

Projected Budget Impacts Through 2035

(Years in **Green** are itemized in the 2022-2027 Strategic Plan)

Year	Personnel	Vehicles	Facilities	Benchmarks
2023	1 Battalion Chief (Begin Shift BC Program) (Fire Suppression Division) @ \$200,000 1 Fire Inspector (Mandated Inspections) (Community Risk Reduction Division) @ \$100,000 (Fee Offset?) 1 Administrative Assistant (Community Risk Reduction Division) @ \$87,000 \$387,000 Recurring	1 Sedan @ \$50,000 1 Used Truck/Quint (Reserve) @ \$500,000		60,000 <u>population</u> .50 FF's per 1,000
2024	1 Fire Inspector (Mandated Inspections) @ \$100,000 (Fee Offset?) \$487,000 Recurring	1 Sedan @ \$50,000 2 Engines @ \$1, 700,000	Design Station 4 @ \$500,000	
2025	3 Captains, 3 Engineers, 3 Firefighters (E4) \$1,200,000 \$1,687,000 Recurring	1 4x4 Pickup @ \$80,000	Build Station 4 @ \$5,000,000	
2026	1 Captain (Training Officer) @ \$141,000 1 Mechanic @ \$95,000 1 Plan Checker (Share with Building Department) @\$100,000 \$2,023,000 Recurring	1 4x4 Pickup @ \$80,000	Open Station 4	

Year	Personnel	Vehicles	Facilities	Benchmarks
2027	1 Deputy Fire Chief (Fire Suppression Division) @ \$230,000 1 Administrative Assistant (Fire Suppression Division) @ \$87,000 1 Assistant Fire Marshal/Emergency Preparedness Officer (Community Risk Reduction Division) @ \$110,000 \$2,450,000 Recurring	1 Sedan @ \$50,000 1 Sedan @ \$50,000	Design Station 5 with Training Grounds @ \$1,000,000	
2028	1 Battalion Chief (Administrative/Shift Relief) @ \$203,000 1 Fire Inspector (Mandated Inspections) @ \$100,000 (Fee Offset?) \$2,753,000 Recurring	1 4x4 Pickup @ \$80,000 1 Sedan @ \$50,000	Build Station 5 with Training Grounds @ \$10,000,000	Achieve Completion of All Annual State Mandated Fire Inspections
2029	3 Captains, 3 Engineers, 3 Firefighters (E5) \$1,200,000 \$3,953,000 Recurring	1 Engine @ \$1,000,000		67,000 <u>population</u> .75 FF's per 1,000
2030		1 4x4 Pickup @ \$80,000	Open Station 5 with Training Grounds	Achieve Hanford 2035 General Plan 5th Fire Station Achieve Improving Response Times Achieve Effective Response Force of 16
2031	3 Firefighters \$360,000 \$4,313,000 Recurring			4th FF on Truck 42
2032	3 Firefighters \$360,000 \$4,673,000 Recurring			4th FF on Engine 41

Year	Personnel	Vehicles	Facilities	Benchmarks
2033	3 Firefighters \$360,000 \$5,033,000 Recurring			4th FF on Engine 43
2034	3 Firefighters \$360,000 \$5,393,000 Recurring			4th FF on Engine 44
2035	3 Firefighters \$360,000 \$5,753,000 Recurring	1 Engine @ \$1,000,000		4th FF on Engine 45
2036	3 Captains, 3 Engineers, 6 Firefighters \$1,600,000 (Staff Engine 42/move Truck 42 to Truck 41 to create a Task Force Station 1) \$7,353,000 Recurring			<u>75,000 population</u> Achieve 4-0 Staffing Achieve 1 FF per 1,000
Total	\$7,353,000 Recurring	\$4,800,000	\$16,500,000	

RESOLUTION NO. 24-279-R

**A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF HANFORD ADOPTING
THE HANFORD FIRE DEPARTMENT GUIDING DOCUMENTS**

At a regular meeting of the City Council of the City of Hanford duly called to order and held on June 18th, 2024 at 7:00 p.m., it was moved by Council Member _____, and seconded by Council Member _____, and duly carried that the following resolution be adopted:

WHEREAS, the City of Hanford recognizes that a plan consisting of an assessment of community risk as well as a means to deal with that risk in the form of a response matrix are essential to industry best practices for modern fire service agencies; and

WHEREAS, having undertaken the processes to develop these plans called a Community Risk Assessment and a Standard of Response Coverage have been diligently and dutifully executed; and

WHEREAS, having also developed a broad financial plan the Master Spending Plan to effectively support the mitigation of those risks identified in the Community Risk Assessment and to address the needed recommendations developed within a Standard of Response Coverage; and

WHEREAS, City of Hanford Fire Department would benefit from the adoption of these guiding documents as a framework for departmental goals, actions and activities that benefit the safety and well being of the citizens of the City of Hanford; and

WHEREAS, the guiding documents have been reviewed for accuracy and context, vetted by subject matter experts in areas of emergency management, and verified by neutral third-party risk assessment firms (Insurance Service Offices/ Verisk).

NOW, THEREFORE, BE IT RESOLVED, that the City Council of the City of Hanford does hereby adopt the following “HFD Guiding Documents: Community Risk Assessment, Standards of Response Coverage and Master Spending Plan” as an official plan/ departmental guiding document; and

ADOPTED by the City Council of the City of Hanford at a regular meeting of said Council held on the 18th day of June, 2024, by the following vote:

AYES: _____

NOES: _____

ABSTAIN: _____

ABSENT: _____

TRAVIS PADEN
MAYOR of the City of Hanford

Attest:

NATALIECORRAL
CITY CLERK

STATE OF CALIFORNIA)
COUNTY OF KINGS) ss
CITY OF HANFORD)

I, Natalie Corral, City Clerk of the City of Hanford, do hereby certify the foregoing Resolution was duly passed and adopted at a regular meeting of the City Council of the City of Hanford held on the _____ day of _____, 2024.

Date: _____

City Clerk



AGENDA STAFF REPORT

MEETING DATE: 6/18/2024

AGENDA SECTION: CONSENT CALENDAR

SUBJECT:

Approval of twenty-four (24) Annual Blanket Purchase Orders (BPO) over \$50,000 for various divisions in the Public Works Department for a total of \$7,799,106.43, which is already approved in the FY24/25 Budget.

RECOMMENDATION:

Recommendation:

Staff recommends that the City Council approve the following Annual Blanket Purchase Orders (BPO) for \$7,799,106.43, allocated in the FY 24/25 Council-adopted budget.

Recommended Motion:

That by motion, the City Council approves the Annual Blanket Purchase Orders (BPO) for the total of \$7,779,106.43 allocated in the FY 24/25 Council-approved budget.

BACKGROUND:

Per Hanford Municipal Code 2.48.060, the City Council has the sole authority to authorize purchases exceeding \$50,000.00, regardless of whether the funding has already been appropriated in the adopted budget. Additionally, purchases of \$2,500.00 or more must have either formal or informal bids or a sole-source justification provided.

The purchase orders list covers annual contracts for the Public Works department for the City of Hanford.

Fleet Maintenance BPOs include annual contracts with the vendors listed below.

Kings Petroleum	Fuels Services	\$795,000.00
Badasci Tire Company	Tires/Tubes/Labor	\$208,068.00
Rucksteel of CA	Parts/Labor	\$131,673.00
Central Valley GMC	Parts/Labor	\$136,500.00
Van Der Pol Enterprises	Fuel Services	\$126,000.00
Del Rey Tire	Tires/Tubes/Labor	\$129,036.00
Silvas Oil Company	Fuel Services	\$110,000.00
Greg's Petroleum Service	Fuel/Oil	\$80,000.00
Sawtelle & Rosprim Machine Shop	Parts/Labor	\$75,000.00
RV Jensen	Fuel/Oil	\$55,000.00

Refuse BPOs include annual contracts with the vendors listed below.

Kings Waste & Recycle Authority	Tipping Fees	\$2,756,380.00
Wastequip Manufacturing Company	Refuse Containers Residential/Commercial	\$509,000.00

Refuse Street Cleaning BPO includes an annual contract with the vendor listed below.

SCA of CA	Contracted Street Sweeping	\$869,289.43
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Waste Water Operations BPOs include annual contracts with the vendors listed below.

Thatcher Co of CA	Chemical and Chem Supplies	\$484,610.00
Telstar Instruments	Equipment Maintenance	\$167,000.00
Fruit Growers Laboratory	Professional Services	\$106,440.00
Lakeside Irrigation	WWTP Effluent	\$110,000.00
Mattos Underground	Underground Services	\$100,000.00

Street Maintenance BPOs include annual contracts with the vendors listed below.

Contracted Vendor	Sidewalk, Curb and Gutter, ADA	\$130,000.00
Martin Merietta Materials	Asphalt and base rock	\$120,000.00
Ennis Paint Inc	Street Paint and Materials	\$79,110.00

Water Operations BPO includes an annual contract with the vendor listed below.

Univar Solutions USA	Chlorine	\$371,000.00
Mattos Underground	Underground Services	\$100,000.00

Storm Drain Operations BPO includes an annual contract with the vendor listed below.

Mattos Underground	Underground Services	\$50,000.00
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FISCAL IMPACT :

PURCHASE ORDERS TOTAL \$7,799,106.43 IN APPROVED SPENDING. THESE EXPENSES COME OUT OF PREVIOUSLY APPROVED BUDGET APPROPRIATIONS ACROSS ALL IMPACTED DEPARTMENTS FOR FISCAL YEAR 2024/2025.

ATTACHMENTS:

None



AGENDA STAFF REPORT

MEETING DATE: 6/18/2024

AGENDA SECTION: CONSENT CALENDAR

SUBJECT:

Authorization for the City Manager to enter into a contract with Structure Cast, of Bakersfield, CA, for the design, construction, and installation of a Prefabricated Restroom and Concession stand building at the Youth Athletic Complex for the amount of \$585,079 (CIP Project No. 821611). .

RECOMMENDATION:

Recommendation: That the City Council, by motion, authorize the City Manager to enter into a contract with Structure Cast, of Bakersfield, CA, for the design, construction, and installation of a Prefabricated Restroom and Concession stand building at the Youth Athletic Complex in the amount of \$585,079 (CIP Project No. 821611).

Recommended Motion: I move to authorize the City Manager to award the design-bid contract for RFP 2024-17, for the Prefabricated Restroom and Concession stand building at the Youth Athletic Complex, to Structure Cast in the amount of \$585,079.

BACKGROUND:

The Youth Athletic Complex is a supportive facility that serves the youth, families, and friends of the Hanford Youth Baseball League and Tournament Play (referred to as "Users of the Facility"). Currently, the facility accommodates approximately 700 youths participating in youth baseball from early spring through the summer and into the fall.

The existing facility, which is approximately 40 years old, is run-down and in need of replacement. It does not meet ADA/ABA accessibility standards, and there is a need for additional dry food storage and workspace in the concessions area.

The City conducted an initial meeting with the Users of the Facility and has determined that a prefabricated building with slight modifications to meet specific needs would be most beneficial for the site. Staff also met with various pre-fabricated building vendors to develop floor plans, elevations, materials, and modifications in order to develop a best suited design.

This project was initially identified in 2018, through the Five-Year Capital Improvement Plan (2020-2024) in the amount of \$305,717. Due to escalating costs, the project was temporarily suspended. On June 21, 2022, Council allocated an additional \$572,000 from the American Rescue Plan Act (ARPA) to the project. In March 2024 staff reviewed and evaluated available ARPA funding and supplemented an additional \$400,000 to the project. The estimated total project budget is \$1,232,717.

4Creeks, one of the City's on-call engineers, was contracted in May of this year to prepare construction drawings for the site's preparation to accommodate the new pre-fabricated building. 4Creeks is managing the coordination efforts of the team and sub-consultants to ensure the project stays on schedule and within budget. Additionally, they have conducted a topographic field survey to gather necessary surface, subsurface, and utility data for access road and entrance improvements. This has allowed them to complete the site and demolition plans.

4Creeks is also managing utility coordination, including utility research, identifying conflicts, coordinating relocations, and assisting with utility contracts and invoices. They are currently getting a head start by working with Structure cast to coordinate the utility locations for the building. 4Creeks is preparing the project specifications and cost estimates, including special provisions and technical specifications. For the pre-manufactured concession building foundation, they will coordinate with Structure cast to design and verify the foundation and anchorage, preparing related drawings and calculations.

During the bidding phase, 4Creeks will assist by attending pre-bid meetings, providing clarifications, and reviewing bids to recommend awards. Furthermore, they will support the construction phase by attending meetings, responding to RFIs, reviewing submittals, assisting with potential change orders, and preparing as-built drawings.

Additionally, staff has finalized, advertised, and received a proposal in response to Request for Proposals (RFP2024-17) to procure a prefabricated building. The proposal is for a turnkey building, covering design, construction, delivery, and installation by the vendor. The building will be designed to meet all applicable codes, including ADA, Title 24, and requirements for mechanical, electrical, plumbing, fire sprinklers, and more.

Staff is preparing a Request for Bid (RFB) for the demolition of the current building to make way for the new prefabricated structure. Demolition will be coordinated and scheduled prior to the delivery of the new building. The RFB will also include utility connections and/or relocations as needed, and site improvements, including reconstructing the access road.

PROJECT SCHEDULE:

In the most recent update from Structurecast, it has been confirmed that they are capable of meeting the project's Fall delivery schedule. This is a significant development as it addresses previous concerns regarding potential delays. The critical path going forward will involve finalizing the site utility plan, securing a general contractor, and preparing the site for the building delivery/install. This progress indicates project completion by March 1, 2025, in time for; Youth Little League Opening Day. Demolition and preparation of the site will be coordinated and performed prior to the building delivery. Accordingly, the goal is for the site work to start late summer.

SELECTION PROCESS:

The City of Hanford received one (1) proposal in response to the advertised Request for Proposals, RFP 2024-17, for the design and installation of the Youth Athletic Complex prefabricated restroom and concession stand building. The proposal was received on May 16th, 2024, from the following:

Company:	Location:
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The firm was found technically qualified to perform the required work, the proposer demonstrates prior experience in prefabricated construction across various projects. With over 30 years in business, the company has successfully completed projects in hospital, airport, government, and university settings. To ensure a thorough and fair evaluation of the consultant's proposal, a dedicated proposal review committee was assembled. This committee diligently assessed and scored each proposal, providing comments throughout the process. The primary objective was to select a consultant demonstrating the highest qualification for the required services and a comprehensive understanding of the scope of work. Following the committee's evaluations, staff identified Structure Cast as a qualified candidate based on their strong references, well-structured proposal, and extensive portfolio of prefabricated construction projects.

Structure Cast receives high praise from their provided references in the RFP. Notably, they have been commended for their ability to remain within budget and for their collaborative approach. Given their expertise and positive references, staff recommends selecting Structure Cast as the designated design-builder for the project.

FISCAL IMPACT:

The design and construction of this project will be funded using ARPA Funds. The bid amount from Structure Cast is \$585,079, which falls within the allocated budget. Below is a breakdown of costs associated with the design and pre-fab installation portion of this project:

Budget Summary	
Project Budget (ARPA funding)	\$1,232,717
Design:	
Design Phase Costs (City Staff Time, permit fees, etc.) (10%)	\$7,770
Design Consultant – 4 Creeks	\$77,700
Design/Pre-fab Installation:	
Design Build Consultant – Structure Cast	\$585,079
Construction Contingency (15%)	\$88,000
Construction Inspection (1%)	\$6,000
Construction Management (2.5%) – City Staff Costs	\$15,000
Material Testing (1%)	\$6,000
Site Improvements	\$200,000
Total Estimated Costs	\$985,549
Remaining Balance	\$247,168

The project budget summary includes a 15% construction contingency. The bid came under budget, therefore, there are sufficient funds at this time to proceed with the award of the design and installation of the Prefab Building. No additional appropriations are needed at this time.

Staff will revisit the project budget at the time of the site improvement construction contract award. Currently, the cost estimates are preliminary, as the engineering design is still being refined. The impact of relocating the electrical switchgear and nitrogen feeder is still uncertain. Once utility coordination is complete, staff will better understand the costs and can provide an updated project cost estimate.

PRIOR COUNCIL ACTION:

April 3rd, 2024 - Authorization to Award a Professional Services Contract to 4Creeks Engineering of Visalia, Ca., in the amount of \$77,700 for Design Services required for the Youth Athletic Complex (YAC) Restroom/Concession Stand Building Project.

ATTACHMENTS:

1. Proposal YAC Restroom and Concession

May 31, 2024
Proposal #24-104181



STRUCTURE CAST

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CREATING PRECAST SOLUTIONS SINCE 1974
WOMEN OWNED SMALL BUSINESS – WOSB 160389
WOMEN BUSINESS ENTERPRISE – WBE 1600356

CALIFORNIA LICENSE # 774870
DIR #1000000308
CA CERTIFIED SBE #42811

To: City of Hanford

Subject: City Project No. 2024-17 – Prefabricated Restroom and Concession Stand Building

Qty.	Description	Price
1	Prefabricated Restroom & Concession Building 23'4" X 40'	\$541,066
1	Delivery	\$ 8,250
1	Installation	<u>\$ 35,763</u>
		\$585,079



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Page 1 of 3



AGENDA STAFF REPORT

MEETING DATE: 6/18/2024

AGENDA SECTION: CONSENT CALENDAR

SUBJECT:

Approval of the Notice of Completion for the Hanford Airport FBO Building Roof Restoration Project, for a final project cost of \$56,060.00, and Authorization for the Mayor to execute and the City Clerk to file said Notice with the Kings County Recorder's Office.

RECOMMENDATION:

That the City Council, by motion, approve the Notice of Completion for the Hanford Airport FBO Building Roof Restoration Project for a final project cost of \$56,060.00, and authorize the Mayor to execute and City Clerk to file said Notice with the Kings County Recorder's Office.

BACKGROUND:

On February 20th, 2024, the City held a bid opening for the "Hanford Airport FBO Building Roof Restoration Project." On March 5th, 2024, the City Council awarded the contract to Pacific Polymers, DBA American Foam Experts, of Galt, CA, for \$55,400.00. The project included removing the old skylight trims and materials, cleaning the roof, and applying a silicone roof coating. Additionally, the AC unit was raised, the skylight was replaced with materials provided by the City.

Project construction began on May 21st, 2024. During this period, changes to the scope of work arose were not contemplated by the initial plans or specifications, necessitating additional work as detailed in Fiscal Impact below. These changes required prompt direction from the contractor to avoid costly interruptions and were essential for the management and control of the contract. Despite these changes there was no impact on the contract time. The contractor completed the work on May 24th, 2024, six days ahead of the scheduled completion date of May 30th, 2024.

There were two contract change orders for this project, resulting in a net increase of \$3,600.00 to the original contract for a construction total of \$56,050.00. All change orders were negotiated to the lowest possible cost, prepared, and captured all additional work outside the original scope of the project. The additional costs resulting from the change in scope were within the project contingencies and were approved by the Public Works Director.

Change Order #1 - \$2,550.00: The contractor provided a cost for materials only for six prefabricated skylights, in lieu of the City providing materials to frame out six areas of clear corrugated roof material skylights per the original contract.

Change Order #2 - \$1,050.00: This order involved the removal of an old 3' x 30' metal sign board installed directly on the rooftop. This sign board had not been used for some time and its removal was approved by Airport Manager Robert "Bob" Loogman.

FISCAL IMPACT:

The FY 23/24 Capital Improvement Program Budget provides \$92,000.00 for construction, including contingencies, for this project. On March 5, 2024, the City Council approved \$55,400.00 for the Airport Roof Restoration, and to approve an additional budget in the amount of \$8,864.00 for construction contingency and administration.

Below is a breakdown of all the costs associated with this project:

Contract Change Order No.

CCO#1 - Skylights	\$	2,550.00
CCO#2 - Roof Sign Removal	\$	1,050.00

Total Change Order Cost	\$	3,600.00
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Total Project Funding

Airport Operations Fund:	\$	92,000.00
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Total Project Costs

City Staff Pre-Construction Cost:	\$	2,294.71
Construction Contract Amount:	\$	55,400.00
Change Orders:	\$	3,600.00
Building Permit Fees:	\$	294.71
Materials Testing:	\$	-
City Surveying:	\$	-
City Staff, Management & Inspection Cost:	\$	4,381.85
Misc. Expenses (Postage/Media/Clerical):	\$	565.01

Total Project Cost	\$	66,536.28
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Project Budget Surplus (Deficit):	\$	25,463.72
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Remaining funds will be released back to the Airport Operations Fund.

ATTACHMENTS:

1. NOC - Recording Original (Word)
2. NOC - Recording Original (PDF)

RECORDING REQUESTED BY:
CITY OF HANFORD

When recorded return to:

City Clerk
City of Hanford
315 North Douty Street
Hanford, California 93230-3951

G.C. 27361.3 - Fee NIL

NOTICE OF COMPLETION

TO WHOM IT MAY CONCERN:

YOU ARE HEREBY NOTIFIED AS FOLLOWS:

1. The work of Improvement is located: 954 E. Hanford Armona Rd. Hanford, CA 93230
2. The Improvement is particularly described as: Hanford Airport FBO Building Roof Restoration Project
3. The date of completion of the work of Improvement: May 24th, 2024
4. The Owner of the work of Improvement: City of Hanford.
5. The nature of the owner's interest or estate: Fee Simple Title.
6. The name of the original contractor for the work of Improvement: Pacific Polymers, DBA American Foam Experts, of Galt, CA
7. The surety for the work of Improvement: Western National Mutual Insurance Company
8. All work for this project has been completed.
9. Accepted by minute action of the City Council of the City of Hanford on: June 18, 2024

I certify under penalty of perjury that the foregoing is true and correct.
Dated this 18th day of June 2024

BY: _____
Travis Paden, Mayor
City of Hanford, County of Kings, State of California

I, the undersigned, say:
I am the person who signed the foregoing notice. I have read the above notice and know its contents, and the facts stated therein are true of my own knowledge.

I declare under penalty of perjury that the foregoing is true and correct.

Executed at Hanford, California, this _____ day of _____, 2024.

BY: _____
Travis Paden, Mayor
City of Hanford, County of Kings, State of California

Authority: Section 1181 Civil Code

RECORDING REQUESTED BY:
CITY OF HANFORD

When recorded return to:

City Clerk
City of Hanford
315 North Douty Street
Hanford, California 93230-3951

G.C. 27361.3 - Fee NIL

NOTICE OF COMPLETION

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5. The nature of the owner's interest or estate: Fee Simple Title.
6. The name of the original contractor for the work of Improvement: Pacific Polymers, DBA American Foam Experts, of Galt, CA
7. The surety for the work of Improvement: Western National Mutual Insurance Company
8. All work for this project has been completed.
9. Accepted by minute action of the City Council of the City of Hanford on: June 18, 2024

I certify under penalty of perjury that the foregoing is true and correct.
Dated this 18th day of June 2024

BY: _____
Travis Paden, Mayor
City of Hanford, County of Kings, State of California

I, the undersigned, say:
I am the person who signed the foregoing notice. I have read the above notice and know its contents, and the facts stated therein are true of my own knowledge.

I declare under penalty of perjury that the foregoing is true and correct.

Executed at Hanford, California, this _____ day of _____, 2024.

BY: _____
Travis Paden, Mayor
City of Hanford, County of Kings, State of California

Authority: Section 1181 Civil Code



AGENDA
STAFF REPORT

MEETING DATE: 6/18/2024	AGENDA SECTION: CONSENT CALENDAR
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SUBJECT:

Approval of a renewal of the Services Agreement, between City of Hanford and County of Fresno to provide emergency dispatch services for the Hanford Fire Department at an annual cost of \$256,320 the first year with annual increases.

RECOMMENDATION: That the Council, by motion , Approve the renewal of a Services Agreement, between City of Hanford and County of Fresno to provide emergency dispatch services for the Hanford Fire Department for FY25-FY27 paid on a monthly basis with a 90-day termination clause.

Background: The purpose of the contract between the city of Hanford Fire Department and the County of Fresno Emergency Medical Services Agency is to continue to provide radio communications and emergency response dispatching services 24/7, 365 days a year for fire and medical emergency responses within the city of Hanford. The County of Fresno provides the employees and portions of the infrastructure to complete this task by contract through American Ambulance of Fresno. These Dispatch employees are trained in Emergency Medical Dispatch (EMD) which allows them to give life-saving pre-arrival instructions to the 9-1-1 caller while emergency crews are en route to the call. This contracted service allows Hanford PD- the Primary Safety Answering Point (PSAP) to take the 9-1-1 call and then transfer the call when a medical emergency or fire-related emergency is reported. This contract is for a period of three years with a defined amount for each year:

July 1, 2024, through June 30, 2025	\$256,320
July 1, 2025, through June 30, 2026	\$264,009
July 1, 2026, through June 30, 2027	\$271,929

The city is invoiced monthly and pays for these services in arrears to allow for flexibility in termination of the contract when warranted. The city retains the right within this contract to terminate said contract with a 90-day notice either with or without cause. The City has been in contract without any material breach or major cause for concern with the county of Fresno for these services for the past three years, from 2021-2023. This proposed contract does not contain any substantive changes other than the increase in dispatching service fees as noted above for FY 23-24. The current contract for services will end June 30th 2024 with the city having paid a total of \$208,722 for those services rendered. The change in service fees as stated above to \$256,320 for FY 24/25 represents a nearly 23% increase under the proposed contract for year 1 and a 3% year-to-year increase over the entirety of the contract through FY 2027. This equates to a total fiscal impact during the length of the proposed 3-year contract of nearly \$792,258 by FY 2027. Staff is currently actively exploring as well

as diligently researching other cost-saving options with other entities in the region or with the City's dispatch personnel. However, infrastructure with radio systems within the region hampers many of the options available and will be researched in an effort to address the rising costs of these contractual services.

FISCAL IMPACT: There is a Fiscal impact, year one, of this contract with an increase of \$47,598 for FY 24-25. This increases the first year's contractual rate by nearly 23% for a total of \$256,320 for this single year alone. There is also a 3% increase from year-to-year over the 3-year contract length totaling \$792,258.

ATTACHMENTS:

1. Hanford Fire Dispatch Agreement Draft (3)

1 **AGREEMENT**

2 This Service Agreement ("Agreement") is dated _____ and is between
3 the City of Hanford, a California Municipal Corporation ("City"), and the County of Fresno, a
4 political subdivision of the State of California ("County").

5 **Recitals**

6 A. City desires to establish this Agreement with County, and County has the capability and
7 capacity to provide certain dispatching services for fire suppression calls, which may include
8 dispatching of non-transport first responder services from County's EMS Communications
9 Center

10 B. It is to the mutual benefit and in the best interest of the Parties to have a combined EMS
11 and City's Fire Dispatching Service for the purpose of providing improved services to the public.

12 C. It is a goal of the Parties to maintain consolidated dispatching services in Kings County,
13 and the Parties have determined that there is a need to provide EMS dispatching services and
14 City Fire Dispatching Services through a centralized and combined effort by County's EMS
15 Communications Center and City Fire.

16 D. County's EMS Communications Center is staffed and operated by K.W.P.H. Enterprises,
17 doing business as American Ambulance, a California Corporation ("Provider") through that
18 certain Emergency Medical Services and Provider Agreement for Emergency Ambulance
19 Services, dated May 16, 2017 (County Agreement No. 17-218), by and between County and
20 Provider, including all amendments thereto (the "EMS Provider Agreement").

21 The parties therefore agree as follows:

22 **Article 1**

23 **City's Responsibilities**

24 1.1 The City shall perform all of the services provided in Exhibit A to this Agreement,
25 titled "City's Responsibilities."

26 1.2 **Representation.** The City represents that it is qualified, ready, willing, and able to
27 perform all of the services provided in this Agreement.
28

1.3 **Compliance with Laws.** The City shall, at its own cost, comply with all applicable federal, state, and local laws and regulations in the performance of its obligations under this Agreement, including but not limited to workers compensation, labor, and confidentiality laws and regulations.

Article 2

County's Services

2.1 The County shall perform all of the services provided in Exhibit B to this Agreement titled "County's Services."

2.2 **Representation.** The County represents that it is qualified, ready, willing, and able to perform all of the services provided in this Agreement.

Article 3

Compensation, Invoices, and Payments

3.1 For County's performance of Fire Dispatching Services herein, City agrees to pay, and the County agrees to receive, compensation for the performance of its services under this Agreement according to Exhibit C to this Agreement, titled "Compensation."

3.2 **Maximum Compensation.** The maximum compensation payable to County under the performance of this Agreement is as follows:

For the period of July 1, 2024 through June 30, 2025, the amount of this Agreement shall not exceed Two Hundred Fifty-Six Thousand Three Hundred Twenty and 00/100 Dollars (\$256,320.00).

For the period of July 1, 2025 through June 30, 2026, the amount of this Agreement shall not exceed Two Hundred Sixty-Four Thousand Nine and 00/100 Dollars (\$264,009.00).

For the period of July 1, 2026 through June 30, 2027, the amount of this Agreement shall not exceed Two Hundred Seventy-One Thousand Nine Hundred Twenty-Nine and 00/10 Dollars (\$271,929.00).

3.3 **Invoices.** County shall invoice City monthly, addressed to the City of Hanford Fire Department, 350 W Grangeville Blvd, Hanford, California, 93230, Attention: Fire Chief

3.4 **Payment.** Payments by City shall be in arrears, for services provided during the preceding month, within forty-five (45) days after receipt and verification of County's invoices by City Fire. All payments shall be remitted to County at the following address: County of Fresno, Department of Public Health – Emergency Medical Services Division, P.O. Box 11867, Fresno, California, 93775.

3.5 **Incidental Expenses.** The City is solely responsible for all of its costs and expenses that are not specified as payable by the County under this Agreement.

Article 4

Term of Agreement

4.1 **Term.** This Agreement is effective on July 1, 2024 and terminates on June 30, 2027, except as provided in Article 6, "Termination and Suspension," below.

4.2 **Data Upon Termination.** When this Agreement terminates, County shall promptly provide City with the data generated through the Fire Dispatching Services provided herein in a commonly usable electronic format.

Article 5

Notices

5.1 **Contact Information.** The persons and their addresses having authority to give and receive notices provided for or permitted under this Agreement include the following:

For the County:

Director, Department of Public Health
County of Fresno
P.O. Box 11867
Fresno, CA 93775
CCEMSA@fresnocountyca.gov
Fax: (559) 600-7691

For the City:

City of Hanford
Attn: Fire Chief
350 W Grangeville Blvd
Hanford, CA 93230

5.2 Change of Contact Information. Either party may change the information in section 5.1 by giving notice as provided in section 5.3.

5.3 **Method of Delivery.** Each notice between the County and the City provided for or permitted under this Agreement must be in writing, state that it is a notice provided under this Agreement, and be delivered either by personal service, by first-class United States mail, by an overnight commercial courier service, by telephonic facsimile transmission, or by Portable Document Format (PDF) document attached to an email.

(A) A notice delivered by personal service is effective upon service to the recipient.

(B) A notice delivered by first-class United States mail is effective three County business days after deposit in the United States mail, postage prepaid, addressed to the recipient.

(C) A notice delivered by an overnight commercial courier service is effective one County business day after deposit with the overnight commercial courier service, delivery fees prepaid, with delivery instructions given for next day delivery, addressed to the recipient.

(D) A notice delivered by telephonic facsimile transmission or by PDF document attached to an email is effective when transmission to the recipient is completed (but, if such transmission is completed outside of County business hours, then such delivery is deemed to be effective at the next beginning of a County business day), provided that the sender maintains a machine record of the completed transmission.

5.4 **Claims Presentation.** For all claims arising from or related to this Agreement, nothing in this Agreement establishes, waives, or modifies any claims presentation requirements or procedures provided by law, including the Government Claims Act (Division 3.6 of Title 1 of the Government Code, beginning with section 810).

Article 6

Termination and Suspension

6.1 **Termination for Non-Allocation of Funds.** The terms of this Agreement are contingent on the approval of funds by the appropriating government agency. If sufficient funds are not allocated, then either party may:

(A) Modify the services provided under this Agreement; or

1 (B) Terminate this Agreement by the non-appropriating governmental agency giving
2 the other party at least ninety (90) days advance written notice of an intention to
3 terminate.

4 **6.2 Termination for Breach.**

5 (A) Upon determining that a breach (as defined in paragraph (C) below) has
6 occurred, the County may give written notice of the breach to the City. The written notice
7 may suspend performance under this Agreement, and must provide at least 30 days for
8 the City to cure the breach.

9 (B) If the City fails to cure the breach to the County's satisfaction within the time
10 stated in the written notice, the County may terminate this Agreement immediately.

11 (C) For purposes of this section, a breach occurs when, in the determination of the
12 County, the City has:

- 13 (1) Obtained or used funds illegally or improperly;
14 (2) Failed to comply with any part of this Agreement;
15 (3) Submitted a substantially incorrect or incomplete report to the County; or
16 (4) Improperly performed any of its obligations under this Agreement.

17 **6.3 Termination without Cause.** Under circumstances other than those set forth above,
18 this Agreement may be terminated by City or County upon giving the other party at least ninety
19 (90) days advance written notice of an intention to terminate.

20 **6.4 No Penalty or Further Obligation.** Any termination of this Agreement by the County
21 under this Article 6 is without penalty to or further obligation of the County.

22 **6.5 County's Rights upon Termination.** City shall compensate or provide funding to
23 County for Fire Dispatching Services performed prior to termination of this Agreement. This
24 section survives the termination of this Agreement.

25 **Article 7**

26 **Independent Contractor**

27 **7.1 Status.** In performing under this Agreement, the County, including its officers,
28 agents, employees, and volunteers, is at all times acting and performing as an independent

contractor, in an independent capacity, and not as an officer, agent, servant, employee, joint venturer, partner, or associate of the City.

7.2 **Verifying Performance.** The City has no right to control, supervise, or direct the manner or method of the County's performance under this Agreement, but the City may verify that the County is performing according to the terms of this Agreement.

7.3 **Benefits.** Because of its status as an independent contractor, the County has no right to employment rights or benefits available to City employees. The County is solely responsible for providing to its own employees all employee benefits required by law. The County shall save the City harmless from all matters relating to the payment of County's employees, including compliance with Social Security withholding and all related regulations.

7.4 **Services to Others.** The parties acknowledge that, during the term of this Agreement, the County may provide services to others unrelated to the City.

Article 8

Indemnity and Defense

8.1 **Indemnity by City.** The City shall indemnify and hold harmless and defend the County (including its officers, agents, employees, and volunteers) against all claims, demands, injuries, damages, costs, expenses (including attorney fees and costs), fines, penalties, and liabilities of any kind to the County, the City, or any third party that arise from or relate to the performance or failure to perform by the City (or any of its officers, agents, subcontractors, or employees) under this Agreement. The County may conduct or participate in its own defense without affecting the City's obligation to indemnify and hold harmless or defend the County.

8.2 **Indemnity by County.** The County shall indemnify and hold harmless and defend the City (including its officers, agents, employees, and volunteers) against all claims, demands, injuries, damages, costs, expenses (including attorney fees and costs), fines, penalties, and liabilities of any kind to the City, the County, or any third party that arise from or relate to the performance or failure to perform by the County (or any of its officers, agents, subcontractors, employees, or Provider) under this Agreement. The City may conduct or participate in its own

1 defense without affecting the County's obligation to indemnify and hold harmless or defend the
2 City.

3 **8.3 Concurrent Negligence.** In the event of concurrent negligence on the part of County
4 or any of its officers, agents or employees, or Provider, and of City or any of its officers, agents,
5 or employees, the liability for any and all such claims, demands and actions in law or equity for
6 such costs and expenses (including attorneys' fees and costs), damages, and losses shall be
7 apportioned under the State of California's theory of comparative negligence as presently
8 established or as may be modified hereafter.

9 **8.4 Survival.** This Article 8 survives the termination of this Agreement.

10 **Article 9**

11 **Insurance**

12 **9.1** The Parties shall comply with all the insurance requirements in Exhibit D to this
13 Agreement.

14 **Article 10**

15 **Inspections, Audits, and Public Records**

16 **10.1 Inspection of Documents.** During the term of this Agreement and for a period of
17 three (3) years after final payment under this Agreement, each party shall at any time during
18 business hours, and as often as the other party may deem necessary, make available to the
19 other party for examination all of the party's records and data with respect to the matters
20 covered by this Agreement. During the same period of time, each party shall also, upon request
21 by the other party, permit the other party to audit and inspect all such records and data
22 necessary to ensure the party's compliance with the terms of this Agreement.

23 **10.2 State Audit Requirements.** If the compensation under this Agreement exceeds
24 \$10,000, the County is subject to the examination and audit of the California State Auditor, as
25 provided in Government Code section 8546.7, for a period of three years after final payment
26 under this Agreement.

27 **10.3 Public Records.** The County is not limited in any manner with respect to its public
28 disclosure of this Agreement or any record or data that the City may provide to the County. The

County's public disclosure of this Agreement or any record or data that the City may provide to the County may include but is not limited to the following:

(A) The County may voluntarily, or upon request by any member of the public or governmental agency, disclose this Agreement to the public or such governmental agency.

(B) The County may voluntarily, or upon request by any member of the public or governmental agency, disclose to the public or such governmental agency any record or data that the City may provide to the County, unless such disclosure is prohibited by court order.

(C) This Agreement, and any record or data that the City may provide to the County, is subject to public disclosure under the Ralph M. Brown Act (California Government Code, Title 5, Division 2, Part 1, Chapter 9, beginning with section 54950).

(D) This Agreement, and any record or data that the City may provide to the County, is subject to public disclosure as a public record under the California Public Records Act (California Government Code, Title 1, Division 7, Chapter 3.5, beginning with section 6250) ("CPRA").

(E) This Agreement, and any record or data that the City may provide to the County, is subject to public disclosure as information concerning the conduct of the people's business of the State of California under California Constitution, Article 1, section 3, subdivision (b).

(F) Any marking of confidentiality or restricted access upon or otherwise made with respect to any record or data that the City may provide to the County shall be disregarded and have no effect on the County's right or duty to disclose to the public or governmental agency any such record or data.

10.4 Public Records Act Requests. If the County receives a written or oral request under the CPRA to publicly disclose any record that is in the City's possession or control, and which the County has a right, under any provision of this Agreement or applicable law, to possess or control, then the County may demand, in writing, that the City deliver to the County,

for purposes of public disclosure, the requested records that may be in the possession or control of the City. Within five business days after the County's demand, the City shall (a) deliver to the County all of the requested records that are in the City's possession or control, together with a written statement that the City, after conducting a diligent search, has produced all requested records that are in the City's possession or control, or (b) provide to the County a written statement that the City, after conducting a diligent search, does not possess or control any of the requested records. The City shall cooperate with the County with respect to any County demand for such records. If the City wishes to assert that any specific record or data is exempt from disclosure under the CPRA or other applicable law, it must deliver the record or data to the County and assert the exemption by citation to specific legal authority within the written statement that it provides to the County under this section. The City's assertion of any exemption from disclosure is not binding on the County, but the County will give at least 10 days' advance written notice to the City before disclosing any record subject to the City's assertion of exemption from disclosure. The City shall indemnify the County for any court-ordered award of costs or attorney's fees under the CPRA that results from the City's delay, claim of exemption, failure to produce any such records, or failure to cooperate with the County with respect to any County demand for any such records.

10.5 **Retention.** Each party shall maintain its records in connection with the respective services referred to under this Agreement. Such records must be maintained for a minimum of three (3) years. Records must also be maintained a minimum of three (3) years after the termination of this Agreement. The party generating the records shall maintain ownership of the records upon termination of this Agreement.

10.6 This Article 10 shall survive the expiration or termination of this Agreement.

Article 11

General Terms

11.1 **Modification.** Except as provided in Article 6, "Termination and Suspension," this Agreement may not be modified, and no waiver is effective, except by written agreement signed

1 by both parties. The City acknowledges that County employees have no authority to modify this
2 Agreement except as expressly provided in this Agreement.

3 11.2 **Non-Assignment.** Neither party may assign its rights or delegate its obligations
4 under this Agreement without the prior written consent of the other party.

5 11.3 **Governing Law.** The laws of the State of California govern all matters arising from
6 or related to this Agreement.

7 11.4 **Jurisdiction and Venue.** This Agreement is signed and performed in Fresno
8 County, California. City consents to California jurisdiction for actions arising from or related to
9 this Agreement, and, subject to the Government Claims Act, all such actions must be brought
10 and maintained in Fresno County.

11 11.5 **Construction.** The final form of this Agreement is the result of the parties' combined
12 efforts. If anything in this Agreement is found by a court of competent jurisdiction to be
13 ambiguous, that ambiguity shall not be resolved by construing the terms of this Agreement
14 against either party.

15 11.6 **Days.** Unless otherwise specified, "days" means calendar days.

16 11.7 **Headings.** The headings and section titles in this Agreement are for convenience
17 only and are not part of this Agreement.

18 11.8 **Severability.** If anything in this Agreement is found by a court of competent
19 jurisdiction to be unlawful or otherwise unenforceable, the balance of this Agreement remains in
20 effect, and the parties shall make best efforts to replace the unlawful or unenforceable part of
21 this Agreement with lawful and enforceable terms intended to accomplish the parties' original
22 intent.

23 11.9 **Nondiscrimination.** During the performance of this Agreement, the City shall not
24 unlawfully discriminate against any employee or applicant for employment, or recipient of
25 services, because of race, religious creed, color, national origin, ancestry, physical disability,
26 mental disability, medical condition, genetic information, marital status, sex, gender, gender
27 identity, gender expression, age, sexual orientation, military status or veteran status pursuant to
28 all applicable State of California and federal statutes and regulation.

1 11.10 **No Waiver.** Payment, waiver, or discharge by the County of any liability or obligation
2 of the City under this Agreement on any one or more occasions is not a waiver of performance
3 of any continuing or other obligation of the City and does not prohibit enforcement by the County
4 of any obligation on any other occasion.

5 11.11 **Entire Agreement.** This Agreement, including its exhibits, is the entire agreement
6 between the City and the County with respect to the subject matter of this Agreement, and it
7 supersedes all previous negotiations, proposals, commitments, writings, advertisements,
8 publications, and understandings of any nature unless those things are expressly included in
9 this Agreement. If there is any inconsistency between the terms of this Agreement without its
10 exhibits and the terms of the exhibits, then the inconsistency will be resolved by giving
11 precedence first to the terms of this Agreement without its exhibits, and then to the terms of the
12 exhibits.

13 11.12 **No Third-Party Beneficiaries.** This Agreement does not and is not intended to
14 create any rights or obligations for any person or entity except for the parties.

15 11.13 **Authorized Signature.** The City represents and warrants to the County that:

16 (A) The City is duly authorized and empowered to sign and perform its obligations
17 under this Agreement.

18 (B) The individual signing this Agreement on behalf of the City is duly authorized to
19 do so and his or her signature on this Agreement legally binds the City to the terms of
20 this Agreement.

21 11.14 **Electronic Signatures.** The parties agree that this Agreement may be executed by
22 electronic signature as provided in this section.

23 (A) An "electronic signature" means any symbol or process intended by an individual
24 signing this Agreement to represent their signature, including but not limited to (1) a
25 digital signature; (2) a faxed version of an original handwritten signature; or (3) an
26 electronically scanned and transmitted (for example by PDF document) version of an
27 original handwritten signature.
28

1 (B) Each electronic signature affixed or attached to this Agreement (1) is deemed
2 equivalent to a valid original handwritten signature of the person signing this Agreement
3 for all purposes, including but not limited to evidentiary proof in any administrative or
4 judicial proceeding, and (2) has the same force and effect as the valid original
5 handwritten signature of that person.

6 (C) The provisions of this section satisfy the requirements of Civil Code section
7 1633.5, subdivision (b), in the Uniform Electronic Transaction Act (Civil Code, Division 3,
8 Part 2, Title 2.5, beginning with section 1633.1).

9 (D) Each party using a digital signature represents that it has undertaken and
10 satisfied the requirements of Government Code section 16.5, subdivision (a),
11 paragraphs (1) through (5), and agrees that each other party may rely upon that
12 representation.

13 (E) This Agreement is not conditioned upon the parties conducting the transactions
14 under it by electronic means and either party may sign this Agreement with an original
15 handwritten signature.

16 11.15 **Counterparts.** This Agreement may be signed in counterparts, each of which is an
17 original, and all of which together constitute this Agreement.

18 **Article 12**

19 **Miscellaneous Provisions**

20 12.1 **Provider.** The parties hereto acknowledge that Provider, or its replacement, if any
21 during the term of the EMS Provider Agreement, will carry out County's provision of Fire
22 Dispatching Services herein. In the event of any such replacement of Provider, the replacement
23 EMS Provider Agreement will be on substantially the same terms as the EMS Provider
24 Agreement to the extent that it concerns this Agreement, as provided herein.

25 12.2 **Force Majeure.**

26 A. If either party hereto is rendered unable, wholly or in part, by Force Majeure to
27 carry out its obligations under this Agreement, that party shall give to the other party hereto
28 prompt written notice of the Force Majeure with full particulars relating thereto. Thereupon, the

1 obligations of the party giving the notice, so far as they are affected by the Force Majeure, shall
2 be suspended during, but no longer than, the continuance of the Force Majeure, except for a
3 reasonable time thereafter required to resume performance.

4 B. During any period in which either party hereto is excused from performance by
5 reason of the occurrence of an event of Force Majeure, the party so excused shall promptly,
6 diligently, and in good faith take all reasonable action required in order for it to be able to
7 promptly commence or resume performance of its obligations under this Agreement. Without
8 limiting the generality of the foregoing, the party so excused from performance shall, during any
9 such period of Force Majeure, take all reasonable action necessary to terminate any temporary
10 restraining order or preliminary or permanent injunctions to enable it to so commence or resume
11 performance of its obligations under this Agreement.

12 C. The party whose performance is excused due to the occurrence of an event of
13 Force Majeure shall, during such period, keep the other party hereto notified of all such actions
14 required in order for it to be able to commence or resume performance of its obligations under
15 this Agreement.

16 D. "Force Majeure" is defined as an Act of God, act of public
17 enemy, war, and other extraordinary causes not reasonably within the control of either of the
18 parties hereto.

19 [SIGNATURE PAGE FOLLOWS]
20
21
22
23
24
25
26
27
28

1 The parties are signing this Agreement on the date stated in the introductory clause.

2 CITY OF HANFORD

COUNTY OF FRESNO

3
4
5 _____
6 Travis Paden, Mayor

Nathan Magsig, Chairman of the Board of
Supervisors of the County of Fresno

7
8 _____
9 Mario Cifuentez, City Manager

Date

10 Attn: Fire Chief
11 350 W Grangeville Blvd
12 Hanford, CA 93230

Attest:
Bernice E. Seidel
Clerk of the Board of Supervisors
County of Fresno, State of California

13
14 By: _____
15 Deputy

16 For accounting use only:

17 Org No.: 56201693
18 Account No.: 5039
19 Fund No.: 0001
20 Subclass No.: 10000
21
22
23
24
25
26
27
28

Exhibit A

City's Responsibilities

City shall perform the following functions:

(1) Provide all fire suppression services for all fire suppression calls dispatched by County's EMS Communications Center requiring City Fire apparatuses. During specific City events (i.e., Fourth of July, times of local disaster, or a large-scale emergency), City may assign a Command Officer to serve as a Temporary Dispatch Liaison to direct the assignment of City Fire resources, at which time deviation from routine dispatch procedures outlined herein will be granted.

(2) Allow City Radio frequencies to be used by County for the purpose of City Fire Dispatching Services.

(3) Consult with County's Representative in developing and adopting City Fire's Policies and Procedures relating to dispatch only. City must provide its City Fire's Policies and Procedures to County's Representative for review and acceptance that such policies and procedures are substantially consistent with the County's EMS Communication Center's Policies and Procedures, and do not create additional workload for staff or impact other programs in the County's EMS Communications Center.

(4) Provide continuing education and training to County's EMS Communications Center radio operators and staff regarding the dispatching and management of City Fire resources.

(5) Immediately transfer all calls to City for City Fire calls for service to County's EMS Communications Center.

(6) Participate in an internal quality improvement program, which includes the participation of County and PROVIDER.

(7) Provide operation and maintenance of all radio and computer equipment in City Fire apparatuses and fire stations.

(8) Be responsible for all costs associated with maintaining telecommunication lines and equipment between City and EMS Communications Center.

Exhibit B

County's Services

County shall be responsible for and provide each of the following:

(1) Provide to City dispatching services for fire suppression calls requesting or otherwise requiring response by City Fire apparatuses, which may include dispatching of non-transport first responder services, (collectively, the "City Fire Dispatching Services"). County shall provide City Fire Dispatching Services in accordance with the terms and subject to the conditions set out in this Agreement and using personnel of required skill, experience and qualifications.

(2) Select, configure, install, and maintain all dispatching equipment, hardware, software (including software licenses), and other technologies, except for radio infrastructure purchased by City, which will be utilized for triage and entry of information for City Fire Dispatching Services in County's EMS Communications Center computer-aided dispatch ("CAD") system. All dispatching equipment, hardware, software (including software licenses), and other technologies purchased and/or obtained under this Agreement shall be the sole property of County. The Parties hereby acknowledge that County's provision of City Fire Dispatching Services does not include any County provision of fire suppression services, and that County is providing City Fire Dispatching Services to City on a non-exclusive basis.

(3) Provide all City Fire Dispatching Services through County's EMS Communication Center through City Fire's radios and electronic communications in accordance with City Fire's Policies and Procedures related to dispatch only ("City Fire's Policies and Procedures") and as reviewed and accepted by County's EMS Director or designee (the "County's Representative"), as further provided in Paragraph (2) of Exhibit A herein.

(4) Provide approved pre-arrival instructions to callers requesting City Fire Dispatch Services.

(5) Provide inter-agency coordination regarding requests for fire suppression service, mutual aid and auto aid services, and order specialized fire equipment from City or other agencies (e.g., hazardous materials equipment, or rescue) which may be needed to

Exhibit B

1 manage an incident, and perform other related duties, all in accordance with City Fire's Policies
2 and Procedures.

3 (6) Track all activity of City Fire's apparatuses utilizing the County's EMS
4 Communications Center CAD system.

5 (7) Develop and maintain processes which assist in dispatching signatories to
6 City automatic aid agreements to include those agencies outside the County's EMS
7 Communications Center. Such processes include Automatic Vehicle Location ("AVL"), unit
8 status and some form of CAD to CAD process where call information is automatically shared
9 between agencies regardless of dispatch center location. In the event an automatic aid agency
10 outside County's EMS Communications Center is unable to provide unit AVL and unit status,
11 the Parties agree to meet and confer on how to implement and determine cost sharing to
12 receive this information.

13 (8) Provide notification to chief officers and duty officers as needed for
14 applicable emergency incidents using phone, email, text or other contemporary method of
15 messaging according to City Fire's Policies and Procedures.

16 (9) Provide CAD software which is capable of tracking City's closest fire unit,
17 real-time call data/updates, GIS, radio channel, incident location, and resources.

18 (10) Provide the ability to send response-time data or additional required CAD
19 data to the fire reporting software known as Fire Records Management System ("Fire RMS").
20 The Fire RMS data shall include date and time call received in the secondary Public Safety
21 Answering Point ("PSAP") (i.e., EMS Communications phone pickup), unit alert, unit enroute,
22 unit arrival and unit available, for all units assigned to the call. In addition, it shall send incident
23 location, grid and call nature.

24 (11) Record all telephone and radio transmissions and provide instant playback
25 as needed. County shall retain recordings for a minimum of four (4) years from the date of
26 recording.

Exhibit B

1 (12) Provide any and all reports at the request of City; provided, however,
2 County must be given reasonable time to develop custom ad hoc reports or reports that are not
3 already developed.

4 (13) Provide a radio operator to dispatch City Fire's apparatuses twenty-four
5 (24) hours a day, seven (7) days a week, meeting the one hundred and twenty (120) second
6 total Alarm Handling (TAH) as outlined below. All radio operators and call-takers must be
7 certified by the National Academy of Emergency Dispatch at the Emergency Fire Dispatcher
8 level, or substitute training with prior approval of City. County shall provide a radio operator, who
9 is able to dispatch City Fire's apparatuses twenty-four (24) hours a day, seven (7) days a week.
10 Under this Agreement, City shall compensate County for a dedicated radio operator to City's
11 radio channel twelve (12) consecutive hours each day. The intent of the County is to combine
12 dispatch services of City Fire with dispatch services of another fire department that also has a
13 12-hour dedicated radio operator to create a dedicated 24-hour radio operator that is committed
14 to both departments. In the event that City or the other department no longer desires this
15 arrangement, City will revert to a dedicated 12-hour radio operator, which City shall determine
16 the specific start and end times. The remaining 12 hours will be combined with other
17 departments on a non-dedicated basis.

18 (14) Provide a minimum of one (1) dispatch supervisor who shall be on duty at
19 County's EMS Communications Center twenty-four (24) hours a day, seven (7) days a week
20 and available to City's on-duty fire administration as needed.

21 (15) Maintain an up-to-date manual of City Fire's Policies and Procedures
22 (subject to review by County's Representative, as provided in Paragraph (3) of Exhibit A herein)
23 for all dispatch staff, and provide training and continuing education of dispatch staff as needed.

24 (16) It is the intent of both parties to achieve the recommendations outlined in
25 the National Fire Protection Association ("NFPA") Standard 1221 for the immediate dispatch of
26 a fire apparatus. The Total Alarm Handling (TAH) time will be measured from the time the
27 telephone is answered by the call taker at EMS Communications Center to the time that the first
28 fire apparatus is alerted to the incident either by radio, telephone, station alerting device or any

Exhibit B

1 other mutually agreed upon method of alerting. The TAH times shall be one hundred and
2 twenty (120) seconds or less in a minimum of ninety percent (90%) of incidents. The TAH time
3 measurement will exclude reassigned responses and other situations beyond the County's EMS
4 Communications Center control. County shall review all cases in which dispatches are over one
5 hundred and twenty (120) seconds, and results will be evaluated for improvement opportunities
6 by the Fire Dispatch Continuous Quality Improvement ("CQI") Committee. The Parties agree to
7 meet and confer to refine the list of situations stated hereinabove where one hundred and
8 twenty (120) second call processing may not be achievable. Modifications may be made to said
9 list of situations upon written mutual agreement between County's EMS Director or designee,
10 and City's Fire Chief or designee.

11 (17) Provide monthly reports on City key performance measures and other
12 areas as agreed upon by the Parties.

13 (18) Provide necessary support staff to respond within ten (10) days of a City
14 request for changes in CAD system, including GIS updates, response criteria, update of street
15 layers, CAD/mobile software updates, protocols and CAD/RMS interface(s).

16 (19) Develop a formal quality improvement process that identifies problems by
17 the field, formalizes a tracking mechanism, provides feedback to the sender, determines
18 solutions, establishes timelines for correction, shares the information with all dispatch personnel
19 and formalizes a CQI review of dispatcher performance.

Exhibit C

Compensation

The County will be compensated for performance of its services under this Agreement as provided in this Exhibit C. The County is not entitled to any compensation except as expressly provided in this Exhibit C.

County will be compensated according to the following schedule:

Payment	Month	Payment Amount
1	Jul 2024	\$21,360
2	Aug 2024	\$21,360
3	Sep 2024	\$21,360
4	Oct 2024	\$21,360
5	Nov 2024	\$21,360
6	Dec 2024	\$21,360
7	Jan 2025	\$21,360
8	Feb 2025	\$21,360
9	Mar 2025	\$21,360
10	Apr 2025	\$21,360
11	May 2025	\$21,360
12	Jun 2025	\$21,360
13	Jul 2025	\$22,001
14	Aug 2025	\$22,001
15	Sep 2025	\$22,001
16	Oct 2025	\$22,001
17	Nov 2025	\$22,001
18	Dec 2025	\$22,001
19	Jan 2026	\$22,001
20	Feb 2026	\$22,001
21	Mar 2026	\$22,001
22	Apr 2026	\$22,001
23	May 2026	\$22,001
24	Jun 2026	\$22,001
25	Jul 2026	\$22,661
26	Aug 2026	\$22,661
27	Sep 2026	\$22,661
28	Oct 2026	\$22,661
29	Nov 2026	\$22,661
30	Dec 2026	\$22,661
31	Jan 2027	\$22,661
32	Feb 2027	\$22,661
33	Mar 2027	\$22,661
34	Apr 2027	\$22,661
35	May 2027	\$22,661
36	Jun 2027	\$22,661

Exhibit D

Insurance Requirements

1. Required Policies

Without limiting the indemnification of each party as stated in Article 8 above, it is understood and agree that City and County shall maintain, at their sole expense, the following insurance policies or self-insurance programs including, but not limited to, an insurance pooling arrangement and/or Joint Powers Agreement to fund their respective liabilities through the term of this Agreement:

- (A) **Commercial General Liability.** Commercial general liability insurance with limits of not less than Two Million Dollars (\$2,000,000) per occurrence and an annual aggregate of Four Million Dollars (\$4,000,000). This policy must be issued on a per occurrence basis. Coverage must include products, completed operations, property damage, bodily injury, personal injury, and advertising injury. Each party shall obtain an endorsement to this policy naming the other party, its officers, agents, employees, and volunteers, individually and collectively, as additional insureds, but only insofar as the operations under this Agreement are concerned. Such coverage for additional insureds will apply as primary insurance and any other insurance, or self-insurance, maintained by each party is excess only and not contributing with insurance provided under the other party's policy.
- (B) **Automobile Liability.** Automobile liability insurance with limits of not less than One Million Dollars (\$1,000,000) per occurrence for bodily injury and for property damages. Coverage must include any auto used in connection with this Agreement.
- (C) **Workers Compensation.** Workers compensation insurance as required by the laws of the State of California with statutory limits.

2. Additional Requirements

- (A) **Verification of Coverage for City.** Within 30 days after the City signs this Agreement, and at any time during the term of this Agreement as requested by the County's Risk Manager or the County Administrative Office, the City shall deliver, or cause its broker or producer to deliver, to the County Risk Manager, at 2220 Tulare Street, 16th Floor, Fresno, California 93721, or HRRiskManagement@fresnocountyca.gov, and by mail or email to the person identified to receive notices under this Agreement, certificates of insurance and endorsements for all of the coverages required under this Agreement.
 - (i) Each insurance certificate must state that: (1) the insurance coverage has been obtained and is in full force; (2) the County, its officers, agents, employees, and volunteers are not responsible for any premiums on the policy; and (3) the City has waived its right to recover from the County, its officers, agents, employees, and volunteers any amounts paid under any insurance policy required by this Agreement and that waiver does not invalidate the insurance policy.
 - (ii) The commercial general liability insurance certificate must also state, and include an endorsement, that the County of Fresno, its officers, agents, employees, and volunteers, individually and collectively, are additional insureds insofar as the operations under this Agreement are concerned. The commercial general liability

Exhibit D

insurance certificate must also state that the coverage shall apply as primary insurance and any other insurance, or self-insurance, maintained by the County shall be excess only and not contributing with insurance provided under the City's policy.

- (iii) The automobile liability insurance certificate must state that the policy covers any auto used in connection with this Agreement.

(B) Verification of Coverage for County. Within 30 days after the County signs this Agreement, and at any time during the term of this Agreement as requested by the City, the County shall deliver, or cause its broker or producer to deliver, to the City, certificates of insurance and endorsements for all of the coverages required under this Agreement.

- (i) Each insurance certificate must state that: (1) the insurance coverage has been obtained and is in full force; (2) the City, its officers, agents, employees, and volunteers are not responsible for any premiums on the policy; and (3) the County has waived its right to recover from the City, its officers, agents, employees, and volunteers any amounts paid under any insurance policy required by this Agreement and that waiver does not invalidate the insurance policy.
- (ii) The commercial general liability insurance certificate must also state, and include an endorsement, that the City of Hanford, its officers, agents, employees, and volunteers, individually and collectively, are additional insureds insofar as the operations under this Agreement are concerned. The commercial general liability insurance certificate must also state that the coverage shall apply as primary insurance and any other insurance, or self-insurance, maintained by the City shall be excess only and not contributing with insurance provided under the County's policy.
- (iii) The automobile liability insurance certificate must state that the policy covers any auto used in connection with this Agreement.

(C) Acceptability of Insurers. All insurance policies required under this Agreement must be issued by admitted insurers licensed to do business in the State of California and possessing at all times during the term of this Agreement an A.M. Best, Inc. rating of no less than A: VII.

(D) Notice of Cancellation or Change. For each insurance policy required under this Agreement, each party shall provide to the other party, or ensure that the policy requires the insurer to provide to the other party, written notice of any cancellation or change in the policy as required in this paragraph, not less than 30 days in advance of cancellation or change.

(E) County's Entitlement to Greater Coverage. If the City has or obtains insurance with broader coverage, higher limits, or both, than what is required under this Agreement, then the County requires and is entitled to the broader coverage, higher limits, or both. To that end, the City shall deliver, or cause its broker or producer to deliver, to the County's Risk Manager certificates of insurance and endorsements for all of the

Exhibit D

coverages that have such broader coverage, higher limits, or both, as required under this Agreement.

- (F) **Waiver of Subrogation for City.** The City waives any right to recover from the County, its officers, agents, employees, and volunteers any amounts paid under the policy of worker's compensation insurance required by this Agreement. The City is solely responsible to obtain any policy endorsement that may be necessary to accomplish that waiver, but the City's waiver of subrogation under this paragraph is effective whether or not the city obtains such an endorsement.
- (G) **Waiver of Subrogation for County.** The County waives any right to recover from the City, its officers, agents, employees, and volunteers any amounts paid under the policy of worker's compensation insurance required by this Agreement. The County is solely responsible to obtain any policy endorsement that may be necessary to accomplish that waiver, but the County's waiver of subrogation under this paragraph is effective whether or not the County obtains such an endorsement.
- (H) **County's Remedy for City's Failure to Maintain.** If the City fails to keep in effect at all times any insurance coverage required under this Agreement, the County may, in addition to any other remedies it may have, suspend or terminate this Agreement upon the occurrence of that failure, or purchase such insurance coverage, and charge the cost of that coverage to the City.
- (I) **City's Remedy for County's Failure to Maintain.** If the County fails to keep in effect at all times any insurance coverage required under this Agreement, the City may, in addition to any other remedies it may have, suspend or terminate this Agreement upon the occurrence of that failure, or purchase such insurance coverage, and charge the cost of that coverage to the County.
- (J) **Subcontractors.** The City shall require and verify that all subcontractors used by the County to provide services under this Agreement maintain insurance meeting all insurance requirements provided in this Agreement.



AGENDA STAFF REPORT

MEETING DATE: 6/18/2024

AGENDA SECTION: CONSENT CALENDAR

SUBJECT:

Adoption of Resolution No. 24-19-R, formally adopting the Kings County Local Hazard Mitigation Plan (LHMP).

RECOMMENDATION: That the City Council, by motion, adopt Resolution No. 24-19-R, formally adopting the Kings County Local Hazard Mitigation Plan.

BACKGROUND: The purpose of the hazard mitigation plan is to reduce or eliminate long-term risk to human life, property, and infrastructure by minimizing the impact of disasters. The City of Hanford, as a city within the County of Kings, alongside the involved jurisdictional cities of Avenal, Corcoran, and Lemoore has developed this multi-jurisdictional hazard mitigation plan to reduce future losses to the City /County and its communities resulting from any natural or human-induced disaster. The plan meets the requirements of the Disaster Mitigation Act (DMA) of 2000 (Public Law 106-390) and achieves eligibility for the Federal Emergency Management Agency (FEMA) Grant Program.

The Kings County Operational Area used the Hazard Mitigation Grant Program (HMGP) DR-4283 grant funds in 2022 to hire WSP USA Environment and Infrastructure Inc. formerly known as Wood Environment and Infrastructure Solutions, Inc. to update the previous federally required countywide Multi-Jurisdictional Hazard Mitigation Plan (MJHMP)(last adopted in 2012 and expired in 2017). The Disaster Mitigation Act (DMA) of 2000 (Public Law 106-390) requires all local governments to address risks and measures that can be taken in advance to reduce future losses from natural or human-induced related disasters.

The planning process followed a methodology set by the Federal Emergency Management Agency (FEMA), which began with the formation of a Hazard Mitigation Planning Committee (HMPC) comprised of key stakeholders from Kings County and participating jurisdictions. The HMPC conducted a risk assessment to examine the recorded history of losses resulting from natural or disasters caused by humans, assess the probability and magnitude of future hazardous events, and analyze the county's assets at risk of hazard. The assessment included a review of natural disasters caused by humans/events. The risk assessment indicated that drought, dense fog, extreme temperatures, and agricultural pests and disease (among others) are the hazards most likely to significantly affect people and property in the county. Based upon the risk assessment, the HMPC identified goals and objectives for reducing the risk of hazards. To meet identified goals and objectives, the plan recommends mitigation actions to be completed prior to the next MJHMP update. The HMPC also developed an implementation plan for each action, which identifies priority level, activity description and responsible agency.

This plan has tentatively been approved by the Governor's Office of Emergency Services (CalOES) and FEMA, pending approval and adoption by each jurisdiction participating in the process. As a requirement of the LHMP, each jurisdiction, as a signatory city would need to adopt the entire plan as a whole to ensure that each community identified is compliant with the requirements of a cohesive planning document.

FISCAL IMPACT: Having an approved LHMP will allow the agencies within Kings County to apply for FEMA grant funds which have the potential to reduce the impact on the burden of natural disasters.

ATTACHMENTS:

1. Annex C City of Hanford
2. Kings County MJHMP Final Draft
3. RESOLUTION 24-19-R



ANNEX C CITY OF HANFORD

C.1 PURPOSE

This Annex summarizes the hazard mitigation elements specific to the City of Hanford. This Annex supplements the Kings County Multi-Jurisdictional Hazard Mitigation Plan (MJHMP); therefore the Annex is not a stand-alone plan but intended to supplement the hazard information provided in the Base Plan document. All other sections of the Kings County MJHMP, or Base Plan, including the sections on the planning process, countywide risk assessment, and procedural requirements related to plan implementation and maintenance apply to the City of Hanford. This Annex provides additional information specific to the City of Hanford, including details on the City's profile, planning process, risk assessment, and mitigation strategy for the community.

C.2 COMMUNITY PROFILE

C.2.1 Mitigation Planning History and 2021-2022 Process

This Annex was created during the development of the 2023 Kings County MJHMP update. The City of Hanford participated in Kings County's 2012 Multi-Jurisdictional Local Hazard Mitigation Plan process; however the 2012 MJHMP did not include supplemental annexes for each of the participating jurisdictions. Instead, the 2012 MJHMP included a Community Profile that summarized the priority hazards for the City and included a vulnerability assessment. Information on the participating jurisdictions vulnerability to hazards and their specific mitigation actions were also included in the main plan.

During the current update process, the City of Hanford followed the planning process detailed in Chapter 3 of the Base Plan. This planning process consisted of participation in the Hazard Mitigation Planning Committee (HMPC) and the formation of a smaller internal planning team referred to as the City's Local Planning Committee (LPT). The LPT was organized to support the broader planning process, coordinate with the City departmental staff, and develop customized mitigation actions and projects specific to the City of Hanford. The City's LPT is also responsible for the update, implementation, and maintenance of the plan. LPT members are listed in Appendix A. Table C-1 includes stakeholders who participated in the City's LPT.

Table C-1 Stakeholders Who Participated in Hanford's LPT

STAKEHOLDER GROUP	STAKEHOLDER AGENCY
Agencies involved in hazard mitigation activities	Hanford Fire Department
	California DWR
	California OES
	Kings County OES
	Kings County Public Works
	Kings County Public Health Department
	NWS Hanford
	Kings County Water District
	Mid-Kings River Groundwater Sustainability Agency
	Hanford City Manager



STAKEHOLDER GROUP	STAKEHOLDER AGENCY
Agencies that have the authority to regulate development:	Kings County Board of Supervisors
	Kings County Community Development Agency
	Kings County Fire Department
Neighboring Communities	City of Hanford
	City of Corcoran
	City of Lemoore
	Kings County
Representatives of business academia, and other private organizations:	Cross Creek Flood Control District
	Kings County Farm Bureau
	Kings River Conservation District
	Westland Water District
Representatives that provide support to underserved communities	Office of Senator Hurtado SD 16

Given the small population size of each jurisdiction in Kings County, as well as the County itself, three entities that encompass the region were invited to represent vulnerable populations in each jurisdiction. The Kings Tulare Homeless Alliance, which addresses housing and service needs for the homeless, was invited as its extensive connections with the unhoused population would make it a valuable contributor. The Kings Partnership for Prevention, a non-profit organization which leads various groups including substance use response and mental health task forces, was invited by the Planning Team for its broad reach across demographic groups. The Office of Senator Hurtado Senate District 16 (SD 16), covering Kern, San Bernardino, and Tulare Counties, highlighted the economic challenges in these areas, including high rates of adults without high school diplomas and single-parent households. The Office of SD 16 was the sole organization supporting vulnerable populations participating in the drafting of the plan, providing valuable information during HMPC meetings and workshops.

The City of Hanford received additional support from City Manager Mario Cifuentez, Fire Chief Steve Pendergrass, and Police Chief Parker Sever. These representatives actively advocated for Hanford in HMPC meetings and workshops. Each LPT member, as well as Deputy City Manager Jason Waters, contributed data and feedback on the draft Annex to the MJHMP. Although Chief Pendergrass and Chief Sever retired before the final plan's completion, their valuable input was considered in the overall development process.

Additionally, while the LPT did not promote the public survey or request public comments on the draft plan, 59 self-reported citizens of Hanford and one individual who has worked in Hanford for between 5 and 10 years, although they live outside the County, participated in the public survey. These individuals spanned a large range of demographic backgrounds and expressed a high level of concern about drought, dense fog, and extreme temperatures. These survey results were shared with the LPT and influenced the City's hazard rankings and mitigation strategy.

C.2.2 Geography and Climate

Hanford is situated near the northern tip of Kings County, approximately 30 miles south of Fresno in the south-central San Joaquin Valley. The city's geography is characterized by flat and fertile land, surrounded by agricultural fields. The Kings River flows nearby and contributes to its agricultural prominence. The People's Ditch in the northeastern portion of the City is a mad-

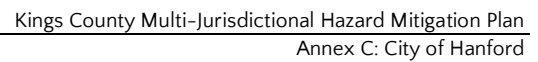


made facility designed as part of a water delivery system that diverts water from Kings River and distributes the water to the agricultural areas south of the City.

Hanford benefits from its proximity to major transportation routes. The city is connected to the Central Valley via U.S. Route 198, which provides a direct east-west link and facilitates transportation to neighboring communities. Additionally, State Route (SR) 43 serves as a north-south route, enhancing connectivity within the region.

Hanford experiences a Mediterranean climate with hot, dry summers and mild, relatively wet winters. The summers are characterized by high temperatures, often exceeding 90°F, and low humidity. Winters are generally cooler with daytime temperatures ranging from the mid-50s to low 60s °F. The region receives the majority of its precipitation during the winter months, primarily from December to February, often in the form of rain. The terrain is the City slopes from the northeast to the southwest with elevations ranging from 255 to 240 feet above mean sea level (msl).

Figure C-1 below shows the city limits and the sphere of influence boundary (SOI) for the City of Hanford. The city limits, or the area where the City has authority to make land use decisions, is the City's planning area and consists of 10,624 acres, or 16.6 square miles.



This map illustrates the geographical boundaries and planning areas of Hanford, California. The city limits are delineated by a dashed black line, while the sphere of influence is marked by a solid magenta line. The map includes major highways such as State Route 198 and State Route 43, as well as local streets like W Fargo Ave, E Fargo Ave, and Hanford-Armona Rd. Urban communities shown include Grangeville, Armona, and Home Garden. A legend in the bottom-left corner defines the symbols for streams, highways, urban communities, city limits, and sphere of influence. A scale bar at the bottom indicates distances up to 2 miles, and a north arrow is located in the bottom-right corner.

Map compiled 7/2023;
Intended for planning purposes only.
Data Source: Kings County, DWR

The Hanford area was inhabited by the Tachi Yokut Native Americans for several thousand years before the first European settlers arrived in the San Joaquin Valley in the 1820s. They occupied



areas along watercourses, such as creeks, springs, and seep areas (sloughs), as well as flat ridges and terraces. Permanent villages were usually placed on an elevation above the seasonal flood levels. Surrounding areas were used for hunting and seed, acorn, and grass gathering.

The name Hanford traces back to the Southern Pacific Railway's establishment of tracks that intersected a Chinese shepherd's camp. This marked the beginning of the City, named after James Madison Hanford, the railway's auditor, who was involved in lot sales. The sale of lots commenced on January 17, 1877. With the railway's support, Hanford rapidly grew into a trading hub for the area.

The town's early years were marred by destructive fires, notably in 1887 and 1891, which hindered growth. Following the latter fire, on June 20, 1891, a town meeting was held, driven by insufficient fire protection, leading to discussions of incorporation. On August 8, 1891, an election favored incorporation, resulting in the birth of the City of Hanford on August 12, 1891. With the formation of Kings County in 1893, Hanford became its County Seat.

Throughout the 1900s, Hanford flourished as schools, churches, and an opera house were established. In 1924, the Civic Auditorium, now a community focal point, was completed. The City evolved, transitioning from a Board of Trustees to the Hanford City Council in the 1930s. Notably, the city manager/city council form of government emerged in 1950. Hanford's downtown faced revitalization challenges, which led to the creation of the Central Parking and Improvement District in 1975, sparking downtown enhancements.

In 1980, a Historic District was established to promote historic structure restoration. Hanford's downtown revival efforts earned recognition, winning awards including the Helen Putnam Award for Excellence in 1985 and one of the Rohm and Haas Paint Quality Institute "Prettiest Painted Places in America" designations. Today the City is characterized as a small town with a rich history that offers its residents high quality of living with access to larger city amenities.

C.2.4 Economy

Hanford is committed to improving the local economy and enhancing the quality of life for its citizens and visitors. While economic development can involve job and income growth, it also involves sustainable increases in the productivity of individuals, businesses and resources to increase the overall well-being of residents and maintain or enhance their quality of life. The focus also includes business attraction, business retention and expansion, and workforce development.

The City currently has a Qualified Opportunity Zone (QOZ) near the Hanford Municipal Airport. A QOZ is an economically distressed community where new investments, under certain conditions, may be eligible for preferential tax treatment. Localities qualify as QOZs if they were nominated for that designation by a state, the District of Columbia, or a U.S. territory and that nomination was certified by the Secretary of the U.S. Treasury via his delegation of authority to the Internal Revenue Service (IRS).

According to the City of Hanford official website, the largest age demographic in Hanford is those 10-19 years of age, with 20-29 years of age being a close second. The median age in the City is 32 years old. These demographics suggest that the City has an ample capacity for economic growth.

Estimates of select economic characteristics for the City of Hanford are shown in Table C-2.



Table C-2 City of Hanford Economic Characteristics, 2017-2021

CHARACTERISTIC	CITY OF HANFORD
Families below Poverty Level (%)	13.2%
All People below Poverty Level (%)	15.5%
Median Family Income	\$74,745
Median Household Income	\$48,815
Per Capita Income	\$27,747
Population in Labor Force	60.8%
Population Employed*	53.8%
Unemployment Rate**	8.4%

Source: U.S. Census Bureau, California Department of Finance, 2017-2021 American Community Survey (ACS), 5-year estimates, www.census.gov/

*Excludes armed forces. **Does not reflect unemployment numbers due to COVID-19 Pandemic

The most common industries in Hanford are educational services and public administration (a combined average of 38.5% of workers) followed by retail and agriculture. The most common occupations in Hanford are management, business, sciences, and arts occupations and service occupations, together accounting for 52.4% of the labor force. The tables below show the labor force breakdown by occupations and industry based on estimates from the 2017-2021 five-year American Community Survey (ACS).

Table C-3 City of Hanford Employment by Industry, 2017-2021

OCCUPATION	# EMPLOYED	% EMPLOYED
Educational services, and health care and social assistance	5,250	22.9%
Public administration	3,569	15.6%
Retail trade	2,598	11.3%
Agriculture, forestry, fishing and hunting, and mining	2,436	10.6%
Arts, entertainment, and recreation, and accommodation and food services	1,772	7.7%
Manufacturing	1,728	7.5%
Professional, scientific, and management, and administrative and waste management services	1,256	5.5%
Other services, except public administration	976	4.3%
Construction	831	3.6%
Transportation and warehousing, and utilities	757	3.3%
Finance and insurance, and real estate and rental and leasing	732	3.2%
Wholesale trade	622	2.7%
Information	374	1.6%
Total	22,901	100%

Source: U.S. Census Bureau, California Department of Finance, 2017-2021 American Community Survey (ACS), 5-year estimates, www.census.gov/

*Excludes armed forces

Table C-4 City of Hanford Employment by Occupation, 2017-2021

OCCUPATION	# EMPLOYED	% EMPLOYED
Management, business, science, and arts occupations	6,412	28.0%
Service occupations	5,130	22.4%
Sales and office occupations	4,672	20.4%



OCCUPATION	# EMPLOYED	% EMPLOYED
Natural resources, construction, and maintenance occupations	3,687	16.1%
Production, transportation, and material moving occupations	2,977	13.0%
Total	22,901	100%

Source: U.S. Census Bureau, California Department of Finance, 2017-2021 American Community Survey (ACS), 5-year estimates, www.census.gov/

*Excludes armed forces

C.2.5 Population

In May 2023, the California Department of Finance (DOF) released population data for the state demographic report. According to the report, the City of Hanford has a population of 58,893 persons as of January 1, 2023, an increase of 581 residents from the previous year, equal to a 1% increase of population. Select demographic and social characteristics for the City of Hanford from the 2017-2021 ACS and the California DOF, are shown in Table C-5. The City of Hanford is made up of a large Latino population (50.6%); there are also a higher percentage of households where a language other than English is spoken at home (34%).

Table C-5 City of Hanford Demographic and Social Characteristics, 2017-2021

CHARACTERISTIC	CITY OF HANFORD
Gender/Age	
Male	51.0%
Female	49.0%
Median age (years)	32.8
Under 5 years	7.6%
Under 18 years	29.1%
65 years and over	11.7%
Race/Ethnicity	
White	36.0%
Asian	4.3%
Black or African American	5.0%
American Indian/Alaska Native	0.6%
Hispanic or Latino (of any race)	50.6%
Native Hawaiian and Other Pacific Islander	0.2%
Some other race	0.1%
Two or more races	3.2%
Education*	
% High school graduate or higher	80.6%
% with bachelor's degree or higher	18.0%
Social Vulnerability	
% with Disability	12.3%
% Language other than English spoken at home	34.1%
% Speak English less than "Very Well"	19.4%
% of households with a computer	94.0%
% of households with an Internet subscription	86.3%



CHARACTERISTIC	CITY OF HANFORD
% of households with no vehicle available	6.0%

Source: U.S. Census Bureau, California Department of Finance, 2017-2021 American Community Survey (ACS), 5-year estimates, www.census.gov/

* Population 25 years and over

The following table with information from the ACS 5-year estimates (2017-2021) is related to housing occupancy in the City of Hanford.

Table C-6 City of Hanford Housing Occupancy and Units, 2017-2021

HOUSING CHARACTERISTIC	ESTIMATE	PERCENTAGE
Housing Occupancy		
Total Housing Units	19,215	(X)
Units Occupied	18,394	95.7%
Vacant	821	4.3%
Housing Units		
1-unit detached	14,280	74.3%
1-unit attached	294	1.5%
2 units	715	3.7%
3 or 4 units	1,091	5.7%
5-9 units	711	3.7%
10-19 units	384	2.0%
20 or more units	1,229	6.4%
Mobile Home	481	2.5%
Boat, RV, van etc.	30	0.2%
Housing Tenure		
Owner Occupied	11,138	60.6%
Renter Occupied	7,256	39.4%

Source: U.S. Census Bureau, California Department of Finance, 2017-2021 American Community Survey (ACS), 5-year estimates, www.census.gov/

C.2.6 Disadvantaged Communities

Disadvantaged communities (DACs) are identified by the California Environmental Protection Agency (Cal EPA) pursuant to Section 39711 of the Health and Safety Code, based on geographic, socioeconomic, public health, and environmental hazard criteria, and may include, but not be limited to: areas disproportionately affected by environmental pollution or other hazards and areas with concentrations of people that are low income, high unemployment, low levels of home ownership, high rent burden, sensitive populations, or low levels of education attainment (California Health and Safety Code Section 39711). One of the ways the Cal EPA's Office of Environmental Health Hazard Assessment (OEHHA) identifies DACs is using CalEnviroScreen tool.

Employing a comprehensive approach, the OEHHA CalEnviroScreen tool applies a formula to generate a combined ranking score that considers 21 indicators for each census tract. These indicators span pollution measures like diesel emissions and concentrations of toxic sites, alongside demographic factors such as poverty and unemployment rates. Census tracts exhibiting CalEnviroScreen rankings ranging from 75 to 100 percent (i.e., within the top 25% of all tracts statewide) are designated as DACs. Census tracts are also defined as disadvantaged



based census tracts with the highest 5 percent cumulative pollution burden scores, those tracts identified in the 2017 DAC designations, and lands under control of federally recognized Tribes.¹

As shown in Table C-7, which is based on data derived from the OEHHA CalEnviroScreen tool, there are six census tracts designated as DACs in the City of Hanford. These census tracts are also composed of housing-burdened low-income households. This means these households are both economically disadvantaged (making less than 80% of the County's median family income) and substantially burdened by housing costs (paying greater than 50% of their income on housing costs). This situation renders these households more susceptible to negative impacts during hazard events, and less likely to recover after a disaster. California has very high housing costs relative to the rest of the country, which can make it hard for households to afford housing (OEHHA 2021). For example, the census tracts in Hanford have CalEnviroScreen rankings ranging from 32 to 75, meaning that the percentage of housing-burdened individuals surpasses that of 32 to 75% of California's remaining census tracts (see Table C-7 for a breakdown by census tract). As a result, households in the City with lower incomes may spend a larger proportion of their income on housing and may suffer from housing-induced poverty that can affect disaster recovery (OEHHA 2021).

Table C-7 Disadvantaged Communities Statistics

Census Tract	% Housing-Burdened and Low-Income	# Housing units	# Low-Income Housing Units	# Housing-Burdened Housing Units	CalEnviroScreen Ranking
6031001002	14%	1,315	625	180	32
6031001003	18%	1,685	835	310	56
6031000800	9%	1570	885	144	11
6031000900	23%	2,750	1,785	635	75
6031001100	16%	1,830	1,295	285	42
6031001003	18%	1,685	835	310	56

Source: OEHHA CalEnviroScreen 4.0

Of the 58,893 people that live in the City, according to the U.S. Census, approximately 532 people are potentially exposed to hazards based on the vulnerability assessment in Section C.3.1. Among this population, those who reside in the DACs in the City are considered more socially vulnerable to hazards. Additional information on specific exposure of DACs and socially vulnerable populations is summarized in Section C.3 Hazard Identification and Summary. Outreach, engagement, and hazard mitigation efforts should therefore address the needs of the City's low-income and housing burdened residents. The City can utilize the CalEnviroScreen information to conduct targeted outreach and engage community members to consider what other hazards and mitigation strategies or programs should be considered to meet community needs. The City can also engage these communities to proactively prioritize hazard mitigation projects that benefit DACs.

¹ For more information on how DACs are designated refer to the final designations of DACs from May 2022 on the OEHHA CalEnviroScreen tool here: <https://oehha.ca.gov/calenviroscreen/sb535>



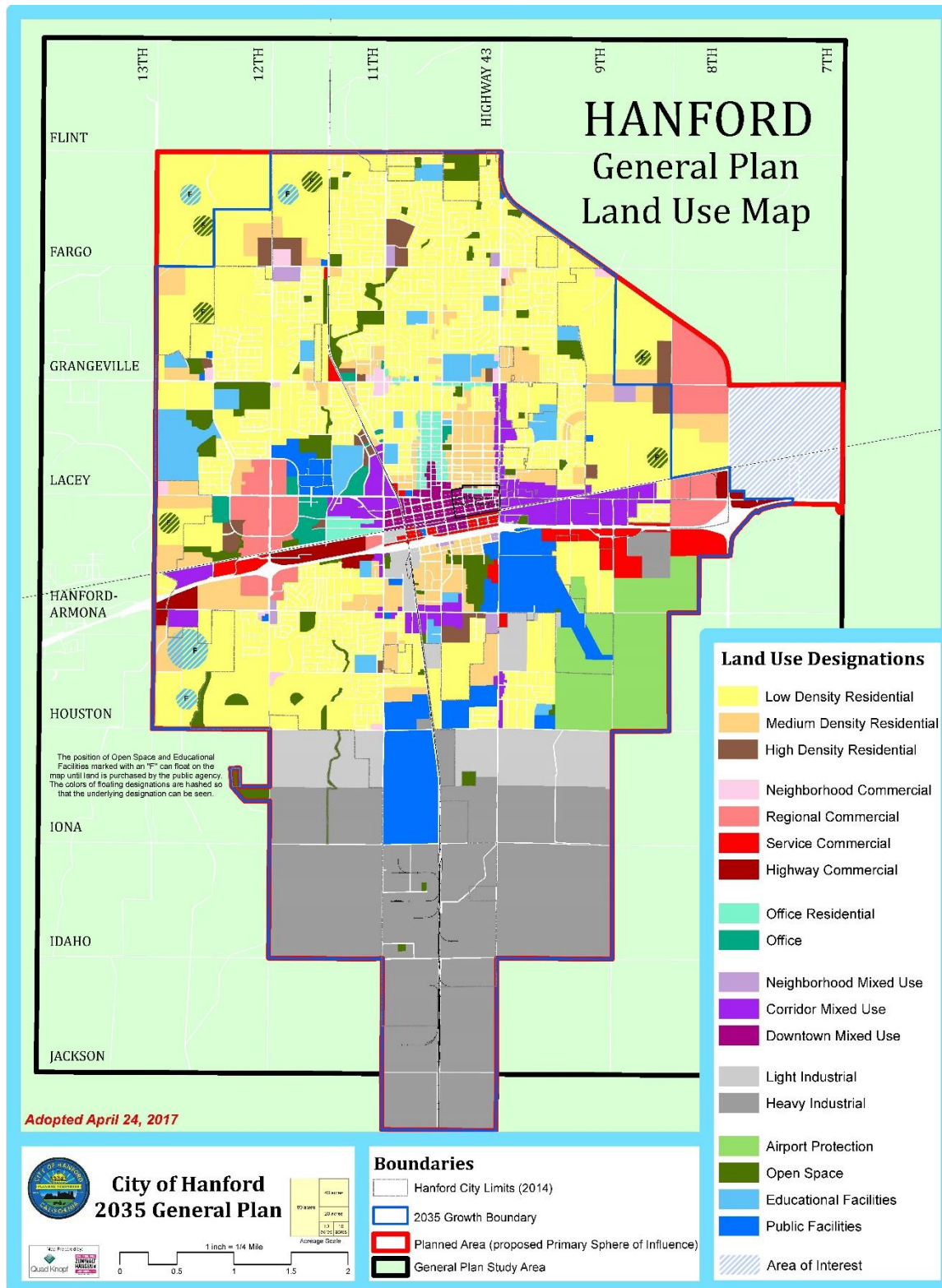
C.2.7 Development Trends

The City of Hanford is committed to preserving its unique identity and defined boundaries encompassed by valuable agricultural land, often constrained by Williamson Act contracts that forbid development. The City's downtown is further enriched through redevelopment, building upon prior efforts to enhance its prominence. Also, because Hanford's General Plan contains goals and policies that promote a compact development pattern and promote infill development and the City has a relatively compact downtown surrounded by agricultural lands, this helps relieve development pressure on nearby farmlands and creates opportunities for infill development.

The City is also meeting climate change regulations by taking action in emissions reduction and aligning with the countywide Climate Action Plan. This effort involves integrating policies with the Countywide Regional Transportation Plan (RTP) and San Joaquin County Blueprint to foster sustainable growth while conforming to Senate Bill 375. Development currently prioritizes a comprehensive transportation network and combines land use and circulation planning for growth. As land uses evolve, Hanford must also reassess park, trail, and open space needs, given limited natural open space within its boundaries. Figure C-2 below is the Land Use Diagram included in the General Plan 2035.



Figure C-2 City of Hanford, Land Use Diagram, General Plan 2035



Source: Hanford General Plan 2035



As shown in the figure, most of the City's downtown consists of mixed uses with highway and corridor uses on both the west and east ends and industrial towards the south end of the City. According to the City LPT since 2012 (about a 10-year period), the City has issued approximately 188 commercial permits and 2,515 residential permits. Most commercial development during this time took place along 12th Avenue, near SR 198, and along Lacey Boulevard near the intersection of SR 198 and SR 43. Residential growth has been primarily located in the northwest quadrant of the City (near Fargo and Centennial and Flint and 11th Ave.), with some additional development near Houston and 12th Avenue on the southwest quadrant of the City. While the City has processed new building permits for single-family and multi-family dwelling units, the majority of these have been in areas designated for residential land uses. This growth also occurred outside flood hazard areas. The City's Code Enforcement Division and the Fire Department also regularly monitor these development areas to limit structural fire, wildfire, and public health and safety risks. Development over the past decade has also been limited to the areas within the City's 2035 growth boundary, thereby limiting development in hazard areas, and the overall net vulnerability of the City.

C.2.8 Future Development

The areas located in the SOI shown in Table C-8 are areas the City may grow into and are potentially slated for future development. Understanding the potential hazard exposure in the area can help to mitigate the impacts of events before development occurs in those areas. During this plan update process parcel analysis was conducted using the SOI and overlaid with available hazard risk layers to determine where future development may be at risk of natural hazard events. The results of the analysis have been integrated into the applicable hazard sections: dam incidents and flooding. Table C-8 is the summary of the SOI total exposure for the City of Hanford.

Table C-8 Sphere of Influence Total Exposure Summary

Property Type	Improved Parcel Count	Building Count	Improved Value	Estimated Content Value	Total Value
Agricultural	38	40	3,340,735	\$3,340,735	\$6,681,470
Commercial	46	168	9,192,159	\$9,192,159	\$18,384,318
Exempt	38	49	4,237,348	\$4,237,348	\$8,474,696
Industrial	15	20	60,247,214	\$90,370,821	\$150,618,035
Multi-Family Residential	2	4	164,478	\$82,239	\$246,717
Multi-Use	39	56	5,738,794	\$5,738,794	\$11,477,588
Residential	590	633	61,621,380	\$30,810,690	\$92,432,070
Total	768	970	144,542,108	\$143,772,786	\$288,314,894

Source: Kings County Assessor, WSP analysis



C.3 HAZARD IDENTIFICATION AND SUMMARY

The City of Hanford LPT identified the hazards that affect the City and summarized their frequency of occurrence, spatial extent, potential magnitude, and significance specific to their community (see Table C-9). There are no hazards that are unique to Hanford, although the hazard risk in the City varies and is distinct from the hazard risk in the County's planning area. The purpose of this section is to profile the City of Hanford's hazards where different from the County and assess the City's unique vulnerabilities.

The hazards profiled in the County MJHMP Base Plan discuss the overall impacts to the County's planning area. This information is summarized in the hazard description, geographic extent, magnitude/severity, previous occurrences, and probability of future occurrences. The information in the City of Hanford' risk assessment summarizes all priority hazards, and specifically those that vary from the County's planning area. The hazard profile information is organized in a similar format here as a way to identify priority hazards for mitigation purposes.

Table C-9 summarizes the hazards profiled in the County's planning area and risk assessment to provide a way for the LPT to evaluate which hazards are addressed in their General Plan Safety Element and which hazards are relevant and priority hazards for the City. The City's General Plan Health, Safety, and Noise Element addressed drought, earthquake, extreme heat, flood, dam failure, fog, freeze, tornado, structure fire, hazardous materials and brownfields, and noise. Among the hazards addressed in the City's General Plan Health, Safety, and Noise Element, drought, earthquake, extreme temperatures, flood, dam failure, fog, and tornado are further addressed in this Annex while wildfire is addressed in the Base Plan.

Table C-9 City of Hanford –Hazard Profiles

Hazard	Geographic Area	Probability of Future Occurrence	Magnitude/Severity (Extent)	Overall Significance	Priority Hazard?
Agriculture Pest and Disease	Extensive	Likely	Critical	Low	No
Cyber-Attack	Significant	Occasional	Critical	Medium	Yes
Dam Incidents	Extensive	Unlikely	Critical	Medium	Yes
Drought	Extensive	Likely	Critical	High	Yes
Earthquake	Limited	Occasional	Critical	Medium	Yes
Extreme Temperatures: Freeze and Heat	Extensive	Highly Likely	Limited	High	Yes
Flood	Extensive	Highly Likely	Critical	Medium	Yes
Land Subsidence	Extensive	Likely	Limited	Medium	Yes
Landslide	Significant	Occasional	Negligible	Low	No
Public Health Hazards: Pandemics/Epidemics	Extensive	Highly Likely	Critical	Medium	Yes
Severe Weather: Dense Fog	Extensive	Highly Likely	Critical	Medium	Yes
Severe Weather: Heavy Rain, Thunderstorms, Hail, and Lightning	Extensive	Highly Likely	Critical	Medium	Yes
Severe Weather: High Wind/Tornado	Extensive	Highly Likely	Critical	Medium	Yes
Wildfire	Limited	Likely	Negligible	Low	No



Hazard	Geographic Area	Probability of Future Occurrence	Magnitude/Severity (Extent)	Overall Significance	Priority Hazard?
Geographic Area Limited: Less than 10% of planning area Significant: 10-50% of planning area Extensive: 50-100% of planning area Probability of Future Occurrences Highly Likely: Near 100% chance of occurrence in next year or happens every year. Likely: Between 10 and 100% chance of occurrence in next year or has a recurrence interval of 10 years or less. Occasional: Between 1 and 10% chance of occurrence in the next year or has a recurrence interval of 11 to 100 years. Unlikely: Less than 1% chance of occurrence in next 100 years or has a recurrence interval of greater than every 100 years.		Magnitude/Severity (Extent) Catastrophic—More than 50 percent of property severely damaged; shutdown of facilities for more than 30 days; and/or multiple deaths Critical—25-50 percent of property severely damaged; shutdown of facilities for at least two weeks; and/or injuries and/or illnesses result in permanent disability Limited—10-25 percent of property severely damaged; shutdown of facilities for more than a week; and/or injuries/illnesses treatable do not result in permanent disability Negligible—Less than 10 percent of property severely damaged, shutdown of facilities and services for less than 24 hours; and/or injuries/illnesses treatable with first aid Significance Low: minimal potential impact Medium: moderate potential impact High: widespread potential impact			

C.3.1 Vulnerability Assessment

The intent of this section is to assess Hanford's vulnerability that is separate from that of the planning area as a whole, which has already been assessed in Section 4 Hazard Identification and Risk Assessment of the Base Plan. This vulnerability assessment analyzes the population, property, and other assets at risk of hazards ranked as a priority.

The information to support the hazard identification and risk assessment was based on a combination of the previous 2012 LHMP for the City and County and jurisdiction-specific information collected during the 2022-2023 update. A Plan Update Guide and associated worksheets were distributed to each participating municipality or special district to complete during the 2022-2023 update process. Information collected was analyzed and summarized in order to identify and rank all the hazards that could impact anywhere within the County, as well as to rank the hazards and identify the related vulnerabilities unique to each jurisdiction.

Each participating jurisdiction was in support of the main hazard summary identified in the Base Plan (see Table 4-3). However, the hazard summary rankings for each jurisdictional annex may vary due to specific hazard risks and vulnerabilities unique to that jurisdiction. The information in this Annex helps differentiate the jurisdiction's risk and vulnerabilities from that of the overall County, where applicable.

Note: The hazard "Significance" reflects the overall ranking for each hazard and is based on a combination of the City of Hanford's LPT input from the Data Collection Guide, the risk assessment developed during the planning process (see Section 4 of the Base Plan), and the set of problem statements developed by the City LPT. The hazard significance summaries in Table C-9 above reflect the hazards that could potentially affect the City. The discussion of vulnerability for each of the following hazards is located in Section C.3.6 Estimating Potential Losses, which includes an overview on the local issues and areas of concern associated with the hazard, a problem statement for priority hazards, and a quantitative risk assessment, where spatial data is available. Based on this analysis, the priority hazards for mitigation purposes for the City of Hanford are identified below.



- Cyber-Attack
- Dam Incidents
- Drought
- Earthquake
- Extreme Temperatures: Freeze and Heat
- Flood
- Land Subsidence
- Public Health Hazards: Pandemics/Epidemics
- Severe Weather: Dense Fog
- Severe Weather: Heavy Rain, Thunderstorms, Hail, and Lightning
- Severe Weather: High Wind/Tornado

Public Health Hazards were ranked significant hazards but are not addressed further in this vulnerability assessment as the risk and exposure are similar to the overall County risk and exposure, and the potential for losses are difficult to quantify specific to the City of Hanford. Additionally, hazards assigned a significance rating of Low, such as landslide and wildfire hazards, and which do not differ significantly from the County ranking (e.g., Low vs. High) are not addressed further and are not assessed individually for specific vulnerabilities in this Annex.

While wildfire was not rated as a significant hazard for the City of Hanford and therefore not addressed further in Section C.3.6, an event was noted by the City's LPT. An urban fire event occurred on May 19, 2022, when a significant commercial structure fire occurred at 750 E Lacey Boulevard. The event resulted in major damage to the commercial property, with property damage estimated at \$810,000. Fortunately, there were no reported injuries or fatalities as a result of the fire. The fire had a significant impact on the local business, as it forced a shutdown for several days. This disruption displaced hotel occupants and resulted in limited room availability in the affected area. The insured losses amounted to the full extent of the property damage, which was \$810,000. It is considered likely for an event of similar scale and magnitude to happen in the future. The City has many ongoing programs designed to reduce fire losses, such as preventative public education programs, Red Book to Recovery, and pre-incident planning.

C.3.2 Assets

This section considers Hanford's assets at risk, including values at risk, critical facilities and infrastructure, historic assets, economic assets and growth and development trends.

C.3.3 Property Exposure

The following data on property exposure is derived from the Kings County 2023 Assessor's parcel and address point data. This data should only be used as a guideline to overall values in the City as the information has some limitations. It is also important to note that in the event of a disaster, it is generally the value of the infrastructure or improvements to the land that is of concern or at risk. Generally, the land itself is not a loss and is not included in the values below. Table C-10 shows the exposure of properties (e.g., the values at risk) broken down by property type for the City of Hanford.



Table C-10 City of Hanford Property Exposure by Type

PROPERTY TYPE	IMPROVED PARCEL COUNT	BUILDING COUNT	IMPROVED VALUE	CONTENT VALUE	TOTAL VALUE
Agricultural	28	34	\$2,925,519	\$2,925,519	\$5,851,038
Commercial	794	1,534	\$714,496,080	\$714,496,080	\$1,428,992,160
Exempt	96	155	\$26,175,037	\$26,175,037	\$52,350,074
Industrial	97	130	\$100,067,929	\$150,101,894	\$250,169,823
Multi-Family Residential	489	3,008	\$239,982,926	\$119,991,463	\$359,974,389
Multi-Use	49	61	\$7,535,179	\$7,535,179	\$15,070,358
Residential	15,569	15,827	\$2,545,729,015	\$1,272,864,508	\$3,818,593,523
Total	17,122	20,749	\$3,636,911,685	\$2,294,089,679	\$5,931,001,364

Source: Kings County Assessor, WSP analysis

C.3.4 Critical Facilities and Infrastructure

For the purposes of this plan, a critical facility is defined as one that is essential in providing utility or direction either during the response to an emergency or during the recovery operation. FEMA sorts critical facilities into seven lifeline categories as shown in Figure 4-1 in the Base Plan. Critical facilities and other community assets are important to protect in the event of a disaster.

Table C-11 shows a summary of the critical facilities within the City of Hanford and Figure C-3 shows their locations. Critical facilities and other community assets as important to protect in the event of a disaster.

Table C-11 Critical Facilities within the City of Hanford

LIFELINE	# OF CRITICAL FACILITIES
Communication	32
Energy	7
Food, Water, Shelter	6
Hazardous Materials	10
Health and Medical	14
Safety and Security	54
Transportation	9
Total	132

Source: Kings County, HIFLD, NID, DWR, WSP analysis

Within the City of Hanford, the following are considered critical facilities:

- Kings County Office Of Emergency Services
- American Ambulance Incorporated (Three Facilities)
- College Of The Sequoias – Hanford Education Center
- Kings County Juvenile Detention Center
- Kings County Jail
- Hanford Fire Department
- Kings County Sheriff's Department
- Hanford Police Department
- Amtrak Station Hanford, CA

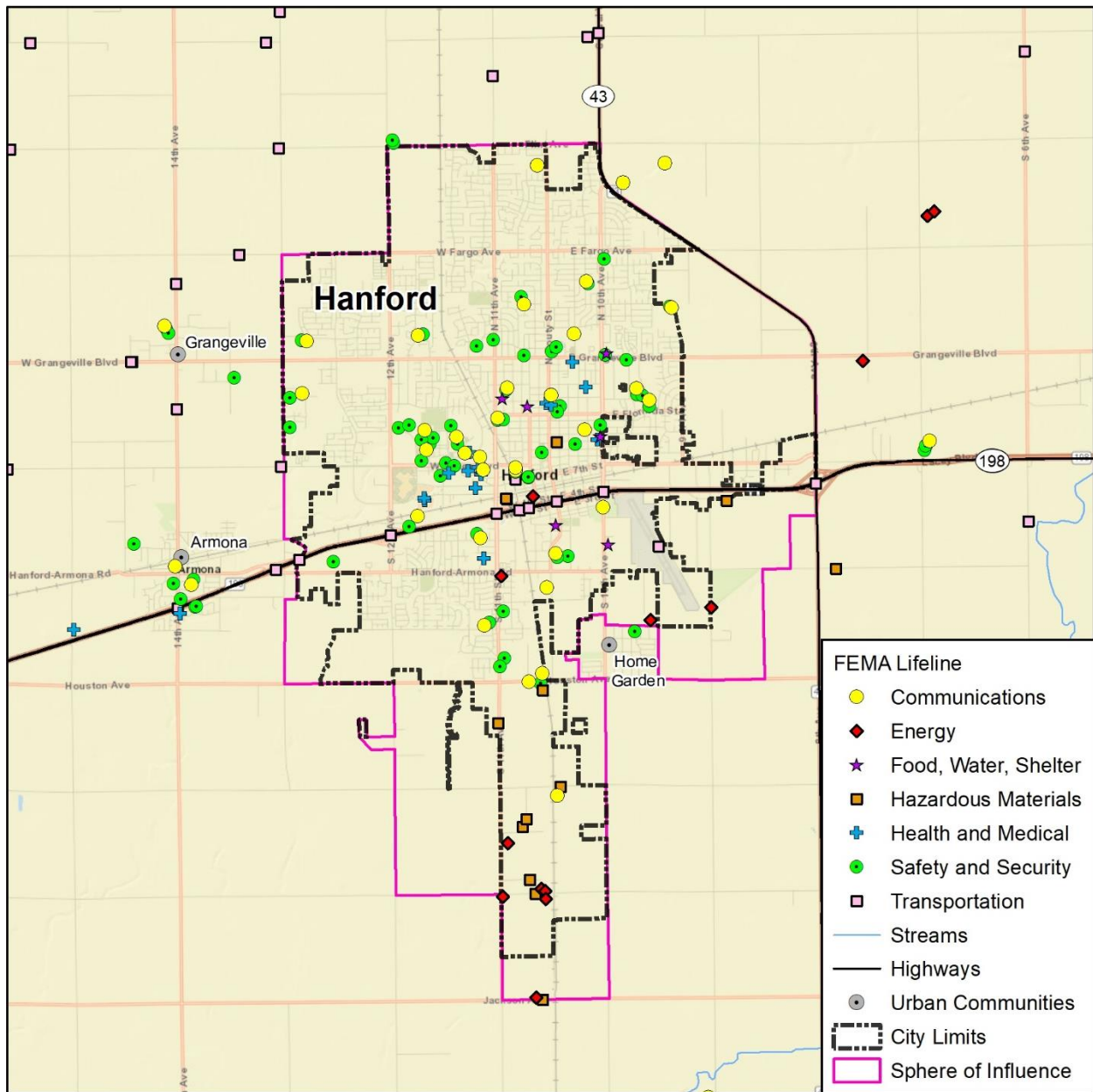


- Water supply lines and wells
- Wastewater treatment plant, pumping stations, and trunk lines
- Major electrical transmission lines and substations
- Major communication lines and microwave transmission facilities
- Major public and private schools
- Public Library
- Hospital facilities, nursing homes and dialysis centers

DRAFT



Figure C-3 City of Hanford Critical Facilities



Map compiled 9/2023;
Intended for planning purposes only.
Data Source: Kings County,
HIFLD, NID, DWR

0 1 2 Miles



C.3.5 Historic, Cultural and Natural Resources

Table C-12 lists the historical resources found on the National Registry of Historic Places (NRHP) located in the City of Hanford:

Table C-12 Historical Resources within the City of Hanford

PROPERTY NAME	REGISTER	JURISDICTION	DATE LISTED
Hanford Carnegie Library	National and State	Hanford	12/17/1981
Kings County Courthouse	National and State	Hanford	9/21/1978



PROPERTY NAME	REGISTER	JURISDICTION	DATE LISTED
Taoist Temple	National and State	Hanford	6/13/1972

Source: National Registry of Historic Preservation (NRHP), California Register of Historic Resources (CRHR)

There are also a number of resources within Hanford that contribute to its historic character and unique culture yet are not officially listed as historic resources: Clark Center for Japanese and Art & Culture, Temple Theater, Fox Theater, Kings Art Center, Hanford Civic Auditorium, and the Hanford Veteran's Memorial Building.

Natural resources are important to include in benefit-cost analyses for future projects and may be used to leverage additional funding for projects that also contribute to community goals for protecting sensitive natural resources. According to the City's General Plan Open Space, Conservation, and Recreation element, the City's Planning Area has a variety of natural and altered habitats supporting a diverse assemblage of plant and animal species.

Hanford is located in the Tulare Lake Hydrologic Study Area as defined by the California Department of Water Resources. The primary source of surface water in this area stems from Sierra Nevada Mountain Range precipitation. Hanford's geological composition primarily consists of alluvial deposits, contributing to the formation of productive groundwater aquifers with substantial water storage capabilities. The San Joaquin Valley groundwater basin has an estimated storage capacity of 570 million acre-feet, with approximately 80 million acre-feet deemed usable (Hanford General Plan 2014).

The Planning Area encompasses two distinct natural vegetation zones: Riparian Woodlands and Valley Oak Woodlands. Riparian Woodlands are some of the richest wildlife habitats in the State. The State Department of Conservation mapping program has identified two sections of riparian woodlands within the Planning Area. These sections are situated on the western side of 12th Avenue, between Houston and Iona avenues, and along the western side of 13th Avenue, north of Iona Avenue. The Valley Oak Woodlands play a crucial role by providing essential resources such as food, shelter, nesting grounds, and pathways for diverse wildlife species. This habitat's notable feature, the large oak trees, offers nesting opportunities for various birds of prey, including the Swainson's hawk.

The California Natural Diversity Database (CNDDDB) lists 18 special-status species that have been known to occur within and around the Planning Area, some of which are listed as Threatened by the U.S. Fish and Wildlife Service and/or the California Department of Fish and Wildlife, including Swainson's hawk and Steelhead trout (see Table 4-7 of the Base Plan). Awareness of natural assets can lead to opportunities for meeting multiple objectives. For instance, protecting wetlands areas protects sensitive habitat as well as attenuates and stores floodwaters.

C.3.6 Estimating Potential Losses

C.3.6.1 Cyber-Attack

The susceptibility to cyber-attacks extends across all servers, networks, and users, making them potential targets for security breaches and malicious activities. A specific incident reported by the Privacy Rights Clearinghouse occurred in the City of Hanford. An office burglary also occurred at the Yanez Dental Corporation involved three computers being stolen. This breach exposed critical patient information, including names, social security numbers, dates of birth, addresses, telephone numbers, and other sensitive data. While large data breaches such as this are generally widely reported, minor cyber-attacks such as phishing emails often go unreported.



Cyber-attack is ranked an overall medium significance hazard for the City of Hanford and all jurisdictions within Kings County. However, jurisdictions with greater populations and therefore more people exposed to a cyber-attack event are at a higher risk. Refer to Chapter 4 for a discussion of the cyber-attack risk relative to the City of Hanford and Kings County.

C.3.6.2 Dam Incidents

During the 2022-2023 plan update process, the HMPC and City's LPT highlighted concerns regarding the Pine Flat Dam situated on the Kings River in Fresno County. This dam holds the potential to trigger dam inundation flooding in the City of Hanford, constituting a considerable threat due to its high hazard classification. Despite the significance of assessing potential inundation areas for all dams, such data remains inaccessible. Reasons include the lack of available GIS data and restrictions on releasing such information in public documents. Consequently, a quantitative analysis of dam inundation exposure could not be conducted.

However, based on dam inundation mapping done for the 2035 Kings County General Plan Safety Element, the overall northeastern County, including the cities of Hanford and Lemoore, would be impacted by a dam failure at the Pine Flat Dam. According to the Health, Safety, and Noise Element, if the Pine Flat Dam were to breach at full capacity, it would take approximately five hours to reach the County. If such an incident were to occur, those in the dam inundation area with limited mobility or who have no access to vehicles, as well as those in isolated or mobile housing, would be at the greatest risk of harm. Additionally, all the identified DACs located within the City of Hanford would be impacted if there were a dam incident.

Dam incidents are ranked an overall medium significance hazard for the City of Hanford. Refer to Chapter 4 for a discussion of dam incident risk relative to the City of Hanford and Kings County.

C.3.6.3 Drought

The City of Hanford currently provides domestic water to residential, commercial, industrial and institutional customers within the City limits. In 2020, the City's Utilities Department provided 11,714 acre-feet (AF) of water to approximately 61,326 residents (including 651 accounts outside of the City limit) through 17,965 municipal connections (UWMP 2021).

The City currently uses groundwater as the sole source of water supply, with wells extracting water from the Tulare Lake Subbasin of the San Joaquin Valley Groundwater Basin. The Tulare Lake subbasin has a surface area of approximately 818 square miles and estimated to have a total storage capacity of 17,100,000 AF to a depth of 300 ft and 82,500,000 AF to the base of fresh groundwater (UWMP 2021).

In order to reduce the burden on groundwater resources during periods of prolonged drought, the City has devised a Water Shortage Contingency Plan, aimed at curtailing wasteful water usage and promoting community conservation efforts. Typically, in response to regional supply vulnerability, Kings County Water District (KCWD) prompts urban water suppliers to adopt both voluntary and mandatory water conservation measures. Historical monitoring of groundwater within the Tulare Lake subbasin by KCWD indicates stable groundwater conditions, even during prolonged multi-year droughts. The Tulare Lake groundwater subbasin's well-maintained levels can be attributed to KCWD's implementation of conjunctive use programs. As a result of this management, the Tulare Lake subbasin is considered a reliable source of supply during water shortages. While pumping may exceed recharge during a drought, basin management practices have prevented long-term adverse conditions.



Because the City relies exclusively on groundwater, prolonged drought conditions are anticipated to impact DACs and other socially vulnerable communities first. Droughts and water supply shortages may also impact the agricultural industry and farmer workers that rely on farming and harvest seasons for work. DACs may also be vulnerable to drought and water shortages due to income disparities and due to limited access to emergency drinking water supplies.

The City is susceptible to drought and related climate change considerations. Based on the City's location and current climate, the most likely changes are related to increasing average temperature, intensifying storm events, and periods of extended drought. Other climate change effects such as increased precipitation variability may result in the depletion of stored groundwater availability, and in turn reduced crop productivity, and potential higher water costs. Changes in annual precipitation and temperature could have an impact on the City's overall water use as well as available supply volumes.

The City's water management efforts have evolved over time. In 1976, the Water Waste Ordinance mandated meter installations for new water system connections, with penalties for violations leading to meter installation costs borne by the customer. In 1986, the ordinance was revised to include flow restrictors if violations persisted. In 2015, penalty increases were instituted, increasing the penalty for the second violation to \$50 and the fourth violation to \$200. The City requires water meter installation for customers installing pools or substantial home additions. The transition to the automated meter reading metering system has been a focus, while billing is currently based on monthly rates per 100 cubic feet. A rate increase was adopted in 2015 to fund system operation, improvement, and debt service. Additionally, the City has implemented aggressive State mandates to help curb drought impacts.

The City is actively engaged in diverse public information initiatives to encourage water conservation and enhance public understanding. It employs various methods such as brochures, radio/TV broadcasts, school programs, and videos to disseminate water use information. The City website also features resources on water conservation. Information is circulated through channels like local newspapers, monthly bill inserts, farmers markets, and the Hanford Mall, offering water-saving tips and outdoor water use reminders. As part of the Kings County Water Education Committee (KCWEC), the City presents at local schools about water safety and conservation. KCWEC contributes by distributing book covers containing water conservation and safety details to schools.

The Utilities Superintendent is responsible for coordinating and expanding the City's water conservation program as well as providing useful water conservation information to residents through the various public outreach programs. The City employs part-time staff to enforce water use prohibitions and write violations; the City also recently hired a full-time water conservation technician to assist with the enforcement of the water conservation program. The City also implements a Water Efficient Landscape Ordinance, aligned with Assembly Bill 325, which guides landscaping practices and emphasizes water efficiency, supervised by the Parks Superintendent. It categorizes zones based on water needs, using multipliers to manage landscaped area water usage.

In conclusion, drought hazards are ranked an overall high significance hazard for the City of Hanford, but this is mainly due to the City's reliance on only groundwater for its water supply. The City of Hanford's comprehensive approach to water management reflects its commitment to providing a sustainable and reliable water supply to its residents in the face of recurring drought challenges. From utilizing groundwater recharge programs within the Tulare Lake Subbasin to enacting a Water Shortage Contingency Plan that balances demand during droughts, the City demonstrates a proactive stance toward preserving water resources. The evolving strategies, such as water waste ordinances, metering system upgrades, and information



campaigns, also highlight the City's adaptability and dedication to fostering water conservation. Further, by engaging with the KCWEC and implementing educational initiatives, the City actively involves its community in the broader goal of water sustainability. The Utilities Superintendent also collaborates with staff to enforce regulations and the Parks Superintendent oversees water-efficient landscaping efforts. Further, the City can also work in the future with socially vulnerable communities to ensure there are adequate back-up and emergency water supplies. Through these efforts, the City applies a holistic approach to water management that ensures the welfare of both current and future generations and also demonstrates existing mitigation practices are already in place for a potential drought impacts.

Refer to Chapter 4 for a discussion of drought risk relative to the City of Hanford and Kings County.

C.3.6.4 Earthquake

The City of Hanford lies within a seismically active area. As mentioned in the Base Plan, no major fault systems are known to exist in Kings County. However, minor surface ruptures could occur in areas of minor faulting, which occur primarily in the southwestern part of the County along the Kettleman Hills mountain range. Moreover, the San Andreas Fault is located less than four miles west of the Kings County line.

As shown in Figure 4-14 Kings County Earthquake Ground Shaking Potential and Nearby Faults of the Base Plan, earthquake hazard is the most severe in the southwest of Kings County. The potential for ground shaking in the Hanford area ranges from 10-60%g, while ground shaking at the southwestern County line can reach 100% g and above.

There have not been any damaging earthquakes greater than magnitude 6.0 recorded in Kings County in over 200 years, though several have been very close. Geologic studies estimate that over the past 1,400 to 1,500 years, large earthquakes have occurred at about 150-year intervals on the southern San Andreas fault. As the last large earthquake on the southern San Andreas fault was the Fort Tejon earthquake in 1857, that section of the fault is considered a likely location for an earthquake within the next few decades (Hanford General Plan 2014). Ground shaking was also felt in Hanford during the Coalinga earthquake with a magnitude of 6.4 in 1983.

These earthquake and seismic hazards make the City's socially vulnerable population more vulnerable major earthquake events, particularly those that result in planned and unplanned power outages, in addition to temporary loss of water delivery where water conveyance relies on electricity for pump stations to remain in operation. In turn, this could have a severe impact on Medicare beneficiaries that rely on electricity-dependent medical equipment and devices to live independently in their homes.

In certain cases, the City has required developers to conform to the most recent California Building Code. These improvements reduce vulnerability and risks.

Refer to the Base Plan for details on earthquake hazard's potential impact on the City of Hanford and Kings County.

C.3.6.5 Extreme Temperatures: Freeze and Heat

According to data from the Western Regional Climate Center for the Hanford 1 S weather station (043747) for the period of record from 1899-2016, the extreme maximum temperature in July was 116°F, and extreme minimum temperature in January was 14°F. Thus, the City of Hanford experiences a broad range of temperatures and is vulnerable to extremes on either end of the spectrum. The station summary for the Hanford 1 S station is displayed in Table C-13 below.



Table C-13 Period of Record General Temperature Summary for Hanford 1 S Station

	Jan.	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Average Temperatures (degrees Fahrenheit)												
Average Maximum Temperature	54.7	61.9	67.5	74.9	83.6	91.4	97.8	96.1	90.5	80	66.2	55.4
Average Minimum Temperature	44.9	50.2	54.8	60.6	68	74.8	80.2	78.2	73	63.7	52.5	45
Average Temperature	35.2	38.6	42.1	46.4	52.5	58.3	62.5	60.4	55.5	47.4	38.8	34.6
Extreme Maximum Temperatures (degrees Fahrenheit)												
Extreme Maximum Temperature	95	94	95	100	107	114	116	115	110	101	94	77
Extreme Minimum Temperatures (degrees Fahrenheit)												
Extreme Minimum Temperature	14	18	23	20	30	36	44	40	35	28	18	15

Source: WRCC 2023

The City's emergency response strategy encompasses both sheltering and heating/cooling provisions. Two primary emergency shelters, the Longfield Center and the Civic Auditorium, have been distinctly identified as a heating and cooling center. However, there remains a need to establish a comprehensive global matrix dictating the activation and deactivation protocols for heating and cooling centers during crises. Effective coordination for this initiative involves key entities such as the National Weather Service (NWS) Hanford, Kings County Office of Emergency Services (OES), and the municipal facilities coordinators.

The community benefits from public education programs tailored to enhance safety awareness. These programs encompass various platforms, including sessions at all PK-6 grade schools, participation in the Thursday Night Marketplace events, incorporation into fire station tours, and integration into other public safety affairs held throughout the year. This educational effort encompasses the dissemination of informative posts by the NWS-Hanford and the circulation of press releases from the fire department that pertain to matters concerning community cooling centers.

While the City of Hanford has programs in place to address extreme temperatures, socially vulnerable communities, particularly seniors and individuals with health or respiratory conditions may experience greater impacts. Impacts can be particularly problematic for those households that lack air conditioning or easy access to the local heating or cooling centers. Further, of this socially vulnerable population, the Medicare beneficiaries that rely on electricity-dependent medical equipment and devices are most vulnerable to extreme heat events that result in planned or unplanned power outages.

Extreme temperatures are an overall high significance hazard in Hanford. Refer to Chapter 4 in the Base Plan for a discussion of the extreme temperature risk relative to the City of Hanford and Kings County.

C.3.6.6 Flood

The primary types of flood events in Kings County that may impact the City of Hanford are riverine and urban or localized stormwater flooding. Flooding could also occur as a result of dam failure. Regardless of the type of flood, the cause is often the result of severe weather and excessive rainfall, either in the flood area, upstream, or from winter snowmelt. The extent of flood severity is influenced by various factors, encompassing the intensity and duration of rainfall, the landscape's topography, and the type of ground cover in the region. An abundance of rainfall within a brief timeframe can lead to sudden flash floods. Conversely, even a modest amount of rain can trigger flooding, particularly in regions with frozen or saturated soil from prior wet spells.



Furthermore, floods might occur if rainfall accumulates over impermeable surfaces like extensive parking lots, paved roads, or densely developed zones.

The repercussions of flooding encompass a broad spectrum of effects, including injuries and loss of life, financial setbacks, psychological trauma, as well as damage to infrastructure such as roads and bridges, and properties. This damage spans across different aspects including structural elements (such as foundations), electrical systems (outlets, wiring, meters, etc.), mechanical equipment (washers, dryers, furnaces, water heaters, etc.), and finishing touches like floors and walls.

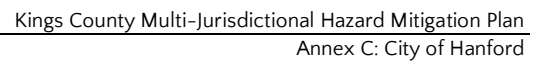
Floodplains and Special Flood Hazard Area

Several federal, state, and local organizations utilize the magnitude of flooding linked to a 1 percent likelihood of happening, often termed the "base flood, or 100-year floodplain as a regulatory benchmark. This predefined boundary, also known as the Special Flood Hazard Area (SFHA) serves as a practical method for evaluating susceptibility and potential hazards within regions prone to flooding. For instance, FEMA possesses accessible maps that display the scope of the base flood and the projected water depths in those areas.

A floodplain refers to a relatively flat or gently sloping area of land adjacent to a river, stream, or other water body that is prone to periodic flooding. During times of increased water flow, such as heavy rainfall or snowmelt, the floodplain serves as a natural area for excess water to spread out and temporarily inundate. Floodplains are crucial for managing and mitigating flood risks, as they help to absorb and distribute floodwaters, protecting nearby structures and communities from the full impact of flooding. These areas often support fertile soil and diverse ecosystems, but their susceptibility to flooding requires careful code enforcement and management strategies to ensure the safety and well-being of residents and the environment. The physical risks associated with potential flooding and the regulatory requirements for floodplain management are also important considerations when decisions are being made regarding future land use throughout the City of Hanford.

Flood hazards for the City of Hanford are shown in Figure C-4. As shown in the figure, only a few parcels are exposed to flood hazards. The rest of Hanford lies outside the 100-year floodplain designated by FEMA. Based on the history of flooding in Kings County, the City of Hanford and surrounding areas are considered likely to be at risk to future localized flooding, as parts of the City have been prone to local flooding problems associated with poor drainage issues. Climate change is also expected to increase the intensity of major storms, which could create more frequent and severe flooding. In summary, there is risk to flooding in the City due to development in the floodplain and localized flooding issues such as stormwater and interior flooding.

A flood vulnerability assessment was completed during the 2022-2023 update, following the methodology described in Section 4 of the Base Plan. Table C-14 summarizes the values at risk in the City's 1% annual chance floodplain. None of the parcels located within the City Limit are exposed to 0.2% annual chance flood events.



Map compiled 7/2023;
Intended for planning purposes only.
Data Source: Kings County, DWR,
National Levee Database,
FEMA NFHL 6/17/2019



Table C-14 City of Hanford FEMA 1% Annual Chance Flood Hazard, by Property Type

Property Type	Improved Parcel Count	Building Count	Improved Value	Content Value	Total Value	Estimated Loss	Population
Agricultural	1	1	\$4,325	\$4,325	\$8,650	\$2,163	
Commercial	1	1	\$6,900	\$6,900	\$13,800	\$3,450	
Exempt	1	1	\$751,205	\$751,205	\$1,502,410	\$375,603	
Multi-Family Residential	1	9	\$2,986,560	\$1,493,280	\$4,479,840	\$1,119,960	28
Residential	1	1	\$269,146	\$134,573	\$403,719	\$100,930	3
Total	5	13	\$4,018,136	\$2,390,283	\$6,408,419	\$1,602,105	31

Source: Kings County Assessor's Office; National Flood Hazard Layer Effective 6/17/2019; FEMA; WSP analysis

Based on this analysis, the City of Hanford has 13 buildings located within the 1% annual chance floodplain for a total value of over \$6.4 million. The potential loss is estimated at over \$1.6 million if these areas were inundated by the 1% annual chance flood. The population at risk was calculated for the 1% annual chance floodplains based on the number of residential properties at risk and the average number of persons per household (3.09). There are an estimated 31 persons at risk to 1% annual chance flood. Further, of this population there are six census tracts in the City that consist of DACs. This means that the population within these tracts are more likely to have a disproportionate impact from flood hazards, and may need additional assistance responding to and recovering from these hazards. For example, these communities may not be able to easily evacuate or relocate to alternative housing. Many of these communities may also lack flood insurance. However, in comparison to the other cities in Kings County, the City of Hanford's flood risk to socially vulnerable populations is less severe based on the overall population at risk to the 1% annual chance flood (31).

The Department of Water Resources (DWR) developed Best Available Maps (BAM) following legislation enacted in 20017 (Senate Bill 5) for the 100-, 200-, and 500-year floodplains located within the Sacramento-San Joaquin Valley. The BAM maps contains the best available information on flood hazards in cities and counties. While the BAM maps do not replace existing FEMA regulatory floodplains shown on the Flood Insurance Rate Maps (FIRM) they identify potential flood risk in areas that may warrant further studies and are intended to facilitate land use decision making. There is no DWR Awareness 100-year floodplain located within the City of Hanford.

Critical Facilities at Risk

Critical facilities are those community components that are most needed to withstand the impacts of disaster as previously described. Table C-15 lists the critical facilities in the City's 1% annual chance floodplains. None of the facilities are located in 0.2% annual chance floodplains. Figure C-5 the location of the critical facilities in the City's 1% annual percent chance floodplains. Only one facility is potentially exposed to 1% annual chance flood events, which is Rosa Parks Learning Center. Impacts to any of the City's key wastewater facilities and infrastructure and conveyance systems would result in severe service disruptions to the community and subsequent costs associated with response and recovery.

Table C-15 Critical Facilities at risk of 1% Annual Chance Flood Hazard, by FEMA Lifeline

FEMA Lifeline	Count
Communications	-
Energy	-
Food, Water, Shelter	-



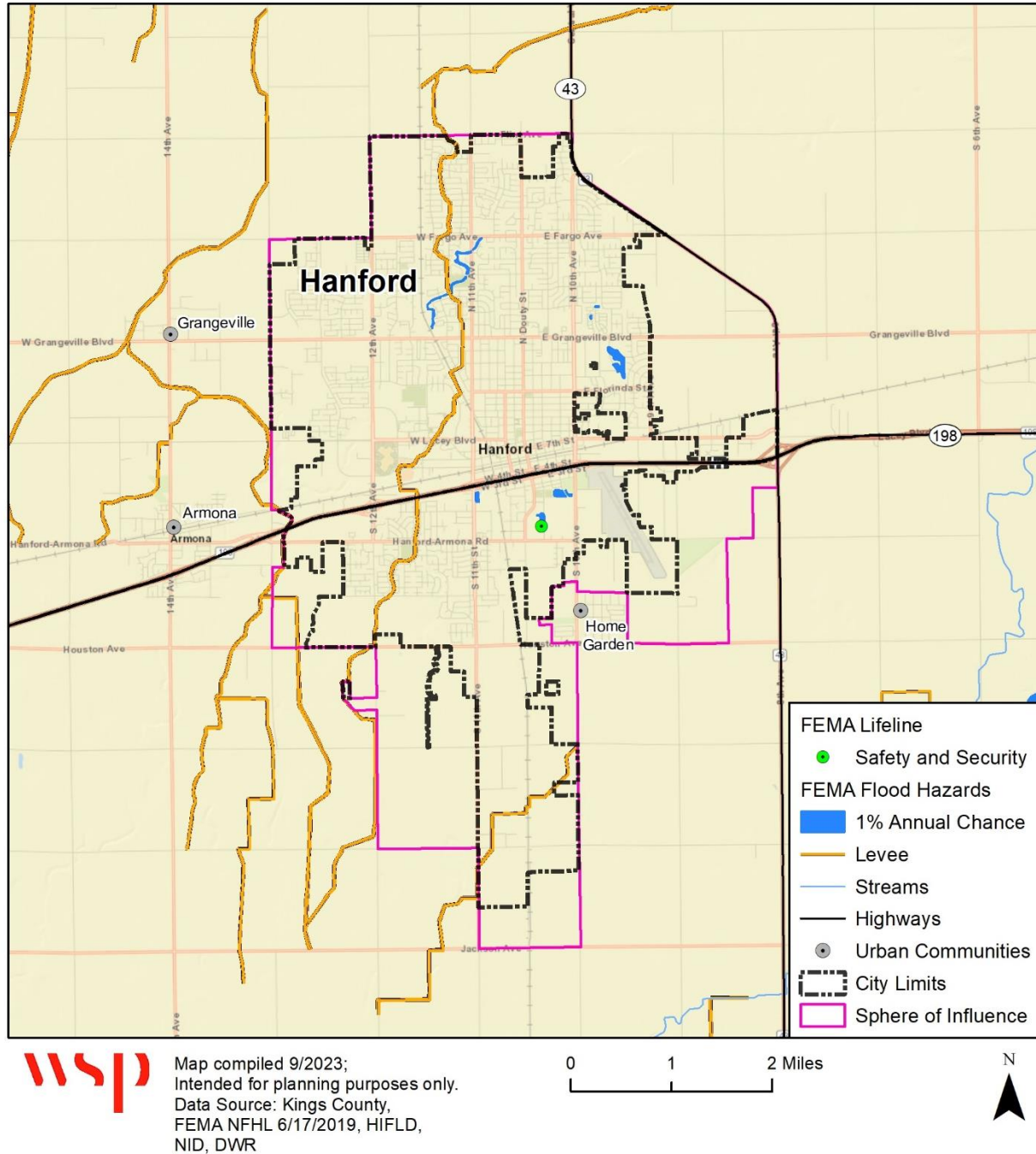
FEMA Lifeline	Count
Hazardous Materials	-
Health and Medical	-
Safety and Security	1
Transportation	-
Total	1

Source: Kings County, HIFLD, NID, DWR, National Flood Hazard Layer Effective 6/17/2019; FEMA; WSP analysis

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Figure C-5 Critical Facilities at Risk of FEMA 1% & 0.2% Annual Flood Hazard



Flood Insurance Coverage, Claims Paid, and Repetitive Losses

Flooding is the most common and costly natural disaster in the United States. In terms of economic disruption, property damage, and loss of life, floods are often referred to as "nature's number-one disaster." Consequently, flood insurance is typically not included in standard homeowner's and renter's insurance policies. To safeguard their property against flood-related losses, individuals are advised to acquire flood insurance through the National Flood Insurance Program (NFIP). Established by Congress in 1968 to mitigate the rising costs of federal disaster relief, the NFIP is administered by FEMA, a division of the U.S. Department of Homeland



Security. It provides federally backed flood insurance to communities that adopt and enforce effective floodplain management ordinances aimed at reducing potential flood losses.

The NFIP offers flood insurance coverage to individuals residing in participating communities. Community membership is contingent on adopting and enforcing floodplain management and development regulations. The NFIP operates on the basis of voluntary community participation, regardless of size. In this context, a "community" refers to a political entity with the legal authority to implement and enforce floodplain management ordinances within its jurisdiction, including incorporated cities, towns, townships, boroughs, villages, or unincorporated areas of counties or parishes.

National flood insurance is only available in communities that apply for participation in the NFIP and commit to implementing prescribed flood mitigation measures. In return for adhering to basic floodplain management standards, local governments enable property owners to purchase modest levels of flood insurance coverage. Communities that adopt more comprehensive floodplain management measures can be promoted to the Regular Program, allowing local policyholders to access higher levels of insurance coverage.

Floodplain management activities also mitigate flood risk and involve both evaluating and permitting development within the SFHA, while also addressing equity and outreach. This entails raising new residential structures to or above the Base Flood Elevation (BFE), implementing floodproofing for non-residential structures, constraining development in floodways, strategically siting public utilities and facilities to minimize flood damage, and reinforcing foundations against floatation, collapse, or lateral shifting. These efforts prioritize fairness and engagement within flood-prone communities.

The City of Hanford joined the NFIP on March 18, 1987. NFIP Insurance data indicates that as of May 2023, there were 15 flood insurance policies in force in the City with \$4,667,000 of coverage. Two policies are located in A zones. 13 policies are located in B, C & X zones. 13 policies are for single family residential, one is for 2-4 family residential, and one is for other residential. There has been two historical claims that a total amount of \$2,246.38 in paid losses. According to the FEMA Community Information System accessed August 25, 2023, the City has no Repetitive Loss or Severe Repetitive Loss properties.

Future Development

SOI flood analysis shows that none of the parcels located within the City's SOI are exposed to 1% or 0.2% annual chance flood events.

Flood hazards are ranked medium for the City of Hanford based primarily on localized flooding issues. Refer to Chapter 4 for a discussion of flood risk relative to the City of Hanford and the County.

C.3.6.7 Land Subsidence

Land subsidence is prevalent along the northeastern portion of Kings County. According to data from DWR, the City of Hanford has experienced moderate subsidence. Between 2015 and 2023, the City experienced vertical displacement of -2.5 to -5.5 feet. The southern portion of the City, which has experienced the most vertical displacement (between -5 to -5.5 feet), is currently zoned for industrial use. Any future development in this area will need to plan for the possibility of future increases in vertical displacement.

Land subsidence is an overall medium significance hazard for the City of Hanford and all jurisdictions within Kings County. Refer to Chapter 4 for a discussion of land subsidence risk relative to the City of Hanford and the County.



C.3.6.8 Public Health Hazards: Pandemics/Epidemics

All populations are vulnerable to public health hazards. Elder populations, young children, and individuals with pre-existing medical conditions are more likely to face long lasting impacts from communicable disease, in addition to other socially vulnerable populations that may lack access to healthcare. These groups are at a higher risk of facing prolonged and often more serious impacts from infectious diseases due to their compromised immune systems or underdeveloped defense mechanisms.

While areas of high population density are likely to experience a greater number of cases due to a larger population, larger cities tend to have advantages in terms of access to medical resources. The availability of medical facilities, advanced healthcare services, and a concentration of healthcare professionals can contribute to a more robust response to disease outbreaks. However, the effectiveness of response doesn't solely depend on the presence of medical resources. It also hinges on the coordination of public health interventions, early detection, and the implementation of preventative measures. In contrast, rural or less densely populated areas might have limitations in terms of immediate medical access, but their smaller populations can make it easier to implement containment strategies and monitor outbreaks closely.

Public health hazards are an overall medium significance hazard for the City of Hanford and all jurisdictions within Kings County. Refer to Chapter 4 for a discussion of public health hazards risk relative to the City of Hanford and the County.

C.3.6.9 Severe Weather: Dense Fog

Thick fog, referred to as Tule fog, is a common meteorological phenomenon experienced in Kings County, primarily during the winter months, typically spanning from December through February. This fog formation transpires rapidly in the early morning hours and can persist for extended periods, often stretching over days to weeks. The NCEI Storm Events Database, covering the timeframe from 1996 to 2022, has documented a total of 333 dense fog occurrences in Kings County (as detailed in Table 4-65 of the Base Plan). 180 of these incidents, along with all eight associated injuries, were registered in Hanford. Among these fog events, 162 were characterized by visibility of less than a quarter mile, contributing to reported property losses amounting to \$550,000. Each event with recorded damages or injuries is summarized in Table C-16 below.

Table C-16 Dense Fog Events in Hanford with Damages or Injuries (2003-2022)

DATE	INJURIES	PROPERTY DAMAGE	SUMMARY
Feb. 4, 2003	3	\$20,000	Patchy dense fog with visibility less than 100 feet was between Hanford and Selma on the morning of the 4th.
Jan. 28, 2016	1	\$0	Four crashes that occurred near the City of Hanford. In one, a semi-truck driving eastbound on Highway 198 making a left turn in the fog was struck by a sedan. The driver suffered moderate injuries. The other crashes did not have any injuries reported.
Nov. 30, 2017	1	\$20,000	Visibility below a quarter mile was reported in Hanford. California Highway Patrol reported a two-vehicle collision north of Hanford on State Route 43 near the Dover Ave intersection which resulted in one minor injury.
Jan. 31, 2018	0	\$100,000	The fog became dense in several locations during the early morning hours. Several fog-related minor auto accidents were reported along State Route 198 near Hanford, where visibility was less than a quarter mile. Several school districts had delayed openings and



DATE	INJURIES	PROPERTY DAMAGE	SUMMARY
			cancelled morning bus service as a result of the widespread dense fog on the morning of the 31st
Jan. 23, 2019	0	\$50,000	A large upper ridge built inland into California on January 22. This ridge remained dominant over the region for several days and resulted in a period of dry weather. However, inversion conditions prevailed in the San Joaquin Valley and with mainly clear skies and light winds, dense fog became prevalent in some areas during the nighttime and morning hours. During the morning of January 23, dense fog impacted travel near Hanford and Visalia and a five-vehicle accident occurred at the intersection of 6th Ave. and Excelsior Ave., 7 miles NE of Hanford with visibility around 250 feet at the time of the accident. Several school districts delayed bus service.
Dec. 11, 2019	0	\$10,000	Visibility below a quarter mile was reported in Hanford. Five cars were involved in a collision at the intersection of SR 198 and 6th Ave east of Hanford.
Jan. 24, 2020	0	\$50,000	Visibility below a quarter mile was reported in Hanford. Several school districts either opened late or delayed or cancelled bus service. California Highway Patrol reported two multi-vehicle accidents near Caruthers due to dense fog.
Jan. 6, 2021	1	\$150,000	Hanford reported visibility below a quarter mile. A four-vehicle accident took place on SR 198 at 08:09 PST involving a big rig, a pickup truck and two cars. There was minor injury from the collision and visibility at both Hanford and Visalia was at an eighth of a mile at the time of the accident.
Nov. 21, 2021	0	\$50,000	Visibility below a quarter mile was reported in Hanford. California Highway Patrol reported visibility between 700 and 1000 feet on SR 198 between SR 43 and 19th Ave as well as a fog related 3 vehicle accident involving a big rig and two cars on westbound SR 198 at the intersection of 2nd Ave. that resulted in a closure of westbound SR 198 during the late morning hours.
Jan. 14, 2022	1	\$100,000	Visibility below a quarter mile was reported in Hanford. Several webcams showed visibility below 1000 feet. Several school districts either opened late or delayed or cancelled bus service. A ten-vehicle accident occurred on eastbound SR 198 just east of the SR 99 exchange east of Hanford. Visibility was reported be below 100 feet at the time by California Highway Patrol. This resulted in SR 198 being closed for over two hours.
Dec. 16, 2022	1	\$0	Visibility below a quarter mile was reported in Hanford. Several webcams showed visibility below 1000 feet. California Highway Patrol reported a single car accident on eastbound SR 198 near Road 48 at 1029 PST. One person was injured in the accident which was determined to be fog related.

Source: NCEI Storms Event Database 2023

Fog is an annual recurrence in Kings County, with potentially damaging events transpiring every three years on average since 1962. Consequently, the anticipation of regular annual fog and intermittent damaging occurrences is high. To mitigate the impact, fog advisories are employed to postpone school and bus schedules until the fog lifts. A well-maintained traffic signage and striping system is pivotal in aiding drivers during fog events, facilitating safer navigation.

The sustained occurrence of fog, coupled with its potential for adverse effects, reinforces the importance of ongoing vigilance and comprehensive planning. Through the utilization of fog



advisories to adjust school and bus schedules and the enhancement of traffic systems, Hanford demonstrates a proactive commitment to addressing the challenges posed by Tule fog. These initiatives underscore the City's dedication to ensuring the safety and welfare of its residents amidst the recurring atmospheric conditions associated with Tule fog. These initiatives also reduce the exposure associated with dense fog on socially vulnerable communities, particularly children and seniors dependent on public transportation.

Severe weather hazards associated with dense fog are an overall medium significance hazard for the City of Hanford. Refer to Chapter 4 for a discussion of dense fog hazards risk relative to the City of Hanford and the County.

C.3.6.10 Severe Weather: Heavy Rain, Thunderstorms, Hail, and Lightning

Between 1968 and 2022, the NCEI Storm Events Database recorded a total of 127 instances of hail, heavy rain, thunderstorms, and lightning events in Kings County. Of these events, 27 were recorded in Hanford, consisting of six hail events, four lightning events, eight thunderstorm events, and eight heavy rain events. There were no recorded deaths or injuries. There has been \$91,603,000 estimated losses in crop damages and \$267,000 in property damages, summarized in Table C-17.

Table C-C-17 Heavy Rain, Thunderstorms, Hail, and Lightning Events (1968-2022)

DATE	INJURIES	DAMAGES	SUMMARY
Hail			
March 12, 1996	0	\$0	N/A
April 8, 1999	0	\$3,390,000 (Crop)	Besides the frost and wind during early April, very active thunderstorms moved through the Fresno, Kings, and Tulare County areas early on the evening of April 8th. Hail up to 1-inch was reported in northeast Hanford with crop damage north and east of town. Besides the hail near Porterville, Visalia had 3/4-inch hail by 2025 PDT. Even smaller hail on intolerant crops in Fresno County brought damage to area agriculture. Fresno County assessed a loss of \$15.65M, Kings \$3.39M, and Tulare \$6.0M due to hail during this time period.
April 28, 2005	0	N/A	Mid-day and afternoon thunderstorms during the 28th led to many reports of hail. Damage from hail on the 28th and other days of unseasonably persistent rain into early May resulted in significant crop damage in Central California. These damage figures will be reported in the May 2005 Storm Data.
September 22, 2007	0	N/A	An upper-level low dropped down the coast on the 21st and moved inland over Southern California the next day. This low triggered another thunderstorm outbreak, with hail up to 0.88 inch in diameter falling in eastern Kings County during the afternoon of September 22nd, and 0.75-inch hail falling west of Squaw Valley in Fresno County near the foothills. Flash flooding occurred in eastern Kings County, central Fresno County, and north-central Tulare County, with scattered reports of road flooding and minor mud/debris flows elsewhere in the central and southern San Joaquin Valley.
April 11, 2012	0	\$150,000 (Crop)	NWS Employee indicated a swath of accumulating large hail across the Hanford area.



DATE	INJURIES	DAMAGES	SUMMARY
Heavy Rain			
February 1, 1998	0	\$1,000,000 (Crop) \$20,000 (Property)	In Kings County about \$1.0M in flood protection costs was expended to try to protect ag land with an additional \$20K in damages due to high water in local communities in the county. No February monthly summary reports for agriculture in Merced, Tulare, or Madera Counties.
May 01, 1998	0	\$73,600,0000 (Crop)	For the rain season through May 31, Fresno had 71 days of measurable rain with Bakersfield having 68. Total rainfall for Bakersfield in May was 1.33" which was the 5th wettest on record ... Fresno had 1.37" which was the 8th wettest. Bakersfield's year-to-date total as of 5/31/98 was 14.36" eclipsing the old record set in 1977-78 of 11.78" and compared to a normal of only 5.72". Fresno's total rain was at 18.43" which is the 5th wettest on record and compares to a normal of 10.60"/year.
June 8, 2000	0	\$100,000 (Crop)	An unseasonable rain again caused problems for hay and fruit growers in the Central and Southern San Joaquin Valley growing areas. Amounts varied from 1/3 to 2/3rds of an inch in Kings, Tulare, Fresno, and Madera Counties. Fresno had 0.56 inches of rain that broke a 46-year old record of 0.14 inch for June 8th. Locally heavy rain in Visalia caused some urban flooding problems. Gusty wind also occurred in the Kern County Mountains and Deserts: gusts to 51 knots were reported in Tehachapi Pass; with gusts to 40 knots at Mojave and Inyokern.
April 30, 2003	0	\$8,900,000 (Crop)	April and the first half of May 2003 in the Central and Southern San Joaquin Valley was marked by unusual and persistent cool, wet weather. Normally summer agricultural operations are in full swing by the 1st week in April. Despite a relatively dry November through March period for the area, the month of April was the 7th wettest with 2.84" of rain (2.08" above normal) since records began in Fresno in 1888 and the wettest since 1978 when 2.85" fell. The average temperature of 58.6F in Fresno for April was the coldest since 57.2F in 1976. Other sites in the San Joaquin Valley were similarly affected leading to the crop damage assessments. Cherries were the hardest hit in Fresno County; cotton planting was hurt the most in Madera County; and alfalfa the worst in Kings County.
April 21, 2003	0	\$1,000 (Crop)	Locally heavy rain accompanied by strong wind and small hail occurred in the Central and Southern San Joaquin Valley during the late afternoon hours of the 21st. Hail size was less than 1/2-inch but, in conjunction with, locally heavy rain led to local highway problems just northwest of Merced on State Highway 99. Snow level in the adjacent Southern Sierra Nevada dropped to 3500 feet mean sea level. Gusty wind late in the afternoon around Fresno resulted in some downed power lines and loss of power to 771 utility customers in North-Central Fresno. Unofficial rainfall amounts from convective showers were as high as 0.63" in Northeast Fresno with reports of pea-size hail and lightning. Official rain totals for the day were 0.20" at Fresno, 0.15" at Madera, and 0.13" at Visalia. In the Tehachapi Mountains at



DATE	INJURIES	DAMAGES	SUMMARY
			Bear Valley over 1.00 inch of rain fell due to the showers on the 21st.
January 1, 2006	0	N/A	Rainfall in excess of 2.5" in just over 30 hours lead to water covered roadways in several locations around Kings County. Hanford measured 2.82" of rain in that time period with the cities of Lemoore and Corcoran receiving just over 3" of rain. Ponding basins overflowed in the city of Lemoore and flooding occurred in smaller cities of Huron and Corcoran. Strong wind during the evening of the 2nd brought down several large trees in the city of Lemoore including one 100-year old tree onto a house.
October 5, 2011	0	\$100,000 (Property)	Brief heavy rain caused a power transformer fire and a resulting house explosion. Rain amount measured at the Hanford ASOS were 0.13 inches
December 12, 2014	0	N/A	Widespread rainfall amounts of 1 to 2 inches across the Kings county. Nuisance roadway flooding.
Lightning			
May 31, 2002	0	N/A	Localized heavy rain at the Hanford Airport of 1.01" within a 21-minute time period totally flooded local streets and intersections. Despite heavy rain being highly localized (known locations at Hanford, Armona, Avenal, downtown Fresno, and Piedra area of Fresno County), lightning activity with this event was widespread, long-lasting, and very visual...an infrequent occurrence for the Central and Southern San Joaquin Valley. There were 260 lightning strikes between just 1900 and 2000 PST through the Central and South San Joaquin Valley...and that activity continued to just after midnight PST as a band of convection moved north through Kings County and into Fresno County. A trained spotter reported lightning at the rate of 5-6 flashes/second around 2100 PST in the Pine Flat Reservoir location near Piedra.
May 31, 2002	0	N/A	Remnants of Hurricane Alma interacted with a closed mid-latitude low providing moisture for a de-stabilizing air mass over Interior Central California in the late evening hours of Friday, May 31st. The resulting widespread, late evening convection lead to strong, gusty wind in wet microbursts and street flooding from localized, torrential rains. The most visual damage occurred with a series of very small microbursts evidenced by crop damage in North Kings County. Also a late report of 3/4+" hail was received from North Kings County.
May 31, 2002	0	\$5,000 (Crop)	Localized heavy rain at the Hanford Airport of 1.01" within a 21-minute time period totally flooded local streets and intersections. Despite heavy rain being highly localized (known locations at Hanford, Armona, Avenal, downtown Fresno, and Piedra area of Fresno County), lightning activity with this event was widespread, long-lasting, and very visual...an infrequent occurrence for the Central and Southern San Joaquin Valley. There were 260 lightning strikes between just 1900 and 2000 PST through the Central and South San Joaquin Valley...and that activity continued to just after midnight PST as a band of convection moved north through Kings County and into Fresno County. A trained



DATE	INJURIES	DAMAGES	SUMMARY
			spotter reported lightning at the rate of 5-6 flashes/second around 2100 PST in the Pine Flat Reservoir location near Piedra.
April 28, 2005	0	\$25,000 (Property) \$400,000 (Crop)	Lightning struck within the city limits of Hanford, Kings County, CA, during the severe thunderstorm episode of the 28th. Beside the destroyed oak tree, windows at the home and in the adjacent house were broken by debris resulting from the strike. Reports from the Kings County, Tulare County, and Fresno County Ag Commissioners will summarize the crop damage from the late April and early May rains and hail. The Kings County Ag Commissioner estimated 20% of the cherry crop was damaged by the hail and rain on the 28th.
Thunderstorms			
June 15, 1995	0	\$25,000 (Property)	Oak tree limbs were broken, and other full-foliaged trees were toppled by brief strong wind in the Hanford/Lemoore area, 30 miles south-southeast of Fresno. In Hanford, one of the toppled trees damaged a car. A post-event survey was unable to ascertain whether severe thunderstorm wind criteria were met because soils were moist, and trees were full-foliaged. However, the damage location just south of the Fresno County line and timing of the damage places this damage in proximity to severe storm damage in south-central Fresno County at Raisin City/Caruthers/and Easton.
December 13, 1995	0	N/A	In an unstable airmass numerous thunderstorms were noted through the NWSO San Joaquin Valley county warning area the afternoon of December 13. With a Severe Thunderstorm Warning issued at 1423 PST and a valid time of one hour, one-inch hail was observed in north Hanford at 1500 PST by a National Weather Service Employee. Additional damage included some small trees uprooted from wind associated with the storm's passage. The reflectivity associated with this storm was 67dBz which spiked to 69dBz; VIL of 37; and storm top of 29,000 feet.
March 24, 1998	0	\$50,000 (Property)	Gusty wind with a thunderstorm measured at 42 MPH at Lemoore Naval Air Station brought down 32 power poles in north Kings County. the power company indicated 20,000 customers were affected by the downed lines for up to 12 hours.
October 09, 2000	0	N/A	Late evening convection brought numerous reports of locally heavy thundershowers beginning on the west side of the San Joaquin Valley and then moved northeast toward the foothills of the Southern Sierra Nevada. One cell along the south border of Fresno County generated a severe thunderstorm warning with a high reflectivity value but a lack of spotter reports due to time-of-day could not give verification of a severe event. A subsequent report of 4" of snow was received at Huntington Lake at the 7200-foot elevation of Fresno County overnight due to the thunder-snow shower activity. Another report of 4" of snow was received as well from Lodgepole in the Tulare County Mountains.



DATE	INJURIES	DAMAGES	SUMMARY
April 7, 2001	0	\$3,800,000 (Crop)	Heavy rain and hail (often less than 3/4-inch) accompanying widespread convective activity through Interior Central California late in the afternoon and early evening of Saturday, April 7th, caused extensive damage to agriculture. Although isolated severe hail swaths occurred, and some were defined as technically non-severe, widespread heavy rain in conjunction with the hail damaged young fruit, grape, grain, and early planted cotton crops in several counties. The crop damage figures should be considered approximate because they are in conjunction and need to be summed with the crop damage figures reported for the April 4th freeze and frost event through much of the same area.
May 31, 2002	0	\$200,000 (Crop)	Remnants of Hurricane Alma interacted with a closed mid-latitude low providing moisture for a de-stabilizing air mass over Interior Central California in the late evening hours of Friday, May 31st. The resulting widespread, late evening convection lead to strong, gusty wind in wet microbursts and street flooding from localized, torrential rains. The most visual damage occurred with a series of very small microbursts evidenced by crop damage in North Kings County. Also a late report of 3/4+" hail was received from North Kings County.
May 28, 2009	0	\$7,000 (Property)	An upper-level ridge built into California beginning May 27th, bringing another warming trend to interior central California. Fresno warmed to 99 degrees on the 27th and reached 102 the next day. A weak low off Baja California spun mid-level moisture into California from the south, and the combination of heat and moisture triggered strong thunderstorms over the Southern Sierra Nevada and the Tehachapi Mountains each afternoon and evening, beginning on May 27th and continuing through the end of the month. Hail up to 1.5 inch in diameter fell near the town of Orange Cove on the evening of the 28th, and as thunderstorms over the Sierra Nevada, and over San Luis Obispo County, collapsed, outflow winds pushed across the San Joaquin Valley, triggering thunderstorms over the eastern and central Valley. Two of the storms merged into a strong system that produced gusty winds that toppled numerous trees on the Valley floor, as well as 1-inch hail near Visalia. Strong winds also triggered a gust-front tornado (gustnado) that damaged a mobile home park in Orosi. Convection was weaker on May 29th, as thunderstorms developed earlier and several of the storms were pushed north of the region by a more southeasterly flow aloft. However, this southeast flow also carried thunderstorms from northeastern Los Angeles and northwestern San Bernardino Counties into southeastern Kern County near Rosamond, Edwards AFB, and Boron. One thunderstorm collapsed as it passed west of Edwards AFB in the early afternoon, generating outflow winds that were measured at a peak of 62 knots (71 mph).
June 5, 2011	0	\$50,000 (Property)	Off duty NWS employee reported a tree down in center divider of North 11th Avenue just north of West Lacey Blvd. A developing Pacific storm approached California on June 4th. Cold air pushed into the San Joaquin Valley, plunging temperatures to well below normal. The high at Fresno on



DATE	INJURIES	DAMAGES	SUMMARY
			the 4th was only 66 degrees, six degrees colder than the previous record low maximum temperature for the date of 72 degrees, set in 1954. As the push of cold air funneled through the passes of the Kern County mountains.
September 11, 2017	0	\$100,000 (Crop)	The persistent cut off upper low remained situated off the central California coast and continued to pull tropical moisture northward into central California. Some deep tropical moisture associated with a fairly strong upper level shortwave pushed into central California on September 11 and produced a severe thunderstorm outbreak during the afternoon and evening. Numerous reports of downburst winds exceeding 60 mph were reported and the impacts from these thunderstorms included downed power lines, damage to roofs; and large objects being knocked over and damaged. Rainfall amounts were generally a quarter of an inch or less with a few locations in the Southern Sierra Nevada and Tehachapi Mountains receiving between a quarter inch and a half inch of rain.
September 11, 2017	0	\$8,000 (Crop)	The persistent cut off upper low remained situated off the central California coast and continued to pull tropical moisture northward into central California. Some deep tropical moisture associated with a fairly strong upper level shortwave pushed into central California on September 11 and produced a severe thunderstorm outbreak during the afternoon and evening. Numerous reports of downburst winds exceeding 60 mph were reported and the impacts from these thunderstorms included downed power lines, damage to roofs; and large objects being knocked over and damaged. Rainfall amounts were generally a quarter of an inch or less with a few locations in the Southern Sierra Nevada and Tehachapi Mountains receiving between a quarter inch and a half inch of rain.

Source: NCEI Storm Events Database 2023

Among those most vulnerable during heavy rain, thunderstorm, hail, and lightning events are those with access or functional needs, those who are electricity dependent, and those who live in aging or mobile homes. Severe weather hazards associated with heavy rain, thunderstorms, hail, and lightning are an overall medium significance hazard for the City of Hanford. Refer to Chapter 4 for a discussion of these severe weather hazards risk relative to the City of Hanford and the County.

C.3.6.11 Severe Weather: High Wind/Tornado

Between 1968 and 2022, the NCEI Storm Events Database recorded a total of 98 instances of high wind, strong wind, and tornado events in Kings County.² It did not record any tornado events that had a magnitude higher than F2. Of these 98 events, 12 were recorded in Hanford, consisting of one tornado, one high wind event, and ten strong wind events. In addition to these events, the United States Department of Agriculture declared three disaster designations, one in 2016 and two in 2017, due to high wind events. Table C-18 summarizes high wind and tornado events recorded by the NCEI in Hanford.

² The NCEI Storm database defines high winds as sustained non-convective winds of 35 knots (40 mph) or greater lasting for 1 hour or longer, or gusts of 50 knots (58 mph) or greater for any duration (or otherwise locally/regionally defined). Events with winds less than High Wind criteria, resulting in fatalities, injuries, or significant property damage are encoded as a Strong Wind events.



Table C-18 High Wind and Tornado Events in Hanford, 1968-2022

Date	Property Damage	Summary
Tornado		
March 12, 1996	\$10,000	This small F0 tornado ran S-to-N through a residential area of Hanford. Small trees were toppled, lawn furniture lifted and deposited into a pool, fences knocked down, and trash cans displaced. It also demolished a small farm structure and shredded bushes along its path.
High Wind		
Feb. 20, 2000	\$100,000	Gusts of wind reported in Hanford at 35 MPH. California Highway Patrol closed some South San Joaquin Valley roads due to visibilities less than 50 feet in blowing dust. The California Department of Transportation (Caltrans) reported trees down along Highway 198; and subsequent power outages occurred. Numerous reports of trees being blown down including some commercial fruit trees.
Strong Wind		
June 8, 2002	\$0	While wind was gusty in the Kern Mountains and Deserts, higher than normal wind speeds caused concerns in the Central and Southern San Joaquin Valley. Northwest wind gusted to 38 MPH at Lemoore on the morning of the 8th and reached 42 MPH later in the day along the west side of the Valley in Fresno County. On the east side of the Valley, wind did not quite reach wind advisory levels although speeds to 26 MPH reported in Hanford.
Feb. 19, 2003	\$5,000	Cold-frontal passage brought strong north wind to the southern portion Interior Central California late afternoon and early evening of the 19th. On the South San Joaquin Valley floor, wind speeds reached 37 MPH at Hanford and 44 MPH at Bakersfield. The strong wind caused a major power outage affecting 12,000 customers in the city of Lemoore and an additional 18,000 customers elsewhere in Kings and Southwest Fresno Counties.
Dec. 31, 2005	\$10,000	A strong gust of wind focused along a squall line swept through the Central San Joaquin Valley on December 31st. A dairy located about 9.8 miles south of Kerman in Fresno County sustained damage to the roofs of several dairy open-sided structures. Roof debris was strewn about 1/4 mile downwind. In Northern Kings County about 3.5 miles NNW of Hanford similar damage was sustained to some open-sided structures along with some fences and trees downed.
Jan. 2, 2006	\$100,000	Rainfall in excess of 2.5 in just over 30 hours lead to water covered roadways in several locations around Kings County. Hanford measured 2.82" of rain in that time period with the cities of Lemoore and Corcoran receiving just over 3" of rain. Ponding basins overflowed in the city of Lemoore and flooding occurred in smaller cities of Huron and Corcoran. Strong wind during the evening of the 2nd brought down several large trees in the city of Lemoore including one 100-year-old tree onto a house.
Feb. 27, 2006	\$10,000	Pre-frontal gusty southeast wind swept the Central San Joaquin Valley beginning by the late afternoon of the 27th. A tree was blown over taking down power lines in the Visalia area and Hanford area of Central California at 03:28 PST early on the morning of the 28th. Deciduous trees were downed on the San Joaquin Valley floor causing agricultural losses.
Oct. 9, 2008	\$3,000	From the 9th until the 11th there were several weather stations in the mountain passes, canyons, and deserts that recorded gusty winds up to 55 mph due to the passage of the low-pressure system. These strong winds produced areas of blowing dust at times across much of the San Joaquin valley. This condition prompted local environmental health experts to issue warnings of the effects of



Date	Property Damage	Summary
		blowing dust and reduced air quality. Strong winds caused minor property damage in Hanford, where a tree branch was blown down and blocked a roadway intersection. Winds in the San Joaquin Valley gusted to 40-45 mph at times.
Dec. 25, 2008	\$25,000	Gusty winds moved through the region on Christmas Day, with gusts to around 40 mph hitting Hanford around midday. Winds across the valley caused isolated reports of downed powerlines and small trees with peak wind gusts near 50 mph with the cold front.
Feb. 18, 2013	\$3,000	Strong winds developed in the Indian Wells Valley. As the cold front moved through, the focus of the strong winds shifted south into the southeastern Kern County desert. Winds gusted to 45-50 mph near Mojave, and to as high as 58 mph at Rosamond. Isolated heavy showers developed along the cold front over the central and southern San Joaquin Valley during the late afternoon and evening of February 19th. Pea-size hail was reported from these storms, including one report from a few miles north of Hanford.
April 9, 2019	\$1,000	A strong cold front crossed during the afternoon of April 9, bringing a period a strong wind gusts to the San Joaquin Valley as well as to the Lake Isabella and Tehachapi areas. Several power outages resulted from downed power lines in the San Joaquin Valley where there were several winds gusts exceeding 40 mph. Public reports a large tree being blown over a Civic Auditorium Park in Hanford.
May 20, 2021	\$1,500	A cold upper low-pressure system dropped into northern California during the morning of May 20 carving out a strong upper trough into the western U.S. A cold front associated with this system also pushed through the area during the day and brought a period a very strong winds to the Kern County Deserts as well as to the Tehachapi and Lake Isabella area in the Kern County Mountains. Several stations reported gusts exceeding 60 mph while a few low impact indicator sites briefly measured gusts exceeding 90 mph. NWS Employee reported wind gusts blew a tree into a house in northeast Hanford.

Source: NCEI Storm Data Base, 2023

Tornadoes and windstorms pose a significant risk to both the residents and the property within the City of Hanford. Vulnerability varies depending on the intensity of the event, with certain entities, including mobile homes, damaged vegetation, trees, and utility infrastructure, being particularly susceptible. While vulnerability might differ based on the strength of the event, due to the regional scale of these events, the risk to the City of Hanford does not vary significantly from the risk to the County as a whole. However, some communities designated as DACs may experience disproportionate impacts from severe weather events that result in long-term planned or unplanned power outages. And impacts can be particularly problematic for Medicare beneficiaries that rely on electricity-dependent medical equipment and devices to live independently in their homes.

High wind and tornado events are an overall medium significance hazard for the City of Hanford and all jurisdictions within Kings County. Refer to Chapter 4 for a discussion of high wind and tornado risk relative to the City of Hanford and the County

C.4 CAPABILITY ASSESSMENT

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



mitigation capabilities, fiscal mitigation capabilities, mitigation outreach and partnerships, and other mitigation efforts. To develop this capability assessment, the jurisdictional planning representatives reviewed a matrix of common mitigation activities to inventory which of these policies or programs are already in place and shared any updates or changes through the Hanford Plan Update Guide. The team then supplemented this inventory by reviewing additional existing policies, regulations, plans, and programs to determine if they contribute to reducing hazard-related losses.

During the plan update process, this inventory was reviewed by the jurisdictional planning representatives and WSP consultant team staff to update information where applicable and note ways in which these capabilities have improved or expanded. Additionally, in summarizing current capabilities and identifying gaps, the jurisdictional planning representatives also considered their ability to expand or improve upon existing policies and programs as potential new mitigation strategies. The City of Hanford's capabilities are summarized below.

C.4.1 Regulatory Capability

The regulatory and planning capabilities table lists planning and land management tools typically used by local jurisdictions to implement hazard mitigation activities. The table below indicates those that are in place in the City of Hanford.

Table C-19 City of Hanford –Regulatory and Planning Capabilities

REGULATORY TOOL (ORDINANCES, CODES, PLANS)	YES/NO	COMMENTS
General Plan	Yes	2035 General Plan published in 2014 https://ci.hanford.ca.us/DocumentCenter/View/606/2034-General-Plan-Background-Report-PDF
Zoning ordinance	Yes	Title 17 of Municipal Code https://library.qcode.us/lib/hanford_ca/pub/municipal_code
Subdivision ordinance	Yes	Title 16 of Municipal Code
Growth management ordinance	No	
Floodplain ordinance	Yes	Chapter 15.52 of Municipal Code, Flood Damage Prevention Regulation
Other special purpose ordinance (stormwater, steep slope, wildfire)	Yes	https://library.qcode.us/lib/hanford_ca/pub/municipal_code
Building code	Yes	The City adopts the most recent California Building Code into the City's Municipal Code (Title 15), typically the new code is adopted in January of the relevant year.
Fire department ISO rating	Yes	Previous Rating 2, awaiting 2022 Rating
Erosion or sediment control program	Yes	Chapter 15.55 of Municipal Code
Stormwater management program	Yes	Chapter 13.10 of Municipal Code
Site plan review requirements	Yes	Chapter 17.72 of Municipal Code, Site Plan Review
Capital improvements plan	Yes	
Economic development plan	No	
Local emergency operations plan	Yes	Updated 2015
Other special plans	No	



REGULATORY TOOL (ORDINANCES, CODES, PLANS)	YES/NO	COMMENTS
Flood insurance study or other engineering study for streams	Yes	Effective Date 09/16/2015
Elevation certificates (for floodplain development)	No	
Other	N/A	

Hanford General Plan 2035 (2014)

The General Plan was updated in 2014 and is intended to guide the development of Hanford over the next 20 to 25 years. The updated plan sets goals, objectives, policies, and programs for five elements: land use and community design; transportation and circulation; open space, conservation, and recreation; public facilities and services. and health and safety. The Health, Safety, and Noise element addresses natural hazards, manmade hazards, noise, public health and fitness, and environmental justice. Additionally, the City of Hanford Health, Safety, and Noise Element references incorporation of the 2007 MJHMP in Policy H1 “Kings County Multi-Jurisdictional Hazard Mitigation Plan” and Policy HS “Update to the Multi-Jurisdictional Hazard Mitigation Plan.”

Flood Damage Prevention Regulations (1998)

The purpose of this ordinance is to minimize public and private losses due to flood conditions by restricting certain uses and requiring certain protections in areas of special flood hazards as identified in FEMA’s 1987 FIRM. The new Digital FIRMs (DFIRM) established with FEMA have been integrated into all relevant planning and permit processes for all of Kings County.

Urban Water Management Plan (2020)

The purpose of the UWMP is to maintain efficient use of urban water supplies, continue to promote conservation programs and policies, ensure that sufficient water supplies are available for future beneficial use, and provide a mechanism for response during water drought conditions

Water Shortage Contingency Plan (2020)

The purpose of the Water Shortage Contingency Plan is to establish a comprehensive framework and guidelines for managing and responding to water shortages and drought conditions. This plan aims to ensure the efficient and equitable allocation of available water resources during times of scarcity. By defining specific stages or levels of water shortage, along with corresponding actions and restrictions, the plan provides a structured approach to mitigating the impacts of drought on water supply, distribution, and consumption. Ultimately, the plan’s goal is to safeguard the sustainable use of water resources, promote responsible water usage, and maintain essential services while minimizing the adverse effects of water scarcity on communities, the environment, and the economy.

Hanford Emergency Operations Plan (2015)

The emergency plan defines the responsibilities of the city staff in response to emergency situations and provides for the powers and duties of the Disaster Council. Hanford has adopted Section 6-3 of the Kings County Code of Ordinances providing for disaster council membership. The Disaster Council develops and recommends for adoption by the Kings County Board of Supervisors and city councils of Avenal, Corcoran, Hanford, and Lemoore emergency and mutual aid plans and agreements and necessary ordinances and resolutions.



Conservation and Open Space Zoning District

The Conservation and Open Space Zoning district applies to pathways, storm drainage basins, and water recharge areas throughout the city and is intended to provide for permanent open spaces in areas of the City that exhibit significant vegetation, scenic qualities, wildlife or recreation potential, and that are designated as open space sites by the General Plan.

C.4.2 Administrative and Technical Capability

The table below identifies City personnel with responsibilities for activities related to mitigation and loss prevention in the City of Hanford. Many positions are full time and/or filled by the same person. A summary of technical resources follows.

Table C-20 City of Hanford –Personnel Capabilities

PERSONNEL RESOURCES	YES/NO	DEPARTMENT/POSITION	COMMENTS
Planner/engineer with knowledge of land development/land management practices	Yes	Community Development/Senior Planner	
Engineer/professional trained in construction practices related to buildings and/or infrastructure	Yes	Public Works/City Engineer	
Planner/engineer/scientist with an understanding of natural hazards	Yes	Public Works/City Engineer	
Personnel skilled in GIS	No		Contracted Service if Needed
Full time building official	Yes	Community Development/building Official	
Floodplain manager	Yes	Public Works	Designated per Chapter 15.52 of the Hanford Municipal Code
Emergency manager	Yes	Fire Chief	Working to train the Fire Marshal to handle this position in the Emergency Operations Center (EOC)
Grant writer	No		
Other personnel	No		
GIS Data Resources (Hazard areas, critical facilities, land use, building footprints, etc.)	Yes	Community Development/Senior Planner	
Warning Systems/Services (Reverse 9-11, cable override, outdoor warning signals)	No		
Other			



City Council

Members of the Hanford City Council are selected directly by the electorate to serve as the policy-making board of the city. The city council is comprised of five members elected by district and serve 4-year staggered terms. Each year the city council members select a mayor and vice-mayor from amongst themselves.

City Manager

The City Manager is the administrative head of the municipal government. The City Manager sets goals and provides administrative direction for all City departments in accordance with the policies established by the City Council. The City Manager ensures that the City's vision and mission are accomplished.

City Attorney

The City Attorney serves as the chief legal advisor to a city government. Their role encompasses a wide range of legal responsibilities and functions within the city's legal framework, including legislative support, public representation, and litigation and risk management. The City attorney plays a pivotal role in ensuring that the City's actions and operations are conducted within the boundaries of the law, while also safeguarding the City's interests and serving as a legal advocate for the municipality.

City Clerk

The City Clerk is responsible for administering the City's elections and in this role coordinates and advises public officials, candidates for office, and the public on election matters, campaign disclosures and voter registration. The City consolidates its elections with the county of Kings. The responsibilities of the City Clerk include processing and distributing City Council agendas and attending City Council meetings to record the council's legislative actions including the adoption of ordinances, resolutions and minute actions.

Community Development Department

The City of Hanford Community Development Department is committed to providing quality service and to working with the citizens and businesses in our community in a friendly and helpful manner.

Fire Department

The City of Hanford Community Development Department is committed to providing quality service and to working with the citizens and businesses in our community in a friendly and helpful manner.

Public Works Department

While the Public Works Department may not always be prominently featured in public discourse, its dedicated personnel diligently labor behind the scenes to uphold and enhance the City's infrastructure. The department takes charge of a multitude of essential tasks, encompassing waste collection, water distribution, sewer maintenance, wastewater treatment, traffic signal operation, road upkeep, upkeep of municipal facilities, proper maintenance of city vehicles, and the aesthetically pleasing maintenance of parks and median strips.

Planning Division

The Planning Division is committed to providing the community with personal attention, accurate and detailed information, and timely responses in a manner that instills public trust and confidence while exceeding service expectations.



Planning Commission

The Commission consists of five members appointed by the City Council. One member of the City Council, appointed by the mayor, and the Director of the Community Development Department (or designee) serve as nonvoting ex-officio members. The Planning Commission has the principal duty of establishing and maintaining the General Plan of the community and advising on physical development, zoning, subdivision proposals, and special studies so that community values are maintained and protected.

Community Risk Reduction Division

The Hanford Fire Department has taken significant steps to enhance community safety by appointing a Fire Marshal to lead their Community Risk Reduction and Public Education Program. This expansion of their outreach includes collaborations with the Thursday Night Market Place on Main Street, school programs, and monthly events. With a strong focus on code enforcement and public education, the department offers various free safety education programs to the citizens of Hanford, covering topics such as general fire safety, burn safety, home hazard inspections, fire extinguisher training, earthquake and disaster preparedness, and poison safety and prevention. CPR training is also available for a nominal fee, with the ultimate goal of creating a truly "Fire safe community" through community engagement and education.

C.4.3 Fiscal Capability

The following table identifies financial tools or resources that the City could potentially use to help fund mitigation activities. There are currently no specific funding sources for hazard mitigation.

Table C-21 City of Hanford –Available Financial Tools and Resources

FINANCIAL RESOURCES	ACCESSIBLE/ ELIGIBLE TO USE	HAS THIS BEEN USED FOR MITIGATION IN THE PAST?	COMMENTS
Community Development Block Grants	Yes	No	Primarily Used for Housing Programs
Capital improvements project funding	Yes	No	
Authority to levy taxes for specific purposes	Yes	No	
Fees for water, sewer, gas, or electric services, new development	Yes	No	Water, sewer, trash
Incur debt through general obligation bonds	Yes	No	
Incur debt through special tax bonds	Yes	No	
Incur debt through private activities	No	No	
Federal Grant Programs (Hazard Mitigation Grant Program)	Yes	No	

C.4.4 Outreach and Partnerships

The City of Hanford conducts numerous outreach and public education programs during local events. Information is provided in English and Spanish, and many programs have Spanish



speaking members available as needed. The City of Hanford also has various partnerships in place, particularly with Kings County and the American Red Cross. The City collaborates extensively with Kings County and various agencies to execute community-based outreach initiatives aimed at hazard mitigation and climate adaptation, particularly focusing on underserved and under-resourced populations. A partnership with the American Red Cross involves identification of enhanced capabilities through collaborative efforts with Kings County, City authorities, and local fire departments. These programs encompass outreach campaigns for preparedness education, ongoing shelter inspections, and updates to shelter site contact information. These efforts also intend to bolster the American Red Cross' proficiency in mitigation, preparedness, and response within Kings County. The Hanford Fire Department is engaged in public education by offering diverse programs addressing water usage, earthquake awareness, fire safety, disaster preparedness, and other facets of public safety. This approach to public education encompasses information dissemination, instructional sessions, and participation in events across schools, community gatherings, and social media platforms.

Moreover, as outlined in the Kings County 2015 EOP, the emergency response role of cities and special districts is generally focused on restoring their normal services or functional area of responsibility. During disasters, cities and some types of special districts will be more extensively involved in the emergency response by directly coordinating, communicating, and assisting local governments. If a city or special district does not send a representative to the EOC, then the Liaison Officer in the County's EOC will be responsible for establishing communications and coordination with the cities or special district liaisons.

The Hanford Police Department Homeless Assistance Resource Team (HART) team's mission is to tackle homelessness by considering the challenges faced by businesses, residents, the City, and individuals experiencing homelessness. To fulfill this mission, the HART team remains informed about current trends and collaborates with numerous other agencies and organizations. The HART team comprises two full-time police officers who perform various responsibilities, including responding to service calls and addressing crimes related to homelessness, engaging with community members to resolve issues, coordinating with individuals in need of services, managing cleanups of homeless encampments, and collaborating with organizations that provide assistance to the homeless.

Other events that the City participates in include, but are not limited to school programs, the Thursday Night Market Place, open house events, local business safety events, and participation with civic organizations. The City participates in most social media platforms and is currently updating their website to provide better outreach. Additionally, citizens are encouraged to stay informed by signing up for alerts on the City website or by subscribing to the City newsletter, the Civic Currier. The City understands that public education about hazard mitigation can be shared and integrated into many of these additional event and outreach platforms.

During the 2022-2023 planning process the following other outreach efforts were identified that the City of Hanford could support related to hazard mitigation:

- Water Conservation Portal
- Report a Problem Portal
- Alert Center (Emergency Alerts and Notifications)
- Social Media (Facebook, Twitter, Instagram)
- Thursday Night Market Place
- Open House Events, Local Business Safety Events
- Civic Organization Participation

Education and outreach efforts, as well as emergency response planning, will also need to address the needs of DACs, low-income residents, and the large Spanish-speaking population.



C.4.5 Other Mitigation Efforts

The City has applied for FEMA's State Homeland Security Grant Program (SHSGP). No other mitigation efforts associated with FEMA HMA program were noted by the City's LPT. However, the City of Hanford actively engages with the community to develop, update, and maintain their guiding planning documents. This is the core of the City's mitigation efforts. Through the implementation of these guiding planning documents, the City can identify critical infrastructure and personnel needs. Grants are solicited for personnel including firefighters via the Safe and Affordable Funding for Equity and Resilience (SAFER) program and for police officers via the Peace Officer Standards and Training (POST) program. The City also pursues the Assistance to Firefighters Grants (AFGs) every year they have been available with successes in PPE and equipment. The City was also recently successful in gaining support to replace the reserve fleet in the Fire Department by a one-time state grant for \$1 million from Senator Hurtado's office. With the goal of mitigation, the City of Hanford has applied for additional grants for safe roads, parks, and resilient communities through every available and known grant program.

C.4.6 Opportunities for Enhancement

Based on the capability assessment, the City of Hanford has existing regulatory, administrative/technical, fiscal mechanisms in place that help to mitigate hazards. In addition to these existing capabilities, there are opportunities for the City to expand or improve on these policies and programs to further protect the community. These are organized below by regulatory, administrative/technical, fiscal, and outreach opportunities.

Regulatory Opportunities

With the growth projected in the City in the Regional Housing Needs Plan, the City could create an Economic Development Plan to establish a strategic framework and roadmap for fostering economic growth, enhancing prosperity, and improving the overall economic well-being of the City. This plan could outline a set of coordinated actions, policies, and strategies designed to guide investment, increase local revenue, and stimulate economic activity.

Administrative/Technical Opportunities

Future administrative and technical enhancements may include providing hazard training for staff or hazard mitigation grant funding in partnership with Kings County and Cal OES. Existing City staff are aware of the benefits of participating in training and webinars offered by Cal OES Hazard Mitigation Assistance (HMA) Team related to Hazard Mitigation Grant Program (HMGP) opportunities, HMGP Sub application Development support, and other funding programs, such as Prepare California Jumpstart.

Other opportunities may be related to coordinating and educating key stakeholders in the City. Other stakeholders may be interested in aligning efforts related to hazard mitigation with climate action and adaptation planning (related to the City's CAP), and also supporting HMGP Sub applications and other hazard mitigation trainings.

Fiscal Opportunities

Fiscal opportunities could include aligning the MJHMP and the Hanford Annex with the City's CIP. During the next CIP Update, the City should incorporate hazard information and include hazard mitigation actions and climate adaptation strategies that relate to infrastructure systems resiliency associated with the water and wastewater systems. Once projects related to hazard mitigation are approved, the recent CIP can be shared with the community on the City's webpage. Capital investments and improvements related to seismic retrofits and cooling center



upgrades should all be emphasized in the outreach materials as they are related to hazard mitigation.

The City could also apply for HMGP grants to fund implementation costs associated with key CIP projects, and related projects in the City's mitigation strategy. These fiscal capabilities may be supported by City staff or augmented with Consultant staff.

Outreach Opportunities

The City can expand their outreach capabilities related to the implementation of the 2023 Kings County MJHMP and the City of Hanford Annex. Specific enhancements may include continued public involvement through social media posts and advertisements focused on projects successes related to the Annex Mitigation Strategy as well as focused outreach to under-represented and special-interest groups in the City. The City should also expand existing programs through the Fire Department already in place around hazards education and other safety topics. Expansion of the school programs for grades PK-6 is another consideration, as well as continuing the share posts from the NWS. The City can also develop outreach kits for partner organizations by expanding on the information include in the MJHMP Outreach Strategy included in Appendix F. These materials can also be translated into Spanish.



C.5 MITIGATION STRATEGY

C.5.1 Goals and Objectives

The City of Hanford adopted the hazard mitigation goals and objectives developed by the HMPC and described in Section 5 Mitigation Strategy of the Base Plan. After reviewing the goals and objectives from the 2012 plan, the LPT noted no change in priorities for the updated 2023 plan.

Like the Mitigation Strategy in the Base Plan, this section outlines the City's roadmap for future hazard mitigation administration and implementation. The purpose of the strategy is to reduce vulnerabilities from key priority hazards outlined in the risk assessment through regulatory tools and projects.

C.5.2 Progress on Previous Mitigation Actions

During the 2022-2023 planning, the City's LPT reviewed all the mitigation actions from the 2012 plan. As shown in The remaining five mitigation actions were carried forward into the 2023 MJHMP and Hanford Mitigation Strategy.

Table C-22, of the seven actions from the 2012 MJHMP, two mitigation actions have been completed. The remaining five mitigation actions were carried forward into the 2023 MJHMP and Hanford Mitigation Strategy.

Table C-22 Previous Mitigation Actions

ID	HAZARD(S) MITIGATED	DESCRIPTION / BACKGROUND / BENEFITS	STATUS
1	Multi-Hazard	Public Education Program for All Hazards	In Progress, the Hanford Fire Department hired a Fire Marshal to lead Community Risk Reduction and public education program for the department. Outreach now includes numerous events such as school programs and other monthly events.
2	Multi-Hazard	Study the potential impacts of the High-Speed Rail Project	Complete. The High-Speed Rail Project is now under construction.
3	Drought	Retrofits to Water Storage Tanks	In progress. Drilled two new wells to feed the system and added two additional 500,000 water tanks being proposed as part of the City Infrastructure Plan.
4	Earthquake	GIS Database of unreinforced masonry (URM) buildings	Not started. Funding not secured yet.
5	Earthquake	Retrofit 58 URM Buildings in Downtown Hanford	In progress, in certain cases, the City has required developers to conform to the most recent California Building Code



ID	HAZARD(S) MITIGATED	DESCRIPTION / BACKGROUND / BENEFITS	STATUS
6	Fog	Traffic Safety for Fog Events	Complete. EdgeLine and signals on flash when visibility is diminished.
7	Multi-Hazard	Ensure the maintenance and enhancement of established disaster evacuation routes	Not started.

C.5.3 Continued Compliance with the NFIP

The following five FEMA NFIP requirements include:

- 1) Adoption of NFIP minimum floodplain management criteria via local regulation.
 - This includes ongoing activities such as enforcing local floodplain development regulations, issuing permits for appropriate development in SFHAs, and ensuring that this development is mitigated in accordance with the regulations. This will also include periodic reviews of the floodplain ordinance to ensure that it is clear and up to date and reflects new or revised flood hazard mapping. Other actions related to continued NFIP compliance include:
 - Continued designation of a local floodplain manager at the City whose responsibilities include reviewing floodplain development permits to ensure compliance with the local floodplain management ordinances and rules;
 - Suggest changes to improve enforcement of and compliance with regulations and programs;
 - Participation in Flood Insurance Rate Map updates by adopting new maps or amendments to maps;
 - Utilize Digital Flood Insurance Rate Maps in conjunction with GIS to improve floodplain management, such as improved risk assessment and tracking of floodplain permits; and
 - Promoting and dispersing information on the benefits of flood insurance, including those in the households in the 500-year floodplain.
- 2) Adoption of the latest effective Flood Insurance Rate Map (FIRM), if applicable.
 - The City of Hanford joined the NFIP on March 18, 1987. Maps in the flooding profile are current and the latest effective Flood Insurance Rate Map (FIRM) was adopted on July 16, 2009
- 2) Implementation and enforcement of local floodplain management regulations to regulate and permit development in SFHAs.
 - In addition to the mitigation actions identified herein, the City will continue to comply with the NFIP. Floodplain management is under the purview of the Floodplain Manager in the Public Works Department and this Department will continue to make every effort to remain in good standing with the program.



- 3) Appointment of a designee or agency to implement the addressed commitments and requirements of the NFIP.
- As noted, the Public Works Department will continue to make every effort to remain in good standing with the program.
- 4) Description of how participants implement the substantial improvement/substantial damage provisions of their floodplain management regulations after an event:
 - The City of Hanford, along with the County, actively manages floodplains, implementing regulations to minimize flood impact. After events, the City assesses damage and improvement needs, communicating obligations to property owners through various channels. Technical evaluations consider engineering criteria, guiding a streamlined permitting process for substantial improvements. The City also provides compliance assistance, supporting property owners in meeting regulatory requirements.
 - The City has a provision in the zoning code pertaining to the development of Substantial Improvement and Substantial Damage Procedures:
 - All new construction and substantial improvements shall be adequately anchored to prevent flotation, collapse or lateral movement of the structure resulting from hydrodynamic and hydrostatic loads, including the effects of buoyancy.
 - All new construction and substantial improvements shall be constructed:
 - With materials and utility equipment resistant to flood damage;
 - Using methods and practices that minimize flood damage;
 - With electrical, heating, ventilation, plumbing and air conditioning equipment and other service facilities that are designed and/or located so as to prevent water from entering or accumulating within the components during conditions of flooding; and
 - Within zones AH or AO, so that there are adequate drainage paths around structures on slopes to guide floodwaters around and away from proposed structures.
 - All new construction and substantial improvement with fully enclosed areas below the lowest floor (excluding basements) that are usable solely for parking of vehicles, building access or storage, and which are subject to flooding, shall be designed to automatically equalize hydrostatic flood forces on exterior wall by allowing for the entry and exit of floodwater. Designs for meeting this requirement must exceed the following minimum criteria:
 - Be certified by a registered professional engineer or architect;
 - Have a minimum of two (2) openings having a total net area of not less than one square inch for every square foot of enclosed area subject to flooding. The bottom of all openings shall be no higher than one foot above grade. Openings may be equipped with screens, louvers, valves or other coverings or devices provided that they permit the automatic entry and exit of floodwater.
 - For more information, please see the City's Flood Damage Prevention Regulation: Chapter 15.52 Flood Damage Prevention Regulations (qcode.us)

C.5.4 Mitigation Action Plan

As part of the 2023 planning process the City's LPT developed an updated list of hazard mitigation actions or projects specific to the City. The process used to identify, develop, and



prioritize these actions is described in Chapter 5 of the Base Plan. The City's LPT identified and prioritized the 18 actions, including five actions carried forward from the 2012 MJHMP, and 13 new actions, as summarized in Table C-23. These mitigation actions are based on the risk assessment and goals and objectives. Background information as well as information on how the action will be implemented and administered, such as ideas for implementation, responsible office, partners, potential funding, estimated cost, and timeline also are described. Per the DMA requirement, actions have also been identified that address reducing losses to existing development and future development. Moreover, the LPT reviewed existing mitigation actions from the County's 2012 MJHMP and provided status updates on past hazard mitigation planning efforts.

The mitigation strategy also includes only those actions and projects which reflect the actual priorities and capacity of the jurisdiction to implement over the next five years covered by this plan. It should further be noted, that although a jurisdiction may not have specific projects identified for each significant (medium or high) hazard for the five-year coverage of this planning process, each jurisdiction has focused on identifying those projects which are realistic and reasonable for them to implement. Should future projects be identified for significant hazards where the implementing jurisdiction has the capacity to implement, the jurisdiction would add those projects to their Annex. The City also recognizes that other mitigation actions proposed in the County's mitigation strategy will cover the significant hazards in the City that are not currently linked to a mitigation action. There is at least one mitigation actions for each natural hazard identified in the plan.


Table C-23 City of Hanford Mitigation Action Plan

ID	GOAL(S) AND LIFELINES	HAZARD(S) MITIGATED	DESCRIPTION/ BACKGROUND/ BENEFITS	LEAD AGENCY AND PARTNERS	COST ESTIMATE	POTENTIAL FUNDING	PRIORITY	TIMELINE	STATUS/ IMPLEMENTATION NOTES
H-1	Goal 1, Goal 2, Goal 3; Safety and Security	Drought, Earthquake, Extreme Temperatures, Flood, Public Health Hazards, Wildfire	Public Education Program for All Hazards	County and City Public Works, Kings County Health Dept., Kings County OES	Low	General Fund	High	Ongoing	In Progress, the Hanford Fire Department hired a Fire Marshal to lead Community Risk Reduction and public education program for the department. Outreach now includes numerous events such as school programs and other monthly events.
H-2	Goal 1, Goal 3; Food, Water Shelter	Drought	Retrofits to Water Storage Tanks - Two water storage tanks holding 800,000 gallons of water need to be seismically retrofitted against seismic and fire hazards following earthquakes	City of Hanford Public Works Department	Moderate	DWR Grants, HMGP	High	Ongoing	In progress. Drilled two new wells to feed the system and added two additional 500,000 water tanks being proposed as part of the City Infrastructure Plan.
H-3	Goal 1, Goal 2, Goal 3; Safety and Security; Communication; Transportation	Earthquake	GIS Database of Unreinforced Masonry (URM) Buildings	City of Hanford Fire Department, Kings County Community Development, OES, City GIS, IT	Moderate	General Fund	Medium	Short Term	Not started, funding not secured yet.
H-4	Goal 1, Goal 3, Goal 4; Food, Hydration, Shelter	Earthquake	Retrofit 58 URM Buildings in Downtown Hanford	City of Hanford City Manager's Office	Very High	FEMA HMA HMGP	Medium	Long Term	In progress, in certain cases, the City has required developers to conform to the most recent California Building Code.
H-5	Goal 1, Goal 2, Goal 3; Safety and Security, Communication, Food, Hydration, Shelter	Earthquake, Dam Incidents, Flood, Wildfire	Disaster Evacuation Routes - Ensure the maintenance and enhancement of established disaster evacuation routes	City of Hanford City Manager's Office, City of Hanford Public Works Department, Kings County OES	Moderate	General Fund	Medium	Medium Term	Not started.
H-6	Goal 1, Goal 2; Transportation	Dam Incidents, Earthquake, Flood, Subsidence, Landslide, Fog,	Develop a transportation routing app, similar to the Caltrans app, to divert traffic due to road conditions during hazard events.	Kings County Public Works, Kings County Administration	Moderate	Community Power Resiliency Allocation	Low	Short Term	New in 2023



ID	GOAL(S) AND LIFELINES	HAZARD(S) MITIGATED	DESCRIPTION/ BACKGROUND/ BENEFITS	LEAD AGENCY AND PARTNERS	COST ESTIMATE	POTENTIAL FUNDING	PRIORITY	TIMELINE	STATUS/ IMPLEMENTATION NOTES
		Severe Storms, Wildfire				Program, Emergency Management Performance Grant (EMPG), HMGP			
H-7	Goal 1; Transportation, Communication	Flooding, Wildfire	Create a flood channel debris management plan to allow the flow of water, increase capacity, and remove fire hazards.	Kings County Public Works, Water and Irrigation Districts, City Public Works	High	Proposition 68, Federal and State Resources	High	Short Term	New in 2023
H-8	Goal 1, Goal 2; Safety and Security	Flood; Severe Weather: Heavy Rain, Thunder, Hail and Lightning; Drought; Subsidence	Develop a series of flood control basins on the Kings River that either recharge or store water during flood flows.	Kings County Conservation District (KRCD), Local GSAs	Very High	DWR Grants, FEMA HMA HMGP, BRIC	High	Long Term	New in 2023
H-9	Goal 1, Goal 2, Goal 3, Goal 4; Safety and Security, and Food, Water, Shelter	Flood, Severe Weather: Heavy Rain, Thunder, Hail and Lightning	Evaluate federal levees to determine height and make-up of levees to protect during 100-year storm events.	United States Army Corps of Engineers (USACE), KRCD	Very High	USACE Grants	High	Long Term	New in 2023
H-10	Goal 1, Goal 2, Goal 3, Goal 4; Safety and Security	Flood, Subsidence, Severe Weather: Heavy Rain, Thunder, Hail and Lightning	Remove sediment from Kings River to avoid future capacity issues.	KRCD	Very High	HMPG Funds. Prop 68	High	Medium Term	New in 2023
H-11	Goal 1, Goal 2, Goal 3, Goal 4; Safety and Security	Drought, Subsidence	Conduct updated land subsidence study to understand elevations, shifts, and vulnerability.	Kings County Administration, Water Management Agencies	Moderate	DWR, USACE, Cal OES	Medium	Short Term	New in 2023
H-12	Goal 1, Goal 2, Goal 3, Goal 4; Safety and Security, Food, water, Shelter, Transportation	Cyber-attack	Use antivirus solutions, malware, and firewalls to block threats	City of Hanford	Moderate	General fund	Medium	Ongoing	New in 2023
H-13	Goal 3; Safety and Security Communications	Public Health Hazards	Utilize trainings and exercises, epidemiology and surveillance to control and combat public health risks	County and City Public Health Departments	Moderate	General Fund	Medium	Ongoing	New in 2023



ID	GOAL(S) AND LIFELINES	HAZARD(S) MITIGATED	DESCRIPTION/ BACKGROUND/ BENEFITS	LEAD AGENCY AND PARTNERS	COST ESTIMATE	POTENTIAL FUNDING	PRIORITY	TIMELINE	STATUS/ IMPLEMENTATION NOTES
H-14	Goal 3; Health and Medical	Earthquake, Drought	Safety Building & Community Center – Create a safety building for police and fire administration. Building will house EOC and a community center	Hanford Police and Fire Departments	Moderate	General Fund	Medium	Medium Term	New in 2023
H-15	Goal 1, Goal 3; Safety and Security	Extreme Temperatures: Heat and Freeze	Extreme Weather Shelter - Develop plan for center to assist at-risk populations during extreme weather events. Coordinate with regional plans for consistency.	Hanford Community Development Agency, Police and Fire Department	Moderate	General Fund, ACPG	High	Medium Term	New in 2023
H-16	Goal 1, Goal 3, Goal 4; Food, Hydration, Shelter	Dam Incidents, Earthquake, Flood, Dense Fog Heavy Rain, Thunderstorms, Hail, and Lightning, High Wind and Tornado, Wildfire	Grangeville Overpass - Design and build an overpass for the train tracks to allow emergency vehicle access during a hazard event.	Hanford Public Works, Community Development, and Administration	Very High	General Fund	High	Long Term	New in 2023
H-17	Goal 1, Goal 3, Goal 4; Transportation	Dam Incidents, Earthquake, Flood, Dense Fog Heavy Rain, Thunderstorms, Hail, and Lightning, High Wind and Tornado, Wildfire	Assess the Capacity and Viability of Designate Evacuation Routes and Develop Evacuation Plan for All Hazard Scenarios	Hanford Public Works, Community Development, and Administration	Very High	General Fund	High	Long Term	New in 2023
H-18	Goals 1, 3-4; Safety and Security, Health and Medical, Energy, Transportation	Dam Incidents; Extreme Temperatures – Heat and Freeze, Earthquake, Severe Weather: Heavy Rain, Thunderstorms, Hail, and Lightning, Severe Weather: Wind and Tornado	Conduct a Public Survey on At-Risk Community Demographics and Disability Needs – A public survey will be developed around at-risk communities to understand those in the County with Access and Functional Needs (AFNs) and other disabilities, household emergency preparedness and evacuation and support needs, and medical devices and equipment needs at sheltering facilities.	Kings County Department of Public Health, Kings County Office of Emergency Services, Kings Partnership	Low	FEMA HMA HMGP	High	Short-Term	New in 2023

KEY:

*This key provides additional information on cost estimates, potential funding, community lifelines, and the timing for implementation for each action.



Cost Estimate

- Little to no cost
- Low: Less than \$10,000
- Moderate: \$10,000 – \$100,000
- High: \$100,000 – \$1,000,000
- Very High: More than \$1,000,000

Potential Funding

- APGP – California funding to local, regional, and tribal communities in integrated climate adaptation planning; supports climate-resilient projects in California.
- BRIC – Building Resilient Infrastructure and Communities Grant
- Cal OES Grants – funds for homeland security, emergency management, victim services, and criminal justice programs, a majority of which are distributed to local and regional entities to enable the most effective prevention, detection, response, and recovery efforts
- Community Power Resiliency Allocation Program, Emergency Management Performance Grant (EMPG) – support for California incorporated cities, federally-recognized tribes, and California special districts in preparing for and responding to power outage events.
- DWR Urban Community Drought Relief Grant Program – Grant program designed to strengthen drought resilience and better prepare communities for dry conditions.
- FEMA HMA HMGP – Hazard Mitigation Assistance Hazard Mitigation Grant Program
- USACE – U.S. Army Corps of Engineers Funding like Silver Jacket Program, Flood Risk Management Program

FEMA Community Lifelines

- Safety and Security
- Food, Hydration, and Shelter
- Health and Medical
- Energy
- Communications
- Transportation
- Hazardous Materials
- Water Systems

Timeline

- Short Term: 1-2 years
- Medium Term: 3-5 years
- Long Term : 5+ years
- Ongoing: Action is implemented every year



C.6 IMPLEMENTATION AND MAINTENANCE

Moving forward, the City will use the mitigation action table in the previous section to track the progress on the implementation of each project. Implementation of the plan overall is discussed in Section 6 in the Base Plan.

C.6.1 Incorporation into Existing Planning Mechanisms

While an opportunity to integrate the 2012 Hazard Mitigation Plan into the City's other planning mechanisms did not arise, the information contained within this plan, including results from the Vulnerability Assessment, and the Mitigation Strategy will be used by the City to help inform updates and the development of local plans, programs and policies. The City Manager and Public Works Department may utilize the hazard information when implementing the City's capital projects and the Community Development Department Planning Division may utilize the hazard information when reviewing a site plan or other type of development applications. The City will also incorporate this MJHMP into the Health, Safety, and Noise Element of their General Plan, as recommended by AB 2140.

As noted in Section 6 of the Base Plan, the City of Hanford LPT representatives will report on efforts to integrate the hazard mitigation plan into local plans, programs and policies and will report on these efforts at the annual LPT plan review meeting.

C.6.2 Monitoring, Evaluation and Updating the Plan

The City will follow the procedures to monitor, review, and update this plan in accordance with Kings County as outlined in Section 6 of the Base Plan. The City will continue to involve the public in mitigation, as described in Section 6.2.1 of the Base Plan. The Fire Chief will be responsible for representing the City in the County HMPC, and for coordination with City staff and departments during plan updates. The City realizes it is important to review the plan regularly and update it every five years in accordance with the Disaster Mitigation Act Requirements as well as other State of California requirements.

C.6.3 Continued Public Involvement

Continued public involvement is imperative to the overall success of the City's plan's implementation. The update process provides an opportunity to solicit participation from new and existing stakeholders and to publicize success stories from the plan implementation and seek additional public comment. The plan maintenance and update process will include continued public and stakeholder involvement and input through attendance at designated committee meetings, web postings, social media postings, press releases to local media, and through public hearings.

When the County's HMPC reconvenes for the update, they will coordinate with all stakeholders participating in the planning process—including those that joined the committee since the planning process began—to update and revise the plan. This process should involve the City's LPT. Public notice will be posted, and public participation will be invited, at a minimum, through available website postings and press releases to the local media outlets, primarily newspapers. Per DMA requirements the public will be provided an opportunity to provide input during the plan update process, and before the plan is finalized. This means the City will also advertise the plan update process within their jurisdiction using their local social media channels and relevant outreach tools and touchpoints. This can be accomplished through public surveys or meetings.



Public comments will be solicited on the plan update draft by posting the plan online and soliciting review and comment for a minimum of two weeks.

DRAFT



C.7 REFERENCES

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2023 KINGS COUNTY

Multi-Jurisdictional Hazard Mitigation Plan

FINAL DRAFT | FEBRUARY 2024



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EXECUTIVE SUMMARY

The purpose of hazard mitigation is to reduce or eliminate long-term risk to people and property from hazards. The County of Kings (County) developed this Multi-Jurisdictional Hazard Mitigation Plan (MJHMP) update to make the County, its four participating jurisdictions, and its residents less vulnerable and more resilient to future hazard events. This plan was prepared pursuant to the requirements of the Disaster Mitigation Act of 2000 so that Kings County would be eligible for the Federal Emergency Management Agency's (FEMA) Pre-Disaster Mitigation and Hazard Mitigation Grant programs.

The County followed a planning process prescribed by FEMA, which began with the formation of a hazard mitigation planning committee (HMPC) comprised of key County representatives, four participating jurisdictions from the cities of Avenal, Corcoran, Hanford and Lemoore, and other regional stakeholders. The HMPC conducted a risk assessment that identified and profiled hazards that pose a risk to Kings County, assessed the County's vulnerability to these hazards, and examined the capabilities in place to mitigate them. The County is vulnerable to several hazards that are identified, profiled, and analyzed in this plan. Drought; extreme temperatures: extreme heat and freeze; flood; land subsidence; and severe weather hazards: fog, heavy rain, thunderstorms, hail, and lightning; are among the hazards that can have a significant impact on the County.

Based on the risk assessment review and goal-setting process, the HMPC adopted the following four goals, modified from their previous HMP, which provide the direction for reducing future hazard-related losses within the County's Planning Area:

- **Goal 1:** Reduce impacts of natural hazards to life, property, and the environment.
- **Goal 2:** Minimize impacts of natural disasters to agriculture and the economies of communities.
- **Goal 3:** Implement identified mitigation activities.
- **Goal 4:** Plan for and adapt to the effects of climate change.

To meet these goals, the plan recommends a total of 83 mitigation actions, which are summarized by jurisdiction and the hazard they mitigate in the table that follows. Together, the 83 mitigation actions address more than one hazard relevant to each jurisdiction given the mitigation strategy consists of several multi-hazard actions. Of the 83 mitigation actions in the updated plan, 14 were carried forward from the previous plan, including two actions that were revised, and 69 are new mitigation actions developed as part of the 2022-2023 planning process. This includes 28 Kings County actions and 55 jurisdiction-specific actions. Once formally approved by the California Office of Emergency Services (Cal OES) and FEMA Region IX and adopted by the County and their participating jurisdictions, this MJHMP will be updated every five years.



Table ES-1 Kings County Mitigation Actions

ID	LINKS TO GOALS	HAZARD(S) MITIGATED	DESCRIPTION/ BACKGROUND/ BENEFITS	JURISDICTION	LEAD AGENCY AND PARTNERS	COST ESTIMATE	POTENTIAL FUNDING	FEMA LIFELINE	PRIORITY	TIMELINE	IMPLEMENTATION STATUS
KC-1	Goal 1, Goal 2, Goal 3	Drought, Subsidence	Water Recharge Basin Partnership Program Partner with the State and contiguous counties to improve coordination, planning, and investment in long-term water supplies by developing a comprehensive water recharge basin project to meet demands of ongoing growth and development.	Kings County	State DWR led joint powers authority should be developed to manage this multi-jurisdictional project. California Department of Water Resources (DWR), Kings County water and irrigation districts, Kings County OES, Community Development	High	Possible grant and bond funds through recent State Propositions, DWR Grants, HMGP	Food, Hydration, Shelter	Medium	Ongoing	In progress. Funding not secured but has been applied for with Hazard Mitigation Grant Program
KC-2**	Goal 1, Goal 2, Goal 3	Dam Incidents, Earthquake, Flood, Dense Fog, Heavy Rain, Thunderstorms, Hail, and Lightning	Community Alert and Warning System - Purchase, install, test, and utilize a community wide alert and early warning system that alerts residents by phone, email, cell phone and other electronic communication devices.	Kings County	Kings County OES, Sheriff and City Law Enforcement, Kings County Operational Area partners, county communications and Cal OES, State Department of Corrections, State High Speed Rail Authority.	High	HMGP, Emergency Management Performance Grant (EMPG), Homeland Security Grant Program (HSGP) and potentially the EOC Grant Program	Safety and Security; Communications	High	Ongoing	In progress. Funding has been secured through EMPG grant
KC-3**	Goal 1, Goal 2, Goal 3	Drought, Earthquake, Extreme Temperatures: Freeze and Heat, Flood, Fog, Wildfire	New County EOC Assessment - Develop a standing EOC group to review and discuss specifications, supervise the creation of construction plans, identify funding mechanism and requirements, and identify the site for the new Kings County EOC.	Kings County	Kings County OES, County Departments, Kings County Fire Department, Kings County Environmental Health, Kings County Information Technology Department, and Kings County	High	General Fund, HMP Grants, EOC Grant Program, Partnership with State, County and Transportation Agencies, EMPG, Homeland Security Grant Program	Safety and Security; Communications	High	Short-term	In progress. Funding not secured yet



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KC-4*	Goal 1, Goal 2, Goal 3	Agricultural Pests and Disease, Dam Incidents, Earthquake, Flood, Land Subsidence, Landslide, Wildfire	Inter-jurisdictional GIS Program -- Establish a centralized, inter-jurisdictional GIS program to improve all phases of emergency management.	Kings County	Public Works Department . Kings County Community Development, OES, City GIS, IT, Cities of Avenal, Corcoran, Lemoore, and Hanford; special districts; water and irrigation districts; Local Agency Formation Commission of Kings County; and Kings County Association of Governments.	Moderate	Local government funds and possible grant funds through recent	Safety and Security; Communications; Transportation	Medium	Short-term	In progress. The County has been completely mapped; Hanford and Avenal have joined in on the project contracting with County GIS to meet their mapping needs. The project is planned to expand to include all the incorporated Cities and continue to create an integrated countywide GIS system and database.
KC-5	Goal 1, Goal 2, Goal 3	Drought, Earthquake, Extreme Temperatures: Freeze and Heat, Flood, Fog, Wildfire	Kings County Area Disaster Council - Review and update items related to the Kings County Area Disaster Council in the Kings County Emergency Services Ordinance to improve countywide coordination and the monitoring and implementation of the mitigation plan	Kings County	Kings County OES, County Admin Office, Board of Supervisors	Low	Kings County General Fund, EMPC	Safety and Security	High	Short-term	In progress. Organizational work to establish the Council was accomplished but formal meetings have not yet commenced.
KC-6	Goal 1, Goal 2, Goal 3	Agriculture and Pest Disease, Public Health, Extreme Temperatures: Freeze and Heat	Livestock Disposal Plan - Establish a livestock disposal plan and compost team to address livestock fatality during extreme heat events. This action would reduce impacts to the agricultural industry during extreme temperature events, reduce the potential for	Kings County	Kings County Agricultural Commissioner, Kings County Agricultural Advisory Committee, University of California at Davis Extension, Environmental Health Services, Natural	Moderate	Hospital Preparedness Grant, the actual costs to bury the carcasses would be the responsibility of the animal facility owner/operator	Safety and Security	High	Short-term	Not started, funding not yet secured



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			agricultural pests and diseases and public health concerns, and avoid overwhelming critical rendering infrastructure.		Resources Conservation Service, Kings County Community Development Agency, Kings County Environmental Health, County OES, PHEP						
KC-7	Goal 1, Goal 2, Goal 3	Earthquake, Extreme Temperatures: Freeze and Heat, Flood, Fog, Wildfire	Disaster Evacuation Routes - Ensure the maintenance and enhancement of established disaster evacuation routes	Kings County	Kings County Public Works Department, Kings County Sheriff / City Police, County OES, Human Services Agency (HAS), Kings Rural Area Transit, Public Health Emergency Preparedness, Kings County Planning Agency; Cities of Avenal, Corcoran, Lemoore, and Hanford; California Department of Transportation	Moderate	Gas tax, federal/state transportation funding, Kings County General Fund for staff time, Community Power Resiliency Allocation Program, EMPG, HMGP	Transportation	High	Short-term	In progress. Funding has not been secured, may do this internally.
KC-8	Goal 1, Goal 2, Goal 3	Severe Weather - Dense Fog	Traffic Safety Fog Events - Improve lighting, signage, and traffic controls at critical intersections and roadways to improve safety during fog events.	Kings County	Kings County Public Works, Kings OES, County and City Law Enforcement, CHP, Caltrans	Moderate	Cal Trans Grants, EMPG, HSGP	Transportation	Medium	Short-term	Not started, funding not secured yet.
KC-9**	Goal 1	Dam Incidents, Earthquake, Flood, Land Subsidence, Landslide,	Automated Transportation App - Develop a transportation routing app, similar to the	Kings County	Kings County Public Works, Kings County Administration, City GIS and	Moderate	Community Power Resiliency Allocation	Transportation, Communications	Low	Short-term	New Action in 2023.



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		Severe Weather: Dense Fog	Caltrans app, to divert traffic due to road conditions during hazard events		Emergency Management Department		Program, EMPC, HMGP				
KC-10*	Goal 2, Goal 3, Goal 4	Drought	Water Conservation Campaign - Create a water conservation campaign, utilizing social media, signage, and grass roots outreach	Kings County	Kings County Administration, Water Manager, Utility Districts	Low	DWR, FEMA HMA HMGP Funds	Food, Water, Shelter	High	Short-term	New Action in 2023.
KC-11*	Goal 2, Goal 4	Drought	Floodwater Recharge Project - Create a flood water recharge project utilizing a feasibility study, pumps, and land for recharge.	Kings County	Kings County Administration, Water Manager, Utility Districts, City and County Engineering Departments	Very High	FEMA HMA HMGP Funds, DWR	Food, Water, Shelter	High	Medium-term	New Action in 2023.
KC-12*	Goal 1, Goal 2, Goal 3, Goal 4	Drought, Subsidence	Land Subsidence Study - Conduct updated land subsidence study to understand elevation, shifts, and vulnerability.	Kings County	Kings County Administration, Water Manager, City and County Engineering Departments	Moderate	DWR, USACE, Cal OES	Safety and Security; Food, Water, Shelter; Transportation	Medium	Short-term	New Action in 2023.
KC-13*	Goal 1, Goal 2	Flooding, Fire	Debris Management Plan - Create a flood channel debris management plan to allow the flow of water, increase capacity, and remove fire hazards.	Kings County	Kings County Public Works, Water and Irrigation Districts, City Public Works	High	Proposition 68, Federal and State Resources	Safety and Security	High	Short-term	New Action in 2023.
KC-14*	Goal 1, Goal 2, Goal 3, Goal 4	Flood, Severe Weather - Heavy Rain/Thunderstorm/Hail/Lightning, Drought, Subsidence	Develop a series of flood control basins on the Kings River that either recharge or store water during flood flows.	Kings County	Kings County Conservation District (KRCD), Local GSAs	Very High	DWR Grants	Safety and Security, and Food, Water, Shelter	High	Long-term	New Action in 2023.
KC-15*	Goal 1, Goal 2, Goal 3, Goal 4	Flood, Subsidence, Severe Weather - Heavy Rain/Thunderstorms/Hail/Lightning	Sediment Removal - Remove sediment from the Kings to River to avoid future capacity issues.	Kings County	KRCD	Very High	HMPG Funds, Prop 68	Safety and Security	High	Medium-term	New Action in 2023.
KC-16**	Goal 1, Goal 4	Drought	Establish a Drought Task Force - Kings County will establish	Kings County	Water Districts, Small Water Suppliers, Non-	High	General Fund	Water Systems, Safety and Security	High	Short-term	New Action in 2023.



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			and convene a task force that develops water shortage preparedness planning efforts for domestic wells, privately supplied homes, and small state water systems.		Transient Non-Community Water Systems; Kings County Department of Public Health						
KC-17	Goal 1, Goal 2, Goal 4	Drought	Regularly review and incorporate information from the Water Storage Vulnerability Tool to update information about drought and water shortage vulnerabilities in the County's MJHMP, WSCPs, and Drought Resiliency Plan	Kings County	Kings County Office of Emergency Services, Water Districts, Small Water Suppliers, Non-Transient Non-Community Water Systems, Kings County Department of Public Health	Little to No Cost	General Fund	Water Systems	High	Short-term	New Action in 2023.
KC-18	Goal 1, Goal 2, Goal 3, Goal 4	Drought	Water Shortage Contingency Plans (WSCPs) - The County will work with small water providers to develop a WSCP and update the plans every 5 years.	Kings County	Kings River Hardwick School, Hanford Christian School, Island Union School, Pioneer Union Elementary School, Lakeside Union School, Kings Ranch Ministries, Villa Terrace Apartments, Rollerland Company, Westlake Farms Headquarters, Couture Farms, State Water Resources Control Board (SWRCB)	Moderate	FEMA HMA, CA DWR	Water Systems	Medium	Short-term	New Action in 2023.
KC-19	Goal 1, Goal 2, Goal 3, Goal 4	Drought	County Drought Resiliency Plan - The County will develop a Drought Resiliency	Kings County	Water Districts, Small Water Suppliers, Non-Transient Non-	Moderate	FEMA HMA HMGP, DWR	Water Systems	Medium	Short-term	New Action in 2023.



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			Plan that includes water districts, small water suppliers, and Non-Transient Non-Community Water Systems		Community Water Systems						
KC-20	Goal 1, Goal 2, Goal 3, Goal 4	Drought	Perform a countywide service area assessment to address the needs of maintaining an adequate level of service for all small public water systems.	Kings County	Water Districts, Small Water Suppliers, Non-Transient Non-Community Water Systems, Kings County Department of Public Health	Moderate	FEMA HMA HMGP	Water Systems	Medium	Short-term	New Action in 2023.
KC-21	Goal 1, Goal 3	Earthquake	Adopt Hazard-Resistant and Modern Building Ordinance to improve Seismic Resiliency – Residential properties would be most vulnerable during an major earthquake. This action promotes the regular local adoption of applicable building code updates to the Building Ordinance that are consistent with the minimum requirements in the California Building Code (CBC) and make use of the International Code Council (ICC) model building codes to provide a higher level of protection against seismic hazards.	Kings County	Kings County Community Development Agency	Moderate	FEMA Public Assistance, National Earthquake Hazards Reduction Program's State Assistance Grant Program	Safety and Security; Health and Medical, Energy, Communications, Transportation	Low	Short-term	New Action in 2023.
KC-22	Goal 1, Goal 2, Goal 3, Goal 4	Extreme Temperatures – Heat	Collaborate with the Kings County Farm Bureau to promote Climate-Smart Agricultural Practices that improve crop	Kings County	Kings County Agricultural Commissioner's Office, Department of Public Health,	High	California Climate Investments Technical Assistance Program	Safety and Security; Health and Medical, Energy, Transportation	Low	Medium-term	New Action in 2023.



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			resilience to extreme heat to ensure Kings County's working lands are productive and vulnerable and underserved communities can access produce throughout the year and refrigeration infrastructure.		Kings County Farm Bureau						
KC-23	Goal 1, Goal 3, Goal 4	Extreme Temperatures - Heat, Earthquake, Severe Weather: Heavy Rain/Thunderstorm/Hail/Lightning, Severe Weather: Wind/Tornado	Kings County Cool Zone and Warm Zone Program - Expand participating businesses and continuums of care in Kings County in partnership with major hospitals and medical clinics to ensure there are protections in place for the unhoused and other vulnerable populations during extreme temperature events. Also consider retrofitting designated facilities included in the Program that can also serve as Safe Rooms during earthquake and severe weather events.	Kings County	Kings County Department of Public Health, Kings County Office of Emergency Services, Kings Partnership	Moderate	EPA Grants, Office of Environmental Health Hazard Assessment (OEHHA), Health and Human Services Agency Technical Support	Safety and Security; Health and Medical, Energy, Transportation	Low	Medium-Term	New Action in 2023.
KC-24	Goal 1, Goal 3, Goal 4	Extreme Temperatures - Heat and Freeze, Earthquake, Severe Weather: Heavy Rain/Thunderstorms/Hail/Lightning, Severe Weather: Wind/Tornado	Conduct a Public Survey on At-Risk Community Demographics and Disability Needs - A public survey will be developed around at-risk communities to understand those in the County with Access and Functional Needs (AFNs) and other disabilities, household	Kings County	Kings County Department of Public Health, Kings County Office of Emergency Services, Kings Partnership	Low	FEMA HMA HMGP	Safety and Security; Health and Medical, Energy, Transportation	High	Short-Term	New Action in 2023



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			emergency preparedness and evacuation and support needs, and medical devices and equipment needs at sheltering facilities.								
KC-25	Goal 1, Goal 3, Goal 4	Landslide	Development Regulations in Landslide Hazard Areas - Define steep slope/high-risk areas in land use, community plans, and specific plans in western Kings County and create guidelines for development in these areas or restrict development. The regulations should also ensure protections are in place for critical facilities, like transportation and communications facilities.	Kings County	Kings County Community Development Agency	Low	FEMA HMA HMGP	Safety and Security; Energy, Transportation	Low	Medium-Term	New Action in 2023.
KC-26	Goal 1, Goal 3, Goal 4	Severe Weather - All	Protect Existing Substandard Housing and New Residential Construction from Severe Weather Hazards - Identify Housing Rehabilitation Funding Opportunities and Review Building Ordinance and consider inclusion of techniques such as structural bracing (straps or clips, anchor bolts), shutters, roof coverings or interlocking shingles, flashing, and bracing elevated components in building design to	Kings County	Kings County Community Development Agency, City of Avenal, City of Corcoran, City of Hanford, City of Lemoore	Low	FEMA HMA HMGP	Safety and Security	Low	Medium-term	New Action in 2023. Complements Mitigation Action KC-21.



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			minimize severe weather, hail, and wind hazards.								
KC-27	Goal 1, Goal 3, Goal 4	Severe Weather - Wind/Tornado	Protect Power Line Infrastructure and Coordinate a Community Back-Up Power Resiliency Plan during PSPS Events - This will involve coordination with the CPUC, PG&E and SCE and the purchase of permanent generators in partnership with hospitals, nursing homes, and sheltering facilities.	Kings County	CPUC, Electric Safety and Reliability Branch, PG&E, SCE, City of Avenal	High	FEMA HMA HMGP, CPUC Rule 20 Undergrounding Programs, Federal Transportation Enhancements Program (under TEA-21)	Energy	Low	Medium-term	New Action in 2023.
KC-28	Goal 1, Goal 3, Goal 4	Wildfire	Regulate Development in Wildfire Urban Interface (WUI) in Western Portion of County - Update Safety Element policies to address current wildfire risk, discourage development in the WUI (very high Fire Hazard Severity Zones [VHFHSZs] or State Responsibility Area [SRA]), and implement defensible space inspection requirements through zoning or land use regulations related to emergency accessibility, water supply and flow for fire suppression, visible street addressing and signage, defensible space clearances, fuel modifications, and fire breaks.	Kings County	Kings County Fire Department	Moderate	General Fund	Safety and Security; Food, Hydration, Shelter; Health and Medical; Energy; Communications, Transportation; Water Systems	Low	Short-term	New Action in 2023.



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A-1	Goal 1, Goal 3, Goal 4	Earthquake, Land Subsidence, Landslide	Housing Rehabilitation Program - Continue and enhance housing rehabilitation program.	Avenal	City of Avenal Community Development Director	High	General Fund, Housing and Urban Development (HUD) Community Development Block Grant (CDBG) Funds, HOME, Cal Home Program	Food, Hydration, Shelter	Medium	Medium-term	In progress. Homes continue to be rehabbed with these funds-first come first serve. The City has received funding from CDBG, HOME, and the Cal Home Program to rehabilitate homes. Under this program most homes are torn down and reconstructed to current codes.
A-2	Goal 1, Goal 2, Goal 3, Goal 4	Flood, Drought, Earthquake, Land Subsidence	Vulnerability of Water Distribution System - Upgrade the two water transmission lines that supply water to the city and Avenal State Prison (one 18-inch line and one 12-inch line) that experience water leaks and movement due to earthquakes that lead to slope failure.	Avenal	City of Avenal Public Works Department	High	FEMA HMA HMPG, BRIC	Food, Hydration, Shelter	Medium	Long-term	In progress. Expected to be completed December 2023.
A-3	Goal 1, Goal 3, Goal 4	Earthquake, Subsidence, Landslide	Loss Reduction Program for unreinforced masonry (URM) Buildings - Establish a loss reduction program for URM buildings in compliance with the California URM Law of 1986. In response to the danger posed by the great number of potentially hazardous buildings in California, in 1986 the state legislature enacted the URM building law (Chapter 250, Statutes of 1986: SF547 [Alquist]; Government Code	Avenal	City of Avenal City Manager's Office, California Seismic Safety Commission, City of Avenal Public Works Department	Very High	FEMA HMA HMGP, BRIC, General Fund, Staff Time	Food, Hydration, Shelter	Medium	Long-term	In progress.



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			Section 8875 et seq.). The law mitigates hazards posed by URM's and applies to all jurisdictions in California's Seismic Hazard Zone 4, the region of highest earthquake activity in the nation.								
A-4	Goal 2, Goal 4	Earthquake	Replace Existing Valves at Tank Sites with Earthquake Valves to Protect Water Supply	Avenal	City of Avenal Public Works	Moderate	General Fund	Safety and Security	Medium	Medium Term	New Action in 2023.
A-5	Goal 2, Goal 3, Goal 4	Drought	Water Supply Rehabilitation - Install valve at the City water source to isolate from joint use facilities to maintain water supply during unexpected outages of Westland Water District facility.	Avenal	DWR, City of Avenal, Westlands Water District	Very High	FEMA HMA HMGP, BRIC, USDA DWSRF, DWR Urban Community Drought Relief Grant Program	Food, Hydration, Shelter	Low	Medium Term	New Action in 2023.
A-6	Goal 1, Goal 2, Goal 3, Goal 4	Flood; Severe Weather: Heavy Rain, Thunder, Hail, and Lightning	Improve Flow Design for Arroyo Esquinado Channel	Avenal	City of Avenal Public Works Department	Moderate	FEMA HMA HMGP, BRIC	Water Systems	Medium	Medium Term	New Action in 2023.
A-7	Goal 1, Goal 2, Goal 3, Goal 4	Flood	Stormwater Drainage Master Plan	Avenal	City of Avenal Public Works Department	Moderate	General Fund	Water Systems	Medium	Medium Term	New Action in 2023.
A-8*	Goal 1, Goal 2, Goal 3, Goal 4	Flood	Investigate Capacity for Floodwater Conveyance Facilities (Drainage Ditches and Culverts) along Arroyo del Camino	Avenal	City of Avenal Public Works Department	Moderate	FEMA HMA HMGP, BRIC, General Fund	Water Systems	Low	Medium Term	New Action in 2023.
A-9*	Goal 1, Goal 2, Goal 3, Goal 4	Land Subsidence	Conduct updated Land Subsidence Study to understand Elevation, Shifts, and Vulnerability.	Avenal	Kings County Administration, Water Management Agencies, City of Avenal Public Works Department	Moderate	DWR, FEMA HMA HMGP, USACE	Safety and Security, Food and Water, Shelter, Transportation	Medium	Long Term	New Action in 2023.



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A-10	Goal 1, Goal 2, Goal 3, Goal 4	Wildfire	Undergrounding of Utilities along City's Main Corridors	Avenal	Kings County Fire Department	High	FEMA HMA HMGP, US Forest Service WUI Grants	Energy	Medium	Medium Term	New Action in 2023.
A-11	Goal 1, Goal 3, Goal 4	Extreme Temperatures - Heat and Freeze, Earthquake, Severe Weather: Heavy Rain, Thunderstorms, Hail, and Lightning, Severe Weather: Wind and Tornado	Conduct a Public Survey on At-Risk Community Demographics and Disability Needs - A public survey will be developed around at-risk communities to understand those in the County with Access and Functional Needs (AFNs) and other disabilities, household emergency preparedness and evacuation and support needs, and medical devices and equipment needs at sheltering facilities.	Avenal	Kings County Department of Public Health, Kings County Office of Emergency Services, Kings Partnership	Low	FEMA HMA HMGP	Health and Medical, Energy, Transportation	High	Short Term	New Action in 2023.
C-1	Goal 1, Goal 2, Goal 3	Extreme Temperatures: Freeze and Heat	Equip and maintain the Recreational Association of Corcoran (RAC) Gymnasium Building, and Corcoran Transit Station with climate control features and designate each site as an Emergency Warming and Cooling Center for Sensitive Populations	Corcoran	City of Corcoran Public Works Department	High	FEMA HMA HMGP, Other State Grants	Safety and Security	High	Long Term	In progress - revised in 2023. This project has been carried over from the 2007 and 2012 MJHMPs. This action has also been modified to now include the RAC Building and the Corcoran Transit Station. These facilities are already in use for this purpose and now need to be maintained for this use.
C-2**	Goal 1, Goal 3	Extreme Temperatures: Extreme Heat	Emergency Power System for the Corcoran Depot Apartment complex operated by the Kings	Corcoran	City of Corcoran Public Works, Kings County Office of Emergency Services	High,	Community Power Resiliency Allocation Program, EMPC, FEMA	Energy	High	Short Term	In progress - revised in 2023. Use of the Veteran's Hall is no longer needed now that the RAC gymnasium is



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			County Housing Authority.				HMA HMGP, SHSGP Grant Program				outfitted and serves a larger population. The next critically identified need area is the Corcoran Depot apartment complex as it houses a concentrated area of senior and special needs individuals.
C-3	Goal 1, Goal 2, Goal 3, Goal 4	Earthquake, Flood, Land Subsidence	Assess the Vulnerability of Critical Facilities – Assess vulnerability of critical facilities, including police/fire stations, hospitals, schools, and others, to identify and prioritize projects for multi-hazard risk reduction.	Corcoran	City of Corcoran Public Works, Police Department	High	General Fund	Water Systems	High	Ongoing	In progress. This was carried over from the 2012 MJHMP. The Police Department building is a newly constructed building that shifted all Police Department operations to the new facility in 2019. Other City facilities are routinely reviewed through risk management authority in order to maintain current insurance.
C-4	Goal 1, Goal 2, Goal 3, Goal 4	Drought	Assess Community Lifelines related to Water Distribution Systems – Assess vulnerability of lifeline utilities, including water distribution systems, to identify and prioritize projects for multi-hazard risk reduction.	Corcoran	City of Corcoran Public Works Department	High	Department of Water Resources (DWR) and Regional Water Quality Control Board (RWQCB)	Safety and Security, Water Systems	High	Ongoing	In progress. This was carried over from the 2007 MJHMP. Upgrades and investments are routinely planned for the City's CIP and funding through grants, loans and other City funding. The City's Water system is monitored and upgraded to maintain reliable system services, which also pro-actively addresses challenges posed by the drought. The City's Wastewater



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											ponds and connecting system were recently upgraded using American Rescue Plan (ARP) funding.
C-5	Goal 3	Cyber Threat	Use antivirus solutions, malware, and firewalls to block threats	Corcoran	City of Corcoran, Public Works Department	Moderate	General Fund	Safety and Security; Communications	Medium	Ongoing	New Action in 2023. The City has assessed network vulnerabilities and is currently implementing measures for cybersecurity. Monitoring and evaluation will be ongoing to evaluate changes and risks.
C-6**	Goal 1, Goal 2, Goal 3	Dam Incidents, Earthquake, Flood, Severe Weather: Dense Fog, Severe Weather: Heavy Rain, Thunderstorms, Lightning and Hail	Community Alert and Warning System - Purchase, install, test and utilize a community wide alert and early warning system that alerts residents by phone, email, cell phone and other electronic communication devices. This system can be expanded to include a Flood Early Warning System (FEWS) component (HMGP eligible component) that utilizes USGS and NOAA rainfall and flood gauges to initiate flood-specific warnings and downstream evacuations.	Corcoran	City of Corcoran, Corcoran Police Department, and Kings County OES	Moderate	Emergency Management Performance Grant (EMPG), Homeland Security Grant Program (HSGP), High Hazard Potential Dam (HHPD), FEWS designs that are eligible for HMPG funding	Safety and Security, Water Systems	High	Ongoing	New Action in 2023. The City has implemented NIXLE Alert System, and utilizes City associated social media for community announcements. Extended Countywide alert notification system is in development through Kings County OES - Funding has been secured through a EMPG Grant.
C-7	Goal 1, Goal 2, Goal 3	Drought	Public Education Program for Water Conservation	Corcoran	City of Corcoran, City Public Works Department	Low	General Fund, City Water Enterprise Fund, and Department of	Water Systems	High	Ongoing	New Action in 2023. The City is currently implementing citywide water meter installation along



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							Water Resources funding.				with public use property water use application, water restriction notifications, and enhancing water utility payment information. Together, these systems are providing enhanced water conservation education to the public and is anticipated to affect greater conservation headed into 2024 summer.
C-8*	Goal 1, Goal 2, Goal 3, Goal 4	Flooding, Drought, Subsidence	Corcoran Flood Protection - Multi-Agency Strategic Plan for Upstream Floodwater Diversion to Reduce Tulare Lake Flooding	Corcoran	City of Corcoran, Cross Creek Flood Control District, other Water & Irrigation Districts representing the Tulare Lake Basin, and DWR	Very High	FEMA HMA HMGP, DWR Riverine Stewardship Program and Urban Stream Restoration Program, Prop 68 Funds (Floodplain Management, Protection, and Risk Awareness Grant Program)	Water Systems	High	Long Term	New Action in 2023. Acknowledges that the USACE controls water releases from Pine Flat, Terminus, Schaefer, and Isabella Dams, and water and irrigation districts in Kings, Tulare, Fresno, and Kern counties. It is critical to beneficial groundwater recharge and management.
C-9*	Goal 1, Goal 3, Goal 4	Dam Failure; Flood; Severe Weather: Heavy Rain, Thunder, Hail, and Lightning	Enhanced Erosion Control and Protection of the Flood Control Levee	Corcoran	City of Corcoran, Cross Creek Flood Control District	High	FEMA HMA HMGP, DWR Urban Community Drought Relief Program	Safety and Security	Medium	Long Term	New Action in 2023. DWR response to 2023 flooding provided erosion control measures along the Corcoran Levee for enhanced erosion control. This established a flood response measure that can be replicated in future years with flood disasters.



ID	LINKS TO GOALS	HAZARD(S) MITIGATED	DESCRIPTION/ BACKGROUND/ BENEFITS	JURISDICTION	LEAD AGENCY AND PARTNERS	COST ESTIMATE	POTENTIAL FUNDING	FEMA LIFELINE	PRIORITY	TIMELINE	IMPLEMENTATION STATUS
C-10*	Goal 2, Goal 3, Goal 4	Flooding, Drought, Subsidence	Increase Reservoir Storage for Control of Floodwater	Corcoran	Cross Creek Flood Control District, City of Corcoran, USACE, Kings County, Other Water Districts	Very High	FEMA HMA HMGP, DWR Grants	Water Systems	High	Long Term	New Action in 2023.
C-11	Goal 3	Public Health Hazards	Utilize trainings and exercises, epidemiology, and surveillance to control and combat public health risks	Corcoran	Kings County, City of Corcoran	Moderate	General Fund	Health and Medical	Medium	Short Term	New Action in 2023. This would be a Kings County Public Health Department initiated effort that the City supports and helps to facilitate in Corcoran.
C-12*	Goal 1, Goal 2, Goal 3	Flooding	Update the City's Storm Drain Master Plan every Few Years to included Planned Growth Areas	Corcoran	City of Corcoran	Low	General Fund	Water Systems	Low	Short Term	New Action in 2023. This is needed infrastructure for the City to diversify disbursement of stormwater drainage within the City.
C-13*	Goal 1, Goal 2, Goal 3	Flooding	Continue to Participate with the Cross Creek Flood Control District to Ensure Levees Protecting Corcoran from Tulare Lake Flooding are Adequately Monitored	Corcoran	City of Corcoran, Cross Creek Flood Control District	Low	General Fund	Water Systems, Safety and Security	High	Short Term	New Action in 2023. This is ongoing monitoring and maintenance efforts that are needed. New Action in 2023; this was integrated from the Safety Element (Policy 4.17).
C-14	Goal 1, Goal 3, Goal 4	Extreme Temperatures - Heat and Freeze, Earthquake, Severe Weather: Heavy Rain, Thunderstorms, Hail, and Lightning, Severe Weather: Wind and Tornado	Conduct a Public Survey on At-Risk Community Demographics and Disability Needs - A public survey will be developed around at-risk communities to understand those in the County with Access and Functional Needs (AFNs) and other disabilities, household emergency preparedness and evacuation and support needs, and	Corcoran	Kings County Department of Public Health, Kings County Office of Emergency Services, Kings Partnership	Low	FEMA HMA HMGP	Safety and Security, Health and Medical, Energy, Transportation	High	Short Term	New Action in 2023/



ID	LINKS TO GOALS	HAZARD(S) MITIGATED	DESCRIPTION/ BACKGROUND/ BENEFITS	JURISDICTION	LEAD AGENCY AND PARTNERS	COST ESTIMATE	POTENTIAL FUNDING	FEMA LIFELINE	PRIORITY	TIMELINE	IMPLEMENTATION STATUS
			medical devices and equipment needs at sheltering facilities.								
H-1	Goal 1, Goal 2, Goal 3	Drought, Earthquake, Extreme Temperatures, Flood, Public Health Hazards, Wildfire	Public Education Program for All Hazards	Hanford	County and City Public Works, Kings County Health Dept., Kings County OES	Low	General Fund	Safety and Security	High	Ongoing	In progress. The Hanford Fire Department hired a Fire Marshal to lead Community Risk Reduction and public education program for the department. Outreach now includes numerous events such as school programs and other monthly events.
H-2	Goal 1, Goal 3	Drought	Retrofits to Water Storage Tanks - Two water storage tanks holding 800,000 gallons of water need to be seismically retrofitted against seismic and fire hazards following earthquakes	Hanford	City of Hanford Public Works Department	Moderate	DWR Grants, HMGP	Food, Water Shelter	High	Ongoing	In progress. Drilled two new wells to feed the system and added two additional 500,000 water tanks being proposed as part of the City Infrastructure Plan.
H-3	Goal 1, Goal 2, Goal 3	Earthquake	GIS Database of Unreinforced Masonry (URM) Buildings	Hanford	City of Hanford Fire Department, Kings County Community Development, OES, City GIS, IT	Moderate	General Fund	Safety and Security; Communication; Transportation	Medium	Short Term	Not started. Funding not secured yet.
H-4	Goal 1, Goal 3, Goal 4	Earthquake	Retrofit 58 URM Buildings in Downtown Hanford	Hanford	City of Hanford City Manager's Office	Very High	FEMA HMA HMGP	Food, Hydration, Shelter	Medium	Long Term	In progress. In certain cases, the City has required developers to conform to the most recent
H-5	Goal 1, Goal 2	Earthquake, Dam Incidents, Flood, Wildfire	Disaster Evacuation Routes - Ensure the maintenance and enhancement of established disaster evacuation routes	Hanford	City of Hanford City Manager's Office, City of Hanford Public Works Department,	Moderate	General Fund	Transportation	Medium	Medium Term	Not started.



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					Kings County OES						
H-6	Goal 1	Dam Incidents, Earthquake, Flood, Subsidence, Landslide, Fog, Severe Storms, Wildfire	Develop a transportation routing app, like the Caltrans app, to divert traffic due to road conditions during hazard events.	Hanford	Kings County Public Works, Kings County Administration	Moderate	Community Power Resiliency Allocation Program, Emergency Management Performance Grant (EMPG), HMGP	Transportation, Communication	Low	Short Term	New Action in 2023.
H-7	Goal 1, Goal 2	Flooding, Wildfire	Create a flood channel debris management plan to allow the flow of water, increase capacity, and remove fire hazards.	Hanford	Kings County Public Works, Water and Irrigation Districts, City Public Works	High	Proposition 68, Federal and State Resources	Safety and Security	High	Short Term	New Action in 2023.
H-8	Goal 1, Goal 2, Goal 3, Goal 4	Flood; Severe Weather: Heavy Rain, Thunder, Hail and Lightning; Drought; Subsidence	Develop a series of flood control basins on the Kings River that either recharge or store water during flood flows.	Hanford	Kings County Conservation District (KRCD), Local GSAs	Very High	DWR Grants, FEMA HMA HMGP, BRIC	Safety and Security, and Food, Water, Shelter	High	Long Term	New Action in 2023.
H-9	Goal 1, Goal 2, Goal 3, Goal 4	Flood, Severe Weather: Heavy Rain, Thunder, Hail and Lightning	Evaluate federal levees to determine height and make-up of levees to protect during 100-year storm events.	Hanford	United States Army Corps of Engineers (USACE), KRCD	Very High	USACE Grants	Safety and Security	High	Long Term	New Action in 2023.
H-10	Goal 1, Goal 2, Goal 3, Goal 4	Flood, Subsidence, Severe Weather: Heavy Rain, Thunder, Hail and Lightning	Remove sediment from Kings River to avoid future capacity issues.	Hanford	KRCD	Very High	HMPG Funds. Prop 68	Safety and Security	High	Medium Term	New Action in 2023.
H-11	Goal 1, Goal 2, Goal 3, Goal 4	Drought, Subsidence	Conduct updated land subsidence study to understand elevations, shifts, and vulnerability.	Hanford	Kings County Administration, Water Management Agencies	Moderate	DWR, USACE, Cal OES	Safety and Security, Food, water, Shelter, Transportation	Medium	Short Term	New Action in 2023.
H-12	Goal 3	Cyber-attack	Use antivirus solutions, malware, and firewalls to block threats	Hanford	Kings County, Avenal, Corcoran, Hanford, Lemoore	Moderate	General fund	Safety and Security, Communications	Medium	Ongoing	New Action in 2023.



ID	LINKS TO GOALS	HAZARD(S) MITIGATED	DESCRIPTION/ BACKGROUND/ BENEFITS	JURISDICTION	LEAD AGENCY AND PARTNERS	COST ESTIMATE	POTENTIAL FUNDING	FEMA LIFELINE	PRIORITY	TIMELINE	IMPLEMENTATION STATUS
H-13	Goal 3	Public Health Hazards	Utilize trainings and exercises, epidemiology, and surveillance to control and combat public health risks	Hanford	County and City Public Health Departments	Moderate	General Fund	Health and Medical	Medium	Ongoing	New Action in 2023.
H-14	Goal 1, Goal 3	Earthquake, Drought	Safety Building & Community Center - Create a safety building for police and fire administration. Building will house EOC and a community center	Hanford	Hanford Police and Fire Departments	Moderate	General Fund	Safety and Security	Medium	Medium Term	New Action in 2023.
H-15	Goal 1, Goal 3, Goal 4	Extreme Temperatures: Heat and Freeze	Extreme Weather Shelter - Develop plan for center to assist at-risk populations during extreme weather events. Coordinate with regional plans for consistency.	Hanford	Hanford Community Development Agency, Police and Fire Department	Moderate	General Fund, APGP	Food, Hydration, Shelter	High	Medium Term	New Action in 2023.
H-16	Goal 1, Goal 3, Goal 4	Dam Incidents, Earthquake, Flood, Dense Fog Heavy Rain, Thunderstorms, Hail, and Lightning, High Wind and Tornado, Wildfire	Grangeville Overpass - Design and build an overpass for the train tracks to allow emergency vehicle access during a hazard event.	Hanford	Hanford Public Works, Community Development, and Administration	Very High	General Fund	Transportation	High	Long Term	New Action in 2023.
H-17	Goal 1, Goal 3, Goal 4	Dam Incidents, Earthquake, Flood, Dense Fog Heavy Rain, Thunderstorms, Hail, and Lightning, High Wind and Tornado, Wildfire	Assess the Capacity and Viability of Designate Evacuation Routes and Develop Evacuation Plan for All Hazard Scenarios	Hanford	Hanford Public Works, Community Development, and Administration	Very High	General Fund	Transportation	High	Long Term	New Action in 2023.
H-18	Goal 1, Goal 3, Goal 4	Dam Incidents; Extreme Temperatures - Heat and Freeze,	Conduct a Public Survey on At-Risk Community Demographics and Disability Needs - A	Hanford	Kings County Department of Public Health, Kings County Office of	Low	FEMA HMA HMGP	Safety and Security, Health and Medical, Energy, Transportation	High	Short-Term	New in 2023



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		Earthquake, Severe Weather: Heavy Rain, Thunderstorms, Hail, and Lightning, Severe Weather: Wind and Tornado	public survey will be developed around at-risk communities to understand those in the County with Access and Functional Needs (AFNs) and other disabilities, household emergency preparedness and evacuation and support needs, and medical devices and equipment needs at sheltering facilities.		Emergency Services, Kings Partnership						
L-1	Goal 1, Goal 3	Drought, Earthquake, Extreme Heat, Flood, Fog, Freeze, Wildfire	Public Education Program for All Hazards	Lemoore	City of Lemoore, City Public Works, Kings County Health Department, Kings County OES,	Low	General Fund, FEMA HMA HMGP, EMPG	Safety and Security; Communications	High	Short Term	In progress. This project entails establishing a training program to educate citizens about hazards and encourage households to have emergency kits, plans, and drills in place.
L-2	Goal 1, Goal 2, Goal 3, Goal 4	Drought	Long-Term Water Supply – Improve coordination, planning, and investment in long-term water supplies to meet demands of ongoing growth and development	Lemoore	City of Lemoore, Kings County Water District, Kings County, Kings County COG	Moderate	DWR Funds	Water Systems	High	Short Term	In progress. The City has installed a new well head and is actively pursuing funding sources to complete treatment and connection to water supply for development on the south side of town.
L-3*	Goal 1, Goal 3, Goal 4	Earthquake, Flood, Land Subsidence	Inter-jurisdictional GIS Program – Establish a centralized, inter-jurisdictional GIS program to improve all phases of emergency management	Lemoore	City of Lemoore Planning Department	Low	FEMA HMA HMGP, ESRI, General Fund	Communications	High	Ongoing	In progress. This project was completed as part of the 2012 MJHMP but carried forward in that plan as an ongoing effort. The City continues to participate in the Municipal GIS Program with the



ID	LINKS TO GOALS	HAZARD(S) MITIGATED	DESCRIPTION/ BACKGROUND/ BENEFITS	JURISDICTION	LEAD AGENCY AND PARTNERS	COST ESTIMATE	POTENTIAL FUNDING	FEMA LIFELINE	PRIORITY	TIMELINE	IMPLEMENTATION STATUS
											Kings County Planning Department.
L-4	Goal 1, Goal 3	Dam Incidents, Earthquake, Flood, Subsidence, Landslide, Fog, Severe Storms, Wildfire	Develop a transportation routing app, similar to the Caltrans app, to divert traffic due to road conditions during hazard events	Lemoore	Kings County Public Works, Kings County Administration, Kings County, City of Lemoore	Low	FEMA HMA HMGP	Transportation	Low	Medium Term	New Action in 2023.
L-5	Goal 1, Goal 2, Goal 3, Goal 4	Drought	Public Education Program for Water Supply and Conservation	Lemoore	City of Lemoore Administration Department, Finance Department	Low	FEMA HMA HMGP, DWR Grants	Water Systems	Medium	Short Term	New Action in 2023. The City of Lemoore recently hired a Water Conservation Officer to provide public education on water supply and conservation measures.
L-6	Goal 1, Goal 2, Goal 3, Goal 4	Flood	Well Protection and Flood Mitigation – Protect Wells from Floodwaters during Future Flooding Events by Building Infrastructure and Protection around the Well Sites	Lemoore	City of Lemoore Public Works	High	FEMA HMA HMGP, DWR Funds, USDA DWSRF	Water Systems	Medium	Medium Term	New Action in 2023. The City of Lemoore Public Works Department has created berms around City wells and is researching additional protective measure solutions.
L-7	Goal 1, Goal 2	Flood, Wildfire	Create a flood channel debris management plan to allow the flow of water, increase capacity, and remove fire hazards.	Lemoore	City of Lemoore, Kings County Public Works, Water and Irrigation Districts, City Public Works, Kings County	High	FEMA HMA HMGP	Safety and Security, Water Systems	High	Medium Term	New Action in 2023.
L-8*	Goal 1, Goal 2, Goal 3, Goal 4	Drought, Subsidence	Conduct updated land subsidence study to understand elevations, shifts, and vulnerability.	Lemoore	City of Lemoore, Kings County Administration, Water Management Agencies	Moderate	DWR, USACE, Cal OES	Safety and Security, Food, water, Shelter, Transportation	Low	Short Term	New Action in 2023. The City currently performs subsidence studies at areas of concern.
L-9	Goal 3	Cyber Attack	Use antivirus solutions, malware, and firewalls to block threats	Lemoore	Kings County, Avenal, Corcoran, Hanford, Lemoore	Moderate	General fund, HSGP	Safety and Security, Communications	Medium	Short Term	New Action in 2023. City of Lemoore IT staff will assess cyber security needs and seek solutions to



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											improve security measures.
L-10	Goal 3	Public Health Hazards	Utilize trainings and exercises, epidemiology and surveillance to control and combat public health risks	Lemoore	County Public Health Department	Moderate	General Fund	Health and Medical	Low	Short Term	New Action in 2023. The City does not have a Public Health Department, but will coordinate with the Kings County Public Health Department during public health emergencies.
L-11	Goal 1, Goal 3	Dam Incidents	Develop plan addressing communication and evacuation for vulnerable populations in areas potentially impacted by Pine Flat Dam failure.	Lemoore	Kings County OES	Low	General Fund	Communications, Safety and Security	Low	Short Term	New Action in 2023. The City will coordinate with Kings County OES to create a response plan addressing the impacts of a dam failure.
L-12	Goal 1, Goal 3, Goal 4	Dam Incidents; Extreme Temperatures - Heat and Freeze, Earthquake, Severe Weather: Heavy Rain, Thunderstorms, Hail, and Lightning, Severe Weather: Wind and Tornado; Severe Weather: Dense Fog	Conduct a Public Survey on At-Risk Community Demographics and Disability Needs - A public survey will be developed around at-risk communities to understand those in the County with Access and Functional Needs (AFNs) and other disabilities, household emergency preparedness and evacuation and support needs, and medical devices and equipment needs at sheltering facilities.	Lemoore	Kings County Department of Public Health, Kings County Office of Emergency Services, Kings Partnership	Low	FEMA HMA HMGP	; Safety and Security, Health and Medical, Energy, Transportation	High	Short-Term	New Action in 2023

Acronyms and abbreviations are defined below:

- HMA - Hazard Mitigation Assistant Program
- HMGP - Hazard Mitigation Grant Program
- HSGP - Homeland Security Grant Program
- EMPG - Emergency Management Performance Grant
- Community Power Resiliency Allocation Grant Program - formerly the Public Safety Power Shutoff (PSPS) Program Funds
- DWR - Department of Water Resources Grant Funds



- Proposition 68 – water bond funds allocated to recreation, ecosystem protection, habitat conservation, and climate resilience projects
- KRCD – Kings River Conservation District Funds (funding from the California Department of Conservation [DOC])
- USACE – U.S. Army Corps of Engineers Funds
- APGP – Adaptation Planning Grant Program



TABLE OF CONTENTS

Executive Summary.....	i
Annexes.....	xxviii
1 Introduction.....	1-1
1.1 Purpose of Plan.....	1-1
1.2 Hazard Mitigation Planning.....	1-1
1.3 Federal Regulatory Framework.....	1-2
1.4 State and Local Regulatory Framework.....	1-2
1.5 Background and Scope.....	1-2
1.6 Plan Update.....	1-3
1.7 Multi-Jurisdictional Planning.....	1-4
1.8 Plan Organization.....	1-4
2 Community Profile and Capability Assessment.....	2-1
2.1 History.....	2-1
2.2 Geography and Climate.....	2-4
2.3 Land Ownership.....	2-4
2.4 Transportation System.....	2-5
2.5 Economy.....	2-6
2.6 Population & Housing Characteristics.....	2-7
2.7 Natural and Recreation Resources.....	2-9
2.8 County's Mitigation Capabilities.....	2-10
2.8.1 Regulatory Mitigation Capabilities.....	2-11
2.8.2 Related Plans and Regulations.....	2-11
2.8.3 Administrative and Technical Mitigation Capabilities.....	2-14
2.8.4 Fiscal Mitigation Capabilities.....	2-16
2.8.5 Other Mitigation Programs and Partnerships.....	2-17
2.8.6 Opportunities for Enhancement.....	2-18
3 Planning Process.....	3-1
3.1 Background on Mitigation Planning in Kings County.....	3-1
3.2 What's New in the Plan Update.....	3-1
3.2.1 Plan Section Review and Analysis – 2022-2023 Update.....	3-2
3.3 Multi-Jurisdictional Participation.....	3-4
3.4 Planning Process.....	3-4
3.4.1 Phase 1: Organize Resources.....	3-5
3.4.2 Planning Step 3: Coordinate with Other Departments and Agencies.....	3-16
3.4.3 Phase 2: Assess Risks.....	3-23
3.4.4 Phase 3: Develop the Mitigation Plan.....	3-24
3.4.5 Phase 4: Implement the Plan and Monitor Progress.....	3-24
4 Hazard Identification and Risk Assessment.....	4-1
4.1 Non-Profiled Hazards.....	4-2
4.2 Disaster Declaration History.....	4-2
4.3 Methodology.....	4-4
4.3.1 Hazard Ranking Summary by Jurisdiction.....	4-5
4.4 Asset Summary.....	4-7
4.4.1 Assets Exposure.....	4-7
4.5 Hazard Analysis and Risk Summary.....	4-22
4.5.1 AGRICULTURAL PESTS AND DISEASE.....	4-22



4.5.2	CYBER-ATTACK.....	4-27
4.5.3	DAM INCIDENTS.....	4-33
4.5.4	DROUGHT.....	4-43
4.5.5	EARTHQUAKE.....	4-59
4.5.6	EXTREME TEMPERATURES: FREEZE AND HEAT.....	4-89
4.5.7	FLOOD.....	4-99
4.5.8	LAND SUBSIDENCE.....	4-117
4.5.9	LANDSLIDE.....	4-122
4.5.10	PUBLIC HEALTH HAZARDS: PANDEMICS/EPIDEMICS.....	4-127
4.5.11	SEVERE WEATHER: GENERAL.....	4-136
4.5.12	SEVERE WEATHER: DENSE FOG.....	4-138
4.5.13	SEVERE WEATHER: HEAVY RAIN, THUNDERSTORMS, HAIL, AND LIGHTNING.....	4-142
4.5.14	SEVERE WEATHER: HIGH WIND/TORNADO.....	4-157
4.5.15	WILDFIRE.....	4-167
5	Mitigation Strategy.....	5-1
5.1	Mitigation Goals and Objectives.....	5-1
5.1.1	Mitigation Goals.....	5-2
5.2	Identification and Analysis of Mitigation Actions.....	5-2
5.2.1	Prioritization Process.....	5-3
5.2.2	Continued NFIP Participation.....	5-5
5.3	Mitigation Strategy Action Plan.....	5-6
5.3.1	Progress on Previous Mitigation Actions.....	5-7
5.3.2	Updated Action Plan.....	5-10
6	Plan Adoption, Implementation, and Maintenance.....	6-1
6.1	Adoption.....	6-1
6.2	Implementation.....	6-1
6.2.1	Role of the HMPC in Implementation and Maintenance.....	6-1
6.3	Maintenance and Monitoring.....	6-2
6.3.1	Maintenance Schedule.....	6-2
6.3.2	Maintenance and Evaluation Process.....	6-3
6.3.3	Incorporation into Existing Planning Mechanisms.....	6-3
6.3.4	Continued Public Involvement.....	6-4
7	Plan Adoption.....	7-1
7.1	Element E.1 Formal Plan Adoption Documentation.....	7-1
7.2	General Plan Safety Element Integration.....	7-1
8	References.....	8-1



LIST OF APPENDICES

Appendix A: Hazard Mitigation Planning Committee
Appendix B: Planning Process Documentation
Appendix C: Approval and Adoption Documentation
Appendix D: Mitigation Categories and Alternatives
Appendix E: Annual Progress Meeting Agenda and Report Template
Appendix F: Outreach Strategy
Appendix G: Public Survey Results



ANNEXES

Annex A: City of Avenal

Annex B: City of Corcoran

Annex C: City of Hanford

Annex D: City of Lemoore



1 INTRODUCTION

1.1 PURPOSE OF PLAN

Kings County including the participating jurisdictions have prepared this multi-jurisdictional hazard mitigation plan (MJHMP) to guide hazard mitigation planning to better protect the people and property of the County from the effects of hazard events. The purpose of this MJHMP is to identify policies, actions, and strategies that will help to reduce risk and prevent future losses. Hazard mitigation is best realized when community leaders, businesses, citizens, and other stakeholders join together to undertake a process of learning about hazards that can affect their area and use this knowledge to prioritize needs and develop a strategy for reducing damage. Hazard mitigation is most effective when it is based on a comprehensive long-term plan that is developed prior to a disaster occurring.

This plan demonstrates the Kings County communities' commitment to reducing risks from hazards and serves as a tool to help decision-makers direct mitigation activities and resources. This plan was also developed to make Kings County and the participating jurisdictions eligible for certain federal disaster assistance, specifically, the Federal Emergency Management Agency's (FEMA) Hazard Mitigation Assistance (HMA) grants including the Hazard Mitigation Grant Program (HMGP), Flood Mitigation Assistance (FMA) and Building Resilient Infrastructure and Communities (BRIC) program, as well as to make the County and jurisdictions more disaster resistant. This plan demonstrates the County's commitment to reducing risks from hazards and serves as a tool to help decision-makers direct mitigation activities and resources.

1.2 HAZARD MITIGATION PLANNING

FEMA has determined that there is a critical link between hazard mitigation planning and sustainability. This means if Kings County has the foresight to plan ahead to reduce the impacts of hazards, the County will be better able to prevent injury, loss of life and damage to our homes, businesses, and neighborhoods. The County can use the threat of disaster as a catalyst to act and develop a plan so we can recover more quickly following a disaster.

Kings County and the four participating jurisdictions have committed to reducing long-term risk to their citizens and damage to property from the effects of natural hazards. By planning, preparing, and adopting a MJHMP, the County and each jurisdiction are taking a proactive approach to reduce or eliminate the impacts of hazards before they occur.

FEMA defines "hazard mitigation" as any sustained action taken to reduce or eliminate the long-term risk to human life and property from hazards. The County's plan will serve as a tool for learning from disasters that have already occurred, so they can deal with them more effectively and efficiently with less expenditure than in the past.

Direct benefits include:

- Reduced loss of life;
- Reduced loss of property and essential services;
- Reduced economic hardship;
- Reduced reconstruction costs;
- Increased cooperation and communication within the community through the planning process; and
- Expedited post-disaster funding.

Indirect benefits include:

- Disaster resilience;
- Environmental quality;
- Economic vitality; and
- Improved quality of life.



1.3 FEDERAL REGULATORY FRAMEWORK

Section 322, Mitigation Planning, of the Robert T. Stafford Disaster Relief and Emergency Assistance Act ("the Stafford Act"), enacted by Section 104 of the Disaster Mitigation Act of 2000 ("DMA 2000"), provides revitalized approaches to mitigation planning. Section 322 continues the requirement for a State Hazard Mitigation Plan (SHMP) as a condition of disaster assistance and establishes a new requirement for Local Hazard Mitigation Plans (LHMP). In order to apply for federal aid for technical assistance and post-disaster funding, local jurisdictions must comply with DMA 2000 and its implementing regulations (44 Code of Federal Regulations [CFR] Part 201.6).

Under the 2008 44 CFR update, requirements have changed governing mitigation planning provisions for LHMPs published under 44 CFR §201.6. LHMPs qualify communities for federal mitigation grant programs including:

- HMA Grants
- HMGP
- BRIC
- FMA
- High Hazard Potential Dam (HHPD)
- Severe Repetitive Loss (SRL)
- Repetitive Flood Claim (RFC)

1.4 STATE AND LOCAL REGULATORY FRAMEWORK

The MJHMP was prepared consistent with the Health and Safety Element (Safety Element) of the Kings County General Plan, as the planning effort covers common overlapping natural hazard issues and mutually-reinforcing policies and implementation programs. The MJHMP and Safety Element are considered complimentary documents that address natural hazards, and both planning documents contain goals, policies, and project actions or implementation programs to enhance the County's mitigation efforts related to public safety.

California Government Code Section 65302.10, also referred to as Assembly Bill (AB) 2140 encourages California counties and cities to adopt their current, FEMA-approved LHMPs into the Safety Element of their General Plan. This adoption by reference or incorporation of the MJHMP into the Safety Element of the General Plan follows plan approval and makes Kings County and each participating jurisdiction eligible to be considered for part or all of its local-share costs on eligible public assistance funding to be provided by the State through the California Disaster Assistance Act (CDAA). The CDAA allows the State to pay up to 18.75% of the non-federal share that would otherwise fall upon a county or city to pay for public assistance projects. The legislature passed AB 2140 to provide additional funding after a disaster occurs. The local share is 25% of the total project cost; therefore, the legislation allows city and counties that comply to be eligible for only the remaining local share (6.25%).

AB 2140 is an optional state incentive to help counties and cities become more resilient to natural hazards. Compliance with AB 2140 also expires when the MJHMP expires, and the County must re-adopt the plan into the Safety Element during update cycles to ensure continued compliance and funding eligibility. Additionally, each participating jurisdiction in Kings County must adopt their annex into their own General Plan Safety Element, as the annex jurisdictions are not covered under the County's General Plan Safety Element adoption.

1.5 BACKGROUND AND SCOPE

In the State of California and around the world, natural disasters occur frequently. Each year in the United States, disasters take the lives of hundreds of people and injure thousands more. Nationwide, taxpayers pay billions of dollars annually to help communities, organizations, businesses, and individuals recover from disasters. The time and money needed to recover from these events can strain or deplete local resources. These monies only partially reflect the true cost of disasters because additional expenses to insurance companies and non-governmental organizations are not reimbursed by tax dollars. Many disasters are predictable, and much of the damage caused by these events can be alleviated or even eliminated.



Hazard mitigation is defined by FEMA as “any sustained action taken to reduce or eliminate long-term risk to human life and property from a hazard event.” The results of a three-year, congressionally mandated independent study to assess future savings from mitigation activities provides evidence that mitigation activities are highly cost-effective. On average, each dollar spent on mitigation saves society an average of \$6 in avoided future losses in addition to saving lives and preventing injuries (Natural Hazard Mitigation Saves: 2017 Interim Report).

Hazard mitigation planning is the process through which hazards that threaten communities are identified; likely impacts are determined, prioritized, and implemented. This MJHMP update continues the hazard mitigation planning process for Kings County, the unincorporated county; the participating cities of Avenal, Corcoran, Hanford, and Lemoore. The plan identifies natural and human-caused hazards and risks within Kings County and identifies the hazard mitigation strategy to reduce vulnerability and make the communities of Kings County more disaster-resistant and sustainable. Information in this plan can be used to help guide and coordinate mitigation activities and local land use decisions. Proactive mitigation planning will help reduce the cost of disaster response and recovery to the community and its property owners by protecting critical community facilities, reducing liability exposure, and minimizing overall community impacts and disruption. The Kings County planning area has been affected by hazards in the past and is thus committed to reducing future disaster impacts and maintaining eligibility for federal funding.

1.6 PLAN UPDATE

This plan underwent a comprehensive update in 2022-2023 in fulfillment of the five-year update requirement. Several factors underscore the need for this planning effort:

- Kings County is exposed to hazards that have caused past damage.
- Limited local resources make it difficult to be pre-emptive in reducing risk. Eligibility for federal financial assistance is paramount to promote successful hazard mitigation in the area.
- Kings County and its partners recognize the probability of certain future hazards is increasing, and want to identify and implement mitigation actions that will address the needs of populations most vulnerable to these hazards impacts.
- Kings County and its partners participating in this plan want to be proactive in preparing for the probable impacts of natural hazards.

The Kings County's 2012 MJHMP was already developed pursuant to the regulations of DMA 2000, and the implementing regulations set forth by the Interim Final Rule published in the Federal Register on February 26, 2002 (44 CFR Section 201.6). While the act emphasized the need for mitigation plans and more coordinated mitigation planning and implementation efforts, the regulations established the requirements that LHMPs must meet in order for a local jurisdiction to be eligible for certain federal disaster assistance and hazard mitigation funding under the Robert T. Stafford Disaster Relief and Emergency Act (Public Law 93-288). Because the Kings County planning and response area is subject to many kinds of hazards, access to these programs is vital. As a result, the County and its participating jurisdictions must complete a comprehensive plan update every five years. For the current plan update, Kings County completed the update as part of a multi-jurisdictional planning process in 2022-2023 to bring the MJHMP into compliance with recent legislation related to climate change probability, underserved and socially vulnerable populations, increased stakeholder engagement, and to address emerging concerns. The Kings County 2012 MJHMP was adopted by Kings County and the participating jurisdictions on January 13, 2015. The Kings County 2012 MJHMP was approved by FEMA on June 4, 2015.

Information in this plan will be used to help guide and coordinate mitigation activities and decisions for local land use policy in the future. Proactive mitigation planning will help reduce the cost of disaster response and recovery to the community and its property owners by protecting critical community facilities, reducing liability exposure, and minimizing overall community impacts and disruption. The Kings County planning area has been affected by hazards in the past and is thus committed to reducing future disaster impacts and maintaining eligibility for federal funding.

This MJHMP identifies resources, information, and strategies for reducing risk from natural hazards. Elements and strategies in the plan were selected because they meet a program requirement and because they best meet the needs of the planning partners and their citizens. One of the benefits of multi-jurisdictional planning is the ability to pool resources and eliminate redundant activities within a planning area that has uniform risk exposure and vulnerabilities. FEMA encourages multi-jurisdictional



planning under its guidance for the DMA. This plan will help guide and coordinate mitigation activities throughout the planning area. The plan was developed to meet the following objectives:

- Meet or exceed the requirements of the DMA.
- Enable all planning partners to use federal grant funding to reduce risk through mitigation.
- Meet the needs of each planning partner as well as state and federal requirements.
- Create a risk assessment that focuses on Kings County hazards of concern.
- Update the risk assessment with a consequence analysis that assesses the risk and vulnerability of people, property, critical facilities and infrastructure, natural and cultural resources, future development from these hazards of concern.
- Create a single planning document that integrates all planning partners into a framework that supports partnerships within the County and puts all partners on the same planning cycle for future updates.
- Meet the planning requirements of FEMA's Community Rating System (CRS), allowing planning partners that may choose to participate in the CRS program to enhance their CRS classifications.
- Coordinate existing plans and programs so that high-priority initiatives and projects to mitigate possible disaster impacts are funded and implemented.

1.7 MULTI-JURISDICTIONAL PLANNING

All citizens and businesses of Kings County are the ultimate beneficiaries of this MJHMP. The plan reduces the risk for those who live in, work in, and visit the County. It also provides a viable planning framework for all foreseeable natural hazards that may impact the County. Participation in the development of the plan by key stakeholders in the County helps ensure that outcomes will be mutually beneficial. The resources and background information in the plan are applicable countywide, and the plan's goals and recommendations can lay the groundwork for the development and implementation of local mitigation activities and partnerships.

The Kings County 2022-2023 MJHMP is a multi-jurisdictional plan that geographically covers people, property, and critical assets within Kings County's jurisdictional boundaries (hereinafter referred to as the planning area). Unincorporated Kings County and the following jurisdictions participated in the 2022-2023 update planning process:

- Kings County
- City of Avenal
- City of Corcoran
- City of Hanford
- City of Lemoore

The four cities were all participants of the 2012 Kings County MJHMP. In addition to these four cities, Santa Rose Rancheria/Tachi Yokut Tribe and the Kings County Office of Education representing various school districts were also all participants of the 2012 Kings County MJHMP, however, they opted not to participate in the 2022-2023 plan update due to limited staff capacity and resources. This 2022-2023 MJHMP update process covers four of the participating jurisdictions and includes four annexes.

1.8 PLAN ORGANIZATION

The sections that comprise the County's MJHMP include:

Executive Summary and Prerequisite – This section includes the executive summary of the MJHMP and addresses the formal adoption of the plan by each governing body to demonstrate the commitment of the community and elected officials to the County's goal of becoming disaster-resistant.

Section 1: Introduction – This section describes the purpose of the MJHMP update, the benefits of hazard mitigation planning, the federal and state regulatory requirements, and the background of the County's hazard mitigation planning process.

Section 2: Community Profile and Capability Assessment – This section provides the history and background of the County, including population trends and the demographic and economic conditions that have shaped the area. This section also includes the County's capability assessment.



Section 3: Planning Process – This section identifies the planning process, the HMPC members, the meetings held as part of the planning process, documents the outreach efforts, and the review and incorporation of existing plans, reports, and other appropriate information.

Section 4: Hazard Identification, Risk Assessment (HIRA), and Consequence Analysis – This section describes the process through which the HMPC and our local partners identified, screened, and selected the hazards to be profiled. The hazard analysis includes the description, location, extent, and probability of future events for each hazard. This section also includes a Vulnerability Assessment. The Vulnerability Assessment covers all hazards and considers the impact on the following assets: property; people; critical facilities and infrastructure; natural and cultural resources; economic condition of the jurisdiction; and future development trends.

Section 5: Mitigation Strategy – The mitigation strategy section provides a plan for reducing the potential losses identified in the vulnerability analysis. Mitigation goals and potential actions to minimize the risks and losses associated with each hazard will be described along with a strategy for implementation.

Section 6: Implementation and Maintenance – This section describes the method and schedule for monitoring, evaluating, and updating the plan to ensure it remains an active and applicable document.

Section 7: Plan Adoption – This section includes the plan adoption documentation and process for integrating the plan by reference into the County's General Plan Safety Element.

Section 8: References – This section lists the sources cited in the plan.

Appendices

- Appendix A: Hazard Mitigation Planning Committee
- Appendix B: Planning Process Documentation
- Appendix C: Approval and Adoption Documentation
- Appendix D: Mitigation Categories and Alternatives
- Appendix E: Annual Progress Meeting Agenda and Report Template
- Appendix F: Outreach Strategy

Annexes

- Annex A: City of Avenal
- Annex B: City of Corcoran
- Annex C: City of Hanford
- Annex D: City of Lemoore



2 COMMUNITY PROFILE AND CAPABILITY ASSESSMENT

2.1 HISTORY

As noted in the Kings County 2035 General Plan, Kings County was established in 1893 through a separation of territory from Tulare County. Additional territory was added from Fresno County in 1909 to make up what is known today as Kings County. Before the formation of the County, there were a number of historical events that led up to its establishment. Early inhabitants of this region were the Tache tribe of the Yokut Indians which existed throughout the San Joaquin Valley from the Delta to Tejon Pass. The first European contact occurred in 1805 when Lieutenant Gabriel Moraga led a company of Spanish soldiers and Franciscan clergymen through the eastern edge of the San Joaquin Valley while in search of possible mission sites. On January 6, 1805, they encountered a thriving Yokut Indian culture along the banks of a large river draining into the Laguna de Tache, (Tulare Lake). The river was named El Rio de los Santos Reyes, the "River of the Holy Kings," later shortened to "Kings River." This is where the County derived its namesake.

Prior to the development of any towns, Kings County was home to a handful of adventurous pioneers who settled primarily in the barren valley floor along the Kings River. Kingston, the first of several settlements located in Kings County was founded in 1856 and situated along the south bank of the Kings River. The town grew up around a ferry crossing that transported travelers across the Kings River who were traveling along the Spanish road called El Camino Viejo a Los Angeles (the old road to Los Angeles). Kingston was the only stopping point along the Overland Mail Company stage route between Stockton and Visalia.

Following Kingston, other communities sprang up in Kings County, primarily along existing or proposed railroad easements. The first incorporated community in Kings County was Lemoore. The success of the community was assured with the arrival of the Southern Pacific Railroad in 1877, the same year the community of Hanford was founded. Hanford later became incorporated in 1891, and later was selected as the County seat when in 1893, local voters approved the formation of a new county when a portion of western Tulare County was divided to form Kings County. In 1909, Kings County increased its boundary by 118 square miles when a triangular area of land was transferred from Fresno County's jurisdiction to Kings County.

Settlement in Kings County remained modest throughout much of the County's first century. The third incorporated community, Corcoran, was established on the San Francisco and San Joaquin Railroad in 1905 following a visit from Hobart Johnstone Whitley, a prominent land developer from southern California. The fourth incorporated town, Avenal, was established along the west side of the Kettleman Hills in an area historically called "Avena" by Spanish soldiers and explorers.

A number of unincorporated communities also grew from the early pioneering years. The Southern Pacific Railroad, which was the cause of many valley communities, was the primary driving force that led to the creation of Armona's town layout in 1875 by John Yoakum for the Pacific Improvement Company. The railroad line followed in 1877, and Armona quickly became recognized as a main railroad shipping point for the rich Grangeville farming and fruit growing region. Farming and ranching supported the early economy of Kings County.

The community of Stratford has its origins dating back to 1899 when settlers of the Tulare Lake Basin dug three miles of canal to irrigate the farms of Blakeley, Clawson, Lovelace, and others who had settled on the margins of what was once water filled Tulare Lake. Stratford technically came into being in 1905 when the Empire Investment Company purchased 19,000 acres from the Bates, Davis and Miller Company. The town officially was organized by the sale of town lots from the ranch. However, due to a name conflict with another depot, the community's name was changed to what it is recognized today "Stratford". Manford Brown, a real estate developer founded the town of Kettleman City in 1929, following his donation of land to construct a school site and a community church. The community of Home Garden was established later during the 1940s and was initially home to many local farmers and farm industry workers. The City of Hanford has grown around the community on three sides, and Home Garden has evolved into a bedroom community for Hanford.

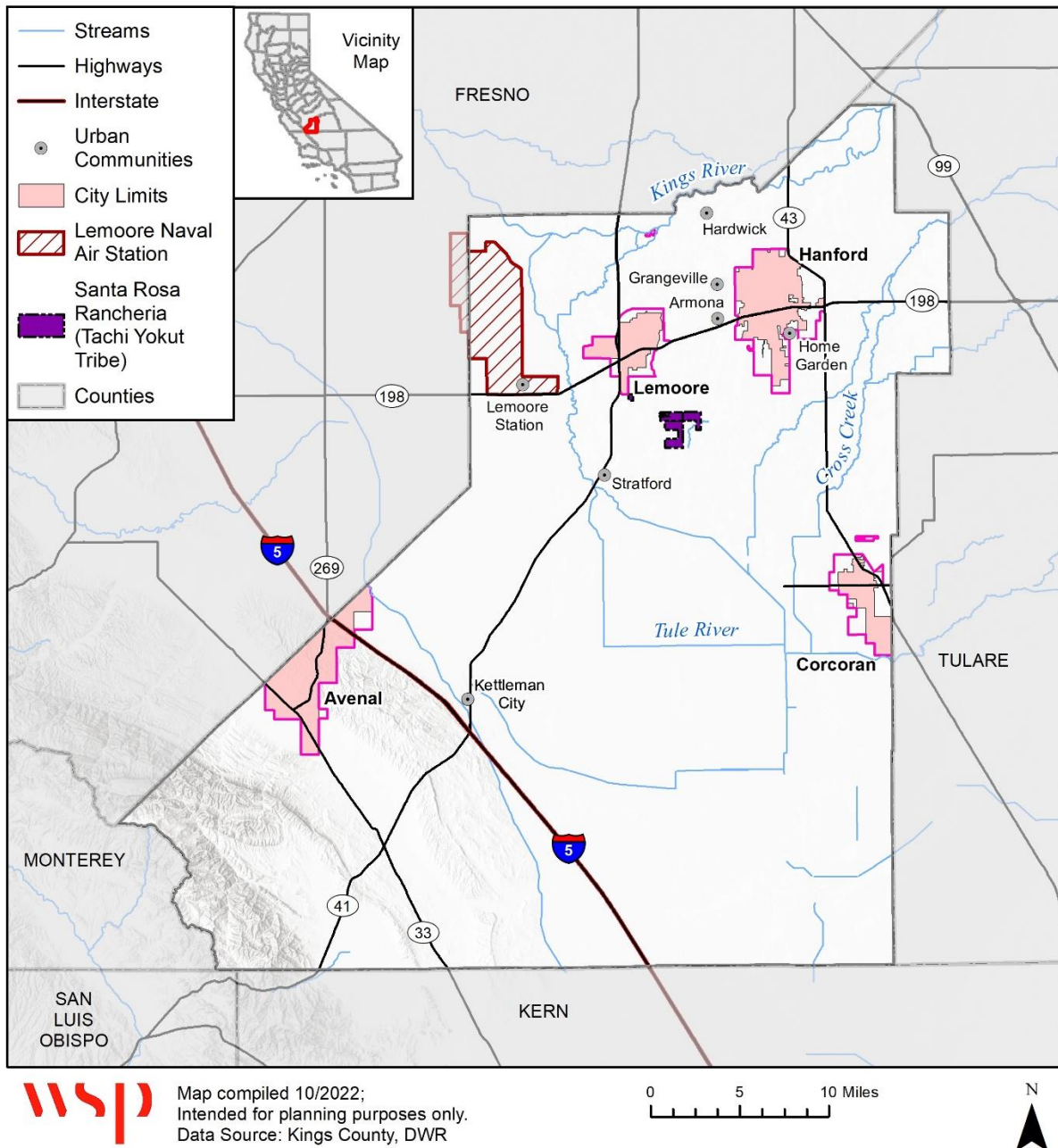


The Naval Air Station Lemoore (NASL) has been a strong economic force in the County since its development in 1961 when it was commissioned and constructed to be the largest and newest Master Jet Base in the Navy. Currently, the NASL hosts the Navy's largest west coast fighter/attack capability and houses approximately 175 Hornets and SuperHornets organized into 16 squadrons which comprise the Pacific Strike Fighter Wing.

Figure 2-1 shows the County's planning area.



Figure 2-1 County of Kings Planning Area





2.2 GEOGRAPHY AND CLIMATE

According to the U.S. Census Bureau, Kings County has a total area of 1,392 square miles, of which 1,389 square miles is land and 2.1 square miles (0.2%) is water. Kings County is bordered on the north and northwest by Fresno County, on the east by Tulare County, on the south by Kern County and a small part of San Luis Obispo County, and on the west by Monterey County. Most of the historic Tulare Lake was within Kings County. Kings County is governed by a five-member Board of Supervisors.

Kings County has a climate that can be described as warm and sunny for much of the year. Summers are dry and hot while winters are mild. The County averages approximately 7.43 inches of rainfall each year. Temperatures range from an average minimum temperature of 36.2 degrees Fahrenheit in the winter, and to an average high in the 90s during the summer months. The County has an annual average maximum temperature of 76 degrees Fahrenheit and an average minimum temperature of 62.3 degrees Fahrenheit. Table 2-1 lists the average maximum and minimum temperatures by month and associated average rainfall.

Table 2-1 Average Maximum & Minimum Temperatures by Month and Associated Average Rainfall

Average Maximum/Minimum Temperature	Average Rainfall
January 54.3°/36.2°F	January 1.55 inches
August 95.7°/63.7°F	August .01 inches
Annual 76°/62.3° F	Annual 7.43 inches

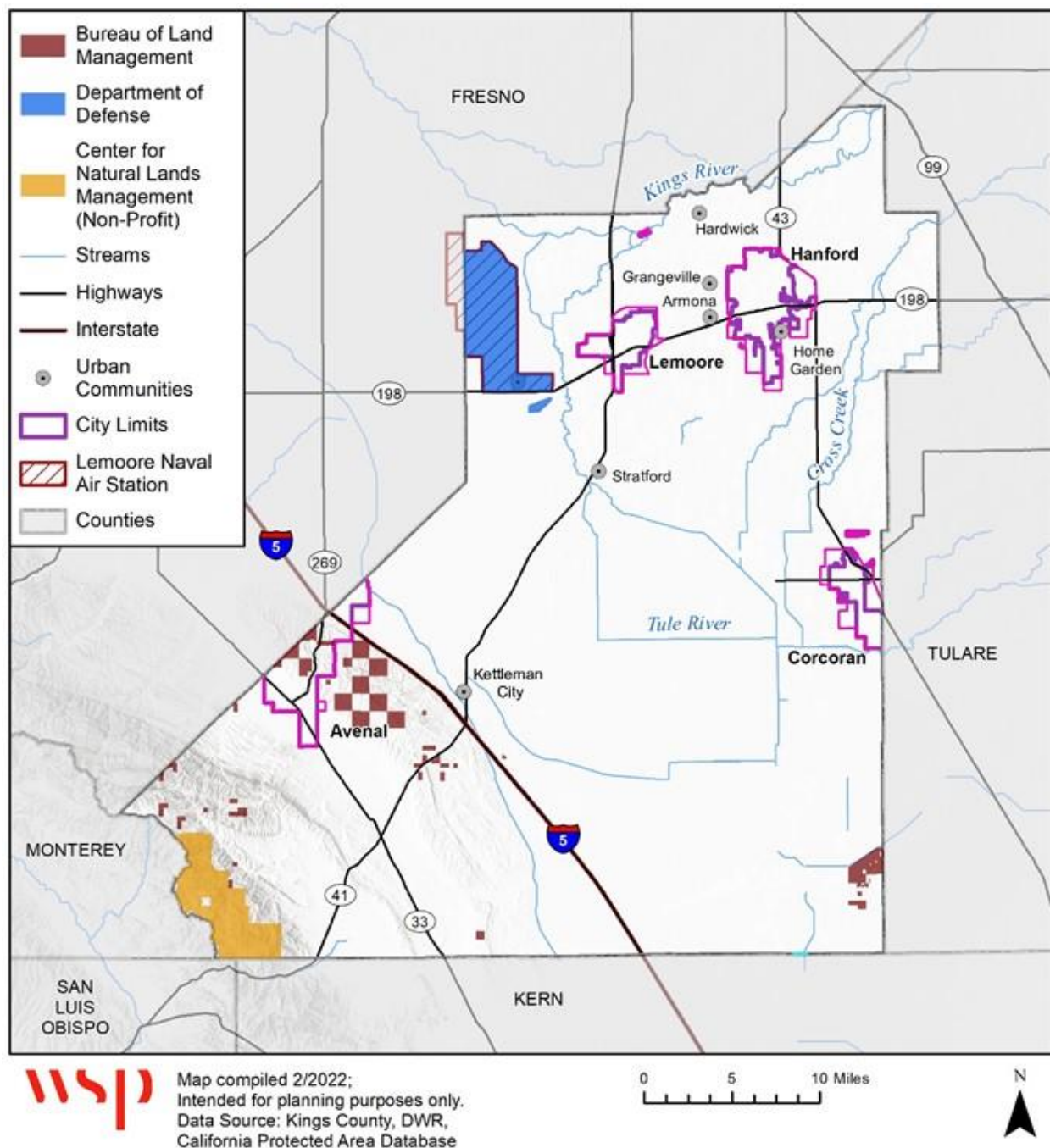
Note: The time frame for both temperature and precipitation is from 1950 to 2023.

Sources: Climate at a Glance County Time Series, NOAA

2.3 LAND OWNERSHIP

Large expanses of the County are public land. The entities and agencies that own non-public land within the County include the Bureau of Land Management (BLM), the Department of Defense (who owns the Lemoore Naval Air Station), and the Center for Natural Lands Management (which is a nonprofit land trust). Figure 2-2 shows the overall land ownership in the County.

Figure 2-2 Kings County Land Ownership



2.4 TRANSPORTATION SYSTEM

Kings Area Rural Transit (KART) is Kings County's public transportation provider. KART provides transportation services to the cities and unincorporated communities of Armona, Avenal, Corcoran, Grangeville, Hardwick, Hanford, Kettleman City, Laton, Lemoore, and Stratford. KART also provides regular transportation services to Fresno and Visalia. Two railway stations are located within the County, Corcoran station and Hanford station. Both stations are Amtrak train stations.



The major highways in the County include Interstate 5 (I-5), State Route (SR) 41, Highway 198 and Highway 43. I-5 is a major north-south route of the Interstate Highway System in the United States, stretching from the Mexican border at the San Ysidro crossing to the Canadian border near Blaine, Washington. I-5 links the major California cities of San Diego, Santa Ana, Los Angeles, Stockton, Sacramento, and Redding. I-5 runs through the City of Avenal. SR 41 is a state highway in California, connecting the Central Coast with the San Joaquin Valley and the Sierra Nevada. SR 41 runs through the City of Lemoore and Kettleman City. SR 198 is an east-west state highway that connects the California Central Coast to the mid-Central Valley through Hanford and Visalia. It intersects I-5 and SR 41. SR 43 is a north-south state highway, which runs roughly parallel to SR 99, connecting the towns of Shafter, Wasco, Corcoran, and Selma, and the City of Hanford. All these highways are shown in Figure 2-1.

2.5 ECONOMY

Kings County is located in the heart of California's rapidly growing San Joaquin Valley, the richest agricultural area in the world. With that distinction also come the challenges of an economy which has historically been dependent on seasonal agriculture and low wages. Select 2017-2021 economic characteristics estimated for Kings County by the U.S. Census Bureau American Community Survey (ACS) are shown in Table 2-2.

Table 2-2 Kings County Economic Characteristics

CHARACTERISTIC	KINGS COUNTY
Families below Poverty Level (%)	13.8%
All People below Poverty Level (%)	12.6%
Median Family Income	\$85,806
Median Household Income	\$69,717
Per Capita Income	\$38,332
Population in Labor Force	63.0%
Population Employed*	58.6%
Unemployment Rate**	6.3%

Source: U.S. Census Bureau ACS 2017-2021 5-Year Data Profile

Kings County provides a broad range of services to its residents, businesses, and visitors, and manages and operates its facilities to meet community needs. Agriculture is the dominant land use in the County, accounting for 90.2% of total land use (2023 General Plan 2010). Furthermore, as shown in Table 2-3, based on U.S. Census Bureau ACS, the most common industries within Kings County are educational services and health care and social assistance (a combined average of 20.3% of workers). Agriculture, forestry, fishing and hunting, and mining as well as Public administration are the other two major industries.

Table 2-3 and Table 2-4 below show the labor force breakdown by industry and occupation and are based on estimates from the 2017-2021 five-year ACS.

Table 2-3 Kings County Employment by Industry Sector, 2017-2021

INDUSTRY SECTOR	PERCENT OF WORKFORCE
Educational services, and health care and social assistance	20.3%
Agriculture, forestry, fishing and hunting, and mining	16.2%
Public administration	13.3%
Retail trade	10.0%
Arts, entertainment, and recreation, and accommodation and food services	8.3%
Manufacturing	7.6%
Professional, scientific, and management, and administrative and waste management services	6.0%



INDUSTRY SECTOR	PERCENT OF WORKFORCE
Transportation and warehousing, and utilities	5.0%
Construction	3.3%
Other services, except public administration	3.3%
Wholesale trade	2.9%
Finance and insurance, and real estate and rental and leasing	2.7%
Information	1.0%

Source: U.S. Census Bureau ACS 2017-2021 5-Year Data Profile

Table 2-4 Kings County Employment by Occupation, 2017-2021

OCCUPATION	# EMPLOYED	% EMPLOYED
Management, business, science, and arts occupations	13,224	25%
Service occupations	10,863	21%
Sales and office occupations	9,236	18%
Natural resources, construction, and maintenance occupations	11,125	21%
Production, transportation, and material moving occupations	8,029	15%
Total	13,224	25%

Source: U.S. Census Bureau American Community Survey 2017-2021 5-Year Estimates, www.census.gov/

*Excludes armed forces

2.6 POPULATION & HOUSING CHARACTERISTICS

The total estimated population of Kings County in 2021 was 151,887, up from 151,122 people in 2010. This constitutes less than a 1% increase in population. Select demographic and social characteristics for Kings County from the 2017-2021 ACS and the California Department of Finance (DOF) are shown in Table 2-5. Increases in population growth also increase exposure to severe weather-related hazards, pandemics/epidemics as well as earthquakes. This increase in growth also puts more demand on water resources and can increase vulnerability to drought.

Table 2-5 Kings County Demographic and Social Characteristics, 2017-2021

CHARACTERISTIC	KINGS COUNTY
Gender/Age	
Male	55.2%
Female	44.8%
Median age (years)	32.1
Under 5 years	7.5%
Under 18 years	27.2%
65 years and over	10.3%
Race/Ethnicity	
White	30.9%
Asian	3.7%
Black or African American	6.0%
American Indian/Alaska Native	0.8%
Hispanic or Latino (of any race)	55.5%



CHARACTERISTIC	KINGS COUNTY
Native Hawaiian and Other Pacific Islander	0.2%
Some other race	0.2%
Two or more races	2.7%
Education*	
% High school graduate or higher	89.4%
% with Bachelor's Degree or Higher	35.0%
Social Vulnerability	
% with Disability	13.0%
% Language other than English spoken at home	21.6%
% Speak English less than "Very Well"	8.3%
% of households with a computer	95.0%
% of households with an Internet subscription	90.1%
% of households with no vehicle available	5.3%

Source: CA Department of Finance U.S. Census Bureau ACS 2015-2019 5-Year Estimates, www.census.gov/

* Population 25 years and over

Table 2-6 summarizes information from the ACS 5-year estimates (2017-2021) related to housing occupancy in Kings County. More than half of the County residents own the home they live in.

Table 2-6 Kings County Housing Occupancy and Units, 2017-2021

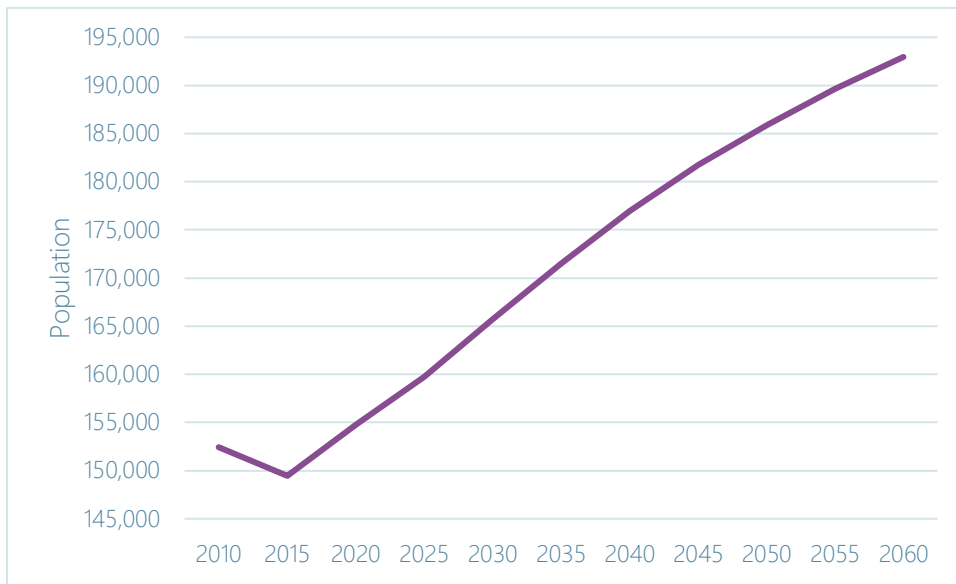
Housing Characteristic	Estimate	Percentage
Housing Occupancy		
Total Housing Units	46,145	100%
Units Occupied	43,286	93.8%
Vacant	2,859	6.2%
Housing Units		
1-unit detached	33,140	71.8%
1-unit attached	2,082	4.5%
2 units	1,337	2.9%
3 or 4 units	2,546	5.5%
5-9 units	1,655	3.6%
10-19 units	906	2.0%
20 or more units	2,403	5.2%
Mobile Home	2,017	4.4%
Boat, RV, van etc.	59	0.1%
Housing Tenure		
Owner Occupied	23,610	54.5%
Renter Occupied	19,676	45.5%

Source: U.S. Census Bureau ACS 2017-2021 5-Year Estimates, www.census.gov/

According to the DOF, the 2020 population of Kings County was 154,745 (DOF 2021). The DOF projects the total population will increase by 7% to 165,752 by 2030 (DOF 2021). These projections are shown in Figure 2-3. While total households in the County are also projected to increase from 44,561 in 2020 to 50,068 in 2030, people per household is projected to slightly decrease from 3.16 in 2020 to 3.06 persons per household in 2030 (DOF 2021).



Figure 2-3 Kings County Observed and Projected Population (2010 - 2060)



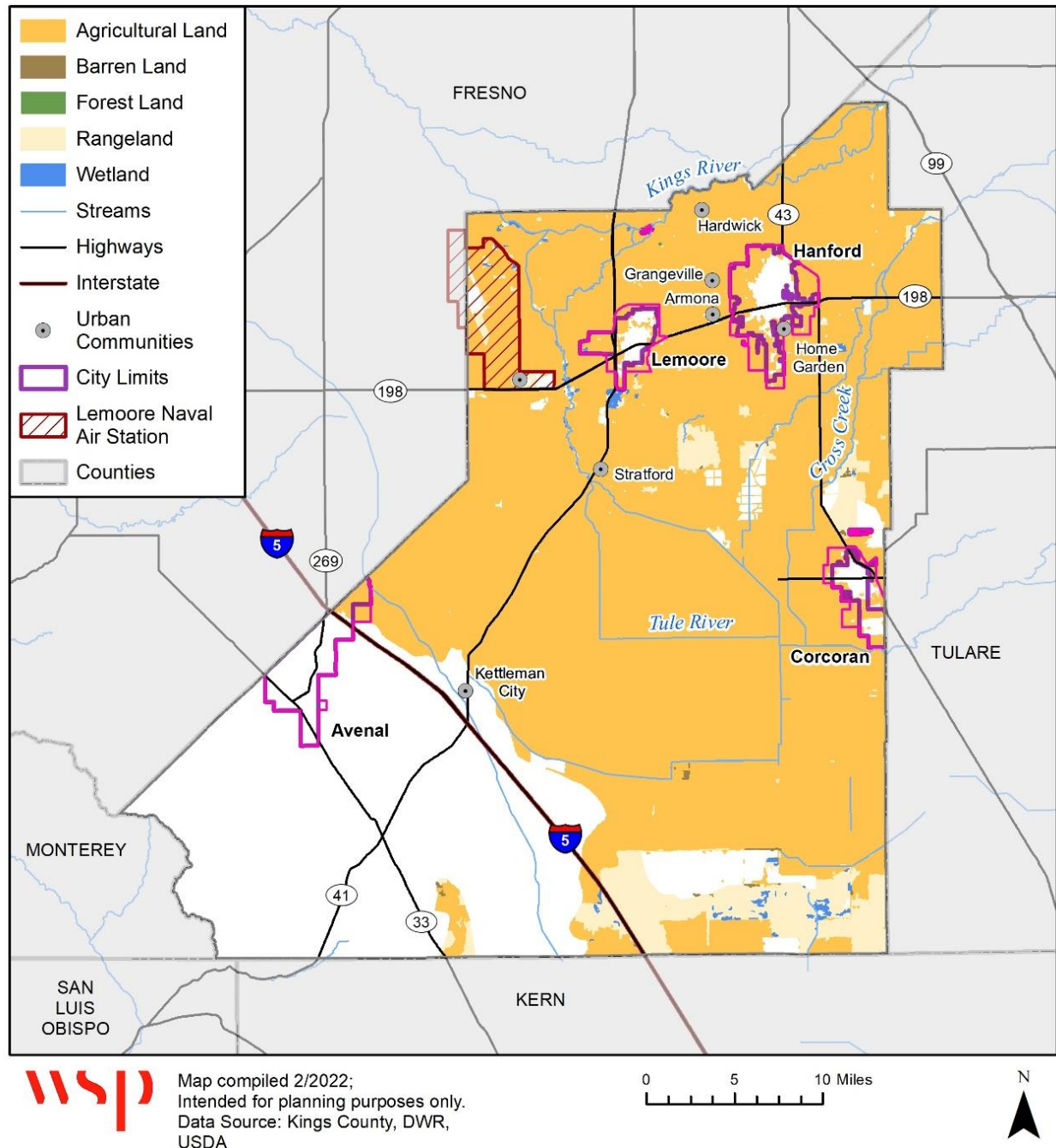
Source: DOF 2021

2.7 NATURAL AND RECREATION RESOURCES

As shown in Figure 2-4, the majority of the County's land cover is agricultural land. Like other counties in the Central Valley, the agriculture industry is one of the pillar industries. Rangelands are also scattered over the County. The majority of the southwestern County is made up of rangeland.

Further details on the County's natural resources can be found in Section 4.4.1.4 Cultural, Historical and Natural Resources.

Figure 2-4 Kings County Land Cover



2.8 COUNTY'S MITIGATION CAPABILITIES

The following section assesses the County's and each participating jurisdiction's existing capabilities to pursue hazard mitigation. The capability assessment analyzes Kings County's capabilities that can be leveraged to mitigate hazards. Combining the risk assessment with the mitigation capability assessment results in the County's "net vulnerability" to disasters, and more accurately focuses the goals, objectives, and proposed actions of this plan.



The HMPC used a two-step approach to conduct this assessment for the County and jurisdictions. First, an inventory of common mitigation activities was made using a matrix. The purpose of this effort was to identify policies and programs that were either in place, needed improvement, or could be undertaken if deemed appropriate. Second, the HMPC conducted an inventory and review of existing policies, regulations, plans, and programs to determine if they contributed to reducing hazard-related losses or if they inadvertently contributed to increasing such losses.

This assessment is divided into four sections: regulatory mitigation capabilities; administrative and technical mitigation capabilities; fiscal mitigation capabilities; and mitigation outreach and partnerships. Additional information on jurisdiction capabilities can also be found in the participating jurisdictions' annexes.

2.8.1 Regulatory Mitigation Capabilities

The regulatory and planning capabilities listed in Table 2-7 outline planning and land management tools typically used by local jurisdictions to implement hazard mitigation activities and indicate those that are in place in Kings County.

Table 2-7 Regulatory Mitigation Capabilities

REGULATORY TOOL (ORDINANCES, CODES, PLANS)	KINGS COUNTY	AVENAL	CORCORAN	HANFORD	LEMOORE
General plan	Yes	Yes	Yes	Yes	Yes
Zoning ordinance	Yes	Yes	Yes	Yes	Yes
Subdivision ordinance	Yes	No	Yes	Yes	Yes
Growth management ordinance	No	No	No	No	No
Floodplain ordinance	Yes	Yes	Yes	Yes	Yes
Other special purpose ordinance (storm water, steep slope, wildfire)	No	No	Yes	No	No
Building code	Yes	No	Yes	Yes	Yes
Fire department ISO rating	N/A	N/A	N/A	N/A	N/A
Erosion or sediment control	Yes	No	No	No	No
Storm water management program	Yes	No	No	Yes	Yes
Site plan review requirements	Yes	No	No	Yes	No
Capital improvements plan	Yes	No	No	Yes	Yes
Economic development plan	No	No	No	No	No
Local EOP	Yes	No	No	No	No
Other special plans	N/A	N/A	N/A	N/A	No
Flood insurance study or other engineering study for streams	Yes	Yes	Yes	Yes	Yes
Elevation certificates	Yes	Yes	No	No	Yes

Source: Hazard Mitigation Planning Committee

2.8.2 Related Plans and Regulations

2035 Kings County General Plan, 2035

The 2035 Kings County General Plan defines goals, objectives and policies that will guide the physical growth, use and development of land under the jurisdictional authority of the County through the year



2035. The County's overarching priorities are to protect prime agricultural land, direct urban growth to existing cities and community districts, and increase economic and community sustainability. General Plan land use designations and policies are designed to encourage compact and community-centered development patterns that lower public service costs, make more efficient use of land, and discourage premature conversion of farmland to other uses. Policies embodied in this General Plan are designed to balance the protection of individual property owners' rights and property value with the efficient provision of public services to the community at large and long-term preservation of natural resources. The General Plan also contains specific community plans that elaborate on the development planning for the County's several urban communities.

The County's General Plan includes the six mandatory elements: the Land Use Element, Circulation Element, Open Space Element, Noise Element, Health and Safety Element, and 2016-2024 Housing Element. The General Plan also has a Dairy Element and an Air Quality Element. The Health and Safety Element contains goals and policies that address natural and human-caused hazards in the County.

Health and Safety Element

The purpose of the Health and Safety Element is to reduce or eliminate long-term risks to people and property from natural or man-made hazards. This element includes policies for community health and safety-related issues associated with the built environment that affect the health and safety of residents living within the County. This element concentrates on those hazards and community factors that are within the responsibility of the County to mitigate. These include land use decisions and patterns of development that directly and indirectly affect the health, well-being, and personal/property protection of county residents, and the mitigation of potential natural hazards. The Health and Safety Element also describes the location and extent of known hazards and provides maps of hazardous land uses and evacuation routes.

The Health and Safety Element is the primary vehicle for relating County land use policies to local safety planning and is comprised of three major components that include "Natural Hazards," "Community Health," and "Community Safety." While the Land Use Element identifies areas where hazardous land uses may be located, the Health and Safety Element contains policies for determining acceptable levels of public risk imposed by these land uses, as well as policies for mitigating the effects of natural or manmade catastrophes. The natural hazards discussed in the Health and Safety Element include:

- Geologic Hazards: including earthquake, subsidence and liquefaction, landslide, expansive soil;
- Flood Hazards: flood, dam inundation;
- Temperature Hazards: extreme heat, drought, freeze, fog;
- Fire Hazards; and
- Wind Hazards.

Moreover, the Health & Safety Element includes various Community Health and Safety components, which cover community health topics such as Built Environment Health and Medical Services, as well as community safety topics, including Safe Routes, Built Environment Safety, Law Enforcement, Fire Protection, Emergency Operations, Evacuation Routes, and Airport Safety.

The Safety Element fully incorporates the County's 2007 MJHMP by reference to meet the requirements under California Government Code Section 65302(g)(4). During the 2022-2023 MJHMP update process, the County OES and Planning and Community Development Department collaborated so that the forthcoming Health and Safety Element update would complement and be consistent with the efforts already underway associated with the MJHMP update, such as the climate-related hazards profiled and the other climate change considerations addressed in the risk and vulnerability assessment. The MJHMP update also now addresses socially vulnerable and underserved communities.

Kings County Emergency Operations Plan

The purpose of the County of Kings Emergency Operations Plan (EOP) and its Functional Annexes is to provide the basis for a coordinated response before, during and after a disaster incident. This plan is the principal guide for the County's response to, and management of real or potential emergencies and disasters occurring within its designated geographic boundaries. Specifically, this plan is intended to:

- Facilitate multi-jurisdictional and interagency coordination in emergency operations, particularly between local government, private sector, operational area (geographic county boundary), state response levels, and appropriate federal agencies.



- Serve as a county plan, a reference document, and when possible, may be used for pre-emergency planning in addition to emergency operations.
- To be utilized in coordination with applicable local, state, and federal contingency plans.
- Identify the components of an Emergency Management Organization (EMO), and establish associated protocols required to effectively respond to, manage and recover from major emergencies and/or disasters.
- Establish the operational concepts and procedures associated with field response to emergencies, and Emergency Operations Center (EOC) activities.
- Establish the organizational framework of the California Standardized Emergency Management System (SEMS), and the National Incident Management System (NIMS).

Emergency Services Ordinance, (County Code Chapter 6)

The declared purposes of this chapter are to provide for the preparation and carrying out of plans for the protection of persons and property within this County in the event of an emergency; the direction of the emergency organization; and the coordination of the emergency functions of this county with the cities in this County and with all other public agencies, corporations, organizations, and affected private persons. This ordinance also discusses the Kings Area Disaster Council, its powers and duties, the designation of director and assistant director of emergency services, etc.

Building Code (County Code Section)

Several specific building codes are adopted for Kings County. These codes include the 2013 edition of the California Building Standards Code, the California Fire Code (which is adopted separately), the Uniform Housing Code, and the Uniform Code for the Abatement of Dangerous Buildings. By adopting these codes, they become a part of the rules that apply to construction in the unincorporated area of Kings County. The codes are considered as if they are fully written in this statement, and they must be followed when constructing buildings in the county. However, if a newer edition of the California Building Standards Code is published within 180 days after this statement, that newer edition will replace the 2013 edition as the adopted building code for Kings County. So, in that case, the newer edition will be the set of rules that should be followed for construction purposes.

Flood Damage Prevention Ordinance (County Code Chapter 5A)

The purpose of this Ordinance is to promote public health, safety, and general welfare and to minimize public and private losses due to flood conditions in specific areas. The County's flood damage prevention ordinance provisions are designed to:

- Protect human life and health;
- Minimize expenditure of public money for costly flood control projects;
- Minimize the need for rescue and relief efforts associated with flooding and generally undertaken at the expense of the general public;
- Minimize prolonged business interruptions;
- Minimize damage to public facilities and utilities such as water and gas mains, electric, telephone and sewer lines, and streets and bridges located in areas of special flood hazard;
- Help maintain a stable tax base by providing for the sound use and development of areas of special flood hazard so as to minimize future blight areas;
- Assist potential buyers in identifying properties which are in areas of special flood hazard; and
- Promote those who occupy the areas of special flood hazard assuming responsibility for their actions.

Moreover, base flood data in the County must also meet the following requirements:

- Single parcels are required to elevate the lowest floor of any residential structure to no less than two feet above natural grade when base flood data does not exist. Nonresidential structures may elevate or floodproof to meet this standard.
- Multiple parcels (five or more) are required to have all proposals establish the 100-year base flood elevation before consideration of the preliminary plan for development. The floodplain administrator may, at his/her discretion, require higher standards.
- All new subdivision proposals and other proposed development, including proposals for manufactured home parks and subdivisions, greater than 50 lots or five acres, whichever is the lesser, shall:
 - Identify the Special Flood Hazard Areas (SFHA) and Base Flood Elevations (BFE);



- Identify the elevations of the lowest floors of all proposed structures and pads on the final plans; and
- If the site is filled above the base flood elevation, the following as-built information for each structure shall be certified by a registered civil engineer or licensed land surveyor and provided as part of an application for a Letter of Map Revision based on Fill (LOMR-F) to the floodplain administrator:
 - Lowest floor elevation;
 - Pad elevation; and
 - Lowest adjacent grade.

Kings County has numerous other plans, programs, and procedures in place that support hazard mitigation, public health and safety, hazardous materials management, and emergency operations. Related partner agency plans were also reviewed to inform the MJHMP to update risk assessment and mitigation strategies based on public availability, as they relate to flooding, drought, and water supply events, as well as agricultural pests and disease. These plans are listed below.

- 2017 U.S. Census of Agriculture. United States Department of Agriculture
- Agriculture Response Plans
- American Red Cross Emergency Plan
- California 2018 State Hazard Mitigation Plan (SHMP) (2023 Draft SHMP is in development)
- California's Fourth Climate Change Assessment
- City of Lemoore Urban Water Management Plan 2015
- Continuity of Operations/Continuity of Government Plans (COOP/COG)
- Department of Water Resources Directory of Flood Officials
- Economic analysis of the 2014 drought for California agriculture. University of California, Davis, CA: Center for Watershed Sciences
- Kings River Handbook
- Kings County 2012 MJHMP
- Kings County Association of Governments Regional Climate Action Plan
- Kings County Department of Agriculture 2021 Crop Report
- Reclamation Emergency Action Plan (EAP)
- Safeguarding California Plan: California Climate Adaptation Strategy
- The Privacy Rights Clearinghouse. Data Breach Notification in the United States 2022 Report. 2023.
- Westlands Water District Water Management Handbook
- Westlands Water District Water Management Plan

2.8.3 Administrative and Technical Mitigation Capabilities

Table 2-8 below identifies the County personnel responsible for activities related to mitigation and loss prevention in Kings County and the unincorporated areas. Many positions are full-time and/or filled by the same person. A summary of technical resources follows.

Table 2-8 Kings County Administrative and Technical Mitigation Capabilities

PERSONNEL RESOURCES	YES/NO	DEPARTMENT/POSITION
Planner/engineer with knowledge of land development/land management practices	Yes	Community Development Agency
Engineer/professional trained in construction practices related to buildings and/or infrastructure	Yes	Public Works Department, Community Development Agency
Planner/engineer/scientist with an understanding of natural hazards	Yes	Public Works Department, Community Development Agency
Personnel skilled in Geographic Information System (GIS)	Yes	Community Development Agency, County Assessor
Full time building official	Yes	Community Development Agency
Floodplain manager/Floodplain Administrator	Yes	Building Official/Community Development Agency
Emergency manager	Yes	Office of Emergency Services
Grant writer	Yes	



PERSONNEL RESOURCES	YES/NO	DEPARTMENT/POSITION
Other personnel	N/A	
GIS Data Resources (Hazard areas, critical facilities, land use, building footprints, etc.)	Yes	Kings County Geographic Information System
Warning Systems/Services (Reverse 9-11, cable override, outdoor warning signals)	Yes	Office of Emergency Services
Other	N/A	

Source: HMPC 2022

Office of Emergency Services

The County's Office of Emergency Services (OES) is the County's emergency management agency, responsible for coordinating multi-agency responses to complex, large-scale emergencies, and disasters within Kings County. It is the responsibility of the County OES to develop and maintain the EOP, which serves as a guideline for who will do what, as well as when, with what resources, and by what authority--before, during, and immediately after an emergency. The County OES provides dedicated staff responsible for managing the County Emergency Operations Center (EOC) and developing and implementing training and exercise programs designed to coincide with the processes and procedures within the EOP.

The OES is the conduit for information and resource coordination between the State of California and the local governments of Kings County (the Kings Operational Area), as defined in California's Standardized Emergency Management System (SEMS). The Kings Operational Area includes all the political subdivisions of the County.

Kings County Fire Prevention Bureau

Kings County Fire Department protects approximately 153,000 residents. The Fire Department responds to an approximate 1,392 square-mile region through a combination of 10 stations and one headquarters office with 88 full-time employees. The Department's goal is to serve communities with the best in fire protection and offer a professional and dedicated response when citizens of Kings County call for help. Kings County Fire Department primarily serves the rural areas of the County and provides contractual services to the cities of Avenal and Corcoran. Kings County Fire Department responds to over 5,100 calls annually, averaging nearly 14 calls daily. Calls include structure, vehicle, wildland and grass fires, medical aids, traffic accidents, hazardous materials incidents and various public assistance calls.

Hanford Fire Department

The Hanford Fire Department consists of three stations staffed with paid professional firefighters. Each station is staffed with a Captain, who runs the station for their assigned shift; an Engineer, who is responsible for the safe operations and maintaining all apparatus; and a Firefighter, who operates and maintains the equipment. Together they make up the station crew that routinely responds to mitigate emergencies and events.

Kings County Public Works Department - Engineering

The County Engineer processes community development projects including land divisions, records of survey, County Right-of-Way (ROW) encroachment permits, and provides recommendations on zoning permits. The County Surveyor reviews land division proposals and community development applications. The division assists the public and county offices including the Clerk/Recorder's Office. In addition, the County Engineer provides support for traffic engineering, roadway and bridge design, project management, and contract preparation/administration for various road and building projects. The County Engineer also provides engineering support for the Waste Management Authority and administers the Solid Waste Ordinance. The County Engineer maintains engineering records on assessment districts, right-of-way, and County owned property.

Kings County Community Development Agency

The County's Planning Division keeps the County's General Plan on file. The Planning Division contains various commissions and committees, including Agricultural Advisory Committee, Local Assessment Committee, Planning Commission/Advisory Agency and Water Commission. The Planning Division also is



responsible for the GIS/Mapping system. The Building Division implements the County's building ordinance, well ordinance, and flood damage prevention ordinance.

KC Alert

By opting into the Kings County emergency mass notification system, citizens will be informed before, during, and after incidents that could impact their safety. During hazard events, Kings County OES will launch a mass notification system that notifies registered users of important emergency information pertaining to severe weather, police and fire emergencies, and public health crises.

2.8.4 Fiscal Mitigation Capabilities

Table 2-9 identifies financial tools or resources that the County could potentially use to help fund mitigation activities.

Table 2-9 Kings County Financial Capabilities

FINANCIAL RESOURCES	ACCESSIBLE/ ELIGIBLE TO USE	COMMENTS/HAS THIS BEEN USED FOR MITIGATION IN THE PAST?
Authority to levy taxes for specific purposes	Yes	Has not been used. Must be approved by voters.
California Disaster Assistance Act	Yes	The County was awarded \$95 million in May 2023 to assist undocumented residents suffering from hardships and damages from the 2023 floods.
California Rapid Response Fund	Yes	The County was allotted funds from the Rapid Response Fund to provide disaster recovery services to mixed-status and undocumented families that were not eligible for FEMA individual assistance after the 2023 flooding events.
Capital improvements project funding	Yes	No.
Community Development Block Grants	Yes	Each year Kings County may apply under both the General Allocation and Economic Development components of the CDBG program. Potential projects under General Allocation include housing acquisition, housing rehabilitation, new construction, public works and community facilities. Potential projects under Economic Development include business loans, infrastructure grants, micro enterprise assistance, and other types of loans and grants for businesses. Projects funded with CDBG allocations must carry out at least one of three National Objectives as follows: benefit to low to moderate income persons, elimination of slums and blight, or meeting urgent community development needs. The Planning and Community Development Department also administers the Kings Urban County CDBG and Emergency Solutions Grant (ESG) funds.
Federal Grant Programs (HMGP)	Yes	HMPG funding has been used to update the County Hazard Mitigation Plan. Various departments in Kings County are eligible and will remain eligible for HMA BRIC funding that focuses on risk reduction and funding of public infrastructure projects that increase the County's resilience to disasters. The County is eligible for HMA FMA funding that funds projects that reduce or eliminate the risk of repetitive flood damage to buildings insured by the NFIP. The County is also eligible for Homeland Security Preparedness Technical Assistance Program funding. This funding source builds



FINANCIAL RESOURCES	ACCESSIBLE/ ELIGIBLE TO USE	COMMENTS/HAS THIS BEEN USED FOR MITIGATION IN THE PAST?
		preparedness technical assistance activities in support of the four homeland security mission areas related to prevention, protection, response, and recovery.
Fees for water, sewer, gas, or electric services, new development	Yes	Has not been used. Services provided through cities or districts and levied through property assessments.
FEMA's Public Assistance Program	Yes	The County received post-flood funding from the Public Assistance Program in 2011 to repair roads, bridges, and public buildings, as well as for debris removal and protective measures. In 2020, the County received several rounds of funding from the Section 406 Public Assistance (PA) Program for protective measures resulting from the COVID-19 pandemic. In 2023, the County received additional funding from the PA Program for post-flood assistance.
Incur debt through general obligation bonds	Yes	No.
Incur debt through private activities	Yes	Has not been used. Do not have any in place.
Incur debt through special tax bonds	Yes	Has not been used. Must be approved by two-thirds voters.

Source: HMPC 2022-2023

2.8.5 Other Mitigation Programs and Partnerships

Table 2-10 below summarizes some of the mitigation partnerships and education or outreach capabilities available to Kings County.

Table 2-10 Kings County Education and Outreach Capabilities

EDUCATION & OUTREACH	YES/NO	COMMENTS
Local Citizen Groups That Communicate Hazard Risks	Yes	See below.
Firewise USA	No	There are currently no Firewise USA communities in the County.
StormReady	No	The County and all the participating are not StormReady communities.
Other		

Source: HMPC 2023

American Red Cross: The American Red Cross identified several capability enhancements through collaboration with the County, cities, and fire departments of Kings County. Programs such as outreach campaigns for preparedness education, continuing shelter inspections, and updating existing points of contact for shelter sites. These efforts will improve the American Red Cross' ability to conduct mitigation, preparedness, and response efforts in Kings County.

Dam Owners and Operators Coordination: Kings County coordinates with numerous dam owners and operators, including owners upstream of the County. Coordination involves partnerships with federal, state, and local officials, agency engineers, emergency managers, emergency preparedness coordinators, dam owners and operators, and property owners near areas that can be potentially affected by dam incidents. Key agencies within the County's partnership include the FEMA's National Dam Safety Program (NDSP), US Army Corps of Engineers (USACE), Bureau of Reclamation, California Division of Safety of Dams (DSOD), and other companies who own low-hazard dams in the County.



Given there is a range of mitigation actions that can be taken to reduce the risk of dam incidents and the effects of dam failure, the County has an ongoing partnership with key dam owners and operators to ensure each agency is aware of each other's actions and to coordinate them effectively, recognizing that working together maximizes risk reduction. As a result, many of these dam owners and operators were invited as stakeholders to inform and support the update of the County's MJHMP. Information on these dam owners and operators is shown in the Table 2-11 below.

Table 2-11 Kings County Dams of Concern Owner/Operator & Emergency Information

COUNTY	DAM NAME	DAM OWNER/OPERATOR	WHETHER OR NOT AN OFFICE, DEPARTMENT, OR AGENCY SUPPORTS DAM MITIGATION ACTIONS
Kings	Crescent Weir	Crescent Canal Company	Yes
	Empire Weir No.1	Empire Westside Irrigation District	Yes
	Empire Weir No.2	Tulare Lake Basin Water Storage District	Yes
	Island Weir	Laguna Irrigation District	Yes
	Last Chance Weir	Last Chance Water Ditch Company	Yes
	Lemoore Diversion Weir	Lemoore Canal and Irrigation Company	Yes
	Peoples Weir	Peoples Ditch Company	Yes
Tulare	Terminus	USACE – Sacramento District	Yes
	Schafer (Success Dam)	USACE – Sacramento District	Yes
Fresno	Pine Flat	USACE – Sacramento District	Yes

2.8.6 Opportunities for Enhancement

The 2022-2023 MJHMP update process provided the County and the participating jurisdictions an opportunity to review and update the capabilities currently in place to mitigate hazards. This also provided an opportunity to identify where capabilities could be improved or enhanced. Specific opportunities could include:

Safety Plan Update: Kings County has identified several plans which could be updated, specifically the County's General Plan Safety Element last updated in 2010. During the MJHMP update process, the County also indicated they will soon begin a formal update of the General Plan, including the Health and Safety Element. The County's Safety Element was last updated in 2010 to incorporate by reference the 2007 MJHMP.

The County will incorporate by reference the 2023 MJHMP into the County Safety Element to become eligible again for CDAA funding in the event of a disaster; this process also ensures further consistency of each plan and provides an opportunity to reference the MJHMP and enhance the capabilities for implementation of goals and objectives of each plan. The Safety Element currently covers several hazards that align with the MJHMP; it is only missing severe weather hazard: heavy rain, thunderstorm, hail, and lightning, the Safety Element does not discuss how these hazards disproportionately impact socially vulnerable populations and underserved communities. A comprehensive update of the Safety Element to include hazards and mitigation strategies addressed in the 2023 MJHMP update will ensure plan alignment and help the County integrate the related goals, policies, and mitigation actions into each plan.

Training: Provide training opportunities to help inform County staff on how best to integrate hazard information and mitigation projects into their departments. Kings County has identified a multi-year training and exercise plan which would cover all county departments. There are also several financial



resources that the County could leverage in the future for funding mitigation efforts. In particular, the 2022-2023 MJHMP provides eligibility for FEMA HMA grants. County OES staff can attend workshops and training regarding the grant application process and how to develop successful grant applications under the HMGP. Cal OES periodically hosts related training and webinars. Understanding the types of projects that can be funded, and the components of a successful application will enhance the chances of a successful grant award.

Hazard Mitigation Specialist: The County could appoint or assign someone in OES to oversee hazard mitigation grant opportunities. This could be a follow-up goal to the Cal OES grant training. This specialist can notify the County departments/agencies of upcoming grant cycles, and support tracking and completing the Notice of Intent (NOI) applications, grant applications, and final grant management reporting requirements. Related financial opportunities for enhancement should include applying for HMA grants, such as BRIC and HMGP funding as it becomes available. The Hazard Mitigation Specialist should also focus on funding mitigation actions that mitigate critical infrastructure, provide protection for those most vulnerable in the community, address climate change, public health hazards, extreme heat, flooding, other climate-related hazards and needed and related climate adaptation strategies.

HMGP Technical Assistance: HMGP funding opportunity provides support for communities to implement mitigation activities to reduce risk to life and property from natural hazards. In California, natural hazards include wildfire, earthquake, drought, extreme weather, flooding, and other impacts of climate change. Cal OES technical subject-matter experts are available to discuss project eligibility, benefit cost analysis, technical feasibility, and Environmental and Historic Preservation (EHP) requirements.

Firewise: Firewise USA® is a voluntary program that provides a framework to help neighbors get organized, find direction, and take action to increase the ignition resistance of their homes and community. The program is co-sponsored by the US Department of Agriculture (USDA) Forest Service, the U.S. Department of the Interior, and the National Association of State Foresters. As of June 2023, neither Kings County nor any of the incorporated jurisdictions in the County currently participate in the program. In order to become a Firewise USA site, a neighborhood, community, city, or county must form a board or committee comprised of residents and stakeholders, obtain a written wildfire risk assessment, develop and maintain an action plan, and contact the applicable state liaison to the program.

Storm Ready: Neither Kings County nor any of the incorporated jurisdictions in the County are certified as Storm Ready communities. The National Weather Service's (NWS) Storm Ready program helps local governments handle extreme weather and improve the timeliness and effectiveness of hazardous weather-related warnings for the public. To be officially Storm Ready, a community must:

- Establish a 24-hour warning point and EOC,
- Have more than one way to receive severe weather warnings and forecasts and to alert the public,
- Create a system that monitors weather conditions locally,
- Promote the importance of public readiness through community seminars, and
- Develop a formal hazardous weather plan, which includes training severe weather spotters and holding emergency exercises.

Community Rating System (CRS): An additional indicator of floodplain management capability is the active participation of local jurisdictions in the National Flood Insurance Program's (NFIP) Community Rating System (CRS). The CRS is an incentive-based program that encourages counties and municipalities to undertake defined flood mitigation activities that go beyond the minimum requirements of the NFIP, adding extra local measures to protect from flooding. All 18 creditable CRS mitigation activities are assigned a range of point values. As points are accumulated and reach identified thresholds, communities can apply for an improved CRS class. Class ratings, which run from 10 to 1, are tied to flood insurance premium reductions. As class ratings improve (decrease), the percent reduction in flood insurance premiums for NFIP policyholders in that community increases. These potential discounts in flood insurance premiums through CRS are summarized in Table 2-12 below.

As of June 2023, neither Kings County nor any of the other incorporated jurisdictions in the County participate in the CRS. Should the other jurisdictions and Kings County decide to join the CRS, it would be an opportunity for the enhancement of existing mitigation capabilities and help make flood insurance more affordable in the future.



Table 2-12 CRS Premium Discounts

CLASS	DISCOUNT	CLASS	DISCOUNT	SFHA (Zones A, AE, A1-A30, V, V1-V30, AO, and AH): Discount varies depending on class. SHFA (Zones A99, AR/A, AR/AE, AR/A1-A30, AR/AH, and AR/AO): 10% discount for Classes 1-6; 5% discount for Classes 7-9. Non-SFHA (Zones B, C, X, D): 10% discount for Classes 1-6; 5% discount for Classes 7-9. In determining CRS premium discount, all AR and A99 Zones are treated as non-SFHAs.
1	45%	6	20%	
2	40%	7	15%	
3	35%	8	10%	
4	30%	9	5%	
5	25%	10	--	

Source: FEMA CRS Coordinators Manual



3 PLANNING PROCESS

Requirement §201.6(b) and §201.6(c)(1):

An open public involvement process is essential to the development of an effective plan. In order to develop a more comprehensive approach to reducing the effects of natural disasters, the planning process shall include:

- (1) An opportunity for the public to comment on the plan during the drafting stage and prior to plan approval;*
- (2) An opportunity for neighboring communities, local and regional agencies involved in hazard mitigation activities, and agencies that have the authority to regulate development, as well as businesses, academia, and other private and non-profit interests to be involved in the planning process; and*
- (3) Review and incorporation, if appropriate, of existing plans, studies, reports, and technical information.*

[The plan shall document] the planning process used to develop the plan, including how it was prepared, who was involved in the process, and how the public was involved.

3.1 BACKGROUND ON MITIGATION PLANNING IN KINGS COUNTY

The primary purpose of the Kings County MJHMP update is to reduce or eliminate long-term risk to people and property from natural hazards and their effects on the Kings County planning area. Kings County recognized the need and importance of a MJHMP and initiated its development in 2012 after receiving a grant award from FEMA. The County also qualified for Prepare CA, a program that covers the HMGP State match.

The plan underwent a comprehensive update in 2022-2023. The planning process followed during the update was similar to what was used in the original plan development, except that the 2022-2023 planning process did not have participation from the Santa Rose Rancheria/Tachi Yokut Tribe, who opted not to participate in the plan update. The 2022-2023 planning process also involved a multi-jurisdictional HMPC. WSP USA Environment & Infrastructure Solutions, Inc. (WSP) was procured to assist with the update in 2022 to 2023. The process is described further in this section and documented in Appendix B.

3.2 WHAT'S NEW IN THE PLAN UPDATE

DMA Requirement §201.6(d)(3):

A local jurisdiction must review and revise its plan to reflect changes in development, progress in local mitigation efforts, and changes in priorities, and resubmit it for approval within 5 years in order to continue to be eligible for mitigation project grant funding.

The updated MJHMP complies with the latest FEMA guidance and California OES guidelines for LHMPs, specifically FEMA's 2022 Local Mitigation Planning Policy Guide. The update followed the requirements noted in the DMA of 2000 and FEMA's 2023 Local Hazard Mitigation Planning Handbook.

This MJHMP update involved a comprehensive review and update of each section of the 2012 MJHMP, the integration of a detailed risk assessment, and an assessment of the progress in evaluating, monitoring, and implementing the mitigation strategy outlined in the initial plan. The planning process provided an opportunity to review jurisdictional priorities related to hazard significance and mitigation actions, and revisions were made where applicable to the base plan. Another change was the development of specific annexes for the municipalities of Avenal, Corcoran, Hanford, and Lemoore; jurisdictional information was integrated throughout the 2012 MJHMP.

While each jurisdiction participated in the previous MJHMP updates, representatives from multiple departments representing a Local Planning Team (LPT) for each of the participating jurisdictions were engaged and involved in the development of the 2023 MJHMP through multiple planning workshops and numerous one-on-one work sessions. Only the information and data still valid from the 2012 plan were carried forward as applicable to this MJHMP update. Also, given the four municipalities' participation, significant new hazard information was integrated into the base plan and into each annex. The 2012 MJHMP assessed nine hazards, including drought, earthquake, extreme heat, flood, fog, freeze, landslide, tornado, and wildfire. The 2023 MJHMP update assessed 15 natural, human-caused, and human-health hazards, including agricultural pests and disease; cyber-attack; dam incidents; drought; earthquake; extreme temperatures: freeze and heat, flooding; land subsidence; landslide; public health



hazards: epidemic/pandemic; severe weather: dense fog; severe weather: heavy rain, thunderstorms, hail, and lightning; severe weather: high wind/tornado; and wildfire. As a result, there are 10 new countywide mitigation actions, plus nine jurisdiction-specific mitigation actions that were developed for the four annexes for a total of 19 new mitigation actions.

3.2.1 Plan Section Review and Analysis – 2022-2023 Update

During the 2022-2023 MJHMP update process, the HMPC updated each of the sections of the previously approved plan to include new information. WSP developed a summary of each section in the plan and guided the HMPC through the elements that needed updating during the kick-off webinar in October 2022. This included analyzing each section using FEMA's Local Mitigation Planning Handbook (2023) and the Local Mitigation Planning Policy Guide (2022; Effective April 19, 2023) to ensure that the plan met the latest requirements. In addition, for this plan update, the FEMA Local Mitigation Plan Review Tool was not provided with the approval of the 2012 version of this plan; therefore, it was not referenced. Therefore, previous 2012 FEMA comments on opportunities for improvement were not considered and addressed in the 2022-2023 update. Instead, the County focused the update on meeting the new requirements outlined in the Local Mitigation Planning Policy Guide.

The HMPC and WSP determined that nearly every section of the plan would need revision to align the plan with the latest FEMA planning guidance and requirements and recent California legislation. A detailed summary of the changes in this plan update is highlighted in Table 3-1 below.

Table 3-1 Kings County Hazard Mitigation Plan Update Highlights

PLAN SECTION	SUMMARY OF PLAN REVIEW, ANALYSIS, AND UPDATES
1. Introduction	Revised to reflect updated plan and 2022-2023 planning process
2. County Profile and Capability Assessment	- Updated with recent census data and current economy description - Updated land use and development trends
3. Planning Process	- Described and documented the planning process for the 2022-2023 update, including coordination among agencies - Described how the 2012 plan was integrated with/into other planning efforts, like the County Safety Element and EOP - Removed 2012 planning process information - Described changes to jurisdictional participation - Described 2022-2023 update public participation process - Summarized the results of the Public Survey - Described the HMPC - Described the 10-step process followed for the update
4. Hazard Identification and Risk Assessment and Consequence Analysis	- Climate change information has been added to each hazard profile - Updated list of disaster declarations to include recent data - Updated tables to include recent National Center for Environmental Information data - Updated past occurrences for each hazard to include recent data 2012 Plan Vulnerability Assessment is now included with the Risk Assessment and an integrated Vulnerability Assessment section organized by hazard - The Vulnerability Assessment considers the impacts on the following assets: (1) people; (2) property; (3) critical facilities and lifelines; (4) economy; (5) cultural, historic and natural resources; (6) development trends. - The Vulnerability Assessment includes a discussion on impacts on population assets, including socially vulnerable populations and underserved communities. - Updated critical facilities identified from the 2012 plan; the critical facilities database now includes 646 facilities organized by Community Lifeline - Updated growth and development trends to include recent Census and local data sources from the County's Public Works Department and Community Development Agency, as well as the general plans and most up-to-date housing elements of the participating jurisdictions - Updated historic and cultural resources using local/state/national sources - Updated property values for vulnerability and exposure analysis, using updated building information based on assessor's data; in order to estimate the participating



PLAN SECTION	SUMMARY OF PLAN REVIEW, ANALYSIS, AND UPDATES
	jurisdictions” future development and growth areas’ vulnerability against hazards, the exposure analysis also includes properties that are located in Sphere of Influences (SOIs) in order to assess risk in future development areas; SOI exposure analysis was not carried out in the 2012 plan • Updated estimate flood losses using the latest Digital Flood Insurance Rate Map (DFIRM) and assessor’s data • Updated National Flood Insurance Program (NFIP) data and Repetitive Loss structure data from the previous plan • Incorporated new hazard loss estimates since 2012, as applicable • Used updated GIS inventory data to assess wildfire threat to the County • Updated HAZUS-MH Level I earthquake vulnerability analysis data with two scenarios performed (one probabilistic scenario and one ShakeMap scenario) • Seven additional hazards that were not included in the 2012 plan are added and profiled, which include: Agricultural Pests and Disease, Cyber Attack, Dam Incidents, Land Subsidence, Public Health Hazards: Epidemic/Pandemic, Severe Weather: Heavy Rain, Thunderstorms, Hail, and Lightning, Severe Weather: High Wind • Updated information regarding specific vulnerabilities to hazards, including maps and tables of specific assets at risk, specific critical facilities at risk, and specific populations at risk • Revisited and updated hazard significance/priority levels • Updated maps in the plan where appropriate
5. Mitigation Strategy	• Indicated what actions have been implemented that may reduce previously identified vulnerabilities • Updated mitigation strategy based on the results of the updated risk assessment, consequence analysis, completed mitigation actions, and implementation obstacles and opportunities since the completion of the 2012 plan • Reviewed and updated goals and objectives based on HMPC input • Included updated information on how actions are prioritized, or how priorities changed • Reviewed mitigation actions from the 2012 plan and developed a status report for each • Identified if actions have been completed, deleted, or deferred/carried forward • Updated priorities on actions • Summarized successful implementation to highlight the implementation of actions identified in the 2012 plan • Identified new mitigation actions proposed by the HMPC with more detail on implementation than the previous plan • Nine new countywide mitigation actions were added to address existing hazards and new hazards • Eight new jurisdiction-specific mitigation actions were included in the annexes • Developed a summary table of mitigation actions for all participating jurisdictions
6. Plan Review, Evaluation, and Implementation	• Reviewed and updated procedures for monitoring, evaluating, and updating the plan • Revised to reflect current methods • Updated the system for monitoring the progress of mitigation activities by identifying additional criteria for plan monitoring and maintenance • Added a process for incorporation of the MJHMP update into existing mechanisms • Clarified future public involvement activities and tied them to the Outreach Strategy in Appendix F
7. Plan Adoption	• Updated to reflect the 2022-2023 adoption process
Jurisdictional Annexes	• Updated previous participants’ annexes with recent Census data • Updated past event history and hazard loss estimates • Added new maps and updated old maps as needed • Updated mitigation actions from 2012 and added new mitigation actions • Integrated the following annexes: - A City of Avenal - B City of Corcoran - C City of Hanford - D City of Lemoore
Appendices	• Appendix A: Planning Committee • Appendix B: Planning Process Documentation



PLAN SECTION	SUMMARY OF PLAN REVIEW, ANALYSIS, AND UPDATES
	• Appendix C: Approval and Adoption • Appendix D: Mitigation Categories and Alternatives • Appendix E: Annual Progress Meeting Agenda and Report Template • Appendix F: Outreach Strategy • Appendix G: Public Survey Results

3.3 MULTI-JURISDICTIONAL PARTICIPATION

In the 2022-2023 MJHMP update, the following jurisdictions participated in the planning process and will be adopting the updated plan following FEMA approval. All incorporated cities in the County participated in this planning process.

Lead Jurisdiction:

- Kings County

Municipalities:

- City of Avenal
- City of Corcoran
- City of Hanford
- City of Lemoore

The DMA planning regulations and guidance stress that each local government seeking FEMA approval of their mitigation plan must participate in the planning effort in the following ways:

- Participate in the process as part of the HMPC
- Detail areas within the planning area where the risk differs from that facing the entire area
- Identify potential mitigation actions
- Formally adopt the plan

For the Kings County planning area's HMPC, "participation" meant the following:

- Providing facilities for meetings
- Attending and participating in the HMPC meetings
- Completing and returning WSP Plan Update Guide worksheets
- Collecting and providing other requested data (as available)
- Identifying mitigation actions for the plan
- Reviewing and providing comments on plan drafts and jurisdictional annexes
- Informing the public, local officials, and other interested parties about the planning process and providing the opportunity for them to comment on the plan
- Coordinating, and participating in the public input process
- Coordinating the formal adoption of the plan by the governing boards

The County and all jurisdictions with annexes to this plan and seeking FEMA approval met all these participation requirements. In most cases, one or more representatives for each jurisdiction attended the multi-jurisdictional webinars/meetings and workshops described in Table 3-4 and brought together the HMPC to help collect data, identify mitigation actions and implementation strategies, and review and provide data on annex drafts. In some cases, the jurisdictions had limited capacity to attend or had conflicts with HMPC meetings; in these cases, alternative forms of communication were used to provide input into the process, and in some instances, a representative from a different jurisdiction's department attended the HMPC meeting on behalf of the main representative. County OES and WSP staff also met via virtual meetings with individual jurisdictions, such as the cities of Avenal, Corcoran, Hanford, and Lemoore to gather additional input on the planning process, existing capabilities, and new mitigation actions. Appendix B provides additional information and documentation of the planning process.

3.4 PLANNING PROCESS

WSP established the planning process for the Kings County MJHMP using the DMA planning requirements and FEMA's associated guidance. The original FEMA planning guidance is structured around a four-phase process:

1. Organize Resources



2. Assess Risks
3. Develop the Mitigation Plan
4. Implement the Plan and Monitor the Progress

Into this process, WSP integrated a more detailed 10-step planning process used for FEMA's CRS and FMA programs. Thus, the modified 10-step process used for this plan meets the requirements of major grant programs including FEMA's HMGP, BRIC program, FMA Program, and flood control projects authorized by the U.S. Army Corps of Engineers.

In May 2023, FEMA released the Local Mitigation Planning Handbook that has become the official guide for local governments, including special districts, to develop, update and implement local mitigation plans. While the requirements under Section 201.6 have not changed, the Handbook guides local governments on developing or updating hazard mitigation plans to meet the requirements under the CFR Title 44 – Emergency Management and Assistance Section 201.6, Local Mitigation Plans for FEMA approval and eligibility to apply for FEMA HMA grant programs. It also offers practical approaches, tools, worksheets, and local mitigation planning examples for how communities can engage in effective planning to reduce long-term risk from natural hazards and disasters. The Handbook complements and liberally references the Local Mitigation Plan Review Guide (October 1, 2011), which is the official guidance for federal and state officials responsible for reviewing local mitigation plans in a fair and consistent manner.

Table 3-2 shows how the modified 10-step process fits into FEMA's four-phase process, and how these elements correspond to the tasks in the FEMA Mitigation Planning Handbook.

Table 3-2 Kings County Hazard Mitigation Planning Process

FEMA'S 4-PHASE DMA PROCESS	MODIFIED 10-STEP CRS PROCESS	FEMA LOCAL MITIGATION PLANNING HANDBOOK TASKS
1) Organize Resources		
201.6(c)(1)	1) Organize the Planning Effort	1: Determine the planning area and resources
201.6(b)(1)	2) Involve the Public	2: Build the planning team - 44 CFR 201.6 (C)(1)
201.6(b)(2) and (3)	3) Coordinate with Other Departments and Agencies	3: Create an outreach strategy - 44 CFR 201.6(b)(1)
		4: Review community capabilities - 44 CFR 201.6 (b)(2)&(3)
2) Assess Risks		
201.6(c)(2)(i)	4) Identify the Hazards	5: Conduct a risk assessment - 44 CFR 201.6 (C)(2)(i) 44 CFR 201.6(C)(2)(ii)&(iii)
201.6(c)(2)(ii)	5) Assess the Risks	
3) Develop the Mitigation Plan		
201.6(c)(3)(i)	6) Set Goals	6: Develop a mitigation strategy - 44 CFR 201.6(c)(3)(i); 44 CFR 201(c)(3)(ii) and 44 CFR 201.6(c)(3)(iii)
201.6(c)(3)(ii)	7) Review Possible Activities	
201.6(c)(3)(iii)	8) Draft an Action Plan	
4) Implement the Plan and Monitor Progress		
201.6(c)(5)	9) Adopt the Plan	7: Review and adopt the plan
201.6(c)(4)	10) Implement, Evaluate, and Revise the Plan	8: Keep the plan current
		9: Create a safe and resilient community - 44 CFR 201.6(c)(4)

3.4.1 Phase 1: Organize Resources

Planning Step 1: Organize the Planning Effort

The 2022-2023 planning process and update of the 2012 MJHMP had its roots in the development of a HMGP application. The County OES wrote the grant and in the process solicited commitments from local government jurisdictions that were interested in participating. With an understanding of the number of



jurisdictions and their commitment to participate, the HMGP application was approved and awarded to the County in 2021.

WSP worked with the County to get organized for the plan update. Organizational efforts were initiated with the County and participating jurisdictions in September 2022 to inform and educate the plan participants of the purpose and need for updating the countywide hazard mitigation plan. An initial meeting between WSP and County OES was held to discuss the organizational aspects of this plan update process. Invitations to the kick-off meeting for this plan update were extended to key County departments, the four incorporated communities, and representatives from special districts for the County and municipalities, as well as to other federal, state, and local stakeholders that might have an interest in participating in the planning process. Representatives from participating jurisdictions and HMPC members of the 2012 plan were used as a starting point for the invite list, with additional invitations extended as appropriate throughout the planning process. The list of initial invitees is included in Appendix A.

Representatives from the following County and municipal departments participated in the HMPC and the development of the plan update; these representatives are listed in Table 3-3. A list of specific HMPC representatives is included in Appendix A. Other local, state, federal, and agencies and stakeholders invited to participate in the HMPC are discussed under Planning Step 3.

Table 3-3 List of HMPC Participants for 2021-2022 MJHMP Update

NAME	TITLE	JURISDICTION
Abraham Valencia	Emergency Services Manager	County of Kings
Brionne Jackson	Public Health Emergency Planner	County of Kings
Chief William Lynch	Fire Chief	County of Kings
Chuck Kinney	Community Development Director	County of Kings
Supervisor Joe Neves	County Supervisor	County of Kings
Jimmy Hook	Ag Commissioner	County of Kings
Todd Barlow	Superintendent of Schools	County of Kings
Alex Torres	Risk Manager	Santa Rosa Rancheria Tribe
Greg Gatzga	City Manager	Corcoran
Chief Reuben Shortnacy	Police Chief	Corcoran
Chief Michael Kendall	Police Chief	Lemoore
Michelle Speer	Assistant City Manager	Lemoore
Chief Bruce German	Fire Chief	Lemoore
Chief Steve Pendergrass	Fire Chief	Hanford
Mario Cifuentez	City Manager	Hanford
Chief Parker Sever	Police Chief	Hanford
Antony Lopez	City Manager	Avenal
Chief Robert Nevarez	Police Chief	Avenal
Kelly Vandergon	Supervisor of Field Engineering and Planning	Westland Water District
Dennis Mills	General Manager	Kings County Water District
Gabriela Rodriguez	Executive Director	Kings Partnership
Leticia Hinojosa	Coordinated Entry Manager	Kings Tulare Homeless Alliance
Dennis Mills	General Manager	Mid-Kings River Groundwater Sustainability Agency
Silvia Montoya	Office Coordinator	Sequoia Riverlands Trust
Dominic Tyburski	Director of Public Works	County of Kings

Source: HMPC 2022-2023

Planning Meetings

The planning process officially began with a kick-off meeting on September 16, 2022, which involved County OES staff and the WSP team. On October 31, 2022, the HMPC convened for the first time. The first HMPC meeting covered the scope of work and an introduction to the DMA requirements. Participants were provided with a Plan Update Guide, which included electronic worksheets to facilitate the



collection of information necessary to support the update of the plan. Using FEMA guidance, WSP designed these worksheets to capture information on past hazard events, identify hazards of concern to each of the participating jurisdictions, quantify values at risk to identified hazards, inventory existing capabilities, and record possible mitigation actions. A copy of WSP's Plan Update Guide for this project is included in Appendix B. The County and each jurisdiction seeking FEMA approval of their plan completed and returned the worksheets in either the Plan Update Guide or shared their most recent local hazard mitigation plan for incorporation into the plan document.

During the planning process, the HMPC communicated through in-person meetings, virtual meetings, email, telephone conversations. The first three HMPC meetings were held virtually while the last HMPC meeting was held in person. Draft documents were emailed so that the HMPC members could easily access and review them. The County's OES staff and HMPC formally met four times during the planning period (September 16, 2022 – June 8, 2023). The purposes of these meetings are described in Table 3-4. The planning consultant sent meeting handouts ahead of time to the participating jurisdictions to review and provide feedback before or at the meeting. In addition to these meetings, some jurisdictions held meetings with subcommittees to discuss the needed input for the plan update. The Emergency Services Coordinator of the County's OES and WSP worked with the jurisdictions individually to obtain necessary information and input into the planning process. This was done through direct emails from the planning consultant and follow-up phone conversations with the consultant and County OES where necessary.

Table 3-4 Summary of Planning Meetings

MEETING NUMBER	MEETING TOPIC	DATE	LOCATION
1	Kick-off/HMPC Roles and Expectations (Kings County OES staff only)	September 16, 2022	Virtual/Webinar - Microsoft Teams
2	Overview of DMA 2000 & Hazard Mitigation Planning Process / Review 2012 MJHMP	October 31, 2022	Virtual/Webinar - Microsoft Teams
3	Hazard Identification and Risk Assessment	March 9, 2023	Virtual/Webinar - Microsoft Teams
4	Mitigation Strategy and Goals Update / New Mitigation Actions Brainstorm	June 8, 2023	In-Person Workshop

Source: WSP 2023

Internal Kick-off Meeting – On September 16, 2022, Kings County's OES staff and the WSP's team convened and discussed the project background and the overall MJHMP update process, as well as the scope of work and project goals. County OES staff and WSP's team also discussed the hazards that need to be profiled in this MJHMP update based on initial conversations with the County during an internal kick-off meeting. In addition, County OES staff and WSP's team reviewed potential additional HMPC members, partners, and stakeholders. Moreover, the outreach plan needed for the MJHMP update and GIS data needs were also discussed during the kick-off meeting.

HMPC Meeting #1 – Overview of DMA 2000 & Hazard Mitigation Planning Process

On October 31, 2022, the HMPC convened to discuss the process for completing the update of this plan. This first HMPC meeting was attended by twenty-one (21) representatives. The HMPC consisted of a mix of county departments, local governments, special districts, and stakeholders. A complete list of those in attendance at the first HMPC meeting can be found in the meeting minutes in Appendix B.

Following introductions, WSP reviewed the DMA requirements and the suggested planning process to follow to meet the requirements as well as the expected schedule of the process for the MJHMP update. The roles of the HMPC and stakeholders were discussed including the participation requirements for the different roles.

During the first HMPC meeting, the HMPC validated the identified hazards within the 2012 plan, together with additional hazards that are added and profiled in this 2023 MJHMP update. The HMPC collaboratively prioritized the hazards to identify which are of most concern to the County. More details are included in Section 4: Hazard Identification and Risk Assessment.



The group also discussed other agencies that should be part of this planning process, as well as related planning efforts to be coordinated with and recent studies to be incorporated. Part of this discussion was also related to creating an outreach strategy to involve the public throughout the planning process. This outreach strategy is included in Appendix F. The first HMPC meeting ended with WSP sharing handouts to assist in the planning process. These handouts included the Plan Update Guide, which outlined data collection needs for each participating jurisdiction.

HMPC Meeting #2 –Risk Assessment and Mitigation Goal Refinement

On March 9, 2023, the HMPC convened virtually to discuss the results of the risk and vulnerability assessment. Fourteen (14) members of the HMPC were present for the discussion. WSP began the meeting with a presentation on the results of the risk assessment findings for natural hazards and public health hazards. The group went through each hazard together and discussed the results as well as shared any local insight to inform the HIRA update. Refer to the meeting summary in Appendix B for notes related to each hazard discussed.

Following the discussion on the results of the risk assessment findings, WSP explained this update process provides an opportunity to review the previous plan's goals to determine if they are still valid, and comprehensive, and reflect current priorities, and updated risk assessment. Inputs on mitigation goals and objectives were solicited via virtual polls. The group was also encouraged to share insights on the development of mitigation goals, objectives, and specific actions and projects.

WSP shared with HMPC that the online public survey had been opened. A link was shared with the HMPC to easily distribute by email and for posting on each of the participating jurisdiction's websites and MJHMP webpages. This was encouraged to promote engagement and input from the public and participating jurisdiction communities. The meeting ended with a review of the next steps and the planning process schedule.

HMPC Meeting #3 –Mitigation Strategy

The HMPC convened for an in-person workshop on June 8, 2022, with 27 people participating to update the plan's mitigation strategy. The group finalized the plan's goals and objectives (Step 6) and reviewed the progress made on the previous mitigation actions from the 2012 LHMP. The group then discussed the criteria for mitigation action selection and prioritization using a worksheet provided by WSP. The group reviewed each possible new mitigation action. Additional details were provided by the Planning Committee (Step 7). This was followed by a group activity to elicit the development of new mitigation actions followed by another group activity to prioritize (rank) the top mitigation actions. WSP then briefly explained the plan implementation and maintenance process. The meeting ended with a review of the next steps and planning process schedule.

Planning Step 2: Involve the Public

Involving the public assures support from the community at large and is a required part of the planning process per the DMA 2000. Early discussions with Kings County and input received in the first HMPC meeting established the initial plan for public involvement in the plan update. Public outreach began with the development of an online public survey that was shared with each participating jurisdiction to post on their websites and disseminate via email to local stakeholders. The public outreach activities described here were conducted with participation from and on behalf of all jurisdictions participating in this plan.

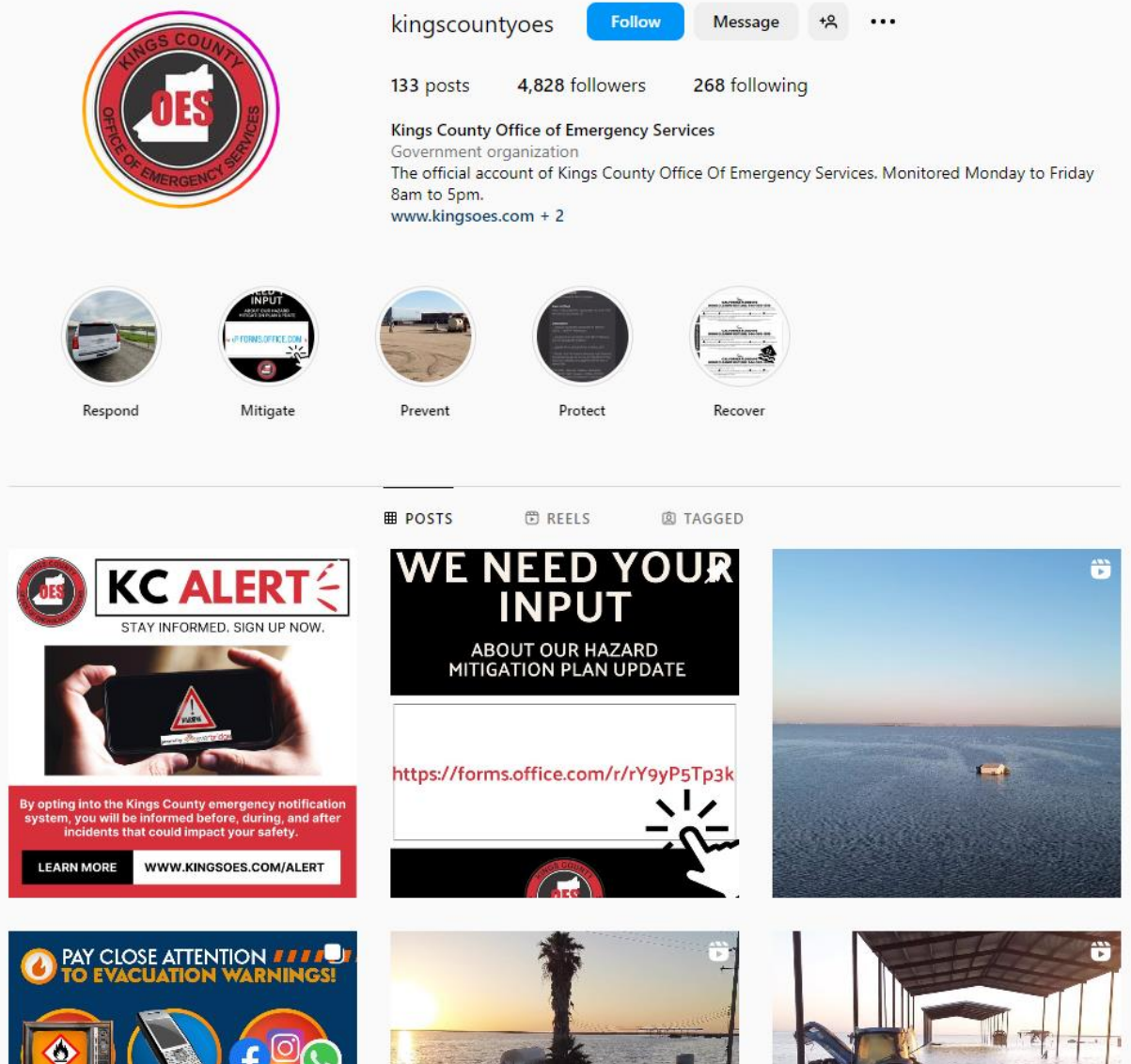
During the planning process, three public workshops were held to inform the public of the purpose of the DMA and the hazard mitigation planning process for the Kings County planning area. At each workshop, the public in attendance was provided links to electronic comment forms to leave any comments related to the County's MJHMP as well as provide their contact information if they would like to receive ongoing updates and information related to the planning process.

At the first HMPC meeting, the HMPC discussed additional options for public involvement and agreed to an approach using established public information mechanisms and resources within the community. These additional options are outlined in the Outreach Strategy. Additional public involvement activities included press releases, website postings, flyer development and distribution, three public workshops (two were held during the plan development and one was held during public review), and the collection of public comments on the draft plan. Details on the outreach methods and approach are also summarized in the Outreach Strategy included in Appendix F.

Plan Facts

The WSP team provided the County with a Webpage Background document that included MJHMP update information for the MJHMP Webpage. Some of this information was incorporated on the County's OES Instagram page. Figure 3-1 includes a screenshot of the County's OES Instagram page. As shown in the screenshot, the second post is the County's OES seeking participation in the MJHMP online public survey. Most of the information regarding the 2022-2023 MJHMP update is provided on the County's OES Instagram page.

Figure 3-1 Kings County's Instagram Page



Source: Kings County 2023

Online Public Survey

During the plan update's initial drafting stage, an online and bi-lingual public survey (in English and Spanish) was used to gather public input for the HMPC. The survey provided an opportunity for public input during the planning process before the finalization of the plan update. The survey gathered public feedback on concerns about hazards and input on mitigation strategies to reduce their impacts. The survey was released on December 21, 2022, and closed on June 30, 2023 (6-month period). The usual input period for the public survey is one month, but the public survey was left open for an extended

period to allow the County and participating jurisdictions to circulate additional advertisements during public meetings and outreach events to seek more input from the public. The HMPC provided links to the public survey by distributing it using social media, email, and posting the link on websites. Screenshots from the County's OES Webpage and social media channels can be found in Appendix B.

A total of 92 people filled out the survey online; all participants completed the English version of the survey even though a Spanish version with release materials translated in Spanish were circulated. Results showed that the public perceives the most significant hazards to be drought, dense fog, extreme temperatures, agricultural pests and disease, and power outages. This information was used when developing mitigation actions, particularly those around issues and concerns on Public Safety Power Shutoff (PSPS) events, drought impacts, and dense fog hazards. The public input was also used to prioritize and rank hazards in the final plan. Figure 3-2 shows the results of a question from the survey, which asked the public's opinion on what mitigation actions should have the highest priority in the updated MJHMP. Water conservation, generators for critical facilities, public education/awareness, aquifer recharge, and improve reliability of communication systems were cited as the most popular mitigation actions. This information was shared with the HMPC during the update of the mitigation strategy and used as a starting point for developing individual mitigation actions.

Figure 3-2 Example of Results from the Online Public Survey



Source: WSP 2022



Additional public comments left in the survey included feedback expressing concern about the COVID-19 pandemic, drought, PSPS shutoffs, and difficulties posed by dense fog in the region. These comments were shared with the HMPC and considered when prioritizing and ranking hazards, as well as determining mitigation actions. A summary of the survey data and documentation of the public feedback can be found in Appendix F.

Online Public Workshops

Three public workshops were held during the planning process to inform the public, receive input to integrate into the plan update and keep the public updated on the progress being made in the planning process. Two workshops were held virtually as webinars followed by question-and-answer sessions (Q&A) and one workshop was held in person during the plan development.

The first workshop took place on February 9, 2023, through Microsoft Teams. The workshop introduced the public to the hazard mitigation planning process for the County's Plan Update and County and WSP staff answered any questions and gather public input to be integrated into the plan update. In addition, it was an opportunity to help staff identify risks, hazards, and vulnerabilities from the public's perspective. The second workshop took place on February 16, 2023, at the Multi-Purpose Room in the County Administrative Building. Members of the public were able to submit comments and ask questions verbally or via the chat function. The HMPC also received various questions and comments from the workshop on the public's priority hazards in their community and possible mitigation ideas to reduce hazard risk. Figure 3-3 is copy of the first and second public workshop press release.

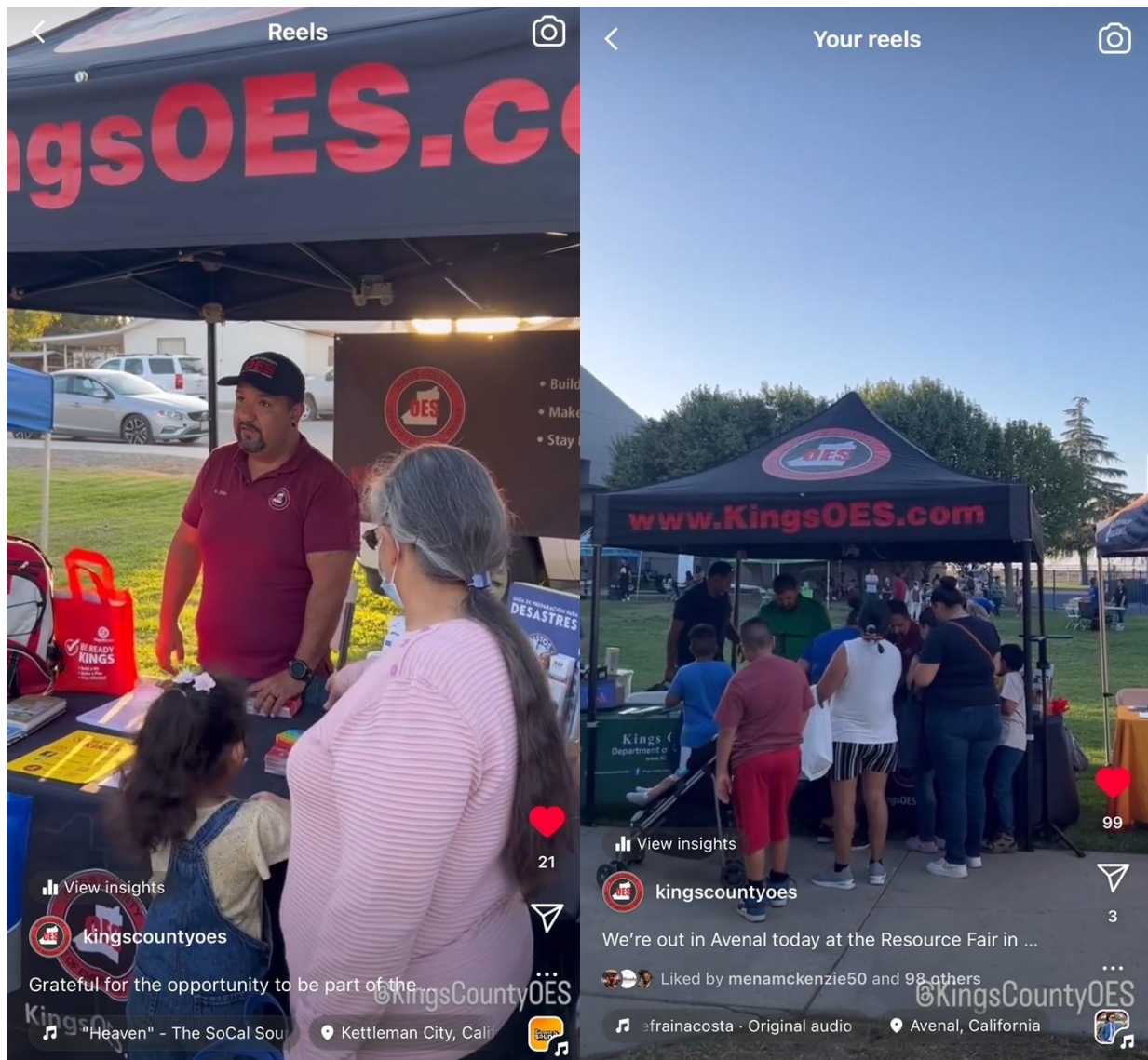
Table Events

Kings County OES did outreach at several local events, as documented in Table 3-5 and Figure 3-3.

Table 3-5 List of Table Events

DATE	LOCATION	EVENT NAME
9/19/23	Tulare, CA	Listos California Disaster Ready Summit
9/28/23	Avenal, CA	Confia Resource Fair
10/03/23	Hanford, CA	Hanford's National Night out
10/10/23	Corcoran, CA	Corcoran National Night Out
10/12/23	Lemoore, CA	Kings County Public Health Fair
10/19/23	Kettleman City, CA	Kings County's Public Safety Event

Figure 3-3 Screenshots from Instagram Reels Showing Table Events



Vulnerable / At-Risk Population Outreach

The Kings Tulare Homeless Alliance (Alliance) was invited to participate in the HMPC through email blasts and through invitations to comment on the draft plan. The Alliance is a consortium of partners that includes homeless service providers, advocacy groups, government agencies, and homeless individuals who are working together to address the housing in the County and support service needs of the homeless in this region of the San Joaquin Valley. According to the Alliance's 2023 Point in Time Report, there was a 16% increase of individuals experiencing homelessness in Kings and Tulare Counties between 2022 and 2023 (from 1,235 individuals to 1,470 individuals).¹ The Planning Team recognized that this organization possesses extensive connections with the unhoused population, making it a valuable source of crucial insights for shaping the MJHMP update to ensure equitable support for all community members.

The Kings Partnership for Prevention was invited to participate in the HMPC through email blast and invitations to comment on the draft plan. The Kings Partnership, a non-profit organization, collaborates with businesses, service providers, and the community to prioritize prevention and spotlight progress and prosperity for residents. With a focus on health, family, education, and financial stability, the organization

¹ <https://www.kthomelessalliance.org/pit>



aims to build a thriving community. Initiatives spearheaded by the Alliance include substance use response groups, mental health task forces, and financial and stability taskforces. The Planning Team felt that this organization has broad reach across demographic groups and would be able to provide valuable information that would allow this MJHMP access to a broad range of relevant interests.

The Office of Senator Hurtado Senate District 16 (SD 16) covers Kern, Kings, San Bernardino, and Tulare Counties. These areas exhibit rates of adults without high school diplomas and percentages of single-parent households that are nearly double the California state averages. Additionally, their median household and family incomes, as well as per capita incomes, range from three-quarters to half of the state's averages (ACS 2022 5-Year Estimates Data Profiles). The Office of Senator Hurtado was the only organization focusing on supporting vulnerable populations that chose to participate in the drafting of this plan. The Office of Senator Hurtado staff joined the HMPC and provided valuable information during HMPC meetings and workshops.

While the online public survey was distributed in English and Spanish, only English responses were recorded. While links to the survey were distributed across Kings County platforms and email listservs, engagement may have been better if the link was published across strictly Spanish speaking platforms as well. Another effective strategy may involve posting a Spanish press release with a QR code at grocery stores such as El Rey Supermercado, Super Mercado Leon, or Del Valle to gather additional input during the next plan update.

Enhancements can also be made in reaching out to organizations and agencies supporting vulnerable or at-risk populations. This improvement may involve broadening the scope of organizations, both in terms of quantity and diversity; for example, by considering inclusion of those aiding elderly individuals or supporting children in foster care. Furthermore, adopting a more personalized approach, such as one-on-one outreach through personal emails or phone calls or request for focused listening sessions with the organizations, may prove to be a more effective method for encouraging engagement.



Figure 3-4 Press Release for the First and Second Public Workshops



KINGS COUNTY
OFFICE OF EMERGENCY SERVICES

280 North Campus Drive • Hanford, California 93230
Phone: 559-852-2883 • Fax: 559-582-8261

FOR IMMEDIATE RELEASE

Contact: KingsCounty.OES@co.kings.ca.us
Phone: (559) 852-2883
Date of Release: February 3, 2023

**KINGS COUNTY MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN
PUBLIC WORKSHOP**

HANFORD - Kings County in collaboration with the cities of Avenal, Corcoran, Hanford, and Lemoore is updating the 2012 Local Hazard Mitigation Plan (LHMP). This planning process involves the development of hazard mitigation strategies designed to reduce risks and vulnerabilities posed by natural, man-made, and human health hazards. The plan must be updated and approved by the Federal Emergency Management Agency (FEMA) every five years to keep it current and to maintain eligibility for federal and state mitigation grant assistance. The plan is currently being updated as a Multi-Jurisdictional Hazard Mitigation Plan (MJHMP) in coordination with the four participating jurisdictions and under the guidance of a Hazard Mitigation Planning Committee (HMPC).

The people who live and work in Kings County are vulnerable to a range of natural hazards, including drought, climate change, earthquakes, extreme heat, flooding, severe weather, and wildfires. The MJHMP will provide the County with valuable tools to identify risks and mitigate hazards through future project-specific actions. Hazard mitigation is an investment in the County's future safety, sustainability, and resiliency and results in less vulnerable conditions through pre- and post-disaster actions, projects, and adaptation strategies. The implementation of hazard mitigation actions means building stronger, safer, and smarter communities that will be able to withstand future impacts and damages.

Residents, organizations, businesses, and interested stakeholders are encouraged to contribute to the planning process. Broad public participation is an essential strategy for developing an updated and multi-jurisdictional plan that will be effective, supported by County residents, and ultimately implemented. The Public Workshops will be an opportunity to get involved and learn more about the planning process and the hazards the County, participating jurisdictions, and HMPC plan to assess in the MJHMP. Information on how to participate is provided below:

- Virtual Public Workshop – Thursday February 9, 2023, 6:30 – 8:00 PM
 - The meeting can be accessed virtually here: <https://bit.ly/3l6McXI>
 - Click here to join the meeting, (866) 670-1764, 625914223#, Password: 625 914 223#
- In-Person Public Workshop – Thursday February 16, 2023, 6:30 – 8:00 PM
 - Emergency Operations Center, 330 Campus Dr. Hanford, CA 93230,
- A Public Survey is available in English and Spanish: <https://forms.office.com/r/rY9yP5Tp3k>.

Questions may be directed to Abraham Valencia, Kings County OES Manager by calling (559) 852-2883.

Visit us online at www.KingsOES.com



Geographic Information System (GIS) Data Collection

During the 2022-2023 plan update, the WSP team prepared a GIS data list to request the GIS data needed for the plan update. The County's GIS staff was then able to compile and provide the WSP team with access to the County's GIS data.

During the project kick-off meeting the County and WSP team discussed the MJHMP update process and schedule, plan review, data, and GIS hazard mapping for the Plan update. In attendance were representatives from the County's Community Development Agency, which is in charge of managing the County's GIS data, Public Works, and the Assessor's Office. The County's GIS Manager reviewed a GIS Data Needs List provided by WSP. The GIS team proceeded to discuss the details of the GIS mapping requirements, such as including inventory and valuation information for public infrastructure for each of the five identified hazards: earthquake, landslide, dam failure, flood, and wildfire. The team also discussed GIS data sources for potential new hazards. Other related comprehensive inventory information that was discussed included: roads, traffic signals, drainage facilities, lighting facilities, bridges, and airports.

Most of the inventory and risk data can be layered to provide aggregation of asset values within specifically identified risk areas. Additional hazard-specific data and layers were acquired and analyzed to quantify the geographic extent as well as the magnitude and severity of hazards for each of the five identified hazards that are assessed quantitatively: earthquake, landslide, dam failure, flood, and wildfire. Data sources include USACE, Department of Water Resources (DWR), Homeland Infrastructure Foundation-Level Data (HIFLD), National Inventory of Dams (NID), FEMA, California Department of Forestry and Fire Protection (CALFIRE), Fire and Resource Assessment Program (FRAP), Department of Conservation (DOC), and California Geological Survey (CGS). Additional GIS spatial data was integrated to assess agricultural pests and diseases (important farmland data from DOC) and severe weather data from NWS and NOAA.

During the HIRA process, to assess hazards' potential impacts on the County's critical facilities, a critical facilities GIS database was needed and then established. While building the critical facilities GIS database, each participating jurisdiction's assistance was requested to validate the critical facilities GIS data. There were two primary aspects of this: data completeness/correctness and alignment/classification with FEMA Lifelines framework. The County and four participating jurisdictions each reviewed the critical facility database and were encouraged to edit descriptive attributes and add new point data for critical facilities. This process further engaged participating jurisdictions that saw the value of the MJHMP and long-term use and maintenance of the critical facility data moving forward. The result was an updated comprehensive critical facilities database with 646 facilities.

Risk Assessment and GIS Methodology

The GIS methodology for the risk assessment is summarized below.

- Identify Structures—buildings, infrastructure, critical facilities, structures that house elderly or disabled and transportation systems—both for present assets and those planned—categorized by FEMA Lifelines.
- Address Repetitive Loss Properties for flood hazard.
- Estimate Potential Property Losses. The development of the MJHMP includes an inventory of assets from each publicly governed jurisdiction, coordinated by Kings County, and an assessment of all the hazard risks: agricultural pest and disease, cyber threats, dam incidents, drought, earthquakes, extreme temperatures, flood, land subsidence, landslide, public health hazards, severe weather hazards and wildfires.
- The asset inventory provided by the County Assessor's Office database includes individual parcels, address points, various lands use codes, and various taxing agencies or districts.
- County property (building asset) inventory and valuation—for both present assets and those planned (within jurisdictions' SOI).
- Each property within this County property inventory has its Assessor's Parcel Number (APN), assessor's use code, government jurisdiction, and valuation data. Property value includes both improved value and estimated content value.
- County property type includes agricultural, commercial, exempt, industrial, multi-family residential, multi-use, and residential.
- From Census data, the number of people that would be affected by each natural hazard is calculated, which is the product of the number of properties that would be affected and the average household size.
- During an update to the risk assessment, local jurisdictions must consider current and expected future vulnerability to all hazards and integrate new hazard data such as flood studies. Local



jurisdictions were asked to incorporate replacement costs for vulnerable buildings and impacts of population growth or loss in vulnerable areas. WSP staff integrated this information, if available from each jurisdiction after the critical facilities assessment was complete. This process helped the jurisdictions understand what facilities were vulnerable to hazards and gather replacement value for these facilities.

- For hazards that are not assessed quantitatively, the vulnerability assessment includes qualitative analysis that addresses the hazard's impact on property, people, critical facilities and infrastructure, economy, natural and cultural resources, and future development.

Public Review Period

The County OES department circulated the Public Review Draft MJHMP for a 20-day period from October 19, 2023, through November 7, 2023. The Public Review Draft was released for comment and made available for download via the County OES website. The Public Review Draft MJHMP was advertised through social media, mass emailing, and an advertisement through the media mechanisms noted previously. An electronic comment form through Microsoft Forms was provided with the draft plan. However, no comments were received on the Public Review Draft MJHMP. As such, the majority of the public input was compiled from the public survey and tabling events.

3.4.2 Planning Step 3: Coordinate with Other Departments and Agencies

Early in the planning process, state and local agencies and organizations were invited to participate as stakeholders in the process through email. Stakeholders include local and regional agencies involved in hazard mitigation activities or those beyond the County and local government that have the authority to regulate development. Kings County worked with the WSP team to come up with a list of potential HMPC participants and stakeholders. Stakeholders could participate in various ways, either by contributing input at HMPC meetings, being aware of planning activities through an email group, providing information to support the effort, or reviewing and commenting on the draft plan. Based on their involvement in other hazard mitigation planning efforts, and status in the County, representatives from the following agencies and organizations were invited to participate as stakeholders in the process by email; an asterisk indicates they participated in HMPC meetings. More specifics on stakeholder agency representatives can be found in Appendix A and documentation in Appendix B.



Table 3-6 All Stakeholders Given An Opportunity To Be Involved In The Planning Process

STAKEHOLDER GROUP	STAKHOLDER AGENCY	OPPORTUNITY			
		INVITED TO PARTICIPATE IN HMPC	INVITED TO COMMENT ON DRAFT	SHARED MEETING SUMMARY MATERIALS	INCLUDED IN SOCIAL MEDIA BLASTS
Agencies involved in hazard mitigation activities	CAL FIRE	✓	✓		
	California DSOD	✓			
	California DWR*	✓	✓	✓	✓
	California Natural Resource Agency	✓			
	California OES*	✓	✓		
	County Agricultural Commissioner*	✓	✓	✓	✓
	FEMA Region IX	✓			
	Kings County Department of Agriculture*	✓	✓	✓	✓
	Kings County OES*	✓	✓		
	Kings County Public Works*	✓	✓	✓	✓
	Kings County Public Health Department*	✓	✓	✓	✓
	NOAA/ NWS	✓	✓		
	NWS Hanford*	✓	✓	✓	✓
	Kings County Office of Education	✓	✓	✓	
	Kings County Water District*	✓	✓	✓	
	Mid-Kings River Groundwater Sustainability Agency*	✓	✓	✓	
	California Department of Parks and Recreation	✓			
Agencies that have the authority to regulate development:	City of Hanford Fire Department*	✓	✓	✓	✓
	Kings County Board of Supervisors*	✓	✓	✓	✓
	Kings County Community Development Agency*	✓	✓	✓	✓
	Kings County Fire Department*	✓	✓	✓	✓
	Lemoore Police Department*	✓	✓	✓	✓



STAKEHOLDER GROUP	STAKEHOLDER AGENCY	OPPORTUNITY			
		INVITED TO PARTICIPATE IN HMPC	INVITED TO COMMENT ON DRAFT	SHARED MEETING SUMMARY MATERIALS	INCLUDED IN SOCIAL MEDIA BLASTS
	USACE	✓			
Neighboring Communities	Tulare County Emergency Management	✓	✓		✓
	Fresno County Emergency Management	✓	✓		✓
	Monterey County Emergency Management	✓	✓		✓
	Kern County Emergency Management	✓	✓		✓
Representatives of business academia, and other private organizations:	Southern California Edison	✓			
	Cross Creek Flood Control District*	✓	✓	✓	
	Kings County Farm Bureau*	✓	✓	✓	✓
	Kings River Conservation District*	✓	✓	✓	✓
	Sequoia Riverlands Trust	✓	✓	✓	✓
	PG&E	✓			
	Westland Water District*	✓			
Representatives that provide support to underserved communities	Office of Senator Hurtado SD 16*	✓	✓	✓	✓
	Kings Partnership	✓	✓	✓	✓
	Kings Tulare Homeless Alliance	✓	✓	✓	✓



Federal, State, and Local Agencies

- California Department of Fire Protection and Forestry
- California Department of Parks and Recreation
- California DSOD
- California DWR*
- California Natural Resource Agency
- California OES*
- City of Hanford Fire Department*
- County Agricultural Commissioner*
- FEMA Region IX
- Kings County Board of Supervisors*
- Kings County Community Development Agency*
- Kings County Department of Agriculture*
- Kings County Fire Department*
- Kings County OES*
- Kings County Public Health Department*
- Kings County Public Works*
- Lemoore Police Department*
- National Oceanic Atmospheric Administration (NOAA)/National Weather Service
- NWS
- NWS Hanford*
- USACE

Businesses, Academia, Utility Providers, Dam Owners and Operators and Non-Profits

- Cross Creek Flood Control District*
- Kings County Farm Bureau*
- Kings County Office of Education
- Kings County Water District*
- Kings River Conservation District*
- Mid-Kings River Groundwater Sustainability Agency*
- PG&E
- Sequoia Riverlands Trust
- Southern California Edison
- Westland Water District*

Incorporation or Existing Plans and Other Information

The coordination and synchronization with other community planning mechanisms and efforts are vital to the success of this plan. To have a thorough evaluation of hazard mitigation practices already in place, appropriate planning procedures should also involve identifying and reviewing existing plans, policies, regulations, codes, tools, and other actions designed to reduce a community's risk and vulnerability from natural hazards. Kings County uses a variety of mechanisms to guide growth and development. Integrating existing planning efforts, mitigation policies, and action strategies into this plan establishes a credible, comprehensive document that weaves the common threads of a community's values together. The development and update of this plan involved a comprehensive review of existing plans, studies, reports, and initiatives from Kings County and each participating municipality that relate to hazards or hazard mitigation. A high-level summary of the key plans, studies and reports is summarized in Table 3-7 below. Information on how they informed the update is noted and incorporated where applicable.

Table 3-7 Summary of Review of Key Plans, Studies and Reports

PLAN, STUDY, REPORT NAME	HOW PLAN INFORMED LHMP
Kings County General Plan	The Kings County General Plan was adopted by the Board of Supervisors on January 26, 2010. The County proactively addresses hazards through the General Plan Health and Safety Element and references the MJHMP that was prepared in 2012. One representative from the HMPC is also working on initiating the County's General Plan update, which would help ensure that



PLAN, STUDY, REPORT NAME	HOW PLAN INFORMED LHMP
	both plans are integrated and contain mutually-reinforcing policies (please note this formal update process will not start before the finalization of the MJHMP). The General Plan and the 2023 MJHMP Update contain complementary actions to achieve the goal of hazard risk reduction. Future updates of the General Plan, including incorporation by reference of the 2023 MJHMP into the Health and Safety Element will continue to ensure consistency between both plans. The General Plan also includes the Housing Element chapter. The 2016-2024 Housing Element is incorporated into the 2023 MJHMP Update to identify development trends.
Kings County Emergency Operations Plan	The purpose of the County of Kings Emergency Operations Plan (EOP) and its Functional Annexes is to provide the basis for a coordinated response before, during and after a disaster incident. This plan is the principal guide for the County's response to, and management of real or potential emergencies and disasters occurring within its designated geographic boundaries. The 2015 Kings County Emergency Operations Plan (EOP) incorporates the FEMA Comprehensive Preparedness Guide (CPG) 101 v. 2.0 and the State of California Emergency Plan best practices. The plan is designed to be read, understood and exercised prior to an emergency and establishes the framework for implementation of the California Standardized Emergency Management System (SEMS) and the NIMS for the County. The County of Kings EOP is intended to facilitate multi-agency and multi-jurisdictional coordination, particularly between the County of Kings and its jurisdictions, as well as special districts, utilities, major businesses, the American Red Cross (ARC), community groups, state agencies, and the federal government. The County is in the process of initiating a formal update to the EOP in late 2023.
Kings County Code, Chapter 5 - Buildings and Structures	The Kings County Code, Chapter 5, provides minimum standards to safeguard life, health, property, and public welfare by regulating and controlling the design, construction, quality of materials, use and occupancy, location, and maintenance of all buildings and structures within the unincorporated areas of the County. This chapter of the County code includes building code, relocation permits, electrical code, and plumbing code.
Kings County Code, Chapter 16.50, Floodplain Management	The purpose of this Chapter is to promote public health, safety, and general welfare, and to minimize public and private losses due to flood conditions in specific areas through specific provisions. This ordinance was used as a reference to assess County's mitigation capabilities and design mitigation actions and projects.
Kings County Code, Chapter 16.55, Fire Code	This chapter is enacted for the public need in the extinguishment of fires, and the preventing, eliminating, or minimizing fire hazards for the safety of life and property in the county.
Kings County 2012 MJHMP	The plan was reviewed to provide a basis for the current update.
Assessor for parcel data including Use Codes; assessed categories; and values; address points	Used for quantitative vulnerability assessment for hazards. Parcel information was integrated into each hazard's "Property" section in the vulnerability assessment.
Public Works for current infrastructure list (Bridges, Drainage, Street Lights, and Traffic Lights) and their geographic placement	Used to establish critical facilities GIS database.
GIS for numerous base map shapefiles such as cities, counties, parcels, rivers, and roads	Used as base maps and for establishing critical facilities GIS database.



PLAN, STUDY, REPORT NAME	HOW PLAN INFORMED LHMP
FEMA Flood Insurance Rate Map	1% and 0.2% annual chance floodplain data was acquired to profile flood hazard and carry out the related vulnerability assessment.
USACE Comprehensive Study; DWR Awareness Floodplain Mapping project	USACE 100-year flood event layer and DWR best available maps in 200-year flood event layer were acquired to profile flood hazard and carry out the related vulnerability assessment.
FEMA Technical Bulletin 11-01 Crawlspaces Construction for Buildings located in Special Flood Hazard Areas NFIP Interim Guidance	Provides guidance on crawlspace construction; used as a reference to design mitigation actions and projects.
NFIP	This program aims to reduce the impact of flooding on private and public structures by providing affordable insurance to property owners and by encouraging communities to adopt and enforce floodplain management regulations. These efforts help mitigate the effects of flooding on new and improved structures. NFIP data was incorporated into the vulnerability assessment for flood hazard.
NIMS	This system directs the creation of a comprehensive, national approach to incident management by federal, state, territorial, Tribal, and local responders and across all functional disciplines.
Federal Energy Regulatory Commission (FERC)	FERC is an independent agency that regulates interstate transmission of electricity, natural gas, and oil. FERC also reviews proposals to build liquefied natural gas (LNG) terminals and interstate natural gas pipelines as well as licensing hydropower projects and providing regulations for dams.
California Geological Survey, USGS	Data was acquired to profile and carry out vulnerability assessment for earthquake, land subsidence, and landslide hazards.
California Code of Regulations, Title 24, Part 9 (California Building Standards Code) (Fire Code)	CCR Title 24 governs the design and construction of all building occupancies and associated facilities and equipment throughout California and is also known as building standards. It contains requirements for the structural, mechanical, electrical, and plumbing systems, and requires measures for energy conservation, green design, construction and maintenance, fire and life safety, and accessibility. The code is used as a reference to design mitigation actions and projects.
Alquist-Priolo Earthquake Fault Zoning Act	The Alquist-Priolo Earthquake Fault Zoning Act's main purpose is to prevent the construction of buildings used for human occupancy on the surface trace of active faults. Relevant data was acquired to profile earthquake hazard.
California Environmental Quality Act (CEQA)	CEQA is a California statute passed in 1970 (shortly after the United States Federal Government passed the National Environmental Policy Act (NEPA)), to institute statewide policy of environmental protection. The County will complete supporting CEQA documentation prior to board approval and adoption.
California Public Resources Code (PRC) Section 4291 – Structures in Fire Hazard Areas	This code provides direction for persons owning, leasing, controlling, operating, or maintaining any building or structure in, upon, or adjoining any mountainous area of forest-covered lands, brush-covered lands, or grass-covered lands, or any lands which are covered with flammable material. The code is used as a reference to design mitigation actions and projects.
Municipal General Plans (including Safety Elements, Land Use Elements, and Housing Elements)	Informed the municipal annexes and in some cases the community service district annexes on past hazard events, mitigation policies, combining designations and existing and projected development.
Kings County Flood Insurance Study	Reviewed for information on past floods and flood problems to inform risk assessment and consequence analysis (Section 4). Utilized digital flood insurance rate maps effective



PLAN, STUDY, REPORT NAME	HOW PLAN INFORMED LHMP
2018 State of California Multi-Hazard Mitigation Plan	Reviewed information on climate change and hazard assessment data to ensure consistency with this plan update. Reviewed list of hazards to inform risk assessment and consequence analysis (Section 4). Reviewed goals for consistency
CALFIRE and FRAP	Data was acquired to profile and carry out vulnerability assessment for wildfire hazard.
NOAA National Centers for Environmental Information-State Climate Summaries	Reviewed information on climate change to inform risk assessment and consequence analysis. Data was acquired to profile and carry out vulnerability assessment for severe weather hazard.
California DOF/U.S. Census Bureau, ACS, 2015-2019	Informed the background of the community including demographic trends and the calculation of population at risk.
USDA Risk Management Agency Crop Indemnity Reports, 2007-2020	Informed the adverse weather section vulnerability assessment on how crops have been impacted by weather events in the past. Also informed the Drought, Severe Weather and Agricultural Pests and Disease sections of the HIRA.
California Climate Adaptation Strategy, 2018 and California OES Contingency Plan for Excessive Heat Emergencies (2014)	Informed the Extreme Heat profile and climate change considerations in the risk assessment and consequence analysis.
All relevant plans, codes, and ordinances currently in place such as building codes, zoning ordinances, subdivision ordinances, special purpose ordinances, site plan review requirements, growth management ordinances, economic development plans, and emergency response plans were reviewed	Reviewed and used to profile and carry out vulnerability assessment for hazards. Used as references to design mitigation actions and projects.

In the process of preparing this 2023 MJHMP Update, many other existing plans, studies, reports, and technical information were evaluated or used as guidance. The HMPC for the development of the MJHMP Update included representatives who are charged with developing the Kings County General Plan and the Kings County EOP. The Planning Committee members work to ensure that local plans are integrated with the MJHMP and provide expertise for the integration of other local, state, and federal plans, codes, and regulations.

Other technical data, reports and studies were reviewed and considered, as appropriate, during the collection of data to support Planning Steps 4 and 5, which include hazard identification, vulnerability assessment, and capability assessment. Information from the following agencies and groups was reviewed in the development and update of this plan. Specific references relied on in the development of this plan are also sourced throughout the document as appropriate.

- CAL FIRE
- California Department of Parks and Recreation Office of Historic Preservation
- California Department of Transportation
- California Department of Public Health
- California Natural Resources Agency
- California DSOD
- California DWR
- California Geological Survey
- Kings County Agricultural Department
- Kings OES
- California Water Foundation
- FEMA
- NOAA National Climatic Data Center



- National Register of Historic Places
- Natural Resource Conservation Service
- NWS
- U.S. Fish and Wildlife Service
- U.S. Geological Survey
- Western Regional Climate Center
- Center for Western Weather and Water Extremes

Integration of 2012 Plan into Other Plans and Planning Mechanisms

The 2012 MJHMP was referenced in the County's 2015 EOP. However, the 2012 MJHMP was not specifically incorporated or referenced in any other County or municipal plans and planning mechanisms with the exception of the City of Hanford 2035 General Plan Safety Element Policy Document (Goal H1-H2 and Policies H1-H6). A process to do so with the 2023 MJHMP is outlined in Subsection 6.3.3. For example, the County's 2010 General Plan Health and Safety Element extensively referenced the County's 2007 MJHMP, but the current element does not reference the 2012 MJHMP. The 2023 MJHMP update can be incorporated into the Health and Safety Element when the County updates the element. There is a process noted in both Subsection 6.3.3 and corresponding mitigation actions in Subsection 5.3 that outline how the County and municipalities can sustain compliance under AB 2140, which recommends adoption by reference or incorporation of the MJHMP into the Safety Element of the General Plan. The County can also use the Health and Safety Element update process to address compliance with AB 747 and Senate Bill 99 related to evacuation route capacity and the identification of residential neighborhoods that do not have at least two ingress/egress routes.

3.4.3 Phase 2: Assess Risks

Planning Step 4: Identify the Hazards

WSP led the HMPC to review the list of hazards identified in the 2012 plan and document all the hazards that have, or could, impact the Kings County planning area, including documenting recent drought, flood, land subsidence, wildfire and severe storm events that were not included in the 2012 MJHMP. The Plan Update Guide worksheets were used to aid in determining hazards and vulnerabilities and where risk varies across the planning area. The profile of each of these hazards was then updated during the 2022-2023 process with information from the HMPC and additional sources. Web resources, existing reports and plans, and existing GIS layers were used to compile information about past hazard events and determine the location, previous occurrences, probability of future occurrences, and magnitude/severity of each hazard. GIS was used to display, analyze, and quantify hazards and vulnerabilities where data was permitted. The potential for climate change to affect the frequency and intensity of the hazards was summarized based on the latest available science, where applicable. A more detailed description of the HIRA process and the results are included in Section 4: Hazard Identification and Risk Assessment.

Planning Step 5: Assess the Risks

After updating the profiles of the hazards that could affect the County, the HMPC collected information to describe the likely impacts of future hazard events on the participating jurisdictions. This step included two parts: a vulnerability assessment and a capability assessment.

Vulnerability Assessment – Participating jurisdictions updated their assets at risk to natural hazards—overall and in identified hazard areas. These assets included the total number and value of structures; critical facilities and infrastructure; natural, historic, and cultural assets; and economic assets. The HMPC also analyzed development trends in hazard areas. The latest DFIRM was used to refine the estimated flood losses during the update, where available, for the NFIP participating communities.

Population at risk, specifically socially vulnerable populations and underserved communities were also assessed and calculated for dam incidents, earthquake, flood, landslide, and wildfire hazards. These populations include housing-burdened, low-income households, who may not have the resources to prepare for hazards, those with limited water access, who may be more vulnerable to interruptions in access due to hazard events, and those who rely upon electricity-dependent medical equipment.

Capability Assessment – The HMPC conducted a capability assessment update to review and document the planning area's current capabilities to mitigate risk and vulnerability from hazards. By collecting information about existing government programs, policies, regulations, ordinances, and emergency



plans, the HMPC can assess those activities and measures already in place that contribute to mitigating some of the risks and vulnerabilities identified. This information for the County is included in Section 6 and the respective jurisdictional annexes. This addressed FEMA planning task 4: Review community capabilities - 44 CFR 201.6 (b)(2) & (3).

Results of the risk assessment were presented, and comments were discussed at the second HMPC meeting in March 2023. A more detailed description of the risk assessment process and the results are included in Section 4: Hazard Identification and Risk Assessment.

3.4.4 Phase 3: Develop the Mitigation Plan

Planning Step 6: Set Goals

WSP facilitated a discussion session with the HMPC to review the 2012 MJHMP's goals and objectives. The HMPC discussed definitions and examples of goals, objectives, and actions and considered the goals of the 2023 Draft California SHMP and other relevant local plans when reviewing and revising the goals and objectives. The resulting updated goals and objectives are presented in Section 5: Mitigation Strategy. For the 2023 MJHMP, several goals were modified; no objectives specific were added.

Planning Step 7: Review Possible Activities

WSP facilitated a discussion at an HMPC meeting to review the alternatives for mitigating hazards. This included a group activity with the HMPC to identify a comprehensive range of mitigation actions for each identified hazard, and a group activity to select and rank mitigation actions using selection criteria. More specifics on the process and the results of this collaborative process are captured in Section 5: Mitigation Strategy.

As part of the review of mitigation options long-term climate change adaptation strategies were also discussed. HMPC members were encouraged to incorporate climate change adaptation measures into the mitigation strategy of their respective jurisdictions by utilizing resources and guidance available on the Cal-Adapt website and the California Adaptation Planning Guide (APG).

Planning Step 8: Draft an Action Plan

Based on input from the HMPC regarding the draft risk assessment and the goals and activities identified in Planning Steps 6 and 7, WSP produced a complete first draft of the plan. This complete Administrative Draft MJHMP was shared electronically with the HMPC for review and comment. Other agencies were invited to comment on this draft, specifically surrounding counties. HMPC and agency comments were integrated into the second draft, which was advertised and distributed to collect public input and comments. Neighboring county emergency managers and interested stakeholders identified under Step 3 were also solicited to provide comments on the draft plan during the public review period; no comments were received. WSP integrated comments and issues from the public, as appropriate, along with additional internal review comments and produced a final draft for the California OES and FEMA Region IX to review and approve, contingent upon final adoption by the governing boards of each participating jurisdiction.

3.4.5 Phase 4: Implement the Plan and Monitor Progress

Planning Step 9: Adopt the Plan

In order to secure buy-in and officially implement the plan, the plan was adopted by the governing boards of each participating jurisdiction on the dates included in the adoption resolutions in Appendix C. The final plan will be incorporated by reference in the Safety Element of the County General Plan and result in the County's eligibility for Assembly Bill (AB) 2140. This adoption makes the jurisdiction eligible for consideration for part or all its local costs on eligible public assistance to be provided by State share funding through the CDDA.

Planning Step 10: Implement, Evaluate, and Revise the Plan

The true worth of any mitigation plan is in the effectiveness of its implementation. Up to this point in the plan update process, all the HMPC's efforts have been directed at researching data, coordinating input from participating entities, and updating and developing appropriate mitigation actions. Each recommended action includes key descriptors, such as hazard(s) addressed, lead manager and priority, to



help initiate implementation. An overall implementation strategy is described in Section 6: Plan Adoption, Implementation, and Maintenance.

Finally, there are numerous organizations within the Kings County planning area whose goals and interests' interface with hazard mitigation. Coordination with these other planning efforts, as addressed in Planning Step 3, is paramount to the ongoing success of this plan and mitigation in Kings County and is addressed further in Section 6. A plan update and maintenance schedule and a strategy for continued public involvement are also included in Section 6.

Implementation and Maintenance Process: 2012 MJHMP

The 2012 MJHMP included a process for implementation and maintenance which was generally followed, with some variation. Implementation of the plan including the status of mitigation actions is captured in Section 5 and the jurisdictional annexes. In general, the County and participating jurisdictions have made progress in the implementation of the plan. Successes of note are detailed in the mitigation strategy in Section 5. An updated implementation and maintenance section can be referenced in Section 6.



4 HAZARD IDENTIFICATION AND RISK ASSESSMENT

Requirement §201.6(c)(2)(i):

[The risk assessment shall include a] description of the type, location and extent of all natural hazards that can affect the jurisdiction. The plan shall include information on previous occurrences of hazard events and on the probability of future hazard events.

Requirement §201.6(c)(2)(ii):

[The risk assessment shall include a] description of the jurisdiction's vulnerability to the hazards described in paragraph (c)(2)(i) of this section. This description shall include an overall summary of each hazard and its impact on the community. All plans approved after October 1, 2008, must also address NFIP insured structures that have been repetitively damaged by floods. The plan should describe vulnerability in terms of:

- *§201.6(c)(2)(ii)(A): The types and numbers of existing and future buildings, infrastructure, and critical facilities located in the identified hazard areas;*
- *§201.6(c)(2)(ii)(B): An estimate of the potential dollar losses to vulnerable structures identified in ... this section and a description of the methodology used to prepare the estimate.*
- *§201.6(c)(2)(ii)(C): Providing a general description of land uses and development trends within the community so that mitigation options can be considered in future land use decisions.*

Risk to natural hazards is a combination of hazard, vulnerability, and capability. This section of the Multi-Jurisdictional Hazard Mitigation Plan (MJHMP) will look at both hazards and vulnerability. The risk assessment process identifies and profiles relevant hazards and assesses the exposure to lives, property, and infrastructure to these hazards. The goal of the risk assessment table is to estimate the potential losses in Kings County (County) from a hazard event. This process also allows communities in the County to better understand their potential risk to natural hazards and provides a foundation for developing and prioritizing mitigation actions to reduce the risks from future hazard events in Kings County. These mitigation actions can then be designed to reduce damage from natural disasters through increased preparedness and focus resources towards assets that have the greatest vulnerability.

In the early meetings, the County and the Hazard Mitigation Planning Committee (HMPC) reviewed data from the following sources on hazards affecting the County, those sources were: the federal and state disaster declaration history, the State of California Hazard Mitigation Plan (SHMP) (2018) and the Draft SHMP Update (2023), the previous Kings County MJHMP (2012), the Health Safety Element of the Kings County 2035 General Plan (2010), and interviews of staff that live and work in the County.

During the 1st HMPC Meeting (October 31, 2022), the HMPC reviewed the broad set of hazards evaluated in the relevant local and regional hazard planning documents, including the SHMP. Based on this crosswalk process with the other relevant planning documents, the HMPC agreed on the significant natural, human-caused, and human-health hazards in the County that should be evaluated in the risk assessment. The HMPC agreed to address technological or human-caused hazards but not transportation accidents and hazardous material incidents, which are addressed in emergency operations plans for the county and participating jurisdictions. This crosswalk process provided the basis for prioritizing the hazards profiled and evaluated in the risk assessment. The hazards contained in this planning effort are in alphabetical order and listed below. Hazards noted in italics (and with an asterisk) are hazards not previously profiled in the 2012 Kings Count MJHMP; five additional hazards were addressed in the MJHMP update, including two natural hazards, two human-caused hazards, and one public health hazard.

- Agricultural Pests and Disease*
- Cyber-Attack*
- Dam Incidents
- Drought
- Earthquake
- Extreme Temperatures: Freeze and Extreme Heat
- Flood
- Land Subsidence*
- Landslide
- Public Health Hazards: Pandemics/Epidemics*
- Severe Weather: General



- Severe Weather: Dense Fog
- Severe Weather: Heavy Rain, Thunderstorms, Hail, and Lightning*
- Severe Weather: High Wind/Tornado
- Wildfire

4.1 NON-PROFILED HAZARDS

The HMPC reviewed data and discussed several other hazards, which were eliminated from further discussion because they rarely occur and/or their impacts are not significant. The list below details these hazards and provides a brief explanation for their omission from further profiling.

- Avalanche - Snowfall is extremely rare to nonexistent across the County planning area.
- Coastal Erosion/Storm - Coastal hazards do not occur due to distance from coasts and ocean.
- Hurricane - Hazard does not occur due to distance from ocean.
- Terrorism/Civil Unrest/Human-Caused Threats - While terrorism and civil unrest are threats to the County, this risk is best addressed in other plans.
- Tsunami - Hazard does not occur due to distance from ocean.
- Severe Winter Storm - Very little to no snowfall recorded throughout the County; temperatures fall below 32 degrees Fahrenheit only a few days of the year.
- Volcano - The U.S. Geological Survey (USGS) does not include the County in their map of areas identified as subject to hazards from potential volcano eruptions in California. Also, the volcanoes in California near the Mono-Inyo Craters Volcano Chain and the Lassen Volcanic Center are not close to the County and have a limited chance of eruption. There have also not been declared disasters in the County associated with volcanic activity.

The remainder of this section begins with an overview of the history of declared disasters in the County followed by the profiles of identified hazards.

4.2 DISASTER DECLARATION HISTORY

One method to identify hazards is to look at the events that have triggered federal and/or state disaster declarations that included the County. The County received 20 federal and state disaster declarations since 1950, the majority of which consisted of flood and severe storm events. Table 4-1 lists the disaster declarations where the County was designated federal and/or state disaster declarations from 1950 to the present. There have been 21 State declarations and 15 federal declarations.

Table 4-1 Kings County Disaster Declaration History 1950-present

HAZARD TYPE	DISASTER NAME	DISASTER NUMBER	STATE DECLARATION	FEDERAL DECLARATION
Flood	1969 Storms	OEP DR-253	01/29/69	01/26/69
Flood	Heavy Snow Runoff	OEP DR-2270	01/28/69	08/15/69
Severe Storm, Freeze	Freeze / Severe Weather	OEP DR-3086	04/17/72	Not declared
Drought	1976 Drought	EM-3023-CA	02/13/76	01/20/77
Severe Storms	Winter '78 Storms	DR-547	02/27/78	02/15/78
Flood	Winter Storms	DR-682	03/03/83	02/09/83
Severe Storm	Severe Winter Storms	DR-1044	01/17/95	01/13/95
Severe Storm, Flood	Late Winter Storms	DR-1046	01/05/95	01/10/95
Flood	January 1997 Floods	W-145-97	01/31/97	Not declared
Flood	El Nino	W-169-98	02/13/98	Not declared
Freeze	Freeze	DR-1267	02/09/99	02/09/99
Freeze	Severe Freeze	DR-1689	3/13/2007	3/13/07
Severe Storm	08 January Storms	OES 2008-01	1/2008	Not declared
Drought	Central Valley Drought	OES 2008-03	06/12/08	Not declared



HAZARD TYPE	DISASTER NAME	DISASTER NUMBER	STATE DECLARATION	FEDERAL DECLARATION
Flood	December 2010 Statewide Storms	DR-1952 OES 2010-17	12/21/10	01/26/11
Flood	Severe Winter Storms	DR-4308-CA	04/01/2017	04/01/17
Biological	Statewide Covid-19	EM-3428-CA	03/13/2020	03/13/2020
Biological	Covid-19 Pandemic	DR-4482-CA	03/20/2020	03/22/20
Biological	Statewide Monkeypox	NR22-119	09/04/2022	Not declared
Flood	Severe Winter Storms	EM-3591-CA DR-4683-CA	01/24/2023	01/09/23
Flood	Severe Winter Storms	EM-3592-CA, DR-4683-CA	03/10/23	03/09/23

Source: Kings OEM, Cal EMA and FEMA

The majority of declarations and all but two federal disaster declarations were declared for severe storms and flooding. These occurred twice in 1969, once each in 1978 and 1983, and twice in 1995 and again in 2010-2011. A federal disaster declaration for freeze in February was declared in 1999 and in 2007. The remaining declarations were for a state declaration for drought in 1976 and another in 2008.

The federal government may also issue a disaster declaration through the U.S. Department of Agriculture (USDA) and/or the Small Business Administration (SBA), as well as through the Federal Emergency Management Agency (FEMA). The quantity and types of damage are the determining factors. A USDA declaration makes all qualified farm operators in the designated areas eligible for low-interest emergency loans from the USDA's Farm Service Agency. As part of an agreement with the USDA, the SBA offers low interest loans for eligible businesses that suffered economic losses in declared and contiguous counties. The USDA declarations are listed in Table 4-2 since the last plan update in 2012.

Table 4-2 USDA Agricultural Declarations Since 2012 Plan Update

USDA DECLARATION	APPROVAL DATE	DESIGNATION NUMBER
Drought	2/27/2013	S3491
Drought	3/13/2013	S3497
Drought	4/10/2013	S3504
Drought	1/15/2014	S3626
Drought	9/17/2014	S3743
Drought	2/17/2016	S3952
Rain and wind	7/27/2016	S4003
Excessive rainfall and high winds	3/31/2017	S4164
Excessive rain, high winds, cold temperatures, and hail	4/28/2017	S4170
Drought	2/23/2017	S4144
Freeze	7/18/2018	S4350
Drought	3/22/2019	S4467
Excessive rain	3/11/2020	S4656
Excessive rain and hail	3/11/2020	S4657
Drought	3/5/2021	S4916
Drought	5/10/2021	S4969

Source: USDA Disaster Designations, 2012 - 2021

Hazard events that occur outside the County planning area can also directly and indirectly impact the County. These hazard events are commonly associated with dam incidents that result in inundation flooding within the larger watershed and wildfires that affect air quality and downstream post-wildfire erosion. Power outages can also occur due to high wind events and wildfires and because of outages that occur outside the County.



4.3 METHODOLOGY

The HMPC prioritized hazards based on a process that combines criteria on the hazard problem, where the hazard occurs in the planning area, past occurrences, the Likelihood of Future Occurrence, and the magnitude of the hazard if it were to cause damage. Each hazard profile includes the following subsections:

HAZARD DESCRIPTION – This section gives a description of the hazard problem and associated issues followed by details on the hazard specific to the County planning area.

GEOGRAPHIC AREA – This section provides a spatial description of the potential location or areas of the County where the hazard is expected to impact.

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

PAST OCCURRENCES – This section contains information on historical incidents, including impacts where known events occurred. Historical incident worksheets were used to capture information from participating jurisdictions on past occurrences.

LIKELIHOOD OF FUTURE OCCURRENCE – The frequency of past events is used in this section to gauge the likelihood of future occurrences. Where possible, frequency was calculated based on existing data. It is determined by dividing the number of events observed by the number of years on record and multiplying by 100. This gives the percent chance (probability) of an event happening in any given year (e.g., three droughts over a 30-year period equates to a 10 percent chance of a drought in any given year). The likelihood of future occurrences is categorized into one of the following classifications:

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

CLIMATE CHANGE CONSIDERATIONS – This describes the potential for climate change to affect the frequency and intensity of the hazard in the future. The HIRA describes two GHG emissions scenarios that reflect different projections for how global emissions and atmospheric GHG concentrations may change over time but selects a high emissions scenario (Representative Concentration Pathway [RCP] 8.5) for each natural hazard affected by climate change. The Governor's Office of Planning and Research (OPR) recommends that agencies use RCP 8.5 for analyses considering impacts through 2050 because there are minimal differences between emissions scenarios during the first half of the century. The HIRA also uses Cal-Adapt's default settings that provides outputs for subsets of 10 and 4 global climate models (GCMs) and integrates projections for mid-century (2040-2060) and through the end-of-century (2070-2090); however mapped climate projects using GIS data were only included for the mid-century.

MAGNITUDE AND SEVERITY – This section describes the potential strength or magnitude of the hazard as it pertains to the County. It describes how much damage could occur as a result of a hazard event.

- **Catastrophic:** More than 50 percent of property severely damaged; shutdown of facilities for more than 30 days; and/or multiple deaths
- **Critical:** 25-50 percent of property severely damaged; shutdown of facilities for at least two weeks; and/or injuries and/or illnesses result in permanent disability
- **Limited:** 10-25 percent of property severely damaged; shutdown of facilities for more than a week; and/or injuries/illnesses treatable do not result in permanent disability



- **Negligible:** Less than 10 percent of property severely damaged, shutdown of facilities and services for less than 24 hours; and/or injuries/illnesses treatable with first aid

VULNERABILITY ASSESSMENT – Following the hazard profiles is a vulnerability assessment for each identified hazard. The assessment was conducted through the study of potential impacts on the following specific sectors:

- People
- Property
- Critical Facilities and Lifelines
- Economy
- Cultural, Historic and Natural Resources
- Development Trends

The vulnerabilities are summarized for all natural hazards, including the human-caused and human-health hazards. For example, the vulnerability assessment addresses who or what is vulnerable to natural hazards or climate stressors that influence the hazard, where someone or a critical facility is susceptible to related health impacts or direct damage, and when and why these assets may be vulnerable. The vulnerability assessment is used to inform strategic decision-making by identifying the assets or portions of the planning areas most vulnerable to natural hazards.

RISK SUMMARY – Overall hazard significance is based on a combination of geographic area, probability of future occurrence and magnitude/severity. Each risk summary includes key issues and problems based on threat, vulnerability and impacts to the County planning area and jurisdictions from the specific hazard. Significance rankings are defined by the following:

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

Data used to support this assessment included the following information sources:

- County GIS data (hazards, base layers, and assessor's data);
- Statewide and nationwide GIS datasets to support mitigation planning;
- California 2018 SHMP and 2013 Draft SHMP;
- Kings County 2012 MJHMP;
- Neighboring Jurisdictional HMPs;
- California Department of Forestry and Fire Protection (CAL FIRE) datasets;
- California's Fourth Climate Change Assessment;
- Written descriptions of inventory and risks provided by the jurisdictions;
- Online data sources (cited where applicable);
- Data and information from existing plans and studies; and
- Input from the HMPC members and staff from the County and local, state, and federal agencies
- FEMA Flood Insurance Rate Maps (FIRMs)

4.3.1 Hazard Ranking Summary by Jurisdiction

Overall hazard significance is based on a combination of information on how much of the hazard covers the planning areas, historical data, disaster potential and relevance to each jurisdiction, magnitude and severity, and the probability of future occurrences. Each metric was used to identify and prioritize the list of hazards most relevant to Kings County and the individual rankings are based on or interpolated from the analysis of the hazards in the risk assessment. This process helps the County and jurisdictions compare and rank hazards that pose the greatest risk.



Participating agencies were also asked to complete Plan Update Guide worksheets to initiate the process of screening and ranking hazards within the County. The Plan Update Guides require ranking of the hazards based on geographic extent, magnitude/severity of the hazard, past occurrences, the frequency/probability of future occurrences, and overall significance, as shown in Table 4-3. The results of the Plan Update Guides were collected to determine the rankings, and these rankings were reviewed again with the HMPC for further input. Public input was also integrated based on feedback from the bi-lingual survey and two public workshops.

Table 4-3 Kings County Hazard Significance Summary

Hazard	Geographic Extent	Magnitude/Severity (Extent)	Probability of Future Occurrence	Overall Significance
Agricultural Pests and Disease	Extensive	Critical	Likely	Medium
Cyber-Attack	Significant	Critical	Occasional	Medium
Dam Incidents	Significant	Critical	Unlikely	Medium
Drought	Extensive	Critical	Likely	High
Earthquake	Limited	Catastrophic	Occasional	Medium
Extreme Temperatures	Extensive	Limited	Highly Likely	High
Flood	Extensive	Limited	Highly Likely	Medium
Land Subsidence	Extensive	Limited	Likely	Medium
Landslide	Significant	Negligible	Occasional	Low
Public Health Hazards	Extensive	Critical	Highly Likely	Medium
Dense Fog	Extensive	Critical	Highly Likely	Medium
Severe Storms	Extensive	Critical	Highly Likely	Medium
High Wind and Tornado	Extensive	Critical	Highly Likely	Medium
Wildfire	Significant	Negligible	Likely	Medium
Spatial Extent <u>Extensive</u> : 50-100% of planning area <u>Significant</u> : 10-50% of planning area <u>Limited</u> : Less than 10% of planning area Potential Severity <u>Catastrophic</u> : Multiple deaths, shutdown of facilities for 30 days or more, >50% of property is severely damaged <u>Critical</u> : Multiple severe injuries, shutdown of facilities for at least 2 weeks, >25% of property is severely damaged <u>Moderate</u> : Some injuries, shutdown of critical facilities for more than one week, >10% of property is severely damaged <u>Negligible</u> : Minor injuries, minimal quality-of-life impact, interruption of facilities and services for 24 hours or less, less than 10% of property is severely damaged.		Probability of Future Occurrence <u>Highly Likely</u> : Near 100% probability each year. <u>Likely</u> : Between 10 and 100% probability per year or at least one chance in ten years. <u>Occasional</u> : Between 1 and 10% probability per year or at least one chance in next 100 years. <u>Unlikely</u> : Less than 1% probability in next 100 years. Significance <u>High</u> : widespread potential impact <u>Medium</u> : moderate potential impact <u>Low</u> : minimal potential impact		

Table 4-4 summarizes how these hazard rankings vary across jurisdiction, which allows the jurisdictions to compare multiple hazards and priorities, and with a focus on the natural hazards.



Table 4-4 Hazard Ranking Summary in Kings County by Jurisdiction

HAZARD	KINGS COUNTY	AVENAL	CORCORAN	HANFORD	LEMOORE
Agricultural Pest & Disease	Medium	Medium	Medium	Medium	Medium
Cyber-Attack	Medium	Medium	Medium	Medium	Medium
Dam Incidents	Medium	Low	Low	Medium	Medium
Drought	High	High	High	High	High
Earthquake	Medium	High	Medium	Medium	Medium
Extreme Temperatures	Medium	Medium	Medium	Medium	Medium
Flood	High	High	High	High	High
Land Subsidence	Medium	Medium	Medium	Medium	Medium
Landslide	High	Medium	High	Medium	Medium
Public Health	Medium	Medium	Medium	Medium	Medium
Fog	Medium	Medium	Medium	Medium	Medium
Severe Storm	Medium	Medium	Medium	Medium	Medium
Wind &Tornado	Medium	Medium	Medium	Medium	Medium
Wildfire	Medium	Medium	Low	Low	Low

Source: Kings County HMPC

4.4 ASSET SUMMARY

4.4.1 Assets Exposure

As a starting point for analyzing the planning area's vulnerability to identified hazards, the HMPC used a variety of data to define a baseline against which all disaster impacts could be compared. If a catastrophic disaster was to occur in the planning area, this section describes significant assets exposed or at risk in the planning area. Data used in this baseline assessment included:

- Total assets at risk;
- Critical facility inventory;
- Cultural, historical, and natural resources; and
- Population growth and land use and development trends.

4.4.1.1 Total Assets at Risk

Building value assessments in this plan are based on data from the County's Assessor's Office. This data provided the baseline for an inventory of the total exposure of developed properties within the County and helps to ensure that the updated MJHMP reflects changes in development. It is important to note that depending on the nature and type of hazard events or disasters, it is generally the value of the



infrastructure or improvements to the parcels that are of concern or at risk. Generally, the land itself is not a total loss, but may see a reduction in value. Thus, the parcel analysis excludes land value.

4.4.1.2 Parcel & Structure Exposure and Preparations for Analysis

The most up-to-date County Assessor data (2023) and address point data (2022) were used to inventory the total number and types of parcels with improvements, defined as parcels with an improvement value greater than zero in the County, as well as the total number and types of structures on these parcels. Building content values were estimated based on the following formulas derived from FEMA/Hazus methods: a) Residential and Multi-Family Residential properties received content values worth 50% of the improved values; b) Agricultural, Commercial, Exempt, and Multi-Use related properties received content values worth 100% of the improved values; and c) Industrial properties received content values worth 150% of the improved values. Adding up these content and original improved values yields the Total Value of Improved Parcels, which is an estimation of the total property exposure within the County. Table 4-5 summarizes the property inventory for the County and each participating jurisdiction with detail by property type. Table 4-6 shows the total property inventory from the Assessor's Office.

Table 4-5 Total Exposure Summary by Jurisdiction

JURISDICTION	IMPROVED PARCEL COUNT	BUILDING COUNT	IMPROVED VALUE	CONTENT VALUE	TOTAL VALUE
Avenal	1,897	2,514	\$212,728,605	\$118,884,090	\$331,612,695
Corcoran	3,330	3,706	\$411,183,649	\$250,888,988	\$662,072,637
Hanford	17,122	20,749	\$3,636,911,685	\$2,294,089,679	\$5,931,001,364
Lemoore	7,109	10,012	\$1,541,853,696	\$955,326,836	\$2,497,180,532
Unincorporated	10,227	13,561	\$1,913,346,387	\$1,681,807,156	\$3,595,153,543
Total	39,685	50,542	\$7,716,024,022	\$5,300,996,749	\$13,017,020,771

Source: Kings County Assessor's Office, WSP Analysis

Table 4-6 Total Exposure by Jurisdiction and Property Type

JURISDICTION	PROPERTY TYPE	IMPROVED PARCEL COUNT	BUILDING COUNT	IMPROVED VALUE	ESTIMATED CONTENT VALUE	TOTAL VALUE
Avenal	Agricultural	6	6	\$964,105	\$964,105	\$1,928,210
	Commercial	112	134	\$18,337,766	\$18,337,766	\$36,675,532
	Exempt	27	33	\$3,072,688	\$3,072,688	\$6,145,376
	Industrial	9	10	\$849,591	\$1,274,387	\$2,123,978
	Multi-Family Residential	51	564	\$42,930,514	\$21,465,257	\$64,395,771
	Multi-Use	9	12	\$965,833	\$965,833	\$1,931,666
	Residential	1,683	1,755	\$145,608,108	\$72,804,054	\$218,412,162
	Total	1,897	2,514	\$212,728,605	\$118,884,090	\$331,612,695
Corcoran	Agricultural	6	6	\$104,009	\$104,009	\$208,018
	Commercial	155	273	\$39,701,556	\$39,701,556	\$79,403,112
	Exempt	35	41	\$1,388,873	\$1,388,873	\$2,777,746
	Industrial	31	37	\$24,083,922	\$36,125,883	\$60,209,805
	Multi-Family Residential	92	266	\$46,250,891	\$23,125,446	\$69,376,337
	Multi-Use	10	16	\$1,232,045	\$1,232,045	\$2,464,090
	Residential	3,001	3,067	\$298,422,353	\$149,211,177	\$447,633,530
	Total	3,330	3,706	\$411,183,649	\$250,888,988	\$662,072,637
Hanford	Agricultural	28	34	\$2,925,519	\$2,925,519	\$5,851,038
	Commercial	794	1,534	\$714,496,080	\$714,496,080	\$1,428,992,160
	Exempt	96	155	\$26,175,037	\$26,175,037	\$52,350,074
	Industrial	97	130	\$100,067,929	\$150,101,894	\$250,169,823
	Multi-Family Residential	489	3,008	\$239,982,926	\$119,991,463	\$359,974,389



JURISDICTION	PROPERTY TYPE	IMPROVED PARCEL COUNT	BUILDING COUNT	IMPROVED VALUE	ESTIMATED CONTENT VALUE	TOTAL VALUE
	Multi-Use	49	61	\$7,535,179	\$7,535,179	\$15,070,358
	Residential	15,569	15,827	\$2,545,729,015	\$1,272,864,508	\$3,818,593,523
	Total	17,122	20,749	\$3,636,911,685	\$2,294,089,679	\$5,931,001,364
Lemoore	Agricultural	6	6	\$360,817	\$360,817	\$721,634
	Commercial	228	704	\$132,810,700	\$132,810,700	\$265,621,400
	Exempt	26	30	\$6,332,106	\$6,332,106	\$12,664,212
	Industrial	24	32	\$109,777,286	\$164,665,929	\$274,443,215
	Multi-Family Residential	166	2,445	\$152,673,286	\$76,336,643	\$229,009,929
	Multi-Use	21	30	\$9,741,781	\$9,741,781	\$19,483,562
	Residential	6,638	6,765	\$1,130,157,720	\$565,078,860	\$1,695,236,580
	Total	7,109	10,012	\$1,541,853,696	\$955,326,836	\$2,497,180,532
Unincorporated	Agricultural	768	803	\$69,307,835	\$69,307,835	\$138,615,670
	Commercial	261	646	\$80,078,804	\$80,078,804	\$160,157,608
	Exempt	3,874	6,233	\$957,516,751	\$957,516,751	\$1,915,033,502
	Industrial	53	67	\$117,039,604	\$175,559,406	\$292,599,010
	Multi-Family Residential	35	125	\$6,238,179	\$3,119,090	\$9,357,269
	Multi-Use	489	653	\$109,285,327	\$109,285,327	\$218,570,654
	Residential	4,747	5,034	\$573,879,887	\$286,939,944	\$860,819,831
	Total	10,227	13,561	\$1,913,346,387	\$1,681,807,156	\$3,595,153,543
	Grand Total	39,685	50,542	\$7,716,024,022	\$5,300,996,749	\$13,017,020,771

Source: Kings County Assessor's Office, WSP Analysis

4.4.1.3 Critical Facility/Lifeline Inventory

A significant aspect of the 2023 Hazard Identification and Risk Assessment (HIRA) update was the update of critical facilities and an alignment/classification with the FEMA Community Lifelines framework. The critical facilities/lifelines GIS database was based on a combination of County-provided data, Homeland Infrastructure Foundation-Level Data (HIFLD), and local and jurisdiction-specific input. Jurisdictions were able to review critical facility data, edit descriptive attributes and address information, and add new critical facilities. The results are summarized here and provided the basis for GIS-based vulnerability analyses, where data permitted.

For the purposes of this plan, a critical facility is defined as one that is essential in providing utility or direction either during the response to an emergency or during the recovery operation. FEMA sorts critical facilities into seven lifeline categories as shown in Figure 4-1.

Figure 4-1 Lifeline Categories



Source: FEMA 2020.

These lifeline categories standardize the classification of critical facilities and infrastructure that provide indispensable service, operation, or function to a community. A lifeline is defined as providing indispensable service that enables the continuous operation of critical business and government functions, and is critical to human health and safety, or economic security. These categorizations are particularly useful as they:

- Enable effort consolidations between government and other organizations (e.g., infrastructure owners and operators).
- Enable integration of preparedness efforts among plans, easier identification of unmet critical facility needs.
- Refine sources and products to enhance awareness, capability gaps, and progress towards stabilization.
- Enhance communication amongst critical entities, while enabling complex interdependencies between government assets.
- Highlight lifeline related priority areas regarding general operations as well as response efforts.

Table 4-7 shows a summary of the 646 critical facilities inventory grouped by lifeline. Figure 4-2 illustrates the location of critical facilities in the County. The critical facility database includes water infrastructure facilities, such as levees.

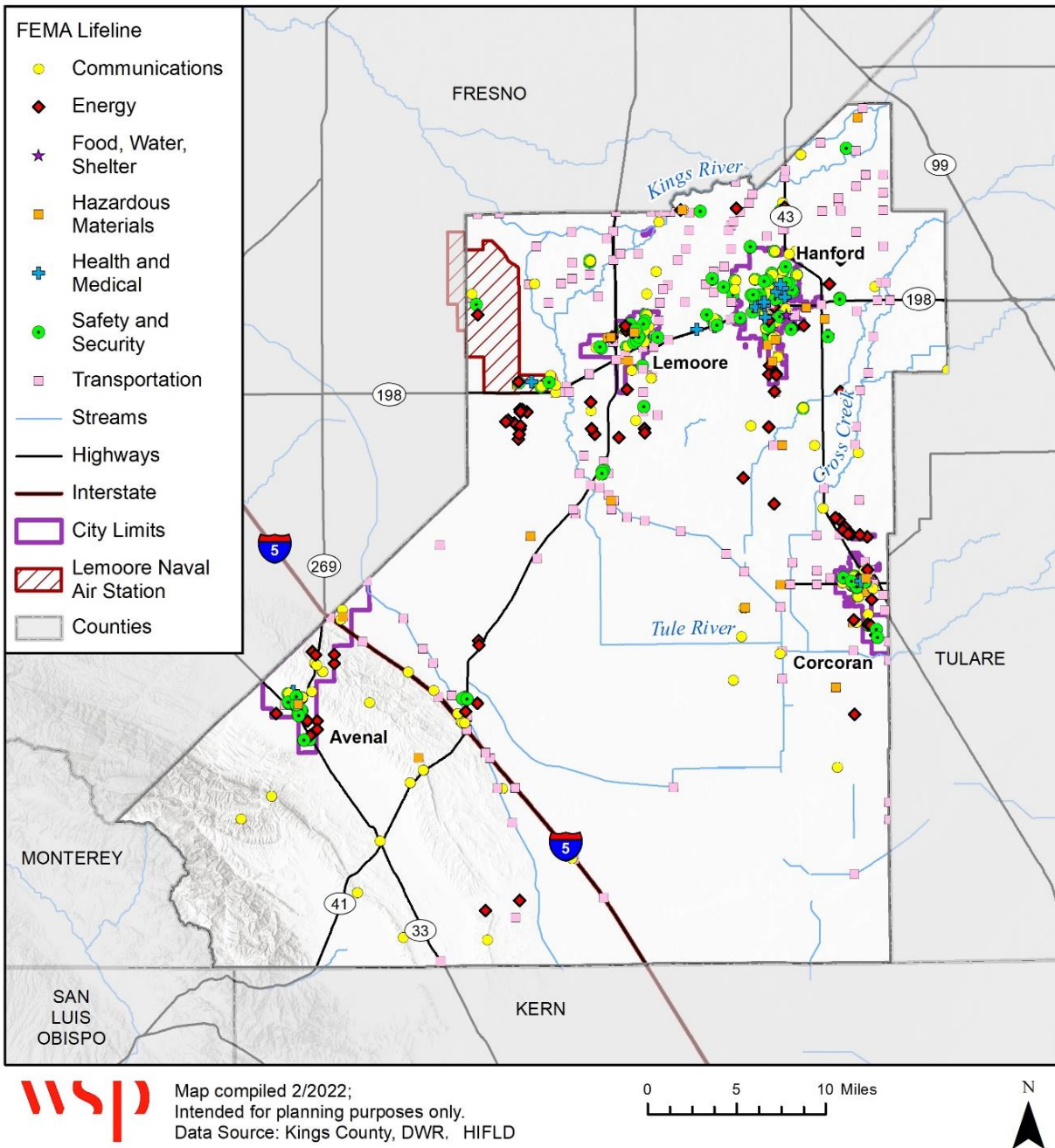


Table 4-7 Summary of Critical Facilities by Jurisdiction and Lifeline

JURISDICTION	COMMUNICATIONS	ENERGY	FOOD, WATER, SHELTER	HAZARDOUS MATERIAL	HEALTH AND MEDICAL	SAFETY AND SECURITY	TRANSPORTATION	TOTAL
Avenal	16	5		2	1	17	2	43
Corcoran	12	5		3	2	17	3	42
Hanford	32	7	6	10	14	54	9	132
Lemoore	11	6		6	1	23	10	57
Unincorporated	94	57		15	5	41	160	372
Grand Total	165	80	6	36	23	152	184	646

Sources: HIFLD, National Inventory of Dams (NID), National Bridge Inventory, Kings County

Figure 4-2 Kings County Critical Facilities





Moreover, during the 2022-2023 planning process, the HMPC mentioned the Corcoran Levee as a critical facility, which is maintained by the Cross Creek Flood Control District and is a protective barrier for the City of Corcoran. The Corcoran Levee is a protective levee system in the southeast portion of the County that protects two State Prisons. The GIS info for Corcoran Levee is added to the critical facilities inventory. The levee is further discussed in Section 4.5.7 Flood.

One other critical facility unique to the County is the California Aqueduct. However, this facility is better addressed in the EOPs for the County and federal emergency plans. The California Aqueduct, part of the California State Water Project, runs through the western part of the County. The State Water Project is a water storage and delivery system of reservoirs, aqueducts, power plants, and pumping plants. Its main purpose is to store water and distribute it to 29 urban and agricultural water suppliers in Northern California, the San Francisco Bay Area, the San Joaquin Valley, the Central Coast, and Southern California. Seventy percent of the contracted water supply goes to urban users and thirty percent goes to agricultural users. The State Water Project makes deliveries to two-thirds of California's population. Earthquakes, landslides, flooding, or other hazard events that disrupt the aqueduct's ability to deliver water could have serious impacts to agriculture in the County and water users in many areas of California.

4.4.1.4 Cultural, Historical and Natural Resources

Assessing the County's vulnerability to disaster also involves inventorying the natural, historical, and cultural assets of the area. This step is important for the following reasons:

- The community may decide that these types of resources warrant a greater degree of protection due to their unique and irreplaceable nature and contribution to the overall economy.
- In the event of a disaster, an accurate inventory of natural, historical, and cultural resources allows for more prudent care in the disaster's immediate aftermath when the potential for additional impacts is higher.
- The rules for reconstruction, restoration, rehabilitation, and/or replacement are often different for these types of designated resources.
- Natural resources can have beneficial functions that reduce the impacts of natural hazards, for example, wetlands and riparian habitat which help absorb and attenuate floodwaters and thus support overall mitigation objectives.

Historic and Cultural Resources

Historical resources are buildings, structures, objects, places, and areas that are eligible for listing in the National Register of Historic Places (NRHP), the California Register of Historic Resources (CRHR), or the County's List of Historic Resources; or that have an association with important persons, events in history, or cultural heritage; or that have distinctive design or construction method.

For purpose of federal actions, a qualified historic resource is defined as a property listed in or formally determined eligible for listing in the NRHP before a disaster occurs. The NRHP is part of a national program to coordinate and support public and private efforts to identify, evaluate, and protect historic and archeological resources. Properties listed include districts, sites, buildings, structures, and objects that are significant in American history, architecture, archeology, engineering, and culture. The National Register is administered by the U.S. Department of the Interior National Park Service. Local and state agencies may consider a broader definition of qualified historic properties in the review, evaluation, and treatment of properties damaged during a disaster.

The State of California Office of Historic Preservation can provide technical rehabilitation and preservation services for historic properties affected by a natural disaster. Depending on the hazard, protection could range from emergency preparedness, developing a fire safe zone around sites susceptible to wildfires, or seismically strengthening or structurally reinforcing structures.

State and local registers of historic resources provide designated Historical Landmarks, Points of Historical Interest, and Historic Buildings. These resources include, but are not limited to:

- The California Register of Historical Resources
- The California Historical Landmarks
- The California Inventory of Historical Resources
- The California Points of Historical Interest

Historical Resources designated on a federal, state, or local level are listed in Table 4-8.



Table 4-8 Kings County Historical Resources

PROPERTY NAME	REGISTER	JURISDICTION	DATE LISTED
El Adobe De Los Robles Rancho (206)	California State Historical Landmark	Lemoore	6/20/1935
Hanford Carnegie Library (N977)	National Register	Hanford	12/17/1981
Kings County Courthouse (N674)	National Register	Hanford	9/21/1978
Kingston (270)	California State Historical Landmark	Laton	9/3/1937
Location Of The Famous Mussel Slough Tragedy (245)	California State Historical Landmark	Hardwick	9/28/1936
Taoist Temple (N173)	National Register	Hanford	6/13/1972
Witt Site (N77)	National Register	Kettleman City	5/6/1971

Source: California Office of Historic Preservation

Other historic sites of local importance also exist. These include the Kings County Museum, the Bastille building in Civic Park, and the Tulare Lake Basin which holds cultural and historical significance for the Yokut Tachi Tribe.

Lists of designated historical resources change periodically, and they may not include those currently in the nomination process and not yet listed. Additionally, as defined by the National Environmental Policy Act (NEPA), any property over 50 years of age is considered a historic resource and is potentially eligible for the National Register. Thus, in the event that the property is to be altered, or has been altered, as the result of a major federal action, the property must be evaluated under the guidelines set forth by NEPA. Structural mitigation projects are considered alterations for the purpose of this regulation.

Cultural resources defined in California Environmental Quality Act (CEQA) Section 15064.5 include prehistoric and historic archeological resources; historic-period resources (buildings, structures, area, place, or objects). Archeological resources reflect past human activity extending from Native American prehistoric cultures throughout the early 20th century. The artifacts left by previous occupants may be encountered in small to large residential sites, or special use areas.

Many cultural and historical resources in the County are vulnerable to several hazards due to location and the nature of their construction. Some of these risks include earthquakes, wildfires, or adverse weather.

Natural Resources

Natural resources are important to include in benefit/cost analyses for future projects and may be used to leverage additional funding for mitigation projects that also contribute to community goals for protecting sensitive natural resources. Inventory and awareness of natural resource assets is vital to meeting conservation objectives. For example, protecting wetland areas provides sensitive habitat protection as well as floodwater conveyance and storage, which further enhances public safety.

To further understand natural resources that may be particularly vulnerable to a hazard event, as well as those that need consideration when implementing mitigation activities, it is important to identify at-risk species (endangered and threatened species) in the planning area. The U.S. Fish and Wildlife Service (USFW) maintains a list of federally listed threatened and endangered species for the country, which can be queried at the state or even county levels through the Information for Planning and Consultation (IPaC) database. The California Department of Fish and Wildlife (CDFW) also maintains species lists and accounts for threatened and endangered species. State and federal laws protect the habitat of these species through the environmental review process. Species of special concern may additionally include species that meet the State definition of threatened or endangered but that have not been formally listed, species that are experiencing serious population or habitat decline, or a species which has a naturally small population that is exhibiting high susceptibility to population decline (CDFW n.d.).



Table 4-9 summarizes Kings County's special status animal species as indicated in the IPaC database, within the Environmental Conservation Online System.

Table 4-9 Threatened and Endangered Species in Kings County

GROUP	COMMON NAME	SCIENTIFIC NAME	STATUS
Amphibians	California Red-legged Frog	<i>Rana draytonii</i>	Threatened
	California Tiger Salamander	<i>Ambystoma californiense</i>	Threatened
Birds	California Clapper Rail	<i>Rallus longirostris obsoletus</i>	Endangered
	California Condor	<i>Cymnogyps californianus</i>	Endangered
	Western Snowy Plover	<i>Charadrius nivosus nivosus</i>	Threatened
Crustaceans	Conservancy Fairy Shrimp	<i>Branchinecta conservatio</i>	Endangered
	Vernal Pool Fairy Shrimp	<i>Branchinecta lynchi</i>	Threatened
	Vernal Pool Tadpole Shrimp	<i>Lepidurus packardii</i>	Endangered
Flowering Plants	California Jewelflower	<i>Caulanthus californicus</i>	Endangered
	San Joaquin Woolly-threads	<i>Monolopia (=Lembertia) congdonii</i>	Endangered
Insects	Monarch Butterfly	<i>Danaus plexippus</i>	Candidate
Mammals	Buena Vista Lake Ornate Shrew	<i>Sorex ornatus relictus</i>	Endangered
	Fresno Kangaroo Rat	<i>Dipodomys nitratoideis exilis</i>	Endangered
	Giant Kangaroo Rat	<i>Dipodomys ingens</i>	Endangered
	San Joaquin Kit Fox	<i>Vulpes macrotis mutica</i>	Endangered
	Tipton Kangaroo Rat	<i>Dipodomys nitratoideis nitratoideis</i>	Endangered
Reptiles	Blunt-nosed Leopard Lizard	<i>Gambelia silus</i>	Endangered
	Green Sea Turtle	<i>Chelonia mydas</i>	Threatened

Source: US Fish and Wildlife Service - Environmental Conservation Online System

4.4.1.5 Growth and Development Trends

Population and Projected Growth

According to the Department of Finance (DOF) the 2023 population of the County was 157,316. The DOF projects the total population will increase by 7.6% to 169,215 by 2030. While total households in the County are also projected to increase from 44,561 in 2020 to 50,068 in 2030, people per household is projected to slightly decrease from 3.16 in 2020 to 3.06 persons per household in 2030. The cities of Avenal and Corcoran both experienced an increase in population between 2021 and 2022 (3.4% for Avenal and 6% for Corcoran), however, the rest of the cities experienced a slight decrease in population between 2021 and 2022.

Social Vulnerability

Social vulnerability is broadly defined as the susceptibility of social groups to the adverse impacts of natural hazards, including disproportionate death, injury, loss, or disruption of livelihood. Social vulnerability considers the social, economic, demographic, and housing characteristics of a community that influence its ability to prepare for, respond to, cope with, recover from, and adapt to environmental hazards. Social vulnerability considerations were included in the update of this 2023 MJHMP update to identify communities across the County that might be more vulnerable to hazard impacts based on many factors. In California, socially vulnerable populations, also referred to as disadvantaged communities (DACs) are mapped through Federal-developed and State mapping tools, including but not limited to the FEMA's National Risk Index (NRI) for Natural Hazards, the California Office of Environmental



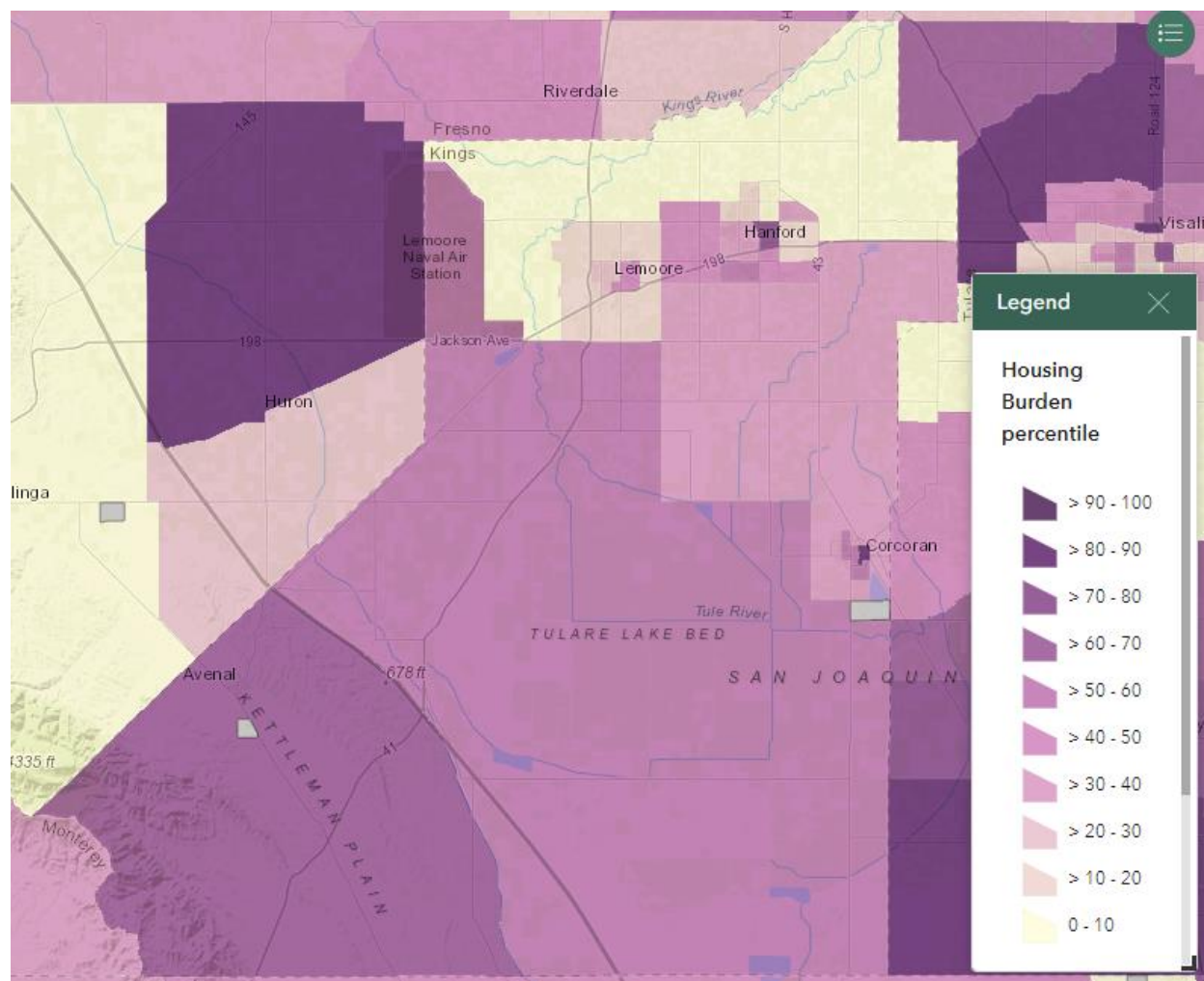
Health Hazard Assessment's (OEHHA) CalEnviroScreen, Department of Water Resources (DWR) Mapping Tools (DAC and Economically Distressed Areas [EDAs]), and the Center for Disease Control and Prevention (CDC) Agency for Toxic Substances and Disease Registry (ATSDR)'s Social Vulnerability Index (SVI). FEMA's NRI and OEHHA's CalEnviroScreen are used to identify and assess socially vulnerable populations in the County's MJHMP update.

The OEHHA CalEnviroScreen tool applies a formula to generate a combined ranking score that considers 21 indicators for each census tract that cover pollution indicators, such as diesel emissions and concentrations of toxic clean-up sites and population indicators, such as poverty and unemployment rates. Census tracts with CalEnviroScreen rankings between 75 and 100 percent (i.e., a combined score in the top 25 percent of all census tracts in the State) are considered to be DACs.

One of the population indicators for the CalEnviroScreen is the Housing Burden Indicator, which identifies housing-burdened communities. Housing-burdened low-income households are households that are both low-income and highly burdened by housing costs. The housing burden indicator measures the percentage of households in a census tract that are both low-income (making less than 80% of its County's median family income) and severely burdened by housing costs (paying greater than 50% of their income to housing costs). California has very high housing costs relative to the rest of the country, which can make it hard for households to afford housing (OEHHA 2022). Households with lower incomes may spend a larger proportion of their income on housing and may suffer from housing-induced poverty (OEHHA 2022). Housing affordability is an important determinant of health and well-being. Low-income households with high housing costs may suffer adverse health impacts. These households are also more likely to be adversely affected during a hazard event and less likely to recover as quickly as other population groups.

Figure 4-3 below shows the overall housing burden indicator for Kings County from the census tract level. As shown in Figure 4-3, there are a few communities within the County with a higher housing burden; these communities are concentrated in the cities of Hanford, Lemoore, Corcoran, and Avenal, as well as the unincorporated area surrounding the City of Avenal. Twenty-three percent of the people in the dark purple census tract near the City of Hanford are housing-burdened low-income households. This percent housing burdened is higher than 75% of the rest of California. In addition, 28% of the people in the dark purple census tract near the City of Corcoran are housing-burdened low-income households. This percent housing burdened is higher than 87% of the rest of California.

Figure 4-3 CalEnviroScreen Housing Burden Indicator – Kings County

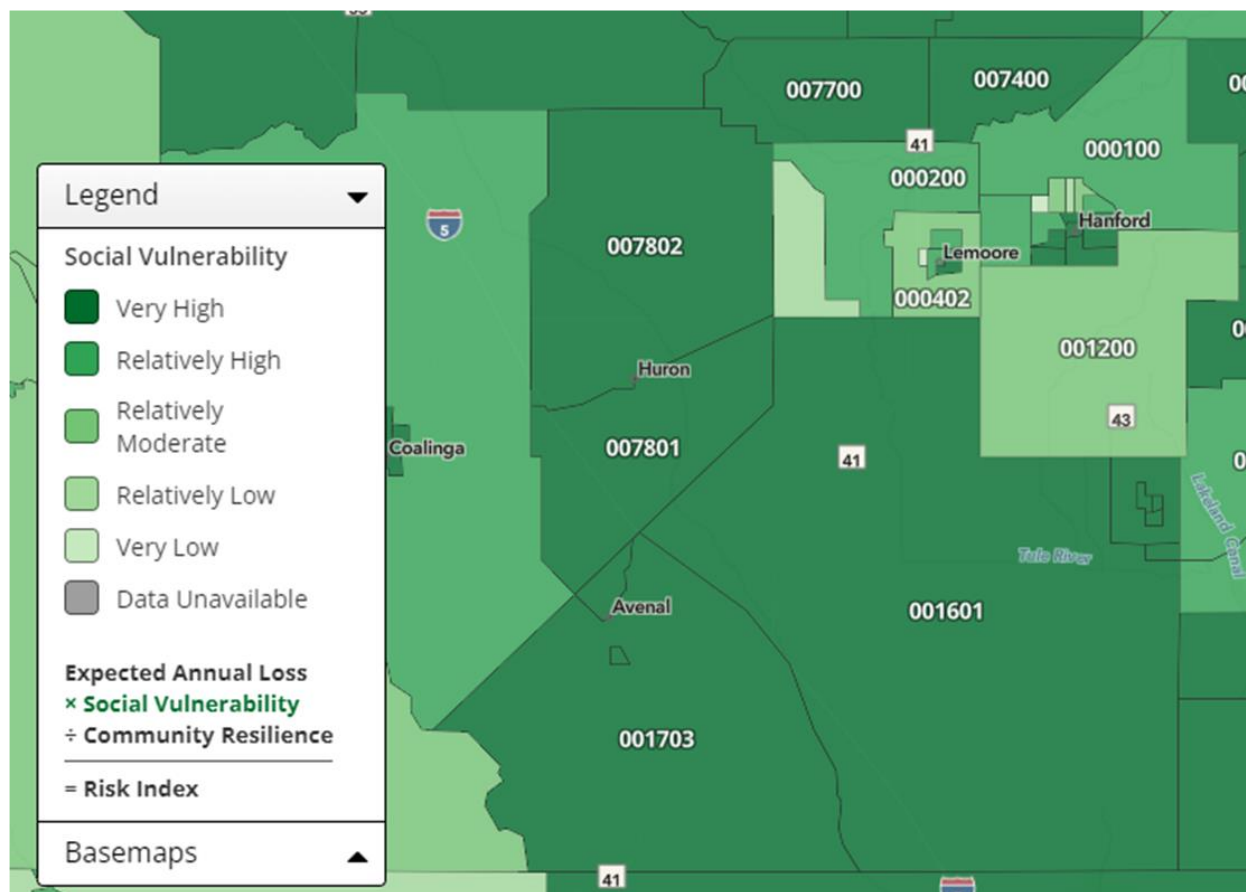


Source: OEHHA 2023

Social vulnerability is also one of the main three components of calculating FEMA's NRI level. As documented in the March 2023 NRI Technical Documentation, among various social vulnerability indices, the CDC/ATSDR's Social Vulnerability Index (SVI) was selected to be used in the NRI calculation. SVI is a location-specific assessment of social vulnerability that utilizes 16 socioeconomic variables deemed to contribute to a community's reduced ability to prepare for, respond to, and recover from hazards. Examples of these variables include racial & ethnic minority status, no high school diploma, and no health insurance.

Figure 4-4 below shows the overall social vulnerability of the County according to FEMA NRI and CDC/ATSDR's SVI. The darker the color, the higher social vulnerability of the census tract. Many census tracts within the County have very high social vulnerability, such as the areas around Corcoran, Avenal, and the area west of the Lemoore Naval Air Station. The entire southwestern and central portions of the County have very high social vulnerability. Quite a few census tracts near and within the City of Hanford also have very high social vulnerability.

Figure 4-4 FEMA NRI Social Vulnerability – Kings County



Source: FEMA 2023

The County can use the above information about these DACs to understand whether certain socially vulnerable communities have a greater exposure to hazards like dam incidents, earthquakes, droughts, flooding, and wildfire. The County can also use the information to conduct targeted outreach and engage community members to consider what other hazards and mitigation strategies or programs should be considered to meet community needs. The County can also engage these communities to proactively prioritize hazard mitigation projects that benefit them. Additional information on specific DACs is summarized in the specific jurisdictional Annexes.

Development Trends

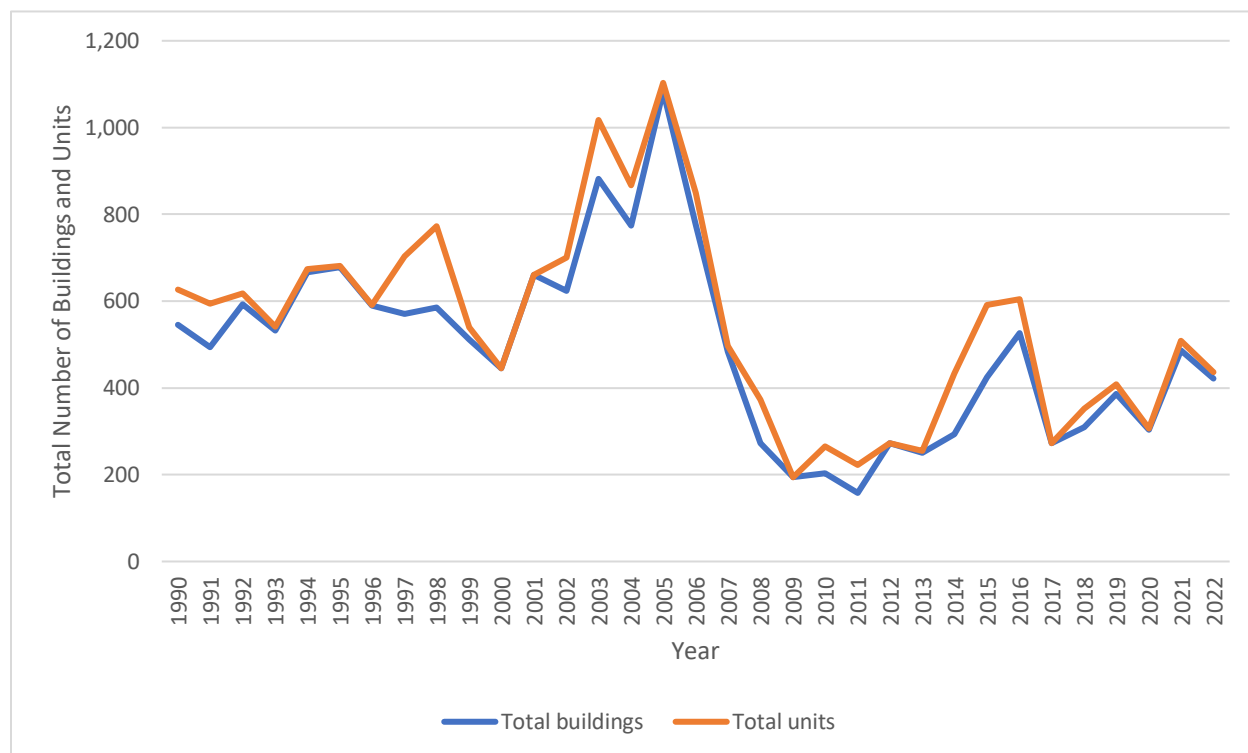
The areas located in the Sphere of Influence (SOI) for each incorporated jurisdiction are areas each city plans to grow into and are areas potentially slated for development. Understanding the potential hazard exposure in each area can help to mitigate the impacts of events before development occurs in those areas. Development trends since the previous 2012 MJHMP update are also addressed. These growth and development trends are assessed in the Development Trends subsection of the vulnerability assessment, each annex, and broadly summarized below. In general, most residential development has occurred or is proposed within the city limits of each jurisdiction or within and around the unincorporated communities.

The County is expected to grow in population over the next five years and growth forecasts project growth will be approximately 2% from 2023 to 2027 (152,340 people to 155,589 people) according to the California Department of Finance County Population Projections from 2020 to 2060 (DOF 2023). To accommodate the growth new residential, commercial, and industrial development will occur, with the most growth occurring for residential land uses and around the communities of Avenal, Corcoran, Hanford, and Lemoore. The U.S. Census Bureau Building Permit Survey provides information and local



statistics on new privately-owned residential construction. Figure 4-5 displays the new privately owned housing unit authorizations by year in Kings County. The data indicates that there was a sharp increase in housing units from 2000 to 2005, and then a sharp decrease from 2006 through 2014. The number of new units has steadily remained around 300 to 400 units per year in the County from 2015 through 2022. An increase in the number of housing unit authorizations in the County could indicate an increase in the total number of buildings exposed to hazard events.

Figure 4-5 New Privately Owned Housing Unit Authorizations



Source: US Census Bureau, https://www.census.gov/construction/bps/data_visualizations/index.html

During this plan update process, an improved parcel & address point analysis was also conducted using the SOI areas for each incorporated jurisdiction and overlaid with available hazard risk layers to determine where development trends may exacerbate the risk of natural hazard events. The results of the spatial analysis have been integrated into the applicable hazard sections: flood, landslide, and wildfire. Table 4-10 is the summary of the SOI total exposure by jurisdiction.

Table 4-10 Total Exposure Summary by Jurisdiction Sphere of Influence Areas

JURISDICTION	IMPROVED PARCEL COUNT	Building COUNT	IMPROVED VALUE	ESTIMATED CONTENT VALUE	TOTAL VALUE
Avenal	2	2	\$340,269	\$340,269	\$680,538
Corcoran	192	203	\$82,400,798	\$88,858,817	\$171,259,615
Hanford	768	970	\$144,542,108	\$143,772,786	\$288,314,894
Lemoore	191	291	\$30,525,548	\$19,548,785	\$50,074,333
Grand Total	1,153	1,466	\$257,808,723	\$252,520,657	\$510,329,380

Source: WSP Analysis 2023

City of Avenal

According to the City's 2035 General Plan Land Use Element that was adopted in 2018, the City aims to preserve and enhance its unique and small-town character. The City aims to minimize urban sprawl and



leap-frog development. The development of vacant, underdeveloped, and/or re-developable land within the boundaries of the existing developed area and where urban services are or can be made available should be prioritized. The City will preserve and protect agricultural use on lands for open space purposes and for the managed production of resources. Open space in the Avenal area should be created and preserved to meet the needs of the community. Additionally, according to the 2016 – 2024 Kings County Housing Element, the Regional Housing Needs Allocation (RHNA) for the City of Avenal is 639 housing units in total, including 73 for extremely low income, 72 for very low income, 108 for low income, 115 for moderate income, and 271 for above moderate income. This means the City will need to provide approximately this many housing units to accommodate new growth in the next five years. Most of this growth is projected to occur within the City's SOI and outside flood zones located to the west of the City. All other growth in the City's SOI is expected to have similar risk and exposure to drought, earthquake, extreme heat, fog, and freeze. All census tracts in the City are designated DACs, or underserved communities, therefore the risk to these communities is expected to be greater for earthquake hazards, drought conditions, and extreme heat hazards. While there are existing hazard mitigation capabilities in place to reduce the impacts from these hazards, additional efforts will be required to address additional population growth and increased exposure to these hazards due to climate change.

City of Corcoran

According to the City's 2008 General Plan Land Use Element, the City aims to preserve and enhance its unique character and achieve an optimal balance of residential, commercial, industrial, and open space land uses. Meanwhile, the City aims to further develop existing gateways and at some future time develop scenic entryways (gateways) and roadway corridors into the City through special setback and landscape standards, entry signage, open space and park development, and/or land use designations. Future gateways include development along State Route (SR) 43, SR 137 and Whitley Avenue/7th avenue. Regarding the City's growth management, the City will minimize urban sprawl and leap-frog development and provide for an orderly and efficient transition from rural to urban land uses. The City will also designate growth areas that can be served by logical infrastructure extensions. On the other hand, according to the 2016 – 2024 Kings County Housing Element, the RHNA for the City of Corcoran is 946 housing units in total, including 108 for extremely low income, 107 for very low income, 161 for low income, 169 for moderate income, and 401 for above moderate income.

As noted by the HMPC during the plan update process, the City experienced minor population growth over the past decade. One major factor contributing to the City not experiencing any significant population growth is the lack of available housing. The City is poised for additional residential and commercial growth. Currently, a 50-unit residential subdivision is in development with three additional subdivisions representing about 200 housing units potentially being approved over the next two years. Commercial infill development is currently taking place within the City's downtown and industrial areas. All this new potential growth is within the already established General Plan development area that historically maintains a compact urban area that avoids the most prominent hazard – flood hazard. New growth within the City's existing urban area will have similar risk and exposure to drought, earthquake, extreme heat, fog, and freeze based on risk exposure summarized in the previous plan. Since the designated FEMA 1% annual chance flood zones are located west and southwest of the City, the added growth of the City avoids this hazard. Therefore, there is no significant change in development in the City that increases the risk or severity of the hazards identified above, nor does the growth pattern compromise the needs of any underserved community.

City of Hanford

According to the City's 2035 General Plan Land Use Element, the City's growth management goals include a well-planned community that grows in an organized fashion, development preference of vacant and underutilized properties and limitation of urban sprawl-style development patterns in new growth areas. The land use element also mentions supporting the continuance of the Home Garden Community Services District (CSD) as an independent special district serving the existing Home Garden Community. The City will also keep supporting, encouraging, and incentivizing, to the extent possible, infill development projects that can effectively utilize existing transportation and utility infrastructure. On the other hand, according to the 2016 – 2024 Kings County Housing Element, the RHNA for the City of Hanford is 4,832 housing units in total, including 549 for extremely low income, 548 for very low income, 821 for low income, 865 for moderate income, and 2,049 for above moderate income. In addition, as noted by the HMPC during the Plan Update, the 2023-2032 Regional Housing Needs Assessment projects the City will add approximately 5,547 residential units over the next decade. Although there are not any specific hazard-related concerns associated with this growth, the City will have to expand services as



growth continues. While growth in the City's SOI is expected to have similar risk and exposure to drought, earthquake, extreme heat, and severe weather hazards, the portions of the City with DACs and other underserved communities may be at a greater risk due to their ability to prepare for, cope with, and recovery from hazard events. There are existing hazard mitigation capabilities in place to reduce the impacts from these hazards due to recent planning efforts related to the City's Climate Action Plan, but further efforts will be required to address gradual population growth and increased exposure to these hazards due to climate change.

City of Lemoore

According to the City's 2030 General Plan Land Use Element, the City aims to preserve its small-town character. Actions are taken to revitalize downtown, prevent sprawl, keep neighborhoods within walking distance of amenities and schools, and provide open space and parks to maintain Lemoore's quality of life. The City intends to maintain a well-defined compact urban form, with a defined urban growth boundary, and development intensities on land designated for urban uses. The Element is explicit in noting that development west of the 21st Avenue alignment should be prevented to protect the Navy from encroachment. Contiguous development within SOI is also required. On the other hand, according to the 2016 – 2024 Kings County Housing Element, the RHNA for the City of Lemoore is 2,985 housing units in total, including 339 for extremely low income, 338 for very low income, 507 for low income, 534 for moderate income, and 1,267 for above moderate income. Given this high number of needed housing in the City, growth in the City would result in increased risk and exposure to drought, earthquake, extreme heat, and severe weather hazards. In addition, as noted by the HMPC during the plan update, growth in the City of Lemoore is continuing to the West side of Lemoore as well as the North side in the coming years. This growth has no impact on hazard-related concerns in the area. However, while the majority of the City is not a designated underserved community, the western edge of the City falls within a census tract designated as a DAC. Therefore, these communities may have greater risk to exposure to drought, earthquake, extreme heat, and severe weather hazards. This risk may also be intensified by the effects of climate change.



4.5 HAZARD ANALYSIS AND RISK SUMMARY

Requirement §201.6(c)(2)(i):

[The risk assessment shall include a] description of the type, location and extent of all natural hazards that can affect the jurisdiction. The plan shall include information on previous occurrences of hazard events and on the probability of future hazard events.]

4.5.1 AGRICULTURAL PESTS AND DISEASE

4.5.1.1 Hazard Description

Agriculture is the dominant land use in the County, accounting for 90.2% of total land use (2023 General Plan 2010). The County was the 8th top-producing agricultural county in California by gross value in 2020, grossing more than \$2.1 billion in 2020 (CFDA 2021). Top commodities in 2021 included milk, pistachios, almonds, and cotton (see Table 4-11 below).

Table 4-11 Top 10 Commodities in Kings County in 2021

RANK	CROP	DOLLAR VALUE
1	Milk, Total	\$722,744,000
2	Pistachios	\$267,900,000
3	Almonds, Total	\$190,674,000
4	Cotton, Total	\$190,079,000
5	Cattle & Calves	\$172,131,000
6	Tomatoes, Processed	\$128,712,000
7	Corn, Silage	\$79,294,000
8	Walnuts	\$61,883,000
9	Livestock, Poultry	\$61,423,000
10	Alfalfa, Hay	\$45,995,000

Source: Kings County Department of Agriculture 2021 Crop Report

Agricultural pests and pathogens (insects, fungi, bacteria, viruses, and invasive plants) can cause injury or severe destruction to crops or livestock. From exotic fruit flies to noxious weeds, California's agriculture can be impacted by a wide variety of invasive pests and pathogens. These pests pose significant threats to the state's agricultural crops, farm workers, economy, food supply and native habitat. They can also result in increases in food prices for consumers. The number of invasive pests and pathogens newly detected in California and the rest of the United States has increased at alarming rates in recent years, and that trend is projected to continue into the future (Morales-Rodríguez et al., 2019).

Insect pests and diseases, such as bark beetles and sudden oak death disease (SOD), can destroy forests and oak woodland habitat located along the north-east and southwest tips of Kings County, which can in turn increase the fuel load and lead to greater fire risk. Agricultural disasters could also occur due to severe weather events, such as extreme heat, freeze cycles, and heavy rainfall, hazards that are covered under Sections 4.5.6 through 4.5.15. Drought events are covered under Section 4.5.4.

Agricultural pest and disease management programs are administered at the state level in California, which provides important existing capacity related to minimizing and managing agricultural pests and diseases. The California Food and Agricultural Code mandates pest prevention programs to prevent the introduction and spread of pests in the state, fund such programs, and direct administration of the programs to the local municipalities. These include the Pest Exclusion Program, Pest Detection Program, Pierce's Disease Control Program, and Federal Phytosanitary Certificate Program. Target pests addressed by each program are listed in Table 4-12, and also include dairy, livestock, and poultry pests and diseases, such as *Mycobacterium bovis* and pathogenic avian influenzas.

Table 4-12 Target Pests Kings County

PEST	TYPE OF TRAP	NUMBER OF TRAPS	NUMBER OF SERVICINGS
All Purpose Fruit Fly	Champ	116	1,030



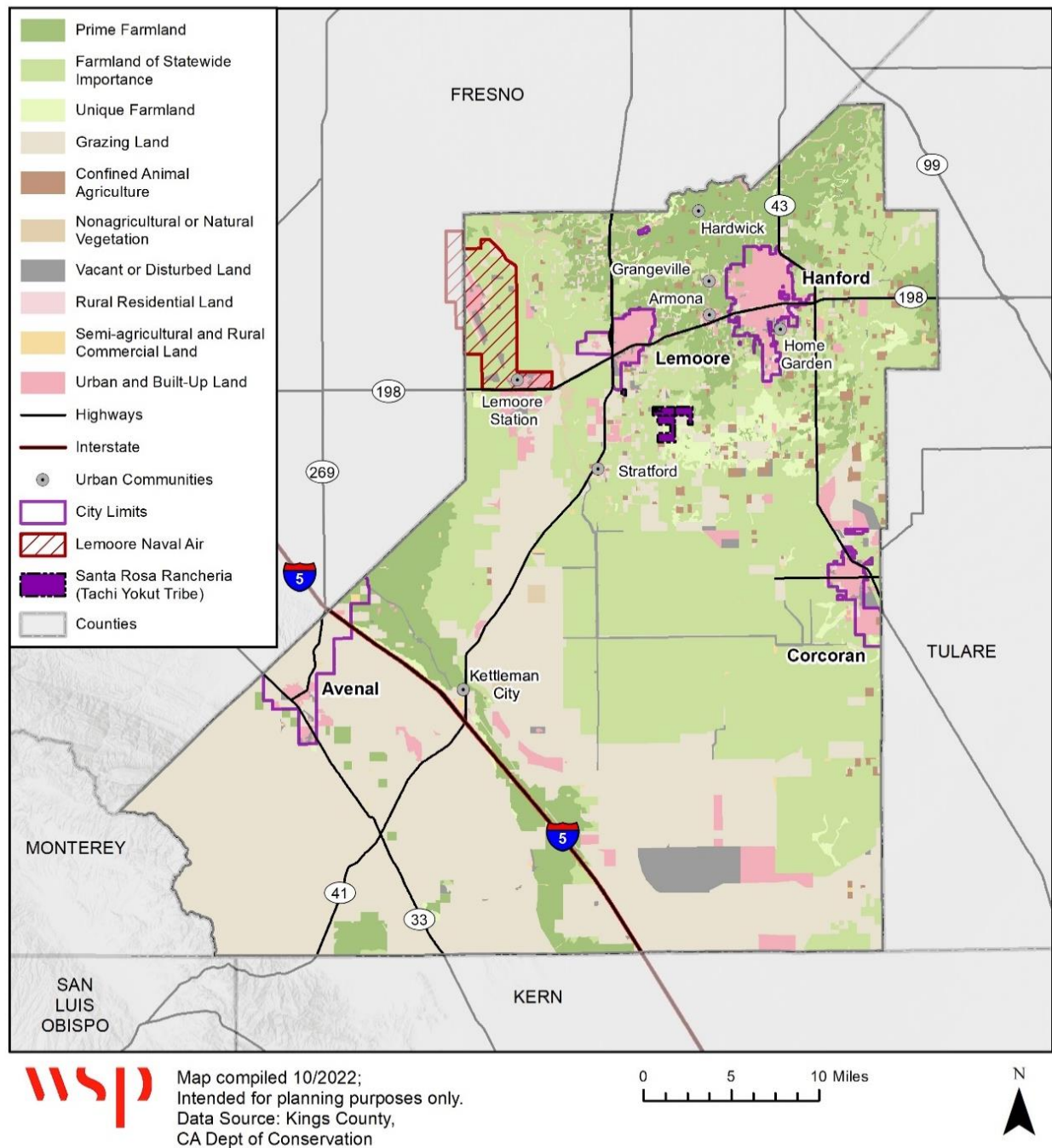
PEST	TYPE OF TRAP	NUMBER OF TRAPS	NUMBER OF SERVICINGS
Asian Citrus Psyllid	Yellow Panel	272	4,007
European Corn Borer	Pherocon II	13	130
European Grape Vine Moth	Delta	501	4,374
European Pine Shoot Moth	Pherocon II	5	12
Glassy-Winged Sharpshooter	Yellow Panel	173	863
Spongy Moth	Delta	76	561
Japanese Beetle	Japanese Beetle	76	561
Light Brown Apple Moth	Jackson	152	810
Mediterranean Fruit Fly	Jackson	152	20,93
Melon Fly	Jackson	152	656
Mexican Fruit Fly	McPhail	98	2,351
Oriental Fruit Fly	Jackson	152	1,983
Total		1,952	24,250

Source: Kings County Department of Agriculture 2021 Crop Report

4.5.1.2 Geographic Area

Extensive – According to the 2017 Census of Agriculture, the County contains 615,958 acres of land in farms. There are approximately 963 farms (as of 2017) in the County. Most of these important farmlands are located within the County's unincorporated area and are currently zoned for agricultural use. Figure 4-6 illustrates the geographic extent of the important farmlands across the County.

Figure 4-6 Kings County Important Farmland



4.5.1.3 Past Occurrences

The USDA Risk Management Agency (RMA) tracks insurance payments, or indemnities, made to farmers as a safety net against natural hazards, such as drought and agricultural disease. Between the years of 2007 and 2021, 8,444 acres of USDA insured crops were lost in Kings County due to agricultural pest and disease, resulting in over \$3 million in indemnity payments. Of these payments, \$1.1 million and 3,478 acres were due to insect damage, \$1.9 million and 3,734 acres were due to plant disease, and \$1,231 and 1,232 acres were due to wildlife damage. Table 4-13 summarizes these agricultural losses.



Table 4-13 Crop Losses due to Agricultural Pests and Disease, 2007-2021

COMMODITY YEAR	COMMODITY NAME	DAMAGE CAUSE DESCRIPTION	DETERMINED ACRES	INDEMNITY AMOUNT
2007	Wheat	Wildlife	1,231.9	\$47,681
2007	Tomatoes	Insects	30.4	\$1,997
2007	Plums	Insects	13.0	\$5,718
2008	Cotton	Insects	99.8	\$29,179
2010	Cotton	Insects	73.1	\$29,845
2010	Cotton	Plant Disease	21.0	\$3,522
2013	Tomatoes	Insects	867.3	\$332,940
2013	Tomatoes	Plant Disease	1,221.7	\$488,223
2013	Tomatoes	Plant Disease	1,534.2	\$568,903
2014	Corn	Insects	240.0	\$83,952
2015	Tomatoes	Insects	526.2	\$77,887
2015	Tomatoes	Plant Disease	77.2	\$178,326
2015	Tomatoes	Plant Disease	227.8	\$182,791
2015	Alfalfa Seeds	Insects	160.0	\$50,652
2017	Cotton	Insects	1,075.9	\$357,251
2018	Tomatoes	Plant Disease	146.9	\$36,124
2019	Wheat	Plant Disease	126.4	\$8,342
2020	Onions	Plant Disease	229.3	\$386,723
2020	Tomatoes	Plant Disease	149.3	\$91,078
2021	Cotton	Insects	302.5	\$113,301
2021	Cotton	Insects	90.2	\$7,200
Total			8,443.9	\$3,081,635

Source: USDA RMA Crop Indemnity Reports, 2007-2021

4.5.1.4 Likelihood of Future Occurrence

Likely – Based on past occurrences of economic impacts and implementation of control measures, and the likely increase in pest activity outlined in the Climate Change Considerations section below, pests, disease, and invasive species will continue to present a constant threat to the County and its jurisdictions. These events are anticipated to be influenced by a changing climate and therefore expected to occur on an annual basis or have a 100% chance of occurring each year.

4.5.1.5 Climate Change Considerations

California's Fourth Climate Change Assessment (2018) notes that "climate change impacts terrestrial ecosystems and wildlife in multiple ways, including invasion by exotic species, prevalence of wildlife disease, and loss of native habitats." Changing climate conditions can impact viable living areas of species and cause migration, shifting the spread of pests and disease northward by changing habitat temperatures and making previously undesirable habitats welcoming for new species, while also lengthening habitable seasons (Bedsworth et al, 2018). Longer growing seasons may also allow agricultural pests to persist longer, which can increase the severity of infestations on agricultural operations.

4.5.1.6 Magnitude and Severity

Critical – Pests can impact a multitude of crops in different ways. While there is no scale to define the extent of an infestation, a pest could have a major economic impact on the value of infested crops.



Another large factor that may influence crop yield is the spread of invasive plants, which may compete with crops for resources and, in some cases, also introduce pests. According to the California Invasive Plant Council (Cal-IPC), invasive plants cost California \$82 million every year in control, monitoring, and outreach (Cal-IPC, n.d.). Based on the USDA's RMA Crop Indemnity Reports, in the County between 2007 and 2021, there were 8,443 acres lost due to agricultural pests and disease and \$3.1 million in indemnity payments made. This results in an annualized loss of 603 acres and \$220,116 due to agricultural pests and disease.

4.5.1.7 Vulnerability Assessment

Agricultural losses occur on an annual basis and are usually associated with severe weather events, including heavy rains, floods, hail, freeze, and drought. The California SHMP attributes most of the agricultural disasters statewide to drought, freeze, and insect infestations (Cal OES 2018). Other agricultural hazards include fires, crop and livestock disease, noxious weeds, and contamination of animal food and water supplies.

People

A widespread infestation of livestock and crops could result in severe consequences to the economic base of the County and its communities employed by the agriculture industry. According to the USDA 2017 Census of Agriculture, the County has 963 farms, which is a -9% change from the previous census in 2012 (USDA 2017). While agricultural production in the County can enhance the economy, improve human health, and ensure stable food prices in California and the U.S., certain habitats established for irrigation and agricultural output can also threaten human health by increasing the risk of vector-borne diseases (e.g. mosquitos, etc.). Agricultural pests and disease, or significant crop losses, can also impact communities if they result in limited food supplies and rises in food prices. Widespread crop losses due to contamination issues (foreign agents, biological disease) could also decrease the public's confidence in food safety. Rural communities residing closest to these agricultural operations may be most vulnerable to these diseases.

Agricultural jobs could be negatively impacted during an agriculture emergency, including jobs tangentially tied to the agriculture industry. According to *The Impacts of Climate Change on Human Health in the United States: A Scientific Assessment*, rising temperatures and drought conditions could lead to increases in the occurrence and transport of pathogens in agricultural environments, which will increase the risk of food contamination and direct human exposure to pathogens and toxins (USGCRP 2016). In turn, this will increase health risks and require greater vigilance in food safety practices and regulation.

Property

An infestation of agriculture pests or disease can lead to a range of negative consequences on property, including decreased crop yields and the potential destruction of entire fields along with farmland property. However, the impact of damaged crops and plants goes beyond these direct effects and may exacerbate the impacts of other hazards, such as severe weather. For instance, dead branches resulting from pest or disease damage can easily be broken by high winds during a storm, posing a risk of property damage and harm to people.

Critical Facilities and Lifelines

Critical facilities assessed in this plan would not be directly impacted by agricultural pests or diseases; however, the food and agriculture industry are considered critical infrastructure in the County and California. Impacts to this infrastructure, such as farms, dairy operations, and processing facilities would have debilitating effects on food security, the economy, and public health and safety. The County farms and dairies, and the associated food processing facilities, would be directly impacted economically by long-term disruptions in the food supply associated with crop losses due to agricultural pests and disease.

Economy

Economic impacts include both prevention, response, and recovery costs. Given the contribution of agriculture to the local economy, pest impacts could be significant. The value of agricultural commodities noted at the beginning of this hazard profile is \$2,424,497,000 (\$2 billion). Based on a hypothetical loss of 5% due to agricultural pest or disease, Kings County could equate to approximately \$121 million in total economic losses to agricultural pests and disease.



Cultural, Historic and Natural Resources

Invasive species typically harm native species through predation, habitat degradation and competition for shared resources. They can outcompete native species and are a leading cause of population decline and extinction in animals. Tree mortality raises the wildfire threat in healthy forests, increasing the vulnerability, strength, speed, and destruction of fires in the area. Significant crop failures can also result in impacts on the environment if they result in contamination or the need for groundwater or surface water monitoring.

Development Trends

While the USDA RMA has made several indemnity payments for damaged crops in the County, there have been no USDA disaster declarations due to agricultural pests or disease. Good development practices and the ongoing implementation of policies included in the County's Resource Conservation Element and Open Space Element have had a positive impact on the County's vulnerability to agricultural pests, plant diseases, and tree mortality.

4.5.1.8 Risk Summary

- Kings County's farming and agricultural industry is ranked as one of the top agriculture-producing counties in California and the country.
- Agriculture is the dominant land use in Kings County, accounting for 90.2% of all land.
- Invasive plants cost California \$82 million every year in control, monitoring, and outreach.
- Over 14 years, there were 8,443 acres lost due to agricultural pests and disease and \$3.1 million in indemnity payments made in Kings County.
- Changes in weather patterns can have dramatic impacts on the ecosystem, including agriculture systems, and more severe impacts associated with agricultural pests and disease can be expected in the future.
- Changing climate conditions can shift the spread of pests and disease northward by changing habitat temperatures and making previously undesirable habitats welcome new species through longer growing seasons. This may increase the severity of pest infestations on agricultural operations.
- Related hazards – Drought, Severe Weather

JURISDICTION	GEOGRAPHIC AREA	PROBABILITY OF FUTURE OCCURRENCE	MAGNITUDE/ SEVERITY	OVERALL SIGNIFICANCE	PRIORITY HAZARD?
Kings County	Extensive	Likely	Critical	Medium	No
City of Avenal	Extensive	Likely	Critical	Medium	No
City of Corcoran	Extensive	Likely	Critical	Medium	No
City of Hanford	Extensive	Likely	Critical	Medium	No
City of Lemoore	Extensive	Likely	Critical	Medium	No

4.5.2 CYBER-ATTACK

4.5.2.1 Hazard Description

The 2018 California SHMP defines cyber-attacks as "attempts by cyber criminals to attack a government, organization, or private party by damaging or disrupting a computer or computer network, or by or stealing data from a computer or computer network for malicious use." Cyber-attacks use malicious code to alter computer operations or data. The vulnerability of computer systems to attack is a growing concern as people and institutions become more dependent upon networked technologies. The Federal Bureau of Investigation (FBI) reports that "cyber intrusions are becoming more commonplace, more dangerous, and more sophisticated," with implications for private- and public-sector networks. Cyber threats can take many forms, including:



- **Phishing attacks:** Phishing attacks are fraudulent communications that appear to come from legitimate sources. They typically come through email but may come through text messages as well. Phishing may also be considered a type of social engineering meant to exploit individuals into paying fake invoices, providing passwords, or sending sensitive information.
- **Malware attacks:** Malware is malicious code that may infect a computer system. It typically gains a foothold when a user visits an unsafe site, downloads untrusted software, or may be downloaded in conjunction with a phishing attack. Malware can remain undetected for years and spread across an entire network.
- **Ransomware:** Ransomware typically blocks access to a jurisdiction's/agency's/business' data by encrypting it. Perpetrators will ask for a ransom to provide the security key and decrypt the data, although many ransomware victims never get their data back even after paying the ransom.
- **Distributed Denial of Service (DDoS) attack:** Perhaps the most common type of cyber-attack, a DDoS attack seeks to overwhelm a network and causes it to either be inaccessible or shut down. A DDoS typically uses other infected systems and internet-connected devices to "request" information from a specific network or server that is not configured or powerful enough to handle the traffic.
- **Data breach:** Hackers gaining access to large amounts of personal, sensitive, or confidential information has become increasingly common in recent years. In addition to networked systems, data breaches can occur due to the mishandling of external drives.
- **Critical Infrastructure/SCADA System attack:** There have been recent critical infrastructure Supervisory Control and Data Acquisition (SCADA) system attacks aimed at taking down lifelines such as power plants and wastewater facilities. These attacks typically combine a form of phishing, malware, or other social engineering mechanisms to gain access to the system.

Cyber-attacks are rapidly increasing in the United States. The FBI Internet Crime Complaint Center (IC3) was developed to provide the public with a direct way to report cyber-crimes to the FBI. In 2021, the FBI IC3 reported a record number of cyber-attacks, with a 7% increase from 2020 (FBI, 2022). The events reported to the FBI are used to track the trends and threats from cyber criminals to combat cyber threats and protect U.S. citizens, businesses, and government from future attacks.

In a recent attempt to combat this threat, the State adopted Senate Bill (SB) 327 in September 2018. This bill seeks to improve information privacy, specifically pertaining to connected devices. Existing laws in California require businesses to take all reasonable steps to dispose of customer records within their custody containing personal information and require businesses that own, license, or maintain personal information about a California resident to implement and maintain reasonable security procedures. Moreover, beginning on January 1, 2020, SB 327 further requires the manufacturer of connected devices to equip the device with a reasonable security feature to protect user information.

4.5.2.2 Geographic Area

Significant – Cyber-attacks can and have occurred in every location regardless of geography, demographics, and security posture. Anyone with information online is vulnerable to a cyber-attack. Incidents may involve a single location or multiple geographic areas. A disruption can have far-reaching effects beyond the location of the targeted system; disruptions that occur far outside the state can still impact people, businesses, and institutions within the County. All servers in the County are potentially vulnerable to cyber-attacks. Businesses, industries, and even individuals are susceptible to cyber-attacks. Therefore, the geographic extent of cyber-attack is significant.

4.5.2.3 Past Occurrences

According to the FBI's 2021 *Internet Crime Report*, the FBI received 2.76 million complaints with \$18.7 billion in losses over the last five years due to cyber-attacks (FBI 2022). The *Crime Report* also noted a trend of increasing cybercrime complaints and losses each year. Nationwide losses in 2021 alone exceeded \$6.9 billion, a 393% increase since 2017. According to the 2021 Report, California ranked the top among all US territories in both the total number of victims (67,095 victims) and total victim losses (\$1,227,989,139) in total losses (FBI 2022).

Data on past cyber-attacks impacting California was gathered from The Privacy Rights Clearinghouse. The Privacy Rights Clearinghouse, a non-profit organization based in San Diego, maintains a timeline of 9,741 data breaches resulting from computer hacking incidents in the United States from 2005-2021. The database lists 1,338 data breaches against systems located in California totaling almost 10.4 billion impacted records; it is difficult to know how many of those affected residents in the County. According to



Privacy Rights Clearinghouse, there is one specific incident that happened to the Yanez Dental Corporation located in the City of Hanford on September 19, 2011: an office burglary resulted in the loss of three computers with patient information such as patient names, social security numbers, dates of birth, addresses, telephone numbers, and other personal information being exposed.

Moreover, attacks happening outside of the County and California can also impact local businesses, personal identifiable information, and credit card information. Figure 4-7 shows several of the most significant cyber-attacks in California in recent years. All top five cyber-attack events are businesses hacked by an outside party or infected by malware. The data aims to provide a general understanding of the impacts of cyber-attacks by compiling an up-to-date list of incidents but is limited by the availability of data: "This is an incomplete look at the true scope of the problem due in part to varying state laws", as noted by The Privacy Rights Clearinghouse. Table 4-14 shows major cyber-attacks impacting California from 2005 through 2021.

Table 4-14 Major Cyber Attacks Impacting California (10,000,000,000+ Records), 2005-2021

DATE REPORTED	TARGET	CITY	ORG.TYPE	TOTAL RECORDS	TYPE OF ATTACK
12/14/2016	Yahoo	Sunnyvale	Business	3 billion	Hacked by an Outside Party or Infected by Malware
9/22/2016	Yahoo	Sunnyvale	Business	500 million	Hacked by an Outside Party or Infected by Malware
11/16/2016	FriendFinder	Sunnyvale	Business	412 million	Hacked by an Outside Party or Infected by Malware
5/31/2016	MySpace	Santa Monica	Business	360 million	Hacked by an Outside Party or Infected by Malware
6/6/2012	LinkedIn	Mountain View	Business	167 million	Hacked by an Outside Party or Infected by Malware

Source: The Privacy Rights Clearinghouse

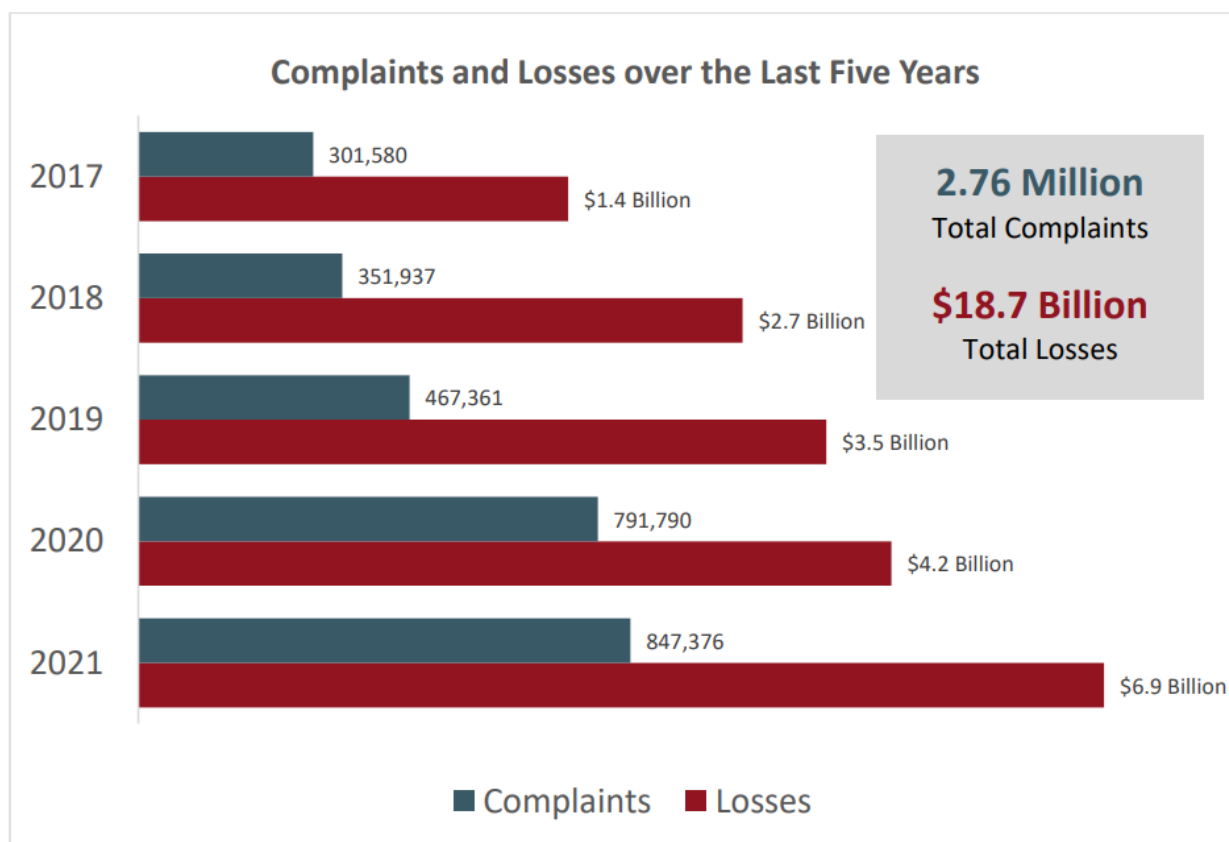
In addition to the incident with the City of Hanford, a data breach incident happened with Kings County's Public Health Department regarding COVID-19 data and individuals' information. The County determined via investigation that the breach was due to an error made by an external contractor. The error existed on the County's public web server from February 15, 2021, until it was fully corrected on December 2021. The Department did not exclude the possibility that some individuals' data also ended up online as a result of the breach. That data could include names, dates of birth, addresses, and COVID-19 related information (Zhadan, 2022).

Moreover, recent years have seen an increase in ransomware attacks, particularly against local government systems. The City of Atlanta was hit by a major ransomware attack in 2018, recovery from which ended up costing a reported \$2.6 million, significantly more than the \$52,000 ransom demand. A similar attack against the City of Baltimore in 2019 affected the city government's email, voicemail, property tax portal, water bill, and parking ticket payment systems, and delayed more than 1,000 pending home sales. In March 2019, Orange County, North Carolina was attacked with a ransomware virus, causing slowdowns and service problems at key public offices such as the Register of Deeds, the Sheriff's Office, and County libraries. The attack impacted a variety of county services, including disrupting the County's capability to process real estate closings, issue marriage licenses, process fees or permits, process housing vouchers, and verify tax bills. These past events are examples of the range of risks posed to county and municipal governments by various cyber-attacks.

4.5.2.4 Likelihood of Future Occurrence

Occasional – Small-scale cyber-attacks such as DDoS attacks occur daily, but most have negligible impacts at the local or regional level. Data breaches are also extremely common, but again most have only minor impacts on government services. Additionally, the FBI *Internet Crime Report 2021* found that there is a trend of increasing cyber-attacks over the past 5 years. These trends are shown in Figure 4-7

Figure 4-7 Trends of the Frequency of Cyber-attacks, 2017-2021



Source: The FBI Internet Crime Report 2021

Perhaps of greatest concern to the County are ransomware attacks, which are becoming increasingly common. It is difficult to calculate the odds of the County or one of its jurisdictions being hit with a successful ransomware attack in any given year, but it is likely to be attacked in the coming years. The possibility of a larger disruption affecting systems within the County and even California is a constant threat, but it is difficult to quantify the exact probability due to such highly variable factors as the type of attack and intent of the attacker. Major attacks specifically targeting systems or infrastructure in Kings County cannot be ruled out. Therefore, the probability of future cyber-attack is Occasional.

4.5.2.5 Climate Change Considerations

There are no known effects of climate-induced impacts on cyber-attacks.

4.5.2.6 Magnitude and Severity

Critical - There is no universally accepted scale to explain the severity of cyber-attacks. The strength of a DDoS attack is often explained in terms of a data transmission rate. One of the largest DDoS disruptions ever, known as the Dyn Attack which occurred on October 21, 2016, peaked at 1.2 terabytes per second and impacted some of the internet's most popular sites, including Amazon, Netflix, PayPal, Twitter, and several news organizations.

Data breaches are often described in terms of the number of records or identities exposed. The largest data breach ever reported occurred in August 2013, when hackers gained access to all three billion Yahoo accounts. The hacking incidents associated with California in the Privacy Rights Clearinghouse database mentioned above are also showing big-scale incidents, where billions of records have been stolen.

Ransomware attacks are typically described in terms of the amount of ransom requested, or the amount of time and money spent to recover from the attack. One report from cybersecurity firm Emsisoft estimates the average successful ransomware attack costs \$8.1 million and can take 287 days to recover from (Emsisoft, 2022). Therefore, the Magnitude and Severity of cyber-attack is Critical.



4.5.2.7 Vulnerability Assessment

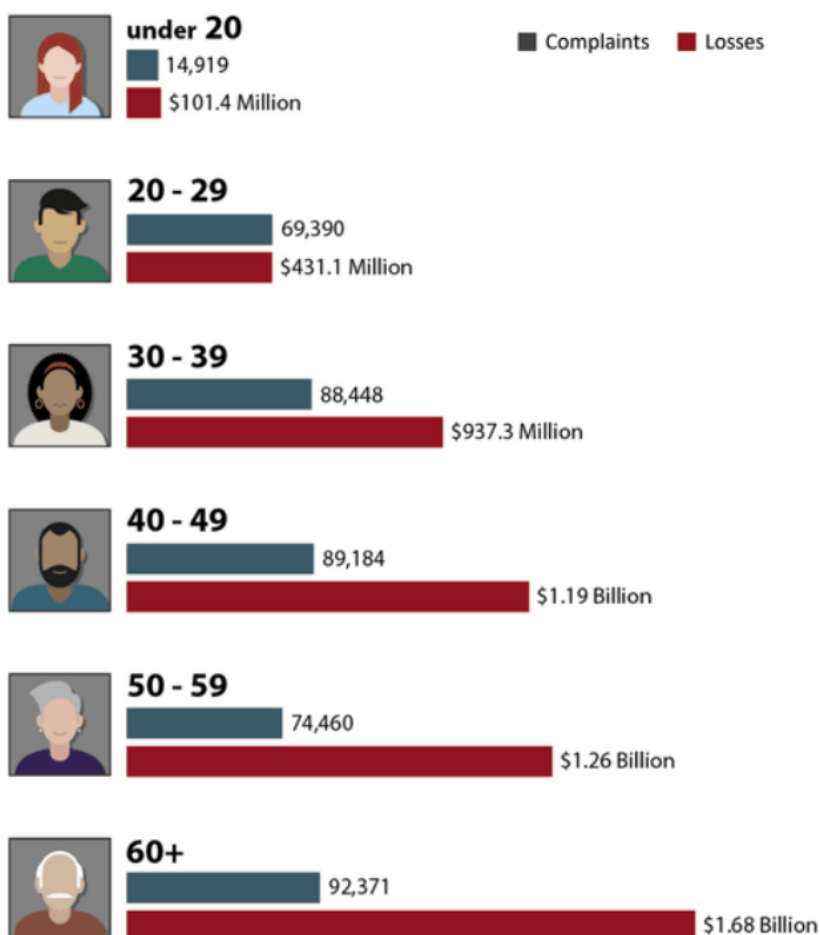
People

Injuries or fatalities from cyber-attacks would generally only be possible from a major cyber-terrorist attack against critical infrastructure. More likely impacts on the public are financial losses and an inability to access systems such as public websites and permitting sites. Indirect impacts could include interruptions to traffic control systems or other infrastructure.

The FBI IC3 reports on the victims of cyber-attack by age group. While the number of cyber-attack complaints is comparable across age groups, the losses increase significantly as age group increases, with individuals 60 years and older experiencing the greatest losses. This is likely due to seniors being less aware of cyber threats, lacking the tools to identify cyber threats, and "Grandparent Scams", which is a cyberattacks where criminals impersonate a loved one in need, such as a grandchild, and ask for money. In the County, 15.4% of the population was reported to be 60+ in 2021 according to the U.S. Census. Figure 4-8 displays the breakdown of victims by age group in 2021.

Figure 4-8 Victims by Age Group in 2021

2021 Victims by Age Group¹⁷



Source: The FBI Internet Crime Report 2021

Property

Most cyber-attacks affect only data and computer systems and have minimal impact on general property. However, sophisticated attacks have occurred against the SCADA systems of critical



infrastructure, which could potentially result in system failures on a scale equal to natural disasters. Facilities and infrastructure such as the electrical grid could become unusable. A ransomware attack on the Colonial Pipeline in 2021 caused temporary gas shortages on the East Coast (Colonial Pipeline Company 2021). A cyber-attack took down the power grid in Ukraine in 2015, leaving over 230,000 people without power (Zetter 2016). The 2003 Northeast Blackout, while not the result of a cyber-attack, caused 11 deaths and an estimated \$6 billion in economic loss (Owens 2020).

Critical Facilities and Lifelines

A Government Technology article posted on July 31, 2022, highlights the increasing global cyber battles, despite the lack of major cyber-attacks against U.S. critical infrastructure in 2022 (Lohrmann 2022). This is a growing concern as cyber actions worldwide become less covert. IBM's 2022 *Cost of a Data Breach* reveals that almost 80 percent of critical infrastructure organizations studied do not adopt zero-trust strategies, resulting in an average breach cost of \$5.4 million, a \$1.17 million increase compared to those that do. Additionally, 28 percent of breaches amongst these organizations were ransomware or destructive attacks (IBM 2022).

The impact of cyber-attacks on critical infrastructure can be devastating. For example, emergency response communications, access to mobile data terminals, and access to critical pre-plans and response documents can be disrupted. According to the Cyber & Infrastructure Security Agency (CISA), cyber risks to 911 systems can have severe impacts, including loss of life or property, job disruption for affected network users, and financial costs for the misuse of data and subsequent resolution. CISA has compiled a recent list of attacks on 911 systems, including a DDoS attack in Arizona, unauthorized access with stolen credentials in Canada, a network outage in New York, and a ransomware attack in Baltimore (CISA 2019).

Governments rely heavily on the electronic delivery of services, which can be significantly impacted by cyber-attacks. Most agencies rely on server backups, electronic backups, and remote options for Continuity of Operations and the Continuity of Government. Access to documents on the network, OneDrive access, and other operations that require collaboration across the County could be significantly impacted.

Furthermore, if systems such as permitting, Department of Motor Vehicles (DMV), voting, or public websites are down for a prolonged amount of time, public confidence in the government will likely suffer. An attack could raise questions regarding the security of using electronic systems for government services. Therefore, it is crucial to prioritize cyber security measures and adopt a zero-trust strategy to ensure the protection of critical infrastructure and electronic government services.

Economy

Data breaches and subsequent identity thefts can have huge impacts on the public. The FBI *Internet Crime Report 2021* reported losses in California due to cyber-attacks totaled over \$1.2 billion in 2021 alone (FBI 2021).

Economic impacts from a cyber-attack can be debilitating. The cyber-attack in 2018 that took down the City of Atlanta cost at least \$2.5 million in contractor costs and an estimated \$9.5 million in additional funds to bring everything back online. The attack in Atlanta took more than a third of the 424 software programs offline and recovery lasted more than 6 months (Newman 2018). The 2018 cyber-attack on the Colorado Department of Transportation cost an estimated \$1.5 million (Chuang 2018). None of these statistics consider the economic losses to businesses and ongoing IT configuration to mitigate a future cyber-attack.

Additionally, a 2016 study by Kaspersky Lab found that roughly one in five ransomware victims who pay their attackers never recover their data. A 2017 study found ransomware payments over a two-year period totaled more than \$16 million (Huang et al. 2017). Even if a victim is perfectly prepared with full offline data backups, recovery from a sophisticated ransomware attack typically costs far more than the demanded ransom.

Cultural, Historic and Natural Resources

Most cyber incidents have little to no impact on historic, cultural, or natural resources. A major cyber terrorism attack could potentially impact the environment by triggering a release of hazardous materials, or by causing an accident involving hazardous materials by disrupting traffic control devices.



Most cyber-attacks would have a limited impact on natural resources. There are cases, such as a cyber-attack on a hydroelectric dam, that could result in catastrophic consequences to natural and human-built environments in the case of a flood. If a cyber-attack occurred on several upstream dams and released significant amounts of water downstream, the additional pressure put on downstream dams could fail, resulting in massive flood events. This would not only jeopardize the energy system that relies on these dams but also cause significant damage to the natural environment.

Development Trends

Changes in development have no impact on the threat, vulnerability, and consequences of a cyber-attack. Cyber-attacks can and have targeted small and large jurisdictions, multi-billion-dollar companies, small mom-and-pop shops, and individual citizens. The decentralized nature of the internet and data centers means that the cyber threat is shared by all, regardless of new construction and changes in development.

4.5.2.8 Risk Summary

- The overall significance of cyber-attacks in Kings County is Medium. These incidents occur frequently, with California being the State with by far the most reported incidents. The possibility of an attack of any scale impacting the County is almost certain.
- There have been 9,741 data breaches statewide over a 17-year period, averaging approximately 573 incidents per year, or up to 48 incidents each month.
- Nationwide the increase in cyber-attacks has been dramatic year over year. As this trend continues it is safe to assume there is a threat to Kings County.
- People ages 60+ are the most likely age group to experience the greatest monetary losses, although anyone of any age can be a victim of a cyber-attack.
- The vast majority of attacks do not affect properties or cause casualties.
- Economic impacts from a cyberattack can be debilitating, sometimes costing local governments millions of dollars.
- The vast majority of attacks target only computer systems, however sophisticated attacks against utilities and infrastructure, such as electrical grids, have occurred.
- Related hazards: None

JURISDICTION	GEOGRAPHIC AREA	PROBABILITY OF FUTURE OCCURRENCE	MAGNITUDE/ SEVERITY	OVERALL SIGNIFICANCE	PRIORITY HAZARD?
Kings County	Significant	Occasional	Critical	Medium	Yes
City of Avenal	Significant	Occasional	Critical	Medium	Yes
City of Corcoran	Significant	Occasional	Critical	Medium	Yes
City of Hanford	Significant	Occasional	Critical	Medium	Yes
City of Lemoore	Significant	Occasional	Critical	Medium	Yes

4.5.3 DAM INCIDENTS

4.5.3.1 Hazard Description

Dam failure is the breakdown, collapse or other failure of a dam structure characterized by the uncontrolled release of impounded water that results in downstream flooding. In the event of a dam failure, the energy of the water stored behind even a small dam is capable of causing loss of life and severe property damage to development downstream. An uncontrolled breach is the unintentional discharge from the impounded water body and is considered a failure. Dam failure can result from natural events or human-induced events. Dams have received more attention recently in the emergency management community as a potential target for terrorist acts.



Dams are built for a variety of uses, including flood protection, power generation, agriculture, water supply, and recreation. When dams are constructed for flood protection, they usually are engineered to withstand a flood with a computed risk of occurrence. For example, a dam may be designed to contain a flood at a location on a stream that has a certain probability of occurring in any one year. If prolonged periods of rainfall and flooding occur that exceed the design requirements, that structure may be overtopped and fail. Overtopping is the primary cause of earthen dam failure in the United States (Jamal 2017). Dam failures can also result from any one or a combination of the following causes:

- Earthquake
- Inadequate spillway capacity resulting in excess overtopping flows
- Internal erosion caused by embankment or foundation leakage or piping or rodent activity
- Improper design
- Improper maintenance
- Negligent operation
- Failure of upstream dams on the same waterway

Water released by a failed dam generates tremendous energy and can cause a flood that is catastrophic to life and property. A catastrophic dam failure could challenge local response capabilities and require evacuations to save lives. Impacts on life safety will depend on the warning time and the resources available to notify and evacuate the public. Major loss of life could result as well as potentially catastrophic effects on roads, bridges, and homes. Associated water quality and health concerns could also be issues. Factors that influence the potential severity of a full or partial dam failure are the amount of water impounded; the density, type, and value of development and infrastructure located downstream; and the speed of failure. The best way to mitigate dam failure is through the proper construction, inspection, maintenance, and operation of the dam.

Spillways are designed to relieve pressure on dams and prevent dam failures. Flooding downstream often results when spillways flow, though the potential for flooding as a result of discharge from dam outlet structures can also result from excessive rain events. However, controlled releases of water from dams is a measure that can prevent or minimize spillway flooding or structure failure, by regulating capacity in a managed way. Even controlled releases can lead to unwanted or unpredicted flooding, depending on environmental and weather conditions, or even human error.

In general, there are three types of dams: concrete arch or hydraulic fill, earth-rockfill, and concrete gravity. Each type of dam has different failure characteristics. A concrete arch or hydraulic fill dam can fail almost instantaneously: the flood wave builds up rapidly to a peak and then gradually declines. An earth-rockfill dam fails gradually due to erosion of the breach: the downstream flood wave will build gradually to a peak and then decline until the reservoir is empty. And a concrete gravity dam can fail instantaneously or gradually with a corresponding buildup and decline of the flood wave.

4.5.3.2 Geographic Area

Significant – According to the California Department of Water Resources' (DWR) Jurisdictional Dams and the National Inventory of Dams (NID) databases, as well as the 2035 Kings County General Plan Safety Element and input received from the HMPC, there are 10 dams of concern to the County; seven of which



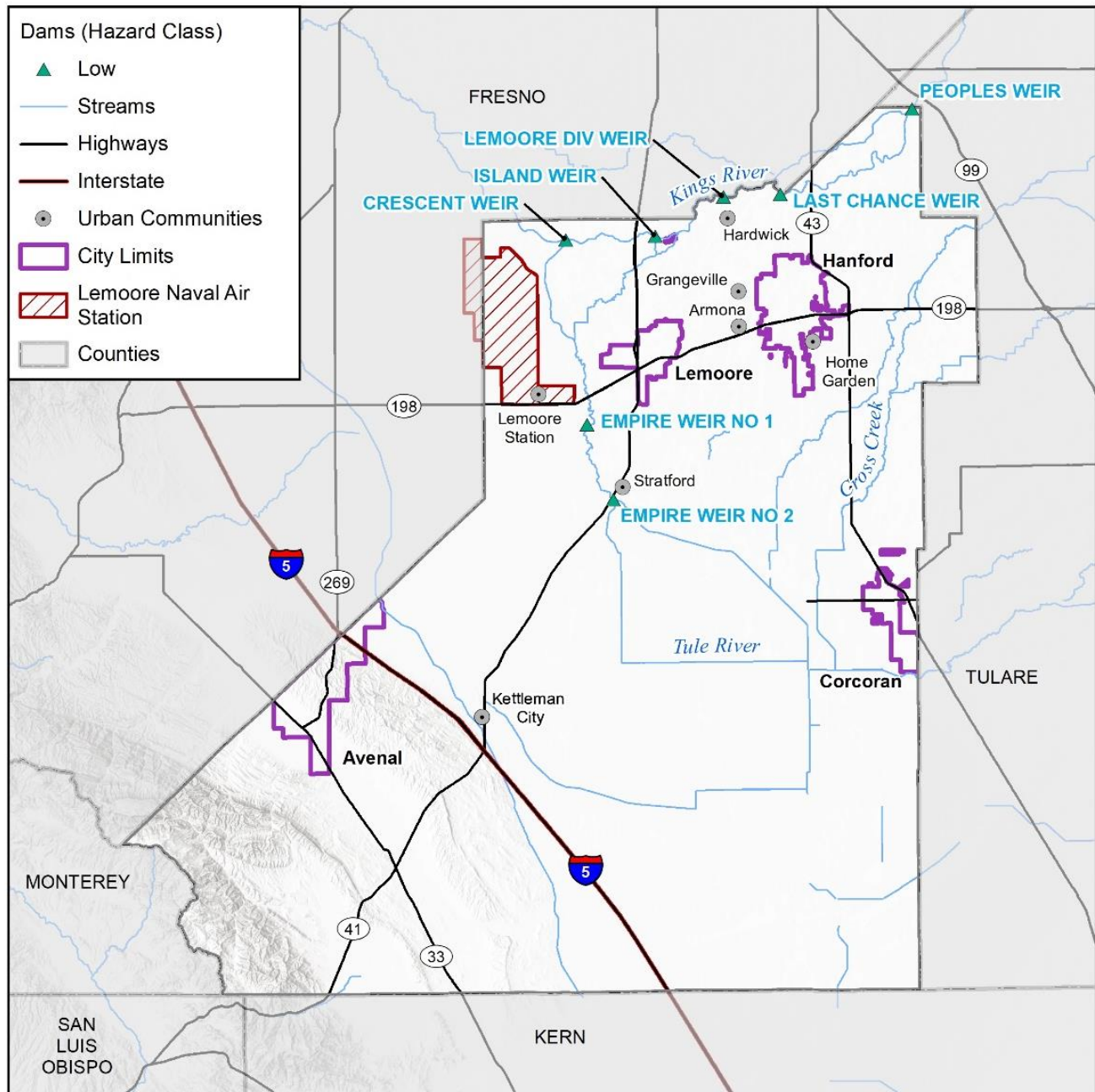
are in the County and three are upstream of the County.

As shown in Figure 4-9, Pine Flat, Terminus and Schafer dams are high hazard dams; however, these three dams are not located within Kings County. The rest of the dams are low hazard dams. Figure 4-9 shows the location of these dams, except Terminus, Schafer, Pine Flat dams due to data confidentiality and the fact that they are located within Tulare and Fresno County. The potential inundation areas for all dams are not available, as the data is either not available in GIS or not allowed for release in a public document. Figure 4-10 is extracted from the 2035 Kings County General Plan Safety Element given information on Pine Flat Dam is no longer publicly available. As mentioned in the Safety Element, if Pine Flat Dam failed while at full capacity, its floodwaters would arrive in the County within approximately five hours. If Terminus Dam failed while at full capacity, its floodwaters would arrive in Kings County within approximately twelve hours. However, the chances of any of these dams failing while at full capacity are considered remote. As shown in Figure 4-8 Pine Flat Dam could inundate the majority of the County's northeastern portion, including the cities of Hanford and Lemoore, as well as urban communities including Hardwick, Grangeville, Armona, Home Garden and Stratford. Terminus Dam's inundation area is relatively smaller – a small portion to the northeast of the County would be inundated. In addition, according to the HMPC's input during the 2022 Plan Update, the City of Corcoran mentioned that the Schafer dam on Lake Success in Tulare County has the potential to cause dam inundation flooding in the City of Corcoran. However, the dam inundation data is not available for Schafer dam to be shown on a map or used for vulnerability assessment.

Table 4-15 lists other dams of concern within or upstream of Kings County.



Figure 4-9 Dams within Kings County

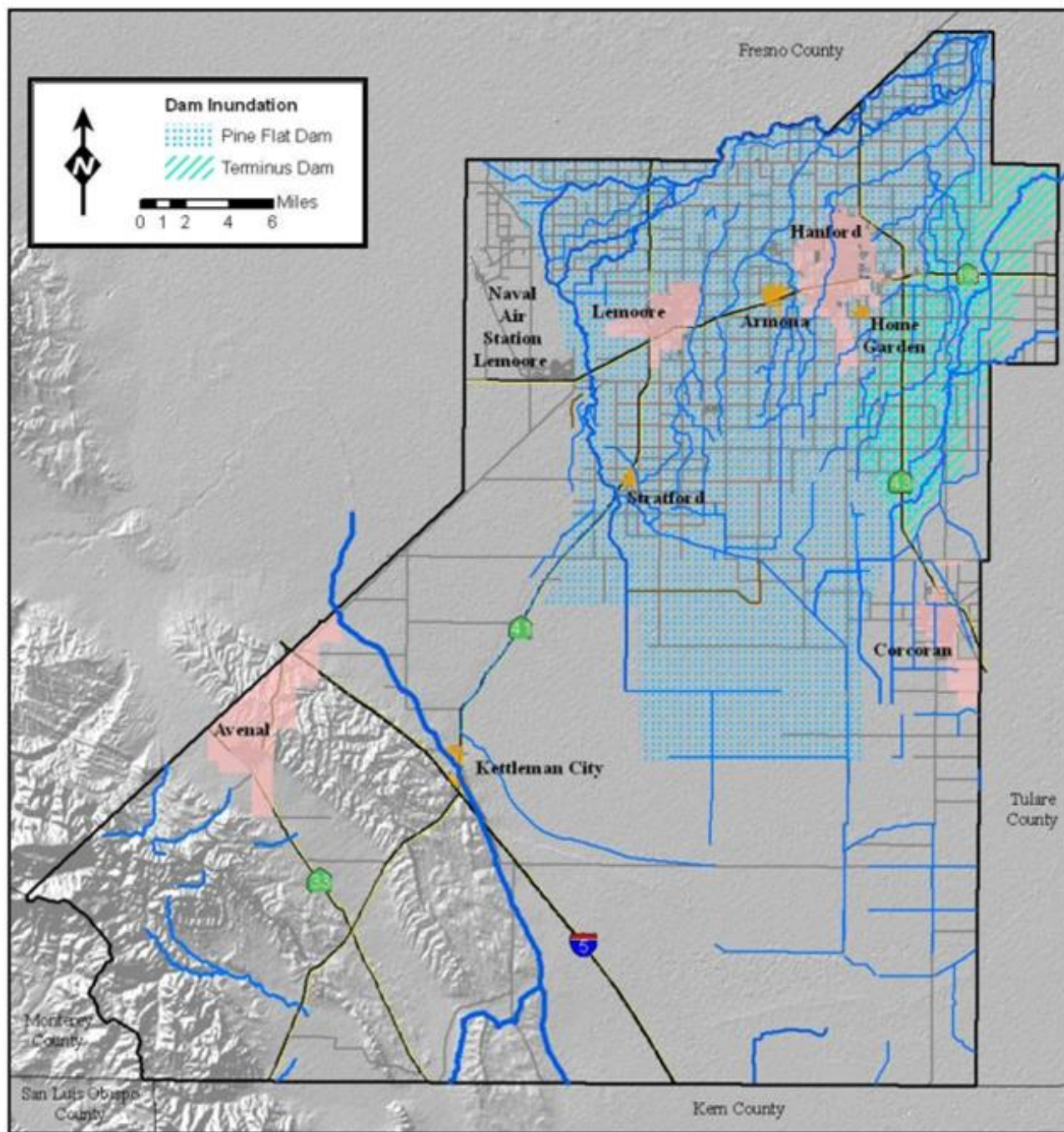


Map compiled 2/2022;
Intended for planning purposes only.
Data Source: Kings County, DWR,
National Inventory of Dams

0 5 10 Miles



Figure 4-10 Pine Flat Dam and Terminus Dam Inundation Areas within Kings County



Source: Kings County 2010



Table 4-15 Dams of Concern Within and Upstream of Kings County

COUNTY	DAM NAME	DAM OWNER/OPERATOR	RIVER	DOWNSTREAM CITY	NORMAL STORAGE CAPACITY (ACRE- FEET)	EMERGENCY ACTION PLAN (EAP)?	NID HAZARD RATING	CA DSOD HAZARD RATING
Kings	Crescent Weir	Crescent Canal Company	-	-	50	Not Required	Low	Low
	Empire Weir No.1	Empire Westside Irrigation District	-	-	50	Not Required	Low	Low
	Empire Weir No.2	Tulare Lake Basin Water Storage District	-	-	480	Not Required	Low	Low
	Island Weir	Laguna Irrigation District	-	-	230	Not Required	Low	Low
	Last Chance Weir	Last Chance Water Ditch Company	-	-	50	Not Required	Low	Low
	Lemoore Diversion Weir	Lemoore Canal and Irrigation Company	-	-	50	Not Required	Low	Low
	Peoples Weir	Peoples Ditch Company	-	-	120	Not Required	Low	Low
Tulare	Terminus (in GP)	USACE – Sacramento District	-	-	235,205	Yes	High	N/A
	Schafer (Success Dam)	USACE – Sacramento District	Tule River	Porterville	65,473	Yes	High	N/A
Fresno	Pine Flat (in GP)	USACE – Sacramento District	Kings River	Hanford and Lemoore	1,000,000	Yes	High	N/A

Sources: California DSOD and the NID



As mentioned above, due to data limitations, analysis using inundation data and mapping associated with all dams was not possible for the plan, per communication with the Kings County Office of Emergency Services (OES) and the dam owners. As a result, the dam risk assessment does not quantify the entire risk to the County and the four participating jurisdictions in the event of a dam incident. However, these deficiencies have been noted and a qualitative summary of risk is provided instead.

4.5.3.3 *Past Occurrences*

There is no history of dam failure affecting the County. However, according to the HMPC's input during the 2023 MJHMP update, the City of Corcoran stated that Kings County has been a party of interest in Schafer dam and this dam has undergone retrofit and reinforcement for public safety. The March 2023 atmospheric river (AR) flash flooding demonstrated that flooding from Schafer dam can and did directly impact the City of Corcoran along the southeast portion of the City, including the directly adjacent two State Prison facilities that were protected by a portion of the Corcoran Levee along 4th Avenue between Quebec and Santa Fe Avenues.

4.5.3.4 *Likelihood of Future Occurrence*

Unlikely – The County remains at risk of dam failures from numerous dams under a variety of ownership and control and of varying ages and conditions. However, based on historical experience, dam failure is unlikely in the area based on the frequency of past dam incidents. Dams are regulated and inspected by either the State of California's DSOD or the Federal Energy Regulatory Commission (FERC) or both with follow-up written inspection reports. All the dams within the County have received satisfactory condition assessments. There have been no findings that would raise concern for a potential dam failure. Nevertheless, given the number of dams of concern in the County, the potential exists for future dam failures in the County, but the likelihood of this is low. Uncontrolled or controlled release flooding as well as spillway flooding below dams due to excessive rain or runoff are more likely to occur than failures. For example, the March 2023 atmospheric river (AR) flash flooding resulted in flooding from Schafer dam over the southeast portion of the City of Corcoran.

In addition, the potential for climate change to affect the likelihood of dam failure is not fully understood. However, climate change will impact the traditional operation measures and flow regimes used for dams because river conditions and water levels will be fluctuating due to climate change.

4.5.3.5 *Climate Change Considerations*

As noted in an academic journal Combined Effects of Reservoir Operations and Climate Warming on the Flow Regime of Hydropower Bypass Reaches of California's Sierra Nevada, which was published on March 24, 2014, climate warming will measurably alter some aspects of the flow regime (Rheinheimer and Viers, 2015). An article published at the Yale School of the Environment also notes that more evidence shows that climate change undermines the case for hydroelectric dams. Drought has caused reservoirs on five continents to drop below the levels needed to maintain hydroelectric production. Moreover, the article points out that climate change has caused vast uncertainty in flow assumptions, which resonates with the conclusions drawn by the 2014 journal article (Leslie 2021). Climate change may worsen drought conditions, which lessen the water available while climate change can also produce intense sudden storms that cause water levels to suddenly increase. Therefore, reservoir operators may need to change operations to mitigate climate change's impact on rivers and overall water levels.

However, the universal consensus is that the potential for climate change to affect the likelihood of dam failure is not fully understood. With a potential for more extreme precipitation events as a result of climate change, this could lead to large inflows into reservoirs. However, this could be offset by generally lowering reservoir levels if storage water resources become more limited or stretched in the future due to climate change, drought and/or population growth.

4.5.3.6 *Magnitude and Severity*

Critical – Standard practice among federal and state dam safety offices is to classify a dam according to the potential impact a dam failure (breach) or mis-operation (unscheduled release) would have on downstream areas. The hazard potential classification system categorizes dams based on the probable loss of human life and the impacts on economic, environmental and lifeline facilities. The U.S. Army Corps of Engineers uses three categories to classify a dam's potential hazard to life and property:

- High hazard indicates that a failure would most probably result in the loss of life.
- Significant hazard indicates that a failure could result in appreciable property damage.



- Low hazard indicates that failure would result in only minimal property damage and loss of life is unlikely.
- Undetermined hazard dams have not been rated or their hazard rating is not known.

In addition to these, high, significant, and low hazard classifications the California Division of Safety of Dams (DSOD) adds the fourth category of "*Extremely High*". The DSOD defines this fourth category as "expected to cause considerable loss of human life or would result in an inundation area with a population of 1,000 or more" (DSOD 2020). As shown in Table 4-15 none of the dams are classified as "Extremely High". However, it is important to note that there is no DSOD rating available for Terminus and Pine Flat dams.

Although most of the dams are rated low significance and can only result in minimal property damage and loss of life, Pine Flat dam can inundate a significant portion of the County. The extent of the impact depends on the nature of the failure. The largest populations potentially at risk would be in the cities of Hanford and Lemoore, as well as urban communities including Hardwick, Grangeville, Armore, Home Garden and Stratford.

A severe storm, earthquake or erosion of the embankment and foundation leakage may cause the collapse and structural failure of dams in the County or other nearby counties. Seismic activity may also cause inundation by the action of a seismically induced wave that overtops the dam without causing failure of the dam, but significant flooding downstream. Landslides flowing into lakes and reservoirs may also cause dams to fail or overtop.

4.5.3.7 Vulnerability Assessment

A dam incident can range from a small, uncontrolled release to a catastrophic failure. Vulnerability to dam failures is confined to the areas and populations subject to inundation downstream of the facility. Secondary losses would include the loss of the multi-use functions of the dam itself and the associated revenues that accompany those functions.

Property

In the unlikely event of a complete dam failure, the majority of the populated areas within the northeastern portion of Kings County would be impacted. Inundation due to dam failure within the San Joaquin Valley is a low probability but high-risk hazard. The potential risk for the inundation of property is present in nearly all of the developed areas in the County's northeastern portion. However, this potential risk is limited to only Pine Flat dam. The other low-significance dams may cause localized flooding events if they were to breach.

In general, communities located below a high or significant hazard dam and along a waterway are potentially exposed to the impacts of a dam failure. Inundation maps that identify anticipated flooded areas (which may not coincide with known floodplains) are typically produced for all high significant dams and included in the Emergency Action Plan (EAP) required for each dam. The FERC also requires annual training and exercises for each individual EAP. This would apply to both Terminus and Pine Flat dams.

Given that a GIS layer containing inundation maps for the dams of concern to Kings County is not available, a quantitative dam inundation exposure analysis was not performed. However, based on properties located within the cities of Hanford and Lemoore, urban communities including Hardwick, Grangeville, Armore, Home Garden and Stratford, as well as the overall northeastern portion of the unincorporated County would be inundated if Pine Flat dam were to breach.

People

Persons located underneath or downstream of a dam are at risk of a dam failure, though the level of risk can be tempered by topography (specifically where populations are located within the inundation path of a dam), amount of water in the reservoir and time of day of the breach. Injuries and fatalities can occur from debris, bodily injury, and drowning. Once a dam has breached, standing water presents all the same hazards to people as floodwater from other sources. People in the inundation area may need to be evacuated, cared for, and possibly permanently relocated. Impacts could include thousands of evacuations and likely hundreds of casualties, depending on the dam involved.

The populations most vulnerable are those that have the least time to evacuate and need assistance. Populations that may need assistance to evacuate include the elderly, disabled and young. The vulnerable population also includes those who may not have adequate warning about evacuation from



emergency notification systems. The loss of life is impacted by the amount of early warning time first responders and the public have prior to the incident.

Given that Pine Flat dam could inundate the cities of Hanford and Lemoore, urban communities including Hardwick, Grangeville, Armona, Home Garden and Stratford, as well as the overall northeastern portion of the unincorporated County, people that live in these areas are then at risk of potential breaching events. Many of these communities were also identified as socially vulnerable due to income levels and higher housing burdens. Additionally, the southeast portion of the City of Hanford, western portion of the City of Lemoore, and the urban communities of Armona and Stratford are designated DACs.

The central and southern portions of the County have the highest level of social vulnerability, while the central and southeastern portions of the County are located within Pine Flat and Terminus dams' inundation areas (FEMA 2023). There are also socially vulnerable census tracts located within the cities of Hanford and Lemoore, which are located within Pine Flat dam's inundation area. Given these communities may require more assistance to respond to, cope with, and recovery from dam-related incidents, these socially vulnerable populations who live in these areas are exposed to a higher risk of dam inundation incidents.

Critical Facilities and Infrastructure

A total dam failure can cause catastrophic impacts to areas downstream of the water body, including critical infrastructure. Any critical asset located under the dam in an inundation area would be susceptible to the impacts of a dam failure. Of particular risk would be roads and bridges that could be vulnerable to washouts, further complicating response and recovery by cutting off impacted areas. Impacts on cities would affect key infrastructure including hospitals, fire stations, clinics, and businesses.

Given that Pine Flat dam could inundate the cities of Hanford and Lemoore, urban communities including Hardwick, Grangeville, Armore, Home Garden and Stratford, as well as the overall northeastern portion of the unincorporated County, critical facilities, such as water and wastewater infrastructure and electrical utilities located within these areas are then exposed to potential dam inundation events. In addition, as discussed above and mentioned by the HMPC, the two State Prison facilities located in the City of Corcoran and were protected by a portion of the Corcoran Levee along 4th Avenue between Quebec and Santa Fe Avenues, could be impacted if Schafer dam were to breach. The HMPC also expressed concern over the City of Corcoran's water treatment and wastewater treatment facilities that are not protected along the east from potential flooding events, which can result from Schafer Dam's potential overflow.

Economy

Extensive and long-lasting economic impacts could result from a major dam failure including the long-term loss of water in a reservoir after a failure event. As mentioned in the previous Agricultural Pests and Disease section, agriculture is the dominant land use in Kings County, accounting for 90.2% of total land use in the County. A major dam incident and loss of water from the associated reservoir could include direct business impacts on the agricultural industry, resulting in damages and indirect disruption of the local economy. Economic impacts related to agriculture in the unincorporated areas of the County would be the most severe. According to the *Kings County Agriculture Report* (2021), the value of agricultural commodities produced in Kings County was over \$2.3 billion (Kings County 2021).

Cultural, Historic and Natural Resources

Dam failure effects on the environment would be similar to those caused by flooding from other causes. Water could erode stream channels and topsoil and cover the environment with debris. For the most part, the environment is resilient and would be able to rebound from whatever damages occurred, though this process could take years. However, historic and cultural resources could be affected just as housing or critical infrastructures would, were a dam to fail and cause downstream inundation that could further erode surfaces or cause scouring of structural foundations.

Development Trends

The areas located in the SOI for each incorporated jurisdiction are areas each city plans to grow into and are potentially slated for Development Trends. These areas should take into consideration potential impacts from dam failure risk upstream and should attempt to overlay the existing dam inundation maps with proposed Development Trends.



In the case of a dam failure, inundation would likely follow some existing FEMA-mapped floodplains, which contain development restrictions for areas in the 1% annual chance floodplain, but it could exceed those floodplains and affect areas that are not regulated for flood hazards. Also, of note is that development below a low or undetermined hazard dam could increase its hazard rating, while there are quite a few low hazard dams in the County. Finally, added development could compromise dams and reservoir resources if populations depend on them for critical needs such as potable water during or after a dam failure event.

The County Board of Supervisors has maintained support for the preservation of agricultural resources through the adoption of the Open Space Element and Resource Conservation Element of the County's General Plan (2010). The County has implemented a "Right to Farm Ordinance" to recognize the right of farming operations to conduct necessary farming practices and activities throughout the County (Hanford Municipal Code 2001). The County General Plan also continues to maintain a priority for directing urban growth to the existing cities and community districts where urban-type development is better suited and can receive municipal services. This directive helps to promote coordinated orderly urban growth within the County and reduces the potential for premature conversion of agricultural land to other uses.

There has been no significant change in development in the unincorporated areas impacted by dam failure within the County since the last MJHMP update. According to the existing SOI data, the Development Trends areas of the cities of Lemoore and Hanford, as well as urban communities including Stratford, Armona and Home Garden are exposed to potential inundation events if Pine Flat and Terminus Dams were to breach. The Development Trends areas of the City of Corcoran are also exposed to potential inundation events if Schafer dam were to breach.

4.5.3.8 Risk Summary

- There are 10 dams of concern for the County. Seven are within the County (all are low significant) and three dams are upstream of the County (all are high hazard).
- Pine Flat, Terminus and Schafer Dams, which are located in Fresno and Tulare Counties, are rated high hazard potential and can inundate Kings County if they were to breach.
- Pine Flat Dam would inundate the cities of Hanford and Lemoore, urban communities including Hardwick, Grangeville, Armore, Home Garden and Stratford, as well as the overall northeastern portion of the unincorporated County if it were to breach. Properties and critical facilities that are located within these areas, as well as populations that reside in these areas, are exposed to the potential breaching event. Schafer dam could potentially inundate the eastern portion of the City of Corcoran. The majority of these cities and communities contain designated DACs, or underserved and socially vulnerable populations that are at a greater risk of exposure and vulnerability to dam incidents due to a lack of resources.
- **Related Hazards** - Drought, Flood, Earthquake, Landslide, and Severe Weather.

JURISDICTION	GEOGRAPHIC AREA	PROBABILITY OF FUTURE OCCURRENCE	MAGNITUDE/ SEVERITY	OVERALL SIGNIFICANCE	PRIORITY HAZARD?
Kings County	Significant	Unlikely	Critical	Medium	Yes
City of Avenal	Limited	Unlikely	Negligible	Low	No
City of Corcoran	Extensive	Unlikely	Critical	Medium	Yes
City of Hanford	Extensive	Unlikely	Critical	Medium	Yes
City of Lemoore	Extensive	Unlikely	Critical	Medium	Yes



4.5.4 DROUGHT

4.5.4.1 Hazard Description

A drought is a prolonged period of abnormally low rainfall or precipitation that causes a shortage of water, leading to a deficiency in water supply for plants, animals, and human activities in a particular region. It can also be defined as a condition of water scarcity that results from a lack of precipitation, high evaporation rates, and increased water usage, leading to a depletion of water resources in an area. Droughts can vary in severity and duration, and can have significant impacts on agriculture, ecosystems, and human communities.

According to the California DWR, a single year of dry weather typically does not qualify as a drought in California due to the state's comprehensive water supply infrastructure, which includes reservoirs, groundwater basins, and inter-regional conveyance facilities (DWR 2015). These systems help alleviate the effects of short-term dry periods for most users of water.

Identifying the onset of a drought is determined by how it impacts water users. Most natural disasters, such as floods or forest fires, occur relatively rapidly and afford little time for preparing for disaster response. Droughts occur slowly, many times over a multi-year period, and it is often not obvious or easy to quantify when a drought begins and ends. What qualifies as a drought for some water users in a particular area may not be considered a drought for others in different regions or with alternative water sources. Water suppliers may determine their water supply conditions using criteria such as rainfall and runoff, the amount of water in storage, or anticipated supply from a water wholesaler.

Drought can often be defined regionally based on its causes or effects:

- **Meteorological drought** is defined as a period of substantially diminished precipitation duration and/or intensity. The commonly used definition of meteorological drought is an interval of time, generally on the order of months or years, during which the actual moisture supply at a given place consistently falls below the climatically appropriate moisture supply.
- **Agricultural drought** occurs when there is inadequate soil moisture to meet the needs of a particular crop at a particular time. Agricultural drought usually occurs after or during meteorological drought, but before hydrological drought and can affect livestock and other dry-land agricultural operations.
- **Hydrological drought** refers to deficiencies in surface and subsurface water supplies. It is measured as stream flow, snowpack, and lake, reservoir, and groundwater levels. There is usually a delay between a lack of rain or snow and noticeable water shortages in streams, lakes, and reservoirs. Therefore, hydrological measurements tend to lag other drought indicators.
- **Socioeconomic drought** occurs when physical water shortages start to affect the health, well-being, and quality of life of people, or when the drought starts to affect the supply and demand of an economic product.

Drought can have secondary impacts. For example, drought is a major determinant of wildfire hazard, in that it creates a greater propensity for fire starts and larger, more prolonged conflagrations fueled by excessively dry vegetation, along with reduced water supply for firefighting purposes. Drought is also an economic hazard. Significant economic impacts on California's agriculture industry can occur as a result of short- and long-term drought conditions; these include hardships to farmers, farm workers, packers, and shippers of agricultural products. The loss of hydroelectrical power generation may also occur during drought events due to the loss of hydroelectrical supply associated with lower reservoir levels and fewer water releases. In some cases, droughts can also cause significant increases in food prices for consumers due to shortages.

Sustainable Groundwater Management Act (SGMA) of 2014

In January 2014, Governor Brown declared an emergency proclamation due to multiple years of drought. The proclamation called on citizens to reduce water use by 20 percent, with a subsequent Executive Order in April 2015 that directed urban water agencies to reduce water use by 25 percent. In September 2014, the Governor signed a three-bill package (California SBs 1168 and 1319, and Assembly Bill [AB] 1739), known as the Sustainable Groundwater Management Act of 2014 (SGMA). SGMA provides for the establishment of local Groundwater Sustainability Agencies (GSAs) to manage groundwater sustainably within the groundwater subbasins defined by the California DWR. Within the County, there are portions of four groundwater subbasins, Tulare Lake, Kaweah, Kings, and Westside Subbasins, that are required



under SGMA to conduct sustainable groundwater management. Each of the four subbasins is required to develop and implement a Groundwater Sustainable Plan (GSP) by 2020 or 2022. Table 4-16 lists the GSAs in the County as well as their associated subbasins.

Table 4-16 Groundwater Sustainability Agencies in Kings County

SUBBASIN	GROUNDWATER SUSTAINABILITY AGENCY
Tulare Lake Subbasin	Southwest Kings GSA
	Tri-County Water Authority GSA
	El Rico GSA
	South Fork Kings GSA
	Mid-Kings River GSA
Kaweah Subbasin	Greater Kaweah GSA
Kings Subbasin	North Fork Kings GSA
Westside Subbasin	Westlands Water District GSA

Source: County of Kings Division of Water and Natural Resources

Drought Planning for Small Water Suppliers and Rural Communities

In September 2021, Governor Gavin Newsom signed Senate Bill 552, Drought Planning for Small Water Suppliers and Rural Communities (SB 552), into law. Under the bill, the State, its counties, and small water suppliers must meet requirements to ensure shared responsibility in preparing and acting in case of a drought event. The requirements of the law are as follows:

- Small water providers (those with fewer than 3,000 connections and serving fewer than 3,000-acre feet) are required to:
 - Have an abridged water shortage contingency plan by July 1, 2023,
 - Submit an annual report detailing their water supply conditions and usage by month, and
 - Upgrade their infrastructure to drought-resilient standards if necessary.
- DWR and the State Water Board have developed templates for abridged contingency plans for small suppliers on DWR's website: Drought Planning for Small Water Suppliers and Rural Communities (SB 552) (ca.gov)
- Counties are required to have a standing Drought Task Force that facilitates drought and water shortage preparedness for domestic wells, privately supplied homes within the county's jurisdiction(s), and small state water systems.² Additionally, the county is required to develop a plan that demonstrates potential drought and water shortage risks along with proposed short- and long-term solutions for small state and domestic wells within the county. Both of these requirements may be implemented as part of other existing committees and/or planning processes.
- The State is required to maintain and update the Water Shortage Vulnerability Tool to assist small water providers and counties in accessing information about drought, water shortage vulnerabilities, and risks. Additionally, DWR will coordinate with other state agencies to establish a standing drought and water shortage task force for California.

Urban Water Suppliers

Water suppliers who provide potable water for municipal purposes to more than 3,000 customers, or who supply more than 3,000 acre-feet of water annually, are defined as "urban water suppliers." Urban water suppliers in Kings County, summarized in Table 4-17, are subject to the Urban Water Management Planning Act and other requirements but are not subject to SB 552.

² Section 116275 (n) of the Health and Safety Code (Water Code §10609.51 subd. (m)): A state small water system is a system for the provision of piped water to the public for human consumption that serves at least five, but not more than 14, service connections and does not regularly serve drinking water to more than an average of 25 individuals daily for more than 60 days out of the year. Kings County does not currently have any state small water systems.



Table 4-17 Urban Water Suppliers in Kings County

WATER SUPPLIER	SOURCE	# OF CONNECTIONS	ACRE-FEET ANNUALLY	POPULATION SERVED
City of Hanford	Groundwater	18,438	11,714	62,127
City of Lemoore	Groundwater	7,305	7,413	27,038
City of Corcoran	Groundwater	3,548	5,708	21,835
City of Avenal	Surface water from the California aqueduct	2,080	3,500	13,819
Lemoore Naval Air Station	Surface water from the CA aqueduct and groundwater	1,396	3,055*	14,000

Sources: <https://sdwis.waterboards.ca.gov/>, City of Hanford 2020 UWMP, City of Lemoore 2020 UWMP, City of Corcoran 2020 UWMP, City of Avenal 2016 USBR Water Management Plan

* 2004 data, from <https://energy.wsu.edu/Documents/LemooreREMCasestudy.pdf>

Small Water Suppliers

SB 552 defines a small water supplier as a community water system³ that serves 15 to 2,999 service connections and provides less than 3,000 acre-feet of water per year. It considers several categories of small water suppliers: Suppliers with 15 to 999 Connections, Suppliers with 1,000 to 2,999 Connections and NTNC Systems That Are Schools. SB 552 does not explicitly apply to transient, noncommunity water systems or NTNC water systems that are not schools.

Under SB 552, all small water suppliers are required to have:

- Drought resiliency measures,
- Annual reporting of water supply condition information to the State Water Board, and
- Annual water demand reporting to the State Water Board.

Suppliers with 15 to 999 Connections

Health and Safety Code §116460 requires all community water systems to have an Emergency Notification Plan (ENP) or Emergency Response Plan (ERP) approved by the State Water Board that describes process and methods for meeting the public notification requirements when any primary drinking water standard is not complied with, when a monitoring requirement is not performed, or when the conditions of any variance or exemption are not complied with.

Under SB 552, suppliers with 15 to 999 connections must incorporate drought planning elements (including, but not limited to, drought-planning contacts and standard water shortage levels) into their ENP or ERP. The ENP or ERP is to be submitted to the State Water Board and updated every five years or when significant changes occur. Subject to funding availability, the State Water Board will offer technical assistance to support water suppliers with less than 1,000 connections in implementing this requirement.

Table 4-18 lists the small water suppliers in Kings County with 15 to 999 connections.

Table 4-18 Small Water Suppliers in Kings County with 15 to 999 Connections

NAME	SOURCE	CONNECTIONS	ACRE-FEET SUPPLIED	POPULATION SERVED	DROUGHT ELEMENT ADDED TO ENP OR ERP
Home Garden CSD	Groundwater	467	389	1,750	Yes

³ Section 116275 of the Health and Safety Code (Water Code §10609.51 subd. (a)) defines a community water system as a public water system that serves at least 15 service connections used by yearlong residents or regularly serves at least 25 yearlong residents of the area served by the system.



NAME	SOURCE	CONNECTIONS	ACRE-FEET SUPPLIED	POPULATION SERVED	DROUGHT ELEMENT ADDED TO ENP OR ERP
Stratford PUD	Groundwater	364	301*	1,277	Yes
Kettleman City CSD	Groundwater	348	263	1,136	Yes
Sunset Vista Estates MHP	Groundwater	109	Unknown	400	Unknown, likely yes
Hardwick Water Company	Groundwater	40	Unknown	69	Unknown, likely yes
Azcal Management Co	Surface water from CA aqueduct	21	Unknown	73	Unknown, likely yes

Sources: <https://sdwis.waterboards.ca.gov/>,
https://www.waterboards.ca.gov/conservation/docs/2016_small_supplier_dataset.xlsx, Data from 2015 to 2016 self-reporting,
* Data from 2013 self-reporting

Suppliers with 1,000 to 2,999 Connections and NTNC Systems That Are Schools

Small water sources in Kings County include non-transient non-community water systems (NTNCWS). NTNCWS are public water systems that regularly supply water to at least 25 of the same people at least six months per year. Some examples are schools, factories, office buildings, and hospitals which have their own water systems. NTNCWS that are not schools are not explicitly subject to SB 552.

All small water suppliers and non-transient non-community (NTNC) water systems that are schools must implement the following drought resilience measures, subject to funding availability:

- No later than January 1, 2023, implement monitoring systems sufficient to detect production well groundwater levels.
- Beginning no later than January 1, 2023, maintain membership in the California Water/Wastewater Agency Response Network (CalWARN) or similar mutual aid organization.
- No later than January 1, 2024, to ensure continuous operations during power failures, provide adequate backup electrical supply.
- No later than January 1, 2027, have at least one backup source of water supply, or a water system intertie, that meets current water quality requirements and is sufficient to meet average daily demand.
- No later than January 1, 2032, meter each service connection and monitor for water loss due to leakages.
- No later than January 1, 2032, have source system capacity, treatment system capacity if necessary, and distribution system capacity to meet fire flow requirements.

Abridged Water Shortage Contingency Plans

Suppliers in this category, listed in Table 4-19, must develop, adopt, and maintain on-site an abridged water shortage contingency plan (WSCP) that covers a subset of drought-planning elements included in the plans that urban water suppliers submit as part of their Urban Water Management Plan. The first plan must be developed by July 1, 2023, and posted on the supplier's website, if any, or made available upon request. This abridged WSCP must be updated at least every 5 years. The required elements must include:

- Drought-planning contacts, including all the following:
 - At least one contact at the Water System for water shortage planning and response and the development of the plan.
 - Contacts for local public safety partners and potential vendors that can provide repairs or alternative water sources, including but not limited to, local CBOs that work with the



- population in and around areas served by the water system, contractors for drilling wells, vended water suppliers, and emergency shower vendors.
- State and local agency contacts who should be informed when a drought or water shortage emergency is emerging or has occurred.
- Regional water planning groups or mutual aid networks, to the extent they exist.
- Triggering mechanisms and levels for action, including both of the following
 - Standard water shortage levels corresponding to progressive ranges based on the water supply conditions. Water shortage levels shall also apply to catastrophic interruption of water supplies, including, but not limited to, a regional power outage, an earthquake, a fire, and other potential emergency events.
 - Water shortage mitigation, response, customer communications, enforcement, and relief actions that align with the water shortage levels.

As part of the technical assistance, DWR and the State Water Board have created a template for this abridged WSCP for small water suppliers serving 1,000 to 2,999 service connections and NTNC systems that are schools, located on DWR's website. In addition, subject to funding availability, the State Water Board will offer technical assistance to support NTNC systems that are schools in implementing this new requirement for improving drought and water shortage resiliency.

Table 4-19 Small Water Suppliers with 1,000 to 2,999 Connections and NTNC School Systems in Kings County

NAME	SOURCE	CONNECTIONS	POPULATION SERVED	ABRIDGED WATER SHORTAGE CONTINGENCY PLAN	DROUGHT ELEMENT ADDED TO ENP OR ERP
Armona Community Services District	Groundwater	1,297	4,143	Yes	Yes
Island Union School	Groundwater	17	416	Yes	No
Hanford Christian School	Groundwater	14	175	Yes	No
Kings River Hardwick School	Groundwater	7	908	Yes	No
Pioneer Elementary School	Groundwater	6	750	Yes	No
Lakeside Elementary School	Groundwater	5	388	Yes	No

Source: <https://sdwis.waterboards.ca.gov/>

In addition, America's Water Infrastructure Act of 2018 requires community water systems serving populations greater than 3,300 to develop or update an ERP that incorporates findings of their risk assessment. This requirement is not based on number of connections, although the number of connections, therefore, there may be a small number of small water suppliers with less than 1,000 connections who are required to develop and maintain an ERP. While the Armona CSD as a small water supplier with 1,000 to 2,999 connections is not required to have a drought element added to their ENP or ERP, they are required to as a community water system that serves greater than 3,300 customers.

A summary of the requirements for small water suppliers is provided in Table 4-20.



Table 4-20 Summary of Small Water Supplier Requirements for Implementation of Senate Bill 552

SUMMARY OF REQUIREMENT	COMMUNITY WATER SYSTEM 1,000-2,999 CONNECTIONS	COMMUNITY WATER SYSTEM 15-999 CONNECTIONS	NTNC WATER SYSTEMS THAT ARE SCHOOLS
Drought Resiliency Measures	Yes	Yes	Yes
Abridged Water Shortage Contingency Plan	Yes	No	No
Drought Element added to Emergency Notification or Response Plan	No	Yes	No
Annual reporting of water supply condition information to the State Water Board	Yes	Yes	Yes
Annual water demand reporting to the State Water Board	Yes	Yes	Yes

Source: https://water.ca.gov/-/media/DWR-Website/Web-Pages/Programs/Water-Use-And-Efficiency/Urban-Water-Use-Efficiency/SB-552/Primer-of-SB-552-052522_final.pdf

County Requirements

SB 552 places the drought and water shortage planning responsibility on counties for state small water systems and domestic well communities within the county's jurisdiction. SB 552's language allows for flexibility in how the County implements new requirements. Plans and response arrangements could be developed by GSAs that cover the County, in which case the County would need to formally recognize its agreement and adoption or deference to these plans as part of its compliance with SB 552.

County Drought and Water Shortage Task Force

By January 1, 2022, each county must establish a standing County Drought and Water Shortage Task Force to facilitate drought and water shortage preparedness for state smalls and domestic wells within the county's jurisdiction. Counties must solicit task-force membership from representatives of State and other local governments, including GSAs, community-based organizations (CBOs), local water suppliers, and residents.

As an alternative, the County may implement a different process that facilitates drought and water shortage preparedness for state smalls and domestic wells within the county's jurisdiction. The alternative process will provide opportunities for coordinating and communicating with the state and other local governments, CBOs, local water suppliers, and residents on a regular basis and during drought or water shortage emergencies.

County Drought and Water Shortage Risk Mitigation Plan

The County will develop a plan that includes potential drought and water shortage risks and proposed interim and long-term solutions for state smalls and domestic wells within the County's jurisdiction. The plan may be a stand-alone document or may be included as an element in an existing county plan, such as a LHMP, EOP, climate action plan or CAP, or general plan. The plan must include:

- Potential drought and water shortage risk
- Proposed interim and long-term solutions for state smalls and domestic wells in the County.

The plan must also consider the following, at a minimum:

- Consolidations for existing water systems and domestic wells.
- Domestic well drinking water mitigation programs.
- Provision of emergency and interim drinking water solutions.
- An analysis of the steps necessary to implement the plan.
- An analysis of local, state, and federal funding sources available to implement the plan.



As outlined in Table 4-21, there are ten small water suppliers, supplementing the previously identified ten water districts. Within this subset, five meet the criteria for NTNCWS. All ten of these smaller suppliers, as depicted below, meet the requirements under the SB 552 legislation. These entities are mandated to draft WSCPs, with Kings County providing dedicated support for their development.

Table 4-21 Small Water Suppliers in Kings County

WATER UTILITIES	SYSTEM TYPE	ADDRESS	JURISDICTION
Kings River Hardwick School	Non-Transient Non-Community Water System	10300 Excelsior Ave	Hanford
Hanford Christian School	Non-Transient Non-Community Water System	11948 Flint Ave	Hanford
Island Union School	Non-Transient Non-Community Water System	7799 21st Ave	Lemoore
Pioneer Union Elem School	Non-Transient Non-Community Water System	8810 14th Ave	Hanford
Lakeside Union School	Non-Transient Non-Community Water System	9100 Jersey Ave	Hanford
Kings Ranch Ministries	State Small	13787 Kansas Ave	Hanford
Villa Terrace Apartments	State Small	13940 Hackett St	Hanford
Rollerland Co	State Small	18167 Medford Ave	Stratford
Westlake Farms Hqts/Cotton Gin	State Small	23311 Newton Ave	Stratford
Couture Farms	State Small	30650 Quebec Ave	Kettleman City

Source: Kings County Department of Public Health, Division of Environmental Health Services 2023

As part of compliance with the SB 552 requirements, the County will develop a drought resiliency plan, either as a stand-alone plan or as part of another plan, like the MJHMP that includes a risk assessment and action plan for all of the water districts and small water suppliers in the County. A drought resiliency plan is a structured strategy developed by governments, communities, and organizations to proactively address drought impacts. Its primary goal is to build long-term capacity for effective drought management. The plan includes a risk assessment, water conservation actions, diversifying water sources, early warnings, legal frameworks, community engagement, ecological considerations, emergency response, research, and adaptive management components. These plans are crucial, especially in drought-prone regions or areas facing water scarcity due to factors like climate change and population growth. They aim to balance stakeholder needs with sustainable water resource management in the face of drought challenges.

4.5.4.2 Geographic area

Extensive - Drought is a regional hazard, and at its worst can affect the entire State of California with varying levels of dryness and drought activity. It is safe to assume that unless the drought event is at its very beginning or very end, if any area of the County is affected by any level of drought, other areas of the County are experiencing varying effects as well.

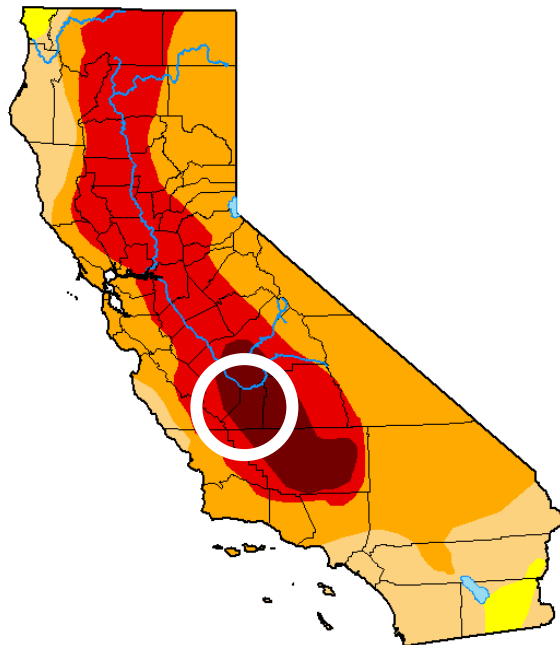
The U.S. Drought Monitor is a widely used site for obtaining and summarizing drought information, as it integrates data from several other sources including the Palmer Drought Index, Soil Moisture Models, U.S. Geological Survey Weekly Stream Flows, Standardized Precipitation Index, and the Satellite Vegetation Health Index. It includes drought intensity categories for measuring dry conditions across counties, states, and regions of the U.S., so that drought can be quantified. These categories range from “abnormally dry” to “exceptional drought.” Figure 4-11 provides “snapshots in time” of the drought conditions in California. The snapshots selected are instrumental in depicting both the historic and potential change in drought’s geographic range and severity in the County (circled).



Figure 4-11 U.S. Drought Monitor for California: December 27, 2022 and April 20, 2023

U.S. Drought Monitor
California

December 27, 2022
(Released Thursday, Dec. 29, 2022)
Valid 7 a.m. EST



Intensity:

- None
- D0 Abnormally Dry
- D1 Moderate Drought
- D2 Severe Drought
- D3 Extreme Drought
- D4 Exceptional Drought

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. For more information on the Drought Monitor, go to <http://droughtmonitor.unl.edu/About.aspx>

Author:

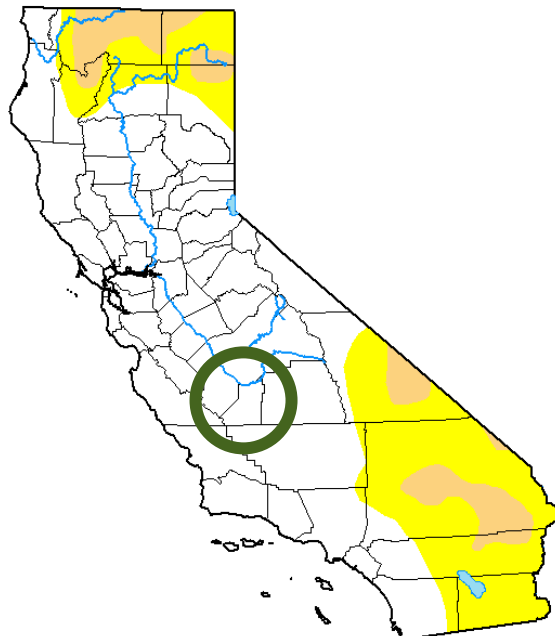
Richard Heim
NCEI/NOAA



U.S. Drought Monitor
California

April 18, 2023

(Released Thursday, Apr. 20, 2023)
Valid 8 a.m. EDT



Intensity:

- None
- D0 Abnormally Dry
- D1 Moderate Drought
- D2 Severe Drought
- D3 Extreme Drought
- D4 Exceptional Drought

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. For more information on the Drought Monitor, go to <https://droughtmonitor.unl.edu/About.aspx>

Author:

Richard Tinker
CPC/NOAA/NWS/NCEP



Source: Drought Monitor 2023

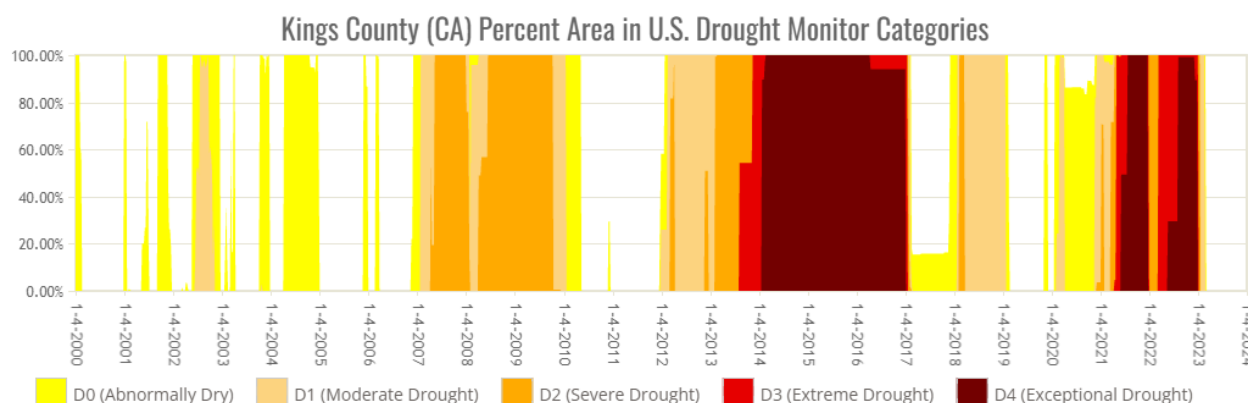


4.5.4.3 Past Occurrences

Historically, California has experienced severe drought conditions. The state's available record for determining hydrologic risks is short, only going back about 100 years. Recent droughts affecting Kings County are summarized below.

- 1928-1937—This drought affected the entire state and is the longest, most severe drought on record with a recurrence interval of greater than 80 years (Paulson et al, 1991).
- 1947-1950—Drought affected the entire state but was most extreme in Southern California. The drought in the winter of 1950 affected the area from the Kern River basin north to the American River basin. The drought caused two deaths and \$33 million in damages (Paulson et al, 1991).
- 1976-1977—This drought was most severe in Northern and Central California, but the impact was experienced statewide because of the dependence of southern California on water transfers from the north. FEMA declared an emergency declaration for the County due to the effects of the drought. The water year 1977 was the driest year of record at almost all gauging stations in the affected area in California, and the water year 1976 was among the five driest in the central and northern Sierra Nevada. The two-year deficiency in runoff accumulated during the drought is unequaled at gauging stations in the affected area, and this deficiency has a recurrence interval that exceeds 80 years. Crop damages statewide were \$2.67 billion (Paulson et al 1991).
- 1987-1992—During this multiyear, multi-county drought, the runoff from the San Joaquin Valley was 47 percent of the average. In 1991, the U.S. Department of Agriculture Economic Research Report Agricultural Outlook reported that the Kings River flow would be inadequate to provide sufficient water for agricultural uses for the fifth consecutive year. A USDA drought disaster declaration was declared (Economic Research Service 1992).
- 2004-2005—On January 26, 2005, the USDA designated the County a primary disaster area due to drought that had occurred since January 1, 2004 (USDA 2005).
- 2008-2009—On June 12, 2008, The Governor proclaimed the County as a state disaster area due to the Central Valley Drought (Schwarzenegger 2008).
- 2012-2017 - The County was designated a disaster area in 2012 due to drought, prompting a state of emergency proclamation by the Governor in 2014 (Brown 2014). Severe impacts were felt, including widespread crop damage, dry wells, and land subsidence. The drought cost the agriculture industry \$1 billion in lost revenue and caused \$2.2 billion in statewide economic damage, with a one-third reduction in water for agriculture (NCICS 2019). The groundwater situation in California is described as a "slow-moving train wreck" (NCICS 2019). The state expended \$6.6 billion in response and mitigation efforts by 2017, according to the 2018 California SHMP.
- The USDA drought monitor compiles time series to communicate the extent and severity of drought over time. Figure 4-12 shows this data for Kings County.

Figure 4-12 USDA Drought Monitor Timeseries



Source: Drought Monitor 2023



Kings County has experienced 15 USDA disaster declarations due to drought between 2012 and 2021 as detailed in Table 4-22 below.

Table 4-22 USDA Drought Declarations by Year in Kings County, 2012 - 2021

DECLARATION TYPE	YEAR	NUMBER OF DECLARATIONS
Drought	2012	2
	2014	1
	2015	1
Drought-FAST TRACK	2012	1
	2013	3
	2014	1
	2015	1
	2016	1
	2017	1
	2019	1
	2021	2
	Grand Total	15

Source: USDA

4.5.4.4 Likelihood of Future Occurrence

Likely – Historical drought data for the County indicates there have been seven significant multi-year droughts, equating to roughly 30 years in drought conditions, in the last 100 years. This equates to a roughly 30% chance of a major drought in any given year. Given the historical occurrence of severe drought impacts throughout the County and across the State, drought is likely to continue to pose a high degree of risk to the entire planning area, potentially impacting crops, livestock, water resources, the natural environment, buildings, and infrastructure (from subsidence and compound hazards), and local economies. Drought will also intensify based on climate change trends associated with precipitation variability and increased temperatures.

4.5.4.5 Climate Change Considerations

Water resources in California are already experiencing stresses related to population growth, increased water demand, poor water quality, groundwater overdraft, and aging infrastructure. As temperatures warm, heat waves become more frequent, and precipitation becomes increasingly variable, drought conditions in California are likely to become more frequent and persistent. Recent drought conditions have underscored the need to examine water supply and distribution management, conservation, and use policies.

According to *California's Climate Adaptation Strategy*, climate change is likely to significantly diminish California's future water supply. In an average year, approximately 40 percent of the State's total water supply comes from groundwater, and during a dry year, this increases to more than half of the State's water supply, with groundwater acting as a critical buffer against the impacts of drought and climate change.

Table 4-23 details how climate change induced drought will impact multiple sectors.

Table 4-23 Climate Change, Droughts, and Impacts

CHALLENGE	OBSERVED AND OR PROJECTED CHANGE
Agriculture and outdoor watering	Increasing temperatures raise evapotranspiration by plants, lower soil moisture, alter growing seasons, and thus increase water demand.
Water supply infrastructure	Changes in snowpack, streamflow timing, and hydrograph evolution may affect reservoir operations including flood control and storage. Changes in the timing



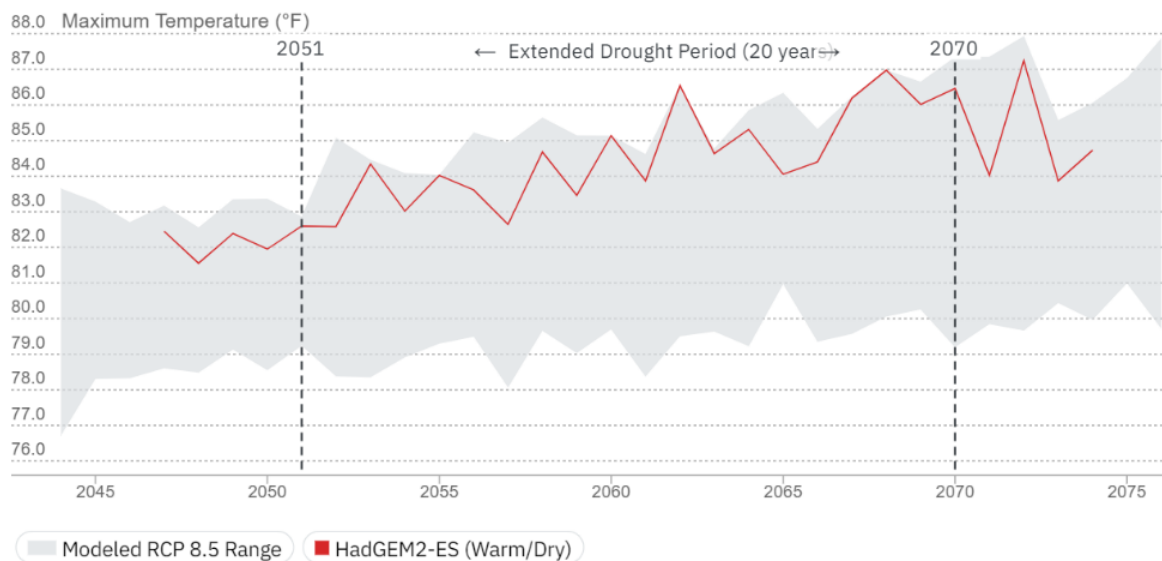
CHALLENGE	OBSERVED AND OR PROJECTED CHANGE
	and magnitude of runoff may affect the functioning of diversion, storage, and conveyance structures.
Legal water systems	Earlier runoff may complicate prior appropriation systems and interstate water compacts, affecting which rights holders receive water and operations plans for reservoirs.
Water quality	Although other factors have a large impact, "water quality is sensitive both to increased water temperatures and changes in patterns of precipitation" (US Climate Change Science Program Synthesis and Assessment Products 4.3, p. 149). For example, changes in the timing and hydrograph may affect sediment load and pollution, impacting human health.
Energy demand and Operating Costs	Warmer air temperatures may place higher demands on hydropower reservoirs for peaking power. Warmer lake and stream temperatures may affect water use by cooling power plants and other industries.
Interplay among forests, hydrology, wildland fires, and pests	Changes in air, water, and soil temperatures may affect the relationships between forests, surface and groundwater, wildland fire, and insect pests. Water-stressed trees, for example, may be more vulnerable to pests.
Soil moisture	Increasing temperatures lead to increased evaporation of water from soil. Parched soil dries out and becomes hardened, increasing flood risk when precipitation does occur, decreasing the likelihood of groundwater recharge.
Stream conditions	Decreases in snowpack that melt earlier in the season will result in less stream water throughout the year, decreasing a critical water source for forests, agriculture, and the economy.
Groundwater resources	Changes in long-term precipitation and soil moisture can affect groundwater recharge rates; coupled with demand issues, this may mean greater pressure on groundwater resources.

Source: Ray et al., 2008

California has a highly variable climate and projections from Cal-Adapt suggest that extended drought occurrence could become more pervasive in future decades (Cal-Adapt 2023). Cal-Adapt provides data for two 20-year drought scenarios derived from the downscaled simulations. Under a maximum temperature by water year under a drought from 2051-2070 (scenario that represents a late century dry spell from 2051-2070 identified from the RCP 8.5 simulation based on the average annual precipitation over 20 years), average temperatures will increase from 76.5 °F to 84.5°F. Figure 4-13 shows the projected extended drought from 2051 to 2070 based on maximum temperatures by water year.



Figure 4-13 Projected Changes in Maximum Temperature by Water Year under 2051-2070 Drought



Source: Cal-Adapt 2023

4.5.4.6 Magnitude and Severity

Critical – Drought impacts are wide-reaching and may be economic, environmental, and/or societal. The most significant impacts associated with drought in the planning area are those related to water-intensive activities such as agriculture and wildlife preservation. During a drought, water allocations may go down, resulting in reduced water availability. Voluntary water conservation measures may also be implemented during extended droughts.

A reduction in electric power generation and water quality deterioration are also potential problems that can occur as a result of drought conditions. The reduced demand for electrical power generation is commonly linked to higher electricity costs due to the loss of hydropower supplies. Water quality deterioration is due to lower levels of precipitation which allow pollutants to concentrate and limit water storage supply. Table 4-24 summarizes the historically observed impacts by category. Figure 4-14 provides the drought statistics for the County.

Table 4-24 Historically Observed Impacts by Drought Monitor Category in California

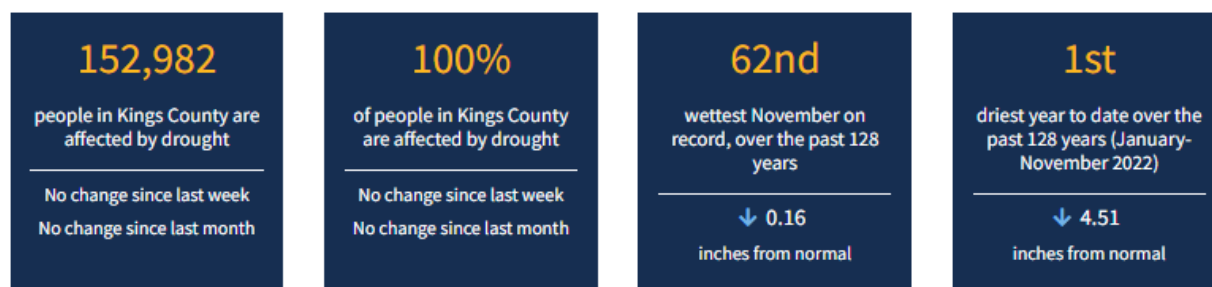
CATEGORY	HISTORICALLY OBSERVED IMPACTS
D0 – Abnormally Dry	• Soil is dry; irrigation delivery begins early • Dryland crop germination is stunted • Active fire season begins
D1 – Moderate Drought	• Dryland pasture growth is stunted; producers give supplemental feed to cattle • Landscaping and gardens need irrigation earlier; wildlife patterns begin to change • Stock ponds and creeks are lower than usual
D2 – Severe Drought	• Grazing land is inadequate • Fire season is longer, with high burn intensity, dry fuels, and large fire spatial extent



CATEGORY	HISTORICALLY OBSERVED IMPACTS
	Trees are stressed; plants increase reproductive mechanisms; wildlife diseases increase
D3 – Extreme Drought	- Livestock need expensive supplemental feed; cattle and horses are sold; little pasture remains; fruit trees bud early; producers begin irrigating in the winter - Fire season lasts year-round; fires occur in typically wet parts of the State; burn bans are implemented - Water is inadequate for agriculture, wildlife, and urban needs; reservoirs are extremely low; hydropower is restricted
D4 – Exceptional Drought	- Fields are left fallow; orchards are removed; vegetable yields are low; honey harvest is small - Fire season is very costly; number of fires and area burned are extensive - Fish rescue and relocation begins; pine beetle infestation occurs; forest mortality is high; wetlands dry up; survival of native plants and animals is low; fewer wildflowers bloom; wildlife death is widespread; algae blooms appear

Source: U.S. Drought Monitor

Figure 4-14 Drought Statistics in Kings County: January 11, 2023



Source: U.S. Drought Monitor, NOAA National Center for Environmental Information, U.S. Geological Survey; drought.gov

4.5.4.7 Vulnerability Assessment

Impacts include water restrictions associated with domestic supplies, agricultural and livestock losses and economic impacts, hydroelectric power reductions, and increased costs for water. Secondary effects include susceptibility to wildfires and increased groundwater pumping that can contribute to land subsidence and degraded water quality.

People

Drought is one of the few hazards with the potential to impact all the citizens of the County through water restrictions, economic losses, and increased energy costs. The historical and potential impacts of drought on populations include agricultural sector job loss, secondary economic losses to local businesses and public recreational resources, increased cost to the local and state government for large-scale water acquisition and delivery, water rationing, and water wells running dry for individuals and families.

Droughts are often accompanied by high temperatures, which can cause heat stress and dehydration, especially in vulnerable populations such as the elderly, children, and those with pre-existing medical conditions. Additionally, droughts can increase the risk of wildfires, which can release large amounts of smoke and pollutants into the air, leading to respiratory problems such as asthma, bronchitis, and



pneumonia. Droughts can also lead to crop failures, food shortages, and rising food prices, resulting in malnutrition and undernutrition, especially in low-income populations. Finally, droughts can cause significant stress and anxiety, especially for those who rely on agriculture for their livelihoods, and drought-related economic losses can also lead to social and psychological stress.

Communities in Kings County most likely to experience the range of these hazard impacts and vulnerabilities will include underserved communities, and DACs located within the rural communities around the northeast portion of the County. These unincorporated communities consist of Armona, Grangeville, Hardwick, Home Garden, Kettleman City, Lemoore Station, and Stratford. Socially vulnerable communities are also located in the cities of Avenal and Corcoran, and portions of the City of Hanford. Of the socially vulnerable populations, those households who receive water from smaller water suppliers, such as Community Service Districts (CSDs) or private water companies, and faculty and students at school facilities dependent on NTCWS may be most vulnerable because these suppliers may not have WSCPs or procedures in place to monitor and track groundwater levels. Agricultural farmers and workforce housing on private groundwater wells may also be most susceptible to drought conditions.

Property

Between the years of 2007 and 2021, over 785,000 acres of USDA-insured crops were lost in the County due to drought, resulting in over \$5 million in indemnity payments. Table 4-25 summarizes the total agricultural losses.

Table 4-25 Crop Loss Due to Drought, 2007 - 2021

YEAR	CROP	NET ACRES	IDEMNITY AMOUNT
2007	Barley	1,082.68	\$ 9,774.00
	Wheat	15,351.79	\$334,260.00
2008	Barley	2,248.90	\$44,655.00
	Wheat	4,546.66	\$128,883.00
2009	Barley	1,912.74	\$30,184.00
	Wheat	5,200.18	\$387,907.00
2010	Wheat	2,065.18	\$98,314.00
2012	Barley	4,527.36	\$336,738.00
	Wheat	16,769.36	\$1,416,535.00
2013	Barley	1,470.36	\$68,899.00
	Wheat	5,700.98	\$560,696.00
2014	Barley	5,011.43	\$293,190.10
	Wheat	9,279.79	\$869,086.53
2016	Cotton	182.50	\$189,546.00
2021	Wheat	3,228.04	\$416,938.80
Total		785,77.948	\$5,185,606.43

Source: USDA RMA Crop Indemnity Reports, 2007-2021

Critical Facilities and Infrastructure

Severe to exceptional droughts can have significant consequences for water supply, water quality, firefighting, navigation, recreation, and other critical facilities. In some cases, when groundwater levels substantially decline, groundwater wells may need to be deepened in response. Subsidence related to groundwater withdrawal can impact linear infrastructure such as pipelines, roads, and levees. Additionally, a higher demand on the water system infrastructure can lead to disruption of service due to line breakage. Possible losses to infrastructure include the loss of potable water.

Small water suppliers and rural communities were the hardest hit during the five-year drought that ended in 2016. In some of the rural communities, wells went dry and State and county authorities



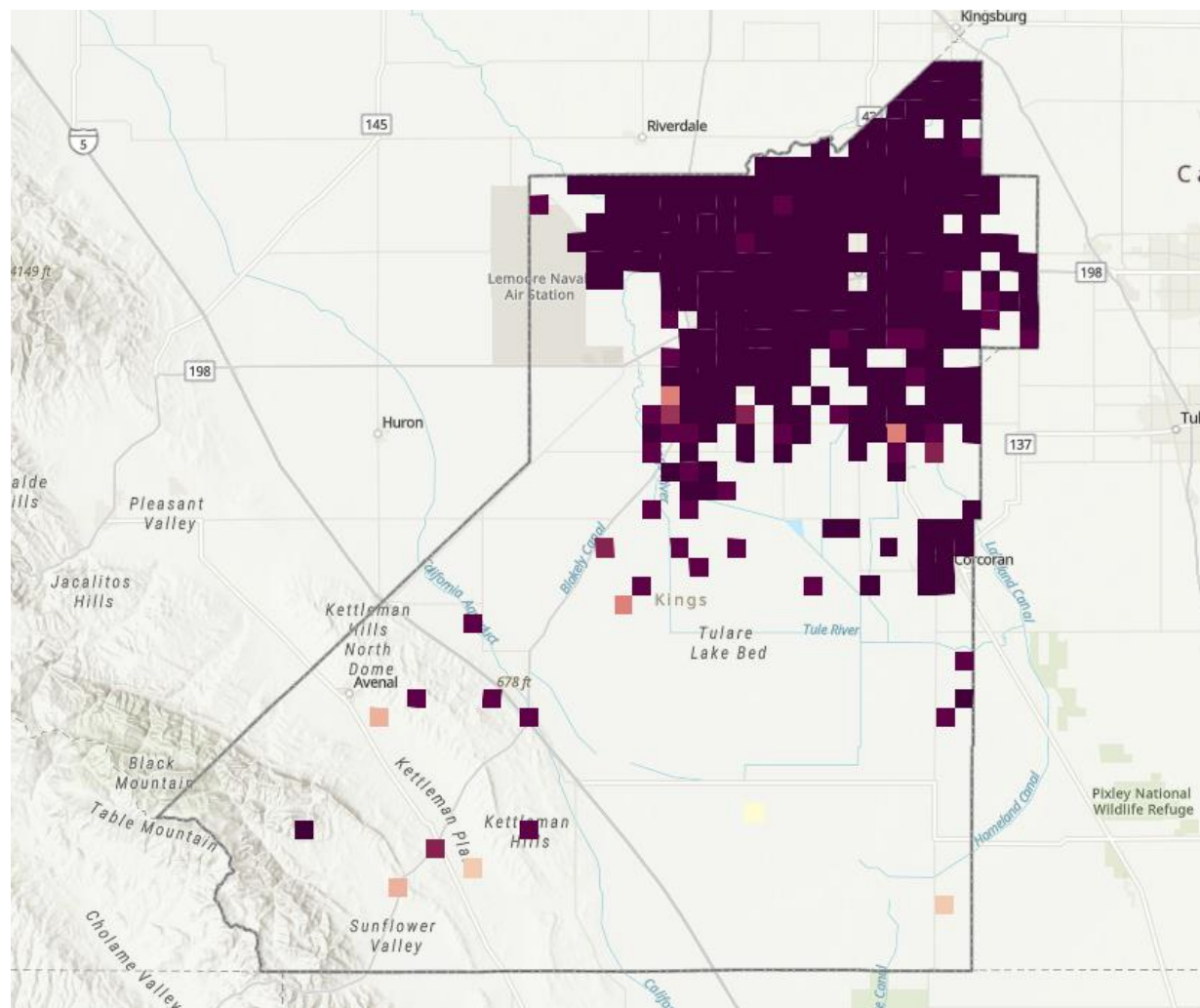
provided bottled water and installed large water storage tanks for homes that went dry. Smaller water systems can therefore be more vulnerable to higher costs and water quality issues during prolonged dry periods. Unlike the larger water districts in Kings County, small water systems do not need to maintain drought contingency plans, and the lack of these plans have left small and rural water systems, rural water systems, and their stakeholders unaware of how to seek assistance. DWR publishes an online tool called the Drought and Water Shortage Risk Explorer Tool for small water suppliers and rural communities to use to identify and understand drought vulnerabilities.

According to the Drought and Water Shortage Vulnerability Explorer Tool for Small Water Suppliers, there are 11 water systems vulnerable to drought, which closely aligns with the 10 water systems identified by Kings County's Public Health Department:

- Stratford Public Utility District
- Home Garden Community Service District
- Armona Community Service District
- Hardwick Water Company
- Island Union School
- Champions - Samuel House
- Kettleman City Community Service District
- City of Avenal
- Azcal Management Company
- Sunset Vista Estates
- Lemoore Naval Air Station

Based on the vulnerability profiles for these small water systems, many had high vulnerability scores (scores greater than 40 depicted by a dark purple color). The physical vulnerabilities are associated with dry years, groundwater overdraft, lack of emergency interties, and the fact that these small water systems rely on single and small water sources for supply. Similarly, based on the water shortage vulnerability scores, the water suppliers located in the northeast portion of Kings County had the highest physical vulnerability scores above 40, and Kings County had an average physical vulnerability score of 57.71. The physical vulnerability scores for Kings County's state small and domestic wells are shown in Figure 4-15.

Figure 4-15 Kings County State Small and Domestic Wells Water Shortage Physical Vulnerability Scores



Source: DWR Water Shortage Vulnerability Explorer 2023

The Water Shortage Vulnerability Explorer tools are designed to support small water suppliers and rural communities identify and understand their risk. These vulnerabilities are also intended to support drought task force discussions around water shortage preparedness for domestic wells and privately supplied homes and small state water systems. The information is also intended to support risk assessments as Kings County and the small water suppliers develop their Water Shortage Contingency Plans and the County Drought Resilience Plan that meet the requirements of SB 552.

Economy

Drought impacts on the local or regional economy can be difficult to quantify due to the extent to which most industries rely upon water. Many of the major industries in the County, such as grain and dairy farming, rely heavily on water and can be affected due to a lack of, or reduced quality of, water resources.

When water resources are limited, effects are more severe for industries that rely on large amounts of water, and prolonged droughts intensify these impacts. Agriculture often suffers the most financial losses from drought. Researchers at the University of California at Merced estimate that the 2020-2021 drought cost farms \$1.2 billion in losses, with an additional \$845 million loss incurred by the State's food processing and manufacturing industries (UC Merced date). An estimated 12,000 agricultural jobs were also lost due to the drought (Medellín-Azuara et al. 2022). Based on USDA indemnity payments, the County losses are just over \$343,000 in annualized average loss.



Cultural, Historic and Natural Resources

In addition to groundwater, the County receives water from the Kings River. Sustained drought reduces waterflow in the river, depriving the region of valuable agricultural and recreational resources. Water-dependent habitats such as freshwater marshes and vernal pools native to the area suffer losses from droughts.

The Tulare Lake region contains numerous archeological artifacts important to the Yokut Tachi Tribe (Kings County MJHMP, 2012). It is unknown how drought will affect these resources.

In general, environmental impacts from drought are more likely at the interface of the human and natural world. The loss of crops or livestock due to drought can have far-reaching economic effects on communities. Wind and water erosion can alter the visual landscape, and dust can damage property. Water-based recreational resources are also heavily affected by drought conditions.

Development Trends

Because Development Trends encompasses all forms of industry, infrastructure, critical facilities and all related populations and their functions, drought impacts on Development Trends will align with the historical and potential impacts on populations, property, natural environment, and critical facilities discussed above. With the County's population projected to continue to steadily increase while climate change projections are showing an increase in the duration and intensity of drought events, it will be important for each new development application to be reviewed with existing and future water supplies in mind.

4.5.4.8 Risk Summary

- Due to widespread impacts in the area, drought is considered a high-significance hazard.
- There have been seven significant multi-year droughts, equating to roughly 30 years in drought conditions, in the last 100 years. This equates to a roughly 30% chance of a major drought in any given year.
- 15 USDA Disaster Designations due to drought have been declared between 2012 and 2021.
- Between the years of 2007 and 2021, over 785,000 acres of USDA-insured crops were lost in Kings County due to drought, resulting in over \$5 million in indemnity payments.
- Climate change projections show that extreme prolonged drought is likely to continue and will exacerbate existing water supply challenges. Under a maximum temperature scenario that represents a late century dry spell from 2051-2070, average temperatures will increase from 76.5 °F to 84.5°F.
- Underserved communities, and DACs located within the unincorporated communities of Armona, Grangeville, Hardwick, Home Garden, Kettleman City, Lemoore Station, and Stratford and those households who receive water from smaller water suppliers and faculty and students at school facilities dependent on NTNCWS are most vulnerable to drought because these suppliers may not have WSCPs or procedures in place to monitor and track groundwater levels.
- **Related Hazards** – Extreme Heat, Land Subsidence, Wildfire, Agricultural Pest Infestation and Disease

JURISDICTION	GEOGRAPHIC AREA	PROBABILITY OF FUTURE OCCURRENCE	MAGNITUDE/ SEVERITY	OVERALL SIGNIFICANCE	PRIORITY HAZARD?
Kings County	Extensive	Likely	Critical	High	Yes
City of Avenal	Extensive	Likely	Critical	High	Yes
City of Corcoran	Extensive	Likely	Critical	High	Yes
City of Hanford	Extensive	Likely	Critical	High	Yes
City of Lemoore	Extensive	Likely	Critical	High	Yes

4.5.5 EARTHQUAKE

4.5.5.1 Hazard Description

An earthquake is caused by a sudden slip on a fault. Stresses in the earth's outer layer push the sides of the fault together. Stress builds up and the rocks slip suddenly, releasing energy in waves that travel through the earth's crust and cause the shaking that is felt during an earthquake. The amount of energy released during an earthquake is usually expressed as a magnitude and is measured directly from the earthquake as recorded on seismographs. The magnitude of earthquakes is usually measured using the Richter Scale, a logarithmic scale calculated from the amplitude of the largest seismic wave recorded for the earthquake.



Another measure of earthquake severity is intensity. Intensity is an expression of the amount of shaking at any given location on the ground surface. Seismic shaking is typically the greatest cause of damage to structures during earthquakes. Seismologists have developed the Mercalli scale to quantify the shaking intensity of an earthquake's effects, which is measured by how an earthquake is felt by humans and the damage to buildings.

Earthquakes can cause structural damage, injury, and loss of life, as well as damage to infrastructure networks such as water, power, gas, communication, and transportation lines. Other damage-causing effects of earthquakes are surface rupture, fissuring, settlement, and permanent horizontal and vertical shifting of the ground. Secondary impacts can include landslides, seiches, liquefaction, and dam failure. Liquefaction occurs when ground shaking causes the mechanical properties of some fine-grained, saturated soils to liquefy and act as a fluid. It is the result of a sudden loss of soil strength due to a rapid increase in soil pore water pressures caused by ground shaking, in areas of shallow groundwater (within 10' of the surface or less). Liquefaction that produces surface effects generally occurs in the upper 40 to 50 feet of the soil column, although the phenomenon can occur deeper than 100 feet. The duration of ground shaking is also an important factor in causing liquefaction to occur. The larger the earthquake magnitude, and the longer the duration of strong ground shaking, the greater the potential for liquefaction to occur.

In populated areas, the greatest potential for loss of life and property damage can come as a result of ground shaking from a nearby earthquake. The degree of damage depends on many interrelated factors. Among these are the moment magnitude, focal depth, distance from the causative fault, duration of shaking, type of surface deposits or bedrock, presence of high ground water, topography, and finally, the design, type, and quality of building construction.

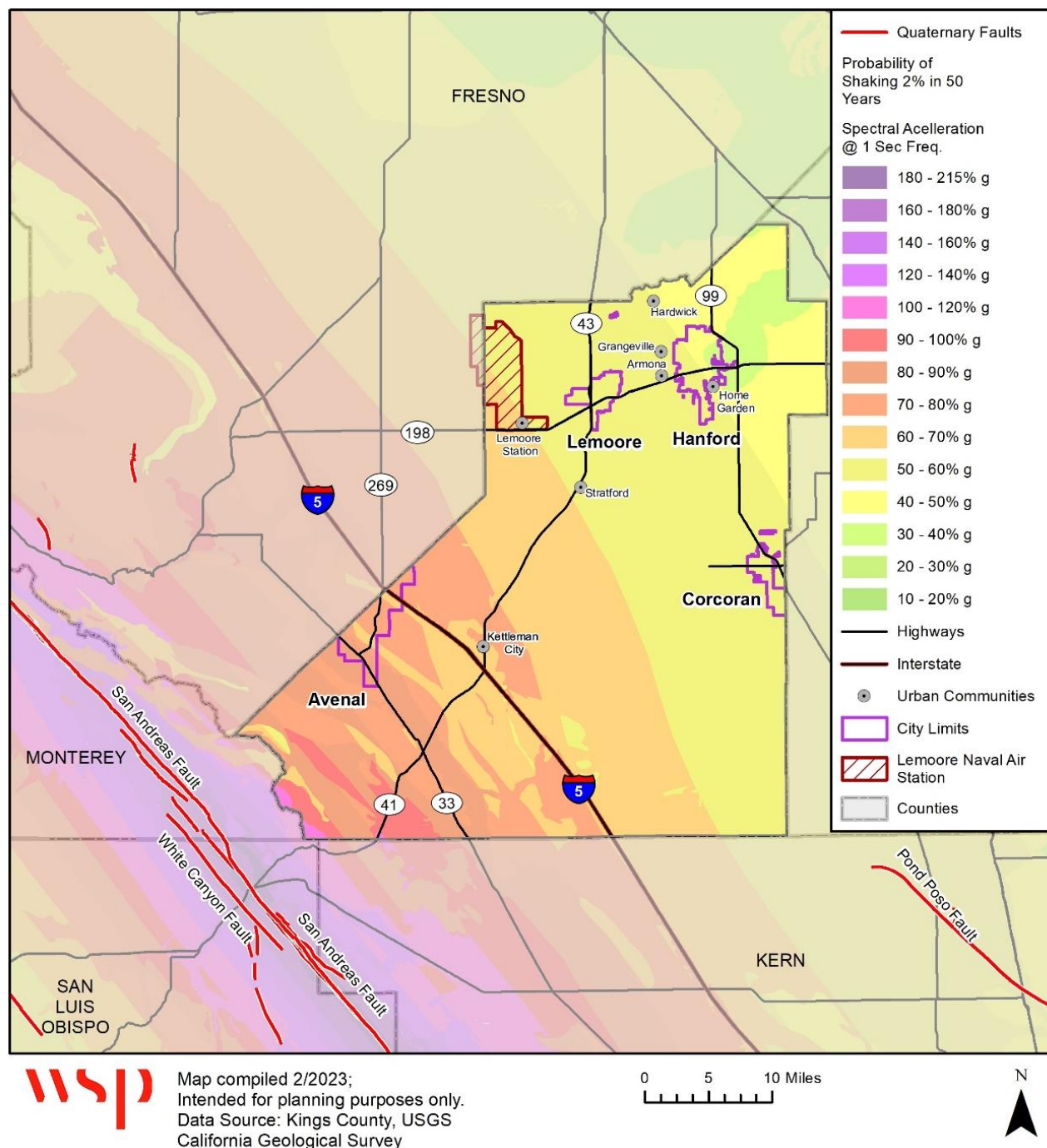
4.5.5.2 Geographic Area

Limited – As mentioned in the County's 2012 MJHMP, no major fault systems are known to exist in the County. Therefore, the potential for extensive surface rupture within the County is minimal. However, minor surface ruptures could occur in areas of minor faulting, which occur primarily in the southwestern part of the County along the Kettleman Hills. Ground shaking is the most likely damaging effect of an earthquake. During the preparation of the County's 2012 MJHMP, the HMPC reported that shaking was felt during the Coalinga earthquake of magnitude 6.4 in 1983. The epicenter of the Coalinga earthquake was located approximately 20 miles from the County's western border.

As shown in Figure 4-16, the San Andreas Fault is located less than four miles west of the Kings County line. The San Andreas occurs where the North American and Pacific plates come together and grind in a side - by - side motion relative to each other. The San Andreas Fault also falls within a Alquist-Priolo Earthquake Fault Zone. As defined by California Department of Conservation, Alquist-Priolo earthquake fault zones are regulatory zones surrounding the surface traces of active faults in California (CGS, n.d.). Wherever an active fault exists, if it has the potential for surface rupture, a structure for human occupancy cannot be placed over the fault and must be a minimum distance from the fault (generally fifty feet). Moreover, the Pond Poso fault is to the southeast of the County – about 8 miles from the Countyline.

Figure 4-16 shows the known faults and potential for ground shaking resulting from earthquakes in and near Kings County based on USGS probabilistic ground shaking with a 2% in 50-year occurrence, which is also known as 2500-year probabilistic ground shaking. In addition, as documented in the County's 2012 MJHMP, another large known fault, the White Wolf fault, is located to the south near Arvin and Bakersfield and produced a severe M 7.7 earthquake in 1952. This fault is not shown in Figure 4-16 due to the extent of the map.

Figure 4-16 Kings County Earthquake Ground Shaking Potential and Nearby Faults



The potential for ground shaking is discussed in terms of the 2% percent probability of exceeding peak ground acceleration (% g) in the next 50 years. It varies from 30-70% g in the northeastern and central portions of the County, including the cities of Hanford, Lemoore, Corcoran, and the central primary agricultural part of the County. Earthquake hazard is more severe in the southwest of the County and the City of Avenal. The potential for ground shaking in this area ranges from 60-100% g. The potential for ground shaking is particularly high at the southwestern County line, reaching 100% g and above.

Earthquakes can occur at any time of the day or night and any time of the year. Earthquakes are particularly dangerous due to their rapid onset, generally without warning. Aftershocks can occur for days, weeks, and even months following a major earthquake. This additional damage to structures already weakened by the main earthquake increases the danger to rescue and recovery personnel.

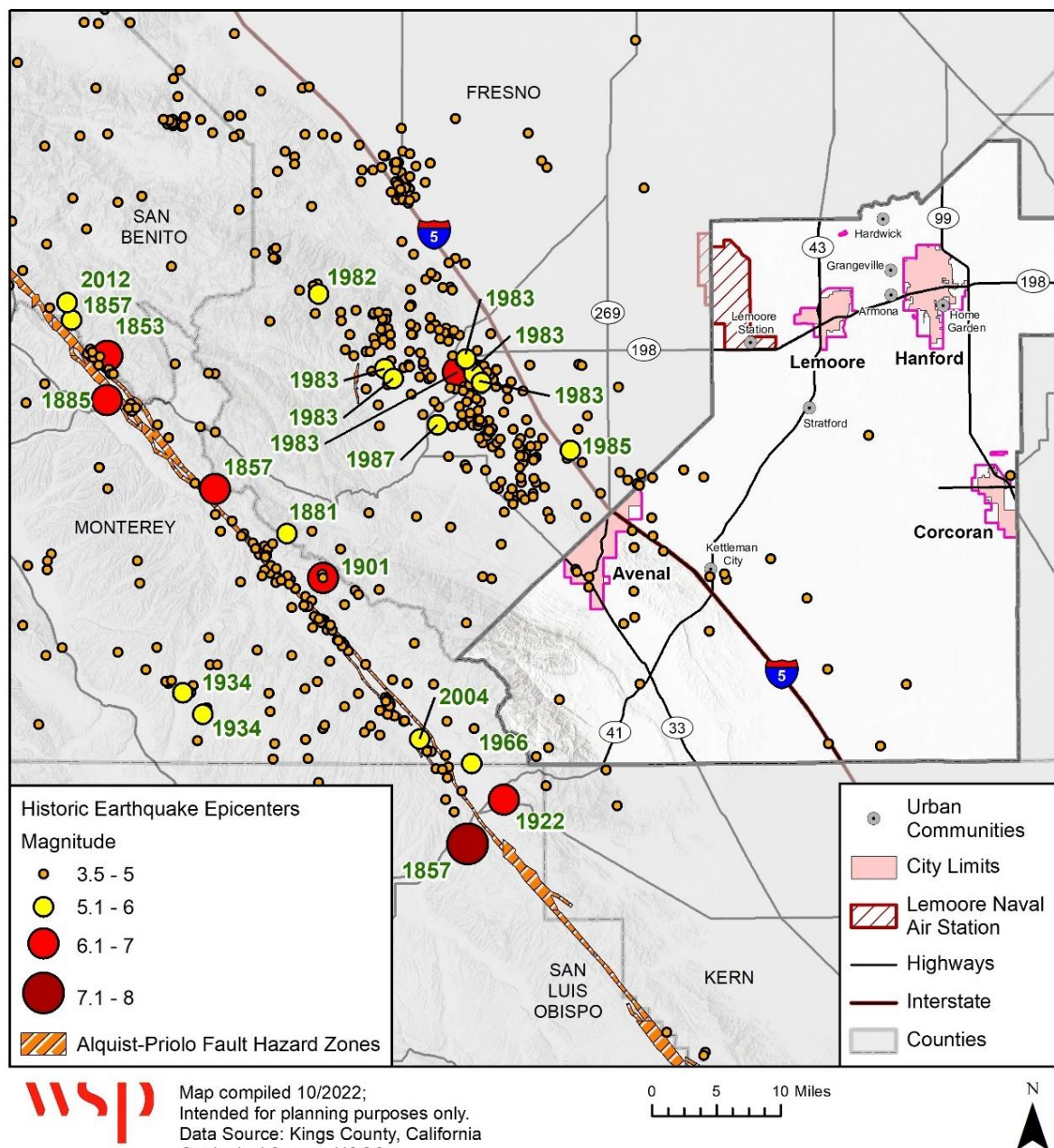


Earthquakes can result in many secondary effects, including fires and landslides, which are covered in separate sections of this plan. Ground settlement and soil compaction also may occur as a result of seismic ground shaking. When unconsolidated valley sediments are saturated with water, water from voids is forced to the ground surface, where it emerges in the form of mud spouts or sand boils. If soil liquefies in this manner (liquefaction), it loses its supporting capacity, which can result in the minor displacement to the total collapse of structures. These types of unconsolidated sediments represent the poorest kind of soil condition for resisting seismic shock waves. However, according to California Department of Conservation's most recent liquefaction data, there is no liquefaction zone located within or near Kings County.

4.5.5.3 *Past Occurrences*

Figure 4-17 depicts the epicenters of the historic earthquakes that occurred in Kings County from 1855 through 2021. As shown in the figure, most of the epicenters have occurred along the San Andreas fault, which falls within the Alquist-Priolo Fault Hazard Zone and is to the west of the County.

Figure 4-17 Kings County Historic Earthquake Epicenters: 1855 – 2021



As noted in the County's 2012 MJHMP, there have not been any damaging earthquakes greater than M 6.0 recorded in Kings County in over 200 years, though several have been close. The most recent large earthquake near Kings County was the Kettleman Hills earthquake of magnitude 5.6 on August 4, 1985, whose epicenter was located four miles from the Kings County border just north of Avenal. This earthquake was the third in a sequence of moderate earthquakes that occurred along a shallowly dipping thrust fault on the eastern border of the San Joaquin Basin. It was preceded by two earthquakes located approximately 20 miles from Kings County, the 1982 New Idria earthquake (M 5.4) and the 1983 Coalinga (M 5.2). The Kettleman Hills earthquake did not result in any surface rupture. There was a low level of ground shaking and low local magnitude reported, according to the 2012 Kings County MJHMP.

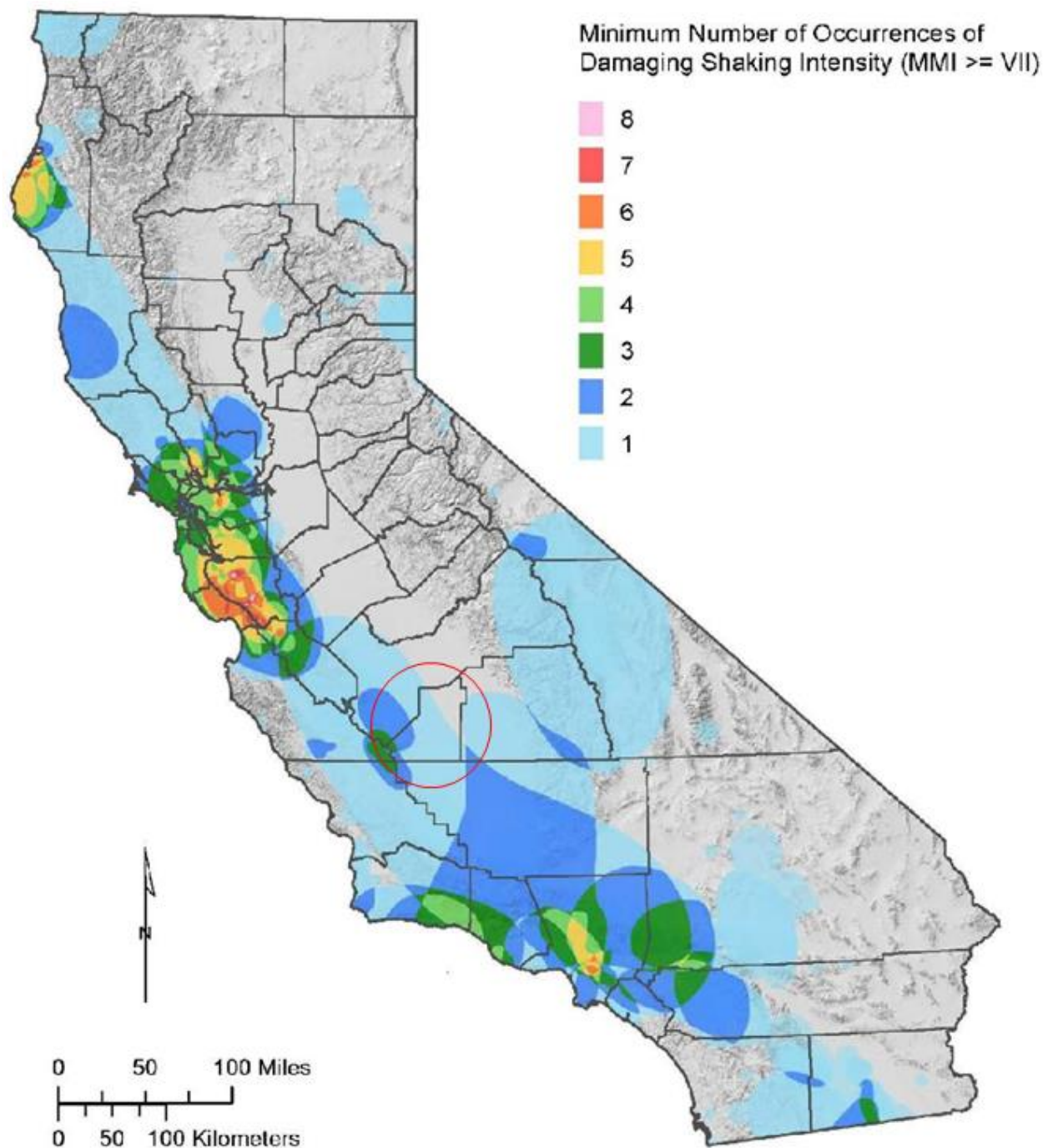
Major earthquakes have occurred near Kings County and resulted in ground shaking felt in the county. The Fort Tejon earthquake in 1857 of M 7.9 was one of the greatest earthquakes ever recorded in the United States and the largest in California. It left an amazing surface rupture scar over 215 miles in length along the San Andreas Fault. The epicenter is now thought to have been located near Cholame, approximately 34 miles northwest of the Kings County border near Avenal. During the Fort Tejon



earthquake, strong shaking lasted from one to three minutes. As a result of the shaking, the current of the Kern River was turned upstream, and water ran four feet deep over its banks (SCEDC, 2012). The waters of Tulare Lake were thrown upon its shores, stranding fish miles from the original lakebed. Property loss was heavy at Fort Tejon, one of the only settlements at the time, an Army post in south-central Kern County about four miles from the San Andreas fault. In 1857, two buildings were declared unsafe, three others were damaged extensively but were habitable, and still, others sustained moderate damage. One person was killed in the collapse of an adobe house at Gorman.

Figure 4-18 below is from the 2018 California State Hazard Mitigation Plan, which displays the common areas damaged by earthquakes based on historic evidence dating back to the year 1800. The occurrences are color-coded by damaging shaking intensity across California, and Kings County is enclosed within a red circle. The figure shows that per the MMI scale noting occurrences equal to or greater than an Intensity of VII, the County has experienced 1 to 2 earthquake events of this kind, mostly affecting the southwestern portion of the County, particularly the area encompassing the City of Avenal.

Figure 4-18 Areas Damaged by Earthquakes from 1800 to 2017



Source: California SHMP, 2018

4.5.5.4 Likelihood of Future Occurrence

Occasional – The National Earthquake Information Center (U.S.) reports 12,000-14,000 earthquakes a year around the world, or 35 a day. Throughout the world, there are one "great" (magnitude 8.0 or more), 18 "major" (7.0-7.9), 120 "large" (6.0-6.9) and 1,000 "moderate" (5.0-5.9) earthquakes in an average year (CA Department of Conservation, n.d.). Each year, California generally gets two or three earthquakes large enough to cause moderate damage to structures (magnitude 5.5 and higher). Moreover, earthquakes can occur at any time of the year. A strong earthquake can cause major damage depending on the epicenter's location with regards to populated areas, and can lead to billions of dollars in disasters, deaths, injuries, and disruptions in services and communities' way of life.



Along the San Andreas Fault, segments exist where no large earthquakes have occurred for long intervals of time. These areas accumulate potential energy and provide clues as to where the next earthquake may occur and when. Scientists term these segments “seismic gaps” and, in general, have been successful in forecasting the time when some of the seismic gaps will produce large earthquakes. As noted by USGS, geologic studies show that over the past 1,400 to 1,500 years, large earthquakes have occurred at about 150-year intervals on the southern San Andreas Fault. Based on the earthquake shaking potential mapped for Kings County, the proximity to the San Andreas Fault and the history of shaking but no surface rupture, the probability of damaging seismic ground shaking in Kings County is occasional.

4.5.5.5 Climate Change Considerations

Climate change is not expected to directly affect earthquake frequency or intensity, nor the Likelihood of Future Occurrence of seismic activity.

4.5.5.6 Magnitude and Severity

Catastrophic – For extent, the severity of an earthquake, or the amount of energy released during an earthquake is usually expressed in terms of intensity or magnitude as described further below.

Magnitude – Magnitude represents the amount of seismic energy released at the hypocenter of an earthquake. It is based on the amplitude of the earthquake waves recorded. Seismologists have developed several magnitude scales; one of the first was the Richter Scale, developed in 1932 by the late Dr. Charles F. Richter of the California Institute of Technology. The Richter Scale is numeric and has a logarithmic relationship between scale factors so that a difference of one scale number represents a tenfold increase in measured amplitude, which in turn corresponds to an approximate 31x energy release difference when compared to the next whole number value. The Moment Magnitude scale (M_w or M) is a measurement of energy released by the movement of a fault and is the modern method used by seismologists to measure earthquakes. Overall, as the amount of energy released by an earthquake increases, the potential for ground-shaking impacts also increases.

Intensity – Intensity represents the observed effects of ground shaking at any specified location and earthquake shaking decreases with distance from the earthquake epicenter. Intensity is an expression of the amount of shaking at any given location on the ground surface based on felt or observed effects. Seismic shaking is typically the greatest cause of losses to structures during earthquakes. Intensity is measured with the Modified Mercalli Intensity (MMI) scale. The intensity of ground shaking at a particular site or structure is a function of many factors including 1) earthquake magnitude, 2) distance from the epicenter, 3) duration of strong ground motion, 4) local geologic conditions (soil type and topography), and 5) the fundamental period of the structure. A brief description of those factors is presented below. The MMI scale and associated magnitude scales are summarized in Table 4-26, along with the effects associated with the MMI scale. Damage typically occurs in MMI of scale VII or above.

Table 4-26 Earthquake Magnitude and Intensity Measurements and Intensity Characteristics

MAGNITUDE	MERCALLI INTENSITY	EFFECTS	FREQUENCY
Less than 2.0	I	Microearthquakes, not felt or rarely felt; recorded by seismographs.	Continual
2.0-2.9	I to II	Felt slightly by some people; damages to buildings.	Over 1M per year
3.0-3.9	II to IV	Often felt by people; rarely causes damage; shaking of indoor objects noticeable.	Over 100,000 per year
4.0-4.9	IV to VI	Noticeable shaking of indoor objects and rattling noises; felt by most people in the affected area; slightly felt outside; generally, no to minimal damage.	10K to 15K per year
5.0-5.9	VI to VIII	Can cause damage of varying severity to poorly constructed buildings; at most, none to slight damage to all other buildings. Felt by everyone.	1K to 1,500 per year
6.0-6.9	VII to X	Damage to a moderate number of well-built structures in populated areas; earthquake-resistant structures survive with slight to moderate damage; poorly designed structures receive moderate to severe damage; felt in wider areas; up to hundreds of	100 to 150 per year



MAGNITUDE	MERCALLI INTENSITY	EFFECTS	FREQUENCY
		miles/kilometers from the epicenter; strong to violent shaking in epicentral area.	
7.0-7.9	VIII<	Causes damage to most buildings, some to partially or completely collapse or receive severe damage; well-designed structures are likely to receive damage; felt across great distances with major damage mostly limited to 250 km from epicenter.	10 to 20 per year
8.0-8.9	VIII<	Major damage to buildings, structures likely to be destroyed; will cause moderate to heavy damage to sturdy or earthquake-resistant buildings; damaging in large areas; felt in extremely large regions.	One per year
9.0 and Greater	VIII<	At or near total destruction – severe damage or collapse to all buildings; heavy damage and shaking extends to distant locations; permanent changes in ground topography.	One per 10-50 years

Source: USGS Volcanic Hazards Program

Distance from Epicenter – Earthquake energy generally dissipates (or attenuates) with distance from a fault. Over long distances, this loss of energy can be significant, resulting in a significant decrease in ground shaking with increased distance from the epicenter.

Duration of Strong Shaking – The duration of strong ground shaking constitutes a major role in determining the amount of structural damage and the potential for ground failure that can result from an earthquake. Larger magnitude earthquakes have longer durations than smaller earthquakes.

Local Geologic Conditions – The geologic and soil conditions at a particular site have the potential to substantially increase the effects of ground shaking. The thickness, density, and consistency of the soil, as well as shallow groundwater levels, have the potential to amplify the effects of ground shaking depending on the characteristics of the earthquake. In general, the presence of unconsolidated soils above the bedrock surface can amplify the ground shaking caused by an earthquake.

Fundamental Periods – Every structure has its fundamental period or natural vibration. If the vibration of ground shaking coincides with the natural vibration period of a structure, damage to the structure can be greatly increased. The extent of damage suffered during an earthquake can also depend on non-geologic factors. The type of building and its structural integrity will influence the severity of the damage suffered. Generally, small, well-constructed, one- and two-story wood and steel frame buildings have performed well in earthquakes because of their light weight and flexibility. Reinforced concrete structures will also usually perform well. Buildings constructed from non-flexible materials, such as unreinforced brick and concrete, hollow concrete block, clay tile, or adobe, are more vulnerable to earthquake damage.

Effects of Ground Shaking – The primary effect of ground shaking is the damage or destruction of buildings, infrastructure, and possible injury or loss of life. Building damage can range from minor cracking of plaster to total collapse. Disruption of infrastructure facilities can include damage to utilities, pipelines, roads, and bridges. Ruptured gas and water lines can result in fire and produce scour/inundation damage to structures, as can fire from other causes, such as electrical damages. Secondary effects can include geologic impacts such as co-seismic fault movement along nearby faults, seismically induced slope instability, liquefaction, lateral spreading, and other forms of ground failure and seismic response. These secondary effects were demonstrated in Oceano by the San Simeon 2003 earthquake (Hardebeck et al, 2004).

4.5.5.7 Vulnerability Assessment

Earthquake loss estimation for the 2023 MJHMP update utilized FEMA's Hazus-MH 6.0 natural hazard loss estimation software. Hazus is a GIS-based, standardized, nationally applicable multi-hazard loss estimation methodology and software. Local, state, and federal government officials use Hazus for preparedness, emergency response, and mitigation planning. A Level 1 Hazus analysis was performed, which estimates damage based on an inventory database compiled at a national level aggregated to 2020 Census Tracts. As with any model, there are uncertainties, and the results should be considered approximate for planning purposes.



To evaluate potential losses associated with earthquake activity in the County's planning area, two Hazus scenarios were run for the County, including a Hazus 2,500-year probabilistic scenario and the ShakeMap Magnitude 7.2 – Great Valley 14 (Kettleman Hills) Scenario. The 2,500-year scenario considers multiple faults in the region. The methodology utilizes probabilistic seismic hazard contour maps developed by the USGS for the 2018 update of the National Seismic Hazard Maps that are included with Hazus-MH. The USGS maps provide estimates of potential ground acceleration and spectral acceleration at periods of 0.3 second and 1.0 second, respectively. The 2,500-year return period analyzes ground shaking estimates from the various seismic sources in the area with a 2 percent probability of being exceeded in 50 years. The International Building Code uses this level of ground shaking for building design in seismic areas.

The Magnitude 7.2 – Great Valley 14 (Kettleman Hills) is a deterministic earthquake analysis that was modeled using Hazus for the County. A deterministic scenario predicts the outcome of a specific earthquake event. This deterministic scenario used USGS-provided ShakeMap datasets to model what a Magnitude 7.2 earthquake of the Great Valley Fault Thrust System would generate in terms of damages and losses for the chosen area of interest (i.e. Kings County). The datasets used to import into Hazus 6.0 for the scenario included four USGS-provided data layers in geospatial format: peak ground velocity, peak ground acceleration, peak spectral acceleration for 0.3 seconds (0.3 % g, or gravitational velocity), and peak ground acceleration for 1.0 seconds (1.0 % g).

Hazus estimates the number of people displaced, the number of buildings and facilities/infrastructure damaged, the number of casualties, and the damage to transportation systems and utilities. Results produced by Hazus are reported at the census tract level. These results and the estimated impacts are summarized below in the vulnerability assessment.

People

Loss of utility service would have major impacts on the people of the County, including socially vulnerable populations. The following tables indicate the number of projected households that would experience power and water loss, and the number of days the loss would last. As shown by Table 4-27 and Table 4-28 the 2,500-Year Probabilistic Scenario is expected to cause a longer delay in the recovery of potable water and electric power systems as well as cause more people to be without potable water or electric power compared to the Great Valley ShakeMap Scenario.

Table 4-27 Expected Potable Water and Electric Power System Performance – 2,500-Year Probabilistic Scenario

AFFECTED SERVICE	TOTAL NUMBER OF HOUSEHOLDS	NUMBER OF HOUSEHOLDS WITHOUT SERVICE				
		AT DAY 1	AT DAY 3	AT DAY 7	AT DAY 30	AT DAY 90
Potable Water	44,100	36,567	36,100	35,057	24,608	0
Electric Power		36,801	27,393	14,104	2,168	44

Source: Hazus-MH 6.0

Table 4-28 Expected Potable Water and Electric Power System Performance – Great Valley ShakeMap Scenario

Affected Service	TOTAL NUMBER OF HOUSEHOLDS	NUMBER OF HOUSEHOLDS WITHOUT SERVICE				
		AT DAY 1	AT DAY 3	AT DAY 7	AT DAY 30	AT DAY 90
Potable Water	44,100	8,513	6,254	2,238	0	0
Electric Power		3,315	2,451	1,222	157	4

Source: Hazus-MH 6.0

Sheltering is another concern during an earthquake – people may be displaced from their homes due to the earthquake, and those displaced people may need accommodations in temporary public shelters. Table 4-29 shows the projected total displacement and projected shelter needs for each scenario. The 2,500-Year Probabilistic Scenario is expected to result in many more displaced households and also people seeking shelter than the Great Valley ShakeMap Scenario.



Table 4-29 Shelter Requirements

	TOTAL POPULATION	TOTAL DISPLACED HOUSEHOLDS	TOTAL SEEKING SHELTER
2,500-YEAR PROBABILISTIC SCENARIO	152,486	2,371	1,588
GREAT VALLEY SHAKEMAP SCENARIO	152,486	121	96

Source: Hazus-MH 6.0

The Hazus modeled potential casualty numbers vary based on the magnitude and time of occurrence of the earthquake. Casualties are broken out by occupancy class, and severity is separated into one of four categories.

- **Level 1** – Injuries will require medical attention, but hospitalization is not needed
- **Level 2** – Injuries will require hospitalization but are not considered life-threatening
- **Level 3** – Injuries will require hospitalization and can become life-threatening if not promptly treated
- **Level 4** – Victims are killed by the earthquake

Hazus estimates are provided for three times of day: 2 AM, 2 PM, and 5 PM. These times represent the periods of the day when different sectors of the community are at their peak occupancy loads. The 2 AM estimate considers that the residential occupancy load is maximum, the 2 PM estimate considers that the educational, commercial, and industrial sector loads are maximum, and 5 PM represents peak commute time. Table 4-30 shows casualty estimates for the different times of day for each scenario. The 2,500-Year Probabilistic Scenario is expected to result in much more casualties and also more severe casualties than the Great Valley ShakeMap Scenario, shown in Table 4-31.

Table 4-30 Casualty Estimates – 2,500-Year Probabilistic Scenario

		LEVEL 1	LEVEL 2	LEVEL 3	LEVEL 4
2 AM	Commercial	6.42	1.78	0.28	0.56
	Commuting	0.06	0.07	0.13	0.03
	Educational	0.00	0.00	0.00	0.00
	Hotels	0.07	0.02	0.00	0.01
	Industrial	9.53	2.65	0.42	0.82
	Other- Residential	294.52	72.12	9.25	17.88
	Single Family	210.24	32.87	1.67	2.86
	Total	521	110	12	22
2 PM	Commercial	574.36	158.59	25.16	49.05
	Commuting	0.54	0.67	1.20	0.23
	Educational	230.38	62.92	10.17	19.90
	Hotels	0.01	0.00	0.00	0.00
	Industrial	70.21	19.45	3.07	5.99
	Other- Residential	126.17	31.09	4.21	7.84
	Single Family	66.67	10.43	0.62	0.90
	Total	1,068	283	44	84
5 PM	Commercial	446.20	122.91	19.53	37.54
	Commuting	9.31	11.45	20.50	3.91
	Educational	20.32	5.64	0.93	1.81
	Hotels	0.02	0.01	0.00	0.00
	Industrial	43.88	12.15	1.92	3.75
	Other- Residential	113.14	27.77	3.65	6.79
	Single Family	81.95	12.92	0.78	1.12
	Total	715	193	47	55

Source: Hazus-MH 6.0



Table 4-31 Casualty Estimates – Great Valley ShakeMap Scenario

		LEVEL 1	LEVEL 2	LEVEL 3	LEVEL 4
2 AM	Commercial	0.29	0.06	0.01	0.01
	Commuting	0.00	0.00	0.00	0.00
	Educational	0.00	0.00	0.00	0.00
	Hotels	0.00	0.00	0.00	0.00
	Industrial	0.29	0.05	0.01	0.01
	Other- Residential	42.29	8.89	1.04	2.01
	Single Family	16.09	1.56	0.06	0.10
	Total	59	11	1	2
2 PM	Commercial	26.94	5.46	0.71	1.38
	Commuting	0.02	0.02	0.03	0.01
	Educational	14.37	3.13	0.45	0.88
	Hotels	0.00	0.00	0.00	0.00
	Industrial	2.16	0.36	0.04	0.08
	Other- Residential	18.01	3.89	0.49	0.92
	Single Family	4.29	0.39	0.02	0.02
	Total	66	13	2	3
5 PM	Commercial	24.66	5.23	0.71	1.35
	Commuting	0.22	0.28	0.49	0.09
	Educational	0.34	0.04	0.00	0.00
	Hotels	0.00	0.00	0.00	0.00
	Industrial	1.35	0.23	0.02	0.05
	Other- Residential	16.09	3.42	0.41	0.77
	Single Family	6.07	0.61	0.03	0.04
	Total	49	10	2	2

Source: Hazus-MH 6.0

Populations most vulnerable to earthquake hazards would also be those that rely on specific services or electrical power which may not be available during or after an earthquake. Over three million Medicare beneficiaries rely on electricity-dependent durable medical and assistive equipment and devices to live independently in their homes (DHHS 2023). Severe weather, earthquakes, and other emergencies that result in prolonged power outages can be life threatening for these individuals. For example, of the 18,207 total beneficiaries in Kings County, 1,059 (5.8%) are at risk beneficiaries depending on medical equipment (DHHS 2023). Populations that are homeless, would also have a difficult time evacuating due to age or disability, in addition to those that cannot communicate easily because of limited English proficiency. Given there are numerous underserved and DACs throughout the County's unincorporated communities in the northeast and within portions of most of the four cities in the County, earthquake hazards are expected to have the greatest impact on the disadvantaged households that rely on electrical power for medical conditions.

Property

Unreinforced Masonry Building (URM)s – Unreinforced masonry building type structures consist of buildings made of unreinforced concrete and brick, hollow concrete blocks, clay tiles, and adobe. Buildings constructed of these materials are heavy and brittle, and typically provide little earthquake resistance. In small earthquakes, unreinforced buildings can crack, and in strong earthquakes, they have a tendency to collapse. These types of structures pose the greatest structural risk to life and safety of all general building types. Due to the public safety risks that are posed by URM buildings, the California legislature passed SB 547 (Government Code Section 8875 et seq.). This legislation went into effect on January 1, 1987, and required all cities and counties located in Seismic Zone 4 to conduct an inventory of potentially hazardous structures, including unreinforced masonry buildings. The County is located within Zone 4.

Hazus estimates the number of buildings that will be damaged during a modeled earthquake, and these estimates are provided in the figures and tables below. According to Hazus results, under the 2,500-year



probabilistic scenario, the total building-related losses were \$4.5 billion. By far, the largest loss was sustained by the residential occupancies which made up over 41% of the total loss. Under the Great Valley 14 (Kettleman Hills) ShakeMap Scenario, total building-related losses were \$396 million. Here, the largest loss was also sustained by the residential occupancies, which made up over 41% of the total loss. Figure 4-19 and Figure 4-20 below provide summaries of the losses associated with the building damage under the two scenarios. The 2,500-Year Probabilistic Scenario is expected to result in much more economic losses than the Great Valley ShakeMap Scenario.

Figure 4-19 Earthquake Losses by Loss Type and Occupancy Type - 2,500 Probabilistic Scenario (in Millions of Dollars)

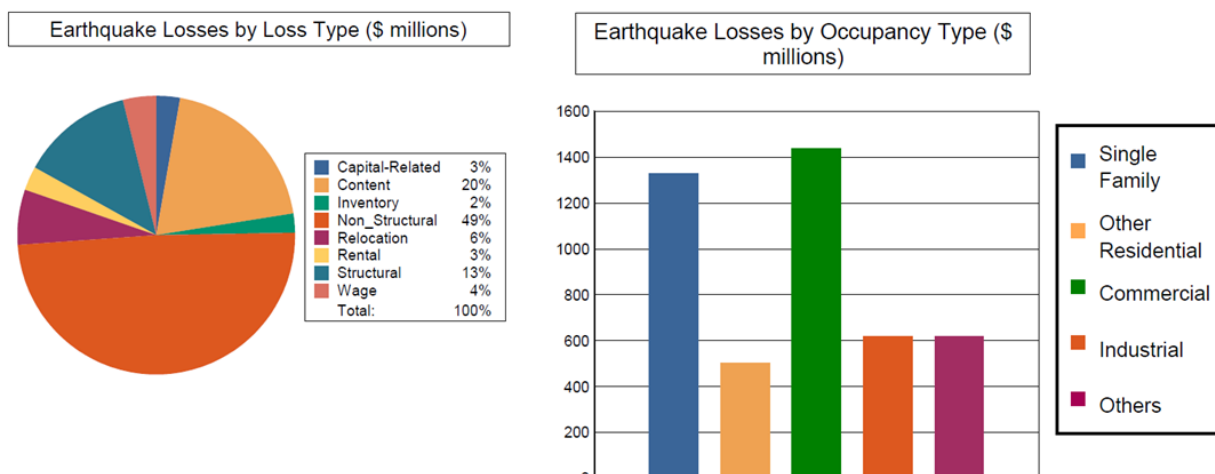


Figure 4-20 Earthquake Losses by Loss Type and Occupancy Type - Great Valley ShakeMap Scenario (in Millions of Dollars)

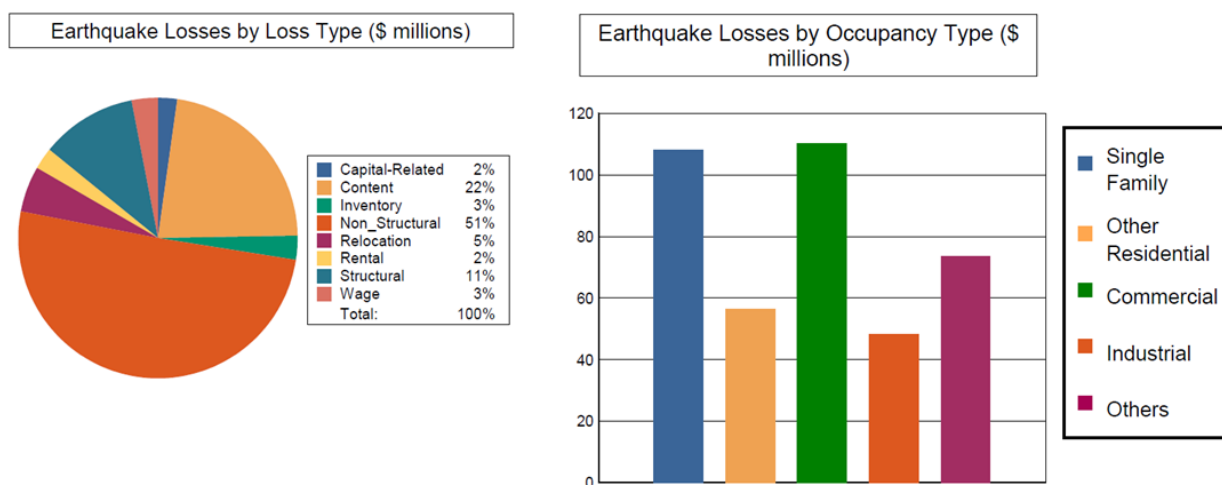


Table 4-32 and Table 4-33 show the expected building damage categorized by both building type and the degree of the expected damage. For each scenario, the majority of structures will either not be damaged or suffer slight to moderate damage. The 2,500-Year Probabilistic Scenario is expected to produce more severe building damage than the Great Valley ShakeMap Scenario.



Table 4-32 Expected Building Damage by Occupancy – 2,500-Year Probabilistic Scenario

	NONE		SLIGHT		MODERATE		EXTENSIVE		COMPLETE	
	COUNTY	(%)	COUNTY	(%)	COUNTY	(%)	COUNTY	(%)	COUNTY	(%)
Agriculture	44.19	0.43	77.52	0.44	99.84	0.81	56.94	2.10	27.50	2.74
Commercial	288.25	2.80	481.07	2.71	799.30	6.47	529.91	19.52	219.47	21.85
Education	18.98	0.18	28.24	0.16	33.12	0.27	17.02	0.63	5.63	0.56
Government	10.07	0.10	15.52	0.09	23.61	0.19	16.26	0.60	6.54	0.65
Industrial	57.02	0.55	99.97	0.56	195.95	1.59	141.07	5.20	61.00	6.07
Other Residential	759.39	7.37	1404.03	7.90	1278.72	10.35	612.66	22.57	287.20	28.60
Religion	30.92	0.30	49.54	0.28	67.86	0.55	43.78	1.61	17.91	1.78
Single Family	9089.21	88.26	15624.33	87.87	9855.83	79.78	1296.67	47.77	378.95	37.74
Total	10,298		17,780		12,354		2,714		1,004	

Source: Hazus-MH 6.0

Table 4-33 Expected Building Damage by Occupancy – Great Valley ShakeMap Scenario

	NONE		SLIGHT		MODERATE		EXTENSIVE		COMPLETE	
	COUNTY	(%)	COUNTY	(%)	COUNTY	(%)	COUNTY	(%)	COUNTY	(%)
Agriculture	228.77	0.60	42.91	0.89	24.87	2.18	7.42	4.10	2.04	4.42
Commercial	1916.27	6.04	237.34	4.94	124.09	10.89	32.57	18.00	7.73	16.79
Education	86.63	0.23	10.40	0.22	4.57	0.40	1.15	0.63	0.26	0.55
Government	58.47	0.15	7.63	0.16	4.19	0.37	1.32	0.73	0.39	0.84
Industrial	448.84	1.18	62.01	1.29	34.77	3.05	7.74	4.28	1.64	3.56
Other Residential	3402.40	8.96	574.57	11.97	259.24	22.75	82.89	45.81	22.90	49.74
Religion	171.49	0.45	22.96	0.48	11.46	1.01	3.27	1.81	0.81	1.77
Single Family	31671.46	83.38	3842.34	80.05	676.35	59.35	44.57	24.63	10.27	22.32
Total	37,984		4,800		1,140		181		46	

Source: Hazus-MH 6.0

Figure 4-21 and Figure 4-22 below display the census tracts within the County that were analyzed in the two scenarios, color-coded by the amount of total building loss each tract experienced.

Figure 4-21 Kings County Hazus 2,500-Year Probabilistic Scenario Total Building Loss (in Thousands of Dollars)

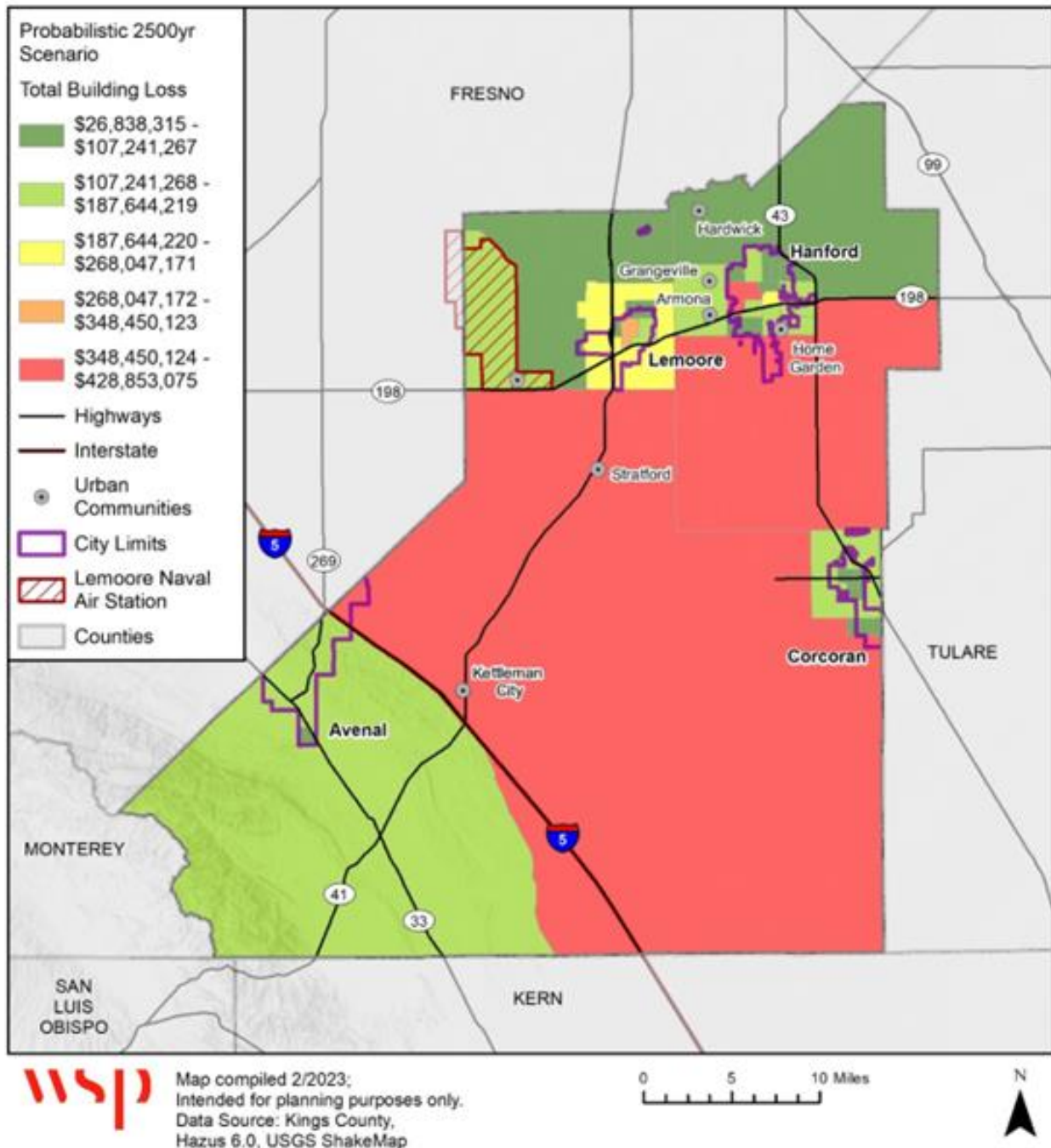
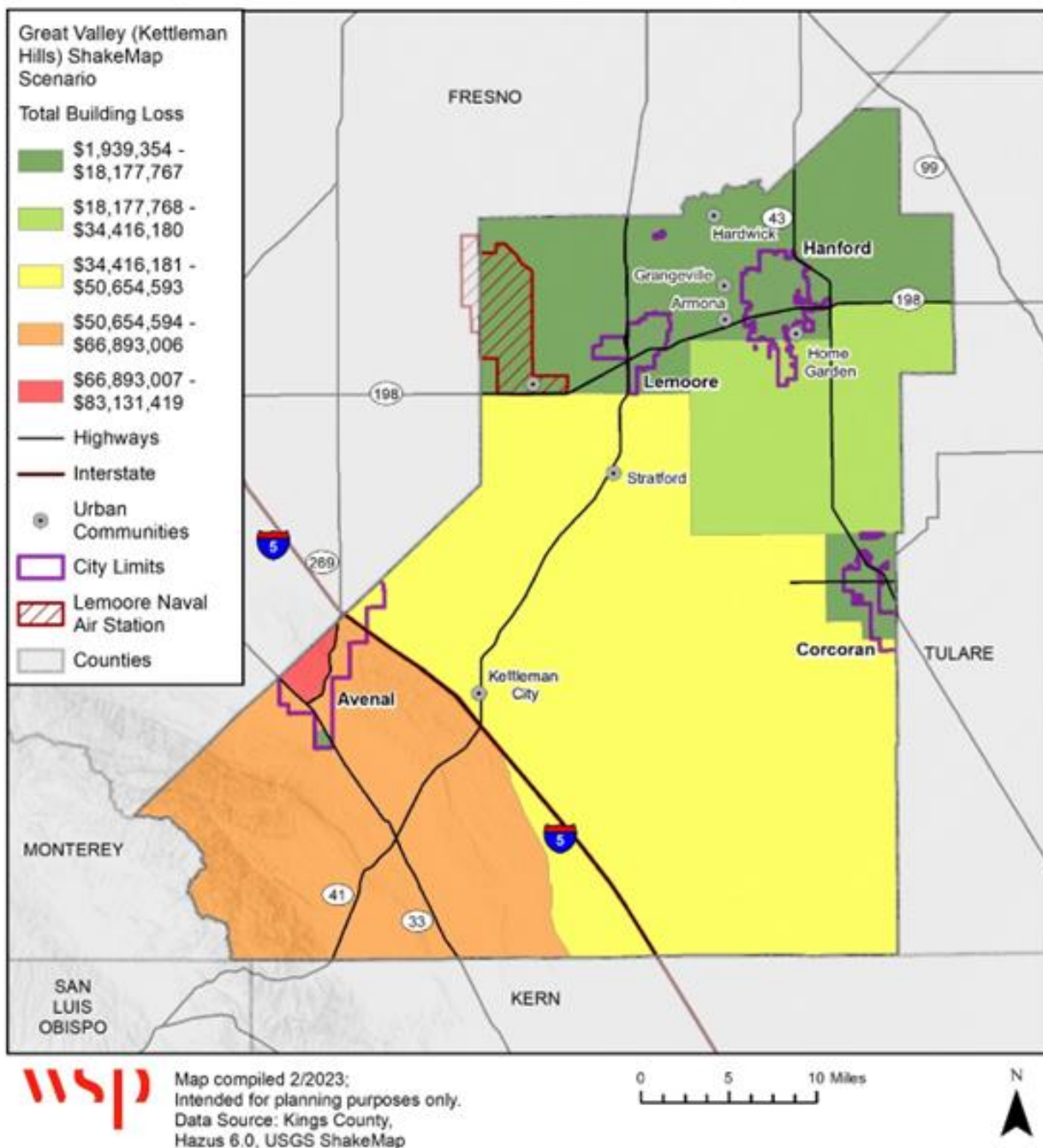


Figure 4-22 Kings County Great Valley ShakeMap Scenario Total Building Loss (in Thousands of Dollars)



Economy

Depending on its location and magnitude, an earthquake could have a devastating impact on the County's economy. Impacts would be related to debris cleanup and management, building and infrastructure damage, and losses related to business and infrastructure interruption. Hazus estimates the economic impacts of earthquakes. Losses estimated include building-related losses, and transportation and utility lifeline losses. The model estimates loss over a 15-year span after the incident.

Building losses are broken into two categories – direct building losses and business interruption losses. The direct building losses are the estimated costs to repair or replace the damage caused to the building and its contents. Business interruption losses are the losses associated with the inability to operate a business because of the damage sustained during the earthquake. Business interruption losses also



include the temporary living expenses for those people displaced from their homes because of the earthquake. Table 4-34 shows the economic losses under the two scenarios broken down by loss categories and occupancy types. The 2,500-year probabilistic scenario is expected to cause much more economic losses.

Table 4-34 Economic Losses (Millions of Dollars)

2,500-YEAR PROBABILISTIC SCENARIO						
Category	Single Family	Other Residential	Commercial	Industrial	Others	Total
Income Losses	132.51	70.22	403.1	35.6	75.57	717
Capital Stock Losses	1,195.44	432.9	1,035.41	584.42	543	3,791.17
Total	1,327.95	503.12	1,438.51	620.02	618.57	4,508.17
GREAT VALLEY SHAKEMAP SCENARIO						
Income Losses	6.9	6.09	28.87	2.54	6.98	51.37
Capital Stock Losses	101.28	50.41	81.43	45.81	66.63	345.57
Total	108.18	56.5	110.3	48.36	73.6	396.94

Source: Hazus-MH 6.0

Moreover, the economic losses associated with the disruption of lifeline systems, specifically transportation and utility lifelines are shown in Table 4-35 and Table 4-36.

Table 4-35 Lifeline System Losses for 2,500-Year Probabilistic Scenario – Transportation and Utility (Millions of Dollars)

2,500-YEAR PROBABILISTIC SCENARIO		
System	Inventory Value	Economic Loss
Highway	\$2,452	\$5.24
Railways	\$1,162.69	\$1.22
Light Rail	\$0	\$0
Bus	\$4.3	\$0.59
Ferry	\$0	\$0
Port	\$0	\$0
Airport	\$135	\$14.69
Potable Water	\$130.34	\$26.78
Wastewater	\$78.2	\$13.45
Natural Gas	\$602.59	\$70.2
Oil Systems	\$0.12	\$0.03
Electrical Power	\$1,634.4	\$1,338.7
Communication	\$0.47	\$0.59

Source: Hazus-MH 6.0

Table 4-36 Lifeline System Losses for Great Valley ShakeMap Scenario – Transportation and Utility (Millions of Dollars)

GREAT VALLEY SHAKEMAP SCENARIO		
SYSTEM	INVENTORY VALUE	ECONOMIC LOSS
Highway	\$3,898.68	\$15.2
Railways	\$1,052.92	\$4.28
Light Rail	\$0	\$0
Bus	\$7.32	\$0.79
Ferry	\$0	\$0
Port	\$0	\$0
Airport	\$158.47	\$3.48
Potable Water	\$130.34	\$6.06



GREAT VALLEY SHAKEMAP SCENARIO		
Wastewater	\$78.2	\$3.05
Natural Gas	\$602.59	\$41.47
Oil Systems	\$0.12	\$0
Electrical Power	\$1,634.4	\$392.76
Communication	\$0.47	\$0.03

Source: Hazus-MH 6.0

The 2,500-Year Probabilistic Scenario is also expected to result in much more lifeline system losses than the Great Valley ShakeMap Scenario.

Critical Facilities and Infrastructure

Hazus breaks critical facilities into two groups: essential facilities and high potential loss (HPL) facilities. Essential facilities include hospitals, medical clinics, schools, fire stations, police stations and emergency operations facilities. HPL facilities include dams, levees, military installations, nuclear power plants and hazardous material sites. There are 12 hospitals in Kings with a total bed capacity of 142 beds. There are also 71 schools, 18 fire stations, 9 police stations and one emergency operation facility. The inventory also includes no hazardous material sites, no military installations, and no nuclear power plants.

On the day of the earthquake in the 2,500-Year Probabilistic Scenario, the model estimates that only 24 hospital beds (17%) would be available for use by patients already in the hospital and those injured by the earthquake. After one week, 49% of the beds would be back in service. By 30 days, 83% will be operational. The expected damages from the earthquake event are provided in Table 4-37.

Table 4-37 Expected Damage to Essential Facilities – 2,500-Year Probabilistic Scenario

Classification	Total	# Facilities		
		At Least Moderate Damage > 50%	Complete Damage > 50%	With Functionality > 50% on day 1
Hospitals	2	1	0	0
Schools	71	32	0	0
EOCs	1	1	0	0
PoliceStations	9	2	0	0
FireStations	18	1	0	0

Source: Hazus-MH 6.0

On the day of the earthquake for the Great Valley ShakeMap Scenario, the model estimates that 126 hospital beds (89%) would be available for use by patients already in the hospital and those injured by the earthquake. After one week, 98% of the beds would be back in service. By 30 days, 100% will be operational. The expected damages from the earthquake event are provided in Table 4-38.



Table 4-38 Expected Damage to Essential Facilities – Great Valley ShakeMap Scenario

Classification	Total	# Facilities		
		At Least Moderate Damage > 50%	Complete Damage > 50%	With Functionality > 50% on day 1
Hospitals	2	0	0	2
Schools	71	0	0	62
EOCs	1	0	0	1
PoliceStations	9	0	0	7
FireStations	18	0	0	15

Source: Hazus-MH 6.0

Within Hazus, the lifeline inventory is divided between transportation and utility lifeline systems. There are seven transportation systems that include highways, railways, light rail, bus, ports, ferry, and airports. There are also six utility systems that include potable water, wastewater, natural gas, crude & refined oil, electric power, and communications. The transportation systems inventory and expected damages from the earthquake, in terms of the number of structures and locations affected, are provided in Table 4-39 and Table 4-40 for the two scenarios, while losses in millions of dollars are summarized in Table 4-41 and Table 4-42. The total value of the lifeline inventory is over \$6.2 billion. This inventory includes over 300 miles of highways, 166 bridges, and 6,554 miles of pipes.



Table 4-39 Expected Damage to the Transportation Systems – 2,500-Year Probabilistic Scenario

System	Component	Number of Locations_				
		Locations/ Segments	With at Least Mod. Damage	With Complete Damage	With Functionality > 50 %	
					After Day 1	After Day 7
Highway	Segments	109	0	0	109	109
	Bridges	166	15	3	152	158
	Tunnels	0	0	0	0	0
Railways	Segments	11	0	0	11	11
	Bridges	32	0	0	32	32
	Tunnels	0	0	0	0	0
	Facilities	5	5	0	5	5
Light Rail	Segments	0	0	0	0	0
	Bridges	0	0	0	0	0
	Tunnels	0	0	0	0	0
	Facilities	0	0	0	0	0
Bus	Facilities	2	2	0	0	2
Ferry	Facilities	0	0	0	0	0
Port	Facilities	0	0	0	0	0
Airport	Facilities	4	4	0	3	4
	Runways	5	0	0	5	5

Source: Hazus-MH 6.0



Table 4-40 Expected Damage to the Transportation Systems – Great Valley ShakeMap Scenario

System	Component	Locations/ Segments	Number of Locations			
			With at Least Mod. Damage	With Complete Damage	With Functionality > 50 %	
					After Day 1	After Day 7
Highway	Segments	109	0	0	109	109
	Bridges	166	4	0	162	166
	Tunnels	0	0	0	0	0
Railways	Segments	11	0	0	11	11
	Bridges	32	0	0	32	32
	Tunnels	0	0	0	0	0
	Facilities	5	0	0	5	5
Light Rail	Segments	0	0	0	0	0
	Bridges	0	0	0	0	0
	Tunnels	0	0	0	0	0
	Facilities	0	0	0	0	0
Bus	Facilities	2	0	0	2	2
Ferry	Facilities	0	0	0	0	0
Port	Facilities	0	0	0	0	0
Airport	Facilities	4	0	0	4	4
	Runways	5	0	0	5	5

Source: Hazus-MH 6.0



Table 4-41 Transportation System Economic Losses (Millions of dollars) – 2,500-Year Probabilistic Scenario

System	Component	Inventory Value	Economic Loss	Loss Ratio (%)
Highway	Segments	2163.4977	0.0000	0.00
	Bridges	288.5037	39.8261	13.80
	Tunnels	0.0000	0.0000	0.00
	Subtotal	2452.0014	39.8261	
Railways	Segments	967.2941	0.0000	0.00
	Bridges	182.0800	14.3146	7.86
	Tunnels	0.0000	0.0000	0.00
	Facilities	13.3150	5.1899	38.98
	Subtotal	1162.6891	19.5045	
Light Rail	Segments	0.0000	0.0000	0.00
	Bridges	0.0000	0.0000	0.00
	Tunnels	0.0000	0.0000	0.00
	Facilities	0.0000	0.0000	0.00
	Subtotal	0.0000	0.0000	
Bus	Facilities	4.2978	2.0739	48.25
	Subtotal	4.2978	2.0739	
Ferry	Facilities	0.0000	0.0000	0.00
	Subtotal	0.0000	0.0000	
Port	Facilities	0.0000	0.0000	0.00
	Subtotal	0.0000	0.0000	
Airport	Facilities	37.3120	14.6894	39.37
	Runways	97.6853	0.0000	0.00
	Subtotal	134.9973	14.6894	
	Total	3,753.99	76.09	

Source: Hazus-MH 6.0



Table 4-42 Transportation System Economic Losses (Millions of dollars) – Great Valley ShakeMap Scenario

System	Component	Inventory Value	Economic Loss	Loss Ratio (%)
Highway	Segments	2163.4977	0.0000	0.00
	Bridges	288.5037	5.2373	1.82
	Tunnels	0.0000	0.0000	0.00
	Subtotal	2452.0014	5.2373	
Railways	Segments	967.2941	0.0000	0.00
	Bridges	182.0800	0.0128	0.01
	Tunnels	0.0000	0.0000	0.00
	Facilities	13.3150	1.2061	9.06
	Subtotal	1162.6891	1.2189	
Light Rail	Segments	0.0000	0.0000	0.00
	Bridges	0.0000	0.0000	0.00
	Tunnels	0.0000	0.0000	0.00
	Facilities	0.0000	0.0000	0.00
	Subtotal	0.0000	0.0000	
Bus	Facilities	4.2978	0.5863	13.64
	Subtotal	4.2978	0.5863	
Ferry	Facilities	0.0000	0.0000	0.00
	Subtotal	0.0000	0.0000	
Port	Facilities	0.0000	0.0000	0.00
	Subtotal	0.0000	0.0000	
Airport	Facilities	37.3120	3.3081	8.87
	Runways	97.6853	0.0000	0.00
	Subtotal	134.9973	3.3081	
	Total	3,753.99	10.35	

Source: Hazus-MH 6.0

The replacement value of the transportation and utility lifeline systems is estimated to be \$3.76 billion and \$2.45 billion, respectively. The expected utility system facility damages in terms of total structures or systems affected, along with the inventory of this dataset, are summarized Table 4-43 and Table 4-44 for the two scenarios respectively. Economic losses in millions of dollars are found in Table 4-45 and Table 4-46.



Table 4-43 Expected Utility System Facility Inventory and Damages – 2,500-Year Probabilistic Scenario

System	Component	# Locations / Segments	Replacement value (millions of dollars)
Potable Water	Distribution Lines	NA	130.3350
	Facilities	0	0.0000
	Pipelines	0	0.0000
	Subtotal		130.3350
Waste Water	Distribution Lines	NA	78.2010
	Facilities	0	0.0000
	Pipelines	0	0.0000
	Subtotal		78.2010
Natural Gas	Distribution Lines	NA	52.1340
	Facilities	2	124.2883
	Pipelines	22	429.1636
	Subtotal		605.5859
Oil Systems	Facilities	1	0.1180
	Pipelines	0	0.0000
	Subtotal		0.1180
Electrical Power	Facilities	23	1634.4347
	Subtotal		1634.4347
Communication	Facilities	4	0.4720
	Subtotal		0.4720
		Total	2,449.10

System	# of Locations				
	Total #	With at Least Moderate Damage	With Complete Damage	with Functionality > 50 %	
				After Day 1	After Day 7
Potable Water	0	0	0	0	0
Waste Water	0	0	0	0	0
Natural Gas	2	2	0	0	0
Oil Systems	1	1	0	0	1
Electrical Power	23	23	7	0	2
Communication	4	4	0	3	4

Source: Hazus-MH 6.0



Table 4-44 Expected Utility System Facility Inventory and Damages – Great Valley ShakeMap Scenario

System	Component	# Locations / Segments	Replacement value (millions of dollars)
Potable Water	Distribution Lines	NA	130.3350
	Facilities	0	0.0000
	Pipelines	0	0.0000
	Subtotal		130.3350
Waste Water	Distribution Lines	NA	78.2010
	Facilities	0	0.0000
	Pipelines	0	0.0000
	Subtotal		78.2010
Natural Gas	Distribution Lines	NA	52.1340
	Facilities	2	124.2883
	Pipelines	22	429.1636
	Subtotal		605.5859
Oil Systems	Facilities	1	0.1180
	Pipelines	0	0.0000
	Subtotal		0.1180
Electrical Power	Facilities	23	1634.4347
	Subtotal		1634.4347
Communication	Facilities	4	0.4720
	Subtotal		0.4720
		Total	2,449.10

System	# of Locations				
	Total #	With at Least Moderate Damage	With Complete Damage	with Functionality > 50 %	
				After Day 1	After Day 7
Potable Water	0	0	0	0	0
Waste Water	0	0	0	0	0
Natural Gas	2	2	0	0	2
Oil Systems	1	0	0	1	1
Electrical Power	23	10	0	16	19
Communication	4	0	0	4	4

Source: Hazus-MH 6.0



Table 4-45 Utility System Economic Losses in Millions of Dollars – 2,500-Year Probabilistic Scenario

System	Component	Inventory Value	Economic Loss	Loss Ratio (%)
Potable Water	Pipelines	0.0000	0.0000	0.00
	Facilities	0.0000	0.0000	0.00
	Distribution Lines	130.3350	26.7795	20.55
	Subtotal	130.3350	26.7795	
Waste Water	Pipelines	0.0000	0.0000	0.00
	Facilities	0.0000	0.0000	0.00
	Distribution Lines	78.2010	13.4520	17.20
	Subtotal	78.2010	13.4520	
Natural Gas	Pipelines	429.1636	0.0000	0.00
	Facilities	124.2883	65.5907	52.77
	Distribution Lines	52.1340	4.6086	8.84
	Subtotal	605.5859	70.1993	
Oil Systems	Pipelines	0.0000	0.0000	0.00
	Facilities	0.1180	0.0333	28.22
	Subtotal	0.1180	0.0333	
Electrical Power	Facilities	1634.4347	1049.1264	64.19
	Subtotal	1634.4347	1049.1264	
Communication	Facilities	0.4720	0.1848	39.15
	Subtotal	0.4720	0.1848	
	Total	2,449.15	1,159.78	

Source: Hazus-MH 6.0



Table 4-46 Utility System Economic Losses in Millions of Dollars – Great Valley ShakeMap Scenario

System	Component	Inventory Value	Economic Loss	Loss Ratio (%)
Potable Water	Pipelines	0.0000	0.0000	0.00
	Facilities	0.0000	0.0000	0.00
	Distribution Lines	130.3350	6.0639	4.65
	Subtotal	130.3350	6.0639	
Waste Water	Pipelines	0.0000	0.0000	0.00
	Facilities	0.0000	0.0000	0.00
	Distribution Lines	78.2010	3.0461	3.90
	Subtotal	78.2010	3.0461	
Natural Gas	Pipelines	429.1636	0.0000	0.00
	Facilities	124.2883	40.4247	32.52
	Distribution Lines	52.1340	1.0436	2.00
	Subtotal	605.5859	41.4683	
Oil Systems	Pipelines	0.0000	0.0000	0.00
	Facilities	0.1180	0.0036	3.05
	Subtotal	0.1180	0.0036	
Electrical Power	Facilities	1634.4347	392.7571	24.03
	Subtotal	1634.4347	392.7571	
Communication	Facilities	0.4720	0.0259	5.49
	Subtotal	0.4720	0.0259	
	Total	2,449.15	443.36	

Source: Hazus-MH 6.0

Site specific expected utility system pipeline damages (including their inventory) are included in Table 4-47 and Table 4-48, while the potable water and electric power system performance limitations, damages, and inventory will be in Table 4-49 and Table 4-50.



Table 4-47 Expected Utility System Pipeline Damage (Site Specific) – 2,500-Year Probabilistic Scenario

System	Total Pipelines Length (miles)	Number of Leaks	Number of Breaks
Potable Water	4,049	5951	1488
Waste Water	2,430	2989	747
Natural Gas	76	54	13
Oil	0	0	0

Source: Hazus-MH 6.0

Table 4-48 Expected Utility System Pipeline Damage (Site Specific) – Great Valley ShakeMap Scenario

System	Total Pipelines Length (miles)	Number of Leaks	Number of Breaks
Potable Water	4,049	1348	337
Waste Water	2,430	677	169
Natural Gas	76	0	0
Oil	0	0	0

Source: Hazus-MH 6.0

Table 4-49 Expected Potable Water and Electric Power System Performance – 2,500-Year Probabilistic Scenario

	Total # of Households	Number of Households without Service				
		At Day 1	At Day 3	At Day 7	At Day 30	At Day 90
Potable Water	44,100	36,567	36,100	35,057	24,608	0
Electric Power		36,801	27,393	14,104	2,168	44

Source: Hazus-MH 6.0

Table 4-50 Expected Potable Water and Electric Power System Performance – Great Valley ShakeMap Scenario

	Total # of Households	Number of Households without Service				
		At Day 1	At Day 3	At Day 7	At Day 30	At Day 90
Potable Water	44,100	8,513	6,254	2,238	0	0
Electric Power		3,315	2,451	1,222	157	4

Source: Hazus-MH 6.0



In summary, a major earthquake would result in serious impacts on critical infrastructure. Hazus estimates impacts to critical facilities including hospitals, schools, Emergency Operation Centers (EOCs), police stations and fire stations. These impact estimates are shown in Table 4-51 and Table 4-52. As shown in the two tables, the 2,500-Year Probabilistic Scenario is expected to cause more damage and also more severe damage to critical facilities, as well as result in delays for the critical facilities to recover than the Great Valley ShakeMap Scenario. Major impacts on the critical facilities in the County will in turn result in significant impacts to socially vulnerable populations, particularly those communities in the northeast portion of the County and the unincorporated rural communities of Armona, Grangeville, Hardwick, Hanford, Kettleman City, Laton, and Stratford and portions of Avenal, Corcoran, and Lemoore that contain underserved communities and DACs that lack access to transportation or support systems and need to evacuate to neighboring counties for support. Any prolonged loss of power would also indirectly impact those at-risk populations that depending on electricity to operate medical and life-saving equipment.

Table 4-51 Expected Damage to Critical Facilities – 2,500-Year Probabilistic Scenario

Classification	Total	Number of Facilities		
		At Least Moderate Damage > 50%	Complete Damage > 50%	With Functionality > 50% on Day 1
Hospitals	2	1	0	0
Schools	71	32	0	0
EOCs	1	1	0	0
Police Stations	9	2	0	0
Fire Stations	18	1	0	0
Total	101	37	0	0

Source: Hazus-MH 6.0

Table 4-52 Expected Damage to Critical Facilities – Great Valley ShakeMap Scenario

Classification	Total	Number of Facilities		
		At Least Moderate Damage > 50%	Complete Damage > 50%	With Functionality > 50% on Day 1
Hospitals	2	0	0	2
Schools	71	0	0	0
EOCs	1	0	0	62
Police Stations	9	0	0	0
Fire Stations	18	0	0	1
Total	101	0	0	65

Source: Hazus-MH 6.0

Cultural, Historic and Natural Resources

Earthquake effects on the environment, natural resources, and historic and cultural assets could be very destructive depending on the type of seismic activity experienced and secondary/cascading effects from an event (e.g., wildfire). The biggest impact would likely be on older properties such as wooden or masonry buildings, though reinforced masonry structures would be much more resilient during earthquakes.

Development Trends

Development Trends in the County is not anticipated to significantly affect vulnerability to earthquakes when new construction is designed according to modern building codes. However, development will result in a slight increase in exposure of the population, building stock, and related infrastructure to earthquakes. Because all new development will be built to current California Building Code (CBC) requirements, development is not anticipated to increase the vulnerability of the community to earthquake hazards. However, older unreinforced masonry structures not inventoried in the County of four cities may be susceptible to seismic events.



4.5.5.8 Risk Summary

- The County is located in a geologically complex and seismically active region, albeit less so than other areas of California. There is a couple of active and potentially active faults close to the County. The County does not have a history of significant damaging earthquakes.
- The overall significance of earthquakes is High.
- A moderate earthquake occurring in or near Kings County could result in deaths, casualties, property damage, agricultural and environmental damage, and disruption of normal government and community services and activities.
- The location of the epicenter as well as the time of day and season of the year would have a profound effect on the number of deaths and casualties, as well as property damage.
- The hazard of earthquakes varies from place to place, dependent upon the regional and local geology.
- Effects on people – Hazus 2,500-year probabilistic scenario modeling results in estimates of 122 to 317 people needing hospitalization and between 22 to 84 deaths depending on the time of day the earthquake hits; Hazus Great Valley ShakeMap Scenario modeling results in estimates of 12 to 15 people needing hospitalization and between 2 to 3 deaths depending on the time of day the earthquake hits.
- At-risk populations, particularly DACs in the northeast portion of the County; the unincorporated rural communities of Armona, Grangeville, Hardwick, Hanford, Kettleman City, Laton, and Stratford; and portions of Avenal, Corcoran, and Lemoore would be at most risk to major earthquakes, particularly those that lack access to transportation or support systems and dependent on electricity to operate medical and life-saving equipment.
- Effects on property – Hazus 2,500-year probabilistic scenario modeling indicates about 16,072 buildings will be at least moderately damaged, with approximately \$4.51 billion in losses; Hazus Great Valley ShakeMap Scenario modeling indicates about 6,167 buildings will be at least moderately damaged, with approximately \$0.4 billion in losses.
- Effects on economy – The total economic loss estimated under Hazus 2,500-year probabilistic scenario is over \$5.7 billion, which includes building and lifeline related losses based on the region's available inventory. The total economic loss estimated under Hazus Great Valley ShakeMap Scenario is almost \$0.9 billion, which includes building and lifeline related losses based on the region's available inventory.
- Effects on critical facilities and infrastructure – Under the Hazus 2,500-year probabilistic scenario essential facility damage (police, fire, school, medical) is predicted to be medium; only 24 hospital beds (17%) would be available during the earthquake. Under the Hazus Great Valley ShakeMap Scenario, essential facility damage (police, fire, school, medical) is predicted to be very low; 126 hospital beds (89%) would be available during the earthquake.
- Cascading and Secondary Effects – Earthquakes can cause many cascading effects such as fires, flooding, hazardous materials spills, utility disruptions, liquefaction, landslides, and transportation emergencies. Ground shaking may cause seiches, the rhythmic sloshing of water in lakes or bays.
- **Related Hazards** – Urban Fires, Landslides, Seiches

JURISDICTION	GEOGRAPHIC AREA	PROBABILITY OF FUTURE OCCURRENCE	MAGNITUDE/ SEVERITY	OVERALL SIGNIFICANCE	PRIORITY HAZARD?
Kings County	Limited	Occasional	Catastrophic	Medium	Yes
City of Avenal	Significant	Occasional	Catastrophic	High	Yes
City of Corcoran	Limited	Occasional	Critical	Medium	Yes
City of Hanford	Limited	Occasional	Critical	Medium	Yes
City of Lemoore	Limited	Occasional	Critical	Medium	Yes



4.5.6 EXTREME TEMPERATURES: FREEZE AND HEAT

4.5.6.1 Hazard Description

Extreme temperature events, both cold and hot, can have severe impacts on human health and mortality, natural ecosystems, agriculture, and other economic sectors.

Freeze

Extreme cold temperatures pose significant risks to human health and safety, including hypothermia, frostbite, carbon monoxide poisoning, and slips and falls. In addition, extreme cold can cause damage to infrastructure, such as frozen pipes and power outages, as well as agriculture through crop and livestock damage. Furthermore, extreme cold can disrupt transportation and shipping, leading to economic losses.

In 2001, the NWS implemented an updated Wind Chill Temperature index shown in Figure 4-23. This index was developed to describe the relative discomfort/danger resulting from the combination of wind and temperature. Wind chill is based on the rate of heat loss from exposed skin caused by wind and cold. As the wind increases, it draws heat from the body, driving down skin temperature and eventually the internal body temperature. Overall, freeze impacts would likely be limited in the planning area, with the greatest impact being on the agricultural industry.

Figure 4-23 NWS Wind Chill Chart

Temperature ° F		20	15	10	5	0	-5	-10	-15	-20
Wind (mph)	5	13	7	1	-5	-11	-16	-22	-28	-34
	10	9	3	-4	-10	-16	-22	-28	-35	-41
	15	6	0	-7	-13	-19	-26	-32	-39	-45
	20	4	-2	-9	-15	-22	-29	-35	-42	-48
	25	3	-4	-11	-17	-24	-31	-37	-44	-51
	30	1	-5	-12	-19	-26	-33	-39	-46	-53
	35	0	-7	-14	-21	-27	-34	-41	-48	-55
	40	-1	-8	-15	-22	-29	-36	-43	-50	-57
	45	-2	-9	-16	-23	-30	-37	-44	-51	-58
	50	-3	-10	-17	-24	-31	-38	-45	-52	-60
	55	-3	-11	-18	-25	-32	-39	-46	-54	-61
	60	-4	-11	-19	-26	-33	-40	-48	-55	-62

 = Extreme Danger – Heatstroke stroke highly likely

 = Danger – Heat cramps or heat exhaustion likely, and heat stroke possible with prolonged exposure and/or physical activity

 = Extreme Caution – Heat stroke, heat cramps, or heat exhaustion possible with prolonged exposure and/or physical activity

Source: The National Weather Service

Extreme Heat

Extreme heat can pose serious risks to human health and safety. The most common risks associated with exposure to extreme heat include dehydration, heat exhaustion, and heat stroke. In addition to the risks to human health and safety, extreme heat can have significant impacts on infrastructure, the economy, and agriculture. For example, high temperatures can cause power outages and damage to roads and other infrastructure. In agriculture, extreme heat can damage crops and livestock, leading to lower yields and economic losses for farmers.

Figure 4-24 shows the Heat Index (HI) as a function of heat and relative humidity. The Heat Index describes how hot the heat-humidity combination makes the air feel. As relative humidity increases, the



air seems warmer than it actually is because the body is less able to cool itself via evaporation of perspiration. As the Heat Index rises, so do health risks.

Figure 4-24 NWS Heat Index

Temperature ° F		80	85	90	95	100	105	110	115	120
Relative Humidity %	0	73	78	83	87	91	95	99	105	107
	5	74	79	84	88	93	97	102	107	111
	10	75	80	85	90	95	100	105	111	116
	15	76	81	86	91	97	102	108	115	123
	20	77	82	87	93	99	105	112	120	130
	25	77	83	88	94	101	109	117	127	139
	30	78	84	90	96	104	113	123	135	148
	35	79	85	91	98	107	118	130	143	
	40	80	86	91	101	110	123	137	151	
	45	80	87	93	104	115	129	143		
	50	81	88	95	107	120	135	150		
	55	81	89	97	110	126	142			
	60	82	90	100	114	132	149			
	65	82	91	103	119	138	95			
	70	83	93	105	124	144				
	75	84	95	109	130	150				
	80	84	97	113	136					
	85	85	99	117	140					
	90	86	102	122	150					
	95	86	105	127						
	100	87	108	132						

-  = Extreme Danger - Heatstroke stroke highly likely
-  = Danger - Heat cramps or heat exhaustion likely, and heat stroke possible with prolonged exposure and/or physical activity
-  = Extreme Caution - Heat stroke, heat cramps, or heat exhaustion possible with prolonged exposure and/or physical activity
-  = Caution - Fatigue possible with prolonged exposure and/or physical activity

Source: The National Weather Service

Table 4-53 summarizes temperature normals in the County with data from the National Weather Service (NWS).

Table 4-53 Kings County Temperature and Precipitation Summary

METRIC	HANFORD 1S (043747)
Period of Record	1899-2016
Winter Average Minimum Temperature*	36.2°F
Winter Mean Temperature *	46.7°F
Summer Average Maximum Temperature**	95.1°F



METRIC	HANFORD 1S (043747)
Summer Mean Temperature**	60.4°F
Average Annual Number of Days >90°F	105.1
Average Annual Number of Days <32°F	0.0
Mean Total Precipitation (in.)	8.38
Mean Snow Depth (in.)	0.0
Maximum Temperature	116°F on July 28, 1933
Minimum Temperature	14°F on January 6, 1913

Source: Western Regional Climate Center (WRCC)

*Winter = Dec., Jan., and Feb.

**Summer = Jun., Jul., and Aug

4.5.6.2 Geographic Area

Extensive – One of the defining features of temperature hazards is that they tend to be regional in nature, impacting a large geographical area simultaneously. This is due to the limited geographical extent of the County, which means that temperature hazards have the potential to affect most, if not all, of the planning area at the same time.

4.5.6.3 Past Occurrences

A search of records from 2000 to 2022 in the National Centers for Environmental Information (NCEI) Storm Events Database showed 161 extreme cold events and 52 extreme heat events in Kings County. These events are broken down by event type in Table 4-54 below.

Table 4-54 Extreme Temperature Events, 2017-2021

EVENT TYPE	EVENT COUNT (# OF DAYS)	TOTAL DEATHS	TOTAL INJURIES	PROPERTY DAMAGE	CROP DAMAGE
Cold/Wind Chill	4	-	-	-	-
Extreme Cold/Wind Chill	4	-	-	-	-
Excessive Heat	7	-	-	\$1,000,000	-
Frost/Freeze	150	-	-	-	\$216,720,000
Heat	45	-	-	-	\$106,600,000
Winter Weather	3	-	-	-	-
Total	213	0	0	\$1,000,000	\$323,320,000

Source: NCEI, 2023

Since 1950, there have been three State emergency declarations in the County for freeze events (refer to Table 4-1) although there have been no events since 2017. There have been no State or federal emergency declarations for extreme heat. The SHELATUS database recorded six incidents of freezes and severe cold between 1970 and 2005 (Kings County 2012). No injuries or deaths are recorded but millions of dollars in crop damage have occurred.

There have been 4 USDA disaster designations due to extreme temperatures in Kings County since 2012. They are summarized in Table 4-55.

Table 4-55 USDA Extreme Temperature Disaster Declarations, 2012-2021

YEAR	DESCRIPTION OF DISASTER
2012	Freezing temperatures, high winds, excessive rain



	Hailstorm, rain, cold temperatures
2016	excessive rain, high winds, cold temperatures, and hail
2018	Freeze

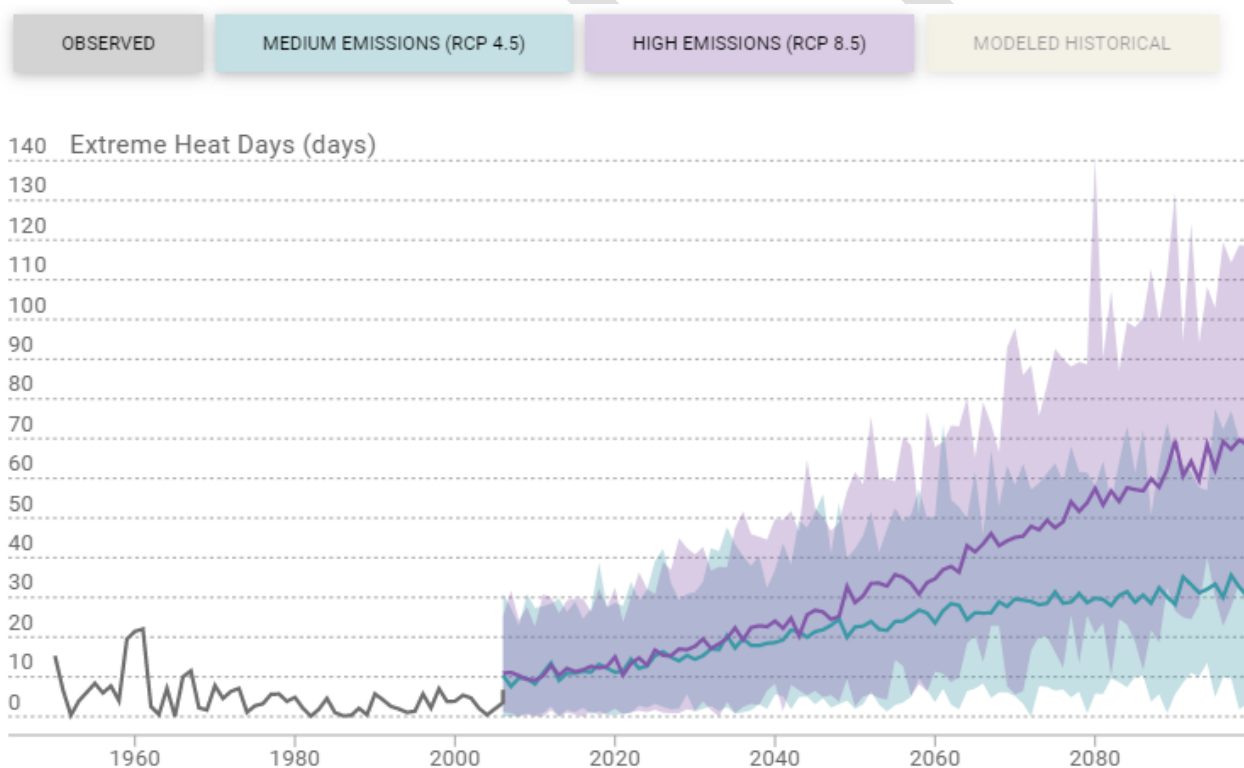
Source: USDA

4.5.6.4 Likelihood of Future Occurrence

Highly Likely – In the past, severe freezes have occurred every few years. Based on the NCEI data, 161 extreme cold events have occurred over a 23-year period, which equates to seven major events every year. This makes it highly likely that an extreme cold event will happen during any given year. Based on the NCEI data, 52 extreme heat events have occurred over a 23-year period, which equates to over two extreme heat events annually. This makes it highly likely that an extreme heat event will happen during any given year.

As climate change progresses, these events are likely to become more common. Future temperature estimates from Cal-Adapt for the County under high and low emission scenarios are shown in Figure 4-25. The graph shows the number of days per year when daily maximum temperature is above the extreme heat threshold of 104.4 °F. Note: The threshold temperature used in Cal-Adapt is location specific, and in this case for the County. It is defined as the 98th percentile value of historical daily maximum/minimum temperatures (from 1961–1990, between April and October) observed in the County.

Figure 4-25 Future Extreme Heat Days in Kings County



Source: Cal-Adapt 2023

Regarding extreme cold temperatures, a study funded by NOAA's Climate Program Office's Modeling, Analysis, Predictions and Projections (MAPP) program, which used machine learning techniques to link extreme cold weather in the United States to Arctic warming, suggests that extreme cold events may increase as well (Cohen et al 2021). Accelerated Arctic warming has been evident since the 1990s as one of the more robust signs of global warming. MAPP program's researchers concluded that Arctic warming and climate change are likely contributing to the increasing frequency of Arctic polar vortex stretching events, which deliver extreme cold from the north pole to the lower United States. One such event occurred in 2021 in Texas when a cold wave caused the collapse of the state's infrastructure and resulted in approximately \$80-130 billion in direct and indirect economic losses (Cohen et al 2021).



4.5.6.5 Climate Change Considerations

Temperatures in California have risen almost 3°F since the beginning of the 20th century (Frankson et al, 2022). Under RCP 8.5, the average temperature is likely to be about 9°F hotter than the hottest year on record (Frankson et al, 2022). Increasing temperatures are likely to have the secondary effects of raising the snow line and increasing earlier snowpack melt, resulting in an increased likelihood that precipitation will fall as rain rather than snow, reducing water storage in the snowpack. Reduced snowpack availability has forced many agricultural producers to utilize groundwater, and over pumping has caused significant land subsidence in parts of the County.

Figure 4-26 below show the historic number of extreme heat days in the County, and Figure 4-27 shows the projected number of extreme heat days under the RCP 8.5 scenario anticipated by mid-century. As shown, approximately 10 to 20 additional extreme heat days are anticipated by mid-century.

DRAFT



Figure 4-26 Historical Number of Extreme Heat Days

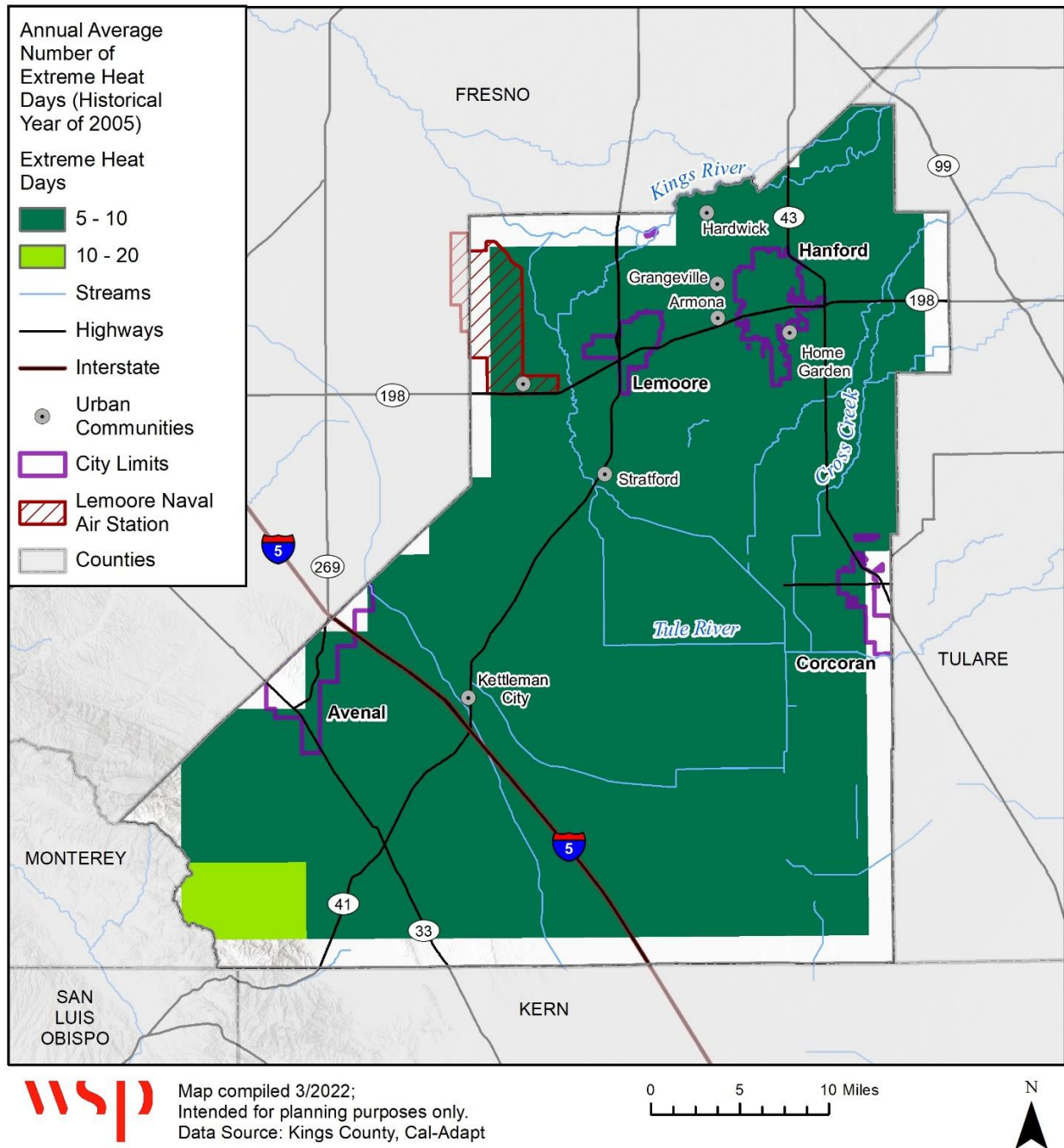
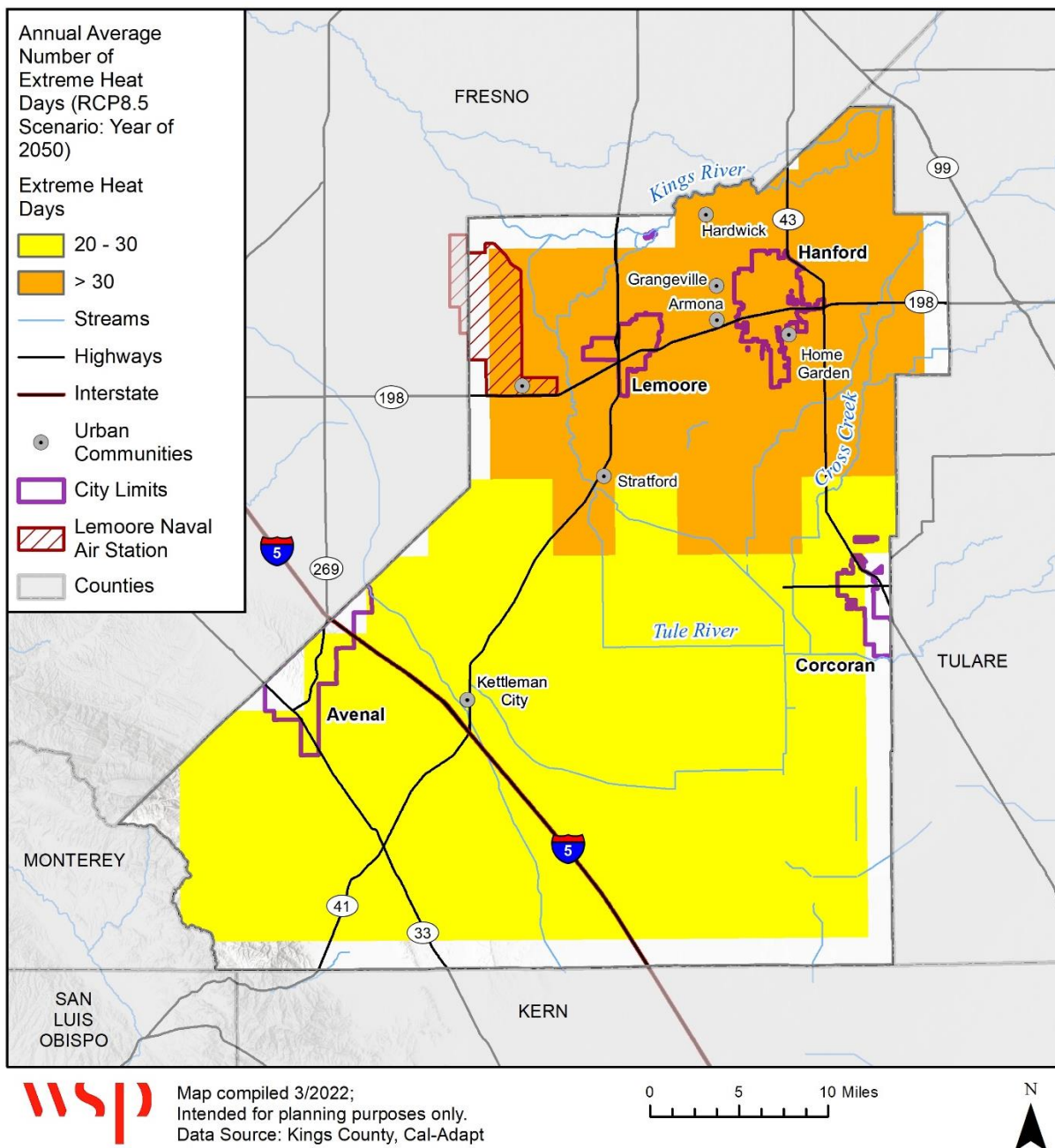


Figure 4-27 Projected Mid-Century Number of Extreme Heat Days



4.5.6.6 Magnitude and Severity

Limited - Extreme temperatures occur often in the County. According to the NCEI database, in the years between 2000 and 2022, extreme temperatures caused at least \$1 million in property damage and over \$323 million in crop damage. This equates to about \$14 million in direct annualized loss due to extreme temperatures.

While there were no recorded deaths or injuries associated with these events, there are potential secondary impacts associated with lost time, maintenance costs, and damaged building contents. Even a minor event of extreme temperatures can have a significant impact on city resources, necessitating the activation of shelters, severe weather plans, and other measures.



4.5.6.7 Vulnerability Assessment

People

Heat kills by taxing the human body beyond its abilities, usually from heat stroke. In a normal year, more than 600 people in the United States are killed by extreme heat (CDC 2022). The average annual temperature increases in California have already exceeded 3°F in some places (Frankson et al 2022). The daily maximum average temperature, an indicator of extreme temperature shifts, is expected to rise 4.4°F – 5.8°F by 2050 and 5.6°F – 8.8°F by 2100 (Bedsworth et al, 2018). Heat waves that result in public health impacts, also referred to as heat-health events, are projected to worsen. By 2050, average heat-health events are projected to last two weeks longer in the Central Valley (Bedsworth et al 2018).

Heat disorders refer to a range of conditions that occur when the body's ability to regulate its temperature through circulation and sweating becomes compromised, or when there is an imbalance in the body's salt levels caused by excessive sweating. This imbalance may result from an inability to compensate for fluids and salt lost through perspiration or when heat gain exceeds the body's ability to remove it. When the core temperature of the body rises due to these factors, heat-related illnesses may develop. The 2018 California SHMP notes the 2006 heat wave led to 650 deaths in a 13-day period and in the past 15 years heat waves have claimed more lives in California than all other declared disaster events combined (CRNA 2018). Heat waves are projected to cause two to three times more heat-related deaths by mid-century (CNRA 2021).

Extreme cold temperatures can be very dangerous for human health and safety. The most common risks associated with exposure to extreme cold include hypothermia, frostbite, carbon monoxide poisoning, and slips and falls. Hypothermia can occur when the body loses heat faster than it can produce it, which can result in a dangerous drop in body temperature that may lead to unconsciousness or even death if left untreated. Frostbite is a condition in which the skin and underlying tissues freeze due to prolonged exposure to cold temperatures, and it can cause permanent tissue damage and even require amputation in severe cases. Carbon monoxide poisoning is also a danger, as people may use fuel-burning heaters or generators to stay warm in extreme cold, but if these appliances are not used properly or ventilated correctly, they can release dangerous levels of CO. Slips and falls are also a risk due to snow and ice on the ground, which can make walking and driving more difficult.

In the United States, cold weather-related deaths are more common than deaths from lightning, hurricanes, tornadoes, floods, or earthquakes (NWS, n.d.). Overall, a total of more than 19,000 Americans have died from cold-related causes since 1979, according to death certificates (EPA 2022). In recent years, U.S. death rates in winter months have been 8 to 12 percent higher than in non-winter months (EPA 2022). Much of this increase relates to seasonal changes in behavior and the human body, as well as increased exposure to respiratory diseases. Cold temperatures can also worsen pre-existing medical conditions such as cardiovascular and respiratory diseases.

Traditionally, the very young and very old are considered at higher risk of the effects of extreme temperatures, as are people in poor physical health; but any populations outdoors in the weather are exposed, including otherwise healthy adults and persons experiencing homelessness. Arguably, the young-and-otherwise-healthy demographic may be more exposed and experience a higher vulnerability because of the increased likelihood that they will be out in the extreme temperatures, whether due to commuting for work or school, working outdoors such as construction, utilities, snow removal, or for recreational reasons.

While everyone is vulnerable to extreme temperature incidents, some at-risk populations are more vulnerable than others. For example, extreme heat poses the greatest danger for the County's outdoor laborers, who support the County's agriculture economy and are exposed to extreme temperatures and are at higher risk of heat-related illnesses than other populations of the County. At-risk populations or DACs that rely on electricity-dependent medical equipment and devices are also greater risk during prolonged power outages associated with heat waves. In short, climate-vulnerable communities will experience the worst of these effects.

Additionally, according to the Extreme Heat Action Plan prepared by the State, heat risk is associated and correlated with physical, social, political, and economic factors (CNRA 2021). When combined with existing health inequities and poverty, linguistic isolation, and housing insecurities, this hazard puts these individuals at a disproportionately high risk of heat-related illness. These socially vulnerable communities are dispersed throughout the County, but a higher concentration is located in the northeastern, southern, and central portions of the County within the northeast portion of the County around Lemoore and the unincorporated communities of Armona, Grangeville, Hardwick, Hanford, Kettleman City, Laton, and Stratford.



Property

All property is vulnerable during severe weather events, but property and buildings are less likely to be vulnerable to extreme temperature events the same way as other severe weather events, like wind and hail. However, as temperature variances occur separate from larger hazards or outside of the expected seasons, it is important to examine them as stand-alone hazards.

Extreme heat may overload demands for electricity due to the need to run air conditioners in homes and businesses during prolonged periods of exposure. Problems with power loss and water distribution also occur during periods of extreme heat. Power outages and rolling brownouts can result when high temperatures increase air conditioner use. Power outages can prevent water-pumping stations from operating.

Extreme cold temperatures impact structures when pipes or water mains freeze and burst, causing damage. Cold temperatures can also, in the most extreme of circumstances, make materials more fragile and breakable. Extreme cold temperatures may also lead to higher electricity and natural gas demands to maintain appropriate indoor heating levels combined with damages caused to the delivery infrastructure such as frozen lines and pipes.

Critical Facilities and Lifelines

Extreme heat has direct impacts on critical infrastructure, including road surfaces, power lines, and water pumping stations. During extreme heat events, road infrastructure may become damaged and buckle, while power lines may sag and experience power surges. Water pumping stations that rely on public utility systems may also be affected, leading to impacts on critical infrastructure. In addition, extreme heat can accelerate wear and tear on natural gas and electrical infrastructure (CNRA 2018a). As temperatures continue to rise, projected increases in summer demand may exceed the capacity of existing energy infrastructure, including substations and distribution line infrastructure and systems. This may result in peak demand exceeding the local utility's capacity for supply, which can lead to blackout conditions or Public Safety Power Shutoffs (PSPS).

Extreme cold events can have secondary impacts on a community's infrastructure, similar to those of extreme heat events. When extreme cold is accompanied by high winds or ice storms, power lines can be downed, causing a disruption in the transmission of power and shutting down electric furnaces, which may lead to frozen pipes in homes and businesses. Cold temperatures can also affect transportation, with exposed populations at risk while waiting for public transportation, particularly when combined with wind chill. In addition, some vehicles may not start, affecting the commute of the workforce and, in worst-case scenarios, the movement of emergency services personnel. Moreover, the loss of utilities or power outages during extreme cold events can have adverse secondary impacts on sensitive and at-risk populations. Hospitals and clinics may experience a reduction in response or care capabilities due to electrical power outages. Medicare beneficiaries that rely on electricity-dependent medical equipment and devices to live independently in their homes may also be at risk, as any extreme heat or extreme cold event that results in a prolonged power outages can be life-threatening.

Economy

The County has a large agricultural economy. As noted previously, outdoor laborers who are exposed to extreme heat are at a high risk of heat-related illnesses, and a long-term heat event could cause work interruptions. Crops are also impacted by heat events and could have an impact on the overall economy in the County. Prolonged freezing temperatures can also damage or destroy crops, affecting the economy and agricultural jobs in the County.

Between the years of 2017 and 2021, 12,972.9 acres of USDA-insured crops were lost in the County due to extreme heat and freeze events, resulting in over \$13 million in indemnity payments. Of these payments, \$8.8 million and 10,041.2 acres were due to heat, and \$4.8 million and 2,931.7 acres were due to frost, freeze, and cold winter. This results in an annualized loss of \$2.7 million for extreme weather events. Table 4-56 summarizes these agricultural losses.

Table 4-56 Crop Loss Due to Extreme Temperatures, 2017 – 2021

ROW LABELS	SUM OF DETERMINED ACRES	SUM OF INDEMNITY AMOUNT
Heat	10,041.2	\$8,874,778.14
2017	1,757.5	\$2,827,625.35
2018	676.2	\$365,000.10



ROW LABELS	SUM OF DETERMINED ACRES	SUM OF INDEMNITY AMOUNT
2019	104.2	\$73,516.60
2020	1,091.3	\$169,330.49
2021	6,412.0	\$5,439,305.60
Frost/Freeze/Cold Winter	2,931.7	\$4,837,850.97
2017	300.8	\$315,462.00
2018	2,165.0	\$3,536,578.31
2019	111.2	\$210,005.56
2020	26.4	\$497,612.10
2021	328.3	\$278,193.00
Grand Total	12,972.9	\$13,712,629.11

Source: USDA RMA Crop Indemnity Reports, 2017-2021

Cultural, Historic and Natural Resources

Extreme cold can have significant effects on environmental resources, including water, soil, plant, and wildlife resources. In water bodies such as lakes, rivers, and ponds, extreme cold can cause ice cover to form, which can limit the amount of oxygen that is available for aquatic organisms and negatively impact aquatic ecosystems and wildlife. Soil can also freeze during extreme cold temperatures, affecting its health and nutrient availability, which can impact agricultural production. Furthermore, cold temperatures can damage or kill plants, particularly sensitive crops, leading to decreased growth rates and affecting agricultural production. Frost and freeze damage can also impact trees and other vegetation, potentially causing dieback. Wildlife can also be impacted by extreme cold events, with food availability limited, migration patterns altered, and physiological stress caused. In some cases, extreme cold events could lead to mass die-offs of wildlife populations.

Extreme heat can cause an increase in water temperatures in streams, rivers, and lakes. During storm events, increased and warmer runoff from impervious surfaces into streams can lead to a degradation of habitat. This impairs water quality and compromises aquatic species' metabolism and reproduction. Elevated water temperatures can inhibit aquatic life, especially if a species can only survive in a small range of water temperatures. The effects of thermal pollution are highly dependent upon air temperature conditions before the storm, suggesting that as temperatures rise, the impacts from heat pollution will also rise (Herb et al, 2008). Increasing temperatures may also cause species to shift habitats in elevation and latitude, and extended periods of extreme heat can stress both flora and fauna species. Extreme heat may cause temporary drought-like conditions. Several weeks of extreme heat will increase evapotranspiration and reduce moisture content in vegetation, leading to higher wildfire vulnerability for that time period even if the rest of the season is relatively moist.

Development Trends

Since structures are not usually directly impacted by extreme temperature fluctuations, continued development is less impacted by this hazard than others in the plan. However, all structures in the planning area will be exposed to extreme weather events. Facilities with back-up generators are better equipped to handle a severe weather situation should the power go out. Additionally, pre-emptive measures such as construction of green buildings that require less energy to heat and cool, use of good insulation on pipes and electric wirings, and smart construction of walkways, parking structures, and pedestrian zones that minimize exposure to severe temperatures may help increase the overall durability of the buildings and the community to temperature variations. Continued development also implies continued population growth, which raises the number of individuals potentially exposed to variations in temperature. Public education efforts should continue to help the population understand the risks and vulnerabilities of outdoor activities, property maintenance, and regular exposures during periods of extreme temperature events.

4.5.6.8 Risk Summary

- Extreme temperatures can have considerable impacts on human health, the natural environment, and the economy.
- On average there are 105.1 days per year above 90°F. The highest recorded temperature for the County was 116°F, while the lowest recorded temperature was 14°F.



- Overall temperatures are expected to rise substantially throughout this century. The daily maximum average temperature is expected to rise by as much as 8.8°F by 2100.
- Climate change is expected to result in higher average temperatures and more extreme heat events in the Central Valley. Climate change is also expected to result in more extreme cold events in the US.
- The County's agriculture economy is at risk of extreme temperatures from outdoor laborers being vulnerable to heat illnesses as well as crop losses due to heat, freeze, and frost.
- From 2017 to 2021, there were 12,973 acres of crop lost to extreme temperatures and a combined \$13 million indemnity payments made for insured crop loss due to freeze/frost and heat events.
- The very young, the very old, people with poor physical health and those experiencing homelessness are more susceptible to the impacts of extreme temperatures.
- Medicare beneficiaries that rely on electricity-dependent medical equipment and devices to live independently in their homes are also at risk, as any extreme heat or extreme cold event that results in a prolonged power outages can be life-threatening.
- The significance of extreme temperatures in the County is **High**.
- **Related hazards** – Agricultural Pest and Disease, Drought, Severe Weather, Wildfire

JURISDICTION	GEOGRAPHIC AREA	PROBABILITY OF FUTURE OCCURRENCE	MAGNITUDE/ SEVERITY	OVERALL SIGNIFICANCE	PRIORITY HAZARD?
Kings County	Extensive	Highly Likely	Limited	High	Yes
City of Avenal	Extensive	Highly Likely	Limited	High	Yes
City of Corcoran	Extensive	Highly Likely	Limited	High	Yes
City of Hanford	Extensive	Highly Likely	Limited	High	Yes
City of Lemoore	Extensive	Highly Likely	Limited	High	Yes

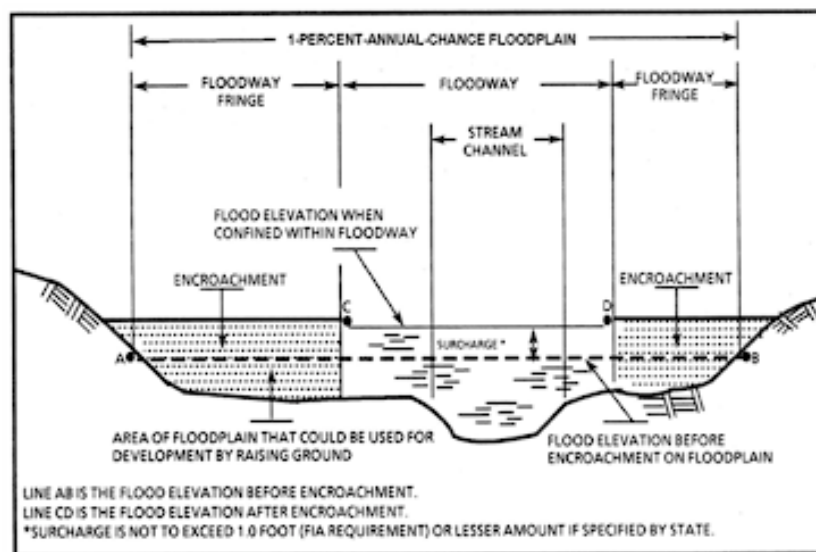
4.5.7 FLOOD

4.5.7.1 Hazard Description

A flood is the temporary inundation of water or mud on normally dry land. Heavy or prolonged rain or dam collapse can cause inundation, as can flash floods. Urban flooding occurs in developed areas where the amount of water generated from rainfall and runoff exceeds the stormwater systems' capacity. As land is converted from agricultural to urban uses, it often loses its ability to absorb rainfall. Rain flows over impervious surfaces such as concrete and asphalt and into nearby storm sewers and streams. This runoff can result in the rapid rise of floodwaters. During urban floods, streets can become inundated, and storm drains often back up because of the volume of water and become blocked by vegetative debris, like yard waste, which can cause additional flooding. Flooding is one of the primary hazards in California, in addition to earthquakes and wildfire.

Floodplains are defined as the areas immediately adjacent to a channel from a river, stream, or other waterway. The area between the floodway and 1% annual chance floodplain boundaries is termed the floodway fringe. The floodway fringe encompasses the portion of the floodplain that could be completely obstructed without increasing the water-surface elevation of the base flood elevation by more than 1 foot at any point. The areas between a waterway and the floodplain are most apparent during and after a flood event. Typical relationships between the floodway, the floodway fringe, and their significance to floodplain development are illustrated in Figure 4-28 below.

Figure 4-28 Floodway Schematic



Source: Guidance for Flood Risk Analysis and Mapping – FEMA, 2019

Floodplains are illustrated on inundation maps, which show areas of potential flooding and water depths. In its common usage and based on FEMA guidelines, the floodplain most often refers to the area that is inundated by the 1% annual-chance flood. The 1% floodplain is also referred to as the “100-year floodplain,” meaning that it is an area that has a 1% chance of experiencing a flood of a certain magnitude or greater in any given year. Similarly, the 0.2% floodplain is also known as the “500-year floodplain,” meaning that it is an area that has a 0.2% chance of experiencing a flood of a certain magnitude or greater in any given year. The 1%-annual-chance flood is the national minimum standard by which communities regulate their floodplains through the FEMA National Flood Insurance Program (NFIP). The floodway is the channel of the tributary and the land adjacent to it, whereas the flood fringe (shown above) is the remaining portion of the 100-year floodplain, excluding the floodway.

There are three types of flood events in the County planning area: riverine flooding (which includes flash flooding that can occur along intermittent creeks and channels called arroyos), localized flooding (urban stormwater flooding), and dam and levee incident flooding. These three types of flooding area summarized below.

Riverine flooding – Riverine flooding is a type of flooding that occurs when water levels in a river, stream, or other watercourse rise and overflow their banks, causing water to spread out and flood adjacent areas. This type of flooding is typically caused by heavy rainfall, snowmelt, or a combination of the two, and can be exacerbated by factors such as deforestation, urbanization, and poor land use practices that increase the amount of runoff entering waterways. Riverine flooding can be particularly dangerous and destructive, as it can cause rapid and unpredictable increases in water levels and currents, and can result in extensive property damage, loss of life, and economic disruption. Riverine flooding in the County can occur in Tulare Lake Basin and also occurs along intermittent creeks and drainages called arroyos, such as the Arroyo Esquinado and Arroyo del Camino near the City of Avenal, that periodically convey water and during storm events runoff from these waterways can also cause flooding.

Localized flooding – Localized flooding is a type of flooding that occurs in a specific area, such as a neighborhood or street, rather than over a large geographic region. This type of flooding is typically caused by heavy rainfall that overwhelms drainage systems or by other local factors that impede the flow of water, such as blocked culverts or poorly designed stormwater infrastructure. Localized flooding can be sudden and intense, and can cause damage to homes, businesses, and infrastructure in the affected area. In some cases, localized flooding can also lead to flash flooding, a particularly dangerous and rapid form of flooding that occurs when water rises rapidly in a short period of time, often with little warning.

Levee Failure – Levees are raised areas along rivers or canals that prevent flooding by confining the water flow. They can be natural or manmade, and are usually made of dirt or concrete. While they provide strong flood protection, they are not failsafe and can be overtopped during severe flood events. Flooding from the failure of levees throughout the County or upstream is also of concern, as there are levees that



have breached along the Kings River (Serna 2017). The HMPC notes that the Cross Creek and Tule River channels were breached in early 2023. Dam failures or breaches also can result in flooding.

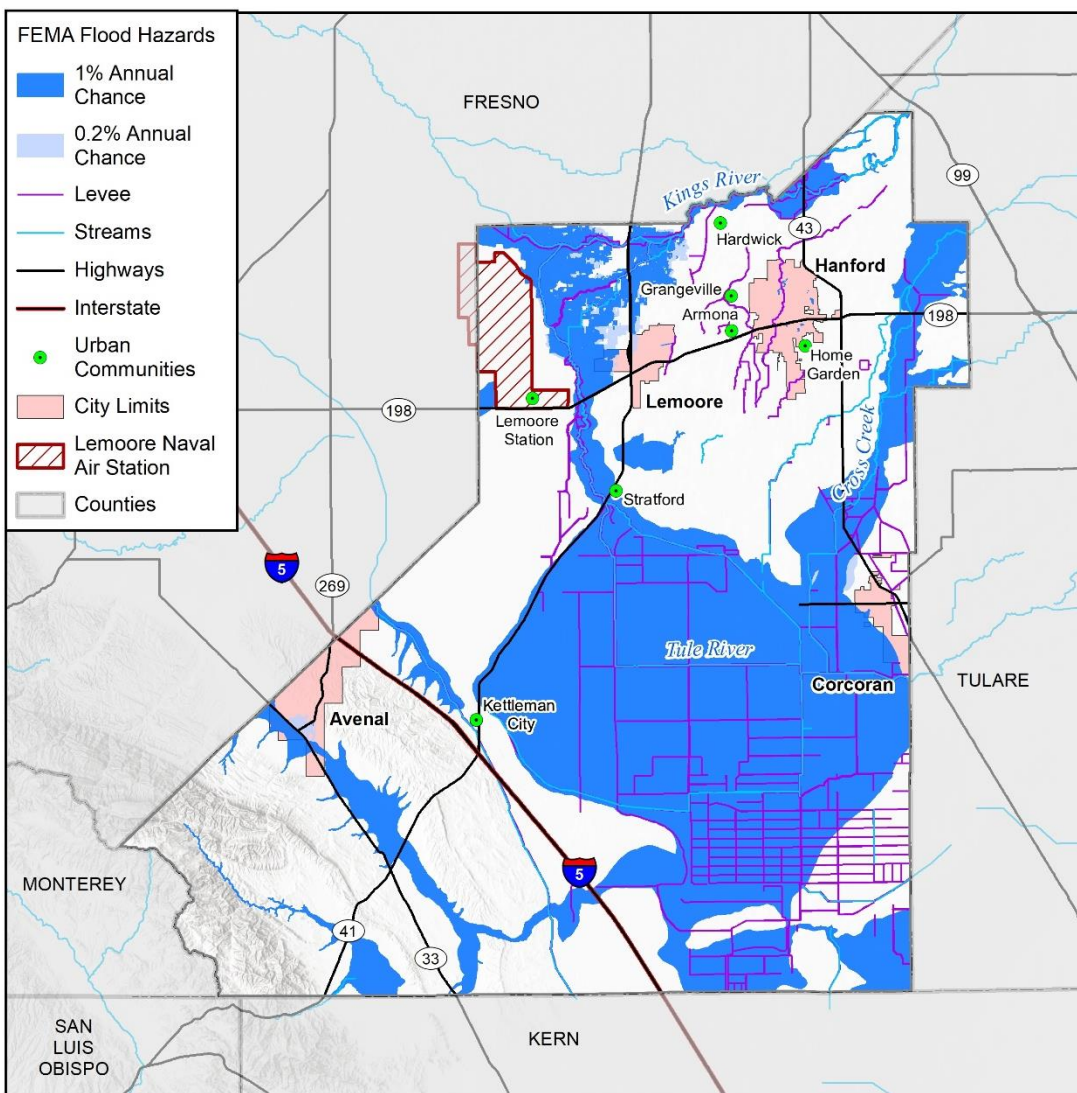
4.5.7.2 Geographic Area

Significant – The County, and in particular the Tulare Lake Basin, once served as the natural drainage of the Kings River, Cross Creek, Kern River, and Tule River as a part of the hydrologic watershed of the Sierra Nevada Mountains along the east side of the San Joaquin Valley. Canal and flood control development in the late 1800s and early 1900s redirected water flow and managed waterways through a series of canals, water storage and agricultural levies (Kings County 2010). This led to the conversion of thousands of acres of lake basin into farmable land.

These waterways and the lake basin remain the predominant flood prone areas as defined by FEMA Flood Insurance Rate Maps (FIRMs). Historically, floods have been a major cause of disaster in the County, and past flooding events have shown that the lake basin has been turned to as a default emergency overflow for extreme incidences of floodwater (Cassidy, 2023). The primary cause of local flooding is due to the drainage patterns that flow towards the Tulare Lake Basin, in southern Kings County. This area has no outlet to the ocean unless the water is pumped by artificial means out of the Tulare Lake Basin.

FEMA and the Federal Insurance Administration have assessed flood hazards for major streams in Kings County. Projected geographic areas and the extent of flooding are shown in the map on the following page. Figure 4-29 shows the extent of flooding from both a 100-year (1% annual chance) and 500-year (0.2% annual chance) flood event. As noted in the County's 2012 MJHMP, the average flooding season in Kings County occurs from November through June with the rainy season occurring between November and April and snowmelt in the nearby mountainous area occurring from April to June.

Figure 4-29 Kings County FEMA 1% & 0.2 Annual Chance Floodplain



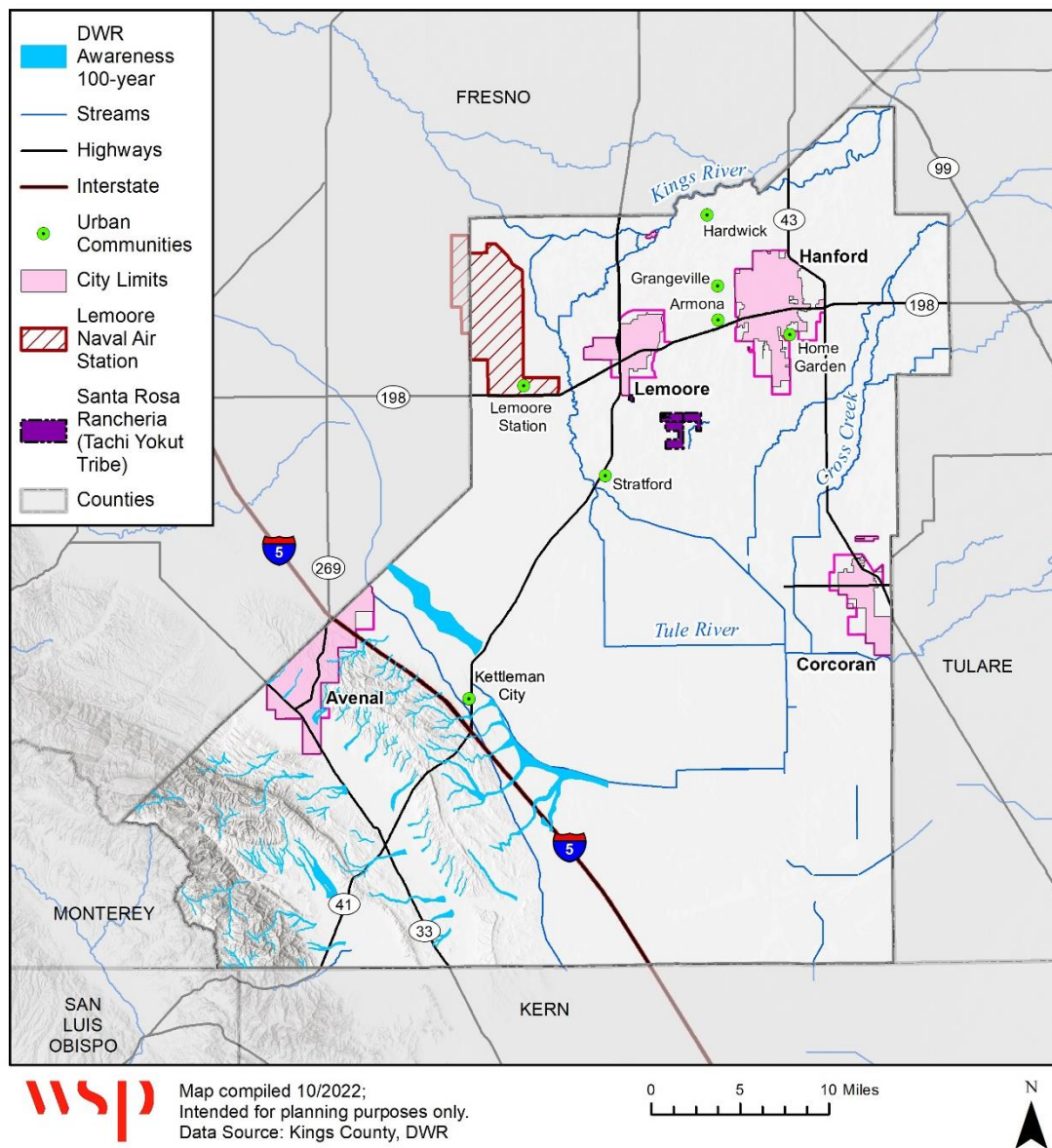
Map compiled 10/2022;
Intended for planning purposes only.
Data Source: Kings County,
FEMA NFHL 6/17/2019

0 5 10 Miles



Moreover, Figure 4-30 below shows the extent of a 100-year event based on data compiled by DWR's Awareness Floodplain Mapping project, which comes from DWR's Best Available Maps (BAM). These floodplains complement the FEMA 1% & 0.2% annual chance floodplains shown in Figure 4-30 above. According to DWR's BAM, no 200-year floodplains based on USACE's Comprehensive Study are located within the County.

Figure 4-30 Kings County DWR Awareness 100-Year Floodplains



4.5.7.3 Past Occurrences

California has a chronic and destructive flood history. Half of the 72 federally declared disasters in California between 1950 and 2000 were flood-related events. Between 1992 and 2002, every county in California was declared a federal disaster area at least once for a flooding event. Historically, floods have been the most frequent cause of disaster in the County. The primary cause of local flooding is the drainage pattern in the Tulare Lake Basin (Kings County MJHMP, 2012).

Significant flooding occurs in Kings County approximately every five years. Kings County was declared a disaster area by the federal government eight times between 1955 and 2012. FEMA's Flood Insurance Study (FIS) listed flooding events in 1950, 1952, 1955, 1958, 1962, 1963, 1969, 1970, 1971, 1973, 1978, 1980, 1982, 1985, 1986, 1995, 1997 and 2010. Heavy snow runoff caused flooding in the County in January of 1969.



Kings was the only county designated in this federal disaster declaration. Damage included \$1.56 million in public costs and \$1.25 million in private costs for a total of \$2.81 million (Kings County MJHMP, 2012)

There have been 11 NCEI recorded flooding events in Kings County since 2012, detailed in Table 4-57 below. Significant flooding also occurred at the beginning of 2023, during the development of this plan. The extent of the damage from this recent flooding event is currently being assessed, but it necessitated the activation of the County's Emergency Operation Center (EOC) and is likely to have caused significant damage to agricultural lands, County roads, bridges, other critical infrastructure, and substantial disruption to the local community. The flooding may have also caused damage to homes and businesses, which may require extensive repairs and reconstruction efforts.



Many tomato, cotton, and hay farms and orchards within the historically dry Tulare Lake outside of the City of Corcoran flooded in March 2023. Following a series of historically powerful and severe storms and increased runoff from the Sierra Nevada into the San Joaquin Valley through waterways and canals, thousands of acres of cropland in the County became inundated with flood waters for the first time in decades. Tulare Lake was once one of the largest freshwater lakes west of the Mississippi and was largely drained in the late 19th and early 20th centuries, as rivers that fed it were dammed and diverted for agriculture.

Source: San Francisco Chronicle, March 25, 2023

Table 4-57 NCEI Recorded Flood Events in Kings County since 2012

DATABASE	DECLARATION NUMBER	DECLARED DATE	DESCRIPTION
NCEI	442261	3/8/2013	Flood
	586928	6/5/2015	Flash Flood
	677961	1/8/2017	Flood
	675398	1/18/2017	Flood
	708242	6/22/2017	Flood
	779399	10/3/2018	Flash Flood
	815477	5/26/2019	Flood
	815480	5/26/2019	Flood
	816572	6/1/2019	Flash Flood
	930572	1/27/2021	Flood
FEMA	4308	4/1/2017	Flood

Source: National Centers for Environmental Information; FEMA

4.5.7.4 Likelihood of Future Occurrence

Highly Likely - Due to the history of past flooding events and the natural drainage pattern of the planning area, flooding in the County is likely to continue to occur in the future. The potential for failure of one of the many levees throughout the County could create more risk for flooding. The 1% annual chance flood is the flood that has a one percent chance in any given year of being equaled or exceeded. Based on past events, flooding events less severe than a 1% annual chance flood and those outside of the 1% annual chance floodplain occur frequently during periods of heavy rain or snowmelt. According to the NCEI Storm Events Database, there have been 10 flood events recorded for Kings County between 2012 and 2022. This means it is highly likely a flood event will occur in a given year.



4.5.7.5 Climate Change Considerations

California's Fourth Climate Assessment indicated shifts in California's precipitation regime to more dry days, more dry years, and a longer dry season, with increases in sporadic, heavy precipitation events and floods that are expected to exceed the State's flood control system capacity (CNRA 2018). With wildfires already being a problem in California, an increase in dry periods is expected to prime conditions for fires to occur, which will in turn worsen the potential for runoff and flooding associated with burned areas. Greater storm intensity is also projected with climate change, resulting in more direct runoff and flooding (CNRA 2018). The *San Joaquin Valley Regional Summary Report from the Fourth Climate Assessment* indicates that the frequency of catastrophic floods will increase in the coming years. This in turn will lead to increased stress on agriculture, natural ecosystems, water resources, land use and community development, transportation, energy, public health, and climate justice.

4.5.7.6 Magnitude and Severity

Critical – A portion of the County continues to be subject to inundation during flood events, as approximately 353,391 acres have been determined to be in the 1% & 0.2% annual chance floodplains, which combined cover 39.6% of the County. Therefore, a potential flood hazard would threaten a significant geographic area (10% – 50%) of the County. On the other hand, WSP analysis shows that if a flood event would occur, the damage associated with flooding could impact around 9% of the County's total improved parcels.

The occurrence of a flood can lead to life and property loss, damage to agricultural land, road and bridge closures and disruption of communication systems, resulting in significant disturbances to regular processes. Individuals living in low-lying trailer parks along the rivers and those experiencing homelessness are particularly vulnerable to such disasters. However, sufficient time is generally available to alert and warn those who might be affected. In the event of a catastrophic flood control structural failure, local response capabilities may be overwhelmed, necessitating mass evacuations to save lives. The impact on life safety will be determined by the warning time and the resources available to notify and evacuate the public. Loss of life is a possibility, and there may be associated health concerns, as well as negative effects on local buildings and infrastructure.

4.5.7.7 Vulnerability Assessment

Development in or near the floodplain puts lives and property at risk. Flood damage can include structure inundation, erosion of stream banks, road embankments, foundations footings for bridges, impact damage from debris, blockage of infrastructure, cropland destruction, sewage releases from damaged tanks, and economic loss to agriculture.

Certain health hazards are common in flood events. Standing water and wet materials in structures can become breeding grounds for microorganisms such as bacteria, mold, and viruses. This can cause disease, trigger allergic reactions, and damage materials long after the flood. When floodwaters contain sewage or decaying animal carcasses, infectious disease becomes a concern. Direct impacts, such as drowning, can be limited with adequate warning and public education about what to do during floods. Where flooding occurs in populated areas, warning and evacuation will be of critical importance to reduce life and safety impacts.

While there are some benefits associated with flooding, such as the replenishment of sediments and nutrients to agricultural lands, it is considered a hazard to develop in floodplains. Floods can cause many cascading effects. Flooding can damage infrastructure, and fire can break out as a result of dysfunctional electrical equipment. Hazardous materials can also get into floodways, causing health concerns and polluting water supplies. In many instances during a flood, the drinking water supply will become contaminated.

People

The total people at risk to flooding in the County was estimated by multiplying the average number of persons per household in Kings County (3.17) and each applicable incorporated jurisdiction (Avenal – 3.59, Corcoran – 3.31, Hanford – 3.09, and Lemoore – 2.95) times the number of residential parcels in each floodplain to estimate the population residing in flood hazard areas. The average number of persons per household data was acquired from the 2021 ACS 5-Year Estimates.

Based on this analysis, which accounts for residents only and not workers, there are 1,126 residents living in the 1% annual chance flood zone throughout the County. Of all study areas, the unincorporated County has the most residents living in the 1% annual chance flood area (941), followed by the City of Corcoran (132). Of the unincorporated population, the majority living in the central portion of the County that floods consist of at-risk socially vulnerable and DACs. Many of these particular households consist of farm



workers or people that live on farms or work within the agricultural industry in the region. These particular at-risk communities are at even greater risk to flooding based on direct impacts flooding poses to their properties but also the indirect impacts flooding affects their livelihood and local economy. Table 4-58 below details population estimates by jurisdiction, followed a table for the 0.2% annual chance floodplain.

Table 4-58 Population Living in the 1% Annual Chance Flood Hazard Zone

JURISDICTION	POPULATION
Avenal	22
Corcoran	132
Hanford	31
Lemoore	-
Unincorporated County	941
Total	1,126

Source: WSP Analysis 2023

The same analysis was conducted for the 0.2% annual chance floodplain, indicating that there are 7,181 residents living in the 0.2% annual chance flood zone throughout Kings County. The majority of people living in this floodplain are residents of the City of Avenal, with 5,529 people in the 0.2% annual chance floodplain. This population distribution is shown in Table 4-59.

Table 4-59 Population Living in the 0.2% Annual Chance Flood Hazard Zone

JURISDICTION	POPULATION
Avenal	5,529
Lemoore	1,437
Unincorporated County	216
Total	7,183

Source: WSP 2023

Property

Historically, Kings County has been at risk of flooding primarily during the winter and spring months when river systems swell with heavier rainfall and runoff from winter snowmelt. Normally, storm floodwaters are kept within defined limits by a variety of storm drainage and flood control measures. But occasionally, extended heavy rains result in floodwaters that exceed normal high-water boundaries and cause damage. Flooding has occurred in the past within the 100-year floodplain and in other localized areas in the County.

A flood vulnerability assessment was performed for the County using GIS overlay methodology. The County's parcel layer and associated assessor's building improvement valuation data were provided by the County and were used as the basis for the inventory. Kings County's effective FEMA Digital FIRM (DFIRM) dated June 17, 2019, was used as the hazard layer. A DFIRM is FEMA's flood risk data that depicts the 1% annual chance (100-year) and the 0.2% annual chance (500-year) flood events; this data is incorporated into the National Flood Hazard Layer (NFHL). Figure 4-29 summarizes the flood zones included on these maps.

Kings County Assessor Parcel data was used to estimate flood hazard impacts to parcels with improvement values greater than zero. An address point data layer provided by the County's GIS department was also used in combination to assess not only parcels' but also structures' exposure to flood hazard. FEMA's NFHL flood zones, with an effective date of June 17, 2019, were overlaid in GIS on the address points to identify structures/parcels that would likely be inundated during a 1% annual chance and 0.2% annual chance flood event.

Building improvement values and counts for those parcels and structures were then extracted from the assessor's parcel data and address point data, and subsequently summed for the unincorporated county and jurisdictions. Results of the overlay analysis are shown in Table 4-60 for the 1% annual chance flood and Table 4-61 for 0.2% annual chance flood. The jurisdictional annexes provide more detailed information based on assessor property types. Property type refers to the land use of the parcel and includes Agricultural, Commercial, Exempt, Industrial, Multi-Family Residential, Multi-Use and



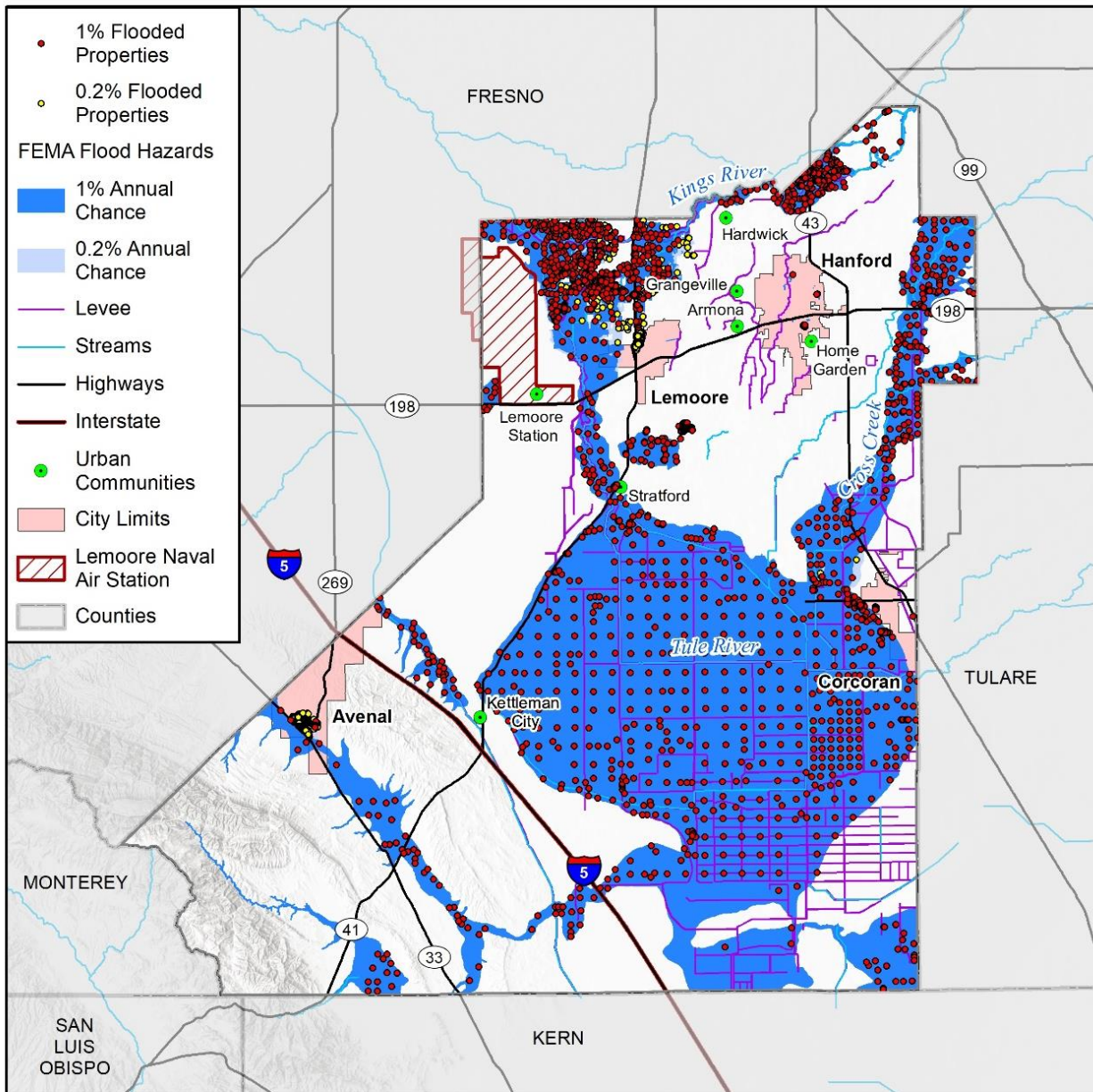
Residential. Content values were estimated as a percentage of improved values based on their occupancy type, using FEMA/Hazus estimated content replacement values. This includes 100% of the improved value for agricultural, commercial, exempt, and multi-use parcels; 50% for multi-family residential and residential parcels; and 150% for industrial parcels. Improved and content values were then totaled to obtain total exposure. The locations of these parcels are displayed in Figure 4-31 below.

A loss estimate analysis was also performed based on depth damage functions developed by the Army Corp of Engineers and FEMA. The loss curves depict the expected flood losses associated with the depth of flooding at a structure. There are different depth damage curves for structure and content losses. For this analysis, an average flood depth of two feet is assumed. A depth damage ratio of 25% was used for structural loss by multiplying it by the total values, based on the FEMA damage curves, assuming a 2-foot-deep flood. This means that the estimated loss of a parcel is 25% of its total value. The results are shown in the loss estimate columns in Table 4-60 for the 1% annual chance flood and Table 4-61 for the 0.2% annual loss properties.

The result is an inventory of the number and types of improved parcels and structures subject to flooding. Results are organized by unincorporated County and incorporated jurisdictions. Detailed tables show counts of parcels by jurisdictions and land use type (Agricultural, Commercial, Exempt, Industrial, Multi-Family Residential, Multi-Use and Residential) within each flood zone. It is important to note that there could be more than one structure or building on an improved parcel (i.e., a condo complex occupies one parcel but might have several structures). The flood loss analysis does not account for business disruption, emergency services, environmental damages, or displacement costs, thus actual losses could exceed the estimate shown. Conversely, this analysis does not differentiate parcels that may have been developed since the County and cities adopted floodplain regulations, which would be mitigated to the 1% annual chance flood if developed in accordance with local floodplain regulations. Table 4-60 and Table 4-61 also do not include publicly owned parcels that contain critical facilities and infrastructure; these vulnerable community lifelines are listed in Table 4-65.



Figure 4-31 Kings County FEMA Flood Hazards



Map compiled 10/2022;
Intended for planning purposes only.
Data Source: Kings County,
FEMA NFHL 6/17/2019

0 5 10 Miles





Table 4-60 1% Annual Chance Floodplain Exposure and Loss by Jurisdiction

JURISDICTION	PROPERTY TYPE	IMPROVED PARCEL COUNT	BUILDING COUNT	IMPROVED VALUE	ESTIMATED CONTENT VALUE	TOTAL VALUE	ESTIMATED LOSS	POPULATION
Avenal	Agricultural	2	2	\$103,539	\$103,539	\$207,078	\$51,770	
	Commercial	1	1	\$11,386	\$11,386	\$22,772	\$5,693	
	Exempt	2	2	\$342,024	\$342,024	\$684,048	\$171,012	
	Residential	5	6	\$170,357	\$85,179	\$255,536	\$63,884	22
	Total	10	11	\$627,306	\$542,128	\$1,169,434	\$292,358	22
Corcoran	Exempt	3	3	\$225,007	\$225,007	\$450,014	\$112,504	
	Residential	40	40	\$5,726,687	\$2,863,344	\$8,590,031	\$2,147,508	132
	Total	43	43	\$5,951,694	\$3,088,351	\$9,040,045	\$2,260,011	132
Hanford	Agricultural	1	1	\$4,325	\$4,325	\$8,650	\$2,163	
	Commercial	1	1	\$6,900	\$6,900	\$13,800	\$3,450	
	Exempt	1	1	\$751,205	\$751,205	\$1,502,410	\$375,603	
	Multi-Family Residential	1	9	\$2,986,560	\$1,493,280	\$4,479,840	\$1,119,960	28
	Residential	1	1	\$269,146	\$134,573	\$403,719	\$100,930	3
	Total	5	13	\$4,018,136	\$2,390,283	\$6,408,419	\$1,602,105	31
Lemoore	Agricultural	1	1	\$11,954	\$11,954	\$23,908	\$5,977	
	Exempt	1	1	\$-	\$-	\$-	\$-	
	Total	2	2	\$11,954	\$11,954	\$23,908	\$5,977	-
Unincorporated	Agricultural	147	151	\$16,079,220	\$16,079,220	\$32,158,440	\$8,039,610	
	Commercial	14	14	\$9,450,042	\$9,450,042	\$18,900,084	\$4,725,021	
	Exempt	1,243	1,338	\$261,919,205	\$261,919,205	\$523,838,410	130,959,603	
	Industrial	2	2	\$78,858	\$118,287	\$197,145	\$49,286	
	Multi-Use	50	60	\$14,465,996	\$7,232,998	\$21,698,994	\$5,424,749	190
	Residential	221	237	\$25,257,607	\$12,628,804	\$37,886,411	\$9,471,603	751
	Total	1,677	1,802	\$327,250,928	\$307,428,556	\$634,679,484	\$158,669,871	941
	Grand Total	1,737	1,871	\$337,860,018	\$313,461,271	\$651,321,289	\$162,830,322	1,126

Sources: Kings County Assessor's Office; NFHL Effective date 6/17/2019, FEMA; GIS analysis



Table 4-61 0.2% Annual Chance Floodplain Exposure and Loss by Jurisdiction

JURISDICTION	PROPERTY TYPE	IMPROVED PARCEL COUNT	BUILDING COUNT	IMPROVED VALUE	ESTIMATED CONTENT VALUE	TOTAL VALUE	ESTIMATED LOSS	POPULATI ON
Avenal	Agricultural	1	1	\$163,000	\$163,000	\$326,000	\$81,500	
	Commercial	97	119	\$17,116,938	\$17,116,938	\$34,233,876	\$8,558,469	
	Exempt	7	9	\$109,198	\$109,198	\$218,396	\$54,599	
	Industrial	9	10	\$849,591	\$1,274,387	\$2,123,978	\$530,994	
	Multi-Family Residential	29	112	\$22,639,837	\$11,319,919	\$33,959,756	\$8,489,939	402
	Multi-Use	6	9	\$749,775	\$749,775	\$1,499,550	\$374,888	32
	Residential	1,363	1,419	\$114,303,823	\$57,151,912	\$171,455,735	\$42,863,934	5,094
	Total	1,512	1,679	\$155,932,162	\$87,885,128	\$243,817,290	\$60,954,322	5,529
Lemoore	Commercial	3	4	\$1,542,712	\$1,542,712	\$3,085,424	\$771,356	
	Industrial	1	1	\$399,406	\$599,109	\$998,515	\$249,629	
	Multi-Family Residential	2	274	\$34,356,891	\$17,178,446	\$51,535,337	\$12,883,834	808
	Multi-Use	1	1	\$3,821,051	\$3,821,051	\$7,642,102	\$1,910,526	3
	Residential	212	212	\$41,915,687	\$20,957,844	\$62,873,531	\$15,718,383	625
	Total	219	492	\$82,035,747	\$44,099,161	\$126,134,908	\$31,533,727	1,437
Unincorporated	Agricultural	21	22	\$1,511,667	\$1,511,667	\$3,023,334	\$755,834	
	Exempt	66	71	\$12,319,035	\$12,319,035	\$24,638,070	\$6,159,518	
	Multi-Use	10	12	\$3,312,255	\$3,312,255	\$6,624,510	\$1,656,128	38
	Residential	52	56	\$7,408,259	\$3,704,130	\$11,112,389	\$2,778,097	178
	Total	149	161	\$24,551,216	\$20,847,087	\$45,398,303	\$11,349,576	216
Grand Total		1,880	2,332	\$262,519,125	\$152,831,375	\$415,350,500	\$103,837,625	7,181

Sources: Kings County Assessor's Office; NFHL Effective date 6/17/2019, FEMA; GIS analysis



Significant areas of Kings County are at risk of being inundated by a 1% annual chance flood event. The unincorporated areas of the County are predominantly inundated by the 1% annual chance floodplain and have the greatest percentages of total loss from a 1% annual chance flood. The sites of Avenal, Corcoran and Lemoore are all somewhat exposed to both 1% and 0.2% annual chance flood events. The City of Hanford is the least vulnerable to flood events.

Based on this analysis, the County Planning Area has 1,737 parcels with 1,871 structures on them valued at over \$651 million in the 1% annual chance floodplain. An additional 1,880 parcels with 2,332 structures on them valued at more than \$415 million within the 0.2% annual chance floodplain. As a result, the total value of these exposed parcels and structures is approximately \$1.07 billion. When factoring in FEMA's estimated loss ratio, the estimated total losses from both 1% and 0.2% annual chance flood events is over \$266 million. However, development in the 500-year floodplain is typically not regulated, thus a large flood event could be extremely damaging in the County.

Kings County joined the NFIP in 1980; each jurisdiction also participates in the NFIP. Table 4-62 below shows the NFIP entry dates of Kings County and its jurisdictions.

Table 4-62 NFIP Entry Date - Kings County & Jurisdictions

JURISDICTION	NFIP ENTRY DATE
Kings County	August 4, 1988
City of Avenal	April 5, 1989
City of Corcoran	November 28, 1997
City of Hanford	March 18, 1987
City of Lemoore	April 3, 1987

Source: Community Information System (CIS) 2023

As of April 18, 2023, in the unincorporated County, there are 173 flood insurance policies in force, of which there are 125 single family units and 48 non-residential. The number of policies in force by jurisdiction and flood zone are shown in Table 4-63. In the unincorporated County, there are 173 flood insurance policies in force, of which there are 241 single-family units, 3 2-4 family units, zero in all other residential, and 59 non-residential.

Table 4-63 Community Information System Policies in Force by Flood Zone and Jurisdiction

FLOOD ZONE	KINGS COUNTY	CITY OF AVENAL	CITY OF CORCORAN	CITY OF HANFORD	CITY OF LEMOORE
A01-30 & AE Zones	33	1	0	0	0
A Zones	51	0	0	2	0
AO Zones	0	0	0	0	0
AH Zones	0	0	0	0	0
atmospheric river (AR) Zones	0	0	0	0	0
A99 Zones	0	0	0	0	0
VO1-30 & VE Zones	0	0	0	0	0
V Zones	0	0	0	0	0
D Zones	0	0	0	0	0
B, C & X Zone					
- Standard	89	0	4	13	9
- Preferred	0	1	0	0	0
Total	173	1	4	15	9

Source: Community Information System (CIS) 2023

NFIP data indicates that there are 202 insurance policies in the County representing \$49,959,000 of insurance coverage in force. Since 1978 there have been 9 paid losses, totaling \$18,946. This results in approximately \$412 in annualized losses. Most of the losses have been in the unincorporated County. Table 4-64 provides details on flood insurance policies for each individual jurisdiction.



Table 4-64 Kings County Flood Insurance Policy Information

JURISDICTION	POLICIES	INSURANCE IN FORCE	NO. OF PAID LOSSES	TOTAL LOSSES PAID
Avenal	1	\$277,000	1	\$0
Corcoran	4	\$1,202,000	0	\$0
Hanford	15	\$4,667,000	2	\$2,246
Lemoore	9	\$3,034,000	0	0
Unincorporated Kings County	173	\$40,779,000	173	\$16,700
Total	202	\$49,959,000	9	\$18,946

Source: FEMA NFIP Community Information System

FEMA insures properties against flooding losses through the NFIP. As part of the process to reduce or eliminate repetitive flooding to structures across the United States, FEMA has developed an official Repetitive Loss Strategy. The purpose behind the national strategy is to identify, catalog, and propose mitigation measure to reduce flood losses to the relatively few numbers of structures that absorb the majority of the premium dollars from the national flood insurance fund.

A repetitive loss property is defined by FEMA as “a property for which two or more NFIP losses of at least \$1,000 each have been paid within any 10-year period since 1978”. A repetitive loss property may or may not be currently insured by the NFIP. There are no repetitive loss properties or severe repetitive loss properties located within the County, based on NFIP data retrieved on April 18, 2023.

Critical Facilities and Lifelines

Key support facilities and structures most necessary to withstand the impacts of, and respond to, natural disasters are referred to as critical facilities. Examples of these critical facility types include utilities, transportation infrastructure, and emergency response and services facilities, given failures of components along major lifelines or even closures or inaccessibility to key emergency facilities could limit if not completely cut off transmission of commodities, essential services, and other potentially catastrophic repercussions. Floods and levee failure can disrupt, damage, or destroy these critical facilities, which in turn can impede the ability of Kings County to respond to and recover from a major flood event.

A GIS analysis of exposed critical facilities was conducted, similar to the parcel analysis, using HIFLD. The results of critical facilities throughout the County which are exposed to the various flood hazards are shown in Table 4-65 below and organized by the jurisdiction they are located in and the FEMA Lifeline category into which they are classified. The locations of these facilities are displayed in Figure 4-32 below.

Table 4-65 Critical Facilities Within the 1% and 0.2% Annual Chance Flood Hazard by FEMA Lifeline and Jurisdiction

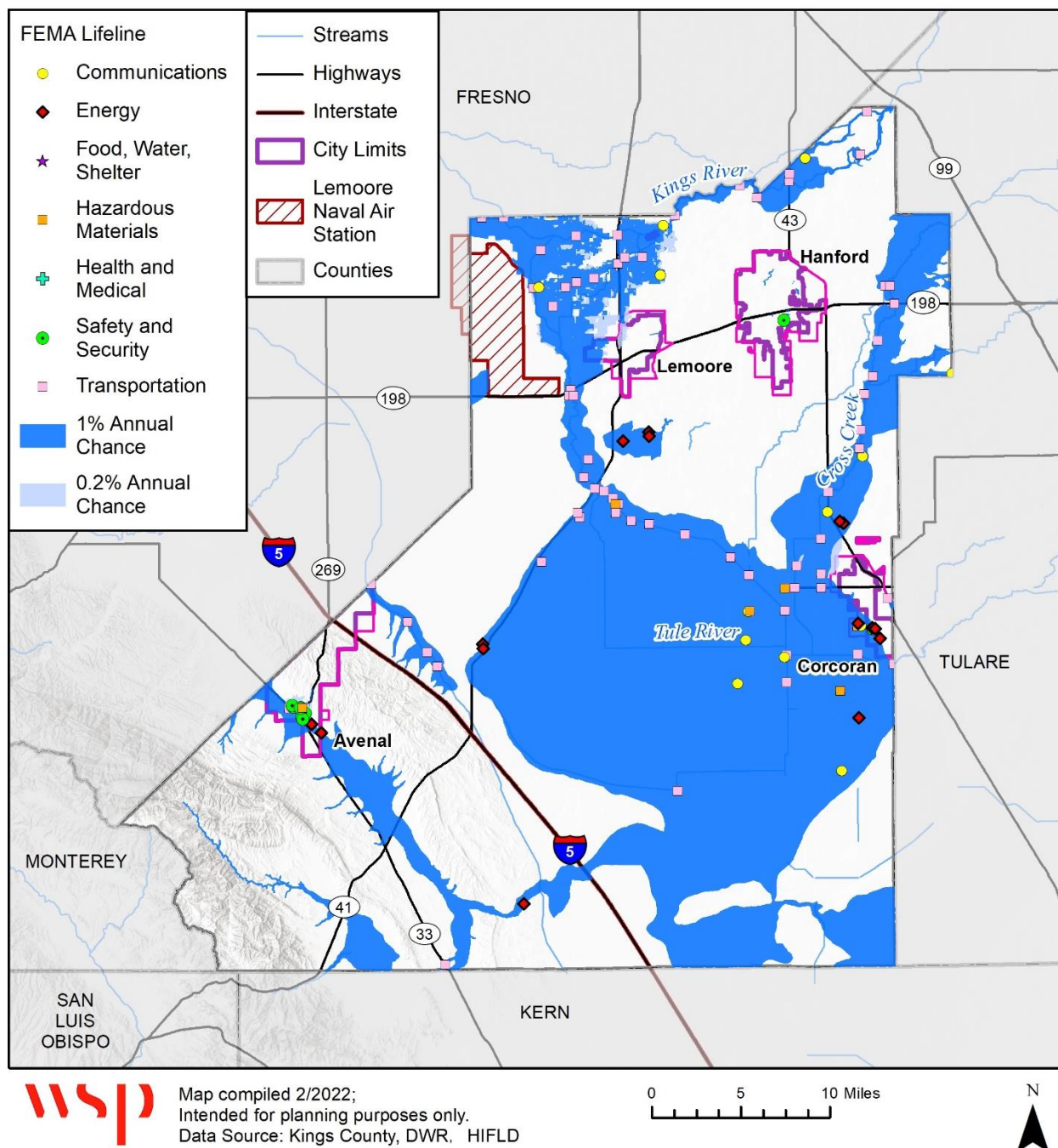
FLOOD HAZARD ZONE	JURISDICTION	COMMUNICATIONS	ENERGY	FOOD, WATER, SHELTER	HAZARDOUS MATERIAL	HEALTH AND MEDICAL	SAFETY AND SECURITY	TRANSPORTATION	TOTAL
1% Annual Chance	Avenal	-	1	-	-	-	-	1	2
	Corcoran	-	3	-	-	-	1	-	4
	Hanford	-	-	-	-	-	1	-	1
	Unincorporated	20	12	-	5	-	-	71	108
	Total	20	16	-	5	-	2	72	115
0.2% Annual Chance	Avenal	2	-	-	1	-	8	-	11
	Corcoran	-	-	-	-	-	-	-	-



FLOOD HAZARD ZONE	JURISDICTION	COMMUNICATIONS	ENERGY	FOOD, WATER, SHELTER	HAZARDOUS MATERIAL	HEALTH AND MEDICAL	SAFETY AND SECURITY	TRANSPORTATION	TOTAL
	Hanford	-	-	-	-	-	-	-	-
	Unincorporated	-	-	-	-	-	-	-	-
	Total	2	-	-	1	-	8	-	11

Source: HIFLD, Kings County, WSP GIS Analysis

Figure 4-32 Kings County Critical Facilities & FEMA Flood Hazards



Economy

Flooding can have a major economic impact on the economy. Based on the flood loss analysis, there are 16 commercial structures worth an estimated \$18.9 million in total value directly at risk of flooding in the 1% annual chance zone. Based on the loss analysis this could result in approximately \$4.7 million in direct losses. In addition, there are 123 commercial structures worth an estimated \$37.3 million in total value directly at risk of flooding in the 0.2% annual chance zone. Based on the loss analysis this could result in approximately \$9.3 million in direct losses. This does not account for other indirect losses such as business interruption, lost wages, and other downtime costs.



Effects on the agricultural economy can be devastating, and a large amount of area at risk to flooding in the County is agricultural and lies within the Tulare Lake basin. Flooding can damage crops and livestock. In addition to the obvious impacts on crops and animals, flooding can have deleterious effects on soil and the ability to reinvigorate the agricultural activities impacted once the flood waters recede. Damage to water resources such as underground irrigation systems, water storage reservoirs, springs and other natural water bodies could have a serious effect on agriculture operations.

Cultural, Historic and Natural Resources

Natural areas within the floodplain often benefit from periodic flooding as a naturally recurring phenomenon. These natural areas often reduce flood impacts by allowing absorption and infiltration of floodwaters. Natural resources are generally resistant to flooding except where natural landscapes and soil compositions have been altered for human development or after periods of previous disasters such as drought and fire. Wetlands, for example, exist because of natural flooding incidents. These areas provide natural and beneficial functions to hold and absorb floodwaters. Areas recently suffering from wildfire damage may erode because of flooding, which can temporarily alter an ecological system.

Development Trends

The potential or likelihood of a flood event in the County increases with the annual onset of heavy rains in winter and spring months. Much of the historical growth in the problem areas connected with flooding and stormwater runoff include erosion, sedimentation, degradation of water quality, losses of environmental resources, and certain health hazards. For NFIP participating communities, floodplain management practices implemented through local floodplain management ordinances should mitigate the flood risk to new development in the 1% annual chance floodplains. As noted previously, a large amount of development has occurred in the 0.2% annual chance floodplain and these areas are not regulated or require flood mitigation, thus flood risk is increasing to a degree, although to the less frequent flood events.

The development trend in the County planning area consists of steady growth. Much of this growth is occurring in the urban and SOI areas; such growth can result in more impervious surfaces due to buildings and infrastructure and increase stormwater runoff. The California DOF projects that Kings County's population will increase by 3.0% by the year 2025 when compared to the year of 2021. The County's population is also projected to continue to grow through the year 2060. Such growth may consume previously undeveloped acres, and the increase in impervious surfaces could affect existing drainage and flood control facilities.

Changes in municipal boundaries such as annexations into the SOI may change the flood risk profile for certain communities. A GIS analysis of 1% and 0.2% annual chance flood exposure within SOI boundaries is summarized in the tables below. These parcels are included in Table 4-66 and Table 4-67, and they fall under "Unincorporated" in terms of their jurisdiction. Parcels shown below in these tables are also those that fall within each jurisdiction's SOI and are exposed to potential flood hazard events. As shown, only parcels located in the SOI of the Cities of Corcoran and Lemoore are exposed to 1% annual chance flood hazards. In addition, only two parcels located in the SOI of the City of Lemoore are exposed to 0.2% annual chance flood hazards.

Table 4-66 Sphere of Influence Risk to FEMA 1% Annual Chance Flood Hazard

	CORCORAN	LEMOORE	GRAND TOTAL
Improved Parcel Count	40	2	42
Building Count	44	2	46
Improved Value	\$38,205,152	\$25,742	\$38,230,894
Estimated Content Value	\$37,338,575	\$25,742	\$37,364,317
Total Value	\$75,543,727	\$51,484	\$75,595,211
Population	96	-	96

Source: Kings County; WSP Analysis 2023



Table 4-67 Sphere of Influence Risk to FEMA 0.2% Annual Chance Flood Hazard

	LEMOORE	GRAND TOTAL
Improved Parcel Count	2	2
Building Count	2	2
Improved Value	\$63,970	\$63,970
Estimated Content Value	\$47,370	\$47,370
Total Value	\$111,340	\$111,340
Population	3	3

Source: Kings County; WSP Analysis 2023

4.5.7.8 Risk Summary

The overall significance of the flood hazard in the County is **High**

- Eleven flood events were recorded for Kings County between 2012 and 2022, which makes it is highly likely that a flood event occurs in a given year. Significant flooding also occurred during plan development in early 2023.
- Significant flooding occurs in the County through snowmelt, arroyos, and significant rainfall events. Flooding risks are present among the Tulare Lake Basin and several creeks and rivers, including the Kings River, the Arroyo Esquinado, and the Arroyo del Camino.
- The Tulare Lake Basin once served as the natural drainage of the Kings River, Cross Creek, Kern River, and Tule River as a part of the hydrologic watershed of the Sierra Nevada Mountains along the east side of the San Joaquin Valley. Canal and flood control development turned the area into farmable land, although the Basin is still subject to flooding during significant precipitation events.
- Key findings from the 2022 CVFPP indicate shifts in California's precipitation regime, which show more dry days, more dry years, a longer dry season, and increases in occasional heavy precipitation events and floods. These same studies project greater storm intensity with climate change, resulting in more direct runoff and flooding and as a result, high frequency flood events in conjunction with heavy precipitation and extreme storm events.
- Countywide there are 4,203 structures at risk within the limits of the 100-year and 500-year floodplain zones worth over \$1.06 billion, with a loss estimate of over \$578 million.
- Countywide approximately 8,307 persons live in the 100-year floodplain and 500-year floodplains. Of this population, 941 residents live within the 100-year floodplain in the unincorporated County and 132 residents live in 500-year floodplain in the City of Corcoran. Of this population, the majority living in the central portion of the County's floodplain consists of socially vulnerable populations living on farms or working within the agricultural industry, many of which are designated DACs. These at-risk communities are at greater risk to flooding based on direct impacts flooding poses to their properties but also how the indirect impacts flooding affects their livelihood and local economy.
- Levees and flood control dam infrastructure provide some protection, but also pose potential levee and dam failure risks.
- In March 2023, a series of AR events caused extensive flooding that rendered almost all emergency access routes in and out of the City of Corcoran unusable. As a consequence, State Route (SR) 43 to the north of Corcoran became the sole accessible route connecting Kings County to the City. Another alternative, SR 137, was available but located in Tulare County. The significance of these emergency access routes during flooding cannot be overstated, as they play a vital role in facilitating resource mobilization, emergency response efforts, and ensuring the overall safety of the public.
- **Related hazards** – Severe weather: Heavy Rain, Wildfire, Landslide and Debris Flow.

JURISDICTION	GEOGRAPHIC AREA	PROBABILITY OF FUTURE OCCURRENCE	MAGNITUDE/ SEVERITY	OVERALL SIGNIFICANCE	PRIORITY HAZARD?
Kings County	Extensive	Highly Likely	Critical	High	Yes
City of Avenal	Extensive	Highly Likely	Critical	High	Yes
City of Corcoran	Extensive	Highly Likely	Critical	High	Yes
City of Hanford	Extensive	Highly Likely	Critical	High	Yes



City of Lemoore	Extensive	Highly Likely	Critical	High	Yes
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4.5.8 LAND SUBSIDENCE

4.5.8.1 Hazard Description

Land subsidence is defined as the vertical sinking of the land over natural or manmade underground voids. Subsidence is common in several areas of California, usually as a result of groundwater pumping, peat loss, or oil and gas extraction. Fluctuations in the level of underground water caused by pumping or by injecting fluids into the earth can initiate sinking to fill the empty space previously occupied by water or soluble minerals. Weight, including surface developments such as roads, reservoirs, and buildings, and manmade vibrations from such activities as blasting and heavy truck or train traffic can accelerate the natural processes of subsidence, or induce subsidence over manmade voids.

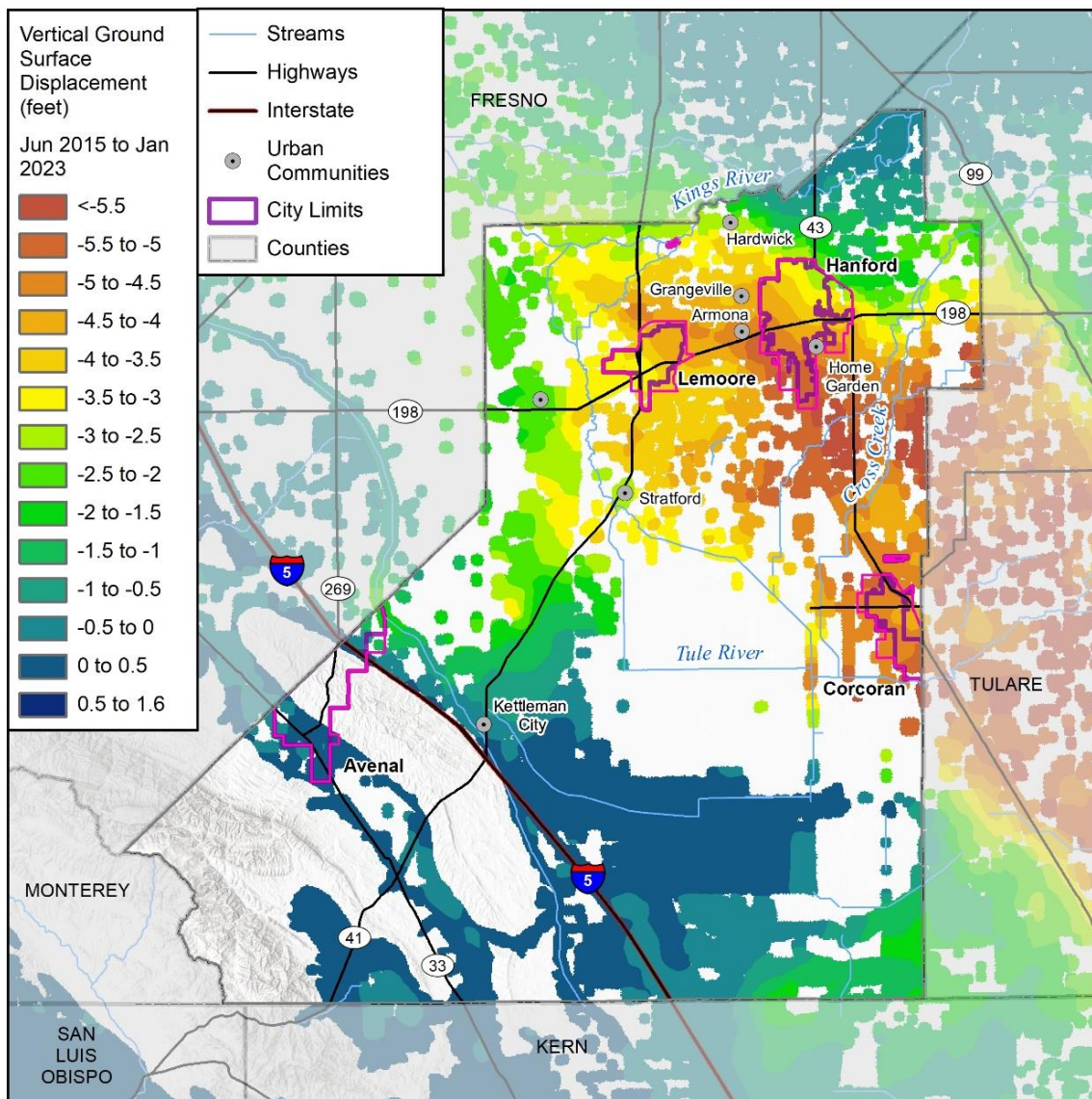
The 2018 California SHMP profiles subsidence as a secondary impact of drought associated with the reduced availability of surface water and increased groundwater pumping in order to meet water needs. According to Smith, et al. (2018), approximately 1 million people in the San Joaquin Valley rely on groundwater pumping for drinking water, and thousands of farmers rely on groundwater to irrigate crops. While groundwater pumping occurs in both drought and non-drought years to support urban, rural, and agricultural water needs, the SHMP notes that it is greatly increased during dry years.

The primary source of water for the County is groundwater (Kings County, n.d.). As groundwater is extracted faster than the aquifers can recharge, significant subsidence of soil layers may occur. Often, once an aquifer has been compressed by subsidence, the deformation of shape is permanent, resulting in a decreased capacity to store water. In addition to the direct damage subsidence may cause to infrastructure, as foundations are warped subsidence also increases the risk of flooding as ground elevation changes.

4.5.8.2 Geographic Area

Extensive – Figure 4-33 below shows the vertical ground surface displacement measured in feet for Kings County and the surrounding areas. This DWR dataset represents measurements of vertical ground surface displacement in more than 200 of the high-use and populated groundwater basins across the State of California between January 2015 and January 2023. Vertical displacement estimates are derived from Interferometric Synthetic Aperture Radar (InSAR) data that are collected by the European Space Agency (ESA) Sentinel-1A satellite and processed by TRE ALTAMIRA Inc. (TRE), under contract with the California DWR as part of DWR's SGMA technical assistance to provide important SGMA-relevant data to GSAs for Groundwater Sustainability Plan (GSP) development and implementation. As shown in Figure 4-33, the red/orange areas experienced the most (negative) vertical ground surface displacement between June 2015 to January 2023, meaning that these areas have experienced the most land subsidence during this period of time. These areas include the northern and eastern portions of the County, including the cities of Corcoran, Hanford, and Lemoore. Due to gaps in spatial coverage, the map below shows the approximate subsidence using the average of all reported values within each square grid area. Reported values are not evenly distributed within each square, and each square may have a different number of measurements.

Figure 4-33 Kings County Vertical Ground Surface Displacement (Jun 2015 – Jan 2023)



Map compiled 2/2022;
Intended for planning purposes only.
Data Source: Kings County, DWR

0 5 10 Miles



Source: DWR 2023

4.5.8.3 Past Occurrences

Land subsidence from groundwater extraction in the San Joaquin Valley has been called the greatest human alteration of the Earth's surface (Galloway et al, 1999). This phenomenon is closely tied to the growth of agriculture and the accessibility of water in the region. Due to the semi-arid nature of the valley and the variation in streamflow on the east and west sides of the San Joaquin Valley, agriculture has become heavily dependent on the aquifer system. A brief history of land subsidence in the San Joaquin Valley from *Land Subsidence from Groundwater Use in California* by Borchers and Carpenter (2014) is summarized below.

The sinking of land caused by the removal of groundwater started in the 1920s, but accelerated during the post-World War II period when the demand for irrigation water increased, leading to the drilling of numerous wells. In 1955, the San Joaquin Valley supplied a



quarter of all irrigation groundwater in the United States. By 1970, more than half of the valley, an area covering 5,200 square miles, had experienced subsidence of over one foot.

Although the connection between the decline of groundwater levels and subsidence in the Delano City area was identified early on, a comprehensive study of the regional impact of groundwater overdraft on subsidence was not conducted until the early 1950s. At that time, government agencies expressed worry about how subsidence could affect the Delta-Mendota Canal (which was under construction at the time) and the California Aqueduct (which was still in the planning stages).

The year 1954 saw the start of research into land subsidence through the collaboration of a Federal-State interagency committee and the USGS "Mechanics of Aquifers Project." Through field monitoring and research, the studies were able to determine the extent and magnitude of subsidence and its correlation to groundwater overdraft. The findings provided valuable information that enabled the strategic placement of the California Aqueduct, which, together with the Delta-Mendota Canal and the Friant-Kern Canal, brought surface water into the valley to reduce the dependence on groundwater.

By 1974, the importation of surface water had resulted in groundwater levels recovering by over 200 feet in certain regions on the west side of the valley. While this helped to decelerate the rate of subsidence, subsidence still persisted due to the slow drainage of water from the compacting clayey aquitards, especially in the Los Banos-Kettleman City area of the mid-valley and the Wasco-Tulare area of the southern valley.

The droughts that occurred after 1975 led to a rapid decline in groundwater levels despite lower pumping volumes than those in the 1960s. This was due to a reduction in storage space within the aquifer system and decreased hydraulic conductivity of the compacted aquitards, which restrict the drainage of water to the more permeable parts of the system. Despite water levels being notably higher than those in the 1960s, the observations indicated renewed land subsidence during drought periods.

The present drought, combined with a shift in cropping patterns from row crops and range land to permanent crops such as trees, has again led to increased dependence on aquifer systems for agricultural irrigation in the San Joaquin Valley. Currently, an area spanning about 2,700 square miles west of Tulare and east of Kettleman City is continuing to experience subsidence. The Lemoore Naval Air Station, located at the northwest edge of this area, has seen a total subsidence of over 10 feet between 1925 and 2010. The conversion to permanent crops and orchards that require year-round irrigation has been linked to increased groundwater extraction and changes in land use, which have contributed to the subsiding area. The sagging of canals, rivers, and flood bypass channels in these regions has led to a loss of freeboard and flow capacity.

4.5.8.4 Likelihood of Future Occurrence

Likely – Land subsidence has been a recurring issue in Kings County for decades and can be expected to continue in the future. The frequency of future land subsidence incidents in the County will largely be dependent on the mitigation actions and pumping regulations initiated by the State, the County, and local regulations. Based on past trends of gradual subsidence throughout the entire San Joaquin Valley and the continued dependence on groundwater pumping, it can be assumed that subsidence will continue in the future, with increased rates of subsidence during drought years.

The HMPC notes that at times agricultural operations are subjected to 0% - 5% allocations of surface water deliveries, which forces agriculture to rely upon groundwater to remain viable. This has resulted in some years of over drafting amounts of approximately 820,000 acre-feet per year (Bittle, 2023). The SGMA also helped establish local GSAs to manage groundwater sustainably within the four groundwater subbasins in the region: Tulare Lake, Kaweah, Kings, and Westside Subbasins. Further, the development and implementation of each GSA's GSP should further mitigate the amount of over drafting in the future and help reduce subsidence rates. See Section 4.5.4, Drought for additional information on the Tulare Lake, Kaweah, Kings, and Westside Subbasin GSPs.



4.5.8.5 Climate Change Considerations

Climate change is expected to result in increased temperatures and changes in precipitation patterns, which can lead to both extreme precipitation variability and prolonged periods of drought. Drought conditions can cause a reduction in soil moisture content while increasing the demand for water resources. In response, people may increase their use of groundwater, which can lead to increased land subsidence risk through the compaction of soil layers and the depletion of underground water resources.

Extreme precipitation variability present both challenges and opportunities. Extreme flooding occurred in the County following the series of AR events that hit the State in early 2023. The HMPC noted that these events could be beneficial if excess flood water were captured and used to enhance groundwater recharge. However, such strategic recharge projects require extensive knowledge of the soil, geology, and aquifer properties, as well as planning, permits, and infrastructure. These projects are eligible for funding through the DWR's Sustainable Groundwater Management Grant Program.

However, during periods of extended drought, water levels in aquifers may be drawn down to levels that are too low, which can cause the soil and rock layers to compress and settle. Once this occurs, the water cannot recharge the layers, leading to permanent subsidence and the permanent loss of groundwater storage capacity. This can have significant economic and environmental impacts, including damage to infrastructure, decreased agricultural productivity, and reduced access to water resources.

4.5.8.6 Magnitude and Severity

Limited – The rate of subsidence is difficult to predict, and it is also uncertain where exactly it will occur. This unpredictability makes it hard to assess the potential magnitude and severity of the subsidence's impact. As the County's different areas continue to sink at varying rates that range from approximately 0.5 feet to 2.5 feet of vertical ground surface displacement in the area south of Kettleman City in the County to 4.5 to 5.5 feet of vertical ground surface displacement in the area between the cities of Hanford and Corcoran, the impacts on infrastructure could become more evident (see Figure 4-31). It is likely that continued subsidence in the County could lead to further harm to infrastructure such as buildings, roads, and water storage and management systems, such as canals and aqueducts.

4.5.8.7 Vulnerability Assessment

Land subsidence due to groundwater pumping can permanently damage or collapse underground aquifers, increase flood risk in low-lying areas, and pose hazards to buildings, infrastructure, and water storage facilities. Subsidence can result in serious, localized structural damage to buildings, roads, irrigation ditches, canals, streams, underground utilities, and pipelines. It can disrupt and alter the flow of surface or underground water. The consequences of improper use of land subject to ground subsidence can be excessive economic losses, including the high costs of repair and maintenance for buildings, irrigation works, highways, utilities, and other structures. This results in direct economic losses to citizens as well as indirect economic losses through decreased property values.

Property

The lack of detailed data on property damage due to land subsidence in Kings County makes it difficult to quantify past or potential future losses. Most subsidence instances result in relatively minor damage and settling of buildings. But in some cases, subsidence can result in serious structural damage to buildings, roads, irrigation ditches, underground utilities, and pipelines, potentially resulting in the complete loss of the structure.

People

This hazard typically results in property damage, not risk to human life. In the event of modest subsidence over time, property that people rely on like buildings, roads, rail lines, and underground infrastructure, such as sewer, electrical power, and water lines could be impacted. These impacts may also be due to related erosion or flooding hazards. Land subsidence is also not expected to have a disproportionate impact on socially vulnerable populations.

Critical Facilities and Lifelines

Land subsidence is a threat to critical infrastructures, including groundwater wells, levees, and aqueducts. As land sinks, it can cause the casings of wells to collapse and require repair. Water that had previously been advanced by gravity may require lift stations or pumps to be moved over distorted landscapes.



Economy

Damage resulting from land subsidence can cause direct economic losses in the form of needed structural repairs to affected buildings and facilities, as noted above. It can also result in indirect losses, such as from increased taxes and decreased property values. The HMPC notes that as a result of media coverage of subsidence in the area, lending institutions have applied higher interest rates due to perceived higher risk, placing greater financial burdens on lower-income communities. Subsidence may also impact agricultural industries and livelihoods dependent on those industries if transportation routes are affected.

Cultural, Historic and Natural Resources

Historic and cultural facilities are just as susceptible to subsidence related damage as other structures. However, there is not sufficient data to identify specific historical or cultural facilities at increased risk from this hazard.

Development Trends

While vulnerability to this hazard is not anticipated to increase with new development, increased water pumping resulting from the demand of new development has the potential to increase the frequency and severity of subsidence. Increased efforts to monitor and manage groundwater pumping, increased accuracy of mapping, and emphasis on appropriate grading and ground compaction during development will help alleviate vulnerability for future development in unknown areas of risk.

4.5.8.8 Risk Summary

- A significant portion of Kings County is at risk from ongoing land subsidence, and despite the gradual nature of this hazard, the observed and potential impacts to critical infrastructure makes the overall significance of this hazard Medium.
- The entire Kings County is vulnerable to land subsidence due to its dependence on agriculture and groundwater pumping; however, increased efforts on sustainable groundwater management and the implementation of the Tulare Lake, Kaweah, Kings, and Westside Subbasins GSPs should alleviate this hazard risk in the future.
- Increased drought conditions resulting from climate change will likely result in more groundwater pumping, which could lead to more human-induced subsidence; groundwater sustainability planning and management could help offset future subsidence.
- Land subsidence can alter the flow of surface or underground water, an impact that may not be noticed until long after the fact.
- **Related Hazards** – Drought, Flood

JURISDICTION	GEOGRAPHIC AREA	PROBABILITY OF FUTURE OCCURRENCE	MAGNITUDE/ SEVERITY	OVERALL SIGNIFICANCE	PRIORITY HAZARD?
Kings County	Extensive	Likely	Limited	Medium	Yes
City of Avenal	Extensive	Likely	Limited	Medium	Yes
City of Corcoran	Extensive	Likely	Limited	Medium	Yes
City of Hanford	Extensive	Likely	Limited	Medium	Yes
City of Lemoore	Extensive	Likely	Limited	Medium	Yes



4.5.9 LANDSLIDE

4.5.9.1 Hazard Description

Landslides can refer to a wide variety of processes that result in the perceptible downward and outward movement of soil, rock, and vegetation under the gravitational influence. Common names for landslide types include slump, rockslide, debris slide, lateral spreading, debris avalanche, earth flow, and soil creep. Although landslides are primarily associated with steep slopes (i.e., greater than 15 percent), they may also occur in areas of generally low relief and occur as cut-and-fill failures, river bluff failures, lateral spreading landslides, collapse of mine-waste piles, and failures associated with quarries and open-pit mines.

The force of gravity acting upon a steep or moderately steep slope is the primary cause of a landslide. Slope failure occurs when the force of gravity pulling the slope downward exceeds the strength of the earth materials that comprise the slope to hold it in place. In addition to the force of gravity, other contributing factors to landslides can include rainfall, earthquakes, changes in groundwater, and human-induced modifications to existing slopes.

The potential for a landslide to occur exists anywhere weak or fractured materials rest upon a moderate to steep slope. The severity of a landslide depends in large part on the degree of development in the area in which it occurs and the geographic area of the slide itself. Generally speaking, landslides result in devastating consequences, but in very localized areas. A landslide occurring in an undeveloped area would be less severe because lives and property would not be affected; the only impacts would be to land, vegetation, and wildlife. However, a landslide occurring in a developed area could have devastating effects, ranging from structure and infrastructure damage to injury and loss of life.

Mudslides are a mass of water and fine-grained earth that flows down a stream, ravine, canyon, arroyo, or gulch. If more than half of the solids in the mass are larger than sand grains (rocks, stones, boulders), the event is called a debris flow. A debris fan is a conical landform produced by successive mud and debris flow deposits, and the likely spot for a future event. Mud and debris flow problems can be exacerbated by wildfires that remove vegetation that serves to stabilize soil from erosion. Heavy rains on the denuded landscape can lead to the rapid development of destructive mudflows.

A rockfall is the falling of a detached mass of rock from a very steep to horizontal slope. Rockfalls are caused by the loss of support from underneath through erosion, or triggered by ice wedging, root growth, or ground shaking. Rockfalls and landslides are influenced by seasonal patterns, precipitation, and temperature patterns. Weathering and decomposition of geologic materials produce conditions favorable to rockfalls. Changes to an area or slope, such as cutting and filling activities, can also increase the risk of a rockfall. Rockfalls can threaten human life, impact transportation corridors, and communication systems and cause other property damage.

There are predictable relationships between local geology and landslide events. The downslope movement of earth material, either as a landslide, debris flow, mudslide, or rockslide, is part of the continuous, natural process of erosion. This process, however, can be influenced by a variety of causes that change the stability of the slope. Slope instability may result from natural processes, such as the erosion of the toe of a slope by a stream, or by ground shaking caused by an earthquake. Slopes can also be modified artificially by grading, or by the addition of water or structures to a slope. Development that occurs on a slope can substantially increase the frequency and extent of potential slope stability hazards. Knowledge of these relationships can improve planning and reduce vulnerability.

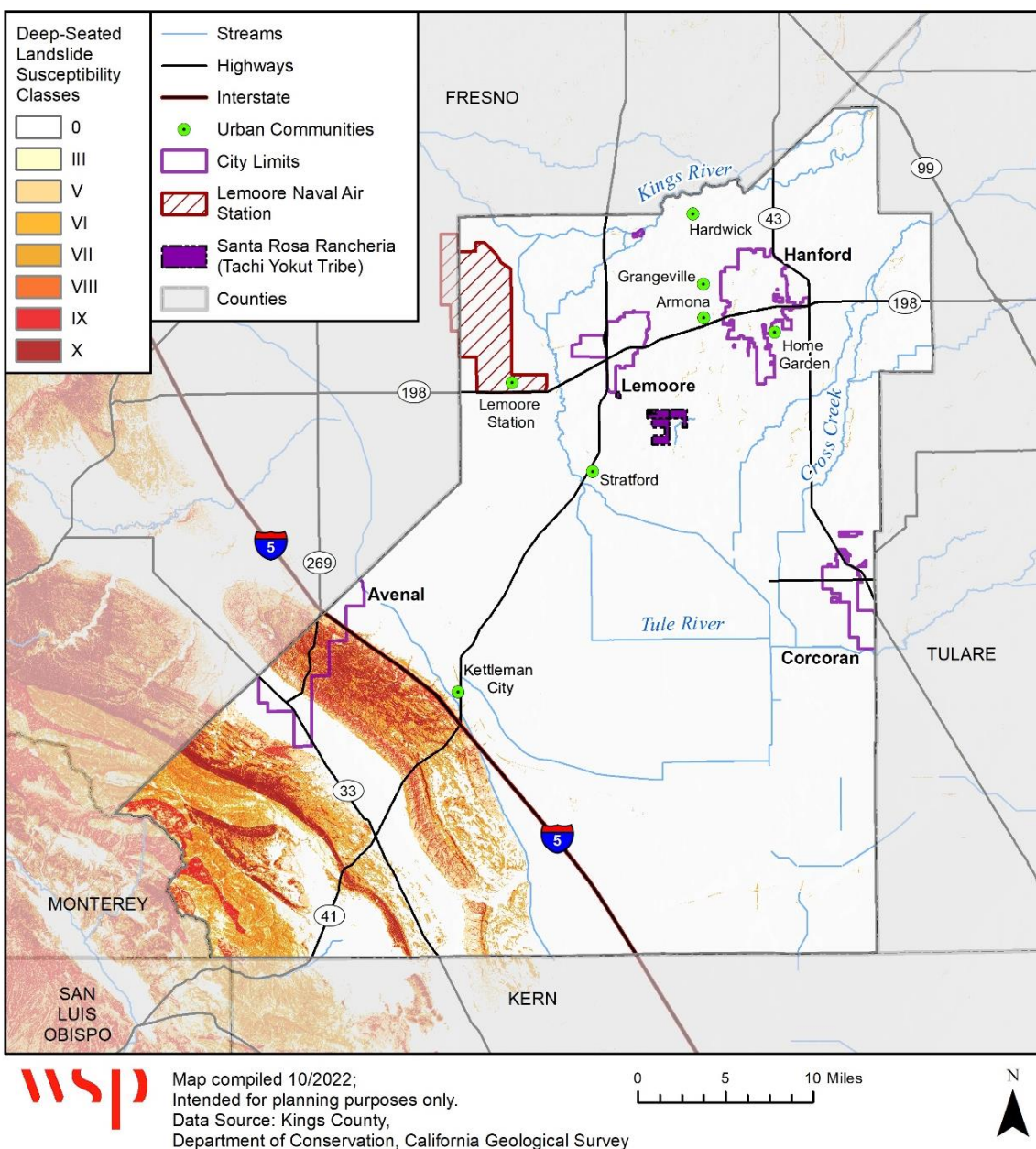
4.5.9.2 Geographic Area

Significant – As mentioned in the County's 2012 MJHMP, landslide hazards are uncommon throughout much of the county due to the flat topography. The southwestern County intersects with the Kettleman Hills and the Southern California Coastal Range. These areas of the County that are the most susceptible to landslides, and there are few past occurrences. Areas near rivers and streams are also subject to natural erosion, which may be increased during flood events.

Deep-seated landslide susceptibility in the County is depicted in Figure 4-34; areas in darker red colors have a higher susceptibility to landslide and most of these areas are concentrated west of SR 33. This map shows the relative likelihood of deep-seated land sliding based on regional estimates of rock strength and steepness of slopes. On the most basic level, weak rocks and steep slopes are most likely to generate landslides. The map uses detailed information on the location of past landslides, the location and relative strength of rock units, and steepness of slope to estimate susceptibility to deep-seated land sliding (0 to X, low to high, as shown in the Figure's legend). On very low slopes, landslide susceptibility is low even if there are weak rock and geologic materials, and that susceptibility increases with slope and

weaker rocks. High landslide susceptibility classes (VIII, IX, and X) include very steep slopes with hard rocks and moderate to very steep slopes with weak rocks (Wills et al. 2011).

Figure 4-34 Kings County Deep – Seated Landslide Susceptibility



4.5.9.3 Past Occurrences

There have not been any disaster declarations associated with landslides or California Geological Survey (CGS) records of landslides in Kings County. However, the County's 2012 LHMP noted that landslides have occurred in the western part of the county, particularly in burn areas and after heavy rains. Heavy rain events caused a slope failure around a water line for Avenal in 1995, 1998, 2008 and 2010.

4.5.9.4 Likelihood of Future Occurrence

There is limited data on past events, but occasional landslides and debris flows are likely to occur in the western part of the county in the future. As mentioned in the County's 2012 MJHMP, winter and spring are typically the landslide/rock-fall seasons in California as rain falls and snow melts and saturates soils and temperatures enter into freeze/thaw cycles. Debris and mud flows generally occur during summer cloudbursts. Debris and mudslides and rock-fall can occur rapidly with little warning during torrential



rains. Landslides typically have a slower onset and can be predicted to some extent by monitoring soil moisture levels and ground cracking or slumping in areas of previous landslide activity.

On the other hand, projected climate change-associated variance in rainfall events may result in more high-intensity rain events, which may increase landslide frequency. In addition, the increased potential of wildfire occurrence also escalates the risk of landslide and debris flows in the period following a fire. Refer to the Climate Change Considerations subsection below for more details on climate change's impact on landslide events.

4.5.9.5 Climate Change Considerations

Landslides can result from intense rainfall and runoff events. Projected climate change-associated variance in rainfall events may result in more high-intensity events, which may increase landslide frequency. In addition, the increased potential of wildfire occurrence also escalates the risk of landslide and debris flows in the period following a fire, when slopes lack vegetation to stabilize soils and burned soil surfaces allow more rainfall runoff. As climate change affects the length of the wildfire season, it is possible that a higher frequency of large fires may occur into late fall, when conditions remain dry. The wildfires can be followed by intense rains early in the winter, as occurred with the Thomas Fire in December 2017 and subsequent Montecito and Carpinteria debris flows in January 2018 that occurred in Santa Barbara County (CA SHMP 2018). Moreover, tree mortality resulting from drought, pests or any other threat could also pose an increase in landslides as the loss of trees would reduce the protection of steep slopes and thereby increase the probability of landslide occurrences.

4.5.9.6 Magnitude and Severity

Negligible – Figure 4-29 shows the relative extent of deep land sliding based on regional estimates of rock strength and steepness of slopes. The data used for the map utilizes detailed information on the location of past landslides, the location and relative strength of rock units, and the steepness of the slope in a methodology developed by Wilson and Keefer (1985) as implemented by Ponti et al (2008) to create classes of landslide susceptibility. These classes express the generalization that on very low slopes, landslide susceptibility is low even in weak materials, and that landslide susceptibility increases with slope and in weaker rocks. The convergence of factors suggests limited landslide potential in most of Kings County due to the very low slopes. However, there are areas on the west side where the potential increases due to an increase in slope and topography along the Southern California Coastal Range, mainly to the west of I-5. These areas are shown in darker orange and red in Figure 4-34.

Landslides are often triggered by other natural hazards such as earthquakes, heavy rain, flood, or wildfires. Landslide frequency is often related to the frequency of these other hazards. In Kings County, landslides typically occur during and after major storms so the potential for landslides largely coincides with the potential for sequential severe storms that saturate steep, vulnerable soils.

4.5.9.7 Vulnerability Assessment

Property

Landslides directly damage engineered structures in two general ways: 1) disruption of structural foundations caused by differential movement and deformation of the ground upon which the structure sits, and 2) physical impact of debris moving downslope against structures located in the travel path.

During the 2023 update of this plan, a GIS analysis of exposure to landslide hazard areas was performed. GIS analysis indicates approximately \$126.4 million of property improvements are exposed, which takes into account improved values of properties. Table 4-68 summarizes landslide exposure by jurisdiction. GIS was used to intersect the parcel boundaries with a master address point layer to obtain the number of buildings per parcel. Only parcels with improvement values greater than zero were used in the analysis, this method assumes that improved parcels have a structure of some type.

Based on this analysis there is a total of 144 improved parcels together with 304 structures located within landslide hazard areas in the County. The majority of this exposure is to the west of I-5 and in the southwestern unincorporated County. None of the parcels from the cities of Corcoran and Lemoore are exposed to landslide hazard. There is a high level of uncertainty as to the actual risk to these exposed parcels, thus a more specific loss estimation is not provided. A more detailed, site-specific analysis would be needed to assess actual risk within the identified parcels. The analysis results are shown below in Table 4-68.



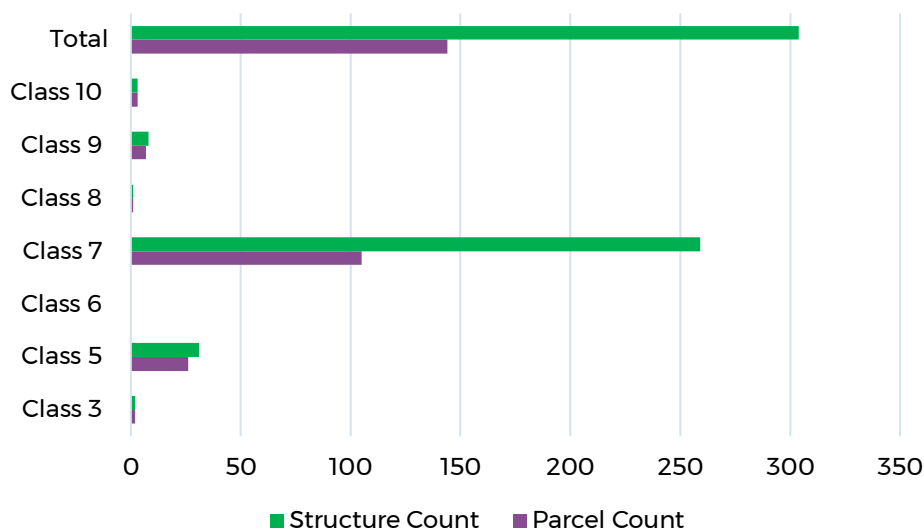
Table 4-68 Kings County Improved Parcels & Structures Potentially at Risk to Landslide

JURISDICTION	IMPROVED PARCEL COUNT	BUILDING COUNT	IMPROVED VALUE	ESTIMATED CONTENT VALUE	TOTAL VALUE	POPULATION
Avenal	22	22	\$1,820,347	\$1,197,668	\$3,018,015	61
Hanford	37	188	\$38,644,308	\$25,007,092	\$63,651,400	501
Unincorporated County	85	94	\$29,768,911	\$29,971,966	\$59,740,877	73
Total	144	304	\$70,233,566	\$56,176,725	\$126,410,291	635

Source: Department of Conservation, CGS, Kings County Assessor, Wood GIS Analysis

Figure 4-35 below further breaks down the numbers of exposed parcels by landslide class, as shown previously in Table 4-68; the higher the class the greater the susceptibility. As shown by Figure 4-35, most of the exposed parcels and structures are located within Class 7 landslide areas.

Figure 4-35 Total Parcel & Structure Counts by Landslide Class



Source: Department of Conservation, CGS, Kings County Assessor, Wood GIS Analysis

People

People could be susceptible if they are caught in a landslide or debris flow, potentially leading to injury or death. There is a danger to drivers operating vehicles, as rocks and debris can strike vehicles passing through the hazard area or cause dangerous shifts in roadways. Similar to the methodology used in the flood section, the total people at risk were estimated by multiplying the average number of persons per household in the County and each applicable incorporated jurisdiction with the number of residential parcels in landslide-prone areas to estimate the population residing in landslide hazard areas. As shown in Table 4-68 above, there are approximately 635 people potentially residing in landslide susceptible areas. These areas include the western portion of the City of Avenal and a small portion of the City of Hanford, as well as the unincorporated County to the west of I-5, SR 33 & SR 41. However, it is not likely that landslides will occur without warning and direct impacts to people are suspected to be minimal.

Critical Facilities and Lifelines

In addition to buildings, utilities and transportation structures are vulnerable to the impact and ground deformation caused by slope failures. They present a particular vulnerability because of their geographic extent and susceptibility to physical distress. Lifelines are generally linear structures that, because of their geographic extent, have a greater chance of being affected by ground failure due to greater hazard exposure.

Extension, bending, and compression caused by ground deformation can break lifelines. Failure of any component along the lifeline can result in the failure to deliver service over a large region. Once broken,



transmission of the commodity through the lifeline ceases, which can have catastrophic repercussions including loss of power to critical facilities such as hospitals, impaired disposal of sewage, contamination of water supplies, disruption of all forms of transportation, and release of flammable fuels. Therefore, the overall impact of lifeline failures, including secondary failure of systems that depend on lifelines, can be much greater than the impact of individual building failures.

Table 4-69 below summarizes the results of the critical facilities analysis, highlighting the exposure of critical facilities throughout the County to landslide hazards. The critical facilities that are exposed to landslide hazards are located within the City of Avenal and unincorporated County. Many exposed critical facilities are located in the southwestern part of the County to the west of Interstate 5.

Table 4-69 Critical Facilities Within the Class 9 Landslide Hazard by FEMA Lifeline

JURISDICTION	LANDSLIDE CLASS	COMMUNICATIONS	ENERGY	FOOD, WATER, SHELTER	HAZARDOUS MATERIAL	HEALTH AND MEDICAL	SAFETY AND SECURITY	TRANSPORTATION	TOTAL
Avenal	5	1	-	-	-	-	-	-	1
	7	4	1	-	-	-	-	-	5
	9	-	1	-	-	-	-	-	1
	10	1	-	-	-	-	-	-	1
Unincorporated	5	10	2	-	1	-	-	2	12
	7	2	2	-	1	-	-	4	9
	8	2	-	-	-	-	-	-	2
	9	-	-	-	-	-	-	2	2
	10	6	-	-	-	-	-	-	6
Grand Total	-	26	4	-	1	-	-	8	39

Source: HIFLD, Kings County, WSP GIS Analysis

Economy

Economic impacts typically center around transportation routes temporarily closed by debris flow or landslide activity. These roads may be used to transport goods across the County or provide access by visitors and tourists. Depending on the amount of damage, the road may simply need to be cleaned off or may require some level of reconstruction.

Cultural, Historic and Natural Resources

As primarily a natural process, landslides and debris flows can have varying impacts on the natural environment. Debris flows have the potential to permanently alter the natural landscape. The impacts of landslides and debris flows on historical and cultural structures would be similar to the impacts on the general property.

Development Trends

The severity of landslide problems is directly related to the extent of human activity in hazard areas. Human activities such as property development and road construction can exacerbate the occurrence of landslides. Development Trends should take place carefully to prevent landslide damage to property or people. Adverse effects can be mitigated by early recognition, avoiding incompatible land uses in these areas, or by corrective engineering. Improving mapping and information on landslide hazards and incorporating this information into the development review process could prevent siting of structures and infrastructure in identified hazard areas.

A GIS analysis of exposure to landslide hazard within SOI boundaries is summarized in Table 4-70 below. These parcels are also included in Table 4-69, and they fall under "Unincorporated" in terms of their jurisdiction. Parcels shown below in Table 4-70 are those that fall within each jurisdiction's SOI and are



exposed to potential landslide hazard events. As shown in Table 4-70, only two parcels with two structures located in the SOI of the City of Hanford are exposed to landslide hazard.

Table 4-70 Sphere of Influence Risk to Landslide Hazard

JURISDICTION	IMPROVED PARCEL COUNT	BUILDING COUNT	IMPROVED VALUE	ESTIMATED CONTENT VALUE	TOTAL VALUE	POPULATION
Hanford	2	2	\$350,069	\$525,104	\$875,173	-
Total	2	2	\$350,069	\$525,104	\$875,173	-

Source: HIFLD, Kings County, WSP GIS Analysis

Furthermore, as shown in Figure 4-34, areas west of I-5 are the most susceptible to landslide hazard in the County. However, the Community District areas, which are outlined in the County's 2035 General Plan Land Use Element and represent the County's future urban growth, are not located to the west of I-5. They are mostly SOIs that surround the County's current municipal boundaries, while most areas within current SOIs are not significantly exposed to landslide hazard. Therefore, landslide hazards currently pose a limited threat to these Development Trends areas.

4.5.9.8 Risk Summary

- The overall significance of landslides in Kings is Low.
- The geologic formations commonly associated with slope stability problems in Kings County are largely concentrated to the west of I-5 and in the southwestern portion of the County.
- Heavy rain events caused a slope failure around a water line for Avenal in 1995, 1998, 2008 and 2010; however, there have not been any disaster declarations associated with landslides or CGS records of landslides in Kings County.
- People are most commonly at risk if they are caught in a landslide or debris flow, including when driving through a hazard area.
- Property loss is rare, but GIS analysis shows some properties could be exposed to landslides.
- Landslides in adjacent counties can disrupt major transportation corridors, possibly affecting the local tourist economy and shipment of goods.
- Landslides and debris flows can destroy infrastructure such as water and sewer lines, electrical and telecommunications utilities and drainage. Disrupted transportation routes occur occasionally, usually during heavy rainstorms, and cause considerable inconvenience.
- **Related Hazards:** Flood, Severe Weather

JURISDICTION	GEOGRAPHIC AREA	PROBABILITY OF FUTURE OCCURRENCE	MAGNITUDE/ SEVERITY	OVERALL SIGNIFICANCE	PRIORITY HAZARD?
Kings County	Significant	Occasional	Negligible	Low	No
City of Avenal	Significant	Occasional	Negligible	Low	No
City of Corcoran	Significant	Occasional	Negligible	Low	No
City of Hanford	Significant	Occasional	Negligible	Low	No
City of Lemoore	Significant	Occasional	Negligible	Low	No

4.5.10 PUBLIC HEALTH HAZARDS: PANDEMICS/EPIDEMICS

4.5.10.1 Hazard Description

A public health hazard spreads from one person to another through a variety of ways that include contact with blood and bodily fluids, breathing in an airborne virus, or being bitten by an insect.

The scale of a public health hazard outbreak or biological incident is described by the extent of the spread of disease in the community. An outbreak can be classified as an endemic, an epidemic, or a pandemic depending on the prevalence of the disease locally and around the world.

- An endemic is defined as something natural to or characteristic of a particular place, population, or climate. For example, threadworm infections are endemic in the tropics.
- An epidemic is defined as a disease that spreads rapidly through a demographic segment of the human population, such as everyone in a given geographic area, a similar population unit, or everyone of a certain age or sex, such as the children or women of a region.
- A pandemic is defined as an extensive epidemic with effects felt worldwide.



While many potentially devastating diseases are spread through ingestion or insects, airborne diseases and those spread through physical contact pose higher risks to the community as they are difficult to control. Diseases such as influenza, pertussis, tuberculosis, and meningitis are all spread through these methods and pose a threat to communities. Health agencies closely monitor for diseases with the potential to cause an epidemic and seek to develop and promote immunizations.

A pandemic is a global disease outbreak. A pandemic occurs when a new virus emerges for which people have little or no immunity, and for which there is no vaccine. This disease could easily spread person-to-person, causing serious illness, and can sweep across the country and around the world in a very short time. The CDC is working closely with other countries and the World Health Organization (WHO) to strengthen systems to detect outbreaks that might cause a pandemic and to assist with pandemic planning and preparation.

An especially severe influenza pandemic could lead to high levels of illness, death, social disruption, and economic loss. Impacts could range from school and business closings to the interruption of basic services such as public transportation, health care, and the delivery of food and essential medicines.

Pandemics are generally thought to be the result of novel strains of viruses. Because of the process utilized to prepare vaccines, it is impossible to have vaccines pre-prepared to combat future pandemics. Additionally, for novel viruses, identification of symptoms, mode of transmission, and testing/identification may require development, causing significant delays in response actions. A portion of the human and financial cost of a pandemic is related to the lag time to prepare a vaccine to prevent the future spread of the novel virus. In some cases, current vaccines may have limited efficacy against novel strains.

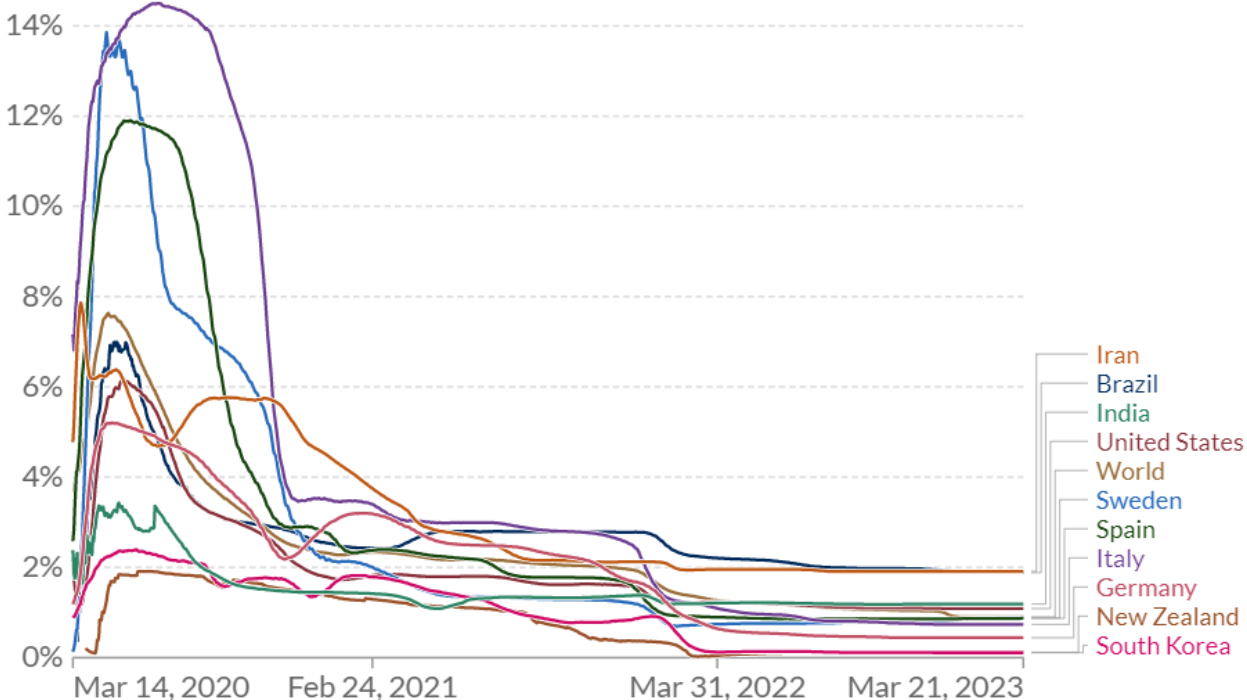
Even when there is a strong healthcare system in place, disease outbreaks can strain and overwhelm community resources. The County's vulnerable populations, young children, the elderly, under-resourced households, and those with underlying health conditions, will be the hardest hit during any disease outbreak. An especially severe outbreak could lead to high levels of illness, death, social disruption, and economic loss. Impacts could range from school and business closings to the interruption of basic services such as public transportation, health care, and the delivery of food and essential medicines.

Ongoing COVID-19 Pandemic

Since March 2020 and during the update of this plan, the County, the nation, and the world were dealing with the COVID-19 pandemic, confirming that the pandemic is a key public health hazard in the State. The COVID-19 virus has a much higher rate of transmission than the seasonal flu, primarily by airborne transmission of droplets/bodily fluids. Common symptoms include fever, cough, fatigue, shortness of breath or breathing difficulties, and loss of smell and taste.

Figure 4-36 below shows the case fatality rate of COVID-19 from March 14, 2020, to March 21, 2023. The case fatality rate (CFR) is the ratio between confirmed deaths and confirmed cases. As shown in the figure, the CFR was relatively much higher in 2020 and started dropping towards the end of 2020 and early 2021. The highest CFR that the US experienced was a bit higher than 6%. On the other hand, since early 2022, the US' CFR has been lower than 2%. However, as also mentioned by the figure's source – Our World In Data, CFR does not reflect the risk of dying from COVID-19 because the CFR relies on the number of confirmed cases, and many cases are not confirmed.

Figure 4-36 Case Fatality Rate of COVID-19 Up-to-Date



Source: Our World In Data – Global Change Data Lab

Moreover, as mentioned in CDC's most up-to-date summary on January 27, 2023, there is a rapid reduction in the overall US COVID-19-related mortality rate in March 2022. From April through September 2022, COVID-19-related mortality rates remained relatively stable. On the other hand, although overall COVID-19-related mortality rates declined, adults aged ≥ 65 years continued to have the highest mortality rates. During April–September 2022, the proportion of COVID-19-related deaths accounted for by adults aged ≥ 85 years increased to ~40% despite accounting for <2% of the U.S. population. COVID-19-related deaths among children remained rare (CDC 2023).

2022 US Mpox Outbreak

As discussed by CDC in February 2023, Mpox is a rare disease caused by infection with the mpox virus. Mpox virus is part of the same family of viruses as the variola virus, the virus that causes smallpox. Mpox symptoms are similar to smallpox symptoms, but milder, and mpox is rarely fatal. Mpox is not related to chickenpox.

Mpox was discovered in 1958 when two outbreaks of a pox-like disease occurred in colonies of monkeys kept for research. Despite being named "monkeypox," the source of the disease remains unknown. However, African rodents and non-human primates (like monkeys) might harbor the virus and infect people.

The first human case of mpox was recorded in 1970. Prior to the 2022 outbreak, mpox had been reported in people in several central and western African countries. Previously, almost all mpox cases in people outside of Africa were linked to international travel to countries where the disease commonly occurs or through imported animals. These cases occurred on multiple continents.

People with mpox often get a rash that may be located on hands, feet, chest, face, or mouth or near the genitals. The incubation period is 3–17 days. During this time, a person does not have symptoms and may feel fine. The rash will go through several stages, including scabs, before healing. The rash can initially look like pimples or blisters and may be painful or itchy. Other symptoms of mpox can include fever, chills, swollen lymph nodes, exhaustion, muscle aches and backache, headache, and respiratory symptoms (e.g., sore throat, nasal congestion, or cough). Mpox can spread to anyone through close, personal, often skin-to-skin contact. The risk is considered low for getting mpox by touching objects, fabrics, and surfaces that have been used by someone with mpox and not disinfected.



As of March 15, 2023, there are 86,500 global cases, while 30,262 of them are in the US. The WHO declared Monkeypox Spread a Global Health Emergency on July 23, 2022. Since the number of new cases remained low, the Biden Administration ended the mpox public health emergency declaration on January 31, 2023.

Valley Fever

Another example of a human health hazard that is endemic to the County is Valley Fever, or “cocci” which is a known but poorly understood secondary effect of drought conditions, and possibly a combination of wind and drought events followed by a rainy season. Valley Fever is an infection caused by a fungus (*Coccidioides immitis*) that lives in soil and dirt and areas with low rainfall, high summer temperatures, and moderate winter temperatures. Valley Fever is primarily a disease of the lungs and the infection can occur year-round. In California, it has been reported from most counties, but especially from the San Joaquin Valley and Central Coast. Anyone who lives in, works in, or visits a place with Valley Fever can be infected. According to the *Epidemiologic Summary of Valley Fever (Coccidioidomycosis) in California, 2019 Report*, published by the California Department of Public Health, Kings County was one of the counties that have the highest rates of Valley Fever in 2019.

People can get sick by breathing in a form of the Valley Fever fungus called spores. Spores are too small to be seen and they can get into the air with dust when it is windy or when dirt is distributed. Fortunately, Valley Fever cannot be spread from one person to another. About 60% of infected people will not get sick. People who do get sick can have symptoms such as fever, tiredness, and weight loss that last a month or more. Valley Fever can also infect the brain, joints, bone, skin, or other organs. This type of infection is rare; however, it can be serious and sometimes fatal. Most people who get Valley Fever fully recover and are usually protected from getting Valley Fever again.

4.5.10.2 Geographic Area

Extensive – Pandemics occur not only on a county or state level but on a national and global scale. Most communities in Kings County would likely be affected, either directly or by secondary impacts. Some indirect consequences may be the diversion of resources that may be otherwise available. Diseases usually spread throughout vulnerable populations and in areas where people live and work in close quarters. Depending on the specifics of the illness, these areas can include shelters, senior homes, schools, and places of business. In general, it is likely that the more populated areas may be affected sooner and may experience higher infection rates.

Kings County has reported 65,122 cases and 464 deaths from COVID-19 as of December 13, 2022. The current COVID-19 pandemic has affected all the jurisdictions in Kings County. Table 4-71 shows the total number of cases as well as the number of cases per total population specific to the jurisdictions within Kings County. Data specific to tribes are included in the nearest counties. Kings County comprises less than 1% of the statewide total cases and deaths. In general, it is likely that the more-populated areas municipal areas may be affected sooner and may experience higher infection rates.

Table 4-71 COVID-19 Cases by Jurisdiction (as of December 8, 2022)

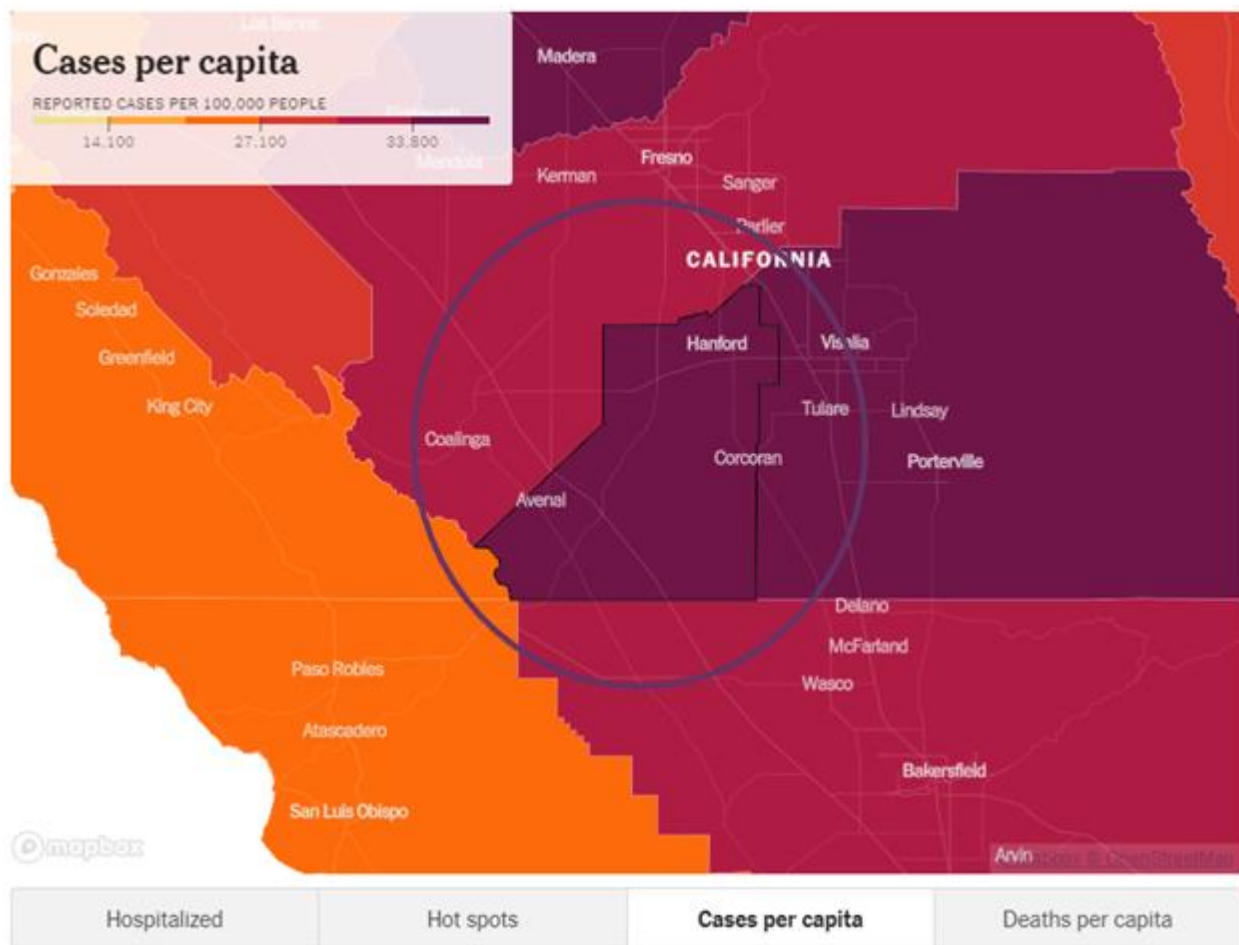
JURISDICTION	CASES	CASES PER TOTAL POP*.
City of Avenal	7,712	55.6%
City of Corcoran	11,584	51.2%
City of Hanford	25,589	44.6%
City of Lemoore	11,914	44.7%
Unincorporated County	4,166	13.3%
Total	60,974	40.1%

Source: Kings County Department of Public Health COVID-19 Dashboard

*Total population is based on U.S. Census Bureau ACS 2017-2021 5-Year Estimates

Moreover, according to the New York Times “*Tracking coronavirus in Kings County*” dashboard shown in Figure 4-37, Kings County has relatively high reported cases per 100,000 people.

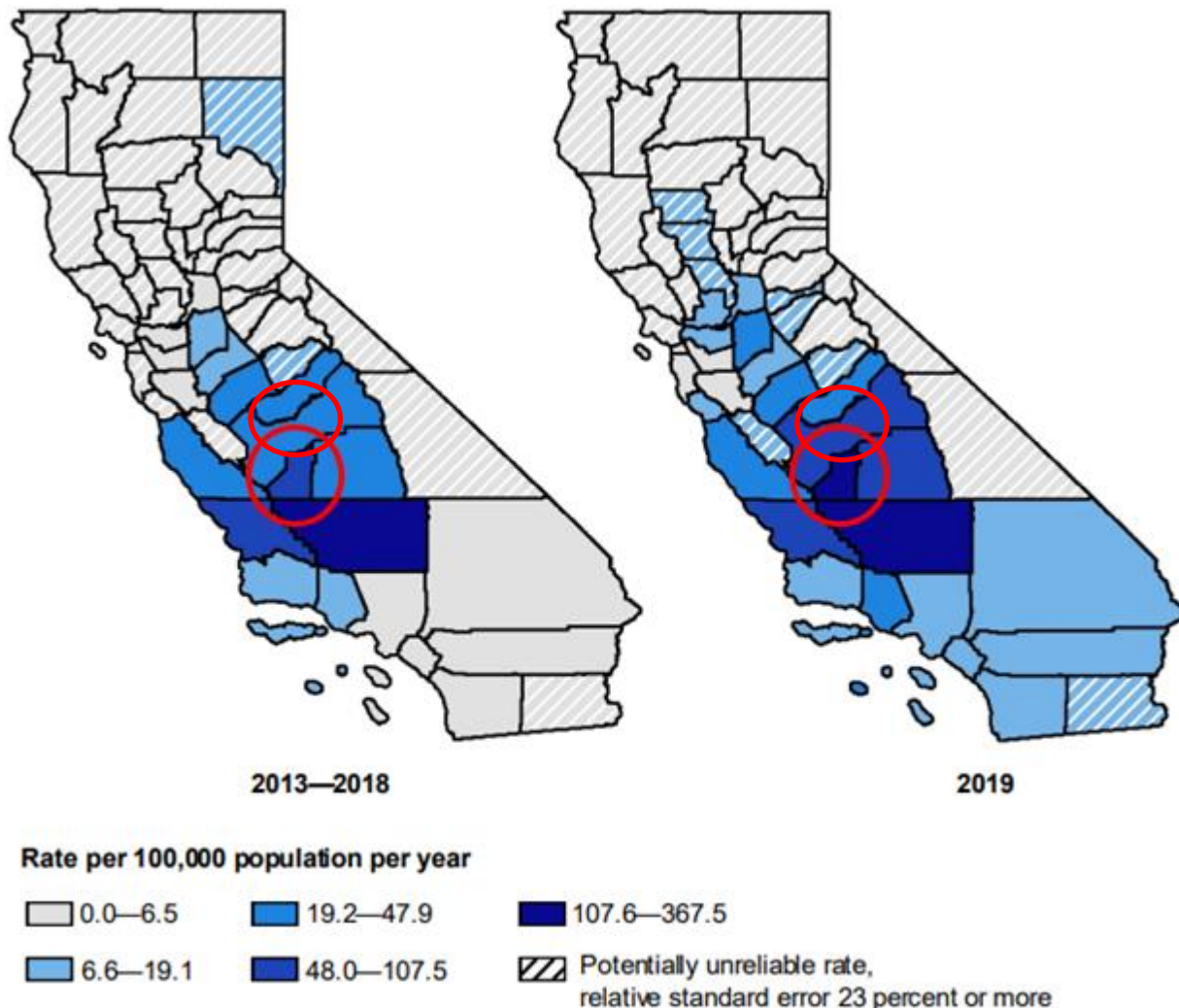
Figure 4-37 Reported Coronavirus cases per 100,000 people



Data source: The New York Times, December 14, 2022

With regards to Valley Fever, Figure 4-38 below shows Valley Fever Annual Incidence among California Counties in the year 2013 – 2018 and 2019.

Figure 4-38 Annual Incidence among California Counties in the year 2013 – 2018 and 2019



Source: Epidemiologic Summary of Valley Fever (Coccidioidomycosis) in California, 2019 Report, published by California Department of Public Health

4.5.10.3 Past Occurrences

Since the early 1900s, five lethal pandemics have swept the globe:

- **1918-1919 Spanish Flu:** The Spanish Flu was the most severe pandemic in recent history. The number of deaths was estimated to be 50-100 million worldwide and 675,000 in the United States. Its primary victims were mostly young, healthy adults. At one point, more than 10% of the American workforce was bedridden.
- **1957-1958 Asian Flu:** The 1957 Asian Flu pandemic killed 1.1 million people worldwide, including about 70,000 people in the United States, mostly the elderly and chronically ill. Fortunately, the virus was quickly identified, and vaccine production began in May 1957.
- **1968-1969 H3N2 Hong Kong Flu:** The 1968 Hong Kong Flu pandemic killed one million people worldwide and approximately 100,000 people in the United States. Again, the elderly were more severely affected. This pandemic peaked during school holidays in December, limiting student-related infections, which may have kept the number of infections down. Also, people infected by the Asian Flu ten years earlier may have gained some resistance to the new virus.
- **2009-2010 H1N1 Swine Flu:** This influenza pandemic emerged from Mexico in early 2009 and was declared a public health emergency in the US on April 26. By June, approximately 18,000 cases had been reported in the US and the virus had spread to 74 countries. Most cases were fairly mild, with



symptoms similar to the seasonal flu, but there were cases of severe disease requiring hospitalization and some deaths.

- 2020-Ongoing COVID-19: The COVID-19 or novel coronavirus was detected in December 2019 and was declared a pandemic in March 2020. As of December 14, 2022, 650 million cases and 6.66 million deaths have been reported globally, including approximately 99.2 million cases and 1.09 million deaths in the US. Worldwide there have been 13.05 billion vaccine doses administered. The response to the COVID-19 Pandemic included numerous public health orders, including stay-home orders, massive testing infrastructure, the establishment of alternate care sites to support the hospital system, and an unprecedented community-wide vaccination push.

4.5.10.4 Likelihood of Future Occurrence

Occasional – Although it is impossible to predict the next disease outbreak, recent history shows these outbreaks are not uncommon and are likely to reoccur. Based on the five pandemics that have affected the United States in roughly the last 100 years, a pandemic occurs on average roughly every 20 years. In other words, there is a 5% probability that a pandemic that affects the entire United States will occur in any given year.

For the current COVID-19 pandemic, due to the virus's ability to mutate and rapidly infect those who are not vaccinated, the pandemic may extend for several years, and booster vaccines may be necessary to prevent future outbreaks. In just the last couple of decades, the world has drastically increased points of transmissions through global travel and trade to levels unseen in human history – this may have a drastic impact on the frequency of pandemics and the speed with which they spread in coming years.

4.5.10.5 Climate Change Considerations

As the Earth's climate continues to warm, researchers predict wild animals will be forced to relocate their habitats – likely to regions with large human populations – dramatically increasing the risk of a viral jump to humans that could lead to the next pandemic. This link between climate change and viral transmission is described by an international research team led by scientists at Georgetown University, published on April 28, 2022, in *Nature*. The scholars noted that the geographic range shifts due to climate change could cause species that carry viruses to encounter other mammals, sharing associated viruses thousands of times, which may then further be spread to humans. In addition, rising temperatures caused by climate change will impact bats, which account for the majority of novel viral sharing. Bats' ability to fly will allow them to travel long distances and share viruses in geographically dispersed places. Altogether, the study suggests that climate change will become the biggest upstream risk factor for disease emergence – exceeding higher-profile issues like deforestation, wildlife trade and industrial agriculture. The authors highlight a need to pair wildlife disease surveillance with real-time studies of environmental change (GUMC 2022).

Another research article that was published on August 23, 2021, also reached a similar conclusion. The likelihood of an extremely infectious disease epidemic – similar to the COVID-19 pandemic – could triple in the coming decades. William Pan, Ph.D. – one of the study authors and an associate professor of global environmental health at Duke University, together with his colleagues looked at data from the past 400 years to estimate the chance of extreme epidemics each year. The rate of occurrence of epidemics varies widely across time, the researchers said, but the chance of an extreme epidemic can be calculated. Recent estimates show that infectious diseases that are passed from animals to humans – also called zoonotic diseases, such as COVID-19 – are becoming more common due to climate change (Crist, 2022).

4.5.10.6 Magnitude and Severity

Critical – The magnitude of a disease outbreak or public health emergency will range significantly depending on the aggressiveness of the virus in question, the ease of transmission, and the efficacy of public health and medical responses. Pandemic influenza is easily transmitted from person to person, but advances in medical technologies have greatly reduced the number of deaths caused by influenza over time.

Today, a large percentage of the world's population is clustered in cities, making them ideal breeding grounds for epidemics. Additionally, the explosive growth in air travel means a virus could spread around the globe within hours, quickly creating a pandemic. Under such conditions, there may be very little warning time. It is estimated that one to six months will have lapsed between the time that a dangerous new influenza strain is identified and the time that outbreaks begin to occur in the United States. Outbreaks are expected to occur simultaneously throughout much of the nation, preventing shifts in human and material resources that normally occur with other natural disasters. These aspects make



influenza pandemic unlike most other public health emergencies or community disasters. Pandemics typically last for several months to years.

As seen with the ongoing COVID-19 pandemic, the rapid spread of a virus combined with the need for increased hospital and coroner resources, testing centers, first responders, and vaccination administration sites causes significant strain on the medical system and public health departments. Additionally, other public health-related triggers or commingled public health hazards (such as an outbreak of another pathogen) or even more contagious strains of COVID such as the recent Omicron, BA.5 and Delta B.1.617.2 variant, can quickly lead to even more outbreaks.

The Pandemic Intervals Framework (PIF) developed by WHO is a six-phased approach to defining the progression of an influenza pandemic. This framework is used to guide influenza pandemic planning and provides recommendations for risk assessment, decision-making, and action. These intervals provide a common method to describe pandemic activities that can inform public health actions. The duration of each pandemic interval might vary depending on the characteristics of the virus and the public health response.

The six-phase approach was designed for the easy incorporation of recommendations into existing national and local preparedness and response plans. Phases 1 through 3 correlate with preparedness in the pre-pandemic interval, including capacity development and response planning activities, while Phases 4 through 6 signal the need for response and mitigation efforts during the pandemic interval.

Pre-Pandemic Interval

Phase 1 is the natural state in which influenza viruses circulate continuously among animals (primarily birds) but do not affect humans.

Phase 2 occurs when an animal influenza virus circulating among domesticated or wild animals is known to have caused infection in humans and is thus considered a potential pandemic threat. Phase 2 involves cases of animal influenza that have circulated among domesticated or wild animals and have caused specific cases of infection among humans.

Phase 3 represents the mutation of the animal influenza virus in humans so that it can be transmitted to other humans under certain circumstances (usually very close contact between individuals). At this point, small clusters of infection have occurred.

Phase 4 is characterized by verified human-to-human transmission of the virus able to cause "community-level outbreaks." The ability to cause sustained disease outbreaks in a community marks a significant upward shift in the risk for a pandemic. Phase 4 involves community-wide outbreaks as the virus continues to mutate and becomes more easily transmitted between people (for example, transmission through the air)

Phase 5 is characterized by verified human-to-human spread of the virus in at least two countries in one WHO region. While most countries will not be affected at this stage, the declaration of Phase 5 is a strong signal that a pandemic is imminent and that the time to finalize the organization, communication, and implementation of the planned mitigation measures is short.

Phase 6, the pandemic phase, is characterized by community-level outbreaks in at least one other country in a different WHO region in addition to the criteria defined in Phase 5. The designation of this phase will indicate that a global pandemic is underway.

4.5.10.7 Vulnerability Assessment

People

Pandemics can affect large segments of the population for long periods. The number of hospitalizations and deaths will depend on the virulence of the virus. Risk groups cannot be predicted with certainty; the elderly, people with underlying medical conditions, and young children are usually at higher risk, but as discussed above, this is not always the case. People without health coverage or access to good medical care are also likely to be more adversely affected. According to the 2021 ACS 5-Year Estimates of the County, 10.3% of the County's population is 65 years of age or older, 7.5% of the population is 5 years of age or younger, and 16.4% experienced poverty in the prior 12 months.

However, impacts, mortality rates, speed and types of spread are disease-specific. As seen with the current COVID-19 pandemic statewide, according to the County Department of Public Health, the most positive cases occurred in the 18-49 age group. This age group makes up more than 50% of the County's total cases. Hospitalizations and deaths, however, happened more within the 50+ age group. (KCDPH, 2023)



Property

Public health hazards would not have direct impacts on infrastructure or the built environment. Should infrastructure require human intervention to fulfill vital functions, these functions could be impaired by absenteeism, sick days and isolation, quarantine, and disease prophylaxis measures. As concerns about contamination increase, property may be quarantined or destroyed as a precaution against spreading illness. Additionally, traditional sheltering facilities, including shelters for persons experiencing homelessness or facilities to support displaced persons during an evacuation, cannot be done in a congregate setting. This requires additional planning considerations or the use of facilities that allow for non-congregate shelter settings which may require approval from FEMA and may have an increased cost.

Critical Facilities and Lifelines

The impacts of a public health hazard on critical infrastructure and lifelines would center on service disruption due to staff missing work and shortages in essential resources and supplies to perform services, as seen with personal protective equipment during the COVID-19 pandemic within the health and medical sector. Schools may also be forced to close due to faculty and staffing shortages.

While automated systems and services that allow for the physical distancing of staff from other persons may fare better through a public health hazard incident, all critical infrastructure sectors and lifelines would likely be affected due to the globalization of supply chains, services, and interdependency of most communities.

Economy

A widespread public health hazard outbreak could have devastating impacts on Kings County's economy. The economic impacts fall under two categories – economic losses as a result of the disease, and economic losses to fight the disease. Economic impacts as a result of diseases include those costs associated with lost work and business interruption. Depending on the disease and the type and rate of spread, businesses could see a loss of consumer base as people self-isolate or avoid travel. This could last for a protracted amount of time, compounding economic loss. Economic costs are also associated with incident response. Two of the biggest areas of cost are public information efforts and mass prophylaxis.

In a normal year, lost productivity due to illness costs US employers an estimated \$530 billion. During a pandemic, that figure would likely be considerably high and could trigger a recession or even a depression. According to an October 2020 report by The Journal of American Medical Association (JAMA) Network, the estimated cumulative financial costs of the COVID-19 pandemic related to the COVID-19 economic recession and compromised health (premature death, mental health, long-term health impairment) in the US population was almost \$16 trillion (Cultler and Summers 2020). Since March 2022, the California Small Business COVID-19 Relief Grant Program has been rolling out and supporting small businesses with grants ranging from \$5,000 to \$25,000. The entire financial support offered through the program exceeds \$2 billion.

Cultural, Historic and Natural Resources

As mentioned previously, public health hazards would not have specific impacts on the built or natural environment, including historic and cultural resources. However, historic and cultural resources are often intertwined with the tourism industry, therefore reduced tourism could lead to impacts such as a loss of revenue needed for resource maintenance.

Impacts on natural resources can vary. Some ecosystems showed signs of improvement during the peak covid-19 lockdown. However, some zoonotic diseases can spread from animals to humans, wreaking havoc on both populations. Examples of zoonotic diseases include avian flu, swine flu, tuberculosis, plague, and rabies.

Development Trends

Population growth and development contribute to pandemic exposure. Development Trends in the County has the potential to change how infectious diseases spread through the community and impact human health in both the short and long term. New development may increase the number of people and facilities exposed to public health hazards and greater population concentrations (often found in special needs facilities and businesses) put more people at risk. During a disease outbreak, those in the immediate isolation area would have little to no warning, whereas the population further away in the dispersion path may have some time to prepare and mitigate against disease depending on the hazard, its transmission, and public notification.



4.5.10.8 Risk Summary

- In summary, the public health hazard is considered to be of overall **Medium** significance for Kings County. Variations in risk by jurisdiction are summarized in the table below, along with key issues from the vulnerability assessment.
- Pandemics affecting the U.S. occur roughly once every 20 years, meaning there is a roughly 5% chance a pandemic will happen each year, but they cannot be reliably predicted.
- Effects on people will vary, while the elderly, people with underlying medical conditions, and young children are usually at higher risk.
- Effects on property are typically minimal, although quarantines could result in short-term closures.
- Effects on economy: lost productivity due to illness and potential business closures could potentially have severe economic impacts. Social distancing requirements and fear of public gatherings could significantly reduce in-person commerce.
- Effects on critical facilities and infrastructure: community lifelines, such as healthcare facilities, like hospitals will be impacted and may be overwhelmed and have difficulty maintaining operations due to bed availability, medical staffing shortages, and lack of PPE and other supplies.
- Ongoing mitigation activities should focus on disease prevention, especially during flu season. This includes, but is not limited to, pre-season community outreach campaigns to educate the public about risks and available support; establishing convenient vaccination centers; reaching out to vulnerable populations and caregivers; and issuing advisories and warnings.
- **Related Hazards** – Human Conflict

JURISDICTION	GEOGRAPHIC AREA	PROBABILITY OF FUTURE OCCURRENCE	MAGNITUDE/ SEVERITY	OVERALL SIGNIFICANCE	PRIORITY HAZARD?
Kings County	Extensive	Highly Likely	Critical	Medium	Yes
City of Avenal	Extensive	Highly Likely	Critical	Medium	Yes
City of Corcoran	Extensive	Highly Likely	Critical	Medium	Yes
City of Hanford	Extensive	Highly Likely	Critical	Medium	Yes
City of Lemoore	Extensive	Highly Likely	Critical	Medium	Yes

4.5.11 SEVERE WEATHER: GENERAL

The climate in the Central Valley is defined generally by hot, dry summers and foggy, rainy winters. Severe weather is generally any destructive weather event but usually occurs in Kings County as localized thunderstorms that bring heavy rain and strong winds that occur most often during the winter and spring months. The agricultural industry is among the most vulnerable asset to severe weather. Agricultural losses resulting from natural hazards can have dramatic impacts on the economic health of Kings County.

For this plan, severe weather is broken down as follows:

- Dense Fog
- Heavy Rain, Thunderstorm, Hail, Lightning
- High Wind/Tornado

NOAA's NCEI has been tracking adverse weather since 1950. Their Storm Events Database contains data on the following: all weather events from 1996 to September 2022, and additional data for tornadoes (1950 – 1995), thunderstorm winds (1955-1995), and hail (1955-1995). This database contains 992 storm events that occurred in the County between January 1, 1950, and September 2022. Table 4-72 summarizes these events.

Table 4-72 NCEI Hazard Event Reports for Kings County, 1950-2022

HAZARD	# OF EVENTS	PROPERTY LOSS (\$)	CROP LOSS (\$)	DEATHS	INJURIES	USDA RMA LOSSES**
Cold/wind Chill*	4	\$0	\$0	0	0	\$0
Dense Fog*	333	\$3,911,000	\$0	0	8	\$0
Dense Smoke	0	\$0	\$0	0	0	\$0
Drought*	64	\$0	\$0	0	0	\$5,185,606
Excessive Heat*	24	\$2,000,000	\$0	0	0	\$0



HAZARD	# OF EVENTS	PROPERTY LOSS (\$)	CROP LOSS (\$)	DEATHS	INJURIES	USDA RMA LOSSES**
Extreme Cold/Wind Chill*	4	\$0	\$0	0	0	\$0
Flash Flood	6	\$0	\$0	0	0	\$0
Flood	19	\$818,190	\$1,000,000	0	0	\$0
Frost/Freeze*	198	\$0	\$216,720,000	0	0	\$10,965,935
Funnel Cloud	15	\$0	\$0	0	0	\$0
Hail	25	\$2,000	\$4,360,000	0	5	\$4,803,398
Heat*	93	\$0	\$106,600,000	0	0	\$37,013,009
Heavy Rain	61	\$131,000	\$10,450,000	0	0	\$17,638,076
High Wind*	41	\$5,553,000	\$300,000	1	6	\$1,220,101
Lightning	10	\$51,000	\$400,000	0	0	\$0
Strong Wind*	49	\$453,400	\$119,500	0	0	\$0
Thunderstorm Wind*	32	\$399,500	\$4,000,000	1	0	\$0
Tornado	8	\$540,250	\$0	0	1	\$0
Wildfire*	3	\$0	\$0	1	0	\$55,611
Winter Storm*	0	\$0	\$0	0	0	\$0
Winter Weather*	0	\$0	\$0	0	0	\$61,977,533
Total	992	\$13,859,340	\$343,949,500	3	20	\$138,859,270

Source: National Center for Environmental Information Storm Events Database, www.ncdc.noaa.gov/stormevents/

* Hazards with wide extents reflect larger zones that extend beyond Kings County.

** USDA RMA data is for the year 2007 - 2020

Hazards recorded in the USDA RMA database may not share the exact names used in the NCEI database: (NCEI

Hazard Name - USDA RMA Name)

Heavy Rain - Excess Moisture/Precipitation/Rain

High Wind - Wind/Excess Wind

Winter Weather - Cold Winter/Cold Wet Weather

The NCEI table above summarizes adverse weather events that occurred in the County from 1950 to 2022. Only a few of the events actually resulted in state and federal disaster declarations. It is interesting to note that different data sources capture different events during the same time period, and often different information specific to the same events. While the HMPC recognizes these inconsistencies, this data provides value in depicting the County's overall hazard environment as it relates to severe weather.

Due to the size of the County and changes in elevation and climate, weather conditions can vary greatly across the County. The profiles that follow provide information from two weather stations in different parts of the County, the Hanford weather station in the northeastern county and the Avenal weather station in the southwestern County. The temperature data from these two weather stations are displayed in Table 4-73.

Table 4-73 Hanford 1S and Avenal 9 Weather Station Summaries

METRIC	HANFORD 1S (043747)	AVENAL 9 SSE (040398)
Period of record	1899-2016	1955-1961
Winter Average Minimum Temperature*	36.2°F	37.0°F
Winter Mean Temperature *	46.7°F	49.5°F
Summer Average Maximum Temperature**	95.1°F	100.4°F
Summer Mean Temperature**	77.7°F	81.2°F
Average Annual Number of Days >90°F	105	124



METRIC	HANFORD 1S (043747)	AVENAL 9 SSE (040398)
Average Annual Number of Days <32°F	0.0	0.0
Mean Total Precipitation (in.)	8.38 in.	6.55 in.
Mean Snow Depth (in.)	0.0	0.3 in.

Source: WRCC

* Winter = Dec., Jan., and Feb.

** Summer = Jun., Jul., and Aug.

4.5.12 SEVERE WEATHER: DENSE FOG

4.5.12.1 Hazard Description

Fog results from air being cooled to the point where it can no longer hold all of the water vapor it contains. For example, rain can cool and moisten the air near the surface until fog forms. A cloud-free, humid air mass at night can lead to fog formation, where land and water surfaces that have warmed up during the summer are still evaporating water into the atmosphere. This is called radiation fog. A warm moist air mass blowing over a cold surface also can cause fog to form, which is called advection fog.

The interior California valleys have a unique fog problem called the tule fog. The tule fog is a radiation fog, which condenses when there is high relative humidity, typically after heavy rain, calm winds, and rapid cooling during the night. The longer nights during the winter months create this rapid ground cooling, which results in a pronounced temperature inversion at a low altitude, creating a thick ground fog. Above the cold, foggy layer, the air is typically warm and dry. Once the fog has formed, turbulent air is necessary to break through the inversion. Daytime heating can also work to evaporate the fog in some areas. The tule fogs get their name from the tule reeds, which grew around the swamps and deltas of the great Tulare Lake that once covered the southern end of the San Joaquin Valley.

As noted in the County's 2012 MJHMP, the tule fog season in the County is typically December through February. Fog typically forms rapidly in the early morning hours. Tule fogs can last for days, sometimes weeks. Fog can have devastating effects on transportation corridors in the County. Nighttime driving in the fog is dangerous and multi-car pileups have resulted from drivers using excessive speed for the conditions and visibility. Tule fog has also been found to be connected to air pollution and exacerbates the naturally occurring fog. A study published in the Journal of Geophysical Research in 2019 found that air pollution is a key contributor to this seasonal fog, and due to the passage of the Clean Air Act in 1970, it has declined about 75 percent since 1980 (Gray et al., 2019). Figure 4-39 illustrates the extent of tule fog over the Central Valley.

Figure 4-39 Tule Fog over Central Valley



Source: NASA, Jeff Schmaltz, January 5, 2005

4.5.12.2 Geographic Area

Extensive – The San Joaquin Valley is hemmed in on three sides by mountain ranges, with resulting inversion layers trapping cooler air on the valley floor. This predisposes the County's planning area to severe episodes of fog in winter months, when barometric pressures are high, humidity is increased, and ambient temperatures are low. All areas of the County are vulnerable to dense fog events.

4.5.12.3 Past Occurrences

As shown in Table 4-72 above, the NCEI records 333 dense fog events that occurred in various zones that encompass Kings County, such as Southwestern San Joaquin Valley and Western San Joaquin Valley zones. Since dense fog events are recorded on a zonal basis, not all 333 dense fog events happened within Kings County. The followings are the descriptions of a few dense fog events that impacted Kings County, based on the NCEI database.

- **November 14 – 22, 2002:** Following the very substantial rain for the 3 days from the 7th through the 9th of the month, high pressure aloft built and resided over Interior Central California. Numerous vehicle accidents occurred due to the extremely poor visibilities on Central and Southern San Joaquin Valley roadways. There were 4 indirect traffic fatalities due to the dense fog with at least 32 injuries. On the morning of the 22nd, there were several separate accidents due to locally dense fog in North Kings and West Tulare Counties that resulted in indirect injuries. According to NCEI database, this dense fog event resulted in a total of \$150,000 property losses.
- **January 11 – 17, 2003:** Widespread and dense morning fog continued throughout the Central and Southern San Joaquin Valley from the morning of the 11th through the morning of the 17th of January. Accidents were reported on the 7th, and 14th in Kings County due to very poor visibilities in dense fog. According to NCEI database, this dense fog event resulted in a total of \$150,000 property losses.
- **January 31, 2018:** Areas of dense fog formed once again overnight in the San Joaquin Valley. The fog became dense in several locations during the early morning hours and resulted in several auto accidents along State Route 198 near Hanford. Visibility of less than a quarter mile was reported in Hanford. California Highway Patrol was pacing traffic along State Highway 198 between the



Kings/Tulare County line and Armona as several fog-related minor auto accidents were reported. Several school districts had delayed openings due to dense fog. According to NCEI database, this dense fog event resulted in a total of \$100,000 property losses.

- **January 6, 2021:** High pressure built over central California on January 5. With mainly clear skies and light winds, areas of dense fog formed in the San Joaquin Valley during the early morning hours of January 6. Hanford reported visibility of below a quarter mile. A four-vehicle accident took place on State Route 198 at 08:09 am PST involving a big rig, a pickup truck and two cars. There was a minor injury from the collision. Visibility at both Hanford and Visalia (Tulare County) was at an eighth of a mile at the time of the accident. According to NCEI database, this dense fog event resulted in a total of \$150,000 property losses.

4.5.12.4 Likelihood of Future Occurrence

Highly Likely – According to Table 4-72, 333 dense fogs impacted Kings County during a 27-year period, which equates to 12.3 events per year. Therefore, based on NCEI data and the fact that the tule fog prevails in the San Joaquin Valley, it is highly likely that fog events will continue to occur regularly in Kings County.

On the other hand, California's winter tule fog has declined due to climate change and the reduction in air pollution. Refer to the Climate Change Considerations subsection below for more details on climate change's impact on the Likelihood of Future Occurrence of fog events.

4.5.12.5 Climate Change Considerations

As mentioned in the previous section, California's winter tule fog has declined dramatically over the past three decades, which raised a red flag for the state's multibillion-dollar agricultural industry, according to researchers at UC Berkeley. Crops such as almonds, pistachios, cherries, apricots, and peaches go through a necessary winter dormant period brought on and maintained by colder temperatures. Tule fog that descends upon the State's Central Valley between late fall and early spring, helps contribute to this winter chill.

When there is an insufficient rest period (or lack of dormant time for crops) it impairs the ability of farmers to achieve high-quality fruit yields. The UC Berkeley findings have implications for the entire country since many of these California crops account for 95 percent of U.S. production. The researchers also paired NASA and NOAA satellite records with data from a network of University of California weather stations, covering 32 consecutive winters. Based on the data, there was a great deal of variability from year to year, but on average, the researchers found a 46 percent drop in the number of fog days between the first of November and the end of February. Climate forecasts suggest that the accumulation of winter chill will continue to decrease in the Central Valley. Tule fog was also less prevalent in recent years in part due to the multi-year drought (Yang, 2015).

While the short-term fog variability is dominantly driven by climate fluctuations, the longer-term temporal and spatial changes in fog have been driven by changes in air pollution. In addition to the decrease in the accumulation of winter chill, the Clean Air Act has also greatly reduced the air pollution that would form fogs (Gray et al., 2019).

4.5.12.6 Magnitude and Severity

Critical – Tule fog forms on clear nights when the ground is moist, and the wind is near calm and can be widespread throughout the San Joaquin Valley. On nights like this, the ground cools rapidly. In turn, the moist air above it cools and causes water vapor to condense. Once it has formed, the air must be heated enough to either evaporate the fog or lift it above the surface so that visibilities improve. Common areas for tule fog to form include foothills and valleys. Visibility in tule fog is usually less than an eighth of a mile (about 600 ft or 200 m) but can be much lower. Visibility can vary rapidly; in only a few feet, visibility can go from 10 feet (3.0 m) to near zero.

Fog contributes to transportation accidents and is a significant life safety hazard. These accidents can cause multiple injuries and deaths and could have serious implications for human health and the environment if a hazardous or nuclear waste shipment were involved. Other disruptions from fog include delayed emergency response vehicles and school closures.

In 2018, the NWS in Hanford, California developed the Experimental Fog Severity Index in conjunction with the NWS issues fog advisories to help give motorists warning of fog events. A dense fog advisory is issued when widespread dense fog develops, and visibilities drop to one-quarter of a mile or less. The Experimental Fog Severity Index has five levels with level 5 being the most severe. Figure 4-40 describes each level of the Index.



Figure 4-40 National Weather Service Experimental Fog Severity Index

Level 5	Very High Risk For Transportation Visibilities 200 Feet To Zero Stopped Traffic Ahead Highest Risk For Chain Reaction Accidents
Level 4	High Risk For Transportation Visibility 800 Feet Or Less Very Slow Or Stopped Traffic Ahead Higher Risk For Chain Reaction Accidents
Level 3	Moderate Risk For Transportation Visibility Half Mile Or Less Slow Traffic Ahead Moderate Risk For Fog Related Accidents
Level 2	Low Risk For Transportation Visibility One Mile Or Less Traffic May Slow Below Speed Limit Low Risk For Fog Related Accidents
Level 1	No Transportation Risks

Source: NWS

4.5.12.7 Vulnerability Assessment

Property

Based on historic information, the primary effect of fog has not resulted in significant damages to property, and the losses are typically covered by insurance. Dense fog does result in substantial vehicle damage during transportation-related accidents.

People

Reduced visibility is the greatest risk to people when heavy fog is prevalent. Particularly when fog is dense, it can be hazardous to drivers, mariners and aviators and contributes to numerous accidents each year. To reduce injury and harm, people should avoid driving when dense fog is prevalent, if possible. If driving is pertinent, emergency services advise driving with lights on low beam, watching for California Highway Patrol (CHP) pace vehicles to guide through the fog, avoiding stopping on highways, and avoiding crossing traffic lanes. Feedback from the public as part of the public survey also emphasized the impacts of dense fog on the population related to travel on County roads that lack appropriate signage on fog hazards (see Appendix G).

Critical Facilities and Lifelines

Fog can have devastating effects on transportation corridors in the County. Multi-car pileups have resulted from drivers using excessive speed for the conditions and visibility. These accidents can cause multiple injuries and deaths and could have serious implications for human health and the environment if a hazardous or nuclear waste shipment were involved. Other disruptions from tule or dense fog include delayed emergency response vehicles and school closures.



Economy

Economic impacts due to dense fog are generally related to road closures leading to a decrease in travel to businesses. Other economic impacts related to property damages are vehicles from accidents. As shown in Table 4-72 above there is a recorded \$3,911,000 of property damages as a result of dense fog all of which are from traffic accidents in the Central Valley and San Joaquin Valley. Based on that amount, this region including Kings County has an estimated average annual loss expectancy of \$144,852 due to dense fog events.

Cultural, Historic and Natural Resources

As referred to in the Climate Change Considerations section, California's winter tule fog has declined dramatically over the past three decades, raising a red flag for the State's multibillion-dollar agricultural industry. Crops such as almonds, pistachios, cherries, apricots, and peaches go through a necessary winter dormant period brought on and maintained by colder temperatures and tule fog that descends upon the State's Central Valley between late fall and early spring.

Development Trends

Population and commercial growth both within and outside the County will increase the potential for complications with traffic accidents and commerce interruptions associated with dense fog.

4.5.12.8 Risk Summary

- Tule fog season begins in late fall and lasts from winter (November – March).
- Between 1950 and 2022, 333 dense fog events impacted areas including Kings County during a 27-year period, which equates to 12.3 events per year.
- Dense fog events in the Central Valley and San Joaquin Valley have resulted in \$3,911,000 in property damages, largely due to traffic accidents.
- California's winter tule fog has declined dramatically and is predicted to be less prevalent due to prolonged drought events and the reduction in air pollution.
- Reduced visibility is the greatest risk to people when heavy fog is prevalent, it can be hazardous to drivers, mariners and aviators and contributes to numerous accidents each year. It does not typically have a disproportionate impact on socially vulnerable populations.
- Fog can have devastating effects on transportation corridors and result in casualties; fog can prevent responders to arrive on the scene timely.
- **Related Hazards** – Hazardous Materials Incidents, Transportation Accidents

JURISDICTION	GEOGRAPHIC AREA	PROBABILITY OF FUTURE OCCURRENCE	MAGNITUDE/ SEVERITY	OVERALL SIGNIFICANCE	PRIORITY HAZARD?
Kings County	Extensive	Highly Likely	Critical	Medium	Yes
City of Avenal	Extensive	Highly Likely	Moderate	Low	No
City of Corcoran	Extensive	Highly Likely	Moderate	Low	No
City of Hanford	Extensive	Highly Likely	Critical	Medium	Yes
City of Lemoore	Extensive	Highly Likely	Moderate	Low	No

4.5.13 SEVERE WEATHER: HEAVY RAIN, THUNDERSTORMS, HAIL, AND LIGHTNING

4.5.13.1 Hazard Description

Heavy Rain

A majority of adverse weather experienced in the County takes place in the winter months as heavy rain and thunderstorm events that are sometimes accompanied by high winds or dense fog. The County's weather is influenced by the Pacific Ocean and routine climate patterns such as El Niño, the warm phase of the El Niño-Southern Oscillation, a pattern found in the tropical Pacific when there are fluctuations in temperatures between the ocean and atmosphere. During El Niño, the surface winds across the entire tropical Pacific are weaker than normal and the ocean surface is at above-average temperatures in the central and eastern tropical Pacific Ocean (NOAA 2016). El Niño typically develops over North America during the winter season, causing the severe winter storms the County often experiences. This climate pattern occurs every few years and brings with it above-average rain and snow across the southern region of the United States, especially in California.



Atmospheric rivers (ARs), another climate pattern that leads to adverse weather in the County, are responsible for up to 50 percent of California's precipitation annually and 65 percent seasonally (Arcuni 2019). An AR is a long, narrow region of the atmosphere, like a river in the sky, that transports most of the water vapor outside of the tropics. ARs can be 300 miles wide, a mile deep and more than 1,000 miles long, and carry an amount of water vapor roughly the same as the average flow of water at the mouth of the Mississippi River (NOAA 2015). Warm water storms over the Pacific Ocean lead to evaporation and create a high concentration of moisture in the air while prevailing winds create the distinctive river shape, which is often compared "to a fire hose pointed at California" (Arcuni 2019). When an AR reaches land, it releases water vapor in the form of rain or snow. ARs play an important role in the global water cycle and are closely tied to both water supply and flooding risk.

Research suggests that ARs contributed to the collapse of both Oroville Dam spillways in February 2017 (NASA Global Hydrology Resource Center), as well as the winter flooding in 1861-1862, which completely inundated Sacramento and is considered the worst flood event in California's history (Ingram 2013). When an AR forms in the tropical regions of the Pacific near Hawaii it is known as a Pineapple Express. This type of AR can produce as much as five inches in one day (NOAA 2018). In 2018 two Pineapple Express ARs hit California, causing significant heavy precipitation events throughout the State.

California was facing a severe drought when it was hit by 31 AR storms between October 2022 and March 2023. Although the number of storms was not unprecedented, their location, intensity, and duration had a significant impact on California's climate. As a result of these AR storms, the state experienced record-breaking snowfall and deadly flooding. (Toohey, 2023).

Thunderstorms

Thunderstorms are formed from a combination of moisture, rapidly rising warm air, and a force capable of lifting air, such as warm and cold fronts or a mountain. Thunderstorms may occur alone, in clusters, or in lines. As a result, several thunderstorms can affect one location in the course of a few hours. A thunderstorm can produce lightning, thunder, and rainfall and may also lead to the formation of tornadoes, hail, downbursts, and microbursts of wind. Electricity can be interrupted by lightning strikes. During the summer, climatic factors combine to promote the development of thunderstorms.

Hail

Hail forms on condensation nuclei such as dust or ice crystals, when supercooled water freezes on contact. In clouds containing large numbers of supercooled water droplets, these ice nuclei grow quickly at the expense of the liquid droplets. The hail grows increasingly larger. Once a hailstone becomes too heavy to be supported by the storm's updraft it falls out of the cloud. Hailstones are usually from the size of a pea to the size of a golf ball, and larger hailstones can cause property damage.

Lightning

Lightning is an electrical discharge between positive and negative regions of a thunderstorm. A lightning flash is composed of a series of strokes with an average of about four strokes per flash. The length and duration of each lightning stroke vary but typically average about 30 microseconds.

4.5.13.2 Geographic Area

Extensive – Heavy rain is generally expansive in size. The entire County is susceptible to any of the effects of heavy rain and thunderstorms. Hail and lightning events are also common in the County, which can impact any area of the County during any month of the year.

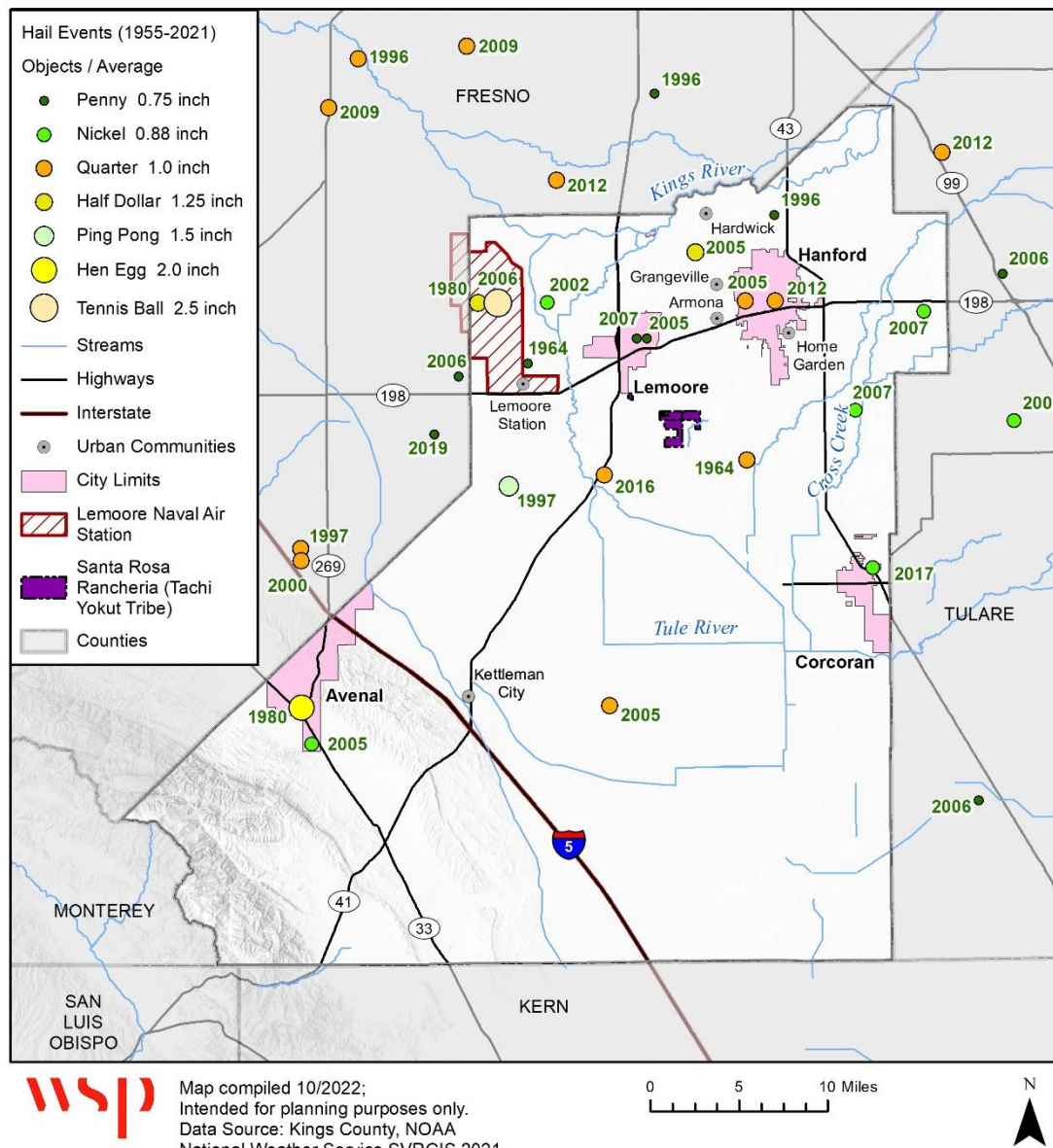
4.5.13.3 Past Occurrences

Hail

Hail events are common in the County. Figure 4-41 shows that different areas within the planning area, SOI, and other areas in the vicinity have historically experienced hail events. Several hail events during which quarter and even golf ball-sized hailstones fell happened in recent years. Database for hail. Additionally, there have been three USDA disaster declarations that included hail since 2012 (S4657, S4170, and S3320).



Figure 4-41 Hail Events in Kings County, 1950 - 2021



As shown in Table 4-74, since 1950, there have been 25 reports of hail events that caused around \$2,000 property loss and \$4,060,000 crop loss. Table 4-74 shows the records collected from the NCEI Storm Events

Table 4-74 Hail Events in Kings County, 1950 - 2021

LOCATION	DATE	PROPERTY DAMAGE	CROP DAMAGE
KINGS CO.	1/22/1964	-	-
KINGS CO.	3/23/1964	-	-
KINGS CO.	3/6/1980	-	-
KINGS CO.	4/28/1980	-	-
KINGS CO.	3/12/1996	-	-
HANFORD	11/22/1996	\$2,000	-
LEMOORE NAS	3/22/1997	-	\$20,000
STRATFORD	4/8/1999	-	\$3,390,000



LOCATION	DATE	PROPERTY DAMAGE	CROP DAMAGE
HANFORD	10/10/2000	-	\$500,000
AVENAL	5/31/2002	-	-
(NLC)NAS LEMOORE	2/22/2005	-	-
KETTLEMAN CITY	4/28/2005	-	-
HANFORD	4/28/2005	-	-
LEMOORE	4/28/2005	-	-
HANFORD	4/28/2005	-	-
HANFORD	9/20/2005	-	-
AVENAL	3/10/2006	-	-
(NLC)NAS LEMOORE	2/22/2007	-	-
CORCORAN	9/22/2007	-	-
HANFORD MUNI ARPT	10/29/2007	-	-
CIMARRON	10/29/2007	-	-
CIMARRON	4/11/2012	-	\$150,000
HANFORD	4/24/2016	-	-
STRATFORD	9/11/2017	-	-

Source: NCEI

Heavy Rain

Heavy rains and adverse storms occur in the County primarily during the late fall and winter but have a chance of occurring in every month of the year. According to information obtained from the WRCC, the majority of precipitation is produced by storms during January and other winter months. Precipitation during the summer months is in the form of rain showers and is rare.

The NCEI records show heavy rainstorms can cause widespread flooding, which can lead to extensive localized drainage issues. In addition to the flooding that often occurs during these storms, strong winds, when combined with saturated ground conditions, can knock down very mature trees. Refer to the Flood section for more information related to flooding events in the County. There have been eight federal and state disaster declarations (1983, 1995 [two], 1997, 2005, 2017 [two], and 2023) for heavy rain, severe storm, and flooding in Kings County. In addition, there have been three USDA disaster designations (2012 [two], and 2016) for excessive rainfall.

The NCEI Storm Events Database records 56 rain events in Kings County between 1950 and 2021, as shown in Table 4-75. No casualties are recorded for any of the events. As noted above there is a connection between heavy rain events and flooding and it is assumed that the property damages listed in the NCEI database are the results of flooding caused by heavy rain events. The heavy atmospheric rain conditions which hit California in late 2022 to early 2023 are not reflected in this dataset.

Table 4-75 Heavy Rain Events in Kings County, 1950 – 2021

EVENT TYPE	LOCATION	DATE	PROPERTY DAMAGE	CROP DAMAGE
Flash Flood	AVENAL	3/5/2001	-	-
	KETTLEMAN CITY	2/21/2005	-	-
	HANFORD MUNI ARPT	9/22/2007	-	-
	AVENAL	6/5/2015	-	-
	AVENAL	10/3/2018	-	-
	KETTLEMAN CITY	6/1/2019	-	-
Flood	HANFORD	3/12/1996	-	-
	LEMOORE	3/24/1998	-	-
	LEMOORE	3/28/1998	-	-
	LEMOORE	5/5/1998	-	-



EVENT TYPE	LOCATION	DATE	PROPERTY DAMAGE	CROP DAMAGE
	HANFORD	11/12/2001	-	-
	COUNTYWIDE	1/2/2006	\$71,000	\$1,000,000
	HANFORD MUNI ARPT	1/23/2008	\$5,000	-
	HANFORD	10/13/2009	\$2,000	-
	(NLC)NAS LEMOORE	1/19/2010	\$25,000	-
	LEMOORE	12/29/2010	\$75,000	-
	KETTLEMAN CITY	4/7/2011	\$2,000	-
	HANFORD	6/5/2011	\$1,000	-
	HANFORD MUNI ARPT	3/8/2013	-	-
	ROSSI	1/8/2017	\$637,190	-
	AVENAL	1/18/2017	-	-
	HARDWICK	6/22/2017	-	-
	HANFORD	5/26/2019	-	-
	ARMONA	5/26/2019	-	-
	AVENAL	1/27/2021	-	-
Heavy Rain	HANFORD	2/1/1998	\$20,000	\$1,000,000
	HANFORD	5/1/1998	-	\$73,600,000
	HANFORD	6/8/2000	-	\$100,000
	HANFORD MUNI ARPT	5/31/2002	-	\$ -
	AVENAL	3/15/2003	-	\$ -
	HANFORD	4/1/2003	-	\$8,900,000
	HANFORD	4/21/2003	\$1,000	-
	COUNTYWIDE	5/1/2003	-	\$5,500,000
	LEMOORE	12/14/2003	-	-
	COUNTYWIDE	12/28/2004	-	-
	COUNTYWIDE	1/1/2005	-	-
	COUNTYWIDE	1/7/2005	-	-
	COUNTYWIDE	1/24/2005	-	-
	AVENAL	2/18/2005	-	-
	LEMOORE	4/28/2005	-	-
	COUNTYWIDE	5/5/2005	-	-
	COUNTYWIDE	5/8/2005	-	\$671,000
	KETTLEMAN CITY	9/20/2005	\$10,000	-
	HANFORD MUNI ARPT	1/1/2006	-	-
	COUNTYWIDE	3/2/2006	-	-
	LEMOORE	3/28/2006	-	-
	COUNTYWIDE	4/2/2006	-	\$2,200,000
	AVENAL	5/21/2006	-	-
	HANFORD	10/5/2011	\$100,000	-
	CIMARRON	1/30/2014	-	-
	SHIRLEY	3/26/2014	-	-
	LEMOORE	11/1/2014	-	-
	HANFORD	12/11/2014	-	-
	CIMARRON	5/5/2016	-	-



EVENT TYPE	LOCATION	DATE	PROPERTY DAMAGE	CROP DAMAGE
	CIMARRON	5/5/2016	-	-
	CIMARRON	1/21/2017	-	-

Source: NCEI

Thunderstorms

County-level thunderstorm data is not available, however, as noted above, thunderstorm events are not uncommon in the County, especially during summer months.

Lightning

As noted above, lightning events are not uncommon in the County. As shown in Table 4-76, there have been 10 NCEI recorded lightning events in Kings County since 1950, which caused \$451,000 in damage.

Table 4-76 Lightning Events in Kings County, 1950 – 2021

LOCATION	DATE	CROP DAMAGE	PROPERTY DAMAGE
AVENAL	5/31/2002	\$5,000	-
HANFORD MUNI ARPT	5/31/2002	\$5,000	-
HANFORD	5/31/2002	-	-
HANFORD	5/31/2002	\$5,000	-
CORCORAN	7/30/2003	-	-
LEMOORE	4/28/2005	-	-
HANFORD MUNICIPAL AIRPORT	4/28/2005	\$25,000	\$400,000
COUNTYWIDE	10/24/2005	-	-
AVENAL	8/31/2007	\$1,000	-
SHORT ACRES SUBDIVISION	9/11/2017	\$10,000	-

Source: NCEI

4.5.13.4 Likelihood of Future Occurrence

Highly Likely – Based on the NCEI data, there have been a combined 90 heavy rain, thunderstorms, hail, and lightning events in Kings County since 1950. Statistically, there is a 100% percent chance that a major hail, heavy rain, or lightning event will happen in any given year. The actual risk to the County is dependent on the nature and location of any given hazard event.

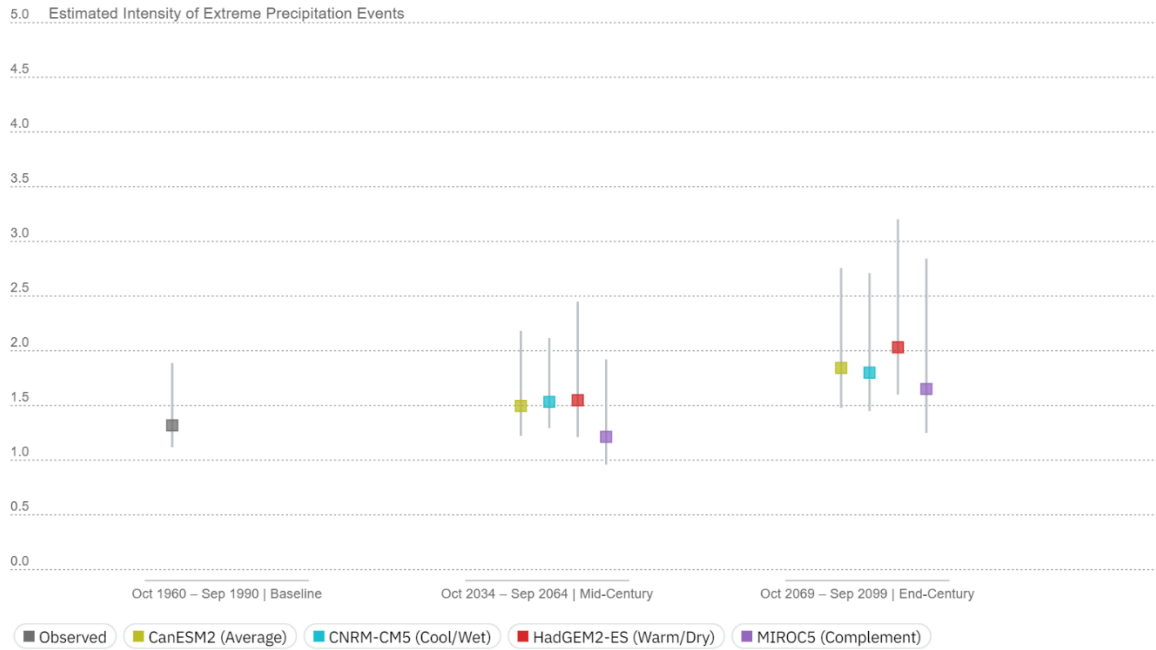
4.5.13.5 Climate Change Considerations

As average temperatures increase over time, warming in the atmosphere can trigger more frequent extreme weather events. Pacific Northwest National Laboratory researchers have found that ARs will reach the West Coast more frequently (Hagos et al., 2016). Currently, the West receives rain or snow from these ARs between 25 and 40 days each year. By the end of this century, days on which the ARs reach the coast could increase by a third, or between 35 and 55 days a year (Hagos et al., 2016).

Figure 4-42 shows the estimated intensity (return level) of extreme precipitation events which are exceeded on average once every 20 years and how it changes in a warming climate over historical, mid-century, and late-century time periods, based on the Cal-Adapt tool. Under both the RCP 4.5 and RCP 8.5 scenarios, precipitation levels will increase throughout the century. Using the RCP 8.5 scenario and the CanESM2 model, referred to by Cal-Adapt as an “average” simulation, precipitation will increase from 1.32 inches to 1.85 inches by 2099 (as shown by the green squares in Figure 4-42). Using the same scenario and the CNRM-CM5 “cooler/wetter” model, precipitation will increase to 2.3 inches by 2099 (as shown by the blue squares in Figure 4-42).



Figure 4-42 Predicted Future Changes in Intensity of Extreme Precipitation Events Under Low-emissions and High-emissions Scenarios for Kings County



Source: Cal-Adapt. Data: LOCA Downscaled CMIP5 Climate Projections (Scripps Institution of Oceanography), Gridded Observed Meteorological Data (University of Colorado Boulder), LOCA Derived Products (Geospatial Innovation Facility).

For this graph from Cal-Adapt, an extreme precipitation event is defined as a day during a water year (Oct-Sep) with 1-day rainfall totals above the locally-defined extreme threshold of 0.33 inches.

Figure 4-43 shows the historic (1961-1991) annual 30-year average maximum precipitation for the County. Figure 4-44 shows the projected mid-century (2035-2064) annual 20-year average maximum precipitation for the County under the RCP 8.5 scenario.



Figure 4-43 Kings County 30-Year Historical Maximum Annual Average Precipitation

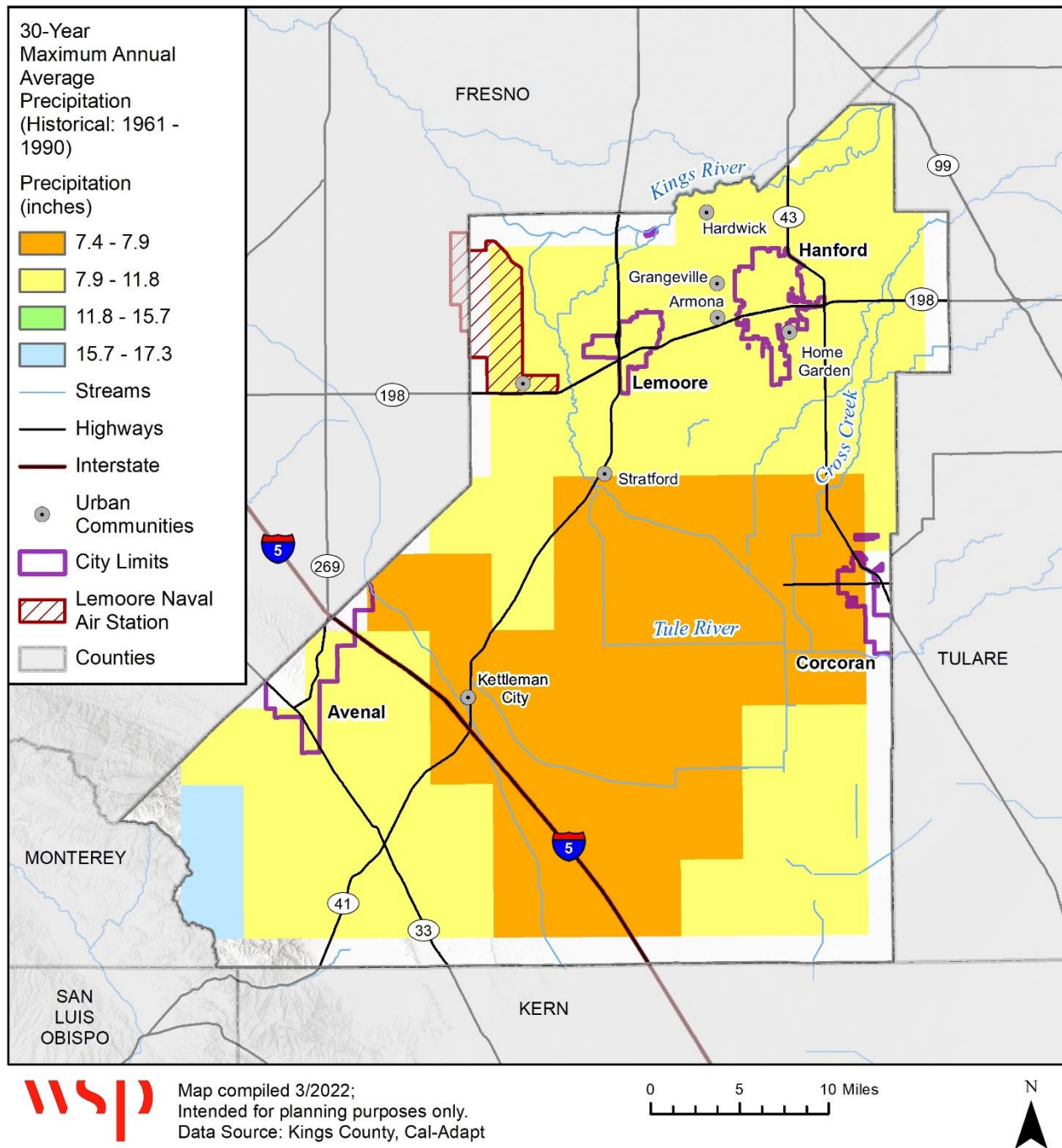
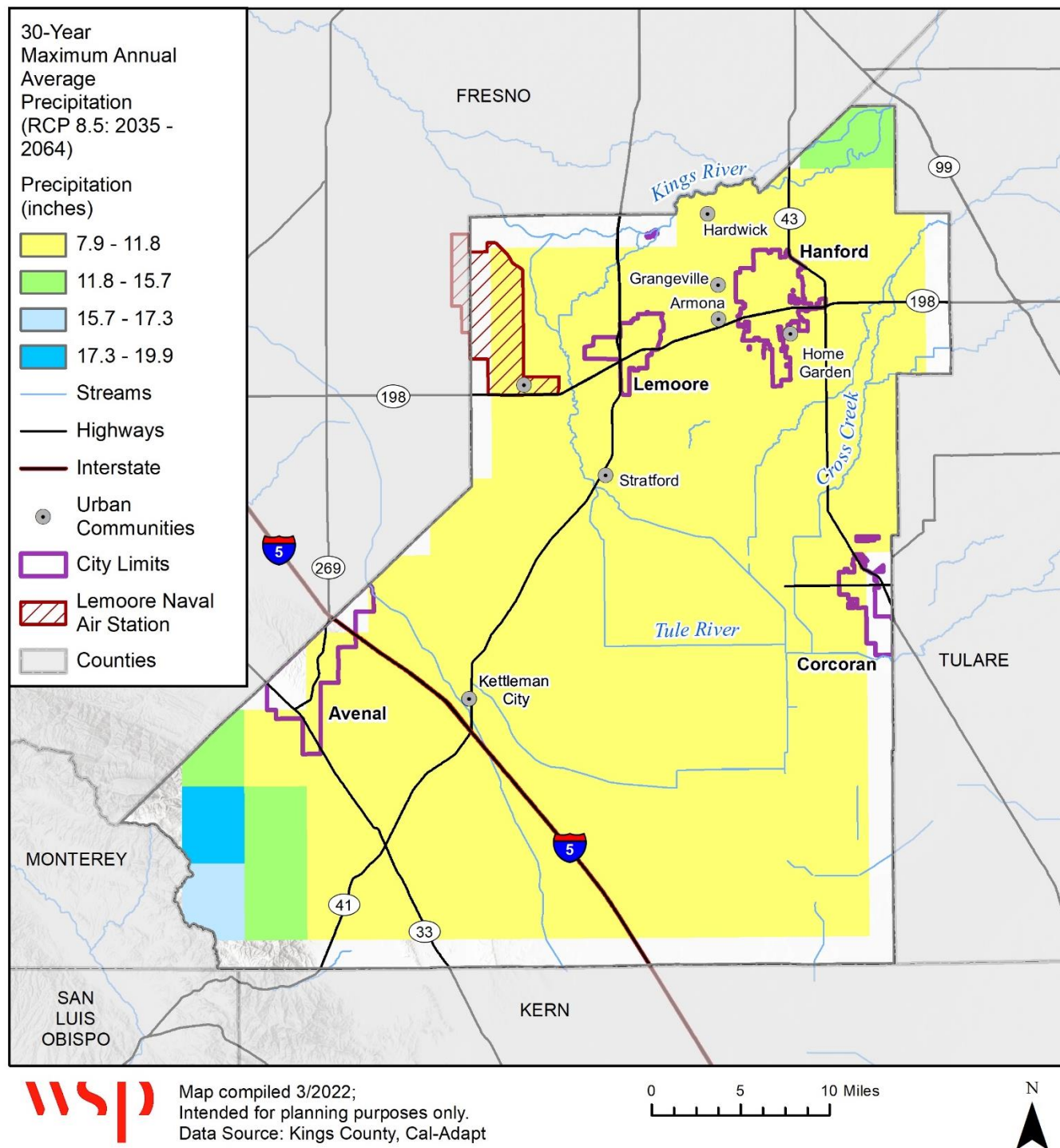


Figure 4-44 Kings County 30-Year Maximum Annual Average Precipitation



4.5.13.6 Magnitude and Severity

Critical - The extent of heavy rain, thunderstorms, hail, and lightning weather events can affect up to 50 percent of property in the County. These weather events can also shutdown of facilities and result in severe injuries.

Hail

The NWS classifies hail by diameter size, and corresponding everyday objects to help relay scope and severity to the population. Table 4-77 indicates the hailstone measurements utilized by the NWS.



Table 4-77 Hail Measurements

AVERAGE DIAMETER	CORRESPONDING HOUSEHOLD OBJECT
.25 inch	Pea
.5 inch	Marble/Mothball
.75 inch	Dime/Penny
.875 inch	Nickel
1.0 inch	Quarter
1.5 inch	Ping-pong ball
1.75 inch	Golf Ball
2.0 inch	Hen Egg
2.5 inch	Tennis Ball
2.75 inch	Baseball
3.00 inch	Teacup
4.00 inch	Grapefruit
4.5 inch	Softball

Source: NWS

There is no clear distinction between storms that do and do not produce hailstones. According to NOAA's National Severe Storms Laboratory, nearly all severe thunderstorms probably produce hail, though it may melt before reaching the ground. Multi-cell thunderstorms produce many hailstones, but not usually the largest hailstones. In the life cycle of the multicell thunderstorm, the mature stage is relatively short so there is not much time for the growth of the hailstone. Supercell thunderstorms have sustained updrafts that support large hail formation by repeatedly lifting the hailstones into the very cold air at the top of the thunderstorm cloud. In general, hailstones two inches (5 cm) or larger in diameter are associated with supercells (a little larger than golf ball size which the NWS considers to be 1.75 inches.). Non-supercell storms are capable of producing golf ball-size hail.

In all cases, the hail falls when the thunderstorm's updraft can no longer support the weight of the ice. The stronger the updraft the larger the hailstone can grow. When viewed from the air, it is evident that hail falls in paths known as hail swaths. Hail swaths can range in size from a few acres to areas 10 miles wide and 100 miles long. In some instances, piles of hail have been so deep that snowplows were required to remove them, and occasional hail drifts (several feet of dime to nickel-sized hail) have been reported. Severe hailstorms can be destructive to property. Vehicles, roofs of buildings, and landscaping are the most commonly damaged by hail. Hail has also been known to cause injury to humans and occasionally has been fatal.

Heavy Rain

The heavy precipitation events that County and all of California experience are often the results of an AR. ARs are categorized by a unit of measurement known as the Integrated Water Vapor Transport (IVT), which takes into account the amount of water vapor in the system and the wind that moves it around. For a storm to be classified as an AR it has to reach an IVT threshold of 250 units; 1,000 IVT or more is considered to be "extreme" (Arcuni 2019). In 2019 a system for categorizing the strength and impacts of ARs was developed by the Center for Western Weather and Water Extremes (CW3E), out of the Scripps Institution of Oceanography at UC San Diego.

The newly developed scale ranks ARs into five categories from weak to exceptional and characterizes the extent of heavy rain events related to AR. Unlike the Fujita Scale for tornadoes which focuses on potential damages, the AR scale accounts for both storms that may be hazardous and storms that can provide benefits to the local water supply. A category one AR is primarily beneficial, generally lasting only 24 hours and producing modest rainfall, while a category five AR is considered "exceptional" and primarily hazardous, lasting for several days, and associated with heavy rainfall and runoff that may cause significant damages. Table 4-78 below describes the scale. The CW3E developed the scale as a tool for officials with an operational need to assess flooding potential in their jurisdictions before the storms make landfall. The scale is also a useful tool to outline the extent of heavy rain events.



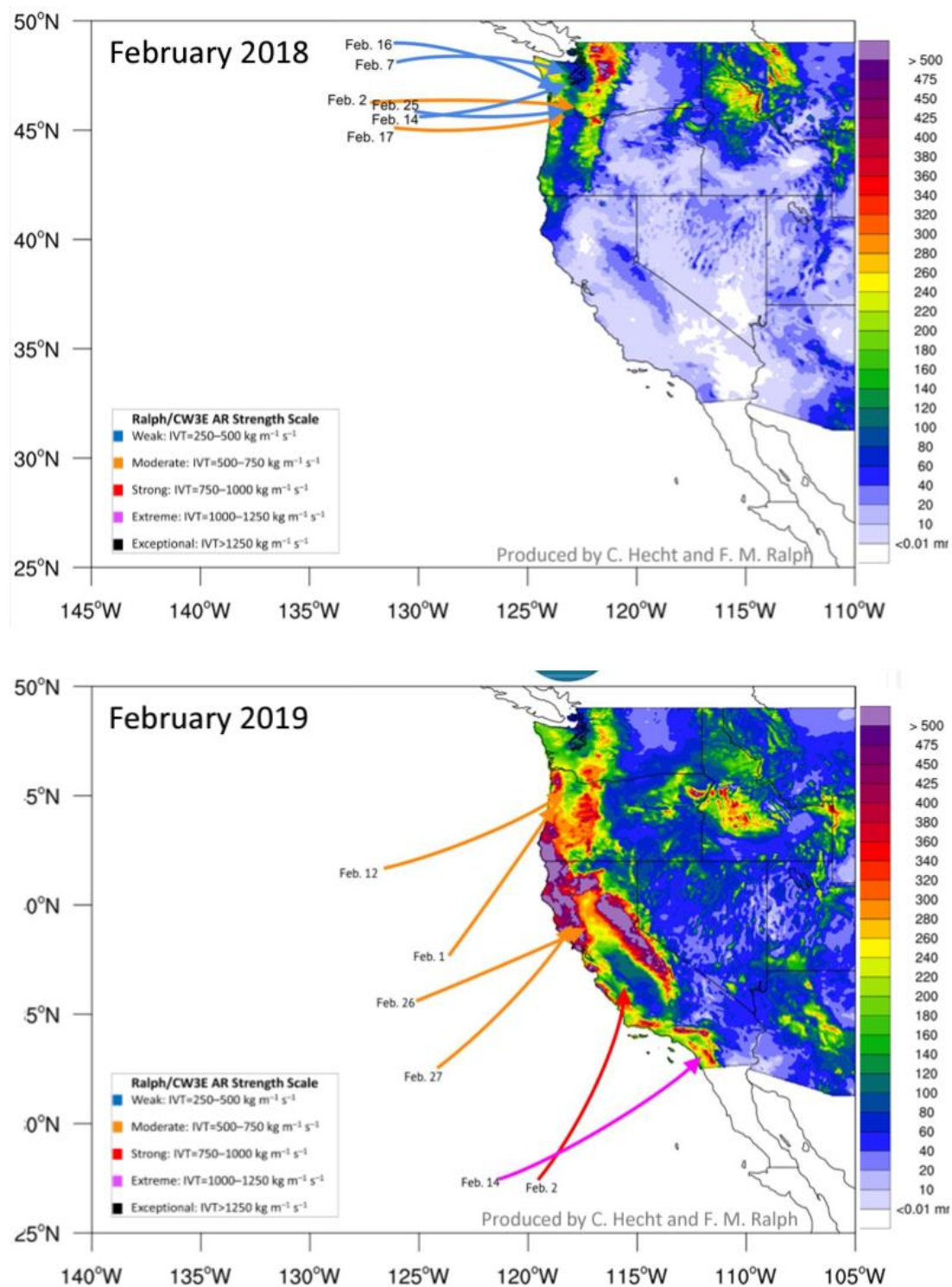
Table 4-78 Atmospheric River Categories

CATEGORY	DESCRIPTION	EXAMPLE
AR Cat. 1	Weak – Primarily beneficial	Feb. 2, 2017, AR hit California, lasted 24 hours at the coast, and produced modest rainfall.
AR Cat. 2	Moderate – Mostly beneficial, but also somewhat hazardous	Nov. 19-20, 2016, AR hit Northern California, lasted 42 hours at the coast, and produced several inches of rain that helped replenish low reservoirs after a drought.
AR Cat. 3	Strong balance of beneficial and hazardous	Oct. 14-15, 2016, AR lasted 36 hours at the coast, produced 5-10 inches of rain that helped refill reservoirs after a drought, but also caused some rivers to rise to just below flood stage.
AR Cat. 4	Extreme – Mostly hazardous, but also beneficial	Jan. 8-9, 2017, AR that persisted for 36 hours produced up to 14 inches of rain in the Sierra Nevada and caused at least a dozen rivers to reach flood stage.
AR Cat. 5	Exceptional – Primarily hazardous	Dec. 29, 1996, to Jan 2, 1997, AR lasted over 100 hours at the Central California coast. The associated heavy precipitation and runoff caused more than \$1 billion in damages.

Source: Center for Western Weather and Water Extremes, Scripps Institution of Oceanography at UC San Diego. Scale was developed by F. Martin Ralph Director of CW3E in collaboration with Jonathan Rutz of NWS.

In both February 2018 and 2019, the West Coast experienced six ARs. However, as shown in Figure 4-45, California experienced vastly different precipitation totals due to the location of the AR's landfall, as well as each AR's IVT. The ARs in February 2019 were all considered to be moderate to extreme, concentrated in California, and resulted in heavy precipitation; whereas the ARs in February 2018 had a negligible effect on California. Between October 2022 and March 2023, California was faced with an onslaught of additional ARs. Of the 31 ARs, one was categorized as extreme and six were strong. Almost half were moderate; 11 were weak (Toohey 2023). The strength of these ARs, as well as their locations, are shown in Figure 4-45.

Figure 4-45 Atmospheric River Strength and Land Distribution, February 2018 vs. February 2019



Source: Center for Western Weather and Water Extremes, Scripps Institution of Oceanography at UC San Diego

Figure 4-46 Atmospheric Rivers Strength, October 2022 through March 2023



Source: Center for Western Weather and Water Extremes, Scripps Institution of Oceanography, via the LA Times

Thunderstorms

Although thunderstorm events by themselves may not create significant damage or danger to the County, hail, lightning, and high winds events that happen together with thunderstorm events can all have damaging effects.

Lightning

Lightning is measured by the Lightning Activity Level (LAL) scale, created by the NWS to define lightning activity into a specific categorical scale. The LAL is a common parameter that is part of fire weather forecasts nationwide. The County is at risk to experience lightning in any of these categories. The LAL is reproduced in Table 4-79.

Table 4-79 Lightning Activity Level Scale

CATEGORY	DESCRIPTION
LAL 1	No thunderstorms.
LAL 2	Isolated thunderstorms. Light rain will occasionally reach the ground. Lightning is very infrequent, 1 to 5 cloud to ground strikes in a five-minute period.
LAL 3	Widely scattered thunderstorms. Light to moderate rain will reach the ground. Lightning is infrequent, 6 to 10 cloud to ground strikes in a five-minute period.



CATEGORY	DESCRIPTION
LAL 4	Scattered thunderstorms. Moderate rain is commonly produced. Lightning is frequent, 11 to 15 cloud to ground strikes in a five-minute period.
LAL 5	Numerous thunderstorms. Rainfall is moderate to heavy. Lightning is frequent and intense, greater than 15 cloud to ground strikes in a five-minute period.
LAL 6	Dry lightning (same as LAL 3 but without rain). This type of lightning has the potential for extreme fire activity and is normally highlighted in fire weather forecasts with a Red Flag warning.

Source: NWS

4.5.13.7 Vulnerability Assessment

People

Exposure is the greatest danger to people from heavy rain events. People can be caught in rising waters and may need to be rescued. Populations at higher elevations with large stands of trees or power lines may be more susceptible to power outages, while populations in low-lying areas are at risk for possible flooding.

Vulnerable populations include the elderly, low-income, linguistically isolated populations, people with life-threatening illnesses, and residents living in areas that are isolated from major roads, which includes portions of central Kings County where DACs are located. Power outages can be life-threatening to those dependent on electricity for life support. Isolation of these populations is a significant concern. These populations face isolation and exposure during hail, heavy rain, lightning, and thunderstorm events, and could suffer from the secondary effects of these hazards, particularly during long-term power outages. Recreationists in the area west of Avenal near Kettleman Hills may also be more vulnerable to severe weather events.

Property

The County experiences a rainy season in the winter months through early spring. These winter storms can include significant precipitation. The primary effect of these storms has not resulted in significant injury or damages to people and property, or the losses are typically covered by insurance. It is the secondary hazards caused by weather that have had the greatest impact on the County. Damage and disaster declarations related to adverse weather have occurred and will continue to occur in the future. Heavy rain and thunderstorms are the most frequent type of severe weather occurrences in the County. Utility outages, downing of trees, debris blocking streets and property damage can be a direct result of these storm events. Properties in poor condition may risk the most damage. Given the nature of these types of storms, the entire County is potentially at risk.

Critical Facilities and Lifelines

Transportation infrastructure can be affected by hail, heavy rain, and lightning events, mostly associated with secondary hazards. Landslides caused by heavy prolonged rains can block roads in the western portion of the County. Of particular concern are roads providing access to isolated areas and the elderly, especially given that limited local roads and highways are available to move people and supplies throughout the region. Prolonged obstruction of major routes due to landslides, debris, or floodwaters can disrupt the shipment of goods and other commerce.

Severe windstorms and downed trees can create serious impacts on power and above-ground communication lines. Loss of electricity and phone connection would leave some populations isolated because residents would be unable to call for assistance. Lightning events can have similarly destructive effects on power and information systems. Failure of these systems would have cascading effects throughout the County and could disrupt critical facility functions. Downed power lines can cause blackouts, leaving large areas isolated.

Economy

The economic impact of heavy rain and hail events is typically short-term. Generally, long-term economic impacts center more around hazards that cascade from a heavy rain event such as flooding or fires. In general, all severe weather poses a risk to the agriculture economy in the County.

Table 4-80 below describes the crop losses related to heavy rain, thunder, hail, and lightning events. Kings County experiences an average of \$1.6 million in annualized loss due to crop damages from heavy rain, thunder, hail, and lightning events.



Table 4-80 Crop Loss due to Heavy Rain, Hail, Lightning in Kings County, 2007 – 2021

CAUSE	YEAR	SUM OF DETERMINED ACRES	SUM OF INDEMNITY AMOUNT
Excess Moisture/ Precipitation/ Rain	2007	70.4	\$24,928
	2008	66.0	\$10,014
	2009	329.0	\$224,874
	2010	659.4	\$283,860
	2011	5,629.3	\$1,712,635
	2012	219.2	\$41,044
	2013	205.9	\$522,194
	2014	1,560.1	\$3,501,416
	2015	523.6	\$560,091
	2016	3,065.5	\$2,085,683
	2017	2,354.0	\$1,918,062
	2018	214.7	\$328,600
	2019	3,999.7	\$4,126,183
	2020	1,033.3	\$1,686,385
	2021	318.6	\$612,108
Hail	2007	35.0	\$26,581
	2009	9.5	\$8,404
	2010	2,237.3	\$2,762,216
	2011	170.4	\$256,672
	2012	27.6	\$9,793
	2014	46.7	\$20,870
	2015	11.0	\$6,829
	2016	274.7	\$256,324
	2017	114.2	\$96,615
	2018	1,057.4	\$1,001,332
	2019	200.4	\$123,523
	2020	100.4	\$270,721
	2021	12.0	\$11,603
Other (Snow/ Lightning/ Etc.)	2015	109.1	\$86,250
	2016	150.2	\$191,290
	2020	437.5	\$74,999
Grand Total		25,242.1	\$22,842,099

Source: USDA RMA

Cultural, Historic and Natural Resources

As a natural process, the impacts of most heavy rain events by themselves are part of the overall natural cycle and do not cause long-term consequential damage. However, natural habitats such as streams and trees risk major damage. Prolonged rains can saturate soils and lead to slope failure and potentially landslide events. Flooding events can produce river channel migration or damage riparian habitat.

Development Trends

New critical facilities, such as communication towers should be built to withstand heavy rain damage. Development Trends projects should consider adverse weather hazards at the planning, engineering, and architectural design stages to reduce vulnerability. Stormwater master planning and site review should account for buildings to withstand heavy rain events considered for all new development. Thus,



development trends in the County are not expected to increase overall vulnerability to the hazard but all development will be affected by adverse weather and storm events.

Continued development implies continued population growth, which raises the number of individuals potentially exposed to severe weather. Individual citizens, families, and businesses of the County need to be prepared to address severe weather events when they occur. It is recommended that citizens, families, and businesses have an emergency preparedness plan, such as storing extra supplies of food and water, as well as other related supplies such as flashlights, batteries, firewood and a battery-operated radio within their home or business. In addition, public education efforts should continue to help the population understand the risks and vulnerabilities of outdoor activities, property maintenance, and regular exposures during periods of severe weather.

4.5.13.8 Risk Summary

- During the 71-year period from 1950 to 2021, 24 hail events, 56 heavy rain events and 10 lightning events occurred in Kings County.
- The County experiences an estimated \$1.6 million in annualized crop loss due to hail, heavy rain, and lightning events.
- As average annual precipitation is expected to increase, these events are likely to increase as well.
- Climate change is expected to increase atmospheric rivers in California, increasing heavy rain events.
- **Related Hazards** – Flooding, Landslide

JURISDICTION	GEOGRAPHIC AREA	PROBABILITY OF FUTURE OCCURRENCE	MAGNITUDE/ SEVERITY	OVERALL SIGNIFICANCE	PRIORITY HAZARD?
Kings County	Extensive	Highly Likely	Critical	Medium	Yes
City of Avenal	Extensive	Highly Likely	Critical	Medium	Yes
City of Corcoran	Extensive	Highly Likely	Critical	Medium	Yes
City of Hanford	Extensive	Highly Likely	Critical	Medium	Yes
City of Lemoore	Extensive	Highly Likely	Critical	Medium	Yes

4.5.14 SEVERE WEATHER: HIGH WIND/TORNADO

4.5.14.1 Hazard Description

High winds, often accompanying severe thunderstorms, can cause significant property and crop damage, threaten public safety, and have adverse economic impacts from business closures and power loss. Straight-line winds are generally any thunderstorm wind that is not associated with rotation (i.e., is not a tornado). It is these winds, which can exceed 100 mph that represent the most common type of severe weather and are responsible for most wind damage related to thunderstorms. These winds can overturn mobile homes, tear roofs off houses, topple trees, snap power lines, shatter windows, and sandblast paint from cars. Other associated hazards include utility outages, arcing power lines, debris blocking streets, dust storms, and an occasional structure fire.

For this hazard, three different classifications of windstorms were analyzed: high winds, strong winds, and thunderstorm winds. The most significant distinction between high winds and thunderstorm winds in the NCEI dataset is that high winds are most frequently reported in the winter months (December, January, and February) and are recorded on a zonal scale, whereas thunderstorm winds are most reported in the summer months (June, July, and August) and recorded on a local county or city scale. Strong winds are another type of windstorm, which originates from thunderstorms and are any wind exceeding 58 mph. Despite these differences, the wind speeds and associated impacts from these winds are comparable.

Tornadoes are another severe weather hazard that can affect the Kings County Planning Area. Tornadoes form when cool, dry air sits on top of warm, moist air. Tornadoes are rotating columns of air marked by a funnel-shaped downward extension of a cumulonimbus cloud whirling at destructive speeds of up to 300 mph, usually accompanying a thunderstorm. Tornadoes are the most powerful storms that exist. They can have the same pressure differential that fuels 300-mile-wide hurricanes across a path only 300-yards wide or less.

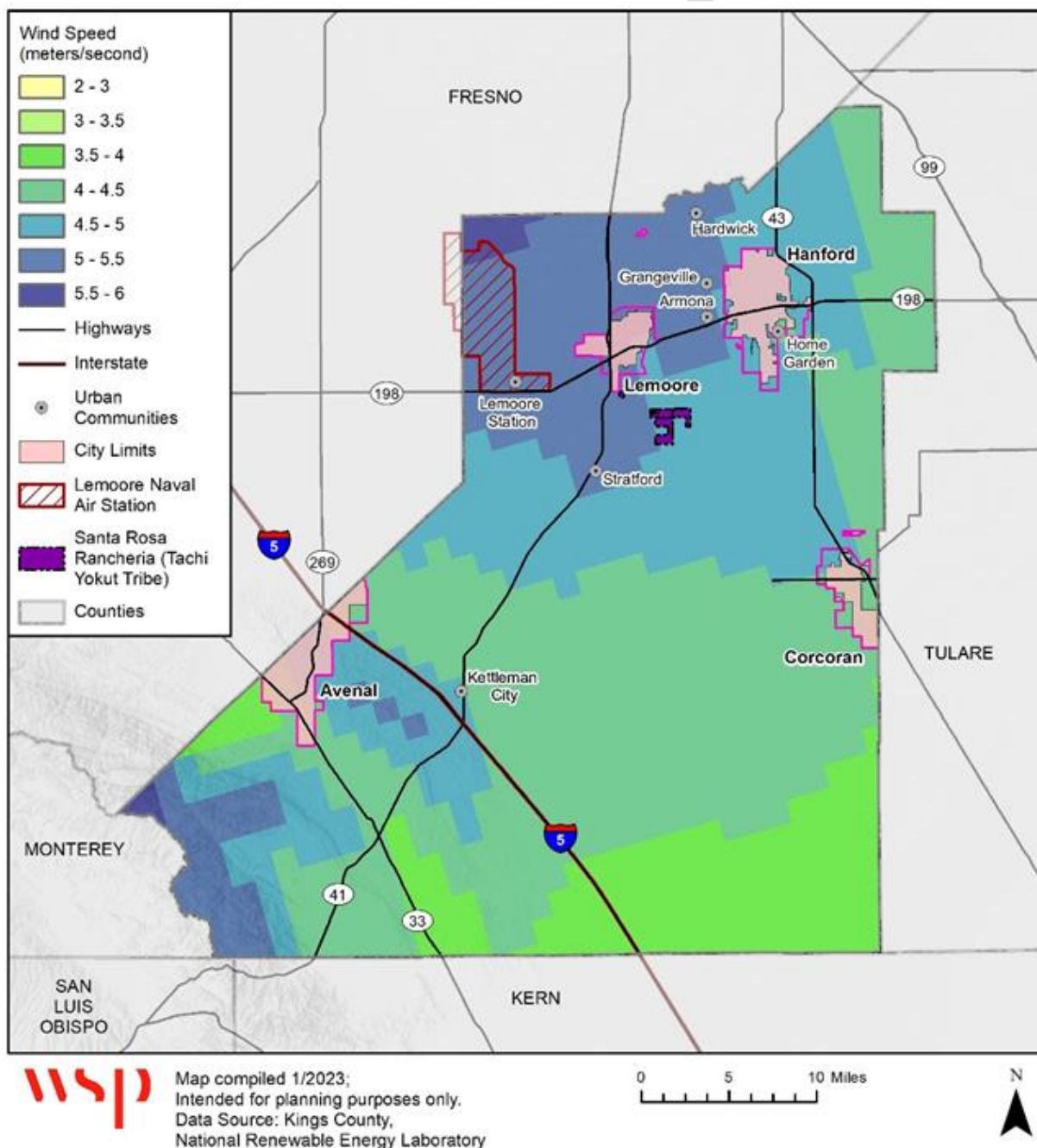
4.5.14.2 Geographic Area

Extensive – Wind and tornadoes have the potential to happen anywhere in the County. The resulting damage from wind and tornado events may be most severe in the downtown areas of incorporated communities where there are more large trees, infrastructure, and higher-density development.

The National Renewable Energy Laboratory (NREL) collects data on wind resources in the U.S. to help determine the location of new wind energy sites. Figure 4-47 from the NREL Wind Prospector Web viewer shows the average annual wind speed in Kings County at the height of 100 meters. The majority portions of the County have average wind speeds between 3.5 meters/second (7.8 miles/hour) and 5 meters/second (11.2 miles/hour). The southwestern and northwestern portions of the County, however, have relatively high average wind speeds – between 5 meters/second (11.2 miles/hour) and 6 meters/second (13.4 miles/hour).

As noted in the County's 2012 MJHMP, based on National Climate Data Center (NCC) data, tornado behavior, tornadoes are more likely to hit the flatter, lower elevations of Kings County and are more common in the eastern parts of the County around Hanford, Lemoore, and Corcoran.

Figure 4-47 Kings County Average Annual Wind Speed at 100 meters



Source: NREL Wind Prospector



4.5.14.3 Past Occurrences

During the rainy season, the Kings Planning Area is prone to relatively strong thunderstorms, sometimes accompanied by high winds and tornadoes. While tornadoes do occur occasionally, most often they are of FO/EFO intensity. The NCEI Storm Events Database does not record any tornado events that had a magnitude higher than F2 or EF1 in the Planning Area in the past. Table 4-81 shows the details of the most significant historic events recorded in NCEI, followed by additional descriptions of these events. In addition to the events listed in the NCEI database, there were three USDA disaster designations declared for the County that were related to high wind (and rain) in 2016 and 2017 (twice in 2017).

Table 4-81 Past High Wind and Tornado Events in Kings County, 1950-2021

HAZARD TYPE	DATE	LOCATION	MAGNITUDE	PROPERTY DAMAGES (\$)	CROP DAMAGES (\$)	DEATHS	INJURIES
Tornado	4/5/1980	Countywide	F2	\$250,000	\$0	0	1
Tornado	11/12/1996	Lemoore	F1	\$250,000	\$0	0	0
High Wind	2/3/2000	Countywide	-	\$100,000	\$0	1	4
High Wind	3/4/2001	Countywide	-	\$250,000	\$0	0	0
High Wind	10/13/2009	Countywide	-	\$250,000	\$0	0	0

Source: NCEI Storm Events Database

April 5, 1980: This F2 tornado event results in \$250,000 of property damage and 1 injury.

November 22, 1996: The tornado event caused substantial damage to the Lemoore Naval Air Station administrative section but no injuries occurred. Damage included roof removal of the base recycling center, wind damage to roofs on several administrative structures, powerlines and poles, and fixed structures (static display aircraft). This F1 tornado event results in \$250,000 of property damage.

February 3, 2000: Infrequent gusty wind occurred in Central California. Tehachapi and Frazier Park in the Kern County Mountains reported gusts of 45 knots. Bakersfield (Kern County) had gusts to 36 knots (41 miles/hour) and Lemoore had sustained wind at 21 knots (24 miles/hour) on the South San Joaquin Valley floor. Over 4,500 power company customers in the South San Joaquin Valley lost power due to downed, along with several weather-related vehicle accidents. This event resulted in 1 death, 4 injuries and \$100,000 of property damage.

March 4, 2001: Strong southeast wind flow ripped through Interior California with various degrees of damage reported on the San Joaquin Valley floor to small structures and agriculture in addition to the damage in the Kern Mountains from strong wind around Frazier Park, Lebec, and Fort Tejon. Local utility companies reported more than 53 power poles downed and a dozen 70,000-volt power lines on the Southern San Joaquin Valley floor and in the Kern Mountains causing a power loss to at least 15,000 customers. Wind speed of 83 miles/hour was reported 5 miles east of Tehachapi (Kern County) with 55 miles/hour wind in Tehachapi Valley itself. This event resulted in \$250,000 property damage.

October 13, 2009: This high wind event came with a heavy precipitation event through the Southern San Joaquin Valley. High wind gusts toppled trees, downed utility lines, and created areas of blowing dust with near-zero visibility. Gusts to 60 mph developed at the south end of the San Joaquin Valley near the base of the Grapevine (Kern County). This event resulted in \$250,000 property damage.

Figure 4-48 and Figure 4-49 show the locations of the past wind and tornado events in Kings County based on data from NOAA's NWS Storm Prediction Center.



Figure 4-48 High Wind Events in Kings County, 1955 -2021

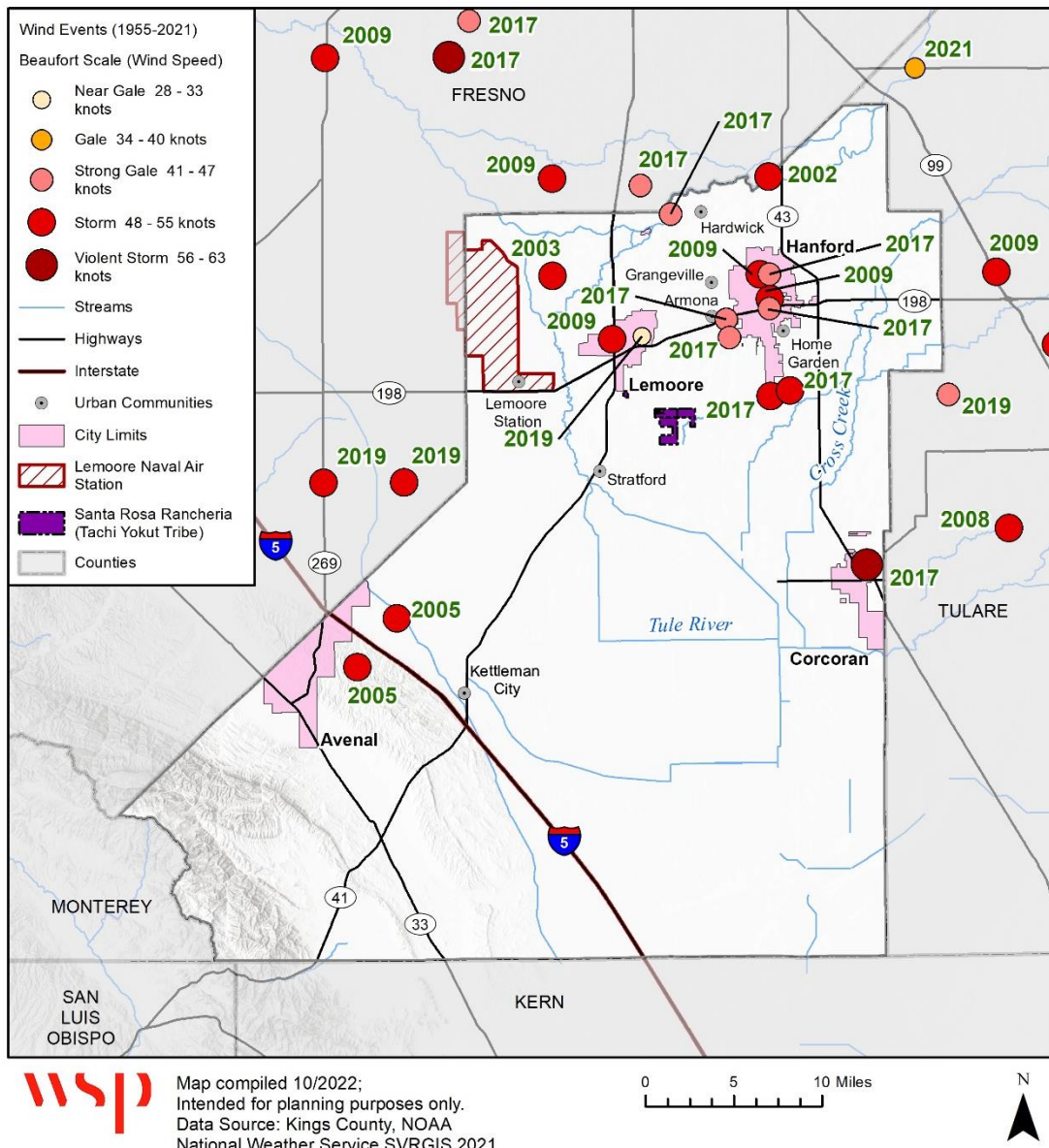
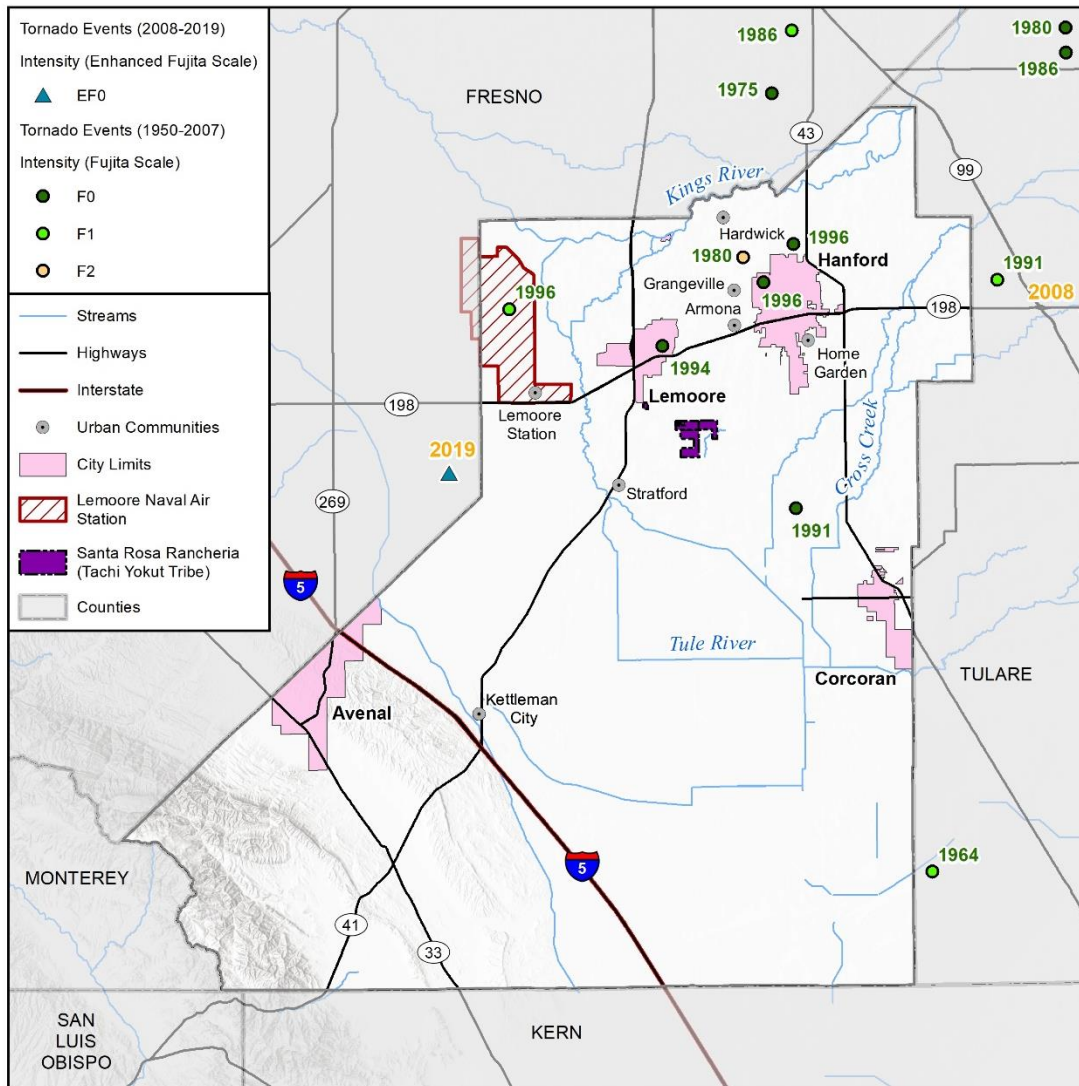




Figure 4-49 Tornado Events in Kings County, 1950 -2019



Map compiled 10/2022;
Intended for planning purposes only.
Data Source: Kings County, NOAA
National Weather Service SVRGIS 2021

0 5 10 Miles





4.5.14.4 Likelihood of Future Occurrence

Highly Likely – 139 high wind and tornado events have occurred in Kings County over 73 years of recordkeeping, which equates to almost two high wind or tornado event on an annual basis. Historical wind activity within the Planning Area indicates the County will likely continue to experience high wind during thunderstorm events with the potential of the formation of funnel clouds and low-intensity tornadoes during adverse weather conditions. The actual risk to the County is dependent on the nature and location of any given thunderstorm or tornado event.

Moreover, ongoing research has resulted in different conclusions on the effect of climate change on wind regimes. For other types of extreme weather events, such as tornadoes and severe thunderstorms, more research is also needed to understand how climate change will affect them. Refer to the Climate Change Considerations subsection below for more details on climate change's impact on fog events.

4.5.14.5 Climate Change Considerations

Studies referenced in California's Fourth Climate Assessment indicated that extreme fire weather, particularly in the form of hot and dry winds, can strongly influence shrub-land fire regimes. Strong winds have also been now associated with severe forest fires in California meaning climate change impacts on wind patterns may also affect forest health and wildfire susceptibility. However, ongoing research compiled in the recent climate assessment has resulted in different conclusions on the effect of climate change on wind regimes. The August 2021 IPCC report argues that in most places, wind speeds will be drastically reduced because of climate change, whereas in 2019, Scientific American reported that winds across the world were speeding up. The Maine Monitor suggests that a lack of wind can increase wildfire risks and aggravate drought. Unusual wind patterns combined with other climate change issues, such as hotter water temperatures, can also cause problems. At this time, these changing factors are not well understood and are still being incorporated into state and regional research and risk analysis. Hopefully, soon, scientists will be able to find a solution for the rapidly changing wind patterns (Garrison 2022).

For other types of extreme weather events, such as tornadoes and severe thunderstorms, more research is also needed to understand how climate change will affect them. These events occur over much smaller scales, which makes observations and modeling more challenging. Projecting the future influence of climate change on these events can also be complicated by the fact that some of the risk factors for these events may increase with climate change, while others may decrease, like the complexity of predicting future wind patterns, which is mentioned above. Even though some studies predict that climate change could provide the opportunity for more severe thunderstorms to form, this does not necessarily mean that more tornadoes will occur, given that only about 20% of supercell thunderstorms produce tornadoes. The fourth National Climate Assessment summarizes the complicated relationship between tornadoes and climate change: "...extreme weather, such as tornadoes, are also exhibiting changes which may be linked to climate change, but scientific understanding isn't detailed enough to project direction and magnitude of future change" (NatGeo 2022).

4.5.14.6 Magnitude and Severity

Critical – High winds and tornadoes can cause damage to property and loss of life. While most tornado damage is caused by violent winds, most injuries and deaths result from flying debris. Property damage can include damage to buildings, fallen trees and power lines, broken gas lines, broken sewer and water mains, and the outbreak of fires. Crops and industries may also be damaged or destroyed. Access roads and streets may be blocked by debris, delaying the necessary emergency response.

In 2007, the NWS began rating tornadoes using the Enhanced Fujita Scale (EF-scale). The EF-scale is a set of wind estimates (not measurements) based on damage. It uses three-second gusts estimated at the point of damage based on a judgment of eight levels of damage to the 28 indicators. These estimates vary with height and exposure. Standard measurements are taken by weather stations in open exposures. Table 4-82 describes the EF-scale ratings versus the previous Fujita Scale used prior to 2007 (NOAA n.d.).

Table 4-82 The Fujita Scale and Enhanced Fujita Scale

FUJITA SCALE			DERIVED		OPERATIONAL EF-SCALE	
F NUMBER	FASTEST ¼ MILE (MPH)	3-SECOND GUST (MPH)	EF NUMBER	3-SECOND GUST (MPH)	EF NUMBER	3-SECOND GUSTS (MPH)
0	40-72	45-78	0	65-85	0	65-85
1	73-112	79-117	1	86-109	1	86-110
2	113-157	118-161	2	110-137	2	111-135
3	158-207	162-209	3	138-167	3	136-165



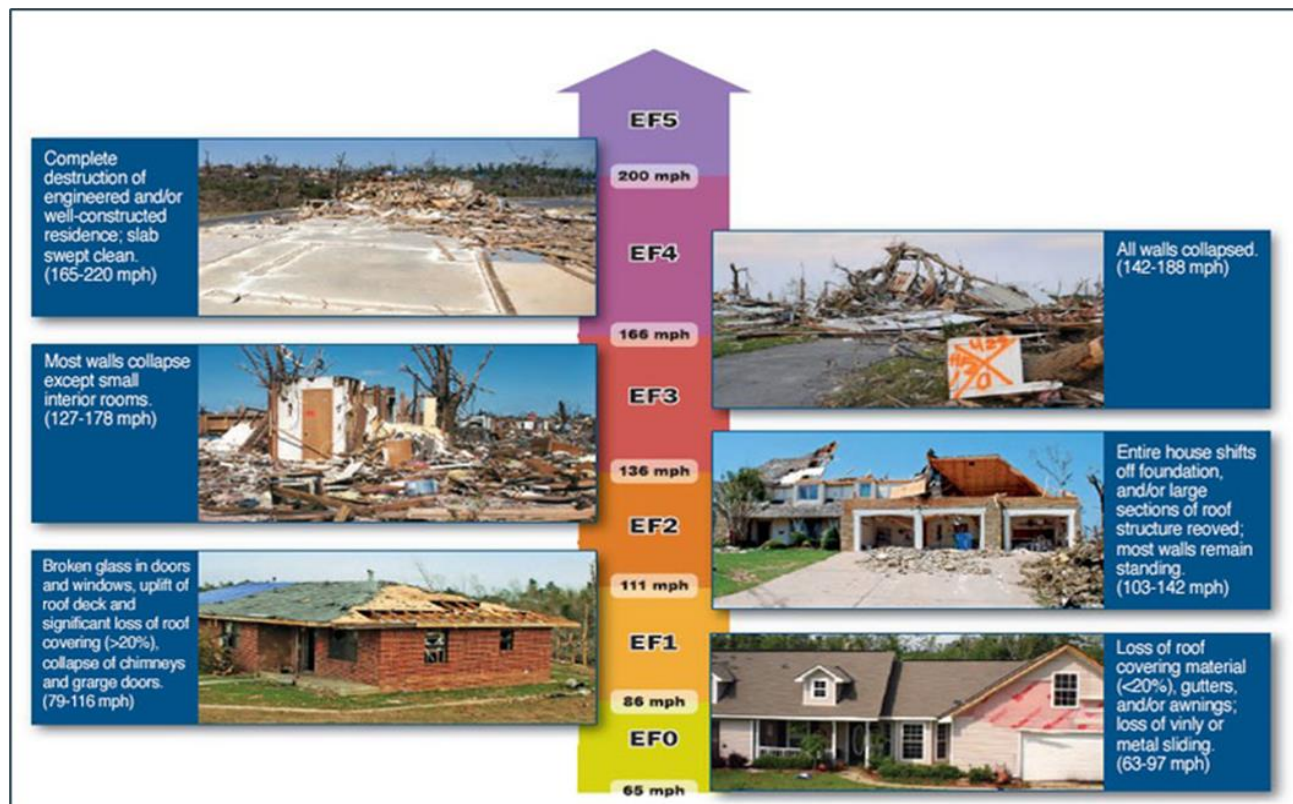
4	208-260	210-261	4	168-199	4	166-200
5	261-318	262-317	5	200-234	5	Over 200

Source: NWS.

Notes: EF – Enhanced Fujita F – Fujita mph – Miles per Hour

Figure 4-50 illustrates the potential impact and damage from a tornado.

Figure 4-50 Potential Impact and Damage from a Tornado



Source: NOAA NWS, Storm Prediction Center

The damaging effects of wind speed are measured using the Beaufort Wind Scale as shown in Table 4-83 below. This scale only reflects land-based effects and does not take into consideration the effects of wind over water.

Table 4-83 Beaufort Wind Scale

WIND SPEED (MPH)	DESCRIPTION - VISIBLE CONDITION
0	Calm; smoke rises vertically
1-4	Light air; direction of wind shown by smoke but not by wind vanes
4-7	Light breeze; wind felt on face; leaves rustle; ordinary wind vane moved by wind
8-12	Gentle breeze; leaves and small twigs in constant motion; wind extends light flag
13-18	Moderate breeze; raises dust and loose paper; small branches are moved
19-24	Fresh breeze; small trees in leaf begin to sway; crested wavelets form on inland water
25-31	Strong breeze; large branches in motion; telephone wires whistle; umbrellas used with difficulty
32-38	Moderate gale whole trees in motion; inconvenience in walking against wind
39-46	Fresh gale breaks twigs off trees; generally, impedes progress
47-54	Strong gale slight structural damage occurs; chimney pots and slates removed
55-63	Whole gale trees uprooted; considerable structural damage occurs
64-72	Storm very rarely experienced; accompanied by widespread damage
73+	Hurricane devastation occurs

Source: NWS



Based on NCEI records between 1955 and 2022 there have been a combined 116 strong wind/high wind/thunderstorm winds and 23 tornado/funnel cloud events in Kings County, which have resulted in a total of \$6,946,250 in property damage and \$4,420,000 in crop damage. The most damaging event took place on January 4, 2008. The first major winter storm of the new year arrived on the 4th and brought heavy rain to the San Joaquin Valley. Very strong winds developed on the west side of the San Joaquin Valley with this storm. The strongest winds occurred in Avenal, where roofs were damaged, trees toppled and two glider planes lifted off the tarmac and flipped over at the local airport. Based on surveys of the sustained property damage, top winds were estimated at 70-75 mph. This high wind event was caused by an increase in local winds due to a combination of strong large-scale winds (synoptic winds due to the Pacific storm pattern) and the interaction of the nearby Coastal Mountain range. Two direct injuries also occurred in Avenal during the wind event. According to the NCEI database, this wind event resulted in \$4,500,000 of property damages. Overall, high wind event impacts would likely be limited, with a majority of impacts being related to property damages caused by downed trees as well as power outages.

In the past 73 years, all the tornado events that have taken place in Kings County have been between FO-F1 or EF0 tornadoes. There was only one F2 tornado incident that happened in the year 1980. However, it should be noted that, although unlikely, larger tornadoes could occur. Should the County be hit by an EF-3 or higher tornado, it can be extrapolated that because of its relative size and the potential size and length of a tornado's path, a significant portion of the County could be impacted, resulting in property and crop damage and loss of life. The F2 tornado event that happened on April 5, 1980, resulted in \$250,000 of property damage and one injury. A worse tornado event could result in more severe damage.

Tornado impacts to the County would likely be negligible, with less than 10 percent of the Planning Area affected by events in the EF0-2 range, though stronger tornadoes are possible. The impact on quality of life or critical facilities and functions in the affected area would depend on where the tornado occurred. Injuries or deaths are possible due to wind-thrown trees or property damage caused by wind events. Overall, impacts from high wind and tornado events would likely be negligible, with less than 10 percent of property severely damaged and shutdown of facilities due to loss of power for 24 hours or less.

4.5.14.7 Vulnerability Assessment

Property

General damages are both direct (what the wind event physically destroys) and indirect, which focuses on additional costs, damages and losses attributed to secondary hazards spawned by the event, or due to the damages caused by the wind event. Depending on the magnitude of the wind events as well as the size of the tornado and its path, a tornado is capable of damaging and eventually destroying almost anything. Construction practices and building codes can help maximize the resistance of the structures to damage.

Secondary impacts of damage caused by wind events often result from damage to infrastructure. Downed power and communications transmission lines, coupled with disruptions to transportation infrastructure, create difficulties in reporting and responding to emergencies. These indirect impacts of a wind event put tremendous strain on a community. In the immediate aftermath, the focus is on emergency services.

Downed trees caused by a wind event are a common occurrence in the County. Falling trees can cause significant damage to property and put people at risk. Due to multiple years of drought in the County, many trees in the area have been impacted, making them more susceptible to blow-down during wind events.

People

Community members are the most vulnerable to high wind and tornado events. The availability of sheltered locations such as basements, buildings constructed using tornado-resistant materials and methods, and public storm shelters, all reduce the exposure of the population. However, there are also segments of the population that are especially exposed to the indirect impacts of high winds and



tornadoes, particularly the loss of electrical power. According to the data obtained from emPOWER.com, a website maintained by the U.S. Department of Health and Human Services (DHHS), 5.8%, or 1,049 of the 18,207 Medicare beneficiaries in the County rely on medical equipment that is dependent on electricity to live independently. These at-risk populations include the elderly or disabled, especially those with medical needs and treatments dependent on electricity. Nursing homes, community-based residential facilities, special needs housing facilities, and isolated communities are also vulnerable. Life support needs can be threatened when electrical outages are prolonged since backup power generally operates only with minimal functions for a short period of time.

Following the unprecedented 2018 wildfire season in California, Pacific Gas & Electric (PG&E) announced it will be conducting PSPS when there are high winds and dry conditions and generally a heightened fire risk forecasted. The outages could last several days, and PG&E has suggested customers be prepared for outages that could last longer than 48 hours. A majority of Kings County could be affected by the power outages, and many members of the public expressed these concerns in the County's public survey for the MJHMP (see Appendix G). In addition to PG&E, Southern California Edison (SCE) also provides power to Kings County residents. According to SCE's official website, their service territories within Kings County are not designated as high fire threat areas or have a very low wildfire risk. Despite the low risk, SCE has been implementing its own Wildfire Response Plan, which outlines a range of activities and actions to help SCE prevent and respond to the increasing risk of wildfires, including a PSPS Protocol. PSPS is mentioned on SCE's website. SCE also has 24-hour hotlines for customers to call and report power outage events. In addition, SCE keeps an online platform where customers can check out current outage information, including the estimate on when the power will return. In summary, severe wind events that result in PSPS events are likely to have the greatest impact on those communities that are socially vulnerable due to income levels or lack of accessibility and those that rely on electricity-dependent medical equipment.

Critical Facilities and Infrastructure

Both winds and tornadoes may impact exposed critical infrastructure such as power lines; depending on the impact and the function, this could cause a short-term economic disruption. The most common problems associated with tornadoes and high winds are loss of utilities. Downed power lines can cause power outages, leaving large parts of the County isolated, and without electricity, water, and communication. Damage may also limit timely emergency response and the number of evacuation routes. Downed electrical lines following a storm can also increase the potential for lethal electrical shock. Damaging winds can also cause wildfires.

Most structures, including the County's critical facilities, should be able to withstand and provide adequate protection from severe wind and tornadoes. Those facilities with backup generators should be fully equipped to handle severe wind and tornado events should the power go out. The impact of high wind on responders is similar to that of the general public. In the event of a tornado, there may be localized impacts on response personnel. Impacts on transportation corridors and communications lines affect first responders' ability to respond effectively. To maintain public confidence, jurisdictions must continue to adhere to building codes and facilitate new development that is built to the highest design standards to account for heavy winds and tornado winds.

On June 26, 2020, California Governor Gavin Newsom and the State Legislature approved the Fiscal Year 2020-2021 State Budget, which included a \$50 million one-time General Fund appropriation to support State and local government efforts to mitigate the impacts of the investment-owned utility use of PSPS. In 2020, the name of the PSPS program was changed to "Community Power Resiliency". Building on the previous year's investments, the resiliency program will support critical services vulnerable to power outage events, including schools, county election offices, and food storage reserves.

According to the FY 2020-21 Community Power Resiliency Legislative Report by Cal OES, the City of Avenal received \$100,000 in funding to purchase a generator to enhance the resiliency of the Avenal Veteran's Hall against power outages. This facility also supported the resiliency areas of food storage

PUBLIC SAFETY POWER SHUTOFF

High winds can cause trees or debris to damage electric lines and cause wildfires. As a result, utility providers may need to turn off power during severe weather events – high wind & other events that could increase wildfire risk. This is called a Public Safety Power Shutoff. In 2020, state-funded PSPS grant program was changed to "Community Power Resiliency", which will continue to support critical services vulnerable to power outage events, including schools, county election offices, and food storage reserves.



reserves and COVID-19 testing. The City of Corcoran received \$300,000 in funding to purchase a portable generator and transfer switches to enhance the resiliency of groundwater wells against power outages. The City of Corcoran's action was highlighted in the report as in June 2021, the City utilized the generator when power was lost at a well site. The generator quickly restored power to the site, giving fire and paramedic stations access to clean water. In addition, Kings County received \$94,826 in funding to purchase generator connections to enhance the resiliency of evacuation points against power outages.

Economy

Winds typically do not have long-term impacts on the economy, although wind does have an impact on the agriculture economy in the County. As shown in Table 4-84, wind events have been a leading cause of crop loss in the past 15 years (2007 – 2021), resulting in over \$1.2 million in loss payments from the USDA and almost 2,905 acres lost to high wind events. Kings County experiences an estimated \$82,313 annualized loss due to crop damages from excessive wind events.

Table 4-84 Crops Loss Due to High Wind, RMA Crop Indemnity Reports, 2007-2021

YEAR	NET DETERMINED ACRES	INDEMNITY AMOUNT
2007	273.7	\$117,514
2008	1,552	\$322,529
2009	326.3	\$131,145
2010	18.8	\$8,742
2011	-	-
2012	147.1	\$3,555
2013	321.5	\$101,829
2014	-	-
2015	42	\$61,320
2016	89.6	\$187,826
2017	68.9	\$166,889
2019	0.75	\$588.5
2020	-	-
2021	64.3	\$82,759
Total	2,904.8	\$1,234,698

Source: USDA RMA

Cultural, Historic and Natural Resources

High winds and tornadoes can cause massive damage to the natural environment, uprooting trees and other debris. This is part of a natural process, however, and the environment will return to its original state in time.

Development Trends

As the County continues to increase in population, the number of people and housing developments exposed to the hazard increases. Adherence to current building codes, coupled with proper education on building techniques and the use of sturdy building materials, attached foundations, and other structural techniques may minimize property vulnerabilities. Public shelters at parks and open spaces may help reduce the impacts of tornadoes and high wind events on the recreational populations exposed to storms.

4.5.14.8 Risk Summary

- Between 1950 and 2021 there were a combined 139 high wind (116) and tornado (23) events.
- Wind and tornado events have resulted in \$6,946,250 in property damages. The most damaging event took place on January 4, 2008, with wind ranging from 70 to 75 mph causing two injuries and \$4,500,000 in property damages.
- Excessive wind has caused 2,904.8 acres to be lost and \$1,234,698 crop loss payment made by the USDA to farmers in the County.
- PSPS poses a risk to individuals in the County who depend on electricity to live independently. Six percent of Medicare Beneficiaries in the County are electricity dependent.
- **Related Hazards** – Extreme heat, Heavy Rain, Agriculture/Pest and Crop Disease, Wildfire



JURISDICTION	GEOGRAPHIC AREA	PROBABILITY OF FUTURE OCCURRENCE	MAGNITUDE/ SEVERITY	OVERALL SIGNIFICANCE	PRIORITY HAZARD?
Kings County	Extensive	Highly Likely	Critical	Medium	Yes
City of Avenal	Extensive	Highly Likely	Critical	Medium	Yes
City of Corcoran	Extensive	Highly Likely	Critical	Medium	Yes
City of Hanford	Extensive	Highly Likely	Critical	Medium	Yes
City of Lemoore	Extensive	Highly Likely	Critical	Medium	Yes

4.5.15 WILDFIRE

4.5.15.1 Hazard Description

A wildfire is an uncontrolled fire spreading through vegetative fuels, such as grasslands, brush, or woodlands, and posing danger and destruction to property and watersheds. Generally, three major factors sustain wildfires and predict a given area's potential to burn. These factors are fuel, topography, and weather.

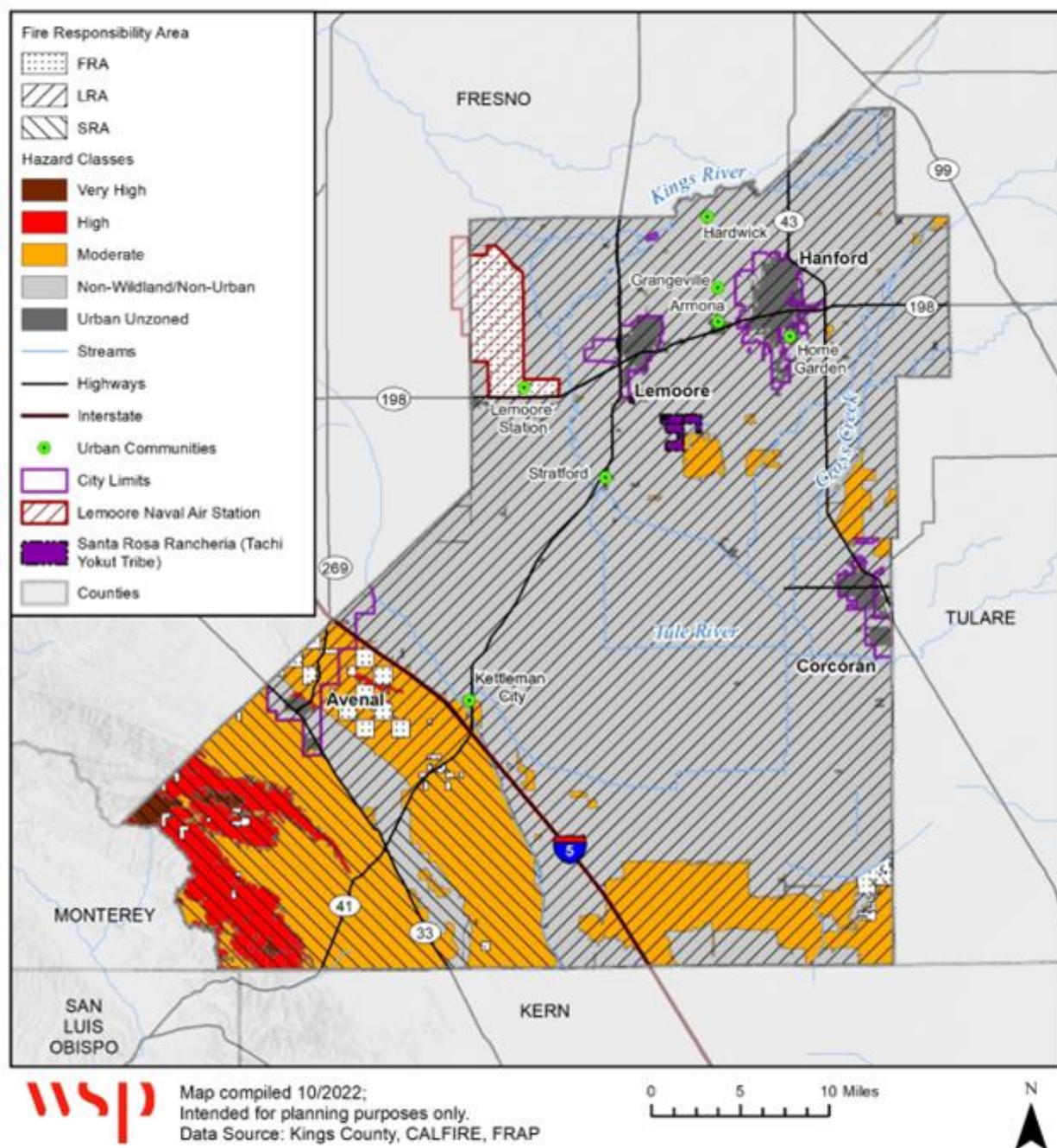
- **Fuel** – Fuel is the material that feeds fire and is a key factor in wildfire behavior. Fuel is generally classified by type and by volume. Fuel sources are diverse and include everything from dead tree leaves, twigs, and branches to dead standing trees, live trees, brush, and cured grasses. Manmade structures are also considered as a fuel source, such as homes and other associated combustibles. The type of prevalent fuel directly influences the behavior of wildfire. Fuel is the only factor that can be modified by humans.
- **Topography** – An area's terrain and slope affect its susceptibility to wildfire spread. Both fire intensity and rate of spread increase as slope increases due to the tendency of heat from a fire to rise via convection. The arrangement and types of vegetation throughout a hillside can also contribute to increased fire activity on slopes.
- **Weather** – Weather components such as temperature, relative humidity, wind, and lightning affect the potential for wildfire. High temperatures and low relative humidity dry out fuels that feed wildfires, creating a situation where fuel will more readily ignite and burn more intensely. Thus, during periods of drought, the threat of wildfire increases. Wind is the most influential weather factor of the three and its influence can increase rates of spread regardless of temperature and relative humidity.

Wildfires can occur in areas essentially void of development, or in areas where development intermingles with the natural area known as the wildland-urban interface (WUI), a general term that applies to development adjacent to landscapes that support wildfire. Many wildfires occur in locations that abound in grasslands and brush. While wildfires are often the direct result of lightning strikes, they can be caused by downed powerlines or mechanical equipment or as the result of human activities like landscape debris burns, carelessness, or arson. Wildfires often start in undeveloped areas and public land areas, such as state and federal lands, but can spread to urban areas where structures and other human development are more concentrated. The predominant dangers from wildfires are injury or loss of life to people in the affected area and the destruction of vegetation, property, and wildlife.

Communities throughout California are increasingly concerned about wildfire safety as increased development in the foothills and mountain areas and subsequent fire control practices have affected the natural cycle of the ecosystem. Wildfire risk is predominantly associated with WUI areas. However, significant wildfires can also occur in heavily populated areas, although urbanized and developed areas that are not contiguous with vast areas of wildlands are typically considered safer from wildfires.

The County is exposed to a variety of wildfire hazard conditions that vary based on fuels, topography, weather, and human behavior. CAL FIRE, as required by Government Code Section 51181, has undertaken a statewide program to map areas of potential wildfire severity, and to describe the potential for wildfires to occur in a given area; the resulting Fire Hazard Severity Zones (FHSZs) adopted in November 2007 for the State Responsibility Areas (SRA) and adopted in September 2007 for the Local Responsibility Area (LRA) are shown in Figure 4-51 below.

Figure 4-51 Kings County Federal, State, and Local Responsibility Severity Zones



4.5.15.2 Geographic Area

Significant - CAL FIRE has ranked fuel loading as low in most of the County, where crops and grasses are the primary sources of fuel. However, in the southwest corner, there are moderate fuel hazards from brush, pine, and grass, specifically in the area west of Interstate 5 and north of Highway 41.

The County is mostly flat, with a slight slope towards the topographic low point in the Tulare Lake Basin, which minimizes the fire risk for most of the county. However, elevations in the southwestern part of the County range from 500 feet at the Kettleman Plains to almost 3,500 feet at Table Mountain, creating a more varied terrain with a higher fire hazard in the steeply sloped areas of this region.



4.5.15.3 Past Occurrences

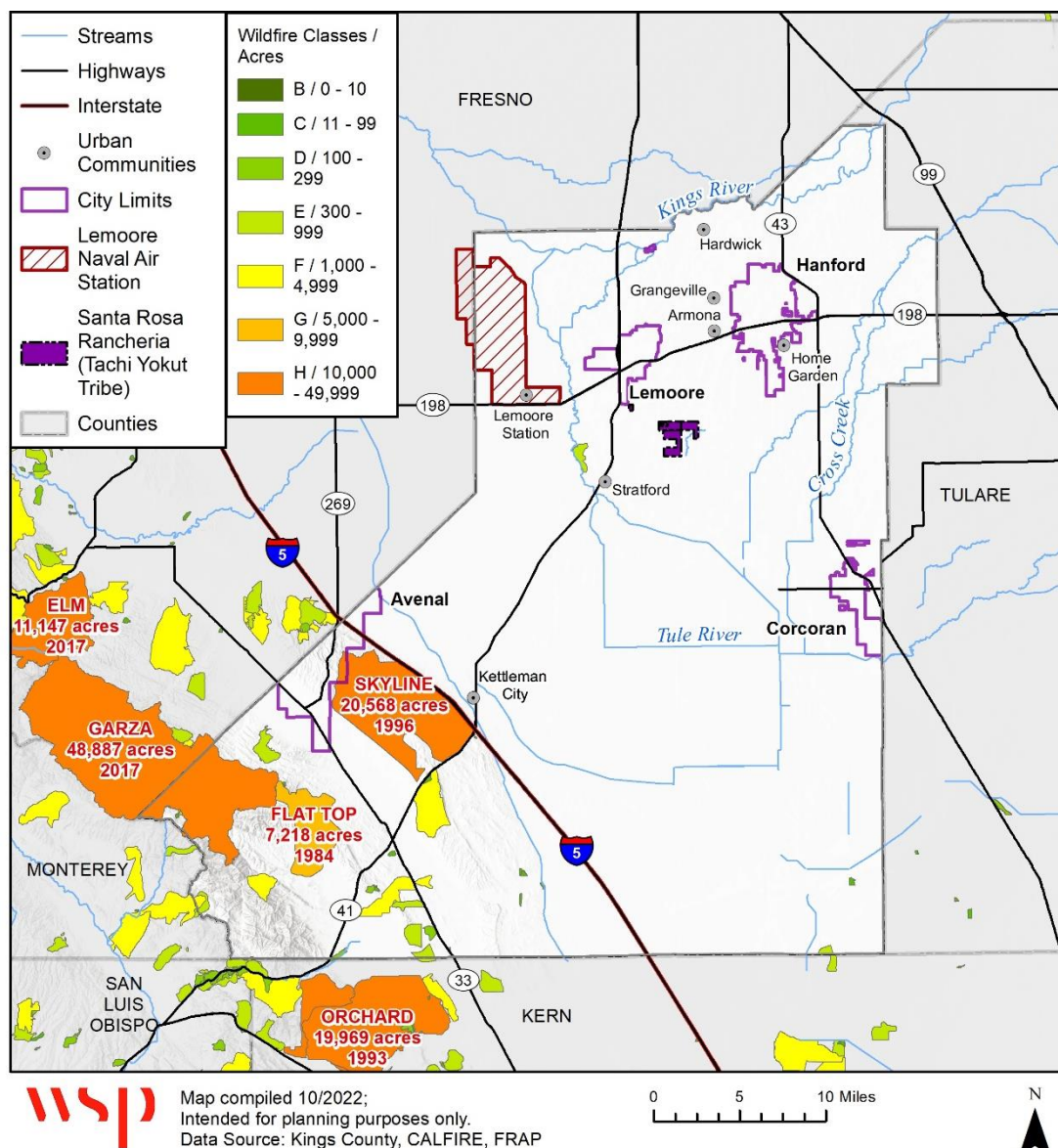
There have been no state or federal disaster declarations in Kings County due to wildfire. The 2012 Kings County MJHMP noted that although there are many fire starts, the fuels are “flashy,” and most fires are quickly put out. Except for the Braley-Jones Ranch fire in 1951 near Stratford, all mapped fires have occurred west of Interstate 5. The largest was the Garza fire in 2017, which burned over 48,000 acres along the west side of Interstate 5, southwest of Avenal. See Table 4-85 and Figure 4-52 for the history of fires named by CAL FIRE in Kings County.

Table 4-85 Fire History in Kings County, 1950 – 2021

DATE	NAME OF FIRE	ACRES BURNED
06/04/1951	Braley-Jones Ranch	468
09/22/1968	Hughs	776
07/30/1969	Avenal Canyon	983
05/22/1979	Pyramid Hills	693
07/01/1979	State of California #32	2,292
05/25/1984	Flat Top	7,218
06/03/1989	Cal Oil	492
06/12/1994	York	1,012
09/04/1995	Tar	126
09/08/1995	Pyramid	397
04/27/1996	Skyline	20,567
05/01/1996	Hwy 41	3,198
08/13/1999	33	243
08/27/2001	Taylor	26
08/10/2007	Tar	5,644
8/19/2008	Avenal	946
07/09/2017	Garza	48,660
05/03/2020	Interstate 5	2,060
10/11/2021	Kettle	447

Source: Cal Fire Redbooks

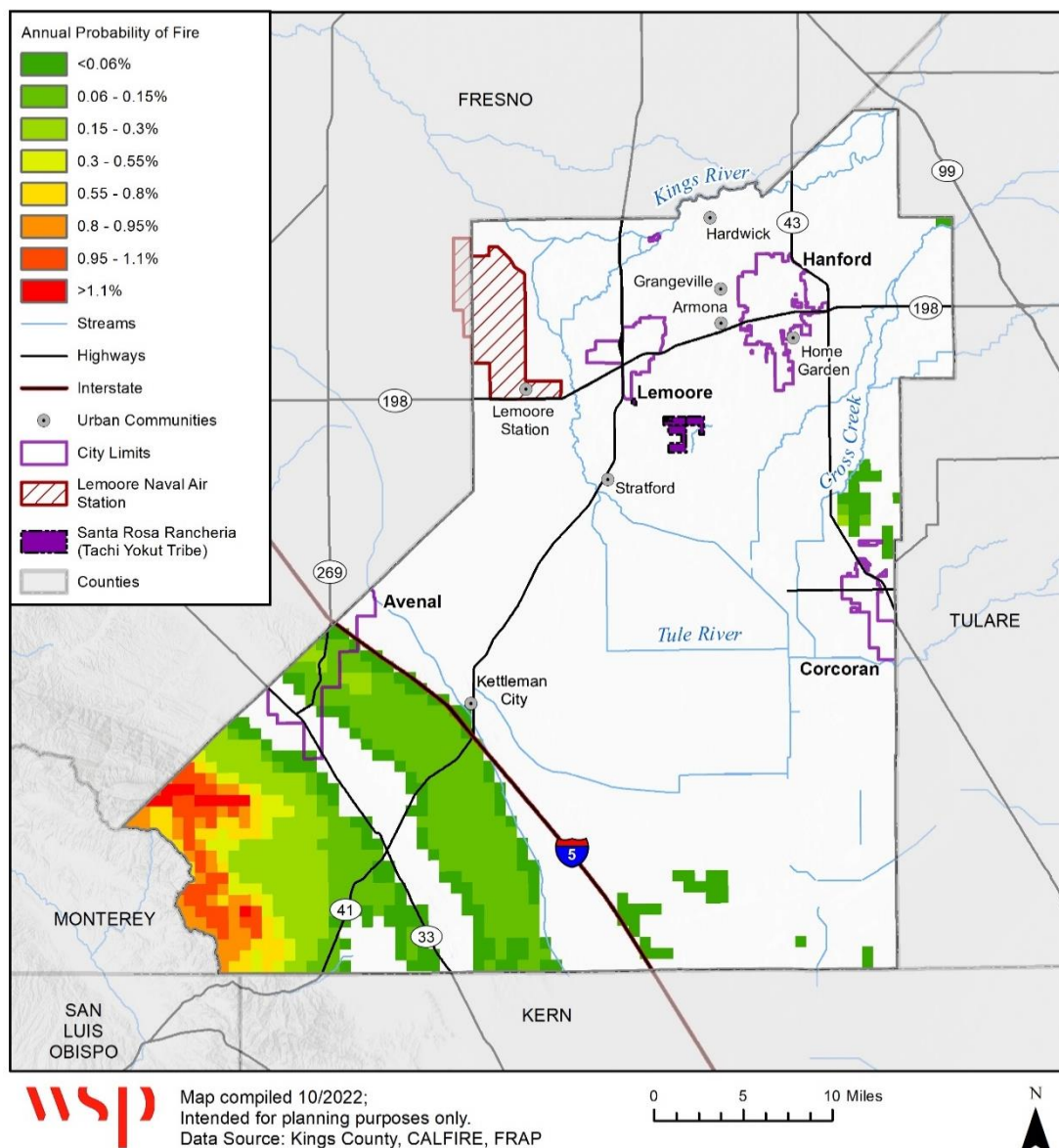
Figure 4-52 Fire History in Kings County, 1950 - 2021



4.5.15.4 Likelihood of Occurrence

Occasional – Fire starts are highly likely during each fire season, although they rarely result in large-scale wildfires in Kings County. Based on the recent fire history (2016-2021), there is a 60% chance that a fire will occur during any given year. Figure 4-53 shows the annual probability for wildfire in Kings County from 2023 - 2050, based on Cal FIRE data.

Figure 4-53 Kings County Annual Probability of Fire, 2023 – 2050

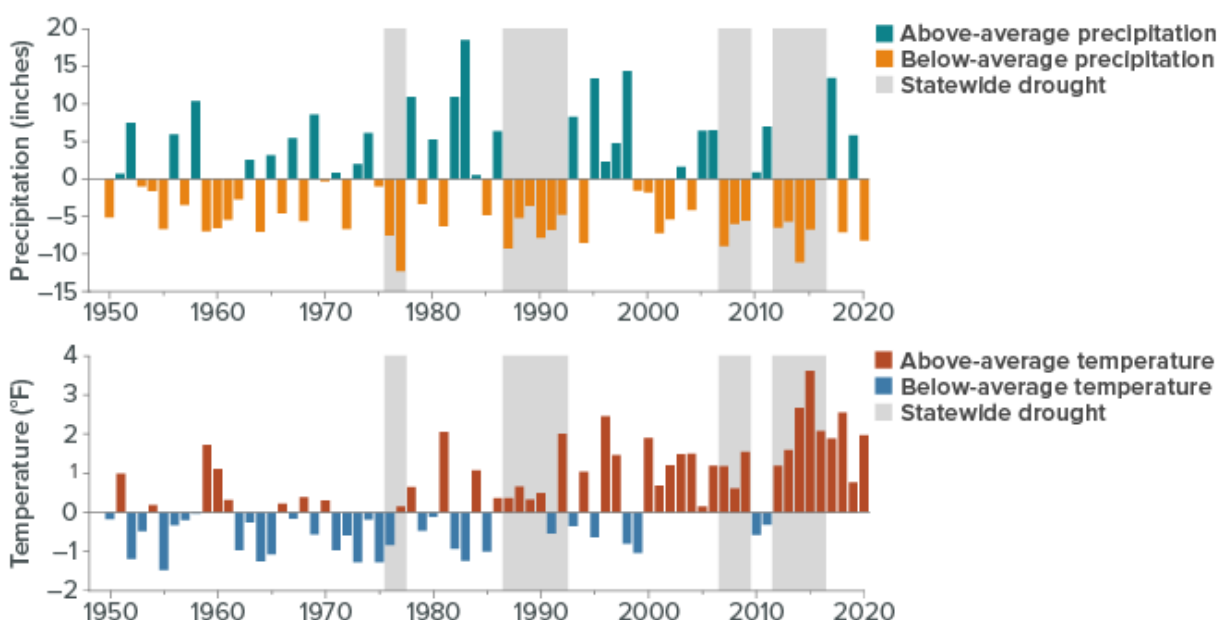


4.5.15.5 Climate Change Considerations

According to the 2018 California SHMP, climate change has the potential to impact the frequency, size, and severity of wildfire hazards statewide. Increasing temperatures and decreased precipitation statewide, as shown in Figure 4-54, may intensify wildfire threat and susceptibility to more frequent wildfires in the County.

Exactly how climate change will affect total precipitation is not clear, but models suggest that there is a tendency for wetter conditions in the northern part of the State and drier conditions in the south (CNRA 2018a). What is clear is that California is becoming exceptionally warm and dry, as evidenced by the 2012-2016 drought, the hottest drought in the State's recorded history (Mount et al, 2021). Forests in the State were weakened by this drought, which made them more susceptible to pests and pathogens and contributed to widespread tree mortality, creating an abundance of kindling for fire (CNRA 2018).

Figure 4-54 Average Statewide Precipitation and Temperature Patterns, 1950 – 2020



Source: Mount et al, WRCC, DWR

Current scientific models expect all of California will be affected by increased numbers of forest fires with added intensity due to longer warmer seasons, reduced distribution of biodiversity, lack of moisture, changes in ecosystems, drought impacts (e.g. pest diseases and continued spread of invasive species), and other impacts in coming years (Cal-Adapt, 2023). The extending of the wildfire season into winter months, coinciding with seasonal high wind patterns, has contributed to severe fires in recent years. Southern California experienced 29 wildfires in December of 2017 alone, and the deadliest and most destructive fire in California's history, the Camp Fire, happened in November of 2018 and resulted in 153,336 acres burned, 18,804 structures damaged, and 85 deaths (CAL FIRE, 2019; CAL FIRE, n.d.).

Projected wildfire occurrence estimates in annual area burned, based on different potential climate futures and GHG emission scenarios, are summarized from Westerling (2018) and presented in Figure 4-55 and Figure 4-56. These figures show the modeled projections of annual area burned for mid- and end-of-century timelines under both a high emissions scenario (Figure 4-56) and low emissions scenario (Figure 4-55). The projected future climate from these four models can be described as producing:

- CanESM2 – An average future climate simulation
- CNRM-CM5 – A cooler/wetter future climate simulation
- HadGEM2-ES – A warm/dry future climate simulation
- MIROC5 – The model simulation that is most unlike the first three for the best coverage of different possibilities.



Figure 4-55 Kings County Projected Annual Average Area Burned Under RCP 6.5

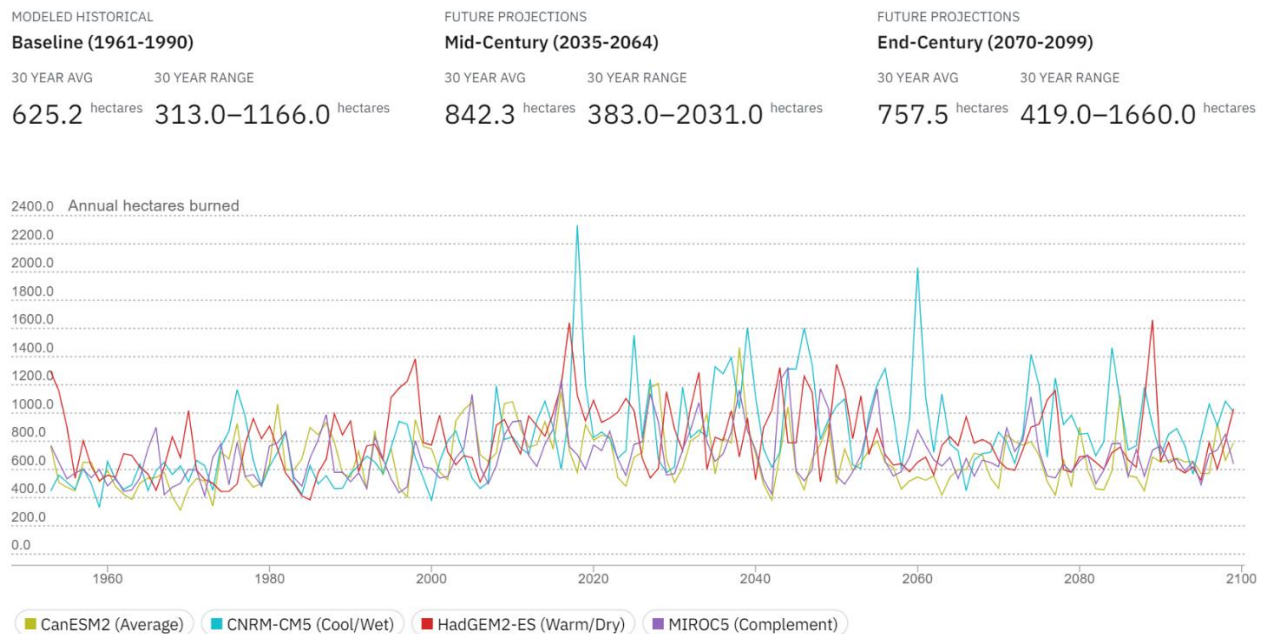
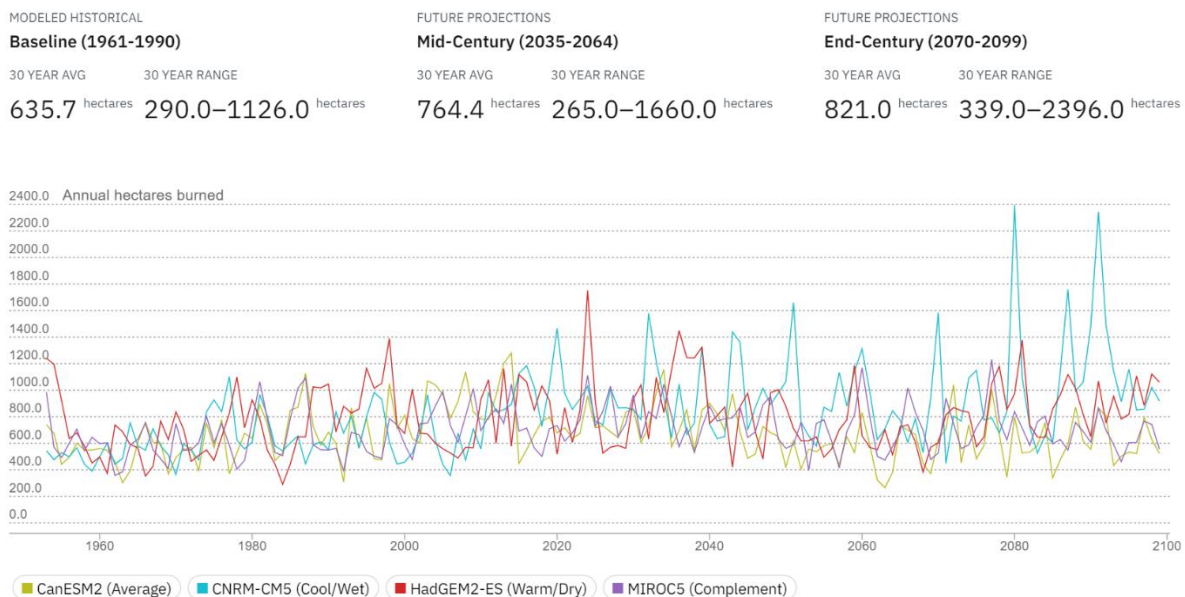


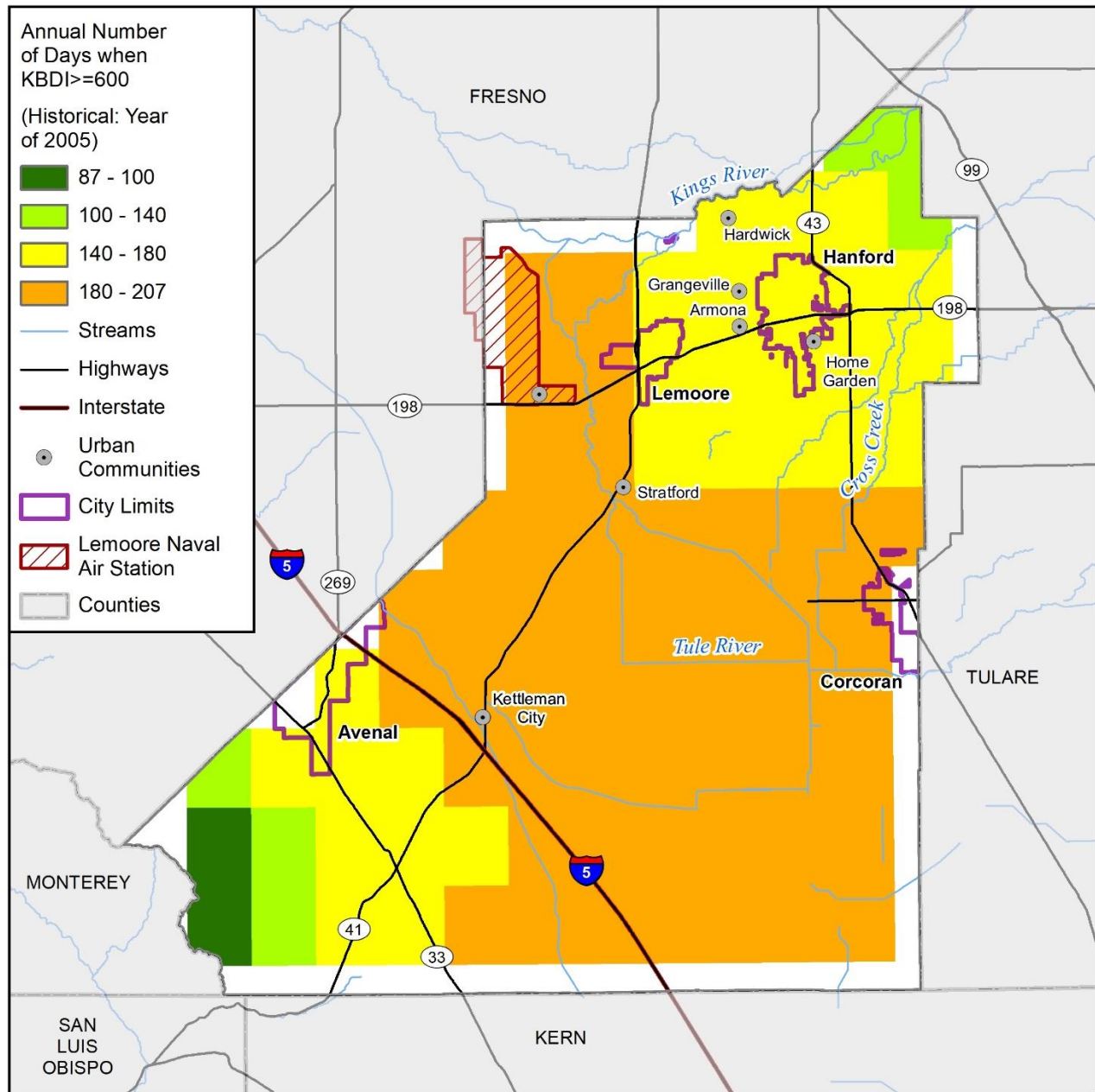
Figure 4-56 Kings County Projected Annual Average Area Burned Under RCP 8.5



The Keetch-Byram Drought Index (KBDI) is a measure of the amount of precipitation required to return soil to full moisture capacity. A KBDI of zero indicates a total lack of moisture deficiency, while 800 represents drought conditions deep within soil layers. KBDI is cumulative, meaning values will increase on dry and warm days and decrease during rainy periods. It is a simplified proxy for favorability of occurrence and spread of wildfire but is not itself a predictor of fire. Figure 4-57 shows the historic number of days when KBDI is greater than or equal to 600, based on data from 2005, and Figure 4-58 shows the projected number of midcentury (2050) when KBDI will be greater or equal to 600 based on the RCP 8.5 scenario.



Figure 4-57 Kings County Historical Annual Number of Days When KBDI is Greater than or Equal to 600

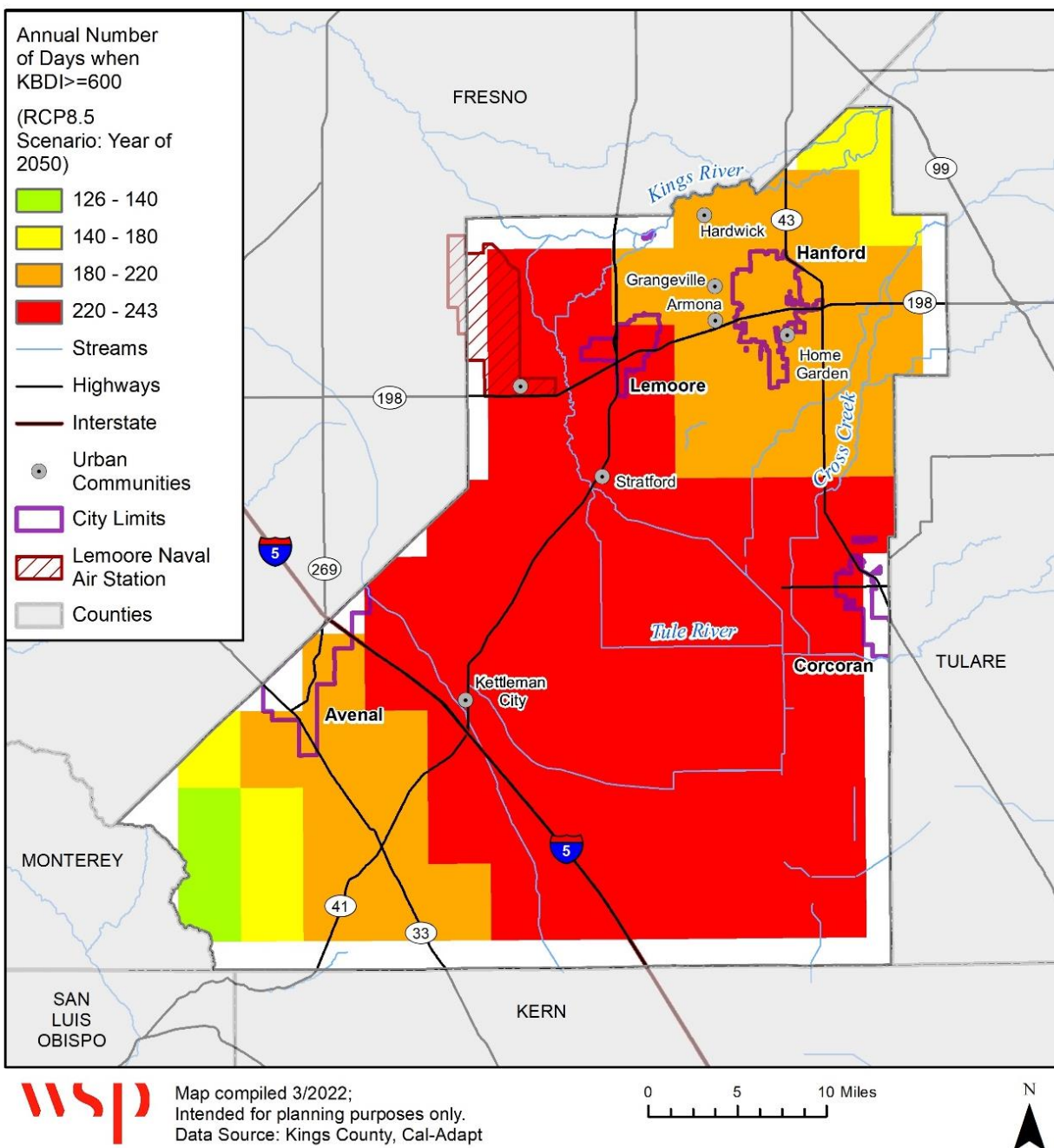


Map compiled 3/2022;
Intended for planning purposes only.
Data Source: Kings County, Cal-Adapt

0 5 10 Miles



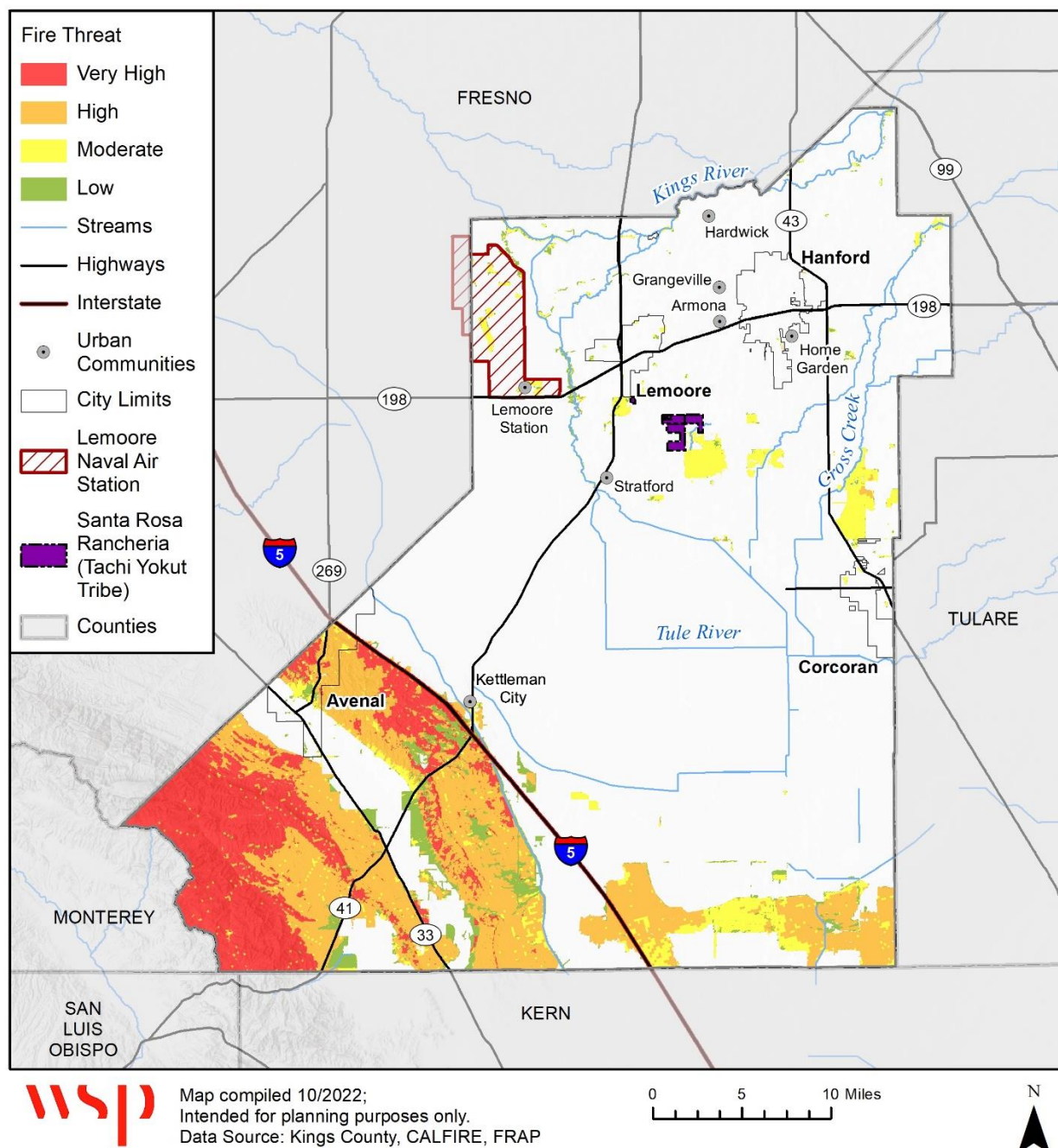
Figure 4-58 Kings County Mid-Century Annual Number of Days When KBDI is Greater than or Equal to 600



4.5.15.6 Magnitude and Severity

Negligible – Fire threat provides a measure of fuel conditions and fire potential in the ecosystem, representing the relative likelihood of “damaging” or difficult to control wildfire occurring for a given area. Fire Threat is not a risk assessment by itself but can be used to assess the potential for impacts on various assets and values susceptible to fire. Impacts are more likely to occur and/or be of increased severity for the higher threat classes. Fire threat is a combination of two factors: 1) fire probability, or the likelihood of a given area burning, and 2) potential fire behavior (hazard). These two factors are combined to create five threat classes ranging from low to extreme. Figure 4-59 below shows the wildfire threat areas throughout the County.

Figure 4-59 Kings County Fire Threat Areas



4.5.15.7 Vulnerability Assessment

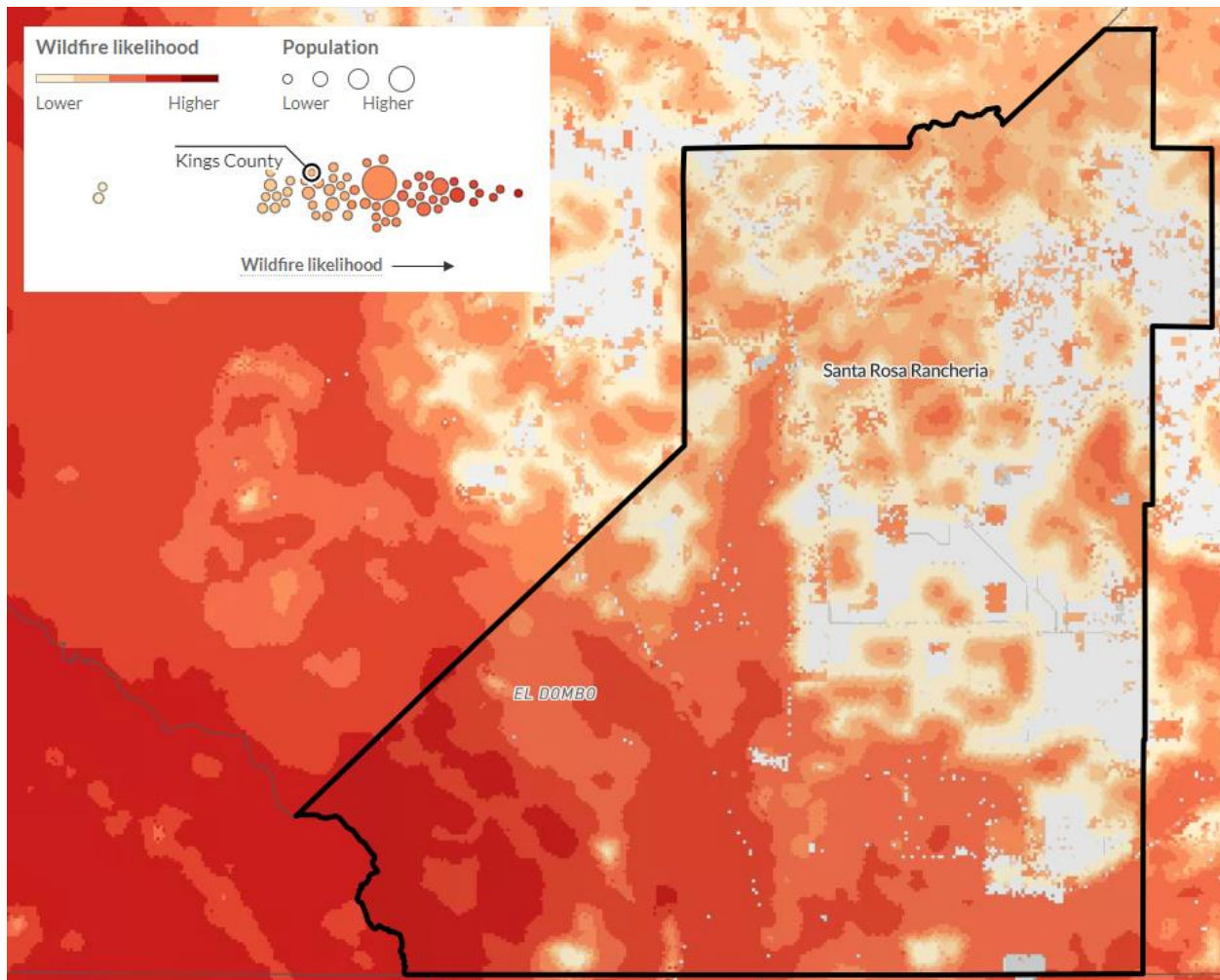
Typically, fire season in Kings County runs from early Spring to late Fall, and wildfires can start suddenly due to human activity or lightning strikes. These fires can last anywhere from a few hours to several months, with secondary effects including increased erosion, degraded air and water quality, and economic impacts from burned landscapes. Areas along the southwestern corner of the County face a higher risk than the central and more urbanized portion of the County.

Generally, this hazard is a medium concern given the increasing frequency and severity of wildfires in California. High fuel loads in some regions of the Planning Area along with geographical and topographical features create the potential for both natural and human-caused fires that can result in loss of life and property. These factors, combined with natural weather conditions common to the area, including periods of drought, low relative humidity, and periodic winds, can result in frequent and sometimes catastrophic fires. Even the relatively flat central parts of the County are not immune to fire;

hot and sometimes windy weather combined with dry vegetation and a denser population can increase the number of ignitions.

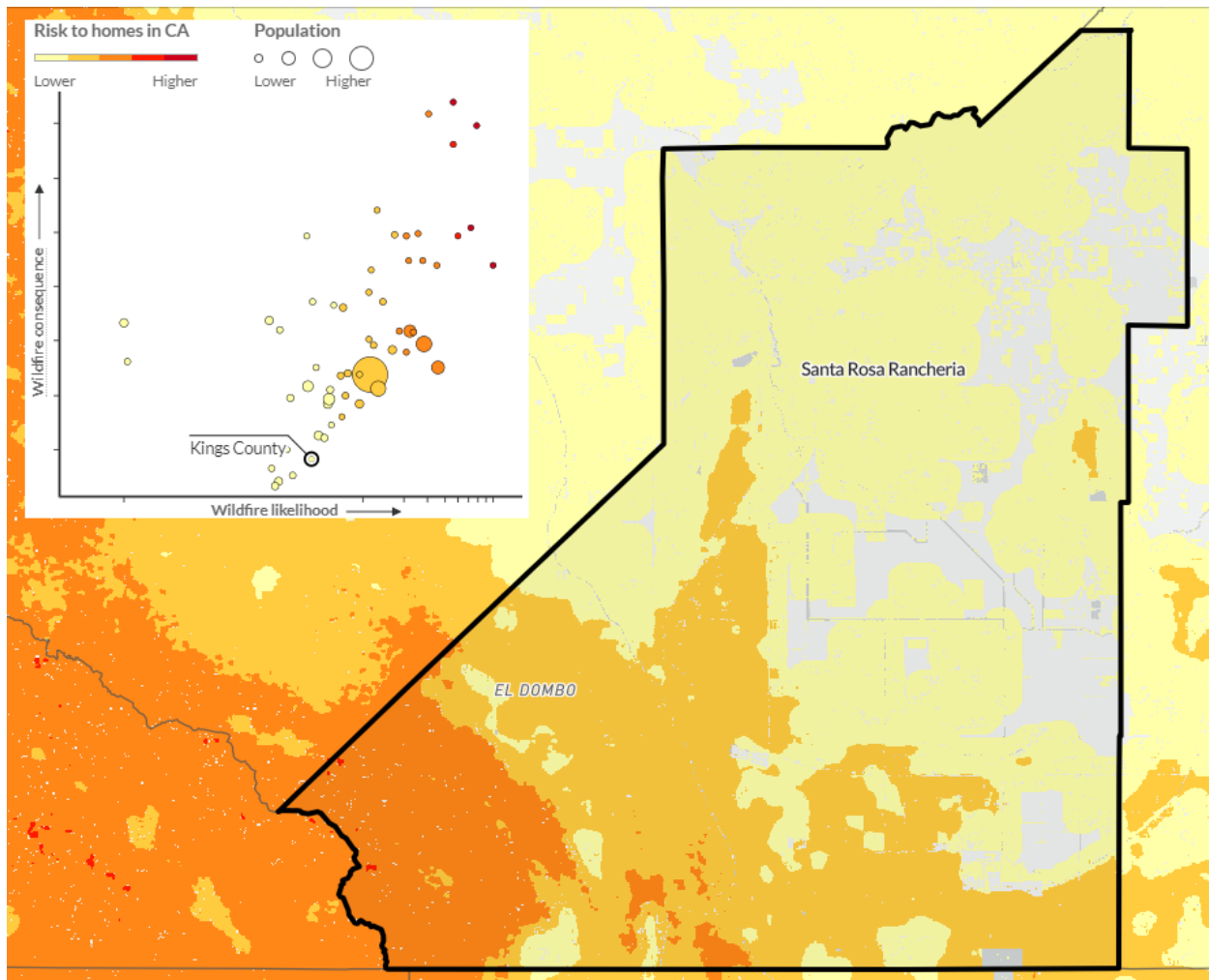
Figure 4-60 and Figure 4-61 are the results of *Wildfire Risk to Communities*, a nationwide risk study from the United States Forest Service that was designed to help communities understand, explore, and reduce wildfire risk. These figures provide a perspective of wildfire risk and vulnerability compared to other California counties. Populated areas in Kings County have, on average, greater wildfire likelihood than 23% of counties in California (USFS 2021). Populated areas in Kings County also have, on average, a greater risk to homes than 19% of counties in California (USFS 2021).

Figure 4-60 Kings County Relative Wildfire Likelihood



Source: USFS 2021

Figure 4-61 Kings County Relative Wildfire Risk to Homes



People

Wildland fires result in a high risk for personal injury, loss of life to inhabitants of the fire area and firefighters, and losses of structures and personal property. Wildfires in or near the WUI frequently require emergency evacuation and sheltering, often for many days. As is shown in Table 4-86 below, approximately 3,052 people in Kings County reside in moderate, high, and very high fire threat areas. The numbers were derived by taking the total number of residential, multi-family residential, and mixed-use structures identified in the moderate, high and very high fire threat areas and multiplying them by the average household size of the County and cities based on the 2021 ACS 5-Year Estimates. Of this population, only the DACs and socially vulnerable communities identified west of the City of Avenal in the unincorporated County are at greater risk. However, the direct risk from wildfire hazards to socially vulnerable communities in the County is less than the direct risk from other hazards. It does, however, pose human health risk associated with poor air quality, which will have a greater impact on those populations that are disadvantaged and have existing respiratory health conditions.

Table 4-86 Population at Risk to Fire Threat

JURISDICTION	POPULATION
Avenal	334
Corcoran	53
Lemoore	242
Unincorporated	2,089
Total	3,052

Source: Kings County, Cal FIRE, FRAP, U.S. Census Bureau, WSP GIS Analysis



In addition to the direct costs resulting from human injury and property destruction, secondary effects have the potential to continue impacting the community for years. Wildfires release gaseous pollutants, such as carbon monoxide, and hazardous air pollutants, such as particulate matter (i.e. polycyclic aromatic hydrocarbons composed of acids, molds, metals, or soot), into the air where they can drift long distances, affecting millions of people (Borgschulte et al, 2022). These small particles easily slip into homes, where they are inhaled, causing negative cardiovascular and respiratory conditions. These effects are felt most acutely by first responders and sensitive populations, such as the young and the old.

Property

The potential impacts of wildfire on property include crop loss, injury and death of livestock and pets, and damage to infrastructure, homes and other buildings located throughout the wildfire risk area.

A wildfire threat assessment was performed for Kings County using the following GIS methodology. Similar to the methodology used by the flood analysis, address point data together with the assessor's parcel data were overlaid on a Fire Threat Layer. Improved parcels together with the structures on them were then assigned with wildfire threat area class (very high, high, and moderate). It was assumed that every parcel with an improved value greater than zero was developed in some way, thus only improved parcels and their values were analyzed.

An analysis of the value of those parcels and structures – the improvement value plus the estimated value of building contents – quantifies the potential losses from wildfires by wildfire threat areas, as shown in

Table 4-87. The results show that over \$145.8 million worth of property and approximately 270 improved parcels together with 747 structures are exposed to wildfire threat countywide. The majority of these buildings are in moderate wildfire threat areas. The unincorporated areas and the City of Lemoore make up the majority of this risk. Exempt residential and agricultural properties constitute the majority of the number of parcels and the projected losses. Exempt properties include but are not limited to wetlands, schools, museums, etc. The total values shown in these tables include both structure value and contents and can be used as an estimate of potential losses since wildfires typically result in a total loss.

Table 4-87 Wildfire Hazard Exposure –Property Summary by Jurisdiction and Fire Threat Zone

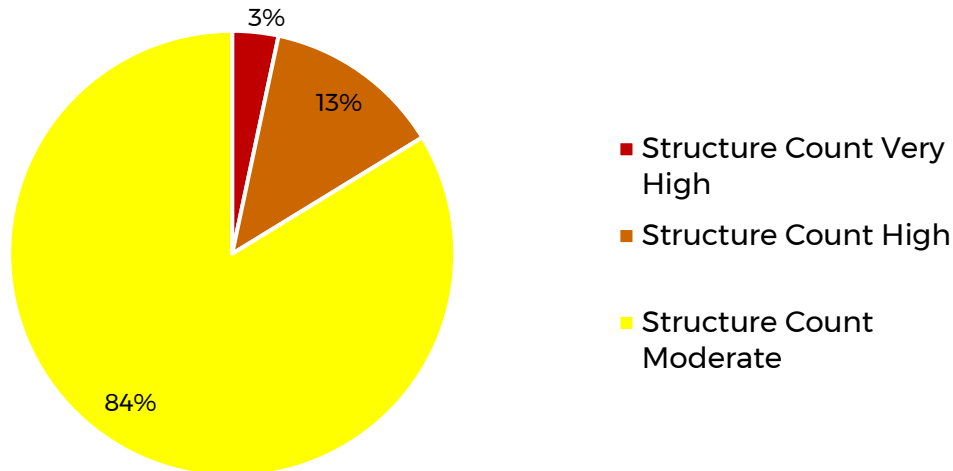
JURISDICTION	AVENAL	CORCORAN	LEMOORE	UNINCORPORATED	TOTAL
Parcel Count Very High	-	-	-	15	15
Building Count Very High	-	-	-	15	15
Parcel County High	-	-	-	53	53
Building County High	-	-	-	58	58
Parcel County Moderate	18	15	82	69	202
Building County Moderate	100	16	82	376	674
Total Parcel County	18	15	82	137	270
Total Building Count	100	16	82	449	747
Improved Value	\$11,097,454	\$2,258,421	\$18,202,253	\$41,643,263	\$84,298,845
Estimated Content Value	\$5,905,592	\$1,129,211	\$9,101,127	\$39,465,975	\$61,507,495
Total Value	\$17,003,046	\$3,387,632	\$27,303,380	\$81,109,238	\$145,806,340
Population	334	53	242	2,089	3,052

Source: Cal FIRE, Kings County Assessor, WSP GIS analysis



Figure 4-62 shows the composition of structures that are exposed to fire threats within the unincorporated County, categorized by fire threat zone.

Figure 4-62 Unincorporated County Parcels in Fire Threat Area



Critical Facilities and Lifelines

Critical facilities are those community components that are most needed to withstand the impacts of a disaster, as previously described in the Assets section. Wildfire impacts on critical facilities can include structural damage or destruction, risk to persons located within facilities, disruption of transportation, shipping, and evacuation operations, and interruption of facility operations and critical functions.

Critical facilities and infrastructure also create an increased risk for the occurrence of wildfires. Overhead electric transmission lines have been known to spark wildfires. According to data from the California Public Utilities Commission (CPUC), the State's three largest utility companies collectively reported 1,744 ignitions statewide between 2019-2021 (CPUC, 2023). Most of these instances were small, less than one acre in size, however these fires can grow rapidly under the right fire conditions. Identifying critical facilities and infrastructure and mitigating their potential risks is important both for maintaining the County's resilience and for reducing the potential impacts of wildfire.

The locations of critical facilities identified by HIFLD throughout the County are summarized by their exposure to the various wildfire threat levels in Table 4-88.

Table 4-88 Critical Facilities Within Wildfire Threat Zones by Jurisdiction and FEMA Lifeline

WILDFIRE THREAT ZONE	JURISDICTION	COMMUNICATIONS	ENERGY	FOOD, WATER, SHELTER	HAZARDOUS MATERIAL	HEALTH AND MEDICAL	SAFETY AND SECURITY	TRANSPORTATION	TOTAL
Low	Avenal	2	1	-	-	1	-	-	4
	Unincorporated	8	2	-	-	-	-	16	26
	Total	10	3	-	-	1	-	16	30



WILDFIRE THREAT ZONE	JURISDICTION	COMMUNICATIONS	ENERGY	FOOD, WATER, SHELTER	HAZARDOUS MATERIAL	HEALTH AND MEDICAL	SAFETY AND SECURITY	TRANSPORTATION	TOTAL
Moderate	Avenal	3	1	-	-	-	-	1	5
	Unincorporated	9	8	-	-	-	-	2	19
	Total	12	9	-	-	-	-	3	24
High	Avenal	1	1	-	-	-	-	-	2
	Unincorporated	4	1	-	-	-	-	-	5
	Total	5	2	-	-	-	-	-	7
Very High	Avenal	-	-	-	-	-	-	-	-
	Unincorporated	4	-	-	-	-	-	-	4
	Total	4	-	-	-	-	-	-	4

Source: Kings County, HIFLD, Cal FIRE, FRAP, WSP GIS Analysis

According to the analysis conducted, there are 35 critical facilities exposed to at least a moderate wildfire threat area. The highest rates of exposure to wildfire threat areas are facilities in the Communication and Energy Lifeline categories, both of which are crucial for response and evacuations in the event of a significant fire.

Economy

The economic impacts of wildfires include loss of property, direct agricultural sector job loss, secondary economic losses to businesses in or near wildland resources like parks and national forests, and loss of public access to recreational resources. Fire suppression may also require increased costs to local and state governments for water acquisition and delivery, especially during periods of drought when water resources are scarce. Effects on agriculture can be significant, which makes up a large portion of Kings County's economy. In addition to the obvious impacts on crops and animals, wildland fire can have damaging effects on soil and water that will impact agriculture for an extended period.

Cultural, Historic and Natural Resources

The County has three historic sites according to the California Office of Historic Preservation (refer to Subsection 4.2.1). Only one of these sites, No. 206 El Adobe de Los Robles Rancho, involves a structure. A re-built adobe house dating back to 1856, this structure is sensitive in nature and may not meet the latest building codes; it is expected that it might be at risk of wildfires (e.g., because of its potential inability to withstand significant heat). Parks and open spaces, particularly in the foothills, could also be at risk of a wildfire.

Development Trends

A fire threat GIS analysis within SOI boundaries is summarized in the table below. The methodology resembles what was used for the General Property subsection above. These parcels are also included in

Table 4-87, and they fall under "Unincorporated" in terms of their jurisdiction. Parcels shown below in Table 4-89 are those that fall within each jurisdiction's SOI and are located within different wildfire threat areas. As shown in Table 4-89, only parcels located within the SOIs of the Cities of Hanford and Lemoore are exposed to wildfire threat. The majority of these parcels are located in moderate fire threat areas.



Table 4-89 Sphere of Influence Fire Threat Analysis

Jurisdiction	Hanford	Lemoore	Total
Parcel Count High	2	0	2
Building Count High	2	0	2
Parcel Count Moderate	2	5	7
Building Count Moderate	2	6	8
Total Parcel Count	4	5	9
Total Building Count	4	6	10
Improved Value	\$528,005	\$1,862,074	\$2,390,079
Estimated Content Value	\$264,003	\$1,126,907	\$1,390,909
Total Value	\$792,008	\$2,988,981	\$3,780,988
Population	12	18	30

Source: Kings County, HIFLD, Cal FIRE, FRAP, WSP GIS Analysis

Any population increases in the Planning Area will continue to make wildfire vulnerability a growing issue, especially as Development Trends expands into higher fire risk areas. These risks can however be managed with strong land use regulations and building code requirements, and with policies established in the Safety Element of the 2035 General Plan. For example, policies requiring fire-resistant vegetation, clustered development, and vegetation clear zones in areas with high and extreme fire hazard, can all decrease the County's vulnerability to fire.

4.5.15.8 Risk Summary

- The overall significance of wildfire in Kings County is **Medium**. These events are recurring in nature and can cause significant damage, loss of life, and disruption to critical infrastructure.
- The County experiences an average of one wildfire every 3 years and an average of 1,355 acres burned per year. As impacts of climate change such as increased temperatures and prolonged drought conditions continue in coming years, this frequency and intensity may increase.
- Powerlines and vehicle or equipment use present a significant source of ignitions.
- Wildfires can destroy homes, businesses, and critical infrastructure; almost \$146 million worth of property in the County is located in a Fire Threat Zone.
- Wildfires can disrupt access to, or even destroy critical facilities and infrastructure; 24 critical facilities are in the Moderate Fire Threat Zone, 7 critical facilities are in the High Fire Threat Zone, and 4 critical facilities are in the Very High Fire Threat Zone.
- Wildfire impacts can include loss of property, direct agricultural sector job loss, secondary economic losses to businesses, and loss of public access to recreational resources.
- Wildfires can significantly impact water and air quality, even at great distances from the area burning. Damages to agriculture, natural resource areas, and habitats are very likely during a wildfire.
- **Related Hazards** – Agricultural Pests and Diseases, Drought, Extreme Temperatures

JURISDICTION	GEOGRAPHIC AREA	PROBABILITY OF FUTURE OCCURRENCE	MAGNITUDE/ SEVERITY	OVERALL SIGNIFICANCE	PRIORITY HAZARD?
Kings County	Significant	Likely	Negligible	Medium	Yes
City of Avenal	Limited	Likely	Negligible	Medium	Yes
City of Corcoran	Limited	Likely	Negligible	Low	No
City of Hanford	Limited	Likely	Negligible	Low	No
City of Lemoore	Limited	Likely	Negligible	Low	No



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5 MITIGATION STRATEGY

Requirement §201.6(c)(3):

[The plan shall include the following:] A mitigation strategy that provides the jurisdiction's blueprint for reducing the potential losses identified in the risk assessment, based on existing authorities, policies, programs, and resources, and its ability to expand on and improve these existing tools.

This section describes the mitigation strategy process and mitigation action plan for the Kings County MJHMP. It describes how the County and participating jurisdictions met the requirements for the following from the 10-step planning process:

- Planning Step 6: Set Goals
- Planning Step 7: Review Possible Activities
- Planning Step 8: Draft an Action Plan

The mitigation strategy reflects the results of the collaborative work of the HMPC. Subsection 5.3 Mitigation Action Plan is based on the updated planning process, risk assessment, capability assessment, consequence analysis, goal setting, and the identification of mitigation actions. Taking all of these into consideration, the HMPC developed the following overall mitigation strategy, which builds upon the 2012 LHMP strategy:

- **Communicate** the hazard information collected and analyzed through this planning process as well as HMPC success stories so that the community better understands what can happen where and what they themselves can do to be better prepared.
- **Implement** the action plan recommendations of this plan to reduce the County's vulnerability to hazards.
- **Use** existing rules, regulations, policies, and procedures already in existence. Given the flood hazard in the planning area, an emphasis should be placed on continued compliance with the NFIP.
- **Lessen** the impact of disasters and the speed of the response and recovery process.
- **Build** awareness to help the community become more sustainable and reliant to disasters.
- **Monitor** multi-objective management opportunities so that funding opportunities may be shared and packaged, and broader constituent support may be garnered.

5.1 MITIGATION GOALS AND OBJECTIVES

§201.6(c)(3)(i)

[The hazard mitigation strategy shall include a] description of mitigation goals to reduce or avoid long - term vulnerabilities to the identified hazards.

Up to this point in the planning process, the HMPC has organized resources, assessed hazards and risks, and documented mitigation capabilities. The resulting goals, objectives, and mitigation actions were developed based on these tasks. The HMPC held a series of meetings and exercises designed to achieve a collaborative, updated mitigation strategy as described further throughout this section.

Over a series of meetings during the 2022 - 2023 update process, the HMPC reviewed the results of the hazard identification, vulnerability assessment, and capability assessment update. This analysis of the risk assessment identified areas where improvements could be made and provided the framework for the HMPC to update planning goals and objectives and the ultimate mitigation strategy for the Kings County planning area.

Mitigation goals are defined as general guidelines that explain what the County wants to achieve in terms of hazard and loss prevention. Goals are typically long-range statements representing community-wide visions. The HMPC reviewed the goals from the 2012 MJHMP which focused on reducing the impacts of natural hazards to life, property, and the environment, as well as agriculture and the economies of communities, and implementing identified mitigation activities. The goals were developed to be compatible with the goals of the community as expressed in the Health and Safety Element of the General Plan, and the 2015 EOP. The County's Mitigation Strategy is guided by the vision of a safe and resilient County. The mission is to integrate existing laws and programs into a mitigation strategy that will serve the citizens by reducing and preventing injury and damage from natural hazards.



Kings County routinely performs activities such as issuing building permits, approving development plans, and repairing roads. The County is conscious that these activities should reflect the vision and goals by using the most current building code, restricting development in hazard-prone areas, or making infrastructure decisions based on the risk assessment findings. As a result, goals were defined for this mitigation plan as broad-based public policy statements that:

- Represent basic desires of the community;
- Encompass all aspects of community, public and private;
- Are nonspecific, in that they refer to the quality (not the quantity) of the outcome;
- Are future-oriented, in that they are achievable in the future; and
- Are time-independent, in that they are not scheduled events.

Goals are stated without regard to implementation. Implementation cost, schedule, and means are not considered. Goals are defined before considering how to accomplish them so that they are not dependent on the means of achievement. Goal statements form the basis for objectives and actions that will be used as means to achieve the goals. Objectives define strategies to attain the goals and are more specific and measurable. Goals are listed below. The County decided not to develop specific objective statements.

5.1.1 Mitigation Goals

- **Goal 1:** Reduce impacts of natural hazards to life, property, and the environment.
- **Goal 2:** Minimize impacts of natural disasters to agriculture and the economies of communities.
- **Goal 3:** Implement identified mitigation activities.
- **Goal 4:** Plan for and adapt to the effects of climate change.

5.2 IDENTIFICATION AND ANALYSIS OF MITIGATION ACTIONS

§201.6(c)(3)(ii):

[The hazard mitigation strategy shall include a] section that identifies and analyzes a comprehensive range of specific mitigation actions and projects being considered to reduce the effects of each hazard, with particular emphasis on new and existing buildings and infrastructure. All plans approved by FEMA after October 1, 2008, must also address the jurisdiction's participation in the NFIP, and continued compliance with NFIP requirements, as appropriate.

In order to identify and select mitigation measures to support the mitigation goals, each hazard identified in Section 4: Hazard Identification and Risk Assessment was evaluated. The HMPC analyzed a comprehensive set of viable mitigation alternatives for both new and existing buildings and infrastructure that would support identified goals and objectives and reduce or eliminate risks to persons or property or lessen the actual or potential effects or consequences of a disaster. Each HMPC member was provided with the following list of categories of mitigation measures, which originate from the NFIP CRS:

- **Prevention:** Administrative or regulatory actions or processes that influence the way land and buildings are developed and built.
- **Property protection:** Actions that involve the modification of existing buildings or structures to protect them from a hazard or remove them from the hazard area.
- **Structural:** Actions that involve the construction of structures to reduce the impact of a hazard.
- **Natural resource protection:** Actions that, in addition to minimizing hazard losses, also preserve or restore the functions of natural systems.
- **Emergency services:** Actions that protect people and property during and immediately after a disaster or hazard event.
- **Public information/education and awareness:** Actions to inform and educate citizens, elected officials, and property owners about the hazards and potential ways to mitigate them.

At the HMPC Meeting #3, the HMPC was provided with a matrix showing examples of potential mitigation action alternatives for each of the above categories, for each of the identified hazards. The HMPC was also provided a handout that explains the categories and provided further examples. These documents list the common alternatives for mitigation by hazard and actions funded by FEMA. The HMPC was also instructed to consider both future and existing buildings in considering possible mitigation actions. This reference provides four categories of mitigation actions that were discussed at the HMPC meeting in addition to the NFIP/CRS categories. These include:



- Plans and Regulations
- Structure and Infrastructure Projects
- Education and Awareness
- Natural systems protection

Other alternatives discussed in the webinar include the four A's of mitigation:

- **Alter** the physical nature of the hazard.
 - Such as wildfire defensible space and fuels treatments, snow fences etc.
- **Avert** the hazard away from people, buildings, and infrastructure.
 - Can include engineered solutions, drainage, and channel improvements, floodproofing, fuel breaks.
- **Adapt** to the hazard.
 - Through land use planning, building codes and design standards, warning systems etc.
- **Avoid** the hazard.
 - Natural systems protection, open space, acquisition, or relocation of properties out of hazardous areas

As part of the review of mitigation options, long-term climate change adaptation strategies were also discussed, such as climate adaptation strategies included in the Final Regional Climate Action Plan for the cities of Avenal and Hanford (e.g., Trees, Parks, and Open Space Measures, Community Education and Outreach Measures). HMPC members were encouraged to incorporate climate change adaptation measures into the mitigation strategy of their respective jurisdictions by utilizing resources and guidance available on the Cal-Adapt website and California APG. These adaptation strategies were considered for inclusion in the mitigation strategy and to comply with California Government Code Section 65302.3(g) requirements. Further, the County was provided a list of over 12 suggested ideas for new mitigation actions during HMPC Meeting #3 to consider when developing new mitigation actions (see Appendix D).

To facilitate the brainstorming process, the HMPC was provided a matrix of typical mitigation alternatives organized by CRS category for the hazards identified in the plan, in addition to a handout that explains the categories and provided examples. These materials are included in Appendix B. During a group activity during HMPC Meeting #3 the HMPC members were encouraged to develop mitigation alternatives that would protect future, as well as existing, development from hazards per the DMA 2000 regulations. A facilitated discussion then took place to examine the existing actions in the 2012 MJHMP and analyze the other possible mitigation alternatives from the suggested ideas for new mitigation ideas (previously noted) and by incorporating policies and implementation measures from each jurisdiction's Safety Element, Emergency Operations Plan, and Capital Improvement Program (e.g. storm water drainage facility policies; emergency preparedness policies; and natural hazard policies for drought, earthquake, extreme heat, dam failure, and other hazards). This facilitated discussion resulted in a full list of mitigation actions from which the HMPC could select mitigation actions. With an understanding of all the alternatives, the group activity was conducted to generate a list of preferred mitigation actions to carry forward into the mitigation strategy. The result was new and updated project ideas with the intent of meeting the identified goals and mitigating identified hazards. These new and updated project mitigation actions were expanded on during numerous follow-up meetings with County OES staff and participating jurisdictions to focus on the refinement and prioritization of new mitigation activities added later in the planning process.

Once new mitigation actions were defined, the HMPC selected and prioritized the mitigation actions by ranking them during another group activity that asked the participants to rank actions as either low, medium, or high-priority projects; additional information on this process is described below. WSP also discussed remaining information or mitigation gaps that needed to be addressed during the final follow-up meetings. These meetings were more focused on stakeholder group sessions intended to wrap up mitigation gaps, discuss opportunities for plan integration, and review the plan implementation and maintenance procedures.

5.2.1 Prioritization Process

Once the mitigation actions were identified, the HMPC was provided with several decision-making tools, including FEMA's recommended prioritization criteria, STAPLEE, to assist in deciding why one recommended action might be more important, more effective, or more likely to be implemented than another. STAPLEE stands for the following:



- **Social:** Does the measure treat people fairly? (e.g., different groups, different generations) Does it consider social equity, disadvantaged communities, or vulnerable populations?
- **Technical:** Will it work? (Is the action technically feasible? Does it solve the problem?)
- **Administrative:** Is there capacity to implement and manage the project? (adequate staffing, funding, and other capabilities to implement the project?)
- **Political:** Who are the stakeholders? Did they get to participate? Will there be adequate political and public support for the project?
- **Legal:** Does the jurisdiction have the legal authority to implement the action? Is it legal? Are there liability implications?
- **Economic:** Is the action cost-beneficial? Is there funding available? Will the action contribute to the local economy?
- **Environmental:** Does the action comply with environmental regulations? Will there be negative environmental consequences from the action?

In accordance with the DMA requirements, an emphasis was placed on the importance of a benefit-cost analysis in determining action priority. Other criteria used to assist in evaluating the benefit-cost of a mitigation action included:

- Does the action address hazards or areas with the highest risk?
- Does the action protect lives?
- Does the action protect infrastructure, community assets or critical facilities?
- Does the action meet multiple objectives (Multiple Objective Management)?
- What will the action cost?
- What is the timing of available funding?

The mitigation categories, multi-hazard actions, and criteria are included in Appendix D.

At the HMPC Meeting #3: mitigation strategy meeting, the HMPC reviewed and discussed the STAPLEE considerations to determine which of the identified actions were most likely to be implemented and effective. Prioritization of previous mitigation actions identified in the 2012 MJHMP were carried forward in the updated plan. New actions identified and selected for further consideration during the 2022-2023 process also were prioritized based on the group activity (sticky dot exercise) and a follow-up discussion. With the STAPLEE criteria in mind, HMPC participants completed the group activity to select and rank the existing and new mitigation actions, which corresponds to the final list of mitigation actions summarized below in Section 5.4 (e.g., a full list of recommended mitigation actions consisted of recommended actions and actions that would incorporate policies and implementation measures from other planning documents).

The team was asked to prioritize projects with the above criteria in mind, essentially voting on the projects. The projects with the most points or votes using a sticky dot exercise became the higher priority projects, and those with the next highest number of sticky dots became the medium priority projects. Those projects with less than three or no sticky dots were the low priority projects. The HMPC decided that the high priority projects would be those the County and participating jurisdictions would focus on for implementation during this planning cycle. The HMPC decided that the low priority actions would not be prioritized for implementation during this planning cycle. The HMPC also re-prioritized projects that were added during final review of the plan to ensure mitigation actions were explicitly linked to each known natural hazard assessed and the key vulnerabilities. This process provided both consensus and priority for the recommendations.

The process of identification and analysis of mitigation alternatives allowed the HMPC to come to a consensus and to collectively prioritize recommended mitigation actions. During the voting process, emphasis was placed on the importance of a benefit-cost review in determining project priority; however, this was not a quantitative analysis.

Cost-Benefit Review

A cost-benefit review was applied to prioritize the mitigation recommendations for implementation. The priority for implementing mitigation recommendations depends upon the overall cost-effectiveness of the recommendation when taking into account monetary and non-monetary costs and benefits associated with each action. The cost-benefit table for each hazard provides an analysis of the benefit, cost, and relative priority rank (High, Medium, and Low) for each mitigation activity. The guidelines are listed below.



- **High** – Benefits are perceived to exceed costs without further study or evaluation.
- **Medium** – Benefits are perceived to exceed costs but may require further study or evaluation prior to implementation.
- **Low** – Benefits and cost evaluations requires additional evaluation prior to implementation.

Funding projects that will help mitigate imminent hazards are cost-effective and assist in efforts to help communities recover from disasters. Most of the projects are already funded through general fund, application fees or state/federal funds. The majority of the projects are ongoing to ensure mitigation measures are implemented within the County. It is not anticipated that all future projects will be identified in the 2023 MJHMP. The County's MJHMP will also help guide local government to prioritize, be flexible, and identify critical mitigation strategy needs that may arise from a disaster when there is no time to update the local plan.

Benefit-cost was considered in greater detail in the development of the Mitigation Action Plan. For example, parameters were established for assigning the subjective ratings (high, medium, low) to the benefits and costs of each mitigation action. Specifically, each action developed for this plan contains a description of the problem and proposed project, the entity with primary responsibility for implementation, any other alternatives considered, a cost estimate, expected project benefits, potential funding sources, and an implementation schedule. Development of these project details for each action led to the determination of an overall high, medium, or low priority for each action.

Recognizing the limitations in prioritizing actions from multiple departments and the regulatory requirement to prioritize by benefit-cost to ensure cost-effectiveness, the HMPC decided to pursue mitigation action strategy development and implementation according to the nature and extent of damages, the level of protection and benefits each action provides, political support, project cost, available funding, and jurisdiction and department priority. This process guided the development of a prioritized action plan for Kings County and the participating jurisdictions.

Cost-effectiveness will be considered in greater detail through a formal benefit-cost analysis when seeking FEMA mitigation grant eligibility and funding (e.g. HMGP, BRIC grant programs) for eligible actions associated with this plan. It is also important for the County to protect critical facilities and infrastructure. Areas of repetitive loss are high priorities for mitigation funding as they can drain County coffers.

5.2.2 Continued NFIP Participation

The NFIP makes federally-backed flood insurance available to homeowners, renters, and business owners in participating communities. For most participating communities, FEMA has prepared a detailed Flood Insurance Study (FIS). The study presents water surface elevations for floods of various magnitudes, including the 1% annual chance flood (or 100-year flood) and the 0.2% annual chance flood (or 500-year flood). Base flood elevations and the boundaries of the 100- and 500-year floodplains are shown on Flood Insurance Rate Maps (FIRM), which are the principal tools for identifying the extent and location of the riverine flood hazard. FIRMs are the most detailed and consistent data source available, and for many communities, they represent the minimum area of oversight under their floodplain management program.

Participants in the NFIP must, at a minimum, regulate development in floodplain areas in accordance with NFIP criteria. Before issuing a permit to build in a floodplain, participating jurisdictions must ensure that three criteria are met:

- New buildings and those undergoing substantial improvements must, at a minimum, be elevated to protect against damage by the 100-year flood.
- New floodplain development must not aggravate existing flood problems or increase damage to other properties.
- New floodplain development must exercise a reasonable and prudent effort to reduce its adverse impacts on threatened salmonid species.

Kings County and all four jurisdictions participate in the NFIP. Under the NFIP, buildings that were built before the flood hazard was identified on the community's FIRMs are generally referred to as "pre-FIRM" buildings. When the NFIP was created, the U.S. Congress recognized that insurance for pre-FIRM buildings would be prohibitively expensive if the premiums were not subsidized by the Federal Government. Congress also recognized that most of these flood-prone buildings were built by individuals



who did not have sufficient knowledge of the flood hazard to make informed decisions. The NFIP requires that full actuarial rates reflecting the complete flood risk be charged on all buildings constructed or substantially improved on or after the effective date of the initial FIRM for the community or after December 31, 1974, whichever is later. These buildings are generally referred to as “Post-FIRM” buildings.

Table 5-1 below shows the dates when Kings County and the jurisdictions joined the NFIP.

Table 5-1 Kings County and Its Jurisdictions’ NFIP Entry Date

COUNTY/JURISDICTION	NFIP ENTRY DATE
Kings County	August 4, 1988
City of Avenal	April 5, 1989
City of Corcoran	November 28, 1997
City of Hanford	March 18, 1987
City of Lemoore	April 3, 1987

Source: CIS 2023

Post-FIRM structures built in compliance with the floodplain regulations are mitigated to withstand floods up through the 100-year event. The insurance rate is different for the two types of structures, as pre-FIRM structures are at higher risk of flooding. The effective date for the current countywide FIRM is September 16, 2015.

The County and participating jurisdictions are currently in good standing with the provisions of the NFIP. Compliance is monitored by FEMA regional staff. Maintaining compliance with the NFIP is an important component of flood mitigation and risk reduction and Kings County and the four participating jurisdictions will continue to make every effort to remain in good standing with the program. This includes continuing to comply with the NFIP’s standards for adopting floodplain maps and maintaining and periodically updating local floodplain regulations. Actions related to continued compliance also include:

- Continued designation of a local floodplain manager whose responsibilities include reviewing floodplain development permits to ensure compliance with the local floodplain management ordinances and rules;
- Suggest changes to improve enforcement of and compliance with regulations and programs;
- Participate in FIRM updates by adopting new maps or amendments to maps;
- Utilize Digital FIRMs in conjunction with GIS to improve floodplain management, such as improved risk assessment and tracking of floodplain permits;
- Promote and disperse information on the benefits of flood insurance.

5.3 MITIGATION STRATEGY ACTION PLAN

§201.6(c)(3)(iii)

[The hazard mitigation strategy shall include an] action plan, describing how the action identified in paragraph (c)(3)(ii) of this section will be prioritized, implemented, and administered by the local jurisdiction. Prioritization shall include a special emphasis on the extent to which benefits are maximized according to a cost-benefit review of the proposed projects and their associated costs.

§201.6(c)(3)(iv)

For multi - jurisdictional plans, there must be identifiable action items specific to the jurisdiction requesting FEMA approval or credit of the plan.

This action plan was developed to present the recommendations developed by the HMPC for how the Kings County planning area can reduce the vulnerability of people, property, infrastructure, and natural and cultural resources to future disaster losses. Over time the implementation of these projects will be tracked as a measure of demonstrated progress on meeting the plan’s goals.



5.3.1 Progress on Previous Mitigation Actions

A review of 2012 mitigation actions progress reports indicates that Kings County has been successful in implementing actions identified in the 2012 MJHMP Mitigation Strategy, thus, working diligently towards meeting the 2012 plan goals.

The 2012 mitigation strategy contained 20 separate mitigation actions. Three of these actions were multi-jurisdictional, four applied to the City of Avenal, two applied to the City of Corcoran, and the remaining 11 were County-wide actions. As of July 2023, five of these actions have been completed, one has been deleted, and 14 actions are continuing and carried forward into the 2023 MJHMP.

Table 5-2 summarizes progress implementing mitigation actions. The total continuing actions row summarizes the actions from 2012 that are either still in-progress, have annual implementation, or are continuing but not completed. The new actions in 2023 summarizes the number of actions that were identified during the 2022- 2023 plan update process.

Table 5-2 Mitigation Action Progress Summary for County

PROGRESS CATEGORY	# OF MITIGATION ACTIONS
Completed	5
Deleted	1
Total Removed Actions	6
Continue: In-Progress	9
Continue: Not Started	3
Continue: Revised	2
New Actions in 2023	69
Total Active Actions	78

Source: HMPC 2023

Table 5-3 indicates the details for each of the 2012 mitigation action items. One deleted action was multi-jurisdictional, three actions were completed by the County, one action was completed by the City Corcoran, and one action was completed by the City of Avenal.

Table 5-3 Status of 2012 Mitigation Actions

ID	HAZARD(S) ADDRESSED	MITIGATION ACTION	LEAD AGENCY	ACTION STATUS NOTES
1	Earthquake, Land Subsidence, Landslide	Housing Rehabilitation Program - Continue and enhance housing rehabilitation program.	City of Avenal Community Development Director	Ongoing.
2	Drought, Earthquake, Extreme Temperatures: Freeze and Heat, Flood, Fog, Wildfire	Emergency Power System for the Emergency Operations Center at the Ken Brown Public Safety Center - Purchase, Install, test, and utilize a 200 KW Propane/Natural Gas-powered emergency Generator system for the Emergency Operations Center.	Avenal OES/Police Department, Kings County OES	Completed in 2018, creating the City's EOC at the APD
3	Earthquake	Vulnerability of Water Distribution System	City of Avenal Public Works Department	In progress.
4	Earthquake, Subsidence, Landslide	Loss Reduction Program for URM Buildings	City of Avenal City Manager's Office, California Seismic Safety Commission, City of Avenal Public Works Department	In progress.
5	Drought, Earthquake, Extreme Temperatures: Freeze and Heat,	Expand the Veterans' Memorial Building and designate it as an emergency shelter.	City of Corcoran Public Works	Revised Action in 2023. Use of the Veteran's Hall is no longer needed now that the RAC gymnasium is



ID	HAZARD(S) ADDRESSED	MITIGATION ACTION	LEAD AGENCY	ACTION STATUS NOTES
	Flood, Fog, Wildfire			outfitted and serves a larger population.
6	Drought, Earthquake, Extreme Temperatures: Freeze and Heat, Flood, Fog, Wildfire	Assess vulnerability of critical infrastructure and lifeline utilities, that may be disrupted due to the construction of high-speed rail through Kings County.	Kings County, Cities of Hanford and Corcoran	Deleted. Construction of high-speed rail has begun.
7	Drought, Earthquake, Extreme Heat, Flood, Fog, Freeze, Wildfire	Emergency Power System for shelter site	City of Corcoran Public Works, Kings County Office of Emergency Services	Revised Action. Use of the Veteran's Hall is no longer needed now that the RAC gymnasium is outfitted and serves a larger population. The next critically identified need area is the Corcoran Depot apartment complex as it houses a concentrated area of senior and special needs individuals.
8	Drought, Earthquake, Extreme Temperatures: Freeze and Heat, Flood, Fog, Wildfire	New Public Safety Building	Corcoran Police Department	Completed, October 2019
9	Drought, EQ, Extreme Heat, Flood, Fog, Freeze, Wildfire	Public Education Program	County and City Public Works, Kings County Health Dept., Kings County OES	In progress.
10	Drought, Earthquake, Extreme Heat, Flood, Fog, Freeze, Wildfire	Emergency Power Switching System for Primary Care Clinics	County Public Health Emergency Preparedness	Completed, December 2018
11	Drought, Earthquake, Extreme Heat, Flood, Fog, Freeze, Wildfire	Hospitals HVAC	County Public Health Emergency Preparedness	Completed, December 2018
12	Drought, Earthquake, Extreme Heat, Flood, Fog, Freeze, Wildfire	Water Recharge Basin Partnership Program	State DWR led joint powers authority should be developed to manage this multi- jurisdictional project. California Department of Water Resources (DWR), Kings County water and irrigation districts, Kings County OES, Community Development	In progress. Funding not yet secured but grant has been applied for with HMGP



ID	HAZARD(S) ADDRESSED	MITIGATION ACTION	LEAD AGENCY	ACTION STATUS NOTES
13	Drought, Earthquake, Extreme Heat, Flood, Fog, Freeze, Wildfire	Community Alert and Warning	Kings County OES, Sheriff and City Law Enforcement, Kings County Operational Area partners, county communications and Cal OES, State Department of Corrections, State High Speed Rail Authority.	Ongoing
14	Drought, Earthquake, Extreme Heat, Flood, Fog, Freeze, Wildfire	Transportable Shelter Caches for Displaced Populations	County Public Health Emergency Preparedness	Completed, December 2022
15	Drought, Earthquake, Extreme Heat, Flood, Fog, Freeze, Wildfire	New County EOC Assessment	Kings County OES, County Departments, Kings County Fire Department, Kings County Environmental Health, Kings County Information Technology Department, and Kings County Public Works Department	Not started. Funding not yet secured.
16	Drought, Earthquake, Extreme Heat, Flood, Fog, Freeze, Wildfire	Inter-jurisdictional GIS Program	Kings County Community Development, OES, City GIS, IT, Cities of Avenal, Corcoran, Lemoore, and Hanford; special districts; water and irrigation districts; Local Agency Formation Commission of Kings County; and Kings County Association of Governments	In progress.
17	Drought, EQ, Extreme Heat, Flood, Fog, Freeze, Wildfire	Kings County Area Disaster Council	Kings County OES, County Admin Office, Board of Supervisors	In progress. Organizational work to establish the Council was accomplished but formal meetings have not yet commenced.
18	Extreme Heat	Livestock Disposal Plan	Kings County Agricultural Commissioner, Kings County Agricultural Advisory Committee, University of California at Davis Extension, Environmental Health Services, Natural Resources Conservation Service, Kings County	Not started. Funding not yet secured



ID	HAZARD(S) ADDRESSED	MITIGATION ACTION	LEAD AGENCY	ACTION STATUS NOTES
			Community Development Agency, Kings County Environmental Health, County OES, PHEP	
19	Drought, EQ, Extreme Heat, Flood, Fog, Freeze, Wildfire	Disaster Evacuation Routes	Kings County Public Works Department, Kings County Sheriff / City Police, County OES, Human Services Agency (HAS), Kings Rural Area Transit, Public Health Emergency Preparedness, Kings County Planning Agency; Cities of Avenal, Corcoran, Lemoore, and Hanford; California Department of Transportation	In progress. Funding has not been secured, may do this internally
20	Fog	Traffic Safety Fog Events	Kings County Public Works, Kings OES, County and City Law Enforcement, CHP, Caltrans	Not started, funding not secured

Source: HMPC 2023

5.3.2 Updated Action Plan

The results of the project identification and prioritization exercise from the third HMPC meeting are summarized in Table 5-4. These projects detail specific actions for reducing future hazard-related losses within Kings County. The projects are organized by jurisdictions and include notes about the department and partners necessary to implement the project.

Table 5-4 provides details on 83 existing and new mitigation actions, including the mitigation action description estimated cost, potential funding sources, timeline, indication of the goal(s) that the projects primarily align with, and are marked with their relative level of priority high, medium, and low. The following table also provides status/implementation notes that describe progress made on the actions so far, using the following categories, and, where applicable, notes if there were changes in the priority level from the previous plan:

- **Not Started:** Work has not begun
- **In Progress:** Work has begun but not completed
- **Annual Implementation:** Ongoing with no specific end date
- **New in 2023:** The action is new to this plan update; little to no work has been completed.

The Cost Estimate column describes the estimated project costs using the following categories:

- **Little to no cost**
- **Low:** Less than \$10,000
- **Moderate:** \$10,000-\$100,000
- **High:** \$100,000-\$1,000,000
- **Very High:** More than \$1,000,000

The Timeline column describes the estimated time of completion for each project using the following categories:



- **Short Term:** 1-2 years
- **Medium Term:** 3-5 years
- **Long Term:** 5+ years
- **Ongoing:** action is implemented every year

Of the 83 mitigation actions in the updated plan, 14 were carried over from the previous plan, two actions were revised, and 69 are new mitigation actions, including 28 Kings County actions and 55 jurisdiction-specific actions. Many of these mitigation actions are intended to reduce impacts to existing development. Those that protect future development from hazards, as required per the DMA 2000 regulations, are indicated by an asterisk in the action identification number. These actions include those that promote wise development and hazard avoidance, such as updating mapping and continued enforcement of floodplain development regulations. Those projects with two asterisks are emergency preparedness actions, most of which were carried forward from the 2017 plan. There is at least one mitigation actions for each natural hazard identified in the plan.



Table 5-4 Kings County Mitigation Actions

ID	LINKS TO GOALS	HAZARD(S) MITIGATED	DESCRIPTION/ BACKGROUND/ BENEFITS	JURISDICTION	LEAD AGENCY AND PARTNERS	COST ESTIMATE	POTENTIAL FUNDING	FEMA LIFELINE	PRIORITY	TIMELINE	IMPLEMENTATION STATUS
KC-1	Goal 1, Goal 2, Goal 3	Drought, Subsidence	Water Recharge Basin Partnership Program Partner with the State and contiguous counties to improve coordination, planning, and investment in long-term water supplies by developing a comprehensive water recharge basin project to meet demands of ongoing growth and development.	Kings County	State DWR led joint powers authority should be developed to manage this multi-jurisdictional project. California Department of Water Resources (DWR), Kings County water and irrigation districts, Kings County OES, Community Development	High	Possible grant and bond funds through recent State Propositions, DWR Grants, HMGP	Food, Hydration, Shelter	Medium	Ongoing	In progress. Funding not secured but has been applied for with Hazard Mitigation Grant Program
KC-2**	Goal 1, Goal 2, Goal 3	Dam Incidents, Earthquake, Flood, Dense Fog, Heavy Rain, Thunderstorms, Hail, and Lightning	Community Alert and Warning System - Purchase, install, test, and utilize a community wide alert and early warning system that alerts residents by phone, email, cell phone and other electronic communication devices.	Kings County	Kings County OES, Sheriff and City Law Enforcement, Kings County Operational Area partners, county communications and Cal OES, State Department of Corrections, State High Speed Rail Authority.	High	HMGP, Emergency Management Performance Grant (EMPG), Homeland Security Grant Program (HSGP) and potentially the EOC Grant Program	Safety and Security; Communications	High	Ongoing	In progress. Funding has been secured through EMPG grant
KC-3**	Goal 1, Goal 2, Goal 3	Drought, Earthquake, Extreme Temperatures: Freeze and Heat, Flood, Fog, Wildfire	New County EOC Assessment - Develop a standing EOC group to review and discuss specifications, supervise the creation of construction plans, identify funding mechanism and requirements, and identify the site for the new Kings County EOC.	Kings County	Kings County OES, County Departments, Kings County Fire Department, Kings County Environmental Health, Kings County Information Technology Department, and Kings County	High	General Fund, HMP Grants, EOC Grant Program, Partnership with State, County and Transportation Agencies, EMPG, Homeland Security Grant Program	Safety and Security; Communications	High	Short-term	In progress. Funding not secured yet



ID	LINKS TO GOALS	HAZARD(S) MITIGATED	DESCRIPTION/ BACKGROUND/ BENEFITS	JURISDICTION	LEAD AGENCY AND PARTNERS	COST ESTIMATE	POTENTIAL FUNDING	FEMA LIFELINE	PRIORITY	TIMELINE	IMPLEMENTATION STATUS
KC-4*	Goal 1, Goal 2, Goal 3	Agricultural Pests and Disease, Dam Incidents, Earthquake, Flood, Land Subsidence, Landslide, Wildfire	Inter-jurisdictional GIS Program -- Establish a centralized, inter-jurisdictional GIS program to improve all phases of emergency management.	Kings County	Public Works Department Kings County Community Development, OES, City GIS, IT, Cities of Avenal, Corcoran, Lemoore, and Hanford; special districts; water and irrigation districts; Local Agency Formation Commission of Kings County; and Kings County Association of Governments.	Moderate	Local government funds and possible grant funds through recent	Safety and Security; Communications; Transportation	Medium	Short-term	In progress. The County has been completely mapped; Hanford and Avenal have joined in on the project contracting with County GIS to meet their mapping needs. The project is planned to expand to include all the incorporated Cities and continue to create an integrated countywide GIS system and database.
KC-5	Goal 1, Goal 2, Goal 3	Drought, Earthquake, Extreme Temperatures: Freeze and Heat, Flood, Fog, Wildfire	Kings County Area Disaster Council - Review and update items related to the Kings County Area Disaster Council in the Kings County Emergency Services Ordinance to improve countywide coordination and the monitoring and implementation of the mitigation plan	Kings County	Kings County OES, County Admin Office, Board of Supervisors	Low	Kings County General Fund, EMPG	Safety and Security	High	Short-term	In progress. Organizational work to establish the Council was accomplished but formal meetings have not yet commenced.
KC-6	Goal 1, Goal 2, Goal 3	Agriculture and Pest Disease, Public Health, Extreme Temperatures: Freeze and Heat	Livestock Disposal Plan - Establish a livestock disposal plan and compost team to address livestock fatality during extreme heat events. This action would reduce impacts to the agricultural industry during extreme temperature events, reduce the potential for	Kings County	Kings County Agricultural Commissioner, Kings County Agricultural Advisory Committee, University of California at Davis Extension, Environmental Health Services, Natural	Moderate	Hospital Preparedness Grant, the actual costs to bury the carcasses would be the responsibility of the animal facility owner/operator	Safety and Security	High	Short-term	Not started, funding not yet secured



ID	LINKS TO GOALS	HAZARD(S) MITIGATED	DESCRIPTION/ BACKGROUND/ BENEFITS	JURISDICTION	LEAD AGENCY AND PARTNERS	COST ESTIMATE	POTENTIAL FUNDING	FEMA LIFELINE	PRIORITY	TIMELINE	IMPLEMENTATION STATUS
			agricultural pests and diseases and public health concerns, and avoid overwhelming critical rendering infrastructure.		Resources Conservation Service, Kings County Community Development Agency, Kings County Environmental Health, County OES, PHEP						
KC-7	Goal 1, Goal 2, Goal 3	Earthquake, Extreme Temperatures: Freeze and Heat, Flood, Fog, Wildfire	Disaster Evacuation Routes - Ensure the maintenance and enhancement of established disaster evacuation routes	Kings County	Kings County Public Works Department, Kings County Sheriff / City Police, County OES, Human Services Agency (HAS), Kings Rural Area Transit, Public Health Emergency Preparedness, Kings County Planning Agency; Cities of Avenal, Corcoran, Lemoore, and Hanford; California Department of Transportation	Moderate	Gas tax, federal/state transportation funding, Kings County General Fund for staff time, Community Power Resiliency Allocation Program, EMPG, HMGP	Transportation	High	Short-term	In progress. Funding has not been secured, may do this internally.
KC-8	Goal 1, Goal 2, Goal 3	Severe Weather - Dense Fog	Traffic Safety Fog Events - Improve lighting, signage, and traffic controls at critical intersections and roadways to improve safety during fog events.	Kings County	Kings County Public Works, Kings OES, County and City Law Enforcement, CHP, Caltrans	Moderate	Cal Trans Grants, EMPG, HSGP	Transportation	Medium	Short-term	Not started, funding not secured yet.
KC-9**	Goal 1	Dam Incidents, Earthquake, Flood, Land Subsidence, Landslide,	Automated Transportation App - Develop a transportation routing app, similar to the	Kings County	Kings County Public Works, Kings County Administration, City GIS, and	Moderate	Community Power Resiliency Allocation	Transportation, Communications	Low	Short-term	New Action in 2023.



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		Severe Weather: Dense Fog	Caltrans app, to divert traffic due to road conditions during hazard events		Emergency Management Department		Program, EMPC, HMGP				
KC-10*	Goal 2, Goal 3, Goal 4	Drought	Water Conservation Campaign - Create a water conservation campaign, utilizing social media, signage, and grass roots outreach	Kings County	Kings County Administration, Water Manager, Utility Districts	Low	DWR, FEMA HMA HMGP Funds	Food, Water, Shelter	High	Short-term	New Action in 2023.
KC-11*	Goal 2, Goal 4	Drought	Floodwater Recharge Project - Create a flood water recharge project utilizing a feasibility study, pumps, and land for recharge.	Kings County	Kings County Administration, Water Manager, Utility Districts, City and County Engineering Departments	Very High	FEMA HMA HMGP Funds, DWR	Food, Water, Shelter	High	Medium-term	New Action in 2023.
KC-12*	Goal 1, Goal 2, Goal 3, Goal 4	Drought, Subsidence	Land Subsidence Study - Conduct updated land subsidence study to understand elevation, shifts, and vulnerability.	Kings County	Kings County Administration, Water Manager, City and County Engineering Departments	Moderate	DWR, USACE, Cal OES	Safety and Security; Food, Water, Shelter; Transportation	Medium	Short-term	New Action in 2023.
KC-13*	Goal 1, Goal 2	Flooding, Fire	Debris Management Plan - Create a flood channel debris management plan to allow the flow of water, increase capacity, and remove fire hazards.	Kings County	Kings County Public Works, Water and Irrigation Districts, City Public Works	High	Proposition 68, Federal and State Resources	Safety and Security	High	Short-term	New Action in 2023.
KC-14*	Goal 1, Goal 2, Goal 3, Goal 4	Flood, Severe Weather - Heavy Rain/Thunderstorm/Hail/Lightning, Drought, Subsidence	Develop a series of flood control basins on the Kings River that either recharge or store water during flood flows.	Kings County	Kings County Conservation District (KRCD), Local GSAs	Very High	DWR Grants	Safety and Security, and Food, Water, Shelter	High	Long-term	New Action in 2023.
KC-15*	Goal 1, Goal 2, Goal 3, Goal 4	Flood, Subsidence, Severe Weather - Heavy Rain/Thunderstorms/Hail/Lightning	Sediment Removal - Remove sediment from the Kings to River to avoid future capacity issues.	Kings County	KRCD	Very High	HMPG Funds, Prop 68	Safety and Security	High	Medium-term	New Action in 2023.
KC-16**	Goal 1, Goal 4	Drought	Establish a Drought Task Force - Kings County will establish	Kings County	Water Districts, Small Water Suppliers, Non-	High	General Fund	Water Systems, Safety and Security	High	Short-term	New Action in 2023.



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			and convene a task force that develops water shortage preparedness planning efforts for domestic wells, privately supplied homes, and small state water systems.		Transient Non-Community Water Systems; Kings County Department of Public Health						
KC-17	Goal 1, Goal 2, Goal 4	Drought	Regularly review and incorporate information from the Water Storage Vulnerability Tool to update information about drought and water shortage vulnerabilities in the County's MJHMP, WSCPs, and Drought Resiliency Plan	Kings County	Kings County Office of Emergency Services, Water Districts, Small Water Suppliers, Non-Transient Non-Community Water Systems, Kings County Department of Public Health	Little to No Cost	General Fund	Water Systems	High	Short-term	New Action in 2023.
KC-18	Goal 1, Goal 2, Goal 3, Goal 4	Drought	Water Shortage Contingency Plans (WSCPs) - The County will work with small water providers to develop a WSCP and update the plans every 5 years.	Kings County	Kings River Hardwick School, Hanford Christian School, Island Union School, Pioneer Union Elementary School, Lakeside Union School, Kings Ranch Ministries, Villa Terrace Apartments, Rollerland Company, Westlake Farms Headquarters, Couture Farms, State Water Resources Control Board (SWRCB)	Moderate	FEMA HMA, CA DWR	Water Systems	Medium	Short-term	New Action in 2023.
KC-19	Goal 1, Goal 2, Goal 3, Goal 4	Drought	County Drought Resiliency Plan - The County will develop a Drought Resiliency	Kings County	Water Districts, Small Water Suppliers, Non-Transient Non-	Moderate	FEMA HMA HMGP, DWR	Water Systems	Medium	Short-term	New Action in 2023.



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			Plan that includes water districts, small water suppliers, and Non-Transient Non-Community Water Systems		Community Water Systems						
KC-20	Goal 1, Goal 2, Goal 3, Goal 4	Drought	Perform a countywide service area assessment to address the needs of maintaining an adequate level of service for all small public water systems.	Kings County	Water Districts, Small Water Suppliers, Non-Transient Non-Community Water Systems, Kings County Department of Public Health	Moderate	FEMA HMA HMGP	Water Systems	Medium	Short-term	New Action in 2023.
KC-21	Goal 1, Goal 3	Earthquake	Adopt Hazard-Resistant and Modern Building Ordinance to improve Seismic Resiliency – Residential properties would be most vulnerable during a major earthquake. This action promotes the regular local adoption of applicable building code updates to the Building Ordinance that are consistent with the minimum requirements in the California Building Code (CBC) and make use of the International Code Council (ICC) model building codes to provide a higher level of protection against seismic hazards.	Kings County	Kings County Community Development Agency	Moderate	FEMA Public Assistance, National Earthquake Hazards Reduction Program's State Assistance Grant Program	Safety and Security; Health and Medical, Energy, Communications, Transportation	Low	Short-term	New Action in 2023.
KC-22	Goal 1, Goal 2, Goal 3, Goal 4	Extreme Temperatures – Heat	Collaborate with the Kings County Farm Bureau to promote Climate-Smart Agricultural Practices that improve crop	Kings County	Kings County Agricultural Commissioner's Office, Department of Public Health,	High	California Climate Investments Technical Assistance Program	Safety and Security; Health and Medical, Energy, Transportation	Low	Medium-term	New Action in 2023.



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			resilience to extreme heat to ensure Kings County's working lands are productive and vulnerable and underserved communities can access produce throughout the year and refrigeration infrastructure.		Kings County Farm Bureau						
KC-23	Goal 1, Goal 3, Goal 4	Extreme Temperatures - Heat, Earthquake, Severe Weather: Heavy Rain/Thunderstorm/Hail/Lightning, Severe Weather: Wind/Tornado	Kings County Cool Zone and Warm Zone Program - Expand participating businesses and continuums of care in Kings County in partnership with major hospitals and medical clinics to ensure there are protections in place for the unhoused and other vulnerable populations during extreme temperature events. Also consider retrofitting designated facilities included in the Program that can also serve as Safe Rooms during earthquake and severe weather events.	Kings County	Kings County Department of Public Health, Kings County Office of Emergency Services, Kings Partnership	Moderate	EPA Grants, Office of Environmental Health Hazard Assessment (OEHHA), Health and Human Services Agency Technical Support	Safety and Security; Health and Medical, Energy, Transportation	Low	Medium-Term	New Action in 2023.
KC-24	Goal 1, Goal 3, Goal 4	Extreme Temperatures - Heat and Freeze, Earthquake, Severe Weather: Heavy Rain/Thunderstorms/Hail/Lightning, Severe Weather: Wind/Tornado	Conduct a Public Survey on At-Risk Community Demographics and Disability Needs - A public survey will be developed around at-risk communities to understand those in the County with Access and Functional Needs (AFNs) and other disabilities, household	Kings County	Kings County Department of Public Health, Kings County Office of Emergency Services, Kings Partnership	Low	FEMA HMA HMGP	Safety and Security; Health and Medical, Energy, Transportation	High	Short-Term	New Action in 2023



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			emergency preparedness and evacuation and support needs, and medical devices and equipment needs at sheltering facilities.								
KC-25	Goal 1, Goal 3, Goal 4	Landslide	Development Regulations in Landslide Hazard Areas - Define steep slope/high-risk areas in land use, community plans, and specific plans in western Kings County and create guidelines for development in these areas or restrict development. The regulations should also ensure protections are in place for critical facilities, like transportation and communications facilities.	Kings County	Kings County Community Development Agency	Low	FEMA HMA HMGP	Safety and Security; Energy, Transportation	Low	Medium-Term	New Action in 2023.
KC-26	Goal 1, Goal 3, Goal 4	Severe Weather - All	Protect Existing Substandard Housing and New Residential Construction from Severe Weather Hazards - Identify Housing Rehabilitation Funding Opportunities and Review Building Ordinance and consider inclusion of techniques such as structural bracing (straps or clips, anchor bolts), shutters, roof coverings or interlocking shingles, flashing, and bracing elevated components in building design to	Kings County	Kings County Community Development Agency, City of Avenal, City of Corcoran, City of Hanford, City of Lemoore	Low	FEMA HMA HMGP	Safety and Security	Low	Medium-term	New Action in 2023. Complements Mitigation Action KC-21.



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			minimize severe weather, hail, and wind hazards.								
KC-27	Goal 1, Goal 3, Goal 4	Severe Weather - Wind/Tornado	Protect Power Line Infrastructure and Coordinate a Community Back-Up Power Resiliency Plan during PSPS Events - This will involve coordination with the CPUC, PG&E and SCE and the purchase of permanent generators in partnership with hospitals, nursing homes, and sheltering facilities.	Kings County	CPUC, Electric Safety and Reliability Branch, PG&E, SCE, City of Avenal	High	FEMA HMA HMGP, CPUC Rule 20 Undergrounding Programs, Federal Transportation Enhancements Program (under TEA-21)	Energy	Low	Medium-term	New Action in 2023.
KC-28	Goal 1, Goal 3, Goal 4	Wildfire	Regulate Development in Wildfire Urban Interface (WUI) in Western Portion of County - Update Safety Element policies to address current wildfire risk, discourage development in the WUI (very high Fire Hazard Severity Zones [VHFHSZs] or State Responsibility Area [SRA]), and implement defensible space inspection requirements through zoning or land use regulations related to emergency accessibility, water supply and flow for fire suppression, visible street addressing and signage, defensible space clearances, fuel modifications, and fire breaks.	Kings County	Kings County Fire Department	Moderate	General Fund	Safety and Security; Food, Hydration, Shelter; Health and Medical; Energy; Communications, Transportation; Water Systems	Low	Short-term	New Action in 2023.



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A-1	Goal 1, Goal 3, Goal 4	Earthquake, Land Subsidence, Landslide	Housing Rehabilitation Program - Continue and enhance housing rehabilitation program.	Avenal	City of Avenal Community Development Director	High	General Fund, Housing and Urban Development (HUD) Community Development Block Grant (CDBG) Funds, HOME, Cal Home Program	Food, Hydration, Shelter	Medium	Medium-term	In progress. Homes continue to be rehabbed with these funds-first come first serve. The City has received funding from CDBG, HOME, and the Cal Home Program to rehabilitate homes. Under this program most homes are torn down and reconstructed to current codes.
A-2	Goal 1, Goal 2, Goal 3, Goal 4	Flood, Drought, Earthquake, Land Subsidence	Vulnerability of Water Distribution System - Upgrade the two water transmission lines that supply water to the city and Avenal State Prison (one 18-inch line and one 12-inch line) that experience water leaks and movement due to earthquakes that lead to slope failure.	Avenal	City of Avenal Public Works Department	High	FEMA HMA HMPG, BRIC	Food, Hydration, Shelter	Medium	Long-term	In progress. Expected to be completed December 2023.
A-3	Goal 1, Goal 3, Goal 4	Earthquake, Subsidence, Landslide	Loss Reduction Program for unreinforced masonry (URM) Buildings - Establish a loss reduction program for URM buildings in compliance with the California URM Law of 1986. In response to the danger posed by the great number of potentially hazardous buildings in California, in 1986 the state legislature enacted the URM building law (Chapter 250, Statutes of 1986: SF547 [Alquist]; Government Code	Avenal	City of Avenal City Manager's Office, California Seismic Safety Commission, City of Avenal Public Works Department	Very High	FEMA HMA HMGP, BRIC, General Fund, Staff Time	Food, Hydration, Shelter	Medium	Long-term	In progress.



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			Section 8875 et seq.). The law mitigates hazards posed by URM's and applies to all jurisdictions in California's Seismic Hazard Zone 4, the region of highest earthquake activity in the nation.								
A-4	Goal 2, Goal 4	Earthquake	Replace Existing Valves at Tank Sites with Earthquake Valves to Protect Water Supply	Avenal	City of Avenal Public Works	Moderate	General Fund	Safety and Security	Medium	Medium Term	New Action in 2023.
A-5	Goal 2, Goal 3, Goal 4	Drought	Water Supply Rehabilitation - Install valve at the City water source to isolate from joint use facilities to maintain water supply during unexpected outages of Westland Water District facility.	Avenal	DWR, City of Avenal, Westlands Water District	Very High	FEMA HMA HMGP, BRIC, USDA DWSRF, DWR Urban Community Drought Relief Grant Program	Food, Hydration, Shelter	Low	Medium Term	New Action in 2023.
A-6	Goal 1, Goal 2, Goal 3, Goal 4	Flood; Severe Weather: Heavy Rain, Thunder, Hail, and Lightning	Improve Flow Design for Arroyo Esquinado Channel	Avenal	City of Avenal Public Works Department	Moderate	FEMA HMA HMGP, BRIC	Water Systems	Medium	Medium Term	New Action in 2023.
A-7	Goal 1, Goal 2, Goal 3, Goal 4	Flood	Stormwater Drainage Master Plan	Avenal	City of Avenal Public Works Department	Moderate	General Fund	Water Systems	Medium	Medium Term	New Action in 2023.
A-8*	Goal 1, Goal 2, Goal 3, Goal 4	Flood	Investigate Capacity for Floodwater Conveyance Facilities (Drainage Ditches and Culverts) along Arroyo del Camino	Avenal	City of Avenal Public Works Department	Moderate	FEMA HMA HMGP, BRIC, General Fund	Water Systems	Low	Medium Term	New Action in 2023.
A-9*	Goal 1, Goal 2, Goal 3, Goal 4	Land Subsidence	Conduct updated Land Subsidence Study to understand Elevation, Shifts, and Vulnerability.	Avenal	Kings County Administration, Water Management Agencies, City of Avenal Public Works Department	Moderate	DWR, FEMA HMA HMGP, USACE	Safety and Security, Food and Water, Shelter, Transportation	Medium	Long Term	New Action in 2023.



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A-10	Goal 1, Goal 2, Goal 3, Goal 4	Wildfire	Undergrounding of Utilities along City's Main Corridors	Avenal	Kings County Fire Department	High	FEMA HMA HMGP, US Forest Service WUI Grants	Energy	Medium	Medium Term	New Action in 2023.
A-11	Goal 1, Goal 3, Goal 4	Extreme Temperatures - Heat and Freeze, Earthquake, Severe Weather: Heavy Rain, Thunderstorms, Hail, and Lightning, Severe Weather: Wind and Tornado	Conduct a Public Survey on At-Risk Community Demographics and Disability Needs - A public survey will be developed around at-risk communities to understand those in the County with Access and Functional Needs (AFNs) and other disabilities, household emergency preparedness and evacuation and support needs, and medical devices and equipment needs at sheltering facilities.	Avenal	Kings County Department of Public Health, Kings County Office of Emergency Services, Kings Partnership	Low	FEMA HMA HMGP	Health and Medical, Energy, Transportation	High	Short Term	New Action in 2023.
C-1	Goal 1, Goal 2, Goal 3	Extreme Temperatures: Freeze and Heat	Equip and maintain the Recreational Association of Corcoran (RAC) Gymnasium Building, and Corcoran Transit Station with climate control features and designate each site as an Emergency Warming and Cooling Center for Sensitive Populations	Corcoran	City of Corcoran Public Works Department	High	FEMA HMA HMGP, Other State Grants	Safety and Security	High	Long Term	In progress - revised in 2023. This project has been carried over from the 2007 and 2012 MJHMPs. This action has also been modified to now include the RAC Building and the Corcoran Transit Station. These facilities are already in use for this purpose and now need to be maintained for this use.
C-2**	Goal 1, Goal 3	Extreme Temperatures: Extreme Heat	Emergency Power System for the Corcoran Depot Apartment complex operated by the Kings	Corcoran	City of Corcoran Public Works, Kings County Office of Emergency Services	High,	Community Power Resiliency Allocation Program, EMPC, FEMA	Energy	High	Short Term	In progress - revised in 2023. Use of the Veteran's Hall is no longer needed now that the RAC gymnasium is



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			County Housing Authority.				HMA HMGP, SHSGP Grant Program				outfitted and serves a larger population. The next critically identified need area is the Corcoran Depot apartment complex as it houses a concentrated area of senior and special needs individuals.
C-3	Goal 1, Goal 2, Goal 3, Goal 4	Earthquake, Flood, Land Subsidence	Assess the Vulnerability of Critical Facilities – Assess vulnerability of critical facilities, including police/fire stations, hospitals, schools, and others, to identify and prioritize projects for multi-hazard risk reduction.	Corcoran	City of Corcoran Public Works, Police Department	High	General Fund	Water Systems	High	Ongoing	In progress. This was carried over from the 2012 MJHMP. The Police Department building is a newly constructed building that shifted all Police Department operations to the new facility in 2019. Other City facilities are routinely reviewed through risk management authority in order to maintain current insurance.
C-4	Goal 1, Goal 2, Goal 3, Goal 4	Drought	Assess Community Lifelines related to Water Distribution Systems – Assess vulnerability of lifeline utilities, including water distribution systems, to identify and prioritize projects for multi-hazard risk reduction.	Corcoran	City of Corcoran Public Works Department	High	Department of Water Resources (DWR) and Regional Water Quality Control Board (RWQCB)	Safety and Security, Water Systems	High	Ongoing	In progress. This was carried over from the 2007 MJHMP. Upgrades and investments are routinely planned for the City's CIP and funding through grants, loans, and other City funding. The City's Water system is monitored and upgraded to maintain reliable system services, which also pro-actively addresses challenges posed by the drought. The City's Wastewater



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											ponds and connecting system were recently upgraded using American Rescue Plan (ARP) funding.
C-5	Goal 3	Cyber Threat	Use antivirus solutions, malware, and firewalls to block threats	Corcoran	City of Corcoran, Public Works Department	Moderate	General Fund	Safety and Security; Communications	Medium	Ongoing	New Action in 2023. The City has assessed network vulnerabilities and is currently implementing measures for cybersecurity. Monitoring and evaluation will be ongoing to evaluate changes and risks.
C-6**	Goal 1, Goal 2, Goal 3	Dam Incidents, Earthquake, Flood, Severe Weather: Dense Fog, Severe Weather: Heavy Rain, Thunderstorms, Lightning, and Hail	Community Alert and Warning System - Purchase, install, test, and utilize a community wide alert and early warning system that alerts residents by phone, email, cell phone and other electronic communication devices. This system can be expanded to include a Flood Early Warning System (FEWS) component (HMGP eligible component) that utilizes USGS and NOAA rainfall and flood gauges to initiate flood-specific warnings and downstream evacuations.	Corcoran	City of Corcoran, Corcoran Police Department, and Kings County OES	Moderate	Emergency Management Performance Grant (EMPG), Homeland Security Grant Program (HSGP), High Hazard Potential Dam (HHPD), FEWS designs that are eligible for HMPG funding	Safety and Security, Water Systems	High	Ongoing	New Action in 2023. The City has implemented NIXLE Alert System, and utilizes City associated social media for community announcements. Extended Countywide alert notification system is in development through Kings County OES - Funding has been secured through a EMPG Grant.
C-7	Goal 1, Goal 2, Goal 3	Drought	Public Education Program for Water Conservation	Corcoran	City of Corcoran, City Public Works Department	Low	General Fund, City Water Enterprise Fund, and Department of	Water Systems	High	Ongoing	New Action in 2023. The City is currently implementing citywide water meter installation along



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							Water Resources funding.				with public use property water use application, water restriction notifications, and enhancing water utility payment information. Together, these systems are providing enhanced water conservation education to the public and is anticipated to affect greater conservation headed into 2024 summer.
C-8*	Goal 1, Goal 2, Goal 3, Goal 4	Flooding, Drought, Subsidence	Corcoran Flood Protection - Multi-Agency Strategic Plan for Upstream Floodwater Diversion to Reduce Tulare Lake Flooding	Corcoran	City of Corcoran, Cross Creek Flood Control District, other Water & Irrigation Districts representing the Tulare Lake Basin, and DWR	Very High	FEMA HMA HMGP, DWR Riverine Stewardship Program and Urban Stream Restoration Program, Prop 68 Funds (Floodplain Management, Protection, and Risk Awareness Grant Program)	Water Systems	High	Long Term	New Action in 2023. Acknowledges that the USACE controls water releases from Pine Flat, Terminus, Schaefer, and Isabella Dams, and water and irrigation districts in Kings, Tulare, Fresno, and Kern counties. It is critical to beneficial groundwater recharge and management.
C-9*	Goal 1, Goal 3, Goal 4	Dam Failure; Flood; Severe Weather: Heavy Rain, Thunder, Hail, and Lightning	Enhanced Erosion Control and Protection of the Flood Control Levee	Corcoran	City of Corcoran, Cross Creek Flood Control District	High	FEMA HMA HMGP, DWR Urban Community Drought Relief Program	Safety and Security	Medium	Long Term	New Action in 2023. DWR response to 2023 flooding provided erosion control measures along the Corcoran Levee for enhanced erosion control. This established a flood response measure that can be replicated in future years with flood disasters.



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C-10*	Goal 2, Goal 3, Goal 4	Flooding, Drought, Subsidence	Increase Reservoir Storage for Control of Floodwater	Corcoran	Cross Creek Flood Control District, City of Corcoran, USACE, Kings County, Other Water Districts	Very High	FEMA HMA HMGP, DWR Grants	Water Systems	High	Long Term	New Action in 2023.
C-11	Goal 3	Public Health Hazards	Utilize trainings and exercises, epidemiology, and surveillance to control and combat public health risks	Corcoran	Kings County, City of Corcoran	Moderate	General Fund	Health and Medical	Medium	Short Term	New Action in 2023. This would be a Kings County Public Health Department initiated effort that the City supports and helps to facilitate in Corcoran.
C-12*	Goal 1, Goal 2, Goal 3	Flooding	Update the City's Storm Drain Master Plan every Few Years to included Planned Growth Areas	Corcoran	City of Corcoran	Low	General Fund	Water Systems	Low	Short Term	New Action in 2023. This is needed infrastructure for the City to diversify disbursement of stormwater drainage within the City.
C-13*	Goal 1, Goal 2, Goal 3	Flooding	Continue to Participate with the Cross Creek Flood Control District to Ensure Levees Protecting Corcoran from Tulare Lake Flooding are Adequately Monitored	Corcoran	City of Corcoran, Cross Creek Flood Control District	Low	General Fund	Water Systems, Safety and Security	High	Short Term	New Action in 2023. This is ongoing monitoring and maintenance efforts that are needed. New Action in 2023; this was integrated from the Safety Element (Policy 4.17).
C-14	Goal 1, Goal 3, Goal 4	Extreme Temperatures - Heat and Freeze, Earthquake, Severe Weather: Heavy Rain, Thunderstorms, Hail, and Lightning, Severe Weather: Wind and Tornado	Conduct a Public Survey on At-Risk Community Demographics and Disability Needs - A public survey will be developed around at-risk communities to understand those in the County with Access and Functional Needs (AFNs) and other disabilities, household emergency preparedness and evacuation and support needs, and	Corcoran	Kings County Department of Public Health, Kings County Office of Emergency Services, Kings Partnership	Low	FEMA HMA HMGP	Safety and Security, Health and Medical, Energy, Transportation	High	Short Term	New Action in 2023/



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			medical devices and equipment needs at sheltering facilities.								
H-1	Goal 1, Goal 2, Goal 3	Drought, Earthquake, Extreme Temperatures, Flood, Public Health Hazards, Wildfire	Public Education Program for All Hazards	Hanford	County and City Public Works, Kings County Health Dept., Kings County OES	Low	General Fund	Safety and Security	High	Ongoing	In progress. The Hanford Fire Department hired a Fire Marshal to lead Community Risk Reduction and public education program for the department. Outreach now includes numerous events such as school programs and other monthly events.
H-2	Goal 1, Goal 3	Drought	Retrofits to Water Storage Tanks - Two water storage tanks holding 800,000 gallons of water need to be seismically retrofitted against seismic and fire hazards following earthquakes	Hanford	City of Hanford Public Works Department	Moderate	DWR Grants, HMGP	Food, Water Shelter	High	Ongoing	In progress. Drilled two new wells to feed the system and added two additional 500,000 water tanks being proposed as part of the City Infrastructure Plan.
H-3	Goal 1, Goal 2, Goal 3	Earthquake	GIS Database of Unreinforced Masonry (URM) Buildings	Hanford	City of Hanford Fire Department, Kings County Community Development, OES, City GIS, IT	Moderate	General Fund	Safety and Security; Communication; Transportation	Medium	Short Term	Not started. Funding not secured yet.
H-4	Goal 1, Goal 3, Goal 4	Earthquake	Retrofit 58 URM Buildings in Downtown Hanford	Hanford	City of Hanford City Manager's Office	Very High	FEMA HMA HMGP	Food, Hydration, Shelter	Medium	Long Term	In progress. In certain cases, the City has required developers to conform to the most recent
H-5	Goal 1, Goal 2	Earthquake, Dam Incidents, Flood, Wildfire	Disaster Evacuation Routes - Ensure the maintenance and enhancement of established disaster evacuation routes	Hanford	City of Hanford City Manager's Office, City of Hanford Public Works Department,	Moderate	General Fund	Transportation	Medium	Medium Term	Not started.



ID	LINKS TO GOALS	HAZARD(S) MITIGATED	DESCRIPTION/ BACKGROUND/ BENEFITS	JURISDICTION	LEAD AGENCY AND PARTNERS	COST ESTIMATE	POTENTIAL FUNDING	FEMA LIFELINE	PRIORITY	TIMELINE	IMPLEMENTATION STATUS
					Kings County OES						
H-6	Goal 1	Dam Incidents, Earthquake, Flood, Subsidence, Landslide, Fog, Severe Storms, Wildfire	Develop a transportation routing app, like the Caltrans app, to divert traffic due to road conditions during hazard events.	Hanford	Kings County Public Works, Kings County Administration	Moderate	Community Power Resiliency Allocation Program, Emergency Management Performance Grant (EMPG), HMGP	Transportation, Communication	Low	Short Term	New Action in 2023.
H-7	Goal 1, Goal 2	Flooding, Wildfire	Create a flood channel debris management plan to allow the flow of water, increase capacity, and remove fire hazards.	Hanford	Kings County Public Works, Water and Irrigation Districts, City Public Works	High	Proposition 68, Federal and State Resources	Safety and Security	High	Short Term	New Action in 2023.
H-8	Goal 1, Goal 2, Goal 3, Goal 4	Flood; Severe Weather: Heavy Rain, Thunder, Hail and Lightning; Drought; Subsidence	Develop a series of flood control basins on the Kings River that either recharge or store water during flood flows.	Hanford	Kings County Conservation District (KRCD), Local GSAs	Very High	DWR Grants, FEMA HMA HMGP, BRIC	Safety and Security, and Food, Water, Shelter	High	Long Term	New Action in 2023.
H-9	Goal 1, Goal 2, Goal 3, Goal 4	Flood, Severe Weather: Heavy Rain, Thunder, Hail and Lightning	Evaluate federal levees to determine height and make-up of levees to protect during 100-year storm events.	Hanford	United States Army Corps of Engineers (USACE), KRCD	Very High	USACE Grants	Safety and Security	High	Long Term	New Action in 2023.
H-10	Goal 1, Goal 2, Goal 3, Goal 4	Flood, Subsidence, Severe Weather: Heavy Rain, Thunder, Hail and Lightning	Remove sediment from Kings River to avoid future capacity issues.	Hanford	KRCD	Very High	HMPG Funds. Prop 68	Safety and Security	High	Medium Term	New Action in 2023.
H-11	Goal 1, Goal 2, Goal 3, Goal 4	Drought, Subsidence	Conduct updated land subsidence study to understand elevations, shifts, and vulnerability.	Hanford	Kings County Administration, Water Management Agencies	Moderate	DWR, USACE, Cal OES	Safety and Security, Food, water, Shelter, Transportation	Medium	Short Term	New Action in 2023.
H-12	Goal 3	Cyber-attack	Use antivirus solutions, malware, and firewalls to block threats	Hanford	Kings County, Avenal, Corcoran, Hanford, Lemoore	Moderate	General fund	Safety and Security, Communications	Medium	Ongoing	New Action in 2023.



ID	LINKS TO GOALS	HAZARD(S) MITIGATED	DESCRIPTION/ BACKGROUND/ BENEFITS	JURISDICTION	LEAD AGENCY AND PARTNERS	COST ESTIMATE	POTENTIAL FUNDING	FEMA LIFELINE	PRIORITY	TIMELINE	IMPLEMENTATION STATUS
H-13	Goal 3	Public Health Hazards	Utilize trainings and exercises, epidemiology, and surveillance to control and combat public health risks	Hanford	County and City Public Health Departments	Moderate	General Fund	Health and Medical	Medium	Ongoing	New Action in 2023.
H-14	Goal 1, Goal 3	Earthquake, Drought	Safety Building & Community Center - Create a safety building for police and fire administration. Building will house EOC and a community center	Hanford	Hanford Police and Fire Departments	Moderate	General Fund	Safety and Security	Medium	Medium Term	New Action in 2023.
H-15	Goal 1, Goal 3, Goal 4	Extreme Temperatures: Heat and Freeze	Extreme Weather Shelter - Develop plan for center to assist at-risk populations during extreme weather events. Coordinate with regional plans for consistency.	Hanford	Hanford Community Development Agency, Police and Fire Department	Moderate	General Fund, APGP	Food, Hydration, Shelter	High	Medium Term	New Action in 2023.
H-16	Goal 1, Goal 3, Goal 4	Dam Incidents, Earthquake, Flood, Dense Fog Heavy Rain, Thunderstorms, Hail, and Lightning, High Wind and Tornado, Wildfire	Grangeville Overpass - Design and build an overpass for the train tracks to allow emergency vehicle access during a hazard event.	Hanford	Hanford Public Works, Community Development, and Administration	Very High	General Fund	Transportation	High	Long Term	New Action in 2023.
H-17	Goal 1, Goal 3, Goal 4	Dam Incidents, Earthquake, Flood, Dense Fog Heavy Rain, Thunderstorms, Hail, and Lightning, High Wind and Tornado, Wildfire	Assess the Capacity and Viability of Designate Evacuation Routes and Develop Evacuation Plan for All Hazard Scenarios	Hanford	Hanford Public Works, Community Development, and Administration	Very High	General Fund	Transportation	High	Long Term	New Action in 2023.
H-18	Goal 1, Goal 3, Goal 4	Dam Incidents; Extreme Temperatures - Heat and Freeze,	Conduct a Public Survey on At-Risk Community Demographics and Disability Needs - A	Hanford	Kings County Department of Public Health, Kings County Office of	Low	FEMA HMA HMGP	Safety and Security, Health and Medical, Energy, Transportation	High	Short-Term	New in 2023



ID	LINKS TO GOALS	HAZARD(S) MITIGATED	DESCRIPTION/ BACKGROUND/ BENEFITS	JURISDICTION	LEAD AGENCY AND PARTNERS	COST ESTIMATE	POTENTIAL FUNDING	FEMA LIFELINE	PRIORITY	TIMELINE	IMPLEMENTATION STATUS
		Earthquake, Severe Weather: Heavy Rain, Thunderstorms, Hail, and Lightning, Severe Weather: Wind and Tornado	public survey will be developed around at-risk communities to understand those in the County with Access and Functional Needs (AFNs) and other disabilities, household emergency preparedness and evacuation and support needs, and medical devices and equipment needs at sheltering facilities.		Emergency Services, Kings Partnership						
L-1	Goal 1, Goal 3	Drought, Earthquake, Extreme Heat, Flood, Fog, Freeze, Wildfire	Public Education Program for All Hazards	Lemoore	City of Lemoore, City Public Works, Kings County Health Department, Kings County OES,	Low	General Fund, FEMA HMA HMGP, EMPG	Safety and Security; Communications	High	Short Term	In progress. This project entails establishing a training program to educate citizens about hazards and encourage households to have emergency kits, plans, and drills in place.
L-2	Goal 1, Goal 2, Goal 3, Goal 4	Drought	Long-Term Water Supply – Improve coordination, planning, and investment in long-term water supplies to meet demands of ongoing growth and development	Lemoore	City of Lemoore, Kings County Water District, Kings County, Kings County COG	Moderate	DWR Funds	Water Systems	High	Short Term	In progress. The City has installed a new well head and is actively pursuing funding sources to complete treatment and connection to water supply for development on the south side of town.
L-3*	Goal 1, Goal 3, Goal 4	Earthquake, Flood, Land Subsidence	Inter-jurisdictional GIS Program – Establish a centralized, inter-jurisdictional GIS program to improve all phases of emergency management	Lemoore	City of Lemoore Planning Department	Low	FEMA HMA HMGP, ESRI, General Fund	Communications	High	Ongoing	In progress. This project was completed as part of the 2012 MJHMP but carried forward in that plan as an ongoing effort. The City continues to participate in the Municipal GIS Program with the



ID	LINKS TO GOALS	HAZARD(S) MITIGATED	DESCRIPTION/ BACKGROUND/ BENEFITS	JURISDICTION	LEAD AGENCY AND PARTNERS	COST ESTIMATE	POTENTIAL FUNDING	FEMA LIFELINE	PRIORITY	TIMELINE	IMPLEMENTATION STATUS
											Kings County Planning Department.
L-4	Goal 1, Goal 3	Dam Incidents, Earthquake, Flood, Subsidence, Landslide, Fog, Severe Storms, Wildfire	Develop a transportation routing app, similar to the Caltrans app, to divert traffic due to road conditions during hazard events	Lemoore	Kings County Public Works, Kings County Administration, Kings County, City of Lemoore	Low	FEMA HMA HMGP	Transportation	Low	Medium Term	New Action in 2023.
L-5	Goal 1, Goal 2, Goal 3, Goal 4	Drought	Public Education Program for Water Supply and Conservation	Lemoore	City of Lemoore Administration Department, Finance Department	Low	FEMA HMA HMGP, DWR Grants	Water Systems	Medium	Short Term	New Action in 2023. The City of Lemoore recently hired a Water Conservation Officer to provide public education on water supply and conservation measures.
L-6	Goal 1, Goal 2, Goal 3, Goal 4	Flood	Well Protection and Flood Mitigation – Protect Wells from Floodwaters during Future Flooding Events by Building Infrastructure and Protection around the Well Sites	Lemoore	City of Lemoore Public Works	High	FEMA HMA HMGP, DWR Funds, USDA DWSRF	Water Systems	Medium	Medium Term	New Action in 2023. The City of Lemoore Public Works Department has created berms around City wells and is researching additional protective measure solutions.
L-7	Goal 1, Goal 2	Flood, Wildfire	Create a flood channel debris management plan to allow the flow of water, increase capacity, and remove fire hazards.	Lemoore	City of Lemoore, Kings County Public Works, Water and Irrigation Districts, City Public Works, Kings County	High	FEMA HMA HMGP	Safety and Security, Water Systems	High	Medium Term	New Action in 2023.
L-8*	Goal 1, Goal 2, Goal 3, Goal 4	Drought, Subsidence	Conduct updated land subsidence study to understand elevations, shifts, and vulnerability.	Lemoore	City of Lemoore, Kings County Administration, Water Management Agencies	Moderate	DWR, USACE, Cal OES	Safety and Security, Food, water, Shelter, Transportation	Low	Short Term	New Action in 2023. The City currently performs subsidence studies at areas of concern.
L-9	Goal 3	Cyber Attack	Use antivirus solutions, malware, and firewalls to block threats	Lemoore	Kings County, Avenal, Corcoran, Hanford, Lemoore	Moderate	General fund, HSGP	Safety and Security, Communications	Medium	Short Term	New Action in 2023. City of Lemoore IT staff will assess cyber security needs and seek solutions to



ID	LINKS TO GOALS	HAZARD(S) MITIGATED	DESCRIPTION/ BACKGROUND/ BENEFITS	JURISDICTION	LEAD AGENCY AND PARTNERS	COST ESTIMATE	POTENTIAL FUNDING	FEMA LIFELINE	PRIORITY	TIMELINE	IMPLEMENTATION STATUS
											improve security measures.
L-10	Goal 3	Public Health Hazards	Utilize trainings and exercises, epidemiology, and surveillance to control and combat public health risks	Lemoore	County Public Health Department	Moderate	General Fund	Health and Medical	Low	Short Term	New Action in 2023. The City does not have a Public Health Department but will coordinate with the Kings County Public Health Department during public health emergencies.
L-11	Goal 1, Goal 3	Dam Incidents	Develop plan addressing communication and evacuation for vulnerable populations in areas potentially impacted by Pine Flat Dam failure.	Lemoore	Kings County OES	Low	General Fund	Communications, Safety and Security	Low	Short Term	New Action in 2023. The City will coordinate with Kings County OES to create a response plan addressing the impacts of a dam failure.
L-12	Goal 1, Goal 3, Goal 4	Dam Incidents; Extreme Temperatures - Heat and Freeze, Earthquake, Severe Weather: Heavy Rain, Thunderstorms, Hail, and Lightning, Severe Weather: Wind and Tornado; Severe Weather: Dense Fog	Conduct a Public Survey on At-Risk Community Demographics and Disability Needs - A public survey will be developed around at-risk communities to understand those in the County with Access and Functional Needs (AFNs) and other disabilities, household emergency preparedness and evacuation and support needs, and medical devices and equipment needs at sheltering facilities.	Lemoore	Kings County Department of Public Health, Kings County Office of Emergency Services, Kings Partnership	Low	FEMA HMA HMGP	; Safety and Security, Health and Medical, Energy, Transportation	High	Short-Term	New Action in 2023

NOTES:

- HMA - Hazard Mitigation Assistant Program
- HMGP - Hazard Mitigation Grant Program
- HSGP - Homeland Security Grant Program
- EMPC - Emergency Management Performance Grant
- Community Power Resiliency Allocation Grant Program - formerly the Public Safety Power Shutoff (PSPS) Program Funds



- DWR – Department of Water Resources Grant Funds
- Proposition 68 – water bond funds allocated to recreation, ecosystem protection, habitat conservation, and climate resilience projects
- KRCD – Kings River Conservation District Funds (funding from the California Department of Conservation [DOC])
- USACE – U.S. Army Corps of Engineers Funds
- APGP – Adaptation Planning Grant Program



Table 5-5 provides a summary of the individual mitigation actions by jurisdiction specific to the municipalities that participated in the 2022-2023 plan update. Together with the County goals, objectives, and actions the tables provide an overview of all the mitigation actions proposed. More details on jurisdiction-specific mitigation actions can be found in the respective jurisdictional annexes.

Table 5-5 Jurisdictional Mitigation Action Summary

ID	HAZARD(S) MITIGATED	PROJECT TITLE	LEAD AGENCY AND PARTNERS	PRIORITY	IMPLEMENTATION STATUS
City of Avenal					
A-1	Earthquake, Land Subsidence, Landslide	Housing Rehabilitation Program - Continue and enhance housing rehabilitation program.	City of Avenal Community Development Director	Medium	In progress. Homes continue to be rehabbed with these funds- first come first serve. The City has received funding from CDBG, HOME, and the Cal Home Program to rehabilitate homes. Under this program most homes are torn down and reconstructed to current codes.
A-2	Flood, Drought, Earthquake, Land Subsidence	Vulnerability of Water Distribution System - Upgrade the two water transmission lines that supply water to the city and Avenal State Prison (one 18-inch line and one 12-inch line) that experience water leaks and movement due to earthquakes that lead to slope failure.	City of Avenal Public Works Department	Medium	In progress, expected to be completed December 2023.
A-3	Earthquake, Subsidence, Landslide	Loss Reduction Program for unreinforced masonry (URM) Buildings - Establish a loss reduction program for URM buildings in compliance with the California URM Law of 1986. In response to the danger posed by the great number of potentially hazardous buildings in California, in 1986 the state legislature enacted the URM building law (Chapter 250, Statutes of 1986: SF547 [Alquist]; Government Code Section 8875 et seq.). The law mitigates hazards posed by URMs and applies to all jurisdictions in California's Seismic Hazard Zone 4, the region of highest earthquake activity in the nation.	City of Avenal City Manager's Office, California Seismic Safety Commission, City of Avenal Public Works Department	Medium	In progress.
A-4	Earthquake	Replace Existing Valves at Tank Sites with Earthquake Valves to Protect Water Supply	City of Avenal Public Works	Medium	New in 2023.
A-5	Drought	Water Supply Rehabilitation - Install valve at the City water source to isolate from joint use facilities to maintain water supply during unexpected outages of Westland Water District facility.	DWR, City of Avenal, Westlands Water District	Low	New in 2023.
A-6	Flood; Severe Weather: Heavy Rain, Thunder, Hail, and Lightning	Improve Flow Design for Arroyo Esquinado Channel	City of Avenal Public Works Department	Medium	New in 2023.



ID	HAZARD(S) MITIGATED	PROJECT TITLE	LEAD AGENCY AND PARTNERS	PRIORITY	IMPLEMENTATION STATUS
A-7	Flood	Stormwater Drainage Master Plan	City of Avenal Public Works Department	Medium	New in 2023.
A-8*	Flood	Investigate Capacity for Floodwater Conveyance Facilities (Drainage Ditches and Culverts) along Arroyo del Camino	City of Avenal Public Works Department	Low	New in 2023.
A-9*	Land Subsidence	Conduct updated Land Subsidence Study to understand Elevation, Shifts, and Vulnerability.	Kings County Administration, Water Management Agencies, City of Avenal Public Works Department	Medium	New in 2023.
A-10	Wildfire	Undergrounding of Utilities along City's Main Corridors	Kings County Fire Department	Medium	New in 2023.
A-11	Extreme Temperatures - Heat and Freeze, Earthquake, Severe Weather: Heavy Rain, Thunderstorms, Hail, and Lightning, Severe Weather: Wind and Tornado	Conduct a Public Survey on At-Risk Community Demographics and Disability Needs - A public survey will be developed around at-risk communities to understand those in the County with Access and Functional Needs (AFNs) and other disabilities, household emergency preparedness and evacuation and support needs, and medical devices and equipment needs at sheltering facilities.	Kings County Department of Public Health, Kings County Office of Emergency Services, Kings Partnership	High	New in 2023.
City of Corcoran					
C-1	Extreme Temperatures: Freeze and Heat	Equip and maintain the Recreational Association of Corcoran (RAC) Gymnasium Building, and Corcoran Transit Station with climate control features and designate each site as an Emergency Warming and Cooling Center for Sensitive Populations	City of Corcoran Public Works Department	High	In progress - revised in 2023. This project has been carried over from the 2007 and 2012 MJHMPs. This action has also been modified to now include the RAC Building and the Corcoran Transit Station. These facilities are already in use for this purpose and now need to be maintained for this use.
C-2	Extreme Temperatures: Extreme Heat	Emergency Power System for the Corcoran Depot Apartment complex operated by the Kings County Housing Authority.	City of Corcoran Public Works, Kings County Office of Emergency Services	High	In progress - revised in 2023. Use of the Veteran's Hall is no longer needed now that the RAC gymnasium is outfitted and serves a larger population. The next critically identified need area is the Corcoran Depot apartment complex as it houses a concentrated area of senior and special needs individuals.
C-3	Earthquake, Flood, Land Subsidence	Assess the Vulnerability of Critical Facilities - Assess vulnerability of critical facilities, including police/fire stations, hospitals, schools, and others, to identify and prioritize projects for multi-hazard risk reduction.	City of Corcoran Public Works, Police Department	High	In progress. This was carried over from the 2012 MJHMP. The Police Department building is a newly constructed building that shifted all Police Department operations to the new facility in 2019. Other City facilities are routinely reviewed through risk management authority in order to maintain current insurance.



ID	HAZARD(S) MITIGATED	PROJECT TITLE	LEAD AGENCY AND PARTNERS	PRIORITY	IMPLEMENTATION STATUS
C-4	Drought	Assess Community Lifelines related to Water Distribution Systems – Assess vulnerability of lifeline utilities, including water distribution systems, to identify and prioritize projects for multi-hazard risk reduction.	City of Corcoran Public Works Department	High	In progress. This was carried over from the 2007 MJHMP. Upgrades and investments are routinely planned for the City's CIP and funding through grants, loans, and other City funding. The City's Water system is monitored and upgraded to maintain reliable system services, which also pro-actively addresses challenges posed by the drought. The City's Wastewater ponds and connecting system were recently upgraded using American Rescue Plan (ARP) funding.
C-5	Cyber Threat	Use antivirus solutions, malware, and firewalls to block threats	City of Corcoran, Public Works Department	Medium	New Action in 2023. The City has assessed network vulnerabilities and is currently implementing measures for cybersecurity. Monitoring and evaluation will be ongoing to evaluate changes and risks.
C-6	Dam Incidents, Earthquake, Flood, Severe Weather: Dense Fog, Severe Weather: Heavy Rain, Thunderstorms, Lightning, and Hail	Community Alert and Warning System	City of Corcoran, Corcoran Police Department, and Kings County OES	High	New Action in 2023. The City has implemented NIXLE Alert System, and utilizes City associated social media for community announcements. Extended Countywide alert notification system is in Progress through Kings County OES – Funding has been secured through a EMPG Grant.
C-7	Drought	Public Education Program for Water Conservation	City of Corcoran, City Public Works Department	High	New Action in 2023. The City is currently implementing citywide water meter installation along with public use property water use application, water restriction notifications, and enhancing water utility payment information. Together, these systems are providing enhanced water conservation education to the public and is anticipated to affect greater conservation headed into 2024 summer.
C-8*	Flooding, Drought, Subsidence	Corcoran Flood Protection – Multi-Agency Strategic Plan for Upstream Floodwater Diversion to Reduce Tulare Lake Flooding	City of Corcoran, Cross Creek Flood Control District, other Water & Irrigation Districts representing the Tulare Lake Basin, and DWR	High	New Action in 2023. Acknowledges that the USACE controls water releases from Pine Flat, Terminus, Schaefer, and Isabella Dams, and water and irrigation districts in Kings, Tulare, Fresno, and Kern counties. It is critical to beneficial groundwater recharge and management.
C-9*	Dam Failure; Flood; Severe Weather: Heavy Rain, Thunder, Hail, and Lightning	Enhanced Erosion Control and Protection of the Flood Control Levee	City of Corcoran, Cross Creek Flood Control District	Medium	New Action in 2023. DWR response to 2023 flooding provided erosion control measures along the Corcoran Levee for enhanced erosion control. This established a flood response measure that can be



ID	HAZARD(S) MITIGATED	PROJECT TITLE	LEAD AGENCY AND PARTNERS	PRIORITY	IMPLEMENTATION STATUS
					replicated in future years with flood disasters.
C-10*	Flooding, Drought, Subsidence	Increase Reservoir Storage for Control of Floodwater	Cross Creek Flood Control District, City of Corcoran, USACE, Kings County, Other Water Districts	High	New in 2023.
C-11	Public Health Hazards	Utilize trainings and exercises, epidemiology, and surveillance to control and combat public health risks	Kings County, City of Corcoran	Medium	New Action in 2023. This would be a Kings County Public Health Department initiated effort that the City supports and helps to facilitate in Corcoran.
C-12*	Flooding	Update the City's Storm Drain Master Plan every Few Years to included Planned Growth Areas	City of Corcoran	Low	New Action in 2023. This is needed infrastructure for the City to diversify disbursement of stormwater drainage within the City.
C-13*	Flooding	Continue to Participate with the Cross Creek Flood Control District to Ensure Levees Protecting Corcoran from Tulare Lake Flooding are Adequately Monitored	City of Corcoran, Cross Creek Flood Control District	High	New Action in 2023. This is ongoing monitoring and maintenance efforts that are needed. New Action in 2023; this was integrated from the Safety Element (Policy 4.17).
C-14	Extreme Temperatures - Heat and Freeze, Earthquake, Severe Weather: Heavy Rain, Thunderstorms, Hail, and Lightning, Severe Weather: Wind and Tornado	Conduct a Public Survey on At-Risk Community Demographics and Disability Needs - A public survey will be developed around at-risk communities to understand those in the County with Access and Functional Needs (AFNs) and other disabilities, household emergency preparedness and evacuation and support needs, and medical devices and equipment needs at sheltering facilities.	Kings County Department of Public Health, Kings County Office of Emergency Services, Kings Partnership	High	New in 2023.
City of Hanford					
H-1	Drought, Earthquake, Extreme Temperatures, Flood, Public Health Hazards, Wildfire	Public Education Program for All Hazards	County and City Public Works, Kings County Health Dept., Kings County OES	High	In Progress. The Hanford Fire Department hired a Fire Marshal to lead Community Risk Reduction and public education program for the department. Outreach now includes numerous events such as school programs and other monthly events.
H-2	Drought	Retrofits to Water Storage Tanks - Two water storage tanks holding 800,000 gallons of water need to be seismically retrofitted against seismic and fire hazards following earthquakes	City of Hanford Public Works Department	High	In progress. Drilled two new wells to feed the system and added two additional 500,000 water tanks being proposed as part of the City Infrastructure Plan.
H-3	Earthquake	GIS Database of Unreinforced Masonry (URM) Buildings	City of Hanford Fire Department, Kings County Community Development, OES, City GIS, IT	Medium	Not started. Funding not secured yet.



ID	HAZARD(S) MITIGATED	PROJECT TITLE	LEAD AGENCY AND PARTNERS	PRIORITY	IMPLEMENTATION STATUS
H-4	Earthquake	Retrofit 58 URM Buildings in Downtown Hanford	City of Hanford City Manager's Office	Medium	In progress. In certain cases, the City has required developers to conform to the most recent
H-5	Earthquake, Dam Incidents, Flood, Wildfire	Disaster Evacuation Routes - Ensure the maintenance and enhancement of established disaster evacuation routes	City of Hanford City Manager's Office, City of Hanford Public Works Department, Kings County OES	Medium	Not started.
H-6	Dam Incidents, Earthquake, Flood, Subsidence, Landslide, Fog, Severe Storms, Wildfire	Develop a transportation routing app, like the Caltrans app, to divert traffic due to road conditions during hazard events.	Kings County Public Works, Kings County Administration	Low	New in 2023.
H-7	Flooding, Wildfire	Create a flood channel debris management plan to allow the flow of water, increase capacity, and remove fire hazards.	Kings County Public Works, Water and Irrigation Districts, City Public Works	High	New in 2023
H-8	Flood; Severe Weather: Heavy Rain, Thunder, Hail and Lightning; Drought; Subsidence	Develop a series of flood control basins on the Kings River that either recharge or store water during flood flows.	Kings County Conservation District (KRCD), Local GSAs	High	New in 2023.
H-9	Flood, Severe Weather: Heavy Rain, Thunder, Hail and Lightning	Evaluate federal levees to determine height and make-up of levees to protect during 100-year storm events.	United States Army Corps of Engineers (USACE), KRCD	High	New in 2023.
H-10	Flood, Subsidence, Severe Weather: Heavy Rain, Thunder, Hail and Lightning	Remove sediment from Kings River to avoid future capacity issues.	KRCD	High	New in 2023.
H-11	Drought, Subsidence	Conduct updated land subsidence study to understand elevations, shifts, and vulnerability.	Kings County Administration, Water Management Agencies	Medium	New in 2023.
H-12	Cyber-attack	Use antivirus solutions, malware, and firewalls to block threats	Kings County, Avenal, Corcoran, Hanford, Lemoore	Medium	New in 2023.
H-13	Public Health Hazards	Utilize trainings and exercises, epidemiology, and surveillance to control and combat public health risks	County and City Public Health Departments	Medium	New in 2023.
H-14	Earthquake, Drought	Safety Building & Community Center - Create a safety building for police and fire administration. Building will house EOC and a community center	Hanford Police and Fire Departments	Medium	New in 2023.



ID	HAZARD(S) MITIGATED	PROJECT TITLE	LEAD AGENCY AND PARTNERS	PRIORITY	IMPLEMENTATION STATUS
H-15	Extreme Temperatures: Heat and Freeze	Extreme Weather Shelter - Develop plan for center to assist at-risk populations during extreme weather events. Coordinate with regional plans for consistency.	Hanford Community Development Agency, Police and Fire Department	High	New in 2023.
H-16	Dam Incidents, Earthquake, Flood, Dense Fog Heavy Rain, Thunderstorms, Hail, and Lightning, High Wind and Tornado, Wildfire	Grangeville Overpass - Design and build an overpass for the train tracks to allow emergency vehicle access during a hazard event.	Hanford Public Works, Community Development, and Administration	High	New in 2023.
H-17	Dam Incidents, Earthquake, Flood, Dense Fog Heavy Rain, Thunderstorms, Hail, and Lightning, High Wind and Tornado, Wildfire	Assess the Capacity and Viability of Designate Evacuation Routes and Develop Evacuation Plan for All Hazard Scenarios	Hanford Public Works, Community Development, and Administration	High	New in 2023.
H-18	Dam Incidents; Extreme Temperatures - Heat and Freeze, Earthquake, Severe Weather: Heavy Rain, Thunderstorms, Hail, and Lightning, Severe Weather: Wind and Tornado	Conduct a Public Survey on At-Risk Community Demographics and Disability Needs - A public survey will be developed around at-risk communities to understand those in the County with Access and Functional Needs (AFNs) and other disabilities, household emergency preparedness and evacuation and support needs, and medical devices and equipment needs at sheltering facilities.	Kings County Department of Public Health, Kings County Office of Emergency Services, Kings Partnership	High	New in 2023.
City of Lemoore					
L-1	Drought, Earthquake, Extreme Heat, Flood, Fog, Freeze, Wildfire	Public Education Program for All Hazards	City of Lemoore, City Public Works, Kings County Health Department, Kings County OES,	High	In Progress. This project entails establishing a training program to educate citizens about hazards and encourage households to have emergency kits, plans, and drills in place.
L-2	Drought	Long-Term Water Supply - Improve coordination, planning, and investment in long-term water supplies to meet demands of ongoing growth and development	City of Lemoore, Kings County Water District, Kings County, Kings County COG	High	In Progress. The City has installed a new well head and is actively pursuing funding sources to complete treatment and connection to water supply for development on the south side of town.
L-3*	Earthquake, Flood, Land Subsidence	Inter-jurisdictional GIS Program -- Establish a centralized, inter-jurisdictional GIS program to improve all phases of emergency management.	City of Lemoore Planning Department	High	In progress. This project was completed as part of the 2012 MJHMP but carried forward in that plan as an ongoing effort. The City continues to participate in the Municipal GIS Program



ID	HAZARD(S) MITIGATED	PROJECT TITLE	LEAD AGENCY AND PARTNERS	PRIORITY	IMPLEMENTATION STATUS
					with the Kings County Planning Department.
L-4	Dam Incidents, Earthquake, Flood, Subsidence, Landslide, Fog, Severe Storms, Wildfire	Develop a transportation routing app, similar to the Caltrans app, to divert traffic due to road conditions during hazard events	Kings County Public Works, Kings County Administration, Kings County, City of Lemoore	Low	New Action in 2023.
L-5	Drought	Public Education Program for Water Supply and Conservation	City of Lemoore Administration Department, Finance Department	Medium	New Action in 2023. The City of Lemoore recently hired a Water Conservation Officer to provide public education on water supply and conservation measures.
L-6	Flood	Well Protection and Flood Mitigation - Protect Wells from Floodwaters during Future Flooding Events by Building Infrastructure and Protection around the Well Sites	City of Lemoore Public Works	Medium	New Action in 2023. The City of Lemoore Public Works Department has created berms around City wells and is researching additional protective measure solutions.
L-7	Flood, Wildfire	Create a flood channel debris management plan to allow the flow of water, increase capacity, and remove fire hazards.	City of Lemoore, Kings County Public Works, Water and Irrigation Districts, City Public Works, Kings County	High	New Action in 2023.
L-8*	Drought, Subsidence	Conduct updated land subsidence study to understand elevations, shifts, and vulnerability.	City of Lemoore, Kings County Administration, Water Management Agencies	Low	New Action in 2023. The City currently performs subsidence studies at areas of concern.
L-9	Cyber Attack	Use antivirus solutions, malware, and firewalls to block threats	Kings County, Avenal, Corcoran, Hanford, Lemoore	Medium	New Action in 2023. City of Lemoore IT staff will assess cyber security needs and seek solutions to improve security measures.
L-10	Public Health Hazards	Utilize trainings and exercises, epidemiology, and surveillance to control and combat public health risks	County Public Health Department	Low	New Action in 2023. The City does not have a Public Health Department, but will coordinate with the Kings County Public Health Department during public health emergencies.
L-11	Dam Incidents	Develop plan addressing communication and evacuation for vulnerable populations in areas potentially impacted by Pine Flat Dam failure.	Kings County OES	Low	New Action in 2023. The City will coordinate with Kings County OES to create a response plan addressing the impacts of a dam failure.
L-12	Dam Incidents; Extreme Temperatures - Heat and Freeze, Earthquake, Severe Weather: Heavy Rain, Thunderstorms, Hail, and Lightning,	Conduct a Public Survey on At-Risk Community Demographics and Disability Needs - A public survey will be developed around at-risk communities to understand those in the County with Access and Functional Needs (AFNs) and other disabilities, household emergency preparedness and evacuation and support needs, and medical	Kings County Department of Public Health, Kings County Office of Emergency Services, Kings Partnership	High	New Action in 2023.



ID	HAZARD(S) MITIGATED	PROJECT TITLE	LEAD AGENCY AND PARTNERS	PRIORITY	IMPLEMENTATION STATUS
	Severe Weather: Wind and Tornado; Severe Weather: Dense Fog	devices and equipment needs at sheltering facilities.			



6 PLAN ADOPTION, IMPLEMENTATION, AND MAINTENANCE

6.1 ADOPTION

DMA Requirements §201.6(c)(3):

[The local hazard mitigation plan shall include] documentation that the plan has been formally approved by the governing body of the jurisdiction requesting approval of the plan (e.g., City Council, County Commissioner, Tribal Council).

The purpose of formally adopting this plan is to secure buy-in from Kings County and the participating jurisdictions, raise awareness of the plan, and formalize the plan's implementation. The adoption of this plan completes Planning Step 9 of the 10-step planning process: Adopt the Plan. The governing board for each participating jurisdiction has adopted this MJHMP by passing a resolution.

Implementation and maintenance of the plan are critical to the overall success of hazard mitigation planning. This is Planning Step 10 of the 10-step planning process. This section provides an overview of the overall strategy for plan implementation and maintenance, and outlines the method and schedule for monitoring, updating, and evaluating the plan. The section also discusses incorporating the plan into existing planning mechanisms and how to address continued public involvement.

6.2 IMPLEMENTATION

Once adopted, the plan faces the truest test of its worth: implementation. While this plan contains many worthwhile actions, the participating jurisdictions will need to decide which action(s) to undertake first. Two factors will help with making that decision: the priority assigned to the actions in the planning process and funding availability. Low or no-cost actions most easily demonstrate progress toward successful plan implementation.

Implementation will be accomplished by adhering to the schedules identified for each action (see Section 5 for County mitigation actions and the annexes for local participating jurisdiction mitigation actions), and through constant, pervasive, and energetic efforts to network and highlight the multi-objective, win-win benefits of each project to the Kings County community and its stakeholders. These efforts include the routine actions of monitoring agendas, attending meetings, and promoting a safe, sustainable community. The three main components of implementation are:

- **Implement** the action plan recommendations of this plan;
- **Utilize** existing rules, regulations, policies, and procedures already in existence; and
- **Communicate** the hazard information collected and analyzed through this planning process so that the community better understands what can happen where, and what they can do themselves to be better prepared. Also, publicize the success stories that are achieved through the HMPC's ongoing efforts.

During the implementation of these efforts, it is important to maintain constant monitoring of funding opportunities that can be leveraged to implement some of the more costly recommended actions. This will include creating and maintaining a bank of ideas on how to meet local match or participation requirements, should grants be pursued. When funding becomes available, the participating jurisdictions will be in a position to capitalize on the opportunity. Funding opportunities to be monitored include special pre- and post-disaster funds, special district budgeted funds, state and federal earmarked funds, and other grant programs, including those that can serve or support multi-objective applications.

For this update, the County's implementation program will emphasize mitigation projects and setting priorities based on loss reduction consistent with DMA requirements.

6.2.1 Role of the HMPC in Implementation and Maintenance

With the adoption of this plan, the participating jurisdictions will be tasked with plan implementation and maintenance. The participating jurisdictions, led by the Kings County OES agree to:



- Act as a forum for hazard mitigation issues;
- Disseminate hazard mitigation ideas and activities to all participants;
- Pursue the implementation of high-priority, low/no-cost recommended actions;
- Keep the concept of mitigation at the forefront of community decision-making by identifying plan recommendations when other community goals, plans, and activities overlap, influence, or directly affect increased community vulnerability to disasters;
- Maintain a vigilant monitoring of multi-objective cost-share opportunities to help the community implement the plan's recommended actions for which no current funding exists;
- Monitor and assist in the implementation and update of this plan;
- Report on plan progress and recommended changes to the Kings County Board of Supervisors and the governing boards of the other participating jurisdictions; and
- Inform and solicit input from the public.

The primary duty of the participating jurisdictions is to see the plan successfully carried out, and to report to their community governing boards and the public on the status of plan implementation and mitigation opportunities. Other duties include reviewing and promoting mitigation proposals, considering stakeholder concerns about hazard mitigation, passing concerns on to appropriate entities, and posting relevant information on the county website (and others as appropriate).

6.3 MAINTENANCE AND MONITORING

Requirement §201.6(c)(2)(i):

[The risk assessment shall include a] description of the type, location and extent of all natural hazards that can affect the jurisdiction. The plan shall include information on previous occurrences of hazard events and on the probability of future hazard events.

Plan maintenance implies an ongoing effort to monitor and evaluate plan implementation and to update the plan as required or as progress, roadblocks, or changing circumstances are recognized. This section describes how public participation will be integrated throughout the plan maintenance and implementation process. It also explains how the mitigation strategies outlined in this plan will be incorporated into existing planning mechanisms and programs, such as comprehensive land use planning processes and building code enforcement and implementation. The plan's format allows sections to be reviewed and updated when new data become available, resulting in a plan that will remain current and relevant.

6.3.1 Maintenance Schedule

In order to track progress and update the mitigation strategies identified in the action plan, the HMPC will revisit this plan at the following times or occurrences:

- Annually, to assess if mitigation actions/projects have been completed;
- Following a significant hazard event;
- Following a disaster declaration; or
- Any other time the HMPC sees it is prudent or necessary.

Annual Reviews: The HMPC will meet annually to assess progress on plan implementation. Kings County's OES Department and the County's OES Manager will facilitate and lead these reviews and an associated meeting. The OES Manager will also document the annual review meeting (see Appendix E for Annual Progress Meeting Agenda and Report Template). The timing of the annual meeting is recommended for the first or second quarter of each year to identify potential mitigation grants, some of which have a submittal period in the fourth quarter. A template for the annual meeting and a summary report is provided in Appendix E. Another tool developed during the 2022 -2023 update process to facilitate regular review and implementation and make the plan more of a "living document" is the MJHMP website, where the updated 2023 MJHMP and HMPs from previous years are available for public access. Various links to additional disaster and emergency preparation, hazard mitigation, as well as other related local, state, and federal-level information are also included on the MJHMP website. This website is accessible from the Kings County OES homepage. The County can use the MJHMP to post updates on the plan implementation process, such as grants submitted, grants pending review, and grant awards.

Critical Facility Database Maintenance: Moving forward the County and its municipalities will maintain the critical facility database that was prepared during the 2022-2023 update. The County's OES Manager



will work with the County GIS Manager to lead periodic reviews of the database and assess the need for updates.

Five-Year Update: This plan will be updated, approved, and adopted within a five-year cycle as per Requirement §201.6(c)(4)(i) of the Disaster Mitigation Act of 2000. Efforts to begin the update should begin no later than November 2027 in order to provide at least 9 to 12 months to facilitate the planning process, update the plan, and provide adequate time for public review. The County's OES Manager will lead the update by soliciting an RFP to select a contract to support the MJHMP update by November 2027. The County's OES Manager will also manage the update planning process, review the risk assessment, and champion the update to the mitigation strategy, including tracking updates on mitigation actions and facilitating the mitigation strategy workshop. The County's OES Manager will also co-facilitate at least three planning meetings with the selected consultant.

During the time leading up to the formal update, the County's OES Manager will monitor planning grant opportunities from the Cal OES and FEMA for funds to assist with the update. This may include submitting a BRIC grant application. This grant should be submitted in 2024, as there is a three-year performance period to expend the funds, and there is no guarantee that the grant will be awarded when initially submitted. This allows time to resubmit the grant in subsequent years if needed. Updates to this plan will follow the most current FEMA and Cal OES planning guidance. The next plan update should be completed and reapproved by Cal OES and FEMA Region VIII by October 2028.

6.3.2 Maintenance and Evaluation Process

The HMPC will continually observe the incorporation process, evaluation method, updating method, continued public participation, and completion of the action/projects to assure that the HMPC and the plan itself are performing as anticipated. By monitoring these processes, the HMPC will then be able to evaluate them at the time of the plan update, determining if any changes are needed.

The every five-year MJHMP plan update provides an opportunity to determine whether there have been any significant changes in the County that may, in turn, necessitate changes in the types of mitigation actions proposed. New development in identified hazard areas, increased exposure to hazards, increase or decrease in capability to address hazards, and changes to federal or state legislation are examples of factors that may affect the necessary content of the MJHMP.

The plan review provides County officials with an opportunity to evaluate those actions that have been successful and to explore the possibility of documenting potential losses that were avoided due to the implementation of specific mitigation measures. The process for setting new priorities based on loss reduction is also emphasized in this MJHMP update process. The plan review also provides the opportunity to address mitigation actions that may not have been successfully implemented as assigned.

During the five-year plan update process, the following questions will be considered as criteria for assessing the effectiveness and appropriateness of the MJHMP:

- Do the goals address current and expected conditions?
- Are the goals and objectives consistent with changes in state and federal policy?
- Complete status update on all mitigation projects. What strategies should be revised?
- Has the nature or magnitude of risks changed (current and expected conditions)?
- Are the current resources appropriate for implementing the MJHMP?
- Are there implementation problems, such as technical, political, legal or coordination issues with other agencies?
- Have the outcomes occurred as expected?
- Did the County and participating agencies and other partners participate in the plan implementation process as assigned?

The County of Kings is committed to involving the public in the continual reshaping and updating of the MJHMP, as discussed in Subsection 6.3.4.

6.3.3 Incorporation into Existing Planning Mechanisms

Another important implementation mechanism that is highly effective and low-cost is the incorporation of the HMP recommendations and their underlying principles into other county and city plans and



mechanisms. Where possible, plan participants will use existing plans and/or programs to implement hazard mitigation actions. This plan should also be cross-referenced when related planning mechanisms are updated. As previously stated above, mitigation is most successful when it is incorporated into the day-to-day functions and priorities of government and development. As described in this plan's capability assessment and jurisdictional annexes, the County and participating jurisdictions already implement policies and programs to reduce losses to life and property from hazards. This plan builds upon the momentum developed through previous and related planning efforts and mitigation programs and recommends implementing actions, where possible, through these other program mechanisms.

These existing mechanisms include (but are not limited to) the following:

- County and local general plans (General Plan Safety Element)
- Community service district area plans and master plans
- County and local emergency operations plans
- County and local ordinances
- Flood/stormwater management/master plans
- Community wildfire protection plans
- GSPs
- Stormwater Resource Plans
- Urban Water Management Plans (UWMPs)
- CIPs
- Other plans and policies outlined in the capability assessments in the jurisdictional annexes
- Other plans, regulations, and practices with a mitigation focus

HMPC members involved in the updates to the planning mechanisms will be responsible for integrating the findings and recommendations of this plan with these other plans, programs, etc., as appropriate. As an action step to ensure integration with other planning mechanisms, the County OES Manager or designee will discuss this topic at the annual meeting of the HMPC described above in Subsection 6.3.1. The HMPC will discuss where there are opportunities to incorporate the plan into other planning mechanisms and who would be responsible for leveraging those opportunities. HMPC members representing local jurisdictions will work with their jurisdictional LPTs to integrate their identified mitigation actions into their local plans and programs. Efforts to integrate the HMP into local plans, programs, and policies will be reported at the annual HMPC plan review meeting, and a record of successful integration efforts will be kept.

Efforts should continuously be made to monitor the progress of mitigation actions implemented through these other planning mechanisms and, where appropriate, their priority actions should be incorporated into updates of this hazard mitigation plan. Examples of a process for incorporation of the MJHMP into specific existing or upcoming planning mechanisms include:

- Each community (County, Avenal, Corcoran, Hanford, and Lemoore) should adopt (by reference or incorporation) this MJHMP into the Safety Element of their General Plan(s), as encouraged by AB 2140. Evidence of such adoption (by formal, certified resolution) shall be provided to Cal OES and FEMA to become eligible or maintain eligibility for CDDA funding. Also, specific risk and vulnerability information from the Kings County MJHMP can be incorporated into the General Plan; which, can in turn, inform the development of hazard overlay zones, or other policy changes designed to minimize hazard impacts.

6.3.4 Continued Public Involvement

Continued public involvement is imperative to the overall success of the plan's implementation. Efforts will be made to involve the public in the plan maintenance, evaluation, and review process. This includes maintaining a digital version of the plan on the County OES website for public review. In addition, information on who to contact within the OES will be posted with the plan. The Kings County OES will maintain a file of comments received for reference during the next five-year update. Any revisions to the plan that may occur as a result of a disaster will also be made public and posted on the County website.

The next five-year update process also provides an opportunity to solicit participation from new and existing stakeholders and publicize success stories from the plan implementation and seek additional public comment. A public hearing(s) or survey to receive public comment on the plan will be held during the plan update period. When the HMPC reconvenes for the update, they will coordinate with all



stakeholders participating in the planning process, including those who joined the HMPC after the initial effort, to update and revise the plan. Public notice will be posted, and public participation will be invited, at a minimum, through available website postings and press releases to the local media outlets as well as email and social media announcements.

Public involvement strategies that were used during the 2022 – 2023 planning process are captured in the Outreach Strategy in Appendix F. The appendix can serve as a reference for continued public involvement over the next several years and lays the foundation for outreach associated with the next formal five-year update. The HMPC should incorporate the following engagement concepts from the Outreach Strategy:

- Collaborate with Community Based Organizations and faith-based organizations (i.e. Kings Tulare Homeless Alliance).
- Create stories and mitigation success announcements to use for publishing at media outlets.
- Distribute emails and postcards and newsletters to the public about hazard mitigation.
- Participate in existing community events to share information about hazard mitigation (e.g., community farmer's markets, library events, senior centers).
- Continue to use the County's MJHMP Webpage as a distribution point or repository for HMP information.



7 PLAN ADOPTION

DMA Requirement §201.6(c)(5):

[The plan shall include...] Documentation that the plan has been formally adopted by the governing body of the jurisdiction requesting approval of the plan (e.g., City Council, County commissioner, Tribal Council).

7.1 ELEMENT E.1 FORMAL PLAN ADOPTION DOCUMENTATION

Adoption by the local governing body demonstrates the community's commitment to implementing the mitigation strategy and authorizes responsible agencies to execute their actions. The final plan is not approved until Kings County and each participating jurisdiction adopt the plan and FEMA receives documentation of formal adoption by the governing body of each jurisdiction requesting approval. This plan is for Kings County, the unincorporated County, and its incorporated cities of Avenal, Corcoran, Hanford, and Lemoore.

Kings County and the four participating cities plan to submit this plan to the Kings County Board of Supervisors (BOS), and their respective city councils upon successful completion of State and federal review and following the issuance of an Approved Pending Adoption (APA) designation from FEMA. This provides an efficient approval process if FEMA determines the MJHMP requires revisions because the County and each participating city can make these revisions prior to initiating the local plan adoption process.

Once FEMA issues APA notification, adoption by each participating jurisdiction must take place within one year for each jurisdiction to become or remain eligible for FEMA HMA program funding. Given this is a multi-jurisdictional planning process, Kings County will coordinate the adoption of all four jurisdictions adoption process as soon as the plan receives APA status. Because each City/Board governing body has different meeting schedules, Kings County will also coordinate with each participating jurisdiction/agency regarding the timing of their adoptions to submit adoption documentation to Cal OES and FEMA at the same time.

Once the County records and submits the adoption documentation to Cal OES and FEMA, FEMA will issue an official approval letter stating which jurisdictions/agencies have adopted and are approved and eligible for FEMA HMA program funding. The approval letter will include an expiration date five years from the date of the letter and attached to the approval letter will be a final FEMA Local Mitigation Plan Review Tool that provides feedback on the strengths of the plan, recommendations for plan improvements during future plan updates, and suggestions for implementing the mitigation strategy.

7.2 GENERAL PLAN SAFETY ELEMENT INTEGRATION

The MJHMP was prepared consistent with the Kings County General Plan Health and Safety Element. The planning mechanisms cover common overlapping natural hazard issues and mutually-reinforcing policies and implementation programs. California Government Code Section 65302.10, (AB 2140) encourages California counties and cities to adopt their current, FEMA-approved LHMPs into the Safety Element of their General Plan. This adoption by reference or incorporation of the MJHMP into the Health and Safety Element of the General Plan follows plan approval and makes Kings County and each participating jurisdiction eligible to be considered for part or all of its local-share costs on eligible public assistance funding to be provided by the State under the CDAA. As such, AB 2140 compliance provides additional funding after a disaster occurs and this is an optional state incentive to help counties and cities become more resilient to natural hazards. Because compliance with AB 2140 expires when the MJHMP expires, the County must re-adopt the plan into the Health and Safety Element during update cycles to ensure continued compliance and funding eligibility. Additionally, each participating jurisdiction must adopt their annex into their own General Plan Safety Element, as the annex jurisdictions are not covered under the County's General Plan Safety Element adoption.



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RESOLUTION NO. 24-16-R

**A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF HANFORD ADOPTING
THE LOCAL HAZARD MITIGATION PLAN**

At a regular meeting of the City Council of the City of Hanford duly called to order and held on June 18th, 2024 at 7:00 p.m., it was moved by Council Member _____, and seconded by Council Member _____, and duly carried that the following resolution be adopted:

WHEREAS, City of Hanford recognizes the threat that natural hazards pose to people and property within our community; and

WHEREAS, undertaking hazard mitigation actions will reduce the potential for harm to people and property from future hazard occurrences; and

WHEREAS, an adopted Local Hazard Mitigation Plan is required as a condition of future funding for mitigation projects under multiple FEMA pre- and post-disaster mitigation grant programs; and

WHEREAS, City of Hanford fully participated in the FEMA-prescribed mitigation planning process to prepare this Local Hazard Mitigation Plan; and

WHEREAS, the California Office of Emergency Services and Federal Emergency Management Agency, Region IX officials have reviewed the “Kings County Multi-Jurisdictional Local Hazard Mitigation Plan” and approved it contingent upon this official adoption of the participating governing body.

NOW, THEREFORE, BE IT RESOLVED, that the City Council of the City of Hanford does hereby adopt the “Kings County Multi-Jurisdictional Local Hazard Mitigation Plan” as an official plan; and

BE IT FURTHER RESOLVED, that the City Council of the City of Hanford will submit this Resolution to the California Office of Emergency Services and Federal Emergency Management Agency, Region IX officials to enable the Plan’s final approval.

ADOPTED by the City Council of the City of Hanford at a regular meeting of said Council held on the 18th day of June, 2024, by the following vote:

AYES: _____

NOES: _____

ABSTAIN: _____

ABSENT: _____

TRAVIS PADEN
MAYOR of the City of Hanford

Attest:

NATALIECORRAL
CITY CLERK

STATE OF CALIFORNIA)
COUNTY OF KINGS) ss
CITY OF HANFORD)

I, Natalie Corral, City Clerk of the City of Hanford, do hereby certify the foregoing Resolution was duly passed and adopted at a regular meeting of the City Council of the City of Hanford held on the _____ day of _____, 2024.

Date: _____

City Clerk



AGENDA STAFF REPORT

MEETING DATE: 6/18/2024

AGENDA SECTION: CONSENT CALENDAR

SUBJECT:

Approval of the renewal of the existing contract with AXON Enterprises, Inc. for body cameras and tasers at an annual cost of \$210,478.73 for a 5-year contract term.

RECOMMENDATION:

Recommendation: That the City Council, by motion, approve the renewal of the existing contract with AXON Enterprises, Inc. for body cameras and tasers at an annual cost of \$210,478.73 for a 5-year contract term.

BACKGROUND:

Axon, as the sole provider of police tasers and body cameras, offers a comprehensive lease program tailored to our department's needs. The current contract is set to expire on June 30, 2024. The current contract is an annual cost of \$21,255.80 and the department will be facing a 163% increase in pricing from the vendor. As documented and discussed with the vendor, much of this increase is attributable to software (online access, storage, and cloud services). Additionally, a change from the original contract is the addition of tasers. Currently the department spends approximately \$15,000 annually for tasers, repairs, batteries & cartridges. Due to constant upgrade of equipment by vendors, it is often more costly to repair equipment than to purchase brand new.

The comprehensive proposal includes the upgrade from Body Worn Camera 3 device to Body Worn Camera 4 device and replacement of outdated TASER X2 units with the new TASER 10 model. This updated contract will significantly enhance the effectiveness and reliability of our equipment.

Given the impending obsolescence of our existing Body Worn Camera 3 devices and TASER X2 units, it is imperative to secure a contract extension with Axon to ensure continuity of service and upgrade our equipment to enhance officer safety and operational efficiency.

Key Components of the Contract Extension:

1. Body Camera Upgrade:

- Replace 63 Body Worn Camera 3 devices with 67 Body Worn Camera 4 devices. The Body Worn Camera 4 offers enhanced features such as improved video quality, longer battery life, and updated software capabilities.

2. Taser Replacement:

- Replace 63 Taser X2 units with 67 Taser 10 units. The TASER 10 is the latest model offered by Axon, providing improved functionality and reliability over the discontinued

X2.

3. **Comprehensive Lease Program:**

- The proposed contract extension will cover tasers, cartridges, chargers, warranties, body-worn cameras, cloud storage, user licenses, charging stations, and holsters for all equipment and accessories over the extended period.

Financial Summary: The total cost of the proposed contract extension for the coming year and the subsequent five years is \$210,478.73 annually. This amount includes all necessary cloud storage, new equipment, replacement batteries, cartridges, warranties, and comprehensive support services provided by Axon.

Benefits of the Contract Extension:

1. **Continuity of Service:** Ensures seamless transition from our current contract to the new upgraded equipment without interruption.
2. **Technology Advancement:** Provides our officers with access to the latest and most reliable tasers and body cameras available, enhancing operational effectiveness.
3. **Cost-Efficiency:** The comprehensive lease program offers a predictable cost structure, simplifying budget planning and management.
4. **Warranty and Support:** Axon's included warranties and support services minimize downtime and ensure the longevity of our investment in police equipment.

It is recommended that the department proceed with extending the contract with Axon as proposed. This contract extension will address the imminent obsolescence of our current equipment, provide upgraded tools for our officers, and eliminate the need for separate expenditures on cloud storage, replacement batteries, and cartridges.

The proposed contract extension with Axon represents a strategic investment in upgrading our department's essential equipment and optimizing our operational resources. By transitioning to the Body Worn Camera 4 devices and TASER 10 units and consolidating our expenses into a comprehensive lease program, we are ensuring that our officers are equipped with state-of-the-art technology and support services that meet the demands of modern law enforcement.

FISCAL IMPACT:

The proposed contract extension for the next year and subsequent five years costs \$210,478.73 annually. The current annual spending for tasers, repairs, batteries & cartridges is \$15,000. This cost will be integrated into Axon's comprehensive lease program under the proposed extension. Yearly additional net cost to the General Fund over the next 5 years is approx. \$174,223. The department will receive \$13,000.00 upon selling the old Taser X2 to help offset the cost.

Additional appropriation will be requested at the July 2, 2024, Council meeting during the FY25 Mid-Cycle amendments if approved. Finance has identified reducing reserves as an offset to this additional cost.

ATTACHMENTS:

1. FY2025 SOLE SOURCE LETTER-2025 AXON
2. Hanford CA OSP 10+ (65) Renewal quote FINAL 6-12-24



H A N F O R D

CALIFORNIA 93230
CITY OFFICES 900 S 10TH AVENUE



MAYOR
TRAVIS PADEN
VICE-MAYOR
MARK KAIRIS
COUNCIL MEMBERS
LOU MARTINEZ
MARTIN DEVINE
CITY MANAGER
MARIO CIFUENTEZ

FY2025

To Whom It May Concern:

This form must be used as justification for a purchase from a single or sole source provider without open competition when the purchase is \$2,500 or above.

The following statements, in my professional judgment, are correct. I have researched my requirements to support these findings. I also certify that no personal advantage, gain or privilege has (or will) accrued to me through the purchase from this vendor. I have reviewed the vendor's proposed costs and find those costs fair and reasonable for the item proposed.

Explanation for Single/Sole Source:

We request a sole source for AXON International, Inc. Axon has emerged as the leader in body-worn video technology and conducted electrical weapons (CEWs). The company offers a unique combination of products and technologies that are not available from any other manufacturer. This sole source procurement is justified based on the following reasons:

1. **Patented Technologies:** AXON International, Inc. is the sole manufacturer of the patented less lethal device Taser10 and the AXON Body 4 camera system. These products are crucial for our operations, providing advanced safety and recording capabilities that are not replicated by other vendors.
2. **Secure Cloud-Based Video Storage:** AXON provides a secure, patented cloud-based video storage solution called evidence.com. This system ensures the integrity and security of our video data, which is essential for maintaining the chain of custody and compliance with legal standards.
3. **Exclusive Mounting Capabilities:** AXON's trademarked mounting options are unparalleled. Their technology allows for video cameras to be mounted on a variety of surfaces, including sunglasses, helmets, baseball

hats, lapels, and uniform epaulettes. This flexibility ensures that our personnel can capture unobstructed points of view, enhancing situational awareness and evidence collection. No other manufacturer offers this range of mounting options.

4. **Leadership in the Industry:** AXON has established itself as the leader in both body-worn video technology and CEWs. Their products are widely recognized for their reliability, durability, and effectiveness. Utilizing AXON's integrated system ensures compatibility and streamlined operations across our department.

James Lutz

Operations Captain



Axon Enterprise, Inc.
17800 N 85th St.
Scottsdale, Arizona 85255
United States
VAT: 86-0741227
Domestic: (800) 978-2737
International: +1.800.978.2737

Q-561883-45455.735DG

Issued: 06/12/2024

Quote Expiration: 06/20/2024

Estimated Contract Start Date: 08/15/2024

Account Number: 157734

Payment Terms: N30

Delivery Method:

SHIP TO	BILL TO
Hanford Police Dept. - CA 425 N Irwin St Hanford, CA 93230-4425 USA	Hanford Police Dept. - CA 425 N Irwin St Hanford CA 93230-4425 USA Email:

SALES REPRESENTATIVE	PRIMARY CONTACT
David Gollobit Phone: +1 6023212774 Email: dgollobit@axon.com Fax:	Chris Barker Phone: 559-585-2540 Email: cbarker@cityofhanfordca.com Fax:

Quote Summary

Program Length	60 Months
TOTAL COST	\$1,022,940.40
ESTIMATED TOTAL W/ TAX	\$1,052,393.81

Discount Summary

Average Savings Per Year	\$120,706.03
TOTAL SAVINGS	\$603,530.16

Payment Summary

Date	Subtotal	Tax	Total
Jul 2024	\$204,588.08	\$5,890.65	\$210,478.73
Jul 2025	\$204,588.08	\$5,890.65	\$210,478.73
Jul 2026	\$204,588.08	\$5,890.65	\$210,478.73
Jul 2027	\$204,588.08	\$5,890.65	\$210,478.73
Jul 2028	\$204,588.08	\$5,890.81	\$210,478.89
Total	\$1,022,940.40	\$29,453.41	\$1,052,393.81

Quote Unbundled Price:	\$1,626,470.56
Quote List Price:	\$1,258,778.56
Quote Subtotal:	\$1,022,940.40

Pricing

All deliverables are detailed in Delivery Schedules section lower in proposal

Item	Description	Qty	Term	Unbundled	List Price	Net Price	Subtotal	Tax	Total
Program									
M00012	BUNDLE - OFFICER SAFETY PLAN 10 PLUS	65	60	\$392.18	\$297.90	\$256.19	\$999,141.00	\$29,453.41	\$1,028,594.41
A la Carte Hardware									
101294	AXON VR - TABLET	1			\$1,395.00	\$0.00	\$0.00	\$0.00	\$0.00
101300	AXON VR - TABLET CASE	1			\$65.00	\$0.00	\$0.00	\$0.00	\$0.00
100832	AXON VR - CONTROLLER - HANDGUN VR19H	1			\$1,900.00	\$0.00	\$0.00	\$0.00	\$0.00
H00001	AB4 Camera Bundle	55			\$849.00	\$0.00	\$0.00	\$0.00	\$0.00
H00002	AB4 Multi Bay Dock Bundle	7			\$1,638.90	\$0.00	\$0.00	\$0.00	\$0.00
H00001	AB4 Camera Bundle	11			\$849.00	\$0.00	\$0.00	\$0.00	\$0.00
H00002	AB4 Multi Bay Dock Bundle	1			\$1,638.90	\$0.00	\$0.00	\$0.00	\$0.00
A la Carte Software									
ProLicense	Pro License Bundle	3	60		\$43.40	\$43.33	\$7,799.40	\$0.00	\$7,799.40
A la Carte Services									
100610	AXON SIGNAL - INSTALLATION SERVICE - VIRTUAL	1			\$1,500.00	\$1,500.00	\$1,500.00	\$0.00	\$1,500.00
101208	AXON TASER 10 - 2 DAY INSTRUCTOR COURSE - INSIDE SALES	1			\$2,500.00	\$2,500.00	\$2,500.00	\$0.00	\$2,500.00
101267	AXON VR - PSO - FULL INSTALLATION	1			\$12,000.00	\$12,000.00	\$12,000.00	\$0.00	\$12,000.00
A la Carte Warranties									
100213	AXON VR - EXT WARRANTY - TABLET	1	48		\$3.48	\$0.00	\$0.00	\$0.00	\$0.00
101008	AXON VR - EXT WARRANTY - HANDGUN CONTROLLER	1	48		\$10.09	\$0.00	\$0.00	\$0.00	\$0.00
Total							\$1,022,940.40	\$29,453.41	\$1,052,393.81

Delivery Schedule

Hardware

Bundle	Item	Description	QTY	Shipping Location	Estimated Delivery Date
AB4 Camera Bundle	100147	AXON BODY 4 - CAMERA - NA US FIRST RESPONDER BLK RAPIDLOCK	55	1	08/15/2024
AB4 Camera Bundle	100147	AXON BODY 4 - CAMERA - NA US FIRST RESPONDER BLK RAPIDLOCK	11	1	08/15/2024
AB4 Camera Bundle	100147	AXON BODY 4 - CAMERA - NA US FIRST RESPONDER BLK RAPIDLOCK	1	1	08/15/2024
AB4 Camera Bundle	100466	AXON BODY 4 - CABLE - USB-C TO USB-C	61	1	08/15/2024
AB4 Camera Bundle	100466	AXON BODY 4 - CABLE - USB-C TO USB-C	13	1	08/15/2024
AB4 Camera Bundle	11508	AXON BODY - MOUNT - RAPIDLOCK DOUBLE MOLLE	61	1	08/15/2024
AB4 Camera Bundle	11508	AXON BODY - MOUNT - RAPIDLOCK DOUBLE MOLLE	13	1	08/15/2024
AB4 Multi Bay Dock Bundle	100206	AXON BODY 4 - DOCK - EIGHT BAY	7	1	08/15/2024
AB4 Multi Bay Dock Bundle	100206	AXON BODY 4 - DOCK - EIGHT BAY	1	1	08/15/2024
AB4 Multi Bay Dock Bundle	70033	AXON - DOCK WALL MOUNT - BRACKET ASSY	7	1	08/15/2024
AB4 Multi Bay Dock Bundle	70033	AXON - DOCK WALL MOUNT - BRACKET ASSY	1	1	08/15/2024
AB4 Multi Bay Dock Bundle	71019	AXON BODY - DOCK POWERCORD - NORTH AMERICA	7	1	08/15/2024
AB4 Multi Bay Dock Bundle	71019	AXON BODY - DOCK POWERCORD - NORTH AMERICA	1	1	08/15/2024
BUNDLE - OFFICER SAFETY PLAN 10 PLUS	100126	AXON VR - TACTICAL BAG	3	1	08/15/2024
BUNDLE - OFFICER SAFETY PLAN 10 PLUS	100390	AXON TASER 10 - HANDLE - YELLOW CLASS 3R	65	2	08/15/2024
BUNDLE - OFFICER SAFETY PLAN 10 PLUS	100390	AXON TASER 10 - HANDLE - YELLOW CLASS 3R	2	2	08/15/2024
BUNDLE - OFFICER SAFETY PLAN 10 PLUS	100393	AXON TASER 10 - MAGAZINE - LIVE DUTY BLACK	65	1	08/15/2024
BUNDLE - OFFICER SAFETY PLAN 10 PLUS	100393	AXON TASER 10 - MAGAZINE - LIVE DUTY BLACK	2	1	08/15/2024
BUNDLE - OFFICER SAFETY PLAN 10 PLUS	100394	AXON TASER 10 - MAGAZINE - HALT TRAINING BLUE	4	1	08/15/2024
BUNDLE - OFFICER SAFETY PLAN 10 PLUS	100395	AXON TASER 10 - MAGAZINE - LIVE TRAINING PURPLE	3	1	08/15/2024
BUNDLE - OFFICER SAFETY PLAN 10 PLUS	100396	AXON TASER 10 - MAGAZINE - INERT RED	30	1	08/15/2024
BUNDLE - OFFICER SAFETY PLAN 10 PLUS	100399	AXON TASER 10 - CARTRIDGE - LIVE	1300	1	08/15/2024
BUNDLE - OFFICER SAFETY PLAN 10 PLUS	100400	AXON TASER 10 - CARTRIDGE - HALT	390	1	08/15/2024
BUNDLE - OFFICER SAFETY PLAN 10 PLUS	100401	AXON TASER 10 - CARTRIDGE - INERT	300	1	08/15/2024
BUNDLE - OFFICER SAFETY PLAN 10 PLUS	100611	AXON TASER 10 - SAFARILAND HOLSTER - RH	60	1	08/15/2024
BUNDLE - OFFICER SAFETY PLAN 10 PLUS	100613	AXON TASER 10 - SAFARILAND HOLSTER - LH	5	1	08/15/2024
BUNDLE - OFFICER SAFETY PLAN 10 PLUS	100623	AXON TASER - TRAINING - ENHANCED HALT SUIT V2	1	1	08/15/2024
BUNDLE - OFFICER SAFETY PLAN 10 PLUS	100681	AXON SIGNAL - SIDEARM SENSOR ONLY	65	1	08/15/2024
BUNDLE - OFFICER SAFETY PLAN 10 PLUS	100748	AXON VR - CONTROLLER - TASER 10	3	1	08/15/2024
BUNDLE - OFFICER SAFETY PLAN 10 PLUS	100832	AXON VR - CONTROLLER - HANDGUN VR19H	3	1	08/15/2024
BUNDLE - OFFICER SAFETY PLAN 10 PLUS	101122	AXON VR - HOLSTER - T10 SAFARILAND GREY - RH	2	1	08/15/2024
BUNDLE - OFFICER SAFETY PLAN 10 PLUS	101123	AXON VR - HOLSTER - T10 SAFARILAND GREY - LH	1	1	08/15/2024
BUNDLE - OFFICER SAFETY PLAN 10 PLUS	101294	AXON VR - TABLET	3	1	08/15/2024
BUNDLE - OFFICER SAFETY PLAN 10 PLUS	101300	AXON VR - TABLET CASE	3	1	08/15/2024
BUNDLE - OFFICER SAFETY PLAN 10 PLUS	20018	AXON TASER - BATTERY PACK - TACTICAL	65	1	08/15/2024
BUNDLE - OFFICER SAFETY PLAN 10 PLUS	20018	AXON TASER - BATTERY PACK - TACTICAL	12	1	08/15/2024
BUNDLE - OFFICER SAFETY PLAN 10 PLUS	20018	AXON TASER - BATTERY PACK - TACTICAL	2	1	08/15/2024
BUNDLE - OFFICER SAFETY PLAN 10 PLUS	20378	AXON VR - HEADSET - HTC FOCUS 3	3	1	08/15/2024
BUNDLE - OFFICER SAFETY PLAN 10 PLUS	70033	AXON - DOCK WALL MOUNT - BRACKET ASSY	1	1	08/15/2024
BUNDLE - OFFICER SAFETY PLAN 10 PLUS	71019	AXON BODY - DOCK POWERCORD - NORTH AMERICA	1	1	08/15/2024
BUNDLE - OFFICER SAFETY PLAN 10 PLUS	71044	AXON SIGNAL - BATTERY - CR2430 SINGLE PACK	130	1	08/15/2024
BUNDLE - OFFICER SAFETY PLAN 10 PLUS	74200	AXON TASER - DOCK - SIX BAY PLUS CORE	1	1	08/15/2024
BUNDLE - OFFICER SAFETY PLAN 10 PLUS	80087	AXON TASER - TARGET - CONDUCTIVE PROFESSIONAL RUGGEDIZED	1	1	08/15/2024
BUNDLE - OFFICER SAFETY PLAN 10 PLUS	80090	AXON TASER - TARGET FRAME - PROFESSIONAL 27.5 IN X 75 IN	1	1	08/15/2024
A la Carte	100832	AXON VR - CONTROLLER - HANDGUN VR19H	1	1	08/15/2024
A la Carte	101294	AXON VR - TABLET	1	1	08/15/2024
A la Carte	101300	AXON VR - TABLET CASE	1	1	08/15/2024

Bundle	Item	Description	QTY	Shipping Location	Estimated Delivery Date
BUNDLE - OFFICER SAFETY PLAN 10 PLUS	100399	AXON TASER 10 - CARTRIDGE - LIVE	200	1	08/15/2025
BUNDLE - OFFICER SAFETY PLAN 10 PLUS	100400	AXON TASER 10 - CARTRIDGE - HALT	520	1	08/15/2025
BUNDLE - OFFICER SAFETY PLAN 10 PLUS	100399	AXON TASER 10 - CARTRIDGE - LIVE	190	1	08/15/2026
BUNDLE - OFFICER SAFETY PLAN 10 PLUS	100400	AXON TASER 10 - CARTRIDGE - HALT	520	1	08/15/2026
BUNDLE - OFFICER SAFETY PLAN 10 PLUS	100210	AXON VR - TAP REFRESH 1 - TABLET	3	1	02/15/2027
BUNDLE - OFFICER SAFETY PLAN 10 PLUS	101009	AXON VR - TAP REFRESH 1 - SIDEARM CONTROLLER	3	1	02/15/2027
BUNDLE - OFFICER SAFETY PLAN 10 PLUS	101012	AXON VR - TAP REFRESH 1 - CONTROLLER	3	1	02/15/2027
BUNDLE - OFFICER SAFETY PLAN 10 PLUS	20373	AXON VR - TAP REFRESH 1 - HEADSET	3	1	02/15/2027
BUNDLE - OFFICER SAFETY PLAN 10 PLUS	73309	AXON BODY - TAP REFRESH 1 - CAMERA	67	1	02/15/2027
BUNDLE - OFFICER SAFETY PLAN 10 PLUS	73689	AXON BODY - TAP REFRESH 1 - DOCK MULTI BAY	8	1	02/15/2027
BUNDLE - OFFICER SAFETY PLAN 10 PLUS	100399	AXON TASER 10 - CARTRIDGE - LIVE	200	1	08/15/2027
BUNDLE - OFFICER SAFETY PLAN 10 PLUS	100400	AXON TASER 10 - CARTRIDGE - HALT	520	1	08/15/2027
BUNDLE - OFFICER SAFETY PLAN 10 PLUS	100399	AXON TASER 10 - CARTRIDGE - LIVE	190	1	08/15/2028
BUNDLE - OFFICER SAFETY PLAN 10 PLUS	100400	AXON TASER 10 - CARTRIDGE - HALT	520	1	08/15/2028
BUNDLE - OFFICER SAFETY PLAN 10 PLUS	73310	AXON BODY - TAP REFRESH 2 - CAMERA	67	1	08/14/2029
BUNDLE - OFFICER SAFETY PLAN 10 PLUS	73688	AXON BODY - TAP REFRESH 2 - DOCK MULTI BAY	8	1	08/14/2029

Software

Bundle	Item	Description	QTY	Estimated Start Date	Estimated End Date
BUNDLE - OFFICER SAFETY PLAN 10 PLUS	100801	AXON RECORDS - OSP LICENSE	65	08/15/2024	08/14/2029
BUNDLE - OFFICER SAFETY PLAN 10 PLUS	101180	AXON TASER - DATA SCIENCE PROGRAM	65	08/15/2024	08/14/2029
BUNDLE - OFFICER SAFETY PLAN 10 PLUS	20248	AXON TASER - EVIDENCE.COM LICENSE	65	08/15/2024	08/14/2029
BUNDLE - OFFICER SAFETY PLAN 10 PLUS	20248	AXON TASER - EVIDENCE.COM LICENSE	1	08/15/2024	08/14/2029
BUNDLE - OFFICER SAFETY PLAN 10 PLUS	20370	AXON VR - FULL ACCESS - TASER ADD-ON USER	65	08/15/2024	08/14/2029
BUNDLE - OFFICER SAFETY PLAN 10 PLUS	73478	AXON EVIDENCE - REDACTION ASSISTANT USER LICENSE	65	08/15/2024	08/14/2029
BUNDLE - OFFICER SAFETY PLAN 10 PLUS	73618	AXON COMMUNITY REQUEST	65	08/15/2024	08/14/2029
BUNDLE - OFFICER SAFETY PLAN 10 PLUS	73638	AXON STANDARDS - LICENSE	65	08/15/2024	08/14/2029
BUNDLE - OFFICER SAFETY PLAN 10 PLUS	73680	AXON RESPOND PLUS - LICENSE	65	08/15/2024	08/14/2029
BUNDLE - OFFICER SAFETY PLAN 10 PLUS	73682	AXON EVIDENCE - AUTO TAGGING LICENSE	65	08/15/2024	08/14/2029
BUNDLE - OFFICER SAFETY PLAN 10 PLUS	73683	AXON EVIDENCE - STORAGE - 10GB A LA CARTE	650	08/15/2024	08/14/2029
BUNDLE - OFFICER SAFETY PLAN 10 PLUS	73686	AXON EVIDENCE - STORAGE - UNLIMITED (AXON DEVICE)	65	08/15/2024	08/14/2029
BUNDLE - OFFICER SAFETY PLAN 10 PLUS	73739	AXON PERFORMANCE - LICENSE	65	08/15/2024	08/14/2029
BUNDLE - OFFICER SAFETY PLAN 10 PLUS	73746	AXON EVIDENCE - ECOM LICENSE - PRO	65	08/15/2024	08/14/2029
Pro License Bundle	73683	AXON EVIDENCE - STORAGE - 10GB A LA CARTE	9	08/15/2024	08/14/2029
Pro License Bundle	73746	AXON EVIDENCE - ECOM LICENSE - PRO	3	08/15/2024	08/14/2029

Services

Bundle	Item	Description	QTY
BUNDLE - OFFICER SAFETY PLAN 10 PLUS	100751	AXON TASER 10 - REPLACEMENT ACCESS PROGRAM - DUTY CARTRIDGE	65
BUNDLE - OFFICER SAFETY PLAN 10 PLUS	101184	AXON INVESTIGATE - TRAINING - OPERATOR AND EXAMINER	5
BUNDLE - OFFICER SAFETY PLAN 10 PLUS	101193	AXON TASER - ON DEMAND CERTIFICATION	1
BUNDLE - OFFICER SAFETY PLAN 10 PLUS	11642	AXON INVESTIGATE - THIRD PARTY VIDEO SUPPORT	65
A la Carte	100610	AXON SIGNAL - INSTALLATION SERVICE - VIRTUAL	1
A la Carte	101208	AXON TASER 10 - 2 DAY INSTRUCTOR COURSE - INSIDE SALES	1
A la Carte	101267	AXON VR - PSO - FULL INSTALLATION	1

Warranties

Bundle	Item	Description	QTY	Estimated Start Date	Estimated End Date
BUNDLE - OFFICER SAFETY PLAN 10 PLUS	100197	AXON VR - EXT WARRANTY - HTC FOCUS 3 HEADSET	3	08/15/2025	08/14/2029
BUNDLE - OFFICER SAFETY PLAN 10 PLUS	100213	AXON VR - EXT WARRANTY - TABLET	3	08/15/2025	08/14/2029
BUNDLE - OFFICER SAFETY PLAN 10 PLUS	100704	AXON TASER 10 - EXT WARRANTY - HANDLE	65	08/15/2025	08/14/2029
BUNDLE - OFFICER SAFETY PLAN 10 PLUS	100704	AXON TASER 10 - EXT WARRANTY - HANDLE	2	08/15/2025	08/14/2029
BUNDLE - OFFICER SAFETY PLAN 10 PLUS	101007	AXON VR - EXT WARRANTY - CONTROLLER	3	08/15/2025	08/14/2029
BUNDLE - OFFICER SAFETY PLAN 10 PLUS	101008	AXON VR - EXT WARRANTY - HANDGUN CONTROLLER	3	08/15/2025	08/14/2029
BUNDLE - OFFICER SAFETY PLAN 10 PLUS	80374	AXON TASER 7 - EXT WARRANTY - BATTERY PACK	65	08/15/2025	08/14/2029
BUNDLE - OFFICER SAFETY PLAN 10 PLUS	80374	AXON TASER 7 - EXT WARRANTY - BATTERY PACK	12	08/15/2025	08/14/2029
BUNDLE - OFFICER SAFETY PLAN 10 PLUS	80374	AXON TASER 7 - EXT WARRANTY - BATTERY PACK	2	08/15/2025	08/14/2029
BUNDLE - OFFICER SAFETY PLAN 10 PLUS	80396	AXON TASER 7 - EXT WARRANTY - DOCK SIX BAY	1	08/15/2025	08/14/2029
BUNDLE - OFFICER SAFETY PLAN 10 PLUS	80464	AXON BODY - TAP WARRANTY - CAMERA	65	08/15/2025	08/14/2029
BUNDLE - OFFICER SAFETY PLAN 10 PLUS	80464	AXON BODY - TAP WARRANTY - CAMERA	2	08/15/2025	08/14/2029
BUNDLE - OFFICER SAFETY PLAN 10 PLUS	80465	AXON BODY - TAP WARRANTY - MULTI BAY DOCK	8	08/15/2025	08/14/2029
A la Carte	100213	AXON VR - EXT WARRANTY - TABLET	1	08/15/2025	08/14/2029
A la Carte	101008	AXON VR - EXT WARRANTY - HANDGUN CONTROLLER	1	08/15/2025	08/14/2029

Shipping Locations

Location Number	Street	City	State	Zip	Country
1	425 N Irwin St	Hanford	CA	93230-4425	USA
2	425 N Irwin St	Hanford	CA	93230-4425	USA

Payment Details

Jul 2024

Invoice Plan	Item	Description	Qty	Subtotal	Tax	Total
Year 1	100213	AXON VR - EXT WARRANTY - TABLET	1	\$0.00	\$0.00	\$0.00
Year 1	100610	AXON SIGNAL - INSTALLATION SERVICE - VIRTUAL	1	\$300.00	\$0.00	\$300.00
Year 1	100832	AXON VR - CONTROLLER - HANDGUN VR19H	1	\$0.00	\$0.00	\$0.00
Year 1	101008	AXON VR - EXT WARRANTY - HANDGUN CONTROLLER	1	\$0.00	\$0.00	\$0.00
Year 1	101208	AXON TASER 10 - 2 DAY INSTRUCTOR COURSE - INSIDE SALES	1	\$500.00	\$0.00	\$500.00
Year 1	101267	AXON VR - PSO - FULL INSTALLATION	1	\$2,400.00	\$0.00	\$2,400.00
Year 1	101294	AXON VR - TABLET	1	\$0.00	\$0.00	\$0.00
Year 1	101300	AXON VR - TABLET CASE	1	\$0.00	\$0.00	\$0.00
Year 1	H00001	AB4 Camera Bundle	55	\$0.00	\$0.00	\$0.00
Year 1	H00002	AB4 Multi Bay Dock Bundle	7	\$0.00	\$0.00	\$0.00
Year 1	M00012	BUNDLE - OFFICER SAFETY PLAN 10 PLUS	65	\$199,828.20	\$5,890.65	\$205,718.85
Year 1	ProLicense	Pro License Bundle	3	\$1,559.88	\$0.00	\$1,559.88
Total				\$204,588.08	\$5,890.65	\$210,478.73

Aug 2024

Invoice Plan	Item	Description	Qty	Subtotal	Tax	Total
Invoice Upon Fulfillment	H00001	AB4 Camera Bundle	11	\$0.00	\$0.00	\$0.00
Invoice Upon Fulfillment	H00002	AB4 Multi Bay Dock Bundle	1	\$0.00	\$0.00	\$0.00
Invoice Upon Fulfillment	M00012	BUNDLE - OFFICER SAFETY PLAN 10 PLUS	65	\$0.00	\$0.00	\$0.00
Total				\$0.00	\$0.00	\$0.00

Jul 2025

Invoice Plan	Item	Description	Qty	Subtotal	Tax	Total
Year 2	100213	AXON VR - EXT WARRANTY - TABLET	1	\$0.00	\$0.00	\$0.00
Year 2	100610	AXON SIGNAL - INSTALLATION SERVICE - VIRTUAL	1	\$300.00	\$0.00	\$300.00
Year 2	100832	AXON VR - CONTROLLER - HANDGUN VR19H	1	\$0.00	\$0.00	\$0.00
Year 2	101008	AXON VR - EXT WARRANTY - HANDGUN CONTROLLER	1	\$0.00	\$0.00	\$0.00
Year 2	101208	AXON TASER 10 - 2 DAY INSTRUCTOR COURSE - INSIDE SALES	1	\$500.00	\$0.00	\$500.00
Year 2	101267	AXON VR - PSO - FULL INSTALLATION	1	\$2,400.00	\$0.00	\$2,400.00
Year 2	101294	AXON VR - TABLET	1	\$0.00	\$0.00	\$0.00
Year 2	101300	AXON VR - TABLET CASE	1	\$0.00	\$0.00	\$0.00
Year 2	H00001	AB4 Camera Bundle	55	\$0.00	\$0.00	\$0.00
Year 2	H00002	AB4 Multi Bay Dock Bundle	7	\$0.00	\$0.00	\$0.00
Year 2	M00012	BUNDLE - OFFICER SAFETY PLAN 10 PLUS	65	\$199,828.20	\$5,890.65	\$205,718.85
Year 2	ProLicense	Pro License Bundle	3	\$1,559.88	\$0.00	\$1,559.88
Total				\$204,588.08	\$5,890.65	\$210,478.73

Jul 2026						
Invoice Plan	Item	Description	Qty	Subtotal	Tax	Total
Year 3	100213	AXON VR - EXT WARRANTY - TABLET	1	\$0.00	\$0.00	\$0.00
Year 3	100610	AXON SIGNAL - INSTALLATION SERVICE - VIRTUAL	1	\$300.00	\$0.00	\$300.00
Year 3	100832	AXON VR - CONTROLLER - HANDGUN VR19H	1	\$0.00	\$0.00	\$0.00
Year 3	101008	AXON VR - EXT WARRANTY - HANDGUN CONTROLLER	1	\$0.00	\$0.00	\$0.00
Year 3	101208	AXON TASER 10 - 2 DAY INSTRUCTOR COURSE - INSIDE SALES	1	\$500.00	\$0.00	\$500.00
Year 3	101267	AXON VR - PSO - FULL INSTALLATION	1	\$2,400.00	\$0.00	\$2,400.00
Year 3	101294	AXON VR - TABLET	1	\$0.00	\$0.00	\$0.00
Year 3	101300	AXON VR - TABLET CASE	1	\$0.00	\$0.00	\$0.00
Year 3	H00001	AB4 Camera Bundle	55	\$0.00	\$0.00	\$0.00
Year 3	H00002	AB4 Multi Bay Dock Bundle	7	\$0.00	\$0.00	\$0.00
Year 3	M00012	BUNDLE - OFFICER SAFETY PLAN 10 PLUS	65	\$199,828.20	\$5,890.65	\$205,718.85
Year 3	ProLicense	Pro License Bundle	3	\$1,559.88	\$0.00	\$1,559.88
Total				\$204,588.08	\$5,890.65	\$210,478.73

Jul 2027						
Invoice Plan	Item	Description	Qty	Subtotal	Tax	Total
Year 4	100213	AXON VR - EXT WARRANTY - TABLET	1	\$0.00	\$0.00	\$0.00
Year 4	100610	AXON SIGNAL - INSTALLATION SERVICE - VIRTUAL	1	\$300.00	\$0.00	\$300.00
Year 4	100832	AXON VR - CONTROLLER - HANDGUN VR19H	1	\$0.00	\$0.00	\$0.00
Year 4	101008	AXON VR - EXT WARRANTY - HANDGUN CONTROLLER	1	\$0.00	\$0.00	\$0.00
Year 4	101208	AXON TASER 10 - 2 DAY INSTRUCTOR COURSE - INSIDE SALES	1	\$500.00	\$0.00	\$500.00
Year 4	101267	AXON VR - PSO - FULL INSTALLATION	1	\$2,400.00	\$0.00	\$2,400.00
Year 4	101294	AXON VR - TABLET	1	\$0.00	\$0.00	\$0.00
Year 4	101300	AXON VR - TABLET CASE	1	\$0.00	\$0.00	\$0.00
Year 4	H00001	AB4 Camera Bundle	55	\$0.00	\$0.00	\$0.00
Year 4	H00002	AB4 Multi Bay Dock Bundle	7	\$0.00	\$0.00	\$0.00
Year 4	M00012	BUNDLE - OFFICER SAFETY PLAN 10 PLUS	65	\$199,828.20	\$5,890.65	\$205,718.85
Year 4	ProLicense	Pro License Bundle	3	\$1,559.88	\$0.00	\$1,559.88
Total				\$204,588.08	\$5,890.65	\$210,478.73

Jul 2028						
Invoice Plan	Item	Description	Qty	Subtotal	Tax	Total
Year 5	100213	AXON VR - EXT WARRANTY - TABLET	1	\$0.00	\$0.00	\$0.00
Year 5	100610	AXON SIGNAL - INSTALLATION SERVICE - VIRTUAL	1	\$300.00	\$0.00	\$300.00
Year 5	100832	AXON VR - CONTROLLER - HANDGUN VR19H	1	\$0.00	\$0.00	\$0.00
Year 5	101008	AXON VR - EXT WARRANTY - HANDGUN CONTROLLER	1	\$0.00	\$0.00	\$0.00
Year 5	101208	AXON TASER 10 - 2 DAY INSTRUCTOR COURSE - INSIDE SALES	1	\$500.00	\$0.00	\$500.00
Year 5	101267	AXON VR - PSO - FULL INSTALLATION	1	\$2,400.00	\$0.00	\$2,400.00
Year 5	101294	AXON VR - TABLET	1	\$0.00	\$0.00	\$0.00
Year 5	101300	AXON VR - TABLET CASE	1	\$0.00	\$0.00	\$0.00
Year 5	H00001	AB4 Camera Bundle	55	\$0.00	\$0.00	\$0.00
Year 5	H00002	AB4 Multi Bay Dock Bundle	7	\$0.00	\$0.00	\$0.00
Year 5	M00012	BUNDLE - OFFICER SAFETY PLAN 10 PLUS	65	\$199,828.20	\$5,890.81	\$205,719.01
Year 5	ProLicense	Pro License Bundle	3	\$1,559.88	\$0.00	\$1,559.88
Total				\$204,588.08	\$5,890.81	\$210,478.89

Tax is estimated based on rates applicable at date of quote and subject to change at time of invoicing. If a tax exemption certificate should be applied, please submit prior to invoicing.

Contract Sourcewell #101223-AXN is incorporated by reference into the terms and conditions of this Agreement. In the event of conflict the terms of Axon's Master Services and Purchasing Agreement shall govern.

Standard Terms and Conditions

Axon Enterprise Inc. Sales Terms and Conditions

Axon Master Services and Purchasing Agreement:

This Quote is limited to and conditional upon your acceptance of the provisions set forth herein and Axon's Master Services and Purchasing Agreement (posted at <https://www.axon.com/sales-terms-and-conditions>), as well as the attached Statement of Work (SOW) for Axon Fleet and/or Axon Interview Room purchase, if applicable. In the event you and Axon have entered into a prior agreement to govern all future purchases, that agreement shall govern to the extent it includes the products and services being purchased and does not conflict with the Axon Customer Experience Improvement Program Appendix as described below.

ACEIP:

The Axon Customer Experience Improvement Program Appendix, which includes the sharing of de-identified segments of Agency Content with Axon to develop new products and improve your product experience (posted at www.axon.com/legal/sales-terms-and-conditions), is incorporated herein by reference. By signing below, you agree to the terms of the Axon Customer Experience Improvement Program.

Acceptance of Terms:

Any purchase order issued in response to this Quote is subject solely to the above referenced terms and conditions. By signing below, you represent that you are lawfully able to enter into contracts. If you are signing on behalf of an entity (including but not limited to the company, municipality, or government agency for whom you work), you represent to Axon that you have legal authority to bind that entity. If you do not have this authority, please do not sign this Quote.

Exceptions to Standard Terms and Conditions

Agency has existing contract(s) originated via Quote(s): Q-210546

These contracts expire effective 8/15/2024 .

100% discounted body-worn camera and docking station hardware contained in this quote reflects a TAP replacement for hardware purchased under existing contract #Q-210546. All TAP obligations from this contract will be considered fulfilled upon execution of this quote.

Signature

Date Signed

6/12/2024





AGENDA STAFF REPORT

MEETING DATE: 6/18/2024	AGENDA SECTION: CONSENT CALENDAR
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SUBJECT:

Approval of payment in the amount of \$70,000.00 from the City of Hanford Police Department to the Kings County Fire Department due to an onsite compliance assessment performed by California Office of Emergency Services (CALOES).

RECOMMENDATION:

Recommended Motion: That the Council, by motion, approve the payment to Kings County Fire Department in the amount of \$70,000.00 due to an onsite compliance assessment performed by California Office of Emergency Services (CALOES).

BACKGROUND:

On April 5th 2022, City Council authorized the acceptance of an agreement between Kings County and City of Hanford for a sub-award in the amount of \$70,000 from the Homeland Security Grant Program (HGSP) FY-21 funds. The grant funding received was used to purchase patented "Rapid Defense Barriers" (vehicle barriers) from sole vendor, Meridian Rapid Defense Group. During an onsite compliance assessment of this project by CALOES two findings were documented related to "noncompetitive procurement". Although the vendor selected has a patent and is the sole vendor of their product, various companies exist that offer a similar product.

Consequently, a payment of \$70,000 to Kings County Fire Dept due to the onsite compliance assessment is required to rectify this oversight. CALOES has decided to extend the grant, giving the Hanford Police Department another opportunity to reapply and use the grant funds to purchase valuable items to help officers keep the City of Hanford safer.

FISCAL IMPACT:

The General Fund to pay \$70,000.00 of grant revenue received.

ATTACHMENTS:

1. Request of Funds HPD for Audit 052024



KINGS COUNTY OFFICE OF EMERGENCY SERVICES

280 Campus Drive • Hanford, California 93230

Phone: 559-852-2883 • Fax: 559-582-8261

May 20, 2024

Stephanie Huddleston
Chief of Police
City of Hanford
Police Department
425 North Irwin Street
Hanford, CA 93230

Subject: Return of Funds due to Onsite Compliance Assessment #23-2929; FIPS 031-00000

Dear Chief Huddleston,

I hope this letter finds you well. I am writing to address the audit finding from the California Office of Emergency Services (CALOES) regarding the Homeland Security Grant Program (HSGP) FY-21.

As part of the audit, it was determined that there were issues related to improper procurement of the Rapid Defense Barriers and as a result, **CALOES has directed the return of the HSGP FY-21 funds**. We provided CALOES with your rebuttal, but their decision remained unchanged. The main reason being is that although the vendor Hanford PD selected has a patent and is the sole vendor of their product, various companies exist that offer a similar product. See the examples below provided by CALOES:

- <https://k12defense.com/ramcatch-atb-156-safezone-protect-pindown-volken-5500-meridian-archer-1200-mifram-security-samson-gibraltar-portable-mobile-vehicular-barrier-anti-ram-hostile-vehicle-protection-2/>
- <https://barriers.miframsecurity.com/products/mvb-3x/>
- <https://usace.contentdm.oclc.org/digital/collection/p16021coll11/id/5827>

As soon as possible, please make a check payable to Kings County Fire Department in the amount of \$70,000 with the following note: *Compliance Assessment Report #23-2929*. We will then process the payment to CALOES.

Despite the unfortunate situation, CALOES has worked with us to extend the grant to allow us time to properly procure another radio project. The extension request is for the same amount as the initial grant. Once the money for the barriers is returned, Hanford PD will be able to procure the radios and then request reimbursement.

Your cooperation in resolving this matter promptly is greatly appreciated. If you have any questions or require further information, please do not hesitate to contact me directly. For your review, attached to this letter is all the correspondence involving the audit.

Salvador Flores
Fire/ OES Chief
Office of Emergency Services
559-852-2880

May 6, 2024

Salvador Flores
County Fire Chief
Kings County
280 Campus Drive
Hanford, CA 93230

SUBJECT: **RESPONSE TO SUBRECIPIENT OPPOSITION TO COMPLIANCE FINDING**
Homeland Security Grant Program
FIPS #031-00000; Grant Subaward #2021-0081; CR #23-2929

Dear Chief Flores:

This letter is in response to the documents received by the California Governor's Office of Emergency Services (Cal OES) on January 29, 2024, which contend Finding #3 issued for the compliance assessment noted above. The finding was for the improper use of noncompetitive procurements and the disallowance of \$95,308 in related costs.

For the procurement of the forensic computer system, the Kings County District Attorney's Office challenged that "specific technical requirements dictate a particular solution". This justification for noncompetitive procurement is inadequate. While products within a certain class have different features, benefits, and prices, they generally meet the same customer need. As such, competition exists for the product and the competitive procurement process must be pursued.

The Kings County Information Technology Department justified the sole source procurement of the enterprise penetration testing course based on the vendor's exclusive rights to its own product. This does not necessarily make the vendor a sole source for that type of product. Other vendors may also have exclusive rights to their own methodologies and processes; however, their end products can be categorized within the same product class. As noted in the compliance assessment report, several vendors have been identified that offer comparable training courses, thus ruling out sole source.

Similarly, the Hanford Police Department justified its noncompetitive procurement of the anti-vehicle barrier trailer kits based on the vendor being the sole manufacturer, supplier, and patent holder for its own line of product. As noted previously for the enterprise penetration testing course, such justification to sole source is without merit. Comparable products are available and, as such, invalidates the argument for sole source.



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(916) 845-8506 TELEPHONE
www.CalOES.ca.gov

After careful consideration of the justifications presented by the County, Finding #3 stands. The amount of \$95,308 reimbursed to the County by Cal OES for the items identified in the compliance assessment report and this letter are disallowed and must be returned. The Cal OES Accounting Branch will issue an invoice under a separate cover for the disallowed costs.

If you have any questions about this letter, please contact me directly at 916-845-8178 or via email at Jose.Martinez@caloes.ca.gov.

Sincerely,



Jose Martinez
Chief, Homeland Security Monitoring Unit

cc: Toran Baha, Chief, Grants Monitoring Division
Alissa Adams, Chief, Homeland Security Grants Division



Jack Amoroso, CHIEF OF POLICE

425 N Irwin Street
Hanford, CA 93230
(559)585-2540

City of **H A N F O R D**
HANFORD POLICE DEPARTMENT

December 18, 2023

German Ortiz
Kings County OES
280 Campus Drive
Hanford, CA 93230

Subject: Onsite Compliance Assessment #23-2929; FIPS 031-00000

The City of Hanford Police Department is challenging the findings in the Onsite Compliance Assessment #23-2929;FIPS 031-00000. The first finding in the letter was: **The procurement procedures utilized by the Subrecipient did not contain a process to perform a cost or price analysis when purchases exceed the simplified acquisition threshold (SAT). The procedures also did not include the requirement to negotiate profit as a separate element of cost in all transactions exceeding the micro purchase threshold when there is no competition for the procurement, or in all cases where a cost analysis is performed.** The Hanford Police Department was not able to perform a cost or price analysis on the Rapid Defense Barriers because Meridian Rapid Defense Group is the sole manufacturer of this product as well as the patent holder for the Rapid Defense Barriers. There is no other manufacturer or third party to purchase these products from.

The second finding in the onsite compliance assessment was: **the Subrecipient could not provide information showing they attempted to negotiate profit on any of the noncompetitive procurements reviewed, as listed above. In Addition, the procurements of the rapid defense barriers/trailer did not meet the requirement to bypass competitive procurement methods as stock availability and vendor preference do not necessitate the use of a noncompetitive procurement process. Because the procurement reviewed did not meet the criteria to be eligible for a noncompetitive procurement method, the related costs of \$70,000 reimbursed to the Subrecipient are disallowed.** Section 200.320(c) states a noncompetitive procurement can only be awarded if: (2) the item is available only from a single source or (5) after solicitation of a number of sources, competition is determined to be inadequate. Meridian Rapid Defense is the creator of the Rapid Defense Barriers. Meridian is the patent holder and sole manufacturer of the purchased items. There is no other manufacturer of these items and Meridian products are not sold on third party sites or from third party vendors. Since Meridian is the sole patent holder and manufacturer, competition is determined to be

inadequate. Attached you will find a sole source letter from Meridian as well as an introduction and summary federal compliance and qualification letter from Meridian as well.

Sincerely,

Jimmy Macias

A handwritten signature in black ink that reads "Jimmy Macias". The script is cursive and fluid, with the first letters of each word being capitalized and prominent.

Administrative Analyst
City of Hanford, Police Department
425 N Irwin, Hanford CA 93230
United States of America



December 11, 2023

Jimmy Macias
Administrative Analyst
Hanford Police Department
425 N. Irwin Street
Hanford CA, 93230

Dear Jimmy,

Please be advised that MERIDIAN® Rapid Defense Group LLC (“MERIDIAN”) is the sole manufacturer and supplier of the U.S. and internationally patented and trademarked Archer® 1200 Anti-Terrorism Vehicle Barrier and the attendant supporting technologies and products including the Archer® Field Tow Bar, the Archer® Hauler, and the attendant components of the Archer 8 Barrier Trailer Kit.

MERIDIAN® has also been awarded a contract with the General Services Administration (“GSA”) for the exclusive sale of these products under GSA Multiple Award Schedule Code J: Security & Protection. The GSA contract number is 47QSWA19D001F. The MERIDIAN® products, technology and catalog are accessible on the GSA main website and GSA Advantage. Please see: https://www.gsadvantage.gov/advantage/ws/search/advantage_search?q=0:2meridian%20rapid%20defense%20group&q=0:1meridian%20rapid%20defense%20group&searchType=0&db=0. As such, you may be assured that MERIDIAN® as a business and company and its products will meet and exceed the strenuous standards of the GSA.

We are also pleased to report that the Archer® 1200 Barriers, Field Tow Bar and Hauler have been awarded the extraordinary status of CERTIFICATION by the U.S. Department of Homeland Security pursuant to The SAFETY Act as Qualified Anti-Terrorism Technology (“QATT.”) Indeed, MERIDIAN is the sole recipient of the award of CERTIFICATION for mobile barriers requiring no electricity, no hydraulics, and no reliance for deployment by heavy equipment such as cranes and forklifts. Please see the attached media release.

If there is any other information we can provide at any time, please do not hesitate to contact me.

Sincerely

A handwritten signature in black ink that reads 'Kelly Beamer'. The signature is fluid and cursive, with the first letters of 'Kelly' and 'Beamer' being capitalized and prominent.

Kelly Beamer
Corporate Compliance and Governance Administrator
Cc: File

177 E. Colorado Boulevard, Suite 200
Pasadena, California 91105
www.meridian-barrier.com



MERIDIAN® Rapid Defense Group LLC (“MERIDIAN”)

INTRODUCTION AND SUMMARY

FEDERAL GOVERNMENT COMPLIANCE, ELIGIBILITY AND QUALIFICATIONS:

1. MERIDIAN GSA Contract #47QSWA19D001F awarded 11/19/2018 with an extended term to 11/18/2028. Under the ongoing extensive GSA Multiple Award Schedule (“MAS”) modification, MERIDIAN has led the way with full compliance with the designated MAS Code J: Security & Protection, J05, Security Systems Subcategory, SIN 334290L, Physical Access Control Systems (“PACS”);
2. Following exhaustive examination of every aspect of MERIDIAN’s business, products, and technology by the U.S. Department of Homeland Security (“DHS”), MERIDIAN was awarded the DESIGNATION and CERTIFICATION of Qualified Anti-Terrorism Technology (“QATT”) pursuant to The SAFETY Act of 2002;
3. Most recently, the U.S. Department of Defense (“DOD”) and the Defense Logistics Agency (“DLA”) have approved and qualified MERIDIAN for sale to all DOD departments, agencies, facilities and bases through the DOD/DLA specific federal online marketplace FedMall;
4. Certifications for crash test performance, U.S. Department of Defense (“DOD”) and European PAS 68 Standards. MERIDIAN products are 100% American made consisting of high-grade American steel to NATO standards and ballistic ratings for .50 caliber shells;
5. In response to the recent Coronavirus National Crisis pursuant to the defined safety and security needs as determined by the Federal Emergency Management Agency (“FEMA”) deployments include emergency protections from vehicle intrusions (intentional and accidental) at Coronavirus mobile and temporary testing, treatment and medical facilities and centers located at the Rose Bowl, Pasadena, CA; Jacksonville, FL; Fort Lauderdale, FL and others. This urgent need for defense and security from vehicles during the Covid crisis was recognized as mandatory for established hospitals with all too apparent vulnerabilities during the crisis and beyond. MERIDIAN continues to provide safeguards for hospitals and other medical facilities in response to this designated and urgent need as defined by FEMA;
6. MERIDIAN has multiple federal customers and deployments including: Fort Wainwright, AK (Army); Joint Base Langley Eustice, VA; Barksdale Air Force Base, LA; and Dyess Air Force Base, TX;
7. Under the auspices of the U.S. Secret Service, FBI and DHS in cooperation and coordination with a myriad of state and local law enforcement, security and safety agencies and departments, MERIDIAN provides the QATT to many of the most iconic and famous events and facilities including the Rose Bowl and Rose Parade, the Super Bowl, and presidential inaugurations;
8. MERIDIAN is: Unique Entity Identifier (“UEI”) number CLWHGG9NJ187; CAGE Code 4SP99; NAICS Code 561612; Registered Vendor iRAPT (formerly WAWF) for DOD’s DTRA (Defense Threat Reduction Agency); SAM registered; Small Business certified and eligible; IdenTrust registered.
9. MERIDIAN is the sole authorized supplier of all MERIDIAN products, including the Archer® 1200 Anti-Terrorism Vehicle Barrier and the attendant supporting technologies and products including the Archer® Field Tow Bar, the Archer® Hauler, and the attendant components of the Archer 8 Barrier Trailer Kit.

177 E. Colorado Boulevard, Suite 200
Pasadena, California 91105
www.meridian-barrier.com



BACKGROUND: ABOUT MERIDIAN® RAPID DEFENSE GROUP

MERIDIAN is a privately held limited liability company (LLC). MERIDIAN has been in operation for over ten years. As noted above, MERIDIAN holds national and international patents on its technology and products. It manufactures, sells, rents, and distributes its 100% American-Made best-in-category mobile vehicle mitigation barrier solutions. The MERIDIAN technology and products provide many unique and extraordinarily effective features to prevent vehicle errant intrusions and intentional ramming attacks by stopping and debilitating vehicles.

The keystone element of the MERIDIAN solution is the Archer® 1200 Barrier and accompanying products as described in more detail below. As summarized above, MERIDIAN's current customers include federal, state, and local agencies, military installations and facilities, police departments, and commercial and industrial businesses.

The MERIDIAN Archer® 1200 is the center point barrier of the vehicle mitigation and prevention solution to all improper vehicle intrusion situations. The Archer® 1200 Barrier is easily and rapidly deployed through use of the Archer® Field Tow Bar and/or Archer® Hauler. The Archer® 1200 barriers may be configured in varying numbers and patterns and connected with Arrestor Cables.

The well-recognized best-in-industry exemplary features of the MERIDIAN products and technology for crowd safety include:

- rapid deployment of portable barriers with unmatched stopping capabilities for all vehicles;

- delivery and flexible positioning requiring no heavy equipment/cranes and by one person with no team needed;

- modular design so that one or more barriers can be placed, and then easily moved into different configurations in response to changing needs and conditions. In terrorist attack scenarios this feature denies the terrorists the advantages of pre-attack tactical planning;

- the Archer® 1200 is 100% reusable with a lifetime guarantee. The barriers can be reused immediately after any impact;

- unlike fixed bollards, the Archer® 1200 barriers are non-lethal to the driver and minimize shrapnel spray. The barriers thus preserve the opportunity to protect a driver in an accidental situation, while in a terrorist attack to enable authorities to capture the instigator and protect evidence;

- the configuration of the barriers enables ease of authorized pedestrian traffic and appropriate vehicles access. One person can deploy the barriers to block a street, roadway or pathway from vehicle access but permit unobstructed pedestrian access. One person can then separate the barriers as needed to provide access by an authorized vehicle and then immediately return the barriers to the appropriate positions to again block all unauthorized vehicles but allow pedestrians to walk through unobstructed. This capability makes the MERIDIAN solution ideal for the challenges intrinsic in emergency deployments of temporary, "pop up" testing and care facilities that must be swift, agile, flexible, and yet completely protected as if long planned and designed as if permanent;

- the MERIDIAN barriers are for those situations where fixed concrete bollards simply cannot be used, and where the use of inefficient, dangerous, vulnerable and uninsured police and other vehicles as blockades make no sense, the use of which would indeed be counterproductive;

- the MERIDIAN solutions do not require electricity or hydraulics, nor heavy equipment like cranes and forklifts.

- Archer® 1200 United States Letters Patent Nos 7,918,622 and 8,215,866.



CONCLUSION: MERIDIAN PROVIDES THE MOST VIABLE AND PROVEN MEANS TO DEFEND AND SECURE DURING ANY SITUATION, EVENT OR CRISIS

Further to the information above directly relating to MERIDIAN and the federal government, it is submitted that MERIDIAN is the proven provider of the defense and security all the more necessary during this time of crisis and emergency in response to the massive expansion of facilities and event otherwise vulnerable to vehicle intrusions. And these vital needs will continue well into the future as seen in the published reports of increased terrorist plans to take advantage of the circumstances. That MERIDIAN is the proven, reliable, and sole supplier is established by:

--MERIDIAN has undergone the exhaustive examination, investigation, and approval process of the DHS, the GSA, and the DOD/DLA to achieve the DESIGNATION and CERTIFICATION as QATT under The SAFETY Act and to be awarded the GSA contract for Code J: Security & Protection and be approved for inclusion in FedMall. Each of these processes entailed lengthy analysis and confirmation by teams of professionals and experts of all aspects of MERIDIAN's operations, manufacturing, distribution, patents, product functionality, management, capabilities, reliability, compliance, and references and customer acceptance. And as summarized above, MERIDIAN and its technology and products have been selected and procured by the DOD and military facilities and bases. MERIDIAN has been the subject of in-depth due diligence by the DHS, GSA, DOD, and been a vital partner in meeting the challenges of the U.S. Secret Service and FBI for protection of major events; and

--MERIDIAN continues to be the selected source for defense and security by state and local law enforcement and security agencies and departments including: the Chicago PD; the Fort Lauderdale, Miami, and Jacksonville PDs and Broward County Sheriffs; the counties of Bergen and Morris and the cities of Jersey City and Asbury Park, New Jersey; Little Rock, Arkansas; the State of New York with direct participation and funding through Homeland Security; in California, the cities of Pasadena, San Jose, Carlsbad, Carmel-by-the-Sea, Manhattan and Hermosa Beach, Ventura, Santa Monica, San Francisco, Inglewood, and the Capital City of Sacramento and four neighboring counties. Similarly, MERIDIAN has been the choice of major universities for protection and security of their students and faculty and their high-profile events including graduations. These include the Universities of Tennessee, California at Los Angeles and San Diego, Arizona, Southern Methodist University, and the University of Southern California.



KINGS COUNTY OFFICE OF EMERGENCY SERVICES

280 Campus Drive • Hanford, California 93230

Phone: 559-852-2883 • Fax: 559-582-8261

December 7, 2023

Jack Amoroso
Chief of Police
City of Hanford
Police Department
425 North Irwin Street
Hanford, CA 93230

Subject: Onsite Compliance Assessment #23-2929; FIPS 031-00000

Dear Chief Amoroso,

This letter is to inform you that The California Governor's Office of Emergency Services (Cal OES) conducted an onsite compliance assessment on August 28, 2023, through September 1, 2023, of the Homeland Security Grant Program (HSGP) Fiscal Year 2021. The assessment included reviewing documentation submitted to support expenditures and performing certain procedures as necessary to determine compliance with the Code of Federal Regulations (CFR) and program guidelines. The following project was selected for review:

Item Procured	Total Cost	Charged to HSGP	Subrecipient Justification
Rapid defense barriers/ trailers – Hanford PD	\$85,143.63	\$70,000.00	Chosen vendor was the only vendor with items in stock.

As a result, the following are findings resulting from the compliance assessment.

The procurement procedures utilized by the Subrecipient did not contain a process to perform a cost or price analysis when purchases exceed the simplified acquisition threshold (SAT). The procedures also did not include the requirement to negotiate profit as a separate element of cost in all transactions exceeding the micro purchase threshold when there is no competition for the procurement, or in all cases where a cost analysis is performed.

Title 2 CFR, Section 200.31 S(a) states, "The non-Federal entity must have and use documented procurement procedures, consistent with State, local, and tribal laws and regulations and the standards of this section, for the acquisition of property or services required under a Federal award or subaward..." Section 200.324 states, "(a) The non-Federal entity must perform a cost or price analysis in connection with any procurement action in excess of the Simplified Acquisition Threshold... (b) The non-Federal entity must negotiate profit as a separate element of the price for each contract in which there is no price competition and in all cases where a cost analysis is performed."

Also, the Subrecipient could not provide information showing they attempted to negotiate profit on any of the noncompetitive procurements reviewed, as listed above. In Addition, the procurements of the rapid defense barriers/trailer did not meet the requirement to bypass competitive procurement methods as stock availability and vendor preference do not necessitate the use of a noncompetitive procurement process. Because the procurement reviewed did not meet the criteria to be eligible for a noncompetitive procurement method, the related costs of \$70,000 reimbursed to the Subrecipient are disallowed.

Section 200.320(c) states, " ... Noncompetitive procurement can only be awarded if one or more of the following circumstances apply: (1) The acquisition of property or services, the aggregate dollar amount of which does not exceed the micro-purchase threshold (see paragraph (a) (1) of this section); (2) The item is available only from a single source; (3) The public exigency or emergency for the requirement will not permit a delay resulting from publicizing a competitive solicitation; (4) The Federal awarding agency or pass-through entity expressly authorizes a noncompetitive procurement in response to a written request from the non-Federal entity; or (5) After solicitation of a number of sources, competition is determined inadequate." Section 200.324 states, "The Non-Federal entity must negotiate profit as a separate element of price for each contract in which there is no price competition ... "

In addition, the contracts related to the procurement transactions discussed above were reviewed during the compliance assessment, and found to be missing federally required provisions as follows:

Item Procured	Total Cost	Missing Provisions
Rapid defense barriers/trailer	\$85,143.63	Termination for cause/convenience (contracts> \$10,000); suspension/ debarment clause

Title 2 CFR, Section 200.327 states, "The Non-Federal entity's contracts must contain the applicable provisions described in appendix II to this part. "Appendix II to Part 200, states, " ... (B) All contracts in excess of \$10,000 must address termination for cause and for convenience by the Non-Federal entity including the manner by which it will be effected and the basis for settlement ... (H) Debarment and Suspension ... A contract award (see 2 CFR 180.220) must not be made to parties listed on the governmental exclusions in the System for Award Management (SAM) ... " Appendix II provides details regarding the required provisions based on types of contracts and dollar amount thresholds. Refer to Appendix II to Part 200 for all federally required provisions.

If you desire to challenge the findings included in this report, you must respond with your written comments and provide all supporting documentation to me no later than December 22, 2023. Our OES office will respond to the State on your behalf. If you agree with the findings, please make a check payable to County of Kings in the amount of 70,000 dollars.

In addition, if you have any questions, please feel free to contact me.


Fiscal Specialist
 Office of Emergency Services
 559-852-2847



November 29, 2023

Bill Lynch
County Fire Chief
Kings County
280 Campus Drive
Hanford CA, 93230

Subject: Onsite Compliance Assessment #23-2929; FIPS #031-00000

Dear Bill Lynch:

The California Governor's Office of Emergency Services (Cal OES) has concluded the onsite compliance assessment conducted August 28, 2023, through September 1, 2023, of the Cal OES Grant Subawards noted below. Our assessment included reviewing documentation submitted to support your expenditures and performing certain procedures as necessary to determine compliance with the Code of Federal Regulations (CFR) and program guidelines.

<u>Program Name</u>	<u>Subaward Number</u>	<u>Performance Period</u>
Emergency Performance Grant Program (EMPG)	2021-0015	7/1/21 – 6/30/23
Homeland Security Grant Program (HSGP)	2021-0081	9/1/21 – 5/31/24

The following are findings resulting from the compliance assessment.

FINDINGS

Finding #1: Inadequate monitoring of second tier subrecipients

Kings County (Subrecipient) did not have procedures in place to monitor its EMPG and HSGP second tier subrecipients throughout the grant cycle as required by Title 2 CFR, Part 200.



3650 SCHRIEVER AVENUE • MATHER, CA 95655
ATTN: GRANTS MANAGEMENT

The Subrecipient stated it monitored second tier subrecipients through the reimbursement process by reviewing purchase orders and related documents, asset forms and equipment location, and procurement documents prior to reimbursement. However, there were no procedures to assess second tier subrecipient risk of noncompliance or to review subrecipients financial and performance reports. There were also no procedures to verify whether required single audits were conducted, follow up on audit findings and required corrective actions, or issue management decisions for applicable audit findings pertaining to the second tier subaward(s).

Title 2 CFR, Section 200.329(a) states, "...The non-Federal entity is responsible for oversight of the operations of the Federal award supported activities. The non-Federal entity must monitor its activities under Federal awards to assure compliance with applicable Federal requirements and performance expectations are being achieved. Monitoring by the non-Federal entity must cover each program, function or activity."

Title 2 CFR, Section 200.332 states in part, "All pass-through entities must...(b) Evaluate each subrecipient's risk of noncompliance ...for the purposes of determining the appropriate Subrecipient monitoring described in paragraphs (d) and (e) of this section...(d) Monitor the activities of the Subrecipient as necessary to ensure that the subaward is used for authorized purposes, in compliance with Federal statutes, regulations, and the terms and conditions of the subaward; and that subaward performance goals are achieved. Pass-through entity monitoring of the Subrecipient must include: (1) Reviewing financial and performance reports required by the pass-through entity. (2) Following up and ensuring that the Subrecipient takes timely and appropriate action on all deficiencies pertaining to the Federal award ... detected through audits, on-site reviews, and written confirmation from the subrecipient...highlighting the actions planned or taken to address Single Audit findings...(3) Issuing a management decision for applicable audit findings pertaining only to Federal award provided to the Subrecipient from the pass-through entity as required...(f) The pass-through entity is responsible for resolving audit findings specifically related to the subaward..." Refer to Title 2 CFR, Part 200 for the full language of the requirement, and Subpart F for single audit requirements.

Required Action: The Subrecipient must develop and implement procedures to ensure second tier subrecipients are monitored in accordance with the federal requirements, within 60 days from the date of this report. A corrective action plan (CAP) must be submitted describing the actions that will be taken to

develop the required procedures, along with a timeline for implementation of the CAP. A copy of the procedures must be submitted to Cal OES within 60 days from the date of this report, along with a signed statement confirming the date the procedures were implemented.

Finding #2: Inadequate written procurement procedures

The procurement procedures utilized by the Subrecipient did not contain a process to perform a cost or price analysis when purchases exceed the simplified acquisition threshold (SAT). The procedures also did not include the requirement to negotiate profit as a separate element of cost in all transactions exceeding the micro purchase threshold when there is no competition for the procurement, or in all cases where a cost analysis is performed.

Title 2 CFR, Section 200.318(a) states, *"The non-Federal entity must have and use documented procurement procedures, consistent with State, local, and tribal laws and regulations and the standards of this section, for the acquisition of property or services required under a Federal award or subaward..."*

Section 200.324 states, *"(a) The non-Federal entity must perform a cost or price analysis in connection with any procurement action in excess of the Simplified Acquisition Threshold...(b) The non-Federal entity must negotiate profit as a separate element of the price for each contract in which there is no price competition and in all cases where a cost analysis is performed."*

Required Action: The Subrecipient must update the written procurement procedures to include the requirement to perform a cost or price analysis and negotiate profit as required, within 30 days from the date of this report. A CAP must be submitted to include a copy of the procedures and a signed statement confirming the date the updated procedures were implemented. This will help reduce the risk of disallowed costs resulting from improper procurements.

Finding #3: Improper procurements

The Subrecipient was reimbursed for costs related to multiple noncompetitive procurement transactions utilizing HSGP funds, as follows:

Item Procured	Total Cost	Charged to HSGP	Subrecipient Justification
Rapid defense barriers/trailer – Hanford PD	\$85,143.63	\$70,000.00	Chosen vendor was the only vendor with items in stock

Forensic computer – County DA	\$10,509.00	\$10,000.00	Vendor familiarity/compatibility with existing equipment
License key for forensic tools – County DA	\$55,990.00	\$52,785.00	Prior training on and integration with existing equipment
Enterprise training – County It Dept	\$15,307.66	\$15,308	Owned/sold exclusively by vendor

The Subrecipient could not provide information showing they or their second tier subrecipient attempted to negotiate profit on any of the noncompetitive procurements reviewed, as listed above. In addition, the procurements of the rapid defense barriers/trailer, forensic computer, and enterprise training did not meet the requirements to bypass competitive procurement methods as stock availability and vendor preference do not necessitate the use of a noncompetitive procurement process. In the case of the enterprise penetration training, cursory online research shows comparable training was available from several sources including CompTIA, Infosec, and EC-Council. In addition, Subrecipients must obtain pre-approval from Cal OES for non-competitive terrorism-related training. Because three of the procurements reviewed did not meet the criteria to be eligible for a noncompetitive procurement method, the related costs of \$95,308 reimbursed to the Subrecipient are disallowed.

Section 200.320(c) states, "...Noncompetitive procurement can only be awarded if one or more of the following circumstances apply: (1) The acquisition of property or services, the aggregate dollar amount of which does not exceed the micro-purchase threshold (see paragraph (a)(1) of this section); (2) The item is available only from a single source; (3) The public exigency or emergency for the requirement will not permit a delay resulting from publicizing a competitive solicitation; (4) The Federal awarding agency or pass-through entity expressly authorizes a noncompetitive procurement in response to a written request from the non-Federal entity; or (5) After solicitation of a number of sources, competition is determined inadequate." Section 200.324 states, "The non-Federal entity must negotiate profit as a separate element of price for each contract in which there is no price competition..."

Title 2 CFR, Section 200.300(b) states, "The non-Federal entity is responsible for complying with all requirements of the Federal award." The Cal OES Grant Management Memorandum GMM-2017-01 #5 states, "Cal OES will not reimburse for any sole source contracts for any terrorism-related training, regardless of the cost of the training. Exceptions to this policy may be approved in limited circumstances, e.g., related to a procurement effort that has resulted in

inadequate competition. The Cal OES Request for Noncompetitive Procurement Authorization form is to be used; advance approval is required."

Required Action: The Subrecipient must develop and implement fiscal control procedures within 30 days from the date of this report, to ensure all future procurements using Cal OES Grant Subaward funds are conducted in accordance with its written procurement procedures and conform to the requirements in Title 2 CFR, Part 200. The procedures must include a description of how the Subrecipient will monitor second tier subrecipients to ensure their procurements are conducted in compliance with written procedures and federal requirements prior to reimbursing the second tier subrecipients. A CAP must be submitted to include a detailed description of the fiscal control and monitoring procedures and a signed statement confirming the date the procedures were implemented. The Cal OES Accounting Branch will invoice the Subrecipient for the disallowed costs of \$95,308 under separate cover.

Finding #4: Contracts do not contain all federally required provisions

The contracts related to the procurement transactions discussed above in Finding #4 were reviewed during the compliance assessment, and found to be missing federally required provisions as follows:

Item Procured	Total Cost	Missing Provisions
Rapid defense barriers/trailer	\$85,143.63	Termination for cause/convenience (contracts > \$10,000); suspension/debarment clause
Forensic computer	\$10,509.00	Termination for cause/convenience (contracts > \$10,000)
License key – forensic tools	\$55,990.00	Termination for cause/convenience (contracts > \$10,000); suspension/debarment clause

Title 2 CFR, Section 200.327 states, "The non-Federal entity's contracts must contain the applicable provisions described in appendix II to this part." Appendix II to Part 200, states, "... (B) All contracts in excess of \$10,000 must address termination for cause and for convenience by the non-Federal entity including the manner by which it will be effected and the basis for settlement... (H) Debarment and Suspension... A contract award (see 2 CFR 180.220) must not be made to parties listed on the governmental exclusions in the System for Award Management (SAM)..." Appendix II provides details regarding the required provisions based on types of contracts and dollar

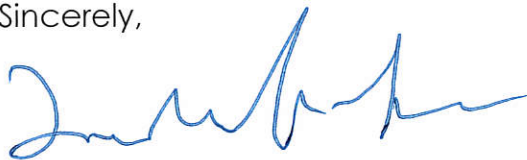
amount thresholds. Refer to Appendix II to Part 200 for all federally required provisions.

Required Action: The Subrecipient must develop and implement procedures to ensure all federally required provisions are included in future purchase orders/contracts for goods and services procured using Grant Subaward Funds, within 30 days from the date of this report. This requirement can be satisfied by either including the provisions in the purchase order/contract, including the provisions as an attachment to and referencing the attachment in the purchase order/contract, or providing a link to the purchase order (if no written contract) to the requirements in Title 2 CFR, Part 200, Appendix II. A CAP must be submitted to include the procedures and a signed statement confirming the date the procedures were implemented.

If you desire to challenge the findings included in this report, you must respond with your written comments and provide all supporting documentation within 30 days. The enclosed document, "Subrecipient Corrective Action Plan Procedures" provides detailed instructions for developing your CAP. The CAP must be submitted to Cal OES Grants Management, attention Jose Martinez, Unit Chief, within 30 days of the date of this report. Should you require technical assistance to complete your CAP and/or ensure compliance in any of the above areas, please contact me at 916-845-8178 or by email at Jose.Martinez@caloes.ca.gov.

Thank you for the courtesy and cooperation you extended Cal OES in completing this review.

Sincerely,

A handwritten signature in blue ink, appearing to read "Jose Martinez", with a stylized, cursive script.

JOSE Martinez
Chief, Homeland Security Monitoring Unit

Enclosure: Subrecipient Corrective Action Plan Procedures

cc: Huy Tram, Chief, Emergency Preparedness Grants Division

Alissa Adams, Chief, Homeland Security Grants Division



AGENDA STAFF REPORT

MEETING DATE: 6/18/2024

AGENDA SECTION: CONSENT CALENDAR

SUBJECT:

Approval of amended annual contracts for the 2024-2025 school year, with the Pioneer Union Elementary School District, Kings County Office of Education, Hanford Joint Union High School District, and Hanford Elementary School District for the School Resource Officer Program.

RECOMMENDATION:

Recommendation: That the City Council, by motion, approve the contracts between the City of Hanford and Pioneer Union Elementary School District, Kings County Office of Education, Hanford Joint Union High School District, and Hanford Elementary School District for School Resource Officer services rendered.

Recommended Motion: To approve the SRO contracts for each listed school district for the 2024-2025 school year.

BACKGROUND:

The Pioneer Union Elementary School District, Kings County Office of Education, Hanford Joint Union High School District, and Hanford Elementary School District currently contracts with the Hanford Police Department for School Resource Officers. The Hanford Police Department and the Pioneer Union Elementary School District currently contract for 20 hours per week at a cost of \$48,000.00 per year. This is for 50% coverage at all three Pioneer schools during the regular school year. The amended contract for Pioneer Union Elementary School District will increase to \$49,000.00 per year for the same services during the 2024-2025 school year. This increase is in line with what the other contracted school districts pay for School Resource Officer Services.

The Kings County Office of Education and the Hanford Police Department currently have a contract for 40 hours per week of School Resource services per school year at a cost of \$98,000.00 per year. This cost to the Kings County Office of Education will stay the same for the 2024-2025 school year.

The Hanford Joint Union High School District and the Hanford Police Department currently have a contract to staff 4 School Resource Officers. The officers are staffed at Hanford High School, Hanford West High School, Sierra Pacific High School, and Alternative Education sites. The current contracted cost to the Hanford Joint Union High School District is \$98,000.00 per officer for a total of \$392,000.00 per year. This cost will stay the same for the Hanford Joint Union High School District for the 2024-2025 school year.

The Hanford Police Department and the Hanford Elementary School District currently have a contract to staff 2 School Resource Officers. These officers are assigned to JFK Jr. High School and

Woodrow Wilson Jr. High School and the feeder schools for both. The current contracted cost to the Hanford Elementary School District is \$92,000.00 for each officer for a total of \$184,000.00 per year. The new contracted cost to Hanford Elementary School District for the 2024-2025 school year will increase to \$98,000.00 per officer for a total of \$196,000.00 per year for services.

In all four contracts with all contracted school districts, language was changed regarding overtime costs per council's direction. In all four contracts, language was added to state that "Overtime expenditures for school related events will be paid for by the school district. For these additional services, the Hanford Police Department will charge the district an hourly rate of \$81.75. SRO services during summer school may be provided to the district at a cost of \$498.00 per officer, per day for the duration of the summer school session."

Copies of the contracts have been attached and are already approved by the governing bodies of each school district. The respective superintendents of each school district have signed each of their district's contracts.

FISCAL IMPACT:

The fiscal impact of approving these contracts results in \$13,000.00 in salary savings for the City of Hanford. In addition, there will be overtime savings to the city with the amended language in the contracts that now transfers the overtime costs for school-related events to the individual districts.

ATTACHMENTS:

1. Pioneer Schhool Contract 2024-2025 signed
2. Kings County Office of Education contract 2024-2025 signed
3. HJUHSd 2024-2025 signed contract
4. HESD 2024-2025 signed contract

**PIONEER UNION ELEMENTARY SCHOOL DISTRICT
SCHOOL RESOURCE OFFICER PROGRAM
STARTING
FISCAL YEAR 2024 - 2025**

This Agreement is made by and between the Pioneer Union Elementary School District ("District") and the Hanford Police Department, ("Department,") and replaces all prior agreements and understandings between the District and the Department on the subject of school resource officers ("SRO") as is dated for reference purposes as of Fiscal year 2024-2025.

Recitals

- A. The District and Department desire to set forth the duties and responsibilities of the parties with respect to the SRO program.
- B. The District and Department desire to create an atmosphere of cooperation toward the common goals of providing a safe learning environment for students and staff.
- C. The District and Department desire to promote positive relationships between the school, police, and the community.

The District and Department agree as follows:

- 1. **Term of Agreement.** This Agreement shall be effective upon ratification by the District's Superintendent and approval by the Hanford City Manager, and shall remain in effect until modified by mutual written agreement or terminated by either party with thirty (30) days advance written notice.
- 2. **Scope of Service.** The Department agrees to assign 50% of one full time sworn police officer (20 hours per week) to serve as the SRO at the District's schools during the school year. The SRO will be assigned to primarily work at Pioneer Middle School or other District locations as directed by the District Superintendent. The SRO will wear the regulation police uniform and operate a marked police patrol vehicle while on duty, unless otherwise authorized by a supervisor for a specific purpose. The SRO's duties shall include but not be limited to:
 - 2.1. SRO will provide law enforcement expertise to assist the school staff in maintaining safety at school sites.
 - 2.2. The SRO's investigation and questioning of students at school shall be limited to offenses related to the operation of the school or occurring at the school, except in situations where a delay in investigation or questioning may result in danger to any person, flight from the jurisdiction by the person suspected of a crime, or destruction of evidence.

- 2.3. The SRO shall notify the school principal as soon as practical of any significant law enforcement actions taken by an SRO or other officer.
- 2.4. The SRO shall not become involved in school administrative searches unless specifically requested by the principal in order to provide security or to handle contraband. School administrative searches will be at the direction and control of the school principal and will be based upon reasonable suspicion.
- 2.5. The SRO shall be responsible for monitoring the social and cultural environment around District schools to identify existing or emerging youth gangs. Gang prevention and early intervention strategies shall be coordinated between the Department and the District.
- 2.6. The SRO may become involved, through the school principal, with the school's curriculum and provide instructional presentations that enhance the students' understanding of the police mission and the responsibilities of citizenship.
- 2.7. The SRO will work to prevent juvenile delinquency and campus violence through close contact and positive relationships with students. The SRO will serve as a positive role model to students.
- 2.8. At the request of the school principal, the SRO shall attend suspension and expulsion hearings. The SRO shall be prepared to provide testimony on any actions taken by the officer and on any personally observed conduct witnessed by the officer. The SRO shall also make available at expulsion hearings any physical evidence that has been seized by law enforcement and is held by the Department.
- 2.9. The SRO shall disseminate to school administrators and staff information on crime trends and changes in laws to assist them in establishing and maintaining safe school environments.
- 2.10. The SRO will work to establish and maintain a collaborative partnership with the school administration to provide a safe school environment. The SRO will regularly communicate with the school administration in an effort to share information and discuss issues and concerns of mutual interest.
- 2.11. The SRO will work to increase communication between law enforcement, students, school staff, and the community. The SRO will work to build positive working relationships with the school staff and parents.

3. **Student Discipline.** The certificated administrators of each school shall be responsible for student discipline and shall make all decisions regarding the imposition of discipline for students enrolled at their campus.
4. **Hours of Employment.** The SRO will work part time (20 hours per week) during the school year, except for annual leave allowances, during the normal school year schedule. This does not include coverage for summer school, which can be negotiated upon request by the District at an additional cost.
5. **Selection of Law Enforcement Personnel.** The Department will be responsible for selecting which Department employee will serve as the SRO, or the acting SRO for days when the designated SRO may be on leave, absent for training, or otherwise not available. The District may provide input regarding the selection of the SRO.
6. **Program Criteria.** The District and Department will work collaboratively to be responsive to evolving school and law enforcement requirements.
7. **Training and Supervision.** The SRO shall receive SRO's work assignments from the Department and shall be supervised in the performance of SRO's duties by the Chief of the Department or designee. The Department shall be responsible for training the SRO according to applicable law enforcement standards. The Superintendent of the District or designee will provide the Chief of the Department with information to assist in evaluating the SRO. Any disciplinary problems or alleged improprieties involving the SRO shall be brought to the attention of the Chief of the Department or designee. The School Resource Officers will be released to attend 40 hours of formal training related to investigator orientation and juvenile law enforcement each fiscal year. The department will be responsible for the officers' travel, lodging and meals.
8. **Employment.** The SRO is an employee of the Department, and is not an employee or agent of the District. The SRO shall be subject to the administration, supervision, and control of the Department. The SRO shall be subject to all personnel policies and practices of the Department.
9. **Student Records.**
 - 9.1. The parties agree that the SRO shall be deemed to be a "school official" for the performance on SRO's duties on behalf of District. The SRO shall therefore be allowed access to student records but the District is in direct control of the use, maintenance, and disclosure of student records in accordance with Education Code section 49076 and other applicable provisions of law. School officials shall allow the SRO to inspect and copy any student records maintained by the school for which the SRO has a "legitimate educational interest" within the scope of the SRO's service under this Agreement. This includes access to student directory

information to the extent permitted by District policy, classroom assignments, attendance records, and discipline files. However, the SRO may not inspect or copy confidential student records outside the scope of the SRO's service, except as allowed by law.

- 9.2. If confidential student record information is needed in an emergency to protect the health or safety of a student or others, the District may disclose to the SRO information that is needed to respond to the emergency situation based on the seriousness of the threat to someone's health or safety, the need of the information to meet the emergency situation, and the extent to which time is of the essence.
 - 9.3. If confidential student record information is needed by the SRO but no emergency situation exists, unless section 9.4 applies, the information may be released only upon the issuance of a subpoena, a court order or written authorization of the parent/guardian.
 - 9.4. Pursuant to Education Code section 48902, the principal or designee shall notify the SRO of any acts of a student that may violate specified provisions of the Penal Code and Education Code. This may require the disclosure of the student's name or other identifying information to the SRO, along with information related to the underlying offence.
10. **Law Enforcement Records and Juvenile Case File Information.** Pursuant to Welfare and Institutions Code sections 827, 828.1 and 828.3, certain law enforcement records, probation reports and juvenile case file information may be provided to the District Superintendent or his/her designee. In addition to providing such information directly to the District Superintendent, the SRO may provide such information to the Principal of the school in which a minor student is enrolled and the Principal shall be a designee of the Superintendent for the receipt of such information.
 11. **Costs.** In exchange for the provision of SRO services, the District shall pay Department as follows \$49,000.00 annually. Overtime expenditures for school related events will be paid for by the Pioneer Union Elementary School District. For these additional services, the Hanford Police Department will charge the District an hourly rate of \$81.75. Contract extensions and inflation increases to the flat rate will be discussed annually in May. Services during summer school may be negotiated by the District at an additional cost to the District.
 12. **Feedback and Evaluation.** The District and Department agree on the importance of evaluating the SRO program. The District and Department will work together to develop and implement procedures to provide periodic feedback and evaluation data for the purpose of measuring the program's effectiveness.

13. **Nondiscrimination.** SROs shall not discriminate against or treat any person differently on the basis race, color, ancestry, nationality, national origin, immigration status, ethnic group identification, ethnicity, age, religion, marital status, pregnancy, parental status, physical or mental disability, sex, sexual orientation, gender, gender identity, gender expression, or genetic information; a perception of one or more of such characteristics; or association with a person or group with one or more of these actual or perceived characteristics.

Indemnification.

- 14.1 The District shall indemnify, defend, and hold harmless the Department, its officers, agents and employees from and against any and all claims, losses, liabilities or damages, demands and actions, including payment of reasonable attorney's fees, arising out of or resulting from the performance of this Agreement, caused in whole by any negligent or willful act or omission of the District, its officers, agents, employees, or anyone directly or indirectly acting on behalf of the District.
- 14.2 The Department shall indemnify, defend, and hold harmless the District, its officers, agents and employees from and against any and all claims, losses, liabilities or damages, demands and actions, including payment of reasonable attorney's fees, arising out of or resulting from the performance of this Agreement, caused in whole by any negligent or willful act or omission of the Department, its officers, agents, employees, or anyone directly or indirectly acting on behalf of the Department.
- 14.3 It is the intention of the District and Department that, where fault is determined to have been contributory, principles of comparative fault will be followed and each party shall bear the proportionate cost of any damage attributable to the fault of that party, its officers, directors, agents, employees, volunteers, subcontractors, and governing board.
- 14.4 Each party shall immediately notify the other party of any claims or legal actions arising out of the performance of this Agreement.
15. **Applicable Laws.** Department shall provide the services specified in this Agreement in accordance with any applicable federal and state statutes, regulations, and directives.
16. **Amendments.** No modification, amendment or addendum to this Agreement shall be valid unless it is set forth in writing and is signed by the parties.
17. **Entire Agreement.** This Agreement constitutes the entire agreement between the District and Department regarding the subject matter of this contract and supersedes all previous SRO agreements.

18. **Severability.** If any term or provision of this Agreement is determined to be unlawful or in conflict with any law of the State of California, the validity of the remaining portions or provisions shall not be affected. Each term or provision of the Agreement shall be valid and enforced as written to the fullest extent permitted by law.
19. **Notices.** All notices concerning this Agreement shall be deemed to have been served when delivered via electronic mail to the District Superintendent or Chief of Police.

The parties have executed this Agreement on the date written below.

Pioneer Union Elementary School District

By:  Date: 5-9-24
Paul van Loon
Superintendent

Hanford Police Department

By: _____ Date: _____
Stephanie Huddleston, Chief of Police

City of Hanford

By: _____ Date: _____
Mario Cifuentes, City Manager

**KINGS COUNTY OFFICE OF EDUCATION
SCHOOL RESOURCE OFFICER PROGRAM
FISCAL YEAR 2024-2025**

This Agreement is made by and between the Kings County Office of Education ("District") and the Hanford Police Department, ("Department,") and replaces all prior agreements and understandings between the District and the Department on the subject of school resource officers ("SRO") as is dated for reference purposes as of Fiscal year 2024-2025.

Recitals

- A. The District and Department desire to set forth the duties and responsibilities of the parties with respect to the SRO program.
- B. The District and Department desire to create an atmosphere of cooperation toward the common goals of providing a safe learning environment for students and staff.
- C. The District and Department desire to promote positive relationships between the school, police, and the community.

The District and Department agree as follows:

1. **Term of Agreement.** This Agreement shall be effective upon ratification by the District's Superintendent and approval by the Hanford City Manager, and shall remain in effect until modified by mutual written agreement or terminated by either party with thirty (30) days advance written notice.
2. **Scope of Service.** The Department agrees to assign one full time sworn police officer to serve as the SRO at the KCOE's schools during the school year. The SRO will be assigned to primarily work at Shelly Baird or other District Schools as directed by the District Superintendent. The SRO will wear the regulation police uniform and operate a marked police patrol vehicle while on duty, unless otherwise authorized by a supervisor for a specific purpose. The SRO's duties shall include but not be limited to:
 - 2.1. SRO will provide law enforcement expertise to assist the school staff in maintaining safety at school sites.
 - 2.2. The SRO's investigation and questioning of students at school shall be limited to offenses related to the operation of the school or occurring at the school, except in situations where a delay in investigation or questioning may result in danger to any person, flight from the jurisdiction by the person suspected of a crime, or destruction of evidence.

- 2.3. The SRO shall notify the school principal as soon as practical of any significant law enforcement actions taken by an SRO or other officer.
- 2.4. The SRO shall not become involved in school administrative searches unless specifically requested by the principal in order to provide security or to handle contraband. School administrative searches will be at the direction and control of the school principal and will be based upon reasonable suspicion.
- 2.5. The SRO shall be responsible for monitoring the social and cultural environment around District schools to identify existing or emerging youth gangs. Gang prevention and early intervention strategies shall be coordinated between the Department and the District.
- 2.6. The SRO may become involved, through the school principal, with the school's curriculum and provide instructional presentations that enhance the students' understanding of the police mission and the responsibilities of citizenship.
- 2.7. The SRO will work to prevent juvenile delinquency and campus violence through close contact and positive relationships with students. The SRO will serve as a positive role model to students.
- 2.8. At the request of the school principal, the SRO shall attend suspension and expulsion hearings. The SRO shall be prepared to provide testimony on any actions taken by the officer and on any personally observed conduct witnessed by the officer. The SRO shall also make available at expulsion hearings any physical evidence that has been seized by law enforcement and is held by the Department.
- 2.9. The SRO shall disseminate to school administrators and staff information on crime trends and changes in laws to assist them in establishing and maintaining safe school environments.
- 2.10. The SRO will work to establish and maintain a collaborative partnership with the school administration to provide a safe school environment. The SRO will regularly communicate with the school administration in an effort to share information and discuss issues and concerns of mutual interest.
- 2.11. The SRO will work to increase communication between law enforcement, students, school staff, and the community. The SRO will work to build positive working relationships with the school staff and parents.

3. **Student Discipline.** The certificated administrators of each school shall be responsible for student discipline and shall make all decisions regarding the imposition of discipline for students enrolled at their campus.
4. **Hours of Employment.** The SRO will work full time during the school year, except for annual leave allowances, during the normal school year schedule (180 days).
5. **Selection of Law Enforcement Personnel.** The Department will be responsible for selecting which Department employee will serve as the SRO, or the acting SRO for days when the designated SRO may be on leave, absent for training, or otherwise not available. The District may provide input regarding the selection of the SRO.
6. **Program Criteria.** The District and Department will work collaboratively to be responsive to evolving school and law enforcement requirements.
7. **Training and Supervision.** The SRO shall receive SRO's work assignments from the Department and shall be supervised in the performance of SRO's duties by the Chief of the Department or designee. The Department shall be responsible for training the SRO according to applicable law enforcement standards. The Superintendent of the District or designee will provide the Chief of the Department with information to assist in evaluating the SRO. Any disciplinary problems or alleged improprieties involving the SRO shall be brought to the attention of the Chief of the Department or designee. The School Resource Officers will be released to attend 40 hours of formal training related to investigator orientation and juvenile law enforcement each fiscal year. The department will be responsible for the officers' travel, lodging and meals.
8. **Employment.** The SRO is an employee of the Department, and is not an employee or agent of the District. The SRO shall be subject to the administration, supervision, and control of the Department. The SRO shall be subject to all personnel policies and practices of the Department.
9. **Student Records.**
 - 9.1. The parties agree that the SRO shall be deemed to be a "school official" for the performance on SRO's duties on behalf of District. The SRO shall therefore be allowed access to student records but the District is in direct control of the use, maintenance, and disclosure of student records in accordance with Education Code section 49076 and other applicable provisions of law. School officials shall allow the SRO to inspect and copy any student records maintained by the school for which the SRO has a "legitimate educational interest" within the scope of the SRO's service under this Agreement. This includes access to student directory

information to the extent permitted by District policy, classroom assignments, attendance records, and discipline files. However, the SRO may not inspect or copy confidential student records outside the scope of the SRO's service, except as allowed by law.

- 9.2. If confidential student record information is needed in an emergency to protect the health or safety of a student or others, the District may disclose to the SRO information that is needed to respond to the emergency situation based on the seriousness of the threat to someone's health or safety, the need of the information to meet the emergency situation, and the extent to which time is of the essence.
 - 9.3. If confidential student record information is needed by the SRO but no emergency situation exists, unless section 9.4 applies, the information may be released only upon the issuance of a subpoena, a court order or written authorization of the parent/guardian.
 - 9.4. Pursuant to Education Code section 48902, the principal or designee shall notify the SRO of any acts of a student that may violate specified provisions of the Penal Code and Education Code. This may require the disclosure of the student's name or other identifying information to the SRO, along with information related to the underlying offence.
10. **Law Enforcement Records and Juvenile Case File Information.** Pursuant to Welfare and Institutions Code sections 827, 828.1 and 828.3, certain law enforcement records, probation reports and juvenile case file information may be provided to the District Superintendent or his/her designee. In addition to providing such information directly to the District Superintendent, the SRO may provide such information to the Principal of the school in which a minor student is enrolled and the Principal shall be a designee of the Superintendent for the receipt of such information.
 11. **Costs.** In exchange for the provision of SRO services, the District shall pay the Department \$98,000.00 annually. SRO services during summer school may be provided to the district at a cost of \$498.00 per day for the duration of the summer school session. Contracted days for summer school must be consecutive days.

Overtime expenditures for school related events will be paid for by the Kings County Office of Education. For these additional services, the Hanford Police Department will charge the District an hourly rate of \$81.75. Contract extensions and inflation increases to the flat rate will be discussed annually in May.
 12. **Feedback and Evaluation.** The District and Department agree on the importance of evaluating the SRO program. The District and Department will work together to develop and implement procedures to provide periodic feedback and evaluation data for the purpose of measuring the program's effectiveness.

13. **Discrimination.** Neither the District nor the Department shall discriminate because of race, religion, color, national origin, disability, marital status, age, or sex against any person by refusing any person or privilege offered to or engaged by the general public.
14. **Indemnification.**
 - 14.1 The District shall indemnify, defend, and hold harmless the Department, its officers, agents and employees from and against any and all claims, losses, liabilities or damages, demands and actions, including payment of reasonable attorney's fees, arising out of or resulting from the performance of this Agreement, caused in whole by any negligent or willful act or omission of the District, its officers, agents, employees, or anyone directly or indirectly acting on behalf of the District.
 - 14.2 The Department shall indemnify, defend, and hold harmless the District, its officers, agents and employees from and against any and all claims, losses, liabilities or damages, demands and actions, including payment of reasonable attorney's fees, arising out of or resulting from the performance of this Agreement, caused in whole by any negligent or willful act or omission of the Department, its officers, agents, employees, or anyone directly or indirectly acting on behalf of the Department.
 - 14.3 It is the intention of the District and Department that, where fault is determined to have been contributory, principles of comparative fault will be followed and each party shall bear the proportionate cost of any damage attributable to the fault of that party, its officers, directors, agents, employees, volunteers, subcontractors, and governing board.
 - 14.4 Each party shall immediately notify the other party of any claims or legal actions arising out of the performance of this Agreement.
15. **Applicable Laws.** Department shall provide the services specified in this Agreement in accordance with any applicable federal and state statutes, regulations, and directives.
16. **Amendments.** No modification, amendment or addendum to this Agreement shall be valid unless it is set forth in writing and is signed by the parties.
17. **Entire Agreement.** This Agreement constitutes the entire agreement between the District and Department regarding the subject matter of this contract and supersedes all previous SRO agreements.
18. **Severability.** If any term or provision of this Agreement is determined to be unlawful or in conflict with any law of the State of California, the validity of the

remaining portions or provisions shall not be affected. Each term or provision of the Agreement shall be valid and enforced as written to the fullest extent permitted by law.

19. **Notices.** All notices concerning this Agreement shall be deemed to have been served when delivered via electronic mail to the District Superintendent or Chief of Police.

The parties have executed this Agreement on the date written below.

Kings County Office of Education

By: Todd Barlow
Todd Barlow
Superintendent

Date: 5-1-24

Hanford Police Department

By: _____
Stephanie Huddleston, Chief of Police

Date: _____

City of Hanford

By: _____
Mario Cifuentes, City Manager

Date: _____

**HANFORD JOINT UNION HIGH SCHOOL DISTRICT
SCHOOL RESOURCE OFFICER PROGRAM
STARTING
FISCAL YEAR 2024-2025**

This Agreement is made by and between the Hanford Joint Union High School District ("District") and the Hanford Police Department, ("Department,") and replaces all prior agreements and understandings between the District and the Department on the subject of school resource officers ("SRO") as is dated for reference purposes as of Fiscal year 2024-2025.

Recitals

- A. The District and Department desire to set forth the duties and responsibilities of the parties with respect to the SRO program.
- B. The District and Department desire to create an atmosphere of cooperation toward the common goals of providing a safe learning environment for students and staff.
- C. The District and Department desire to promote positive relationships between the school, police, and the community.

The District and Department agree as follows:

- 1. **Term of Agreement.** This Agreement shall be effective upon ratification by the District's Superintendent and approval by the Hanford City Manager, and shall remain in effect until modified by mutual written agreement or terminated by either party with thirty (30) days advance written notice.
- 2. **Scope of Service.** The Department agrees to assign four full time sworn police officer to serve as the SRO's at the Districts schools during the school year. The SRO will be assigned to primarily work at Hanford High, Hanford West, Sierra Pacific and Alternative Educations sites or any other District locations as directed by the District Superintendent. The SRO will wear the regulation police uniform and operate a marked police patrol vehicle while on duty, unless otherwise authorized by a supervisor for a specific purpose. The SRO's duties shall include but not be limited to:
 - 2.1. SRO will provide law enforcement expertise to assist the school staff in maintaining safety at school sites.
 - 2.2. The SRO's investigation and questioning of students at school shall be limited to offenses related to the operation of the school or occurring at the school, except in situations where a delay in investigation or questioning may result in danger to any person, flight from the jurisdiction by the person suspected of a crime, or destruction of evidence.

- 2.3. The SRO shall notify the school principal as soon as practical of any significant law enforcement actions taken by an SRO or other officer.
- 2.4. The SRO shall not become involved in school administrative searches unless specifically requested by the principal in order to provide security or to handle contraband. School administrative searches will be at the direction and control of the school principal and will be based upon reasonable suspicion.
- 2.5. The SRO shall be responsible for monitoring the social and cultural environment around District schools to identify existing or emerging youth gangs. Gang prevention and early intervention strategies shall be coordinated between the Department and the District.
- 2.6. The SRO may become involved, through the school principal, with the school's curriculum and provide instructional presentations that enhance the students' understanding of the police mission and the responsibilities of citizenship.
- 2.7. The SRO will work to prevent juvenile delinquency and campus violence through close contact and positive relationships with students. The SRO will serve as a positive role model to students.
- 2.8. At the request of the school principal, the SRO shall attend suspension and expulsion hearings. The SRO shall be prepared to provide testimony on any actions taken by the officer and on any personally observed conduct witnessed by the officer. The SRO shall also make available at expulsion hearings any physical evidence that has been seized by law enforcement and is held by the Department.
- 2.9. The SRO shall disseminate to school administrators and staff information on crime trends and changes in laws to assist them in establishing and maintaining safe school environments.
- 2.10. The SRO will work to establish and maintain a collaborative partnership with the school administration to provide a safe school environment. The SRO will regularly communicate with the school administration in an effort to share information and discuss issues and concerns of mutual interest.
- 2.11. The SRO will work to increase communication between law enforcement, students, school staff, and the community. The SRO will work to build positive working relationships with the school staff and parents. When appropriate, such as times in which school resumes after a break, communication to the public such as guidance and warnings should be a joint effort between the school district and HPD.

3. **Student Discipline.** The certificated administrators of each school shall be responsible for student discipline and shall make all decisions regarding the imposition of discipline for students enrolled at their campus.
4. **Hours of Employment.** The SRO will work full time during the school year, except for annual leave allowances, during the normal school year schedule.
5. **Selection of Law Enforcement Personnel.** The Department will be responsible for selecting which Department employee will serve as the SRO, or the acting SRO for days when the designated SRO may be on leave, absent for training, or otherwise not available. The District may provide input regarding the selection of the SRO.
6. **Program Criteria.** The District and Department will work collaboratively to be responsive to evolving school and law enforcement requirements.
7. **Training and Supervision.** The SRO shall receive SRO's work assignments from the Department and shall be supervised in the performance of SRO's duties by the Chief of the Department or designee. The Department shall be responsible for training the SRO according to applicable law enforcement standards. The Superintendent of the District or designee will provide the Chief of the Department with information to assist in evaluating the SRO. Any disciplinary problems or alleged improprieties involving the SRO shall be brought to the attention of the Chief of the Department or designee. Communication regarding evaluation input or disciplinary input from the district shall be in writing to the appropriate HPD lead. The School Resource Officers will be released to attend 40 hours of formal training related to investigator orientation and juvenile law enforcement each fiscal year. The department will be responsible for the officers' travel, lodging and meals.
8. **Employment.** The SRO is an employee of the Department, and is not an employee or agent of the District. The SRO shall be subject to the administration, supervision, and control of the Department. The SRO shall be subject to all personnel policies and practices of the Department.
9. **Student Records.**
 - 9.1. The parties agree that the SRO shall be deemed to be a "school official" for the performance on SRO's duties on behalf of District. The SRO shall therefore be allowed access to student records but the District is in direct control of the use, maintenance, and disclosure of student records in accordance with Education Code section 49076 and other applicable provisions of law. School officials shall allow the SRO to inspect and copy any student records maintained by the school for which the SRO has a "legitimate educational interest" within the scope of the SRO's service

under this Agreement. This includes access to student directory information to the extent permitted by District policy, classroom assignments, attendance records, and discipline files. However, the SRO may not inspect or copy confidential student records outside the scope of the SRO's service, except as allowed by law.

- 9.2. If confidential student record information is needed in an emergency to protect the health or safety of a student or others, the District may disclose to the SRO information that is needed to respond to the emergency situation based on the seriousness of the threat to someone's health or safety, the need of the information to meet the emergency situation, and the extent to which time is of the essence.
 - 9.3. If confidential student record information is needed by the SRO but no emergency situation exists, unless section 9.4 applies, the information may be released only upon the issuance of a subpoena, a court order or written authorization of the parent/guardian.
 - 9.4. Pursuant to Education Code section 48902, the principal or designee shall notify the SRO of any acts of a student that may violate specified provisions of the Penal Code and Education Code. This may require the disclosure of the student's name or other identifying information to the SRO, along with information related to the underlying offence.
-
10. **Law Enforcement Records and Juvenile Case File Information.** Pursuant to Welfare and Institutions Code sections 827, 828.1 and 828.3, certain law enforcement records, probation reports and juvenile case file information may be provided to the District Superintendent or his/her designee. In addition to providing such information directly to the District Superintendent, the SRO may provide such information to the Principal of the school in which a minor student is enrolled and the Principal shall be a designee of the Superintendent for the receipt of such information.
 11. **Costs.** In exchange for the provision of SRO services, the District shall pay the Department \$98,000.00 annually per School Resource Officer for a total of \$392,000 for four (4) Officers. SRO services during summer school may be provided to the district at a cost of \$498.00 per officer, per day for the duration of the summer school session. Contracted days for summer school must be consecutive days.

Overtime expenditures for school related events such as sports games, dances, graduation, etc. will be covered by the Hanford Joint Union High School District. For these additional services, the Hanford Police Department will charge the District an hourly rate of \$81.75. Official Requests for additional SRO coverage must be submitted to the SRO unit supervisor in writing.

Contract extensions and inflation increases to SRO rates will be discussed annually in May.

12. **Feedback and Evaluation.** The District and Department agree on the importance of evaluating the SRO program. The District and Department will work together to develop and implement procedures to provide periodic feedback and evaluation data for the purpose of measuring the program's effectiveness.
13. **Nondiscrimination.** SROs shall not discriminate against or treat any person differently on the basis race, color, ancestry, nationality, national origin, immigration status, ethnic group identification, ethnicity, age, religion, marital status, pregnancy, parental status, physical or mental disability, sex, sexual orientation, gender, gender identity, gender expression, or genetic information; a perception of one or more of such characteristics; or association with a person or group with one or more of these actual or perceived characteristics.

The Superintendent or designee shall periodically report to the Board disaggregated data on student interactions with SROs to evaluate the appropriateness of such interactions and ensure compliance with nondiscrimination policies and practices. Such reports may include the number of arrests and referrals for prosecution, the number of reports provided to the school or district regarding student misconduct, or other actions taken by SROs with respect to individual students or others on campus.

As necessary, the Superintendent or designee shall develop and implement practices to prevent disproportionality of student interactions with SROs based on student characteristics and to minimize the potential for referrals of students into the juvenile justice system.

14. **Indemnification.**
 - 14.1 The District shall indemnify, defend, and hold harmless the Department, its officers, agents and employees from and against any and all claims, losses, liabilities or damages, demands and actions, including payment of reasonable attorney's fees, arising out of or resulting from the performance of this Agreement, caused in whole by any negligent or willful act or omission of the District, its officers, agents, employees, or anyone directly or indirectly acting on behalf of the District.
 - 14.2 The Department shall indemnify, defend, and hold harmless the District, its officers, agents and employees from and against any and all claims, losses, liabilities or damages, demands and actions, including payment of reasonable attorney's fees, arising out of or resulting from the performance of this Agreement, caused in whole by any negligent or

willful act or omission of the Department, its officers, agents, employees, or anyone directly or indirectly acting on behalf of the Department.

- 14.3 It is the intention of the District and Department that, where fault is determined to have been contributory, principles of comparative fault will be followed and each party shall bear the proportionate cost of any damage attributable to the fault of that party, its officers, directors, agents, employees, volunteers, subcontractors, and governing board.
- 14.4 Each party shall immediately notify the other party of any claims or legal actions arising out of the performance of this Agreement.
15. **Applicable Laws.** Department shall provide the services specified in this Agreement in accordance with any applicable federal and state statutes, regulations, and directives.
16. **Amendments.** No modification, amendment or addendum to this Agreement shall be valid unless it is set forth in writing and is signed by the parties.
17. **Entire Agreement.** This Agreement constitutes the entire agreement between the District and Department regarding the subject matter of this contract and supersedes all previous SRO agreements.
18. **Severability.** If any term or provision of this Agreement is determined to be unlawful or in conflict with any law of the State of California, the validity of the remaining portions or provisions shall not be affected. Each term or provision of the Agreement shall be valid and enforced as written to the fullest extent permitted by law.
19. **Notices.** All notices concerning this Agreement shall be deemed to have been served when delivered via electronic mail to the District Superintendent or Chief of Police.

The parties have executed this Agreement on the date written below.

Hanford Joint Union High School District

By: 
Victor Rosa
Superintendent

Date: 5/7/24

Hanford Police Department

By: _____
Stephanie Huddleston, Chief of Police

Date: _____

City of Hanford

By: _____
Mario Cifuentes, City Manager

Date: _____

**HANFORD ELEMENTARY SCHOOL DISTRICT
SCHOOL RESOURCE OFFICER PROGRAM**

July 1, 2024 – June 30, 2027

This Agreement is made by and between the Hanford Elementary School District (“District”) and the Hanford Police Department, (“Department,”) and replaces all prior agreements and understandings between the District and the Department on the subject of school resource officers (“SRO”) as is dated for reference purposes as July 1, 2024 - June 30, 2027.

Recitals

- A. The District and Department desire to set forth the duties and responsibilities of the parties with respect to the SRO program.
- B. The District and Department desire to create an atmosphere of cooperation and collaboration toward the common goals of providing a safe learning environment for students and staff.
- C. The District and Department desire to promote positive relationships between the school, police, and the community, which calls for the District and Department to maintain open and mutually beneficial communications.

The District and Department agree as follows:

- 1. **Term of Agreement.** This Agreement shall be effective upon ratification by the District’s Governing Board and approval by the Hanford City Manager, and shall remain in effect for three years. The Agreement may be modified or extended by mutual written agreement, or terminated by either party at any time with thirty (30) days advance written notice.
- 2. **Scope of Service.** The Department agrees to assign two full time sworn police officers to serve as SRO’s at the Districts schools during the school year. The SRO’s will be assigned to primarily work at JFK Junior High and Woodrow Wilson Junior High or as directed by the District Superintendent. The SRO’s will wear the regulation police uniform and operate a marked police patrol vehicle while on duty, unless otherwise authorized by a supervisor for a specific purpose. The SRO’s duties shall include but not be limited to:
 - 2.1. SRO will provide law enforcement expertise to assist the school staff in maintaining safety at school sites. SRO’s will provide law enforcement expertise to assist the school staff in maintaining safety at school sites. School safety is of paramount importance to the Department with respect to any Department action occurring in the vicinity of a school (“School Safety Incident”). The Department will, therefore, incorporate school safety issues into its operational briefings prior to engaging in any actions in the vicinity of a school that may impact safety. The School Resource

Officer will provide information on any incident to a designated member of HESD staff. The parties acknowledge and agree that, in order for the District/School to appropriately respond most effectively to a School Safety Incident, it will need information before a School Safety Incident occurs; therefore, notification to HESD staff shall be prioritized to occur as soon as notification can be performed and not negatively impact an occurring emergency response.

- 2.2. The SRO's investigation and questioning of students at school shall be limited to offenses related to the operation of the school or occurring at the school, except in situations where a delay in investigation or questioning may result in danger to any person, flight from the jurisdiction by the person suspected of a crime, or destruction of evidence.
- 2.3. The SRO shall notify the school principal as soon as practical of any significant law enforcement actions taken by an SRO or other officer.
- 2.4. The SRO shall not become involved in school administrative searches unless specifically requested by the principal in order to provide security or to handle contraband. School administrative searches will be at the direction and control of the school principal and will be based upon reasonable suspicion.
- 2.5. The SRO shall be responsible for monitoring the social and cultural environment around District schools to identify existing or emerging youth gangs. Gang prevention and early intervention strategies shall be coordinated between the Department and the District.
- 2.6. The SRO may become involved, through the school principal, with the school's curriculum and provide instructional presentations that enhance the students' understanding of the police mission and the responsibilities of citizenship.
- 2.7. The SRO will work to prevent juvenile delinquency and campus violence through close contact and positive relationships with students. The SRO will serve as a positive role model to students.
- 2.8. At the request of the school principal, the SRO shall attend suspension and expulsion hearings. The SRO shall be prepared to provide testimony on any actions taken by the officer and on any personally observed conduct witnessed by the officer. The SRO shall also make available at expulsion hearings any physical evidence that has been seized by law enforcement and is held by the Department.
- 2.9. The SRO shall disseminate to school administrators and staff information on crime trends and changes in laws to assist them in establishing and maintaining safe school environments.

- 2.10. The SRO will work to establish and maintain a collaborative partnership with the school administration to provide a safe school environment. The SRO will regularly communicate with the school administration in an effort to share information and discuss issues and concerns of mutual interest.
- 2.11. The SRO will work to increase communication between law enforcement, students, school staff, and the community. The SRO will work to build positive working relationships with the school staff and parents.
3. **Communications.** The District and Department will collaborate in the preparation of all press releases and other public announcements related to the subject matter of this Agreement. During the collaborative process, the parties will consider the community's desire to be informed of public safety matters and the manner in which the Department addresses such matters and the need to maintain the community's trust in the District's Board of Education, its programs, and its staff and students. The Hanford Police Department will not issue any press releases without notifying and collaborating with the School Superintendent or their designee. Both parties will work in good faith to mutually agree on all press releases involving the District before issuance of the press releases.
4. **Student Discipline.** The certificated administrators of each school shall be responsible for student discipline and shall make all decisions regarding the imposition of discipline for students enrolled at their campus.
5. **Hours of Employment.** The SRO will work full time during the school year, except for annual leave allowances, during the normal school year schedule.
6. **Selection of Law Enforcement Personnel.** The Department will be responsible for selecting which Department employee will serve as the SRO, or the acting SRO for days when the designated SRO may be on leave, absent for training, or otherwise not available. The District may provide input regarding the selection of the SRO.
7. **Program Criteria.** The District and Department will work collaboratively to be responsive to evolving school and law enforcement requirements.
8. **Training and Supervision & Communication.** The SRO shall receive SRO's work assignments from the Department and shall be supervised in the performance of SRO's duties by the Chief of the Department or designee. The Department shall be responsible for training the SRO according to applicable law enforcement standards. The Superintendent of the District or designee will provide the Chief of the Department with information to assist in evaluating the SRO. Any disciplinary problems or alleged improprieties involving the SRO shall be brought to the attention of the Chief of the Department or designee. The School Resource Officers will be released to attend 40 hours of formal training related to investigator orientation and juvenile law enforcement each fiscal year. The department will be responsible for the officers' travel, lodging and meals.

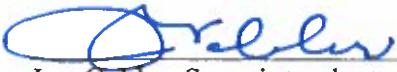
9. **Employment.** The SRO is an employee of the Department, and is not an employee or agent of the District. The SRO shall be subject to the administration, supervision, and control of the Department. The SRO shall be subject to all personnel policies and practices of the Department.
10. **Student Records.**
- 10.1. The parties agree that the SRO shall be deemed to be a “school official” for the performance on SRO’s duties on behalf of District. The SRO shall therefore be allowed access to student records but the District is in direct control of the use, maintenance, and disclosure of student records in accordance with Education Code section 49076 and other applicable provisions of law. School officials shall allow the SRO to inspect and copy any student records maintained by the school for which the SRO has a “legitimate educational interest” within the scope of the SRO’s service under this Agreement. This includes access to student directory information to the extent permitted by District policy, classroom assignments, attendance records, and discipline files. However, the SRO may not inspect or copy confidential student records outside the scope of the SRO’s service, except as allowed by law.
- 10.2. If confidential student record information is needed in an emergency to protect the health or safety of a student or others, the District may disclose to the SRO information that is needed to respond to the emergency situation based on the seriousness of the threat to someone’s health or safety, the need of the information to meet the emergency situation, and the extent to which time is of the essence.
- 10.3. If confidential student record information is needed by the SRO but no emergency situation exists, unless section 9.4 applies, the information may be released only upon the issuance of a subpoena, a court order or written authorization of the parent/guardian.
- 10.4. Pursuant to Education Code section 48902, the principal or designee shall notify the SRO of any acts of a student that may violate specified provisions of the Penal Code and Education Code. This may require the disclosure of the student’s name or other identifying information to the SRO, along with information related to the underlying offence.
11. **Law Enforcement Records and Juvenile Case File Information.** Pursuant to Welfare and Institutions Code sections 827, 828.1 and 828.3, certain law enforcement records, probation reports and juvenile case file information may be provided to the District Superintendent or his/her designee. In addition to providing such information directly to the District Superintendent, the SRO may provide such information to the Principal of the school in which a minor student is enrolled and the Principal shall be a designee of the Superintendent for the receipt of such information.

12. **Costs.** In exchange for the provision of SRO services, the District shall pay Department as follows \$98,000 annually per SRO for a total of \$196,000.00. Overtime expenditures for school related events will be paid for by the Hanford Elementary School District. For these additional services, the Hanford Police Department will charge the District an hourly rate of \$81.75. SRO services during summer school may be provided to the district at a cost of \$498.00 per Officer, per day for the duration of the summer school session. Contracted days for summer school must be consecutive days. Contract extensions and inflation increases to the flat rate will be discussed annually in May.
13. **Feedback and Evaluation.** The District and Department agree on the importance of evaluating the SRO program. The District and Department will work together to develop and implement procedures to provide periodic feedback and evaluation data for the purpose of measuring the program's effectiveness.
14. **Discrimination.** Neither the District nor the Department shall discriminate because of race, religion, color, national origin, disability, marital status, age, or sex against any person by refusing any person or privilege offered to or engaged by the general public.
15. **Indemnification.**
 - 14.1 The District shall indemnify, defend, and hold harmless the Department, its officers, agents and employees from and against any and all claims, losses, liabilities or damages, demands and actions, including payment of reasonable attorney's fees, arising out of or resulting from the performance of this Agreement, caused in whole by any negligent or willful act or omission of the District, its officers, agents, employees, or anyone directly or indirectly acting on behalf of the District.
 - 14.2 The Department shall indemnify, defend, and hold harmless the District, its officers, agents and employees from and against any and all claims, losses, liabilities or damages, demands and actions, including payment of reasonable attorney's fees, arising out of or resulting from the performance of this Agreement, caused in whole by any negligent or willful act or omission of the Department, its officers, agents, employees, or anyone directly or indirectly acting on behalf of the Department.
 - 14.3 It is the intention of the District and Department that, where fault is determined to have been contributory, principles of comparative fault will be followed and each party shall bear the proportionate cost of any damage attributable to the fault of that party, its officers, directors, agents, employees, volunteers, subcontractors, and governing board.
 - 14.4 Each party shall immediately notify the other party of any claims or legal actions arising out of the performance of this Agreement.

15. **Applicable Laws.** Department shall provide the services specified in this Agreement in accordance with any applicable federal and state statutes, regulations, and directives.
16. **Amendments.** No modification, amendment or addendum to this Agreement shall be valid unless it is set forth in writing and is signed by the parties.
17. **Entire Agreement.** This Agreement constitutes the entire agreement between the District and Department regarding the subject matter of this contract and supersedes all previous SRO agreements.
18. **Severability.** If any term or provision of this Agreement is determined to be unlawful or in conflict with any law of the State of California, the validity of the remaining portions or provisions shall not be affected. Each term or provision of the Agreement shall be valid and enforced as written to the fullest extent permitted by law.
19. **Notices.** All notices concerning this Agreement shall be deemed to have been served when delivered via electronic mail to the District Superintendent or Chief of Police.

The parties have executed this Agreement on the date written below.

Hanford Elementary School District

By: _____
Joy Gabler, Superintendent

Date: 5/23/24

Hanford Police Department

By: _____
Stephanie Huddleston, Chief of Police

Date: _____

City of Hanford

By: _____
Mario Cifuentez, City Manager

Date: _____



AGENDA STAFF REPORT

MEETING DATE: 6/18/2024

AGENDA SECTION: CONSENT CALENDAR

SUBJECT:

Award and authorization for the City Manager to enter into a professional services agreement with Randle Communications (Sacramento, CA) for \$72,500 for potential ballot measure information outreach services and appropriate the amount in the General Fund.

RECOMMENDATION:

Recommendation: Staff recommends that the City Council, by motion, Award and Authorize the City Manager to enter into a professional services agreement with Randle Communications (Sacramento, CA) for \$72,500 for potential ballot measure information outreach services and appropriate the amount in the General Fund.

Recommended Motion: I move to Award and Authorize the City Manager to enter into a professional services agreement with Randle Communications (Sacramento, CA) for \$72,500 for potential ballot measure information outreach services and appropriate the amount in the General Fund.

BACKGROUND:

This item was tabled at City Council's May 21, 2024 meeting for discussion on June 4, for approval after Council considered a potential revenue measure further. In response to City Council's action to form a Revenue Measure Committee (RMC) and subsequent recommendation by the RMC that there is a need for a revenue measure, in a formal Request for Proposal process, staff solicited proposals for information outreach efforts for a potential revenue measure. The RFP was issued March 14, 2024 and closed on April 12, 2024.

City Council as of the time of this item, has also considered on its own a draft Expenditure Plan for a potential revenue measure and further discussed community engagement. Preliminary work with Randle has been authorized by the City Manager in order to provide experienced dissemination of information and necessary planning for the City Council to proceed with taking a revenue measure to the voters for a decision. Approval of this agreement by City Council would carry on the scope of services through the November 2024 election, providing experience and support that staff otherwise lacks.

Three proposals were received and subsequently evaluated by an evaluation committee. Randle Communications, Sierra Pacific Strategies, and William Berry Campaigns (WBC) submitted by the deadline and were responsive to the RFP. Award of the contract was based on the evaluation process and City Council authorization is requested for work through November. Below in Table 1 is a summary of the proposals and ranking out of a maximum potential of 100:

Table 1: Evaluation Summary

RFP 2024-10 Information Consultant		
	Average	
Randle	88	
WBC	81	
Sierra Pacific	51	

Based on the evaluation scoring and a final interview, staff recommends that City Council award and authorize execution of an agreement with Randle Communications for consulting services for potential ballot measure information outreach. The firm is familiar with local ballot measures and knowledgeable about getting information out to constituents in compliance with legal restrictions. Randle, will assist staff to get factual information out to city stakeholders while avoiding prohibited advocacy.

FISCAL IMPACT:

If approved, \$72,500 will be appropriated in the General Fund for this information outreach project. In addition, to these costs any hard costs for auxiliary items such as handouts, web design or other outreach may be required as well. This cost would be covered by potential expenditure savings within all departments operational budgets in FY24, and/or available fund balance in the General Fund.

ATTACHMENTS:

1. Cost Proposal Attach

EXHIBIT “A”

Scope, Timeframe, and Compensation for Services

RANDLE
COMMUNICATIONS

APRIL 12, 2024

City of Hanford

PROPOSED FEE STRUCTURE AND SCHEDULES

BALLOT MEASURE INFORMATION
CAMPAIGN CONSULTANT
NO. 2024-10

SUBMITTED BY RANDLE COMMUNICATIONS



10. Fee Structure and Schedule

Randle is providing the City of Hanford with its most senior and experienced local ballot measure team. Included below is the proposed compensation rate and structure for the scope of services, including a breakdown of professional service fees, hard cost approach, and billing rates.

10.1 Professional Services Fees: Compensation Rate and Structure

Randle is an all-in-one communications partner, so rather than pricing based on tasks we manage projects and the overall workload based upon the agreed scope with a flat monthly retainer to ensure staff resources are allocated in alignment with the ongoing needs of our clients.

The section immediately following covers the cost of services, and these rates are inclusive of the collective staff time needed to fully execute our tactical approach. This includes all planning, content development, execution, coordination, strategy, and administrative services outlined in our proposal. Should Randle be selected, we will work with the City to tailor an overall budget proposal that aligns with the City's project needs.

Randle recommends a six-month term (May - November) to complete the services outlined in the scope of work, and proposes a flat monthly retainer structure outlined below:

Professional service fees are broken down by the following retainer per month:

- May 7 to May 30: \$10,000/month
- June 1 to July 31: \$15,000/month
- August 1 to September 30: \$10,000/month
- October: \$7,500/month
- November: \$5,000

Total Professional Service Fees: \$72,500

General Business Expenses: General business expenses (travel, lodging, media monitoring, office expenses, etc.) will be billed as incurred and approved by the City of Hanford in advance.

Should additional services be requested by the City that fall outside of the agreed upon scope of work, Randle will work with the City to develop a cost proposal for those services at either whole project amount or hourly rate. Our hourly rates are included in Section 10.3.

10.2 Hard Costs

Additional Hard cost recommendations including those outlined in our proposal will be determined in concert with the City project team and Randle will provide recommendations based on research and community surveys. Upon selection and review of survey results, Randle will develop a detailed hard cost proposal that to ensure the most judicious use of City of funds needed to conduct an effective and efficient community education effort.

Hard costs may include the following:

- Mailing lists
- Printing costs
- Translation services
- Text messaging services
- Digital ad placement
- Community event space rental fees

This investment would help ensure the content reaches its intended target audiences and helps drive turnout at community events. Any hard costs are excluded from the proposed professional service fees above and would be presented to the City for approval prior to any work being conducted.

10.3 Hourly Billing Rates

Our current non-retainer billing rates are included below, and Randle can work with the City to craft a project-based scope of work for any ad-hoc services that are requested or need to be executed.

Title	Hourly Rate	Title	Hourly Rate
President and CEO	\$425	Innovation & Content Senior Strategist	\$225
Partner	\$375	Creative Services Specialist	\$225
Senior Vice President	\$340	Account Executive	\$210
Director	\$290	Assistant Account Executive	\$200
Strategic Communications Manager	\$265	Creative Services Coordinator	\$140
Account Manager	\$265	Account Coordinator	\$140
Senior Account Executive	\$265	Video Production Assistant	\$140
Digital Media Strategist	\$265	Chief Financial Officer	\$140
Creative Director	\$290	Support Staff	\$90

Hourly based services shall be billed to the City in increments of one-quarter of an hour.

10.4 Conflict of Interest

Randle has thoroughly evaluated all aspects of the project and determined there is no conflict of interest with current clients, nor do we have any financial, business, or other relationship with the City or member of the City staff that may have an impact on the outcome of the project. No clients have any financial interest in the outcome of the project.



AGENDA STAFF REPORT

MEETING DATE: 6/18/2024

AGENDA SECTION: CONSENT CALENDAR

SUBJECT:

Approval of Blanket Purchase Orders (BPO's) over \$50,000 for the Finance Division in the amount of \$484,420 for fiscal year 2024/2025

RECOMMENDATION:

Recommendation: Staff recommends that City Council approve the following purchase orders for a total of \$484,420 for fiscal year 2024/2025.

VENDOR	DESCRIPTION	AMOUNT	DEPARTMENT	COMMENT
Pre-Sort Center of Stockton, Inc.	BPO – Utility Billing and BL printing & postage	\$215,500	12100000	Obtained bids, vendor selected based on pricing and current usage
Xerox Corp	BPO – Copier lease and copies	\$59,000	All City Departments	City has departmental lease with vendor
HD Supply, Inc.	BPO – Various as-needed supplies & materials	\$55,000	17110000 17220000 17502100 16100000 17160000 17502131 20400000	Used by various City departments to purchase supplies and materials for miscellaneous day-to-day operations
Comcast Business	BPO – Internet service/ various sites	\$72,000	17160000 13150000 15110000 20720000 20810000	City has contracted with vendor for television, internet, and ethernet services
Verizon Wireless	BPO – Wireless Services	\$82,920	12100000 20100000 20110000 20310000 20610000 20710000 20720000 20810000 17512100	Consolidation of multiple PO's for cell phone lines, Ipad lines, Aircards

Recommended Motion: I move to approve the purchase orders listed in this report for a total of \$484,420 for fiscal year 2024/2025.

BACKGROUND:

Per the City of Hanford Purchasing Policy, the City Council has the sole authority to authorize purchases exceeding \$50,000. These purchase orders have continuously been used for the services listed above and are expected to exceed the \$50,000 threshold again next fiscal year. The purchase orders cover annual contracts and general services provided to various City of Hanford departments, including copier/printer services, communications, printing/postage for utility billing and business licensing, and various building supplies needed for maintenance in daily operations. All purchase orders and contracts will be monitored by staff on an annual basis to assure cost-saving procedures are being utilized.

FISCAL IMPACT :

PURCHASE ORDERS TOTAL \$484,420 IN APPROVED SPENDING. THESE EXPENSES COME OUT OF PREVIOUSLY APPROVED BUDGET APPROPRIATIONS ACROSS ALL IMPACTED DEPARTMENTS FOR FISCAL YEAR 2024/2025.

ATTACHMENTS:

None



AGENDA STAFF REPORT

MEETING DATE: 6/18/2024

AGENDA SECTION: CONSENT CALENDAR

SUBJECT:

Adoption of Resolution 24-18-R establishing the 2024/2025 appropriations limit of \$90,635,466 for the City of Hanford's General Fund

RECOMMENDATION:

Recommendation: Staff recommends that City Council adopt Resolution 24-18-R establishing the appropriations limit (Gann Appropriations Limit) for the 2024/2025 fiscal year in the amount of \$90,635,466 for the General Fund.

Recommended Motion: I move to adopt Resolution 24-18-R establishing the appropriations limit (Gann Appropriations Limit) for the 2024/2025 fiscal year in the amount of \$90,635,466 for the General Fund.

BACKGROUND:

Annually, City Council is required by the State to approve the appropriation limit for the City of Hanford. The Appropriation Limitation imposed by Propositions 4 and 111, known as the Gann Appropriations Limit, creates a restriction on the amount of tax revenue which can be appropriated in any fiscal year. The limit bears little to no meaningful connection to the City budget (the expenditure limit established by the required formula is substantially higher than current City of Hanford revenues/expenditures are or have been). The limit is based on actual appropriations during the 1978-79 fiscal year and is increased each year by a factor comprised of the change in population combined with the change in California per capita personal income.

The General Fund is the only fund subject to the appropriation limit mandated by the State of California. Any challenge to the appropriations limit must be brought within 45 days from the effective date of the resolution.

The State of California Department of Finance provides the population and California per capita personal income change data for local jurisdictions to calculate their appropriations limit. Based on the following data received from the Department of Finance, a population change of 0.43% and per capita income change of 3.62%, the appropriations limit for Hanford is \$90,635,466. The total General Fund appropriation subject to limitation for the fiscal year 2024/2025 is \$44,091,552 which is well under the appropriations limit as shown in Table 1, Gann Appropriations Limit. Even with possible changes during the year, the City will remain well below the limit.

Table 1
Gann Appropriations Limit
FY 2024/2025

Appropriation Limit FY 2023/24					\$ 87,090,868 *
Adjustment Factors					
Population Change (0.43%+100/100)=				1.0043	
Per Capita Income Change (3.62%+100/100)=				1.0362	
Total Adjustment Factor	1.0362	x	1.0043	1.0407	
Annual Adjustment Amount in dollars					<u>3,544,598</u>
Appropriations Limit for FY 2024/2025					90,635,466
Budgeted Expenditures Subject to Limit FY 2024/2025					<u>44,091,552</u>
Amount of unspent authorized appropriaton FY 2024/2025					<u>\$ 46,543,914</u>

*Corrected from originally approved FY24 limit of \$88,428,441 due to error in calculation

FISCAL IMPACT:

This action will establish a General Fund appropriation limit as required by State Propositions 4 and 111 restricting the amount of tax revenue which can be appropriated in any fiscal year. The limit for 2024/2025 is \$90,635,466. The 2024/2025 General Fund appropriation of \$44,091,552 is well below that threshold.

ATTACHMENTS:

1. Reso Appropriation Limit 24.25
2. Appropriations Limit Sched 24.25
3. DRU Price and Population Letter 24.25

RESOLUTION No. 24-18-R

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF HANFORD ESTABLISHING THE 2024/2025 APPROPRIATIONS LIMIT

WHEREAS, in 1979, California voters approved Proposition 4 (Article XIII-B of the California State Constitution). Informally known as the "Gann Initiative," Article XIII-B provides limits to the amount of tax proceeds state and local governments can spend each year.

WHEREAS, in 1980, the State Legislature added Section 9710 of the Government Code stating that the governing body of each City must establish, by resolution, an appropriations limit for the following year. The limit for any fiscal year is equal to the previous year's limit, adjusted for population changes and the change in the U.S. Consumer Price Index (or California per capita personal income, if smaller). The necessary statistical information is provided by the California Department of Finance.

WHEREAS, Proposition 111 modified Article XIII-B. A City may choose which annual adjustments to use. The adjustment factors include the growth in the California Per Capita Income, or the growth in the non-residential assessed valuation.

AND IT FURTHER provided for the 2024-25 fiscal year, any challenge to the appropriations limit must be brought within 45 days from the effective date of the resolution.

NOW, THEREFORE, BE IT RESOLVED that the appropriations limit as defined by Propositions 4 and 111 is set at \$90,635,466 for 2024/2025 fiscal year using a percentage change growth factor of 0.43% and change in per capita income of 3.62% as established by the California Department of Finance.

PASSED and ADOPTED by the City Council of the City of Hanford at a regular meeting duly held on this 18th day of June, 2024 by the following vote:

AYES: _____
NOES: _____
ABSENT: _____
ABSTAIN: _____

Travis Paden
MAYOR of the City of Hanford

ATTEST:

Natalie Corral
City Clerk

CITY OF HANFORD
SCHEDULE TO ADJUST AND CALCULATE THE
FISCAL YEAR 2024/2025 GANN APPROPRIATION LIMIT

2023/2024	Appropriation Limit	\$87,090,868
	Add Appropriations for Annexation, Financial or Tax Administration Responsibility Change	0
	Subtotal	\$87,090,868
	Apply Ratio of Change Factor (Table 1) – 1.0407	3,544,598
2024/2025	Appropriation Limit	<u>\$90,635,466</u>

April 30, 2024

Dear Fiscal Officer:

Price Factor and Population Information

Appropriations Limit

California Revenue and Taxation Code section 2227 requires the Department of Finance to transmit an estimate of the percentage change in population to local governments. Each local jurisdiction must use their percentage change in population factor for January 1, 2024, in conjunction with a change in the cost of living, or price factor, to calculate their appropriations limit for fiscal year 2024-25. Attachment A provides the change in California's per capita personal income and an example for utilizing the factors to calculate the 2024-25 appropriations limit. Attachment B provides the city and unincorporated county population percentage change. Attachment C provides the population percentage change for counties and their summed incorporated areas. The population percentage change data excludes federal and state institutionalized populations and military populations.

Population Percent Change for Special Districts

Some special districts must establish an annual appropriations limit. [California Revenue and Taxation Code section 2228](#) provides additional information regarding the appropriations limit. [Article XIII B, section 9\(C\) of the California Constitution](#) exempts certain special districts from the appropriations limit calculation mandate. Special districts required by law to calculate their appropriations limit must present the calculation as part of their annual audit. Any questions special districts have on this requirement should be directed to their county, district legal counsel, or the law itself. No state agency reviews the local appropriations limits.

Population Certification

The population certification program applies only to cities and counties. California Revenue and Taxation Code section 11005.6 mandates Finance to automatically certify any population estimate that exceeds the current certified population with the State Controller's Office. **Finance will certify the higher estimate to the State Controller by June 1, 2024.** Please note: The prior year's city population estimates may be revised. The per capita personal income change is based on historical data.

If you have any questions regarding this data, please contact the Demographic Research Unit at (916) 323-4086.

/s Richard Gillihan

RICHARD GILLIHAN
Chief Operating Officer

Attachment

- A. **Price Factor:** Article XIII B specifies that local jurisdictions select their cost of living factor to compute their appropriation limit by a vote of their governing body. The cost of living factor provided here is per capita personal income. If the percentage change in per capita personal income is selected, the percentage change to be used in setting the fiscal year 2024-25 appropriation limit is:

Per Capita Personal Income	
Fiscal Year (FY)	Percentage change over prior year
2024-25	3.62

- B. Following is an example using sample population change and the change in California per capita personal income as growth factors in computing a 2024-25 appropriation limit.

2024-25:

Per Capita Cost of Living Change = 3.62 percent
Population Change = 0.17 percent

Per Capita Cost of Living converted to a ratio: $\frac{3.62 + 100}{100} = 1.0362$

Population converted to a ratio: $\frac{0.17 + 100}{100} = 1.0017$

Calculation of factor for FY 2024-25: $1.0362 \times 1.0017 = 1.0379$

Attachment B
Annual Percent Change in Population Minus Exclusions*
January 1, 2023 to January 1, 2024 and Total Population, January 1, 2024

County City	<u>Percent Change</u>	<u>--- Population Minus Exclusions ---</u>		<u>Total Population</u>
	23-24	1-1-23	1-1-24	1-1-24
Kings				
Avenal	-0.28	9,373	9,347	13,981
Corcoran	0.07	13,405	13,415	21,633
Hanford	0.43	59,034	59,286	59,286
Lemoore	-0.27	26,929	26,855	26,855
Unincorporated	-0.42	24,775	24,672	30,872
County Total	0.04	133,516	133,575	152,627

*Exclusions include residents on federal military installations and group quarters residents in state mental institutions, state and federal correctional institutions and veteran homes.



AGENDA STAFF REPORT

MEETING DATE: 6/18/2024

AGENDA SECTION: GENERAL BUSINESS

SUBJECT:

Adoption of Resolution 24-17-R, Approving the Annual Engineer's Report and Intention to Levy for Fiscal Year 2024/2025 and Collect Assessments as outlined in the Annual Engineer's Report, which has been prepared pursuant to Chapter 3 of the Landscape and Lighting Act of 1972. The proposed assessments outlined in the Engineer's Report are less than or equal to the authorized maximum assessment for each landscape assessment district, and set July 2, 2024, as the Public Hearing date to consider the increases in assessments as proposed.

RECOMMENDATION:

Recommendation:

Recommended Motion: That the City Council, by motion, adopt Resolution 24-17-R, approving the Annual Engineer's Report and Intention to Levy and Collect Assessments for Fiscal Year 204/2025 as outlined in the Annual Engineer's Report, which has been prepared pursuant to Chapter 3 of the Landscape and Lighting act of 1972. The proposed assessments outlined in the Engineer's Report are less than or equal to the authorized maximum assessment for each landscape assessment district.

BACKGROUND:

In accordance with Chapter 3 of the Landscaping and Lighting Act of 1972 ("Act"), an Annual Engineer's Report addressing adjustments based on a review of the costs of maintenance of public improvements must be prepared and submitted to the City Council for action. The Streets and Highway Code, as referenced in the Act, requires the holding of a public hearing for Landscape Districts identified in the Annual Engineer's Report as showing an increase, decrease, or no change in the annual assessment amount.

At the regular City Council meeting on July 2, 2024, a public hearing will be held. The City Council shall consider all public input before taking final action on confirming and levying the assessments proposed in the Annual Engineer's Report. Regarding the Districts identified in the Annual Engineer's Report showing an increase in the annual assessment amount, the City Council must consider all protests against the proposed increase in the assessment amount and tabulate any protests delivered to the City before the close of the public hearing. Per Article XXX D, Section 4 of the California Constitution, if the ballots submitted in opposition to the increased assessment exceed those submitted in favor of the increased assessment, the assessment amount shall not be increased. If the increase in the assessment to maintain the current level of service for the existing landscape area is voted down, the current level of service may be reduced. In tabulating the protests, the protests shall be weighed according to the proportional financial obligation of each affected parcel of real property.

The Annual Engineer's Report identifies an increase in the annual assessment from the previous year and the reasons for the increase, including the imposition of 2.8% Standard Annual CI Increase (December 2023) in accordance with California Government Code section 53739(b)(1) for the following Districts:

<u>District</u>	<u>Name</u>
1. 93-02	Vintage Estates
2. 01-01	Pacific Grove Units 1 through 3 and N. Pointe Units 1 through 4
3. 01-02	Cambridge Homes Units 1 through 3
4. 01-04	Silver Oaks Units 1 through 5
5. 02-01	Ashton Park Units 1 through 4
6. 03-01	Le Parc Units 1 through 3
7. 04-01	Sidonia Units 1 and 2 and Sidonia Estates II
8. 04-02	Cambridge Homes/Majesty II, #2
9. 04-03	Cambridge Homes - Majesty - #2, Cambridge Homes Units 1 through 6, Cambridge Homes - Vineyards Units 1 through 4
10. 04-04	Sierra Heights Units 1 and 2
11. 05-01	Mission Park
12. 05-02	Cooper Valley
13. 06-01	Quail Park Subdivision
14. 07-02	South Gate Addition, Greenbrier Gardens, and Live Oak North
15. 09-01	Victory Estates
16. 09-02	Independence Units 1 and 2
17. 14-01	Independence Units 3 and 4
18. 15-01	Silver Oaks Addition III Units 1 and 2, Lennar Homes Units 1 and 2, and Lennar Homes
19. 15-02	The Greens II
20. 16-01	Woodside Homes
21. 16-02	Mynderup Units 1 and 2
22. 18-01	Bella Vista Units 1 through 4
23. 19-01	Pacific Grove Addition II
24. 19-02	The Enclave
25. 20-01	Woodside Homes
26. 21-01	San Joaquin Valley Homes

The Annual Assessments for each of the remaining Districts are at or below Fiscal Year 2023/2024. The Annual Engineer's Report also provides the following information as required by Article XIII D, Section 4 of the California Constitution:

1. Identifies all real property parcels with a special benefit conferred upon them and upon which the assessment will be imposed.
2. Determines the appropriate special benefit derived by each parcel of the real property in relation to the entirety of the cost of maintenance of the public improvements.
3. Identifies the special benefit conferred on each parcel of real property.
4. Establishes that the assessment imposed on each parcel of real property does not exceed the reasonable cost of the proportionate special benefit conferred on that parcel of real property.

FISCAL IMPACT:

The total balance of levies across all landscape assessment districts is \$949,826. The Engineer's Report includes a summary of the assessments.

In accordance with Proposition 218 and over the entire general benefit, the City's general benefit contribution is \$29,869. This baseline servicing, unlike the enhanced aesthetic services funded through the District assessments, would provide benefits to the public and to the properties both

within and outside the specific Districts. The cost of providing this baseline service, along with a five percent (5%) cost factor for city overhead and administration, is treated as the general cost. Benefit from landscape maintenance services.

ATTACHMENTS:

1. RESOLUTION 24-17-R Intent to Levy
2. FY24-25 Hanford LLMD Consolidated ER (Ver 06.11.24, IM 06.18.24, PH 07.02.24)

RESOLUTION NO. 24-17-R

RESOLUTION OF THE CITY COUNCIL OF THE
CITY OF HANFORD APPROVING
ANNUAL ENGINEER'S REPORT AND
DECLARING ITS INTENTION TO LEVY AND
COLLECT ASSESSMENTS

At a regular meeting of the City Council of the City of Hanford duly called and held on June 11, at 7:00 p.m., it was moved by Council Member _____, seconded by Council Member _____, and duly carried that the following resolution be adopted:

WHEREAS, pursuant to the California Landscaping & Lighting Act of 1972 ("Act"), the City of Hanford has established the following landscape and lighting assessment districts within the City limits of the City of Hanford.

ASSESSMENT DISTRICTS

- 90-01 Pinecastle Addition, Unit No. 1, 2, 3 and 4 – (Located East of 10th Avenue and North of Fargo Avenue)
- 90-02 Park Monterey, Unit No. 1 and 2 – (Located West of Douty Street and North of Sherwood Drive)
- 90-03 Mansionette Estates, No. 7 and 8 – (Located West of Douty Street and North Encore Drive)
- 90-04 Hyde Park – (Located East of 12th Avenue and North of Hanford-Armona Road)
- 91-01 Sierra Vista (Tract 641)/New Dimensions (Tract 703/713), No. 1, 2, 3, 4, 5 and 6 – (Located West of 11th Avenue and South of Hanford-Armona Road)
- 92-01 Portofino, No. 1, 2, 3 and 4 – (Located East of Neill Way and South of Fargo Avenue)
- 92-02 Cielo En Tierra, No. 1, 2, 3, 4 and 5 – (Located West of 11th Avenue and South of Fargo Avenue)
- 93-01 Vintage Estates – (Located West of 12th Avenue and North of Grangeville Boulevard)
- 93-02 Walnut Forest, No. 1, 2 and 3 – (Located West of 11th Avenue and North of Hume Avenue)
- 94-01 Gateway Estates – (Located West of 10th Avenue and North of Encore Drive)
- 94-02 Stonecrest, No. 1, 2, 3, 4, 5, 6, 7, 8 and 9 – (Located West of 11th Avenue and North of Fargo Avenue)
- 94-03 Quail Run Estates, No. 1, 2, 3, 4 and 5 – (Located East of 11th Avenue and North of Pepper Drive)
- 97-01 Rosewood Estates, No. 1 and 2 – (Located East of 12th Avenue and South of Grangeville Boulevard)
- 97-02 Summer Field Addition, No. 2 – (Located West 91/4 Avenue and South of Florinda Street)
- 97-03 Country Crossing, No. 1, 2, 3, 4 and 5 – (Located West of Centennial Drive and North of Lacey Boulevard)
- 98-01 Crystal Springs, No. 1, 2 and 3 – (Located West of 91/4 Avenue and North of Grangeville Boulevard)

- 98-02 Mountain View Estates, No. 1, 2, 3, 4, 5 and 6 – (Located West of 11th Avenue and North of Houston Avenue)
- 01-01 Pacific Grove (Tract 680/777)/N. Pointe (Tract 778), No. 1, 2, 3 and 4 – (Located East of 12th Avenue and North of Grangeville Boulevard)
- 01-02 Cambridge Homes (Tract 770), No. 1, 2 and 3 – (Located West of 11th Avenue and North of Pepper Drive)
- 01-03 Poppy Hills, No. 1 and 2 – (Located West of 11th Avenue and North of Pepper Drive)
- 01-04 Silver Oaks, No. 1, 2, 3, 4 and 5 – (Located West of 12th Avenue and North of Grangeville Boulevard)
- 02-01 Ashton Park, No. 1, 2, 3 and 4 – (Located West of 12th Avenue and North of Lacey Boulevard)
- 03-01 La Parc, No. 1, 2 and 3 – (Located West of 11th Avenue and South of Fargo Avenue)
- 04-01 Sidonia Estates, No. 1 and 2 (Tract 810)/Sidonia Estates II (Tract 814) – (Located East of 12th Avenue and North of Hume Avenue)
- 04-02 Cambridge Homes (Tract 799)/Majesty II (Tract 830) – (Located East of 11th Avenue and South of Flint Avenue)
- 04-03 Cambridge Homes (Tract 795/826)/Vineyards (Tract 825), No. 1, 2, 3, 4, 5 and 6 – (Located East of 12th Avenue and South of Fargo Avenue)
- 04-04 Sierra Heights (Tract 802/803), No. 1 and 2 – (Located West of 9th Avenue and North of Fargo Avenue)
- 05-01 Mission Park – (Located West of Highway 43 and South of Flint Avenue)
- 05-02 Copper Valley – (Located West of 12th Avenue and South of Fargo Avenue)
- 06-01 Quail Park Subdivision – (Tract 794), No. 1 and 2, Located West of 11th Avenue and South of Flint Avenue)
- 07-02 South Gate Addition – (Tract 811)/Greenbrier Gardens (876)/ Live Oak North (902) - (Located West of 12th Avenue and South of Hanford-Armona Road)
- 09-01 Victory Estates – (Located West of University Avenue and North of Grangeville Boulevard)
- 09-02 Independence (Tract 843), No. 1 and 2 - (Located West of 12th Avenue and North of Greenfield Avenue)
- 14-01 Independence (Tract 843), No. 3 and 4 - (Located West of 12th Avenue and North of Merritt Street)
- 15-01 Silver Oaks Addition III (Tract 887/922), No. 1, 2, and 3 - (Located West of Centennial Drive and North of West Berkshire Lane)
- 15-02 The Greens II (Tract 823) - (Located West of 9 ¼ Avenue and North of Grangeville Boulevard)
- 16-01 Woodside Homes (Tract 917) – (Located West of Centennial Drive and South of Grangeville Blvd)
- 16-02 Myderup (Tract 914), No. 1 and 2 – (Located East of 12th Avenue and North of Hume Avenue)
- 18-01 Bella Vista (Tract 918/919), No. 1, 2, and 3 – (Located West of Centennial Drive and South of Fargo Avenue)
- 19-01 Pacific Grove Addition No. 2 (Tract 916) – (Located East of 12th Avenue and North of Bristol Lane)
- 19-02 Enclave (Track 915) – (Located South of Lacey Blvd. and West Centennial Ave.)
- 20-01 Woodside Homes (Track 928) – (Located North of Centennial Ave and South of 12th Ave.)
- 21-01 San Joaquin Valley Homes (Track 929) – (Located North of 13th Ave and West of Devon St.)

(collectively "Districts").

WHEREAS, pursuant to the Act, it is necessary that the City Council review an annual report ("Engineer's Report"), which sets forth a full and detailed description of the improvements and boundaries of each District and any zones therein and the proposed annual assessments to be levied upon assessable lots and parcels of land within each District;

WHEREAS, Willdan Financial Services, the appointed Assessment Engineer for the City of Hanford has prepared and filed with the City Clerk, an Engineer's Report for fiscal year 2023/2024 pursuant to Chapter 3 of the Act, which includes: (1) a full and detailed description of the improvements and boundaries of each District and any zones therein; (2) identifies the proposed annual assessments upon assessable lots and parcels of land within each District; (3) identifies all parcels of real property which will have a special benefit conferred upon them and upon which the assessment will be imposed; (4) determines the proportionate special benefit derived by each parcel of real property in relationship to the entirety of the cost of maintenance of the public improvements; (5) identifies the special benefit conferred on parcels of real property; and (6) establishes that the assessment imposed on each parcel of real property does not exceed the reasonable cost of the proportionate special benefit conferred on that parcel of real property.

WHEREAS, the Engineer's Report identifies an increase in the annual assessment from the previous year and the reasons for the increase, including the imposition of 4.6% Annual CPI Increase (December 2022) in accordance with California Government Code section 53739(b)(1) for the following Districts:

- | | | |
|-----|-------|--|
| 1. | 93-02 | Walnut Forest, No. 1, 2 and 3 |
| 2. | 01-02 | Cambridge Homes (Tract 770), No. 1, 2 and 3 |
| 3. | 01-04 | Silver Oaks, No. 1, 2, 3, 4 and 5 |
| 4. | 02-01 | Ashton Park, No. 1, 2, 3 and 4 |
| 5. | 04-02 | Cambridge Homes (Tract 799)/Majesty II (Tract 830) |
| 6. | 04-03 | Cambridge Homes (T 795/826)/Vineyards (T 825) |
| 7. | 06-01 | Quail Park Subdivision (Tract 794), No. 1 and 2 |
| 8. | 14-01 | Independence (Tract 843), Unit No. 3 |
| 9. | 15-02 | The Greens II (Tract 823) |
| 10. | 16-01 | Woodside Homes |
| 11. | 19-01 | Pacific Grove Addition II (Tract 916) |
| 12. | 20-01 | Enclave (Track 915) |

WHEREAS, the Report identifies a decrease or no change in the annual assessments from the previous fiscal year for the following Districts:

- | | | |
|-----|-------|--|
| 13. | 90-01 | Pinecastle Addition, Unit 1, 2, 3 and 4 |
| 14. | 90-02 | Park Monterey, Unit No. 1 and 2 |
| 15. | 90-03 | Mansionette Estates, No. 7 and 8 |
| 16. | 90-04 | Hyde Park |
| 17. | 91-01 | Sierra Vista |
| 18. | 92-01 | Portofino Estates |
| 19. | 92-02 | Cielo En Tierra, No. 1, 2, 3, 4 and 5 |
| 20. | 93-01 | Vintage Estates |
| 21. | 94-01 | Gateway Estates |
| 22. | 94-02 | Stonecrest, No. 1, 2, 3, 4, 5, 6, 7, 8 and 9 |
| 23. | 94-03 | Quail Run |
| 24. | 97-01 | Rosewood Estates |
| 25. | 97-02 | Summer Field |
| 26. | 97-03 | Country Crossing, No. 1, 2, 3, 4 and 5 |
| 27. | 98-01 | Crystal Springs |
| 28. | 98-02 | Mountain View Estates, No. 1, 2, 3, 4, 5 and 6 |
| 29. | 01-01 | Pacific Grove/N. Pointe, No 1, 2, 3, 4 |
| 30. | 01-03 | Poppy Hills No. 1, and 2 |
| 31. | 03-01 | Le Parc, No. 1, 2 and 3 |
| 32. | 04-01 | Sidonia Estates, (Tract 810), No. 1 and 2/ (Tract 814) |
| 33. | 04-04 | Sierra Heights, No. 1 and 2 |
| 34. | 05-01 | Mission Park |
| 35. | 05-02 | Copper Valley |
| 36. | 07-02 | South Gate Addition (Tract 811), Greenbrier Gardens |
| 37. | 09-01 | Victory Estates |
| 38. | 09-02 | Independence (Tract 843), No. 1 and 2 |
| 39. | 15-01 | Silver Oaks Addition III (Tract 887/922) |
| 40. | 16-02 | Mynderup, No. 1 and 2 (Tract 914) |
| 41. | 18-01 | Bella Vista, No. 1, 2 and 3 (Tract 918/919) |
| 42. | 19-02 | Pacific Grove Addition II (Tract 916) |
| 43. | 20-02 | Woodside Homes (Track 928) |

WHEREAS, the existing improvements within each District include decorative block fencing, landscaping and irrigation systems;

WHEREAS, interested parties should refer to the Engineer's Report, a copy of which is on file with the City Clerk for the City of Hanford, for a full and detailed description of the improvements, the boundaries of the assessment districts and any zones therein, and the proposed assessments upon assessable lots and parcels of land within the districts;

WHEREAS, there are no substantial changes proposed to the existing improvements in any District;
and

WHEREAS, Streets and Highways Code Section 22624(e) requires the City Council of the City of Hanford to give notice of the time and place for hearing by the City's legislative body on the levy of the proposed assessments.

NOW, THEREFORE, BE IT RESOLVED that the City Council of the City of Hanford approves the Engineer's Report as submitted for each District;

RESOLVED FURTHER, that the City Council of the City of Hanford declares its intention to levy and collect assessments for fiscal year 2023/2024 within each respective District and each lot thereof, as set forth in the Engineer's Report for fiscal year 2023/2024.

RESOLVED FURTHER, that the City Council of the City of Hanford shall hold a public hearing on the levy of the proposed assessments set forth in the Engineer's Report, which public hearing shall occur on August 1, 2023, at the hour of 7:00 p.m., in the City Council Chambers of the Civic Auditorium in Hanford, California. At such public hearing, affected property owners will be afforded an opportunity to give oral testimony and submit written comments regarding the proposed assessments.

I HEREBY CERTIFY that the foregoing Resolution was passed and adopted by the Council of the City of Hanford at a meeting thereof held on July 18, 2023, by the following vote:

AYES: _____

NOES: _____

ABSTAIN: _____

ABSENT: _____

TRAVIS PADEN
MAYOR of the City of Hanford

Attest:

NATALIE CORRAL
CITY CLERK



City of Hanford

Fiscal Year 2024/2025

Consolidated Engineer's Report

Landscaping and Lighting Assessment

Districts

Incorporating Forty-three District Numbers:
90-01, 90-02, 90-03, 90-04, 91-01, 92-01, 92-02, 93-01,
93-02, 94-01, 94-02, 94-03, 97-01, 97-02, 97-03, 98-01,
98-02, 01-01, 01-02, 01-03, 01-04, 02-01, 03-01, 04-01,
04-02, 04-03, 04-04, 05-01, 05-02, 06-01, 07-02, 09-01,
09-02, 14-01, 15-01, 15-02, 16-01, 16-02, 18-01, 19-01,
19-02, 20-01, and 21-01

Intent Meeting: June 18, 2024

Public Hearing: July 2, 2024

CITY OF HANFORD
400 N. DOUTY ST.
HANFORD, CA 93230

JUNE 2024
PREPARED BY
WILLDAN FINANCIAL SERVICES

27368 Via Industria
Suite 200
Temecula, CA 92590
T. 951.587.3500 | 800.755.6864
F. 951.587.3510 | 888.326.6864

Property Tax Information Line
T. 866.807.6864

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ENGINEER'S REPORT AFFIDAVIT

City of Hanford Landscaping and Lighting Assessment Districts Fiscal Year 2024/2025

City of Hanford,
Kings County, State of California

This Report and the enclosed descriptions, budgets and diagram outline the proposed improvements and assessments for the forty-three (43) Landscaping and Lighting Assessment Districts in the City of Hanford for fiscal year 2024/2025, which includes each lot, parcel, and subdivision of land within District Nos. 90-01, 90-02, 90-03, 90-04, 91-01, 92-01, 92-02, 93-01, 93-02, 94-01, 94-02, 94-03, 97-01, 97-02, 97-03, 98-01, 98-02, 01-01, 01-02, 01-03, 01-04, 02-01, 03-01, 04-01, 04-02, 04-03, 04-04, 05-01, 05-02, 06-01, 07-02, 09-01, 09-02, 14-01, 15-01, 15-02, 16-01, 16-02, 18-01, 19-01, 19-02, 20-01, and 21-01, as the same existed at the time of the passage of the Resolution of Intention. Reference is hereby made to the Kings County Assessor's maps for a detailed description of the lines and dimensions of parcels within the Districts. The undersigned respectfully submits the enclosed Report as directed by the City Council.

Dated this _____ day of _____, 2024.

Willdan Financial Services
Assessment Engineer
On Behalf of the City of Hanford

By: _____

Jim McGuire
Principal Consultant, Project Manager

By: _____

Tyrone Peter
PE # C 81888

Table of Contents

Introduction.....	1
Report Content and Annual Proceedings.....	2
Part I - Plans and Specifications.....	5
Description of Improvements	5
Specific District Improvements and Services	6
Part II - Method of Apportionment	15
Legislative Requirements for Assessments	15
Benefit Analysis.....	16
Assessment Methodology	18
Part III - Estimate of Costs.....	20
Annual Inflationary Adjustment (Assessment Range Formula)	20
Annual District Budgets.....	21
Part IV - District Diagrams.....	24
Part V - Assessment Rolls.....	69

Introduction

The City of Hanford ("City"), under the provisions of the Landscaping and Lighting Act of 1972, Part 2 of Division 15 of the California Streets and Highways Code ("1972 Act") and in compliance with the substantive and procedural requirements of the California State Constitution, Article XIII D ("California Constitution"), annually levies and collects special assessments for the City's Landscaping and Lighting Assessment Districts designated and referred to as:

District No.	Subdivision Name	District No.	Subdivision Name
90-01	Pinecastle Addition Units 1 - 4	90-02	Park Monterey Units 1 & 2
90-03	Mansionette Units 7 & 8	90-04	Hyde Park
91-01	Sierra Vista & New Dimensions Units 1 - 5	92-01	Portofino Unit Units 1 - 4
92-02	Cielo En Tierra Units 1 - 5	93-01	Vintage Estates
93-02	Walnut Forest Units 1 - 3	94-01	Gateway Estates
94-02	Stonecrest Units 1 - 9	94-03	Quail Run Estates Units 1 - 5
97-01	Rosewood Estates Units 1 & 2	97-02	Summer Field Addition #2
97-03	Country Crossing Units 1 - 5	98-01	Crystal Springs Units 1 - 3
98-02	Mountain View Estates Units 1 - 6	01-01	Pacific Grove Units 1 - 3 and N. Pointe Units 1 - 4
01-02	Cambridge Homes Units 1 - 3	01-03	Poppy Hills Units 1 & 2
01-04	Silver Oaks Units 1 - 5	02-01	Ashton Park Units 1 - 4
03-01	Le Parc Units 1 - 3	04-01	Sidonia Units 1 & 2 and Sidonia Estates II
04-02	Cambridge Homes/Majesty II, #2	04-03	Cambridge Homes -Majesty II - #2, Cambridge Homes Units 1 - 6, Cambridge Homes- Vineyards Units 1 - 4
04-04	Sierra Heights Units 1 & 2	05-01	Mission Park
05-02	Copper Valley	06-01	Quail Park Subdivision
07-02	South Gate Addition, Greenbrier Gardens, & Live Oak North	09-01	Victory Estates
09-02	Independence Units 1 & 2	14-01	Independence Units 3 & 4
15-01	Silver Oaks Addition III Units 1 and 2, Lennar Homes Units 1 and 2, and Lennar Homes	15-02	The Greens II
16-01	Woodside Homes	16-02	Mynderup Units 1 & 2
18-01	Bella Vista Units 1 - 4	19-01	Pacific Grove Addition II
19-02	The Enclave	20-01	Woodside Homes
21-01	San Joaquin Valley Homes		

(hereafter referred to collectively as "LLMD" and individually as "Districts") that fund, in whole or in part, the maintenance and operation of local landscaping or landscaping and lighting improvements that provide special benefits to properties within those individual Districts.

Report Content and Annual Proceedings

This Consolidated Engineer's Report (the "Report") has been prepared pursuant to Chapter 1, Article 4 and Chapter 3 of the 1972 Act, and presented to the City Council for their consideration and approval of the proposed improvements and services to be provided within the Districts and the levy and collection of annual assessments related thereto for fiscal year 2024/2025. This Report generally describes the improvements and proposed assessments to be levied in connection with the special benefits the properties will receive from the maintenance and servicing of the improvements within each of the designated Districts for fiscal year 2024/2025. The annual assessments to be levied on properties within these Districts provide a source of funding to fund in whole or in part, the continued operation and maintenance of the landscaping improvements or landscaping and lighting improvements and services to be provided by the City through the LLMD that provide special benefits to the properties within each of those Districts and respective developments.

Each fiscal year, the City establishes the LLMD assessments based on an estimate of the costs to maintain, operate and service the authorized improvements within each District and based upon available revenues including assessment revenues, fund balances, general benefit contributions and any additional City contributions from available sources. The costs of the improvements and the proposed annual assessments budgeted and assessed against properties within each District may include, but are not limited to the estimated expenditures for regular annual maintenance and repairs; incidental expenditures related to the operation and administration of the District; deficits or surpluses from prior years (fund balance); revenues from other sources; and the collection of funds for operational reserves and/or periodic repairs, replacements and rehabilitation projects as authorized by the 1972 Act. The net annual cost to provide the improvements for each District are allocated to the benefiting properties within each District respectively based on an established method of apportionment (refer to Assessment Methodology in Section II, Method of Apportionment) that calculates the proportional special benefit and assessment for each parcel within those Districts. Thus, each parcel is assessed proportionately for only those improvements, services, and expenses for which the parcel receives special benefit.

The word "parcel," for the purposes of this Report, refers to an individual property assigned its own Assessor's Parcel Number ("APN") by the Kings County Assessor's Office. The Kings County Auditor/Controller uses APNs and specific Fund Numbers to identify properties to be assessed on the tax roll for the District assessments.

At a noticed annual Public Hearing, the City Council will accept all public comments and written protests regarding the Districts and the annual levy of assessments. Based on those public comments and written protests, the City Council may order amendments to the Report or confirm the Report as submitted. Following final approval of the Report and confirmation of the assessments, the City Council will by Resolution, order the improvements to be made and confirm the levy and collection of assessments for fiscal year 2024/2025 pursuant to the 1972 Act. The assessment for each parcel as approved will be placed on the fiscal year 2024/2025 property tax roll by the Kings County Auditor/Controller and collected together and in the same manner as other property taxes for such parcels.

As required by the 1972 Act, this Engineer's Report describes the improvements to be provided, maintained, and serviced by the Districts, an estimated budget for the improvements for each District, and the proposed assessments to be levied upon each assessable lot or parcel within those Districts for fiscal year 2024/2025.

This Report consists of five (5) parts:

Part I

Plans and Specifications: This section contains a general description of the Districts, and the improvements and services that provide special benefits to the parcels within those Districts. The improvements and appurtenant facilities that provide special benefits to the properties within the Districts and for which parcels are assessed may include, but is not limited to local landscaping, neighborhood parks, basins, street lights, and related amenities as well as associated incidental expenses (City Administration expenses and County Fees), and fund balances authorized by the 1972 Act. The plans and specifications contained in this Report generally describe the nature and extent of the improvements. More detailed information regarding the specific plans and specifications associated with the improvements in each District may be on file in the Public Works Department and by reference are made part of this Report.

Part II

Method of Apportionment: This section includes a discussion of the general and special benefits associated with the improvements to be provided within the LLMD (Benefit Analysis), which includes a discussion of the proportional costs of the special benefits and a separation of costs considered to be of general benefit (and therefore not assessed). This section of the Report also outlines the basis upon which the estimated costs to provide such improvements are apportioned to each parcel of land within the Districts in proportion to the special benefits to be received (the method of calculating each property's proportional special benefit assessment). This method of apportionment is consistent with the previously approved and adopted method of apportionment for each District.

Part III

Estimate of Costs: Identifies the estimated annual funding costs (budgets) required for the maintenance and operation of the improvements in each of the Districts, including, but not limited to, annual maintenance and service expenses, utility costs, related incidental expenses, and fund balances authorized by the 1972 Act and deemed appropriate to support the improvements, even though not all costs identified in these budgets are necessarily supported fully by the current assessment revenues. Those improvements and/or costs determined to be of general benefit shall be funded by a City contribution. In addition to the general benefit costs, the City may provide additional funding to support the maintenance and operation of the improvements considered to be of special benefit. Ultimately, City staff shall make the determination of which improvements, and the extent of the services and activities that shall be provided based on available revenues.

This section also identifies and outlines an Assessment Range Formula (inflationary adjust) that has been previously approved and adopted for specified Districts (most but not all Districts), which provides for an annual adjustment to the maximum assessment rates, establishing limits on future assessments, but also providing for reasonable cost adjustments due to inflation.

Part IV

District Diagrams: This section of the Report contains diagrams showing the general location and boundaries of the Districts for fiscal year 2024/2025 which incorporate the parcels determined to receive special benefits from the improvements within each District. The lines and dimensions of each lot, parcel, and subdivision of land contained in the diagram for each District is inclusive of the parcels listed in "Part V - Assessment Roll" of this Report and the corresponding County Assessor's parcel maps for said parcels as they existed at the time this Report was prepared and shall incorporate all subsequent subdivisions, lot-line adjustments, or parcel changes therein. Reference is hereby made to the Kings County Assessor's maps for a detailed description of the lines and dimensions of each lot and parcel of land within the Districts.

Part V

Assessment Rolls: The assessment amounts to be levied and collected in fiscal year 2024/2025 for each parcel is provided in the Assessment Roll, and these assessments are based on the parcel's calculated proportional special benefit as outlined in Part II - Method of Apportionment and the annual assessment rates established by the estimated budgets (refer to Part III - Estimate of Costs).

If any section, subsection, sentence, clause, phrase, portion, zone, or subzone of this Engineer's Report is, for any reason, held to be invalid or unconstitutional by the decision of any court of competent jurisdiction, such decision shall not affect the validity of the remaining provisions of this Engineer's Report and each section, subsection, subdivision, sentence, clause, phrase, portion, zone, or subzone thereof, irrespective of the fact that any one or more sections, subsections, sentences, clauses, phrases, portions, zones, or subzones might subsequently be declared invalid or unconstitutional.

Part I - Plans and Specifications

The purpose of the Districts (collectively the LLMD) is to provide in part through annual assessments, funding for the ongoing installation, maintenance, operation, and servicing of local landscaping, neighborhood parks, and related appurtenant facilities and services in specified areas of the City as well as local street lighting within some Districts. The territory within each District consists of all lots or parcels of land that receive special benefits from the installation, maintenance, operation and servicing of the local public improvements and related amenities associated with the developments and Tracts within each of those Districts.

Description of Improvements

As authorized by the 1972 Act, the improvements provided by the Districts and associated with each development incorporate various local improvements and/or street lighting and related amenities installed in connection with the development of those properties and are maintained and serviced for the benefit of real property within those developments. Improvements provided within the Districts may include but are not limited to:

- Landscaping and related facilities and amenities located within designated street medians, parkway and streetscape side-panels, and entryways within the public rights-of-way or easements adjacent to public rights-of-way; and within public places including greenbelt areas, open spaces, and neighborhood parks within each respective District. These improvements may include, but are not limited to:
 - Various landscape materials such as trees, turf, shrubs, vines, ground cover, annual or perineal plantings;
 - Irrigation and drainage systems including but not limited to pipes, fixtures, controllers, and water and electrical meters;
 - Specified amenities such as monuments, ornamental lighting, block walls, retaining walls, or other fencing;
 - Hardscape surfaces and areas including decomposed granite, mulch, asphalt, stamped concrete, pavers, and other trail and/or path surfaces; and
 - Recreational amenities within the parks, parks/basins, trails, or greenbelts that may include benches, play structures, picnic or other recreational facilities, signage, and related appurtenances.

The maintenance of these improvements may include, but is not limited to the scheduled mowing, trimming, pruning, fertilization, pest control, weed and graffiti abatement; installation, replacement, and rehabilitation of the landscaping; repair or replacement of irrigation or drainage systems; and repair or replacement of hardscape improvements and recreational amenities.

- Street lighting improvements located in the public rights-of-way within and on the perimeter of the developments associated with specific Districts and the parcels and developments therein. Street lighting improvements include energy costs and maintenance of the lighting facilities including, but not limited to the removal, repair, replacement or relocation of light standards, poles, bulbs, fixtures, and related equipment and materials.

The work to be performed within each respective District may include but is not limited to (as applicable), the personnel, materials, equipment, electricity, water, contract services, repair and rehabilitation of the improvements, and incidental expenses. The City Public Works Department shall authorize and schedule such maintenance and servicing as needed and based on available funding.

Specific District Improvements and Services

As previously noted, there are forty-three (43) designated Districts within the City for which assessments are proposed to be levied and collected to maintain, operate and service the improvements within those Districts for fiscal year 2024/2025. The boundaries of each District are established on the basis of the location, extent and types of improvements being maintained and the proximity and direct benefit those specific improvements provide to the immediately surrounding developments, planned developments, and parcels. In addition, the nexus and observation that the developments and/or planned development of the properties within each District clearly required or otherwise facilitated the installation of the improvements to be maintained and that such improvements (both landscaping and lighting) would otherwise not be necessary if not for the development of those properties. Therefore, the benefits to the immediately surrounding properties and developments for which the improvements were constructed and installed and/or were facilitated by the development or potential development of properties within each respective District are clearly particular and distinct (special benefits).

Landscape Service Levels

As part of the ongoing maintenance and servicing of the landscape improvements associated with each District, the City has established various maintenance frequency referred to as Service Levels. These Service Levels provide general guidelines for how often the landscape improvement areas are serviced based on overall maintenance needs and/or available assessment funding. For most Districts, the various landscape improvements or improvement areas within a District are maintained at the same level of service, but in some Districts two or more Service Levels may be applicable based on the nature and/or location of the improvements. At present, the City has established five (5) Service Levels summarized as follows:

- **Service Level A** – Landscape improvements are serviced every week;
- **Service Level B** – Landscape improvements are serviced every week (March through October) and every two weeks (November through February);
- **Service Level C** – Landscape improvements are serviced every two weeks;
- **Service Level D** – Landscape improvements are serviced every two weeks (March through October) and every four weeks (November through February); and
- **Service Level E** – Landscape improvements are serviced once every month.

For Fiscal Year 2024/2025 it is anticipated that each of the improvement areas being maintained within the LLMP will be maintained at either Service Levels A, B, C or D.

District Improvements

The following is a brief summary and description of the improvements to be maintained within each District for fiscal year 2024/2025.

District 90-01: Pinecastle Addition Units 1 through 4

The parcels assessed in this District (totaling 352 lots) include, but are not limited to Tracts 606, 606-2, 606-3, and 606-4. The properties within this District proportionately share and receive special benefit from the maintenance, servicing, and operation of an estimated 67,750 square feet of designated landscape improvement area. These improvements are maintained at Service Level A, including the 11,532 square feet associated with the park/basin area.

District 90-02: Park Monterey Units 1 and 2

The parcels assessed in this District (totaling 53 lots) include but are not limited to Tracts 610 and 657. The properties within this District proportionately share and receive special benefit from the maintenance, servicing, and operation of an estimated 8,625 square feet of designated landscape improvement area. These improvements are maintained at Service Level D.

District 90-03: Mansionette Units 7 and 8

The parcels assessed in this District (totaling 84 lots) include but are not limited to Tracts 596 and 596-2. The properties within this District proportionately share and receive special benefit from the maintenance, servicing, and operation of an estimated 16,425 square feet of designated landscape improvement area. These improvements are maintained at Service Level D.

District 90-04: Hyde Park

The parcels assessed in this District (totaling 14 lots) include but are not limited to Tract 619. The properties within this District proportionately share and receive special benefit from the maintenance, servicing, and operation of an estimated 1,425 square feet of designated landscape improvement area. These improvements are maintained at Service Level B.

District 91-01: Sierra Vista and New Dimensions Units 1 through 5

The parcels assessed in this District (totaling 285 lots) include, but are not limited to Tracts 641, 703, 703-2, 713-3, 713-4, and 713-5. The properties within this District proportionately share and receive special benefit from the maintenance, servicing, and operation of an estimated 12,974 square feet of designated landscape improvement area. These improvements are maintained at Service Level D.

District 92-01: Portofino Unit Units 1 through 4

The parcels assessed in this District (totaling 78 lots) include, but are not limited to Tracts 607, 607-2, 607-3, and 607-4. The properties within this District proportionately share and receive special benefit from the maintenance, servicing, and operation of an estimated 19,167 square feet of designated landscape improvement area. These improvements are maintained at Service Level D.

District 92-02: Cielo en Tierra Units 1 through 5

The parcels assessed in this District (totaling 98 lots) include, but are not limited to Tracts 652, 652-2, 652-3, 652-4, and 652-5. The properties within this District proportionately share and receive special benefit from the maintenance, servicing, and operation of an estimated 11,735 square feet of designated landscape improvement area. These improvements are maintained at Service Level D.

District 93-01: Vintage Estates

The parcels assessed in this District (totaling 29 lots) include but are not limited to Tract 634. The properties within this District proportionately share and receive special benefit from the maintenance, servicing, and operation of an estimated 10,346 square feet of designated landscape improvement area. These improvements are maintained at Service Level A. The assessments for this District also fund, in whole or in part, the six (6) street lights identified within the District boundaries.

District 93-02: Walnut Forest Units 1 through 3

The parcels assessed in this District (totaling 169 lots) include, but are not limited to Tracts 673, 673-2, and 673-3. The properties within this District proportionately share and receive special benefit from the maintenance, servicing, and operation of an estimated 15,637 square feet of designated landscape improvement area. These improvements are maintained at Service Level A, including the 3,537 square feet associated with slough frontage.

District 94-01: Gateway Estates

The parcels assessed in this District (totaling 114 lots) include but are not limited to Tract 712. The properties within this District proportionately share and receive special benefit from the maintenance, servicing, and operation of an estimated 8,185 square feet of designated landscape improvement area. These improvements are maintained at Service Level D, including the 5,460 square feet associated with the basin area.

District 94-02: Stonecrest Units 1 through 9

The parcels assessed in this District (totaling 654 lots) include, but are not limited to Tracts 708, 708-2, 727-3, 727-4, 727-5, 727-6, 727-7, 727-8, and 727-9. The properties within this District proportionately share and receive special benefit from the maintenance, servicing, and operation of an estimated 173,903 square feet of designated landscape improvement area. These improvements are maintained at Service Level D for the 51,578 square feet of railroad frontage, Service Level B for 14,765 square feet of the total maintained landscape area, and Service Level A for the remaining 107,560 square feet of landscaping including the 54,450 square feet of basin area.

District 94-03: Quail Run Estates Units 1 through 5

The parcels assessed in this District (totaling 272 lots) include, but are not limited to Tracts 696, 696-2, 696-3, 696-4, and 696-5. The properties within this District proportionately share and receive special benefit from the maintenance, servicing, and operation of an estimated 111,188 square feet of designated landscape improvement area. These improvements are maintained at Service Level B.

District 97-01: Rosewood Estates Units 1 and 2

The parcels assessed in this District (totaling 44 lots) include but are not limited to Tracts 711 and 711-2. The properties within this District proportionately share and receive special benefit from the maintenance, servicing, and operation of an estimated 6,300 square feet of designated landscape improvement area. These improvements are maintained at Service Level D.

District 97-02: Summer Field Addition #2

The parcels assessed in this District (totaling 30 lots) include but are not limited to Tract 742. The properties within this District proportionately share and receive special benefit from the maintenance, servicing, and operation of an estimated 4,650 square feet of designated landscape improvement area. These improvements are maintained at Service Level D.

District 97-03: Country Crossing Units 1 through 5

The parcels assessed in this District (totaling 251 lots) include, but are not limited to Tracts 743, 743-2, 743-3, 772-4, and 772-5. The properties within this District proportionately share and receive special benefit from the maintenance, servicing, and operation of an estimated 46,415 square feet of designated landscape improvement area. These improvements are maintained at Service Level A.

District 98-01: Crystal Springs Units 1 through 3

The parcels assessed in this District (totaling 126 lots) include, but are not limited to Tracts 747, 747-2, and 747-3. The properties within this District proportionately share and receive special benefit from the maintenance, servicing, and operation of an estimated 14,435 square feet of designated landscape improvement area. These improvements are maintained at Service Level A.

District 98-02: Mountain View Estates Units 1 through 6

The parcels assessed in this District (totaling 162 lots) include, but are not limited to Tracts 759, 759-2, 759-3, 759-4, 759-5, and 759-6. The properties within this District proportionately share and receive special benefit from the maintenance, servicing, and operation of an estimated 30,991 square feet of designated landscape improvement area. These improvements are maintained at Service Level A.

District 01-01: Pacific Grove Units 1 through 3 and N. Pointe Units 1 through 4

The parcels assessed in this District (totaling 148 lots) include, but are not limited to Tracts 680, 777-2, 778-3, and 778-4. The properties within this District proportionately share and receive special benefit from the maintenance, servicing, and operation of an estimated 12,152 square feet of designated landscape improvement area. These improvements are maintained at Service Level A including the 3,530 square feet associated with the basin area.

District 01-02: Cambridge Homes Units 1 through 3

The parcels assessed in this District (totaling 198 lots) include, but are not limited to Tracts 770, 770-2, and 770-3. The properties within this District proportionately share and receive special benefit from the maintenance, servicing, and operation of an estimated 35,222 square feet of designated landscape improvement area. These improvements are maintained at Service Level D for the 22,790 square feet of railroad frontage and Service Level A for the remaining 12,432 square feet of landscaping.

District 01-03: Poppy Hills Units 1 and 2

The parcels assessed in this District (totaling 86 lots) include but are not limited to Tracts 771 and 796-2. The properties within this District proportionately share and receive special benefit from the maintenance, servicing, and operation of an estimated 11,782 square feet of designated landscape improvement area. These improvements are maintained at Service Level A.

District 01-04: Silver Oaks Units 1 through 5

The parcels assessed in this District (totaling 489 lots) include, but are not limited to Tracts 769, 769-2, 769-3, 769-4, and 769-5. The properties within this District proportionately share and receive special benefit from the maintenance, servicing, and operation of an estimated 95,556 square feet of designated landscape improvement area. These improvements are maintained at Service Level A.

District 02-01: Ashton Park Units 1 through 4

The parcels assessed in this District (totaling 182 lots) include, but are not limited to Tracts 776, 776-2, 776-3, and 776-4. The properties within this District proportionately share and receive special benefit from the maintenance, servicing, and operation of an estimated 63,922 square feet of designated landscape improvement area. These improvements are maintained at Service Level A.

District 03-01: Le Parc Units 1 through 3

The parcels assessed in this District (totaling 128 lots) include, but are not limited to Tracts 788, 788-2, and 788-3. The properties within this District proportionately share and receive special benefit from the maintenance, servicing, and operation of an estimated 30,628 square feet of designated landscape improvement area. These improvements are maintained at Service Level A including the 21,858 square feet associated with the railroad frontage.

District 04-01: Sidonia Units 1 and 2 and Sidonia Estates II

The parcels assessed in this District (totaling 233 lots) include but are not limited to Tracts 810 and 810-2. The properties within this District proportionately share and receive special benefit from the maintenance, servicing, and operation of an estimated 21,533 square feet of designated landscape improvement area. These improvements are maintained at Service Level A.

District 04-02: Cambridge Homes/Majesty II, #2

The parcels assessed in this District (totaling 75 lots) include but are not limited to Tracts 799 and 830. The properties within this District proportionately share and receive special benefit from the maintenance, servicing, and operation of an estimated 63,824 square feet of designated landscape improvement area. These improvements are maintained at Service Level A including the 8,440 square feet associated with the basin area. The assessments for this District also fund in whole or in part, the eleven (11) street lights identified within the District boundaries.

District 04-03: Cambridge Homes - Majesty II - #2, Cambridge Homes Units 1 through 6, Cambridge Homes - Vineyards Units 1 through 4

The parcels assessed in this District (totaling 424 lots) include, but are not limited to Tracts 795, 795-2, 799, 825-3, 826-4, 826-5, and 830. The properties within this District proportionately share and receive special benefit from the maintenance, servicing, and operation of an estimated 167,767 square feet of designated landscape improvement area. These improvements are maintained at Service Level A including the 19,929 square feet associated with the railroad frontage and the 77,548 square feet associated with the park area. The assessments for this District also fund in whole or in part, the sixty-three (63) street lights identified within the District boundaries.

District 04-04: Sierra Heights Units 1 and 2

The parcels assessed in this District (totaling 16 lots) include but are not limited to Tracts 802 and 803. The properties within this District proportionately share and receive special benefit from the maintenance, servicing, and operation of an estimated 15,237 square feet of designated landscape improvement area. These improvements are maintained at Service Level A.

District 05-01: Mission Park

The parcels assessed in this District (totaling 40 lots) include but are not limited to Tract 812. The properties within this District proportionately share and receive special benefit from the maintenance, servicing, and operation of an estimated 4,930 square feet of designated landscape improvement area. These improvements are maintained at Service Level A including the 2,537 square feet associated with the basin area.

District 05-02: Copper Valley

The parcels assessed in this District (totaling 150 lots) include but are not limited to Tract 835. The properties within this District proportionately share and receive special benefit from the maintenance, servicing, and operation of an estimated 44,126 square feet of designated landscape improvement area. These improvements are maintained at Service Level A.

District 06-01: Quail Park Subdivision

The parcels assessed in this District (totaling 144 lots) include but are not limited to Tract 794. The properties within this District proportionately share and receive special benefit from the maintenance, servicing, and operation of an estimated 148,501 square feet of designated landscape improvement area. These improvements are maintained at Service Level B for the park area (95,551 square feet) and Service Level D for the 52,950 square feet of railroad frontage. The assessments for this District also fund, in whole or in part, the twenty-four (24) street lights identified within the District boundaries.

District 07-02: South Gate Addition, Greenbrier Gardens, and Live Oak North

The parcels assessed in this District (totaling 129 lots) include, but are not limited to Tracts 811, 876, and 902. The properties within this District proportionately share and receive special benefit from the maintenance, servicing, and operation of an estimated 29,440 square feet of designated landscape improvement area. These improvements are maintained at Service Level A. The assessments for this District also fund in whole or in part, the thirteen (13) street lights identified within the District boundaries.

District 09-01: Victory Estates

The parcels assessed in this District (totaling 14 lots) include but are not limited to Tract 877. The properties within this District proportionately share and receive special benefit from the maintenance, servicing, and operation of an estimated 7,077 square feet of designated landscape improvement area. These improvements are maintained at Service Level A. The assessments for this District also fund, in whole or in part, the two (2) street lights identified within the District boundaries.

District 09-02: Independence Units 1 and 2

The parcels assessed in this District (totaling 121 lots) include but are not limited to Tract 843. The properties within this District proportionately share and receive special benefit from the maintenance, servicing, and operation of an estimated 56,252 square feet of designated landscape improvement area. These improvements are maintained at Service Level B including the 20,558 square feet of park area. The assessments for this District also fund, in whole or in part, the eighteen (18) street lights identified within the District boundaries.

District 14-01: Independence Units 3 and 4

The parcels assessed in this District (totaling 175 lots) include but are not limited to Tract 843. The properties within this District proportionately share and receive special benefit from the maintenance, servicing, and operation of an estimated 76,555 square feet of designated landscape improvement area. These improvements are maintained at Service Level A. The assessments for this District also fund, in whole or in part, the twenty-nine (29) street lights identified within the District boundaries.

District 15-01: Silver Oaks Addition III Units 1 and 2, Lennar Homes Units 1 and 2, and Lennar Homes

The parcels assessed in this District (totaling 468 lots) include, but are not limited to Tracts 887, 887-2, 922, and 927. The properties within this District proportionately share and receive special benefit from the maintenance, servicing, and operation of an estimated 412,396 square feet of designated landscape improvement area. These improvements are maintained at Service Level A. The assessments for this District also fund in whole or in part, the ninety-four (94) street lights identified within the District boundaries.

District 15-02: The Greens II

The parcels assessed in this District (totaling 34 lots) include but are not limited to Tract 823. The properties within this District proportionately share and receive special benefit from the maintenance, servicing, and operation of an estimated 16,416 square feet of designated landscape improvement area. These improvements are maintained at Service Level B. The assessments for this District also fund, in whole or in part, the eight (8) street lights identified within the District boundaries.

District 16-01: Woodside Homes

The parcels assessed in this District (totaling 60 lots) include but are not limited to Tract 917. The properties within this District proportionately share and receive special benefit from the maintenance, servicing, and operation of an estimated 25,206 square feet of designated landscape improvement area. These improvements are maintained at Service Level A. The assessments for this District also fund, in whole or in part, the nineteen (19) street lights identified within the District boundaries.

District 16-02: Mynderup Units 1 and 2

The parcels assessed in this District (totaling 113 lots) include but are not limited to Tracts 914 and 914-2. The properties within this District proportionately share and receive special benefit from the maintenance, servicing, and operation of an estimated 31,363 square feet of designated landscape improvement area. These improvements are maintained at Service Level C. The assessments for this District also fund in whole or in part, the sixteen (16) street lights identified within the District boundaries.

District 18-01: Bella Vista Units 1 through 4

The parcels assessed in this District (totaling 267 lots) include but are not limited to Tracts 918 and 919. The properties within this District proportionately share and receive special benefit from the maintenance, servicing, and operation of an estimated 185,001 square feet of designated landscape improvement area. These improvements are maintained at Service Level A. The assessments for this District also fund in whole or in part, the fifty-four (54) street lights identified within the District boundaries.

District 19-01: Pacific Grove Addition II

The parcels assessed in this District (totaling 22 lots) include but are not limited to Tract 916. The properties within this District proportionately share and receive special benefit from the maintenance, servicing, and operation of an estimated 13,128 square feet of designated landscape improvement area. These improvements are maintained at Service Level A. The assessments for this District also fund, in whole or in part, the eight (8) street lights identified within the District boundaries.

District 19-02: The Enclave

The parcels assessed in this District (totaling 66 lots) include but are not limited to Tract 915. The properties within this District proportionately share and receive special benefit from the maintenance, servicing, and operation of an estimated 16,466 square feet of designated landscape improvement area. These improvements are maintained at Service Level A.

District 20-01: Woodside Homes

The parcels assessed in this District (totaling 81 lots) include but are not limited to Tract 928. The properties within this District proportionately share and receive special benefit from the maintenance, servicing, and operation of an estimated 143,413 square feet of designated landscape improvement area. These improvements are maintained at Service Level A. The assessments for this District also fund, in whole or in part, the twenty-four (24) street lights identified within the District boundaries.

District 21-01: San Joaquin Valley Homes

The parcels assessed in this District (totaling 52 lots) include but are not limited to Tract 929. The properties within this District proportionately share and receive special benefit from the maintenance, servicing, and operation of an estimated 134,540 square feet of designated landscape improvement area. These improvements are maintained at Service Level A. The assessments for this District also fund, in whole or in part, the twenty-three (23) street lights identified within the District boundaries.

Part II - Method of Apportionment

Legislative Requirements for Assessments

The estimated costs to provide the proposed improvements for fiscal year 2024/2025 have been identified and allocated to properties within the Districts based on special benefit, consistent with the requirements of the 1972 Act and the assessment provisions of Proposition 218 (being contained in Article XIII D of the California Constitution). The improvements provided by these Districts and for which properties are assessed include local parks, basins, landscaping, and lighting improvements, as well as related amenities. The formulas used for calculating assessments within the designated Districts herein reflect the composition of parcels and the improvements and services to be provided and fairly apportion the cost of providing those improvements based on a determination of the proportional special benefits to each parcel.

Provisions of the 1972 Act

The 1972 Act permits the establishment of assessment districts by agencies for the purpose of providing certain public improvements, including the acquisition, construction, installation and servicing of landscape improvements and related facilities. The 1972 Act requires that the cost of these improvements be levied according to benefit rather than assessed value.

Section 22573 defines the net amount to be assessed as follows:

"The net amount to be assessed upon lands within an assessment district may be apportioned by any formula or method which fairly distributes the net amount among all assessable lots or parcels in proportion to the estimated benefits to be received by each such lot or parcel from the improvements."

Provisions of the California Constitution

In addition to the provisions of the 1972 Act, the Article XIII D of the California Constitution outlines specific requirements regarding assessments including the following:

Article XIII D Section 2d defines District as follows:

"District" means an area determined by an agency to contain all parcels which will receive a special benefit from a proposed public improvement or property-related service;"

Article XIII D Section 2i defines Special Benefit as follows:

"Special benefit" means a particular and distinct benefit over and above general benefits conferred on real property located in the district or to the public at large. General enhancement of property value does not constitute "special benefit."

Article XIII D Section 4a defines proportional special benefit assessments as follows:

"An agency which proposes to levy an assessment shall identify all parcels which will have a special benefit conferred upon them and upon which an assessment will be imposed. The proportionate special benefit derived by each identified parcel shall be determined in relationship to the entirety of the capital cost of a public improvement, the maintenance and operation expenses of a public improvement, or the cost of the property related service being provided. No assessment shall be imposed on any parcel which exceeds the reasonable cost of the proportional special benefit conferred on that parcel."

Benefit Analysis

Special Benefits

Landscaping Special Benefit

The ongoing maintenance of landscaped areas within the various Districts addressed in this Report provides aesthetic benefits to the properties and a more pleasant environment to walk, drive, live, and/or work. The primary function of these landscape improvements and related amenities is to serve as an aesthetically pleasing enhancement and green space for the benefit of the immediately surrounding properties and developments for which the improvements were constructed and installed and/or were facilitated by the development or potential development of properties within each respective District. These landscape improvements are an integral part of the physical environment associated with the parcels in each District and while some of the improvements may in part be visible to properties outside the District, collectively if the District improvements are not properly maintained, it is the parcels within the District that would be aesthetically burdened. Additionally, many of the landscaped areas being maintained in these Districts serve as both a physical buffer as well as a sound reduction buffer between the roadways and/or railroad and the properties within the District, and also serve as a pleasant aesthetic amenity that enhances the approach to the parcels. In some Districts, the landscaped areas may include green space areas (neighborhood parks, park/basins, greenbelts, open space and/or trails) that may provide a physical buffer between properties, overall open space within a development, and/or recreational areas that serve as an extension of the physical attributes of the parcels being assessed. Thus, the maintenance of these landscape improvements and the related amenities provide particular and distinct benefits to the properties and developments associated with those improvements within each District.

Street Lighting Special Benefit

The street lighting (localized street lighting) is primarily useful for illuminating the sidewalks and parking lanes on the streets used specifically to access the properties and/or is adjacent to those properties that comprise each particular District. This lighting is distinct from lights that may be installed that serve in large part to enhance traffic safety, such as traffic signals and intersection safety lights or the more sporadic lighting found on major thoroughfares outside the more concentrated development areas. These localized street lights tend to be more closely spaced and of a lower intensity than street lights installed primarily for traffic safety. These low-level, lower-intensity street lights within a designated District provide three main special benefits: (i) property security benefit, (ii) pedestrian safety benefit, and (iii) parkway/roadway egress benefit. Because traffic to and from these parcels is largely limited to the residents and residents' guests, it is reasonable to assume that essentially all pedestrians and parking vehicles in the lit areas will, after dark, be directly associated with the properties in that District and that the vehicular traffic on those streets is primarily for accessing the properties within that area. Therefore, street lighting on such streets is entirely a special benefit to those properties.

In addition, the street lights for which properties within the Districts may be assessed, are consistent with the City's typical intensity and spacing standards for areas zoned for residential development and each parcel to be assessed is served directly by the system of street lights providing appropriate lighting within these respective development areas. Furthermore, the cost of maintaining and operating each light is substantially the same, regardless of its location within the District. Consequently, we conclude that each parcel to be assessed for street lighting receives substantially similar benefit from the street light improvements and the only notable distinctions in proportional special benefit to each parcel is related to the specific quantity of lights associated with each District.

General Benefit

Landscaping General Benefit

In reviewing the location and extent of the specific landscaped areas and improvements to be funded by each District's assessments and the proximity and relationship to properties to be assessed in each District, it is evident these improvements were primarily installed in connection with the development of properties therein or are improvements that would otherwise be shared by and required for development of properties in each respective District. It is also evident that the maintenance of these improvements and the level of maintenance provided has a direct and particular impact (special benefit) only on those properties in proximity to those improvements. Furthermore, such maintenance beyond that which is required to ensure the safety and protection of the general public and property in general, has no quantifiable benefit to the public at large or properties outside each respective District.

In the absence of a special funding district, the City would typically provide only limited (as needed) tree management, weed abatement, rodent control, and erosion control services for the landscape areas currently maintained within each District. This baseline level of service would typically provide for periodic servicing of the improvement areas on an as-needed basis, but typically not more than twice annually. This baseline level of service provides for public safety and essential property protection to avoid negative impacts on adjacent roadways and vehicles traveling on those roadways and potential property damage resulting from erosion or fire hazards but results in a far less visually pleasing environment than is created with the enhanced levels of services associated with the regular landscape maintenance provided in the various Districts. For most agencies, the cost to provide this baseline level of service for mostly flat or moderately-sloped street landscaped areas (landscaping within the street right-of way) is less than \$560 per acre (approximately \$0.01285 per square foot) including medians, parkway and streetscape side panels; less than \$448 per acre (approximately \$0.01028 per square foot) for non-street public areas such as parks, park/basins, greenbelts, and trail areas; and less than \$224 per acre (approximately \$0.00514 per square foot) for natural open space areas or other limited access areas such as enclosed basin areas. This baseline servicing, unlike the enhanced aesthetic services funded through the District assessments, would provide benefits to the general public and to the properties both within and outside of the specific Districts. The cost of providing this baseline service along with a five percent (5%) cost factor for City overhead and administration is treated as the cost of general benefit from landscape maintenance services. Therefore, for mostly flat or moderately-sloped street landscaped areas a rate of \$0.01349 per square foot ($\$0.01285 + 5\%$) is applied to calculate the general benefit costs for the assessed improvements; for non-street public areas a rate of \$0.01079 per square foot ($\$0.01028 + 5\%$) is applied to calculate the general benefit costs for the assessed improvements; and for non-street public areas a rate of \$0.00540 per square foot ($\$0.00514 + 5\%$) is applied to calculate the general benefit costs for the assessed improvements. Collectively these baseline general benefit costs are funded by the City and excluded from the potential assessment funding and are shown in the District budgets (Part III of this Report) as "General Benefit."

Street Lighting General Benefit

For fiscal year 2024/2025, not all Districts are assessed for street light improvements. While potentially, some street lights associated with a given District, may be located at the entryway or on the perimeter of the development(s) within the District and may arguably provide some illumination that extends beyond the boundaries of the developments and parcels being assessed, and may indirectly enhance the safety of members of the public unassociated with the assessed parcels (illuminating traffic lanes and/or parking on those perimeter streets), such benefits are considered an indirect consequence of the special benefits to properties within the Districts. Furthermore, if the properties within the Districts were not developed, any street lights that may be located at the entryways or on the perimeter of the developments would not have been installed. Clearly these street lights exist solely because of the development of assessed parcels, and the primary purpose of these lights is to provide illumination to access the assessed parcels. Therefore we conclude that the cost of providing the street lights within the existing Districts are entirely a special benefit to the properties being assessed in each District and there is no quantifiable general benefit to properties outside the Districts or the public at large.

Assessment Methodology

To assess benefits equitably it is necessary to calculate each property's proportionate special benefits conferred by the funded improvements and service. The Equivalent Benefit Unit (EBU) method of assessment apportionment is commonly utilized for assessment districts formed under the 1972 Act, as the benefit to each parcel from the improvements may be apportioned as a function of comparable property characteristics which utilizes a basic unit (base value) of benefit and then calculates the benefit derived by each assessed parcel either at that base unit or as a multiple (or a fraction) of that basic unit. In accordance with the provisions of the California Constitution and the 1972 Act, the proportionate special benefit derived by each identified parcel within the various Districts shall be determined in relationship to the entirety of the cost to maintain, operate and service the improvements within each District. Consistent with the method of apportionment established at the formation of each District, it has been determined that the developments and/or planned development of the properties within each District required or facilitated the installation of the improvements to be funded in whole or in part by the District assessments, and that such improvements (both landscaping and lighting) would otherwise not be necessary and those improvements benefit each lot/parcel equally. Therefore, collectively the particular and distinct benefits to each lot/parcel within each respective District are equally shared and one hundred percent (100%) of the fiscal year 2024/2025 special benefit expenses is proportionately and equally allocated and shared by each development lot and each of these parcels/lots are assigned one (1.0) EBU, excluding parcels or lots that may be part of the improvement areas being maintained.

Calculation of Assessments

An assessment amount per Lot or Equivalent Benefit Unit (EBU) in each District is calculated in the following manner.

Taking the "Total Annual Expenses" (Total Budgeted Costs) and subtracting the "General Benefit" (Expenses Funded by the City), to establish the "Special Benefit Expenses;"

Total Annual Expenses - General Benefit = Special Benefit Expenses

To the resulting "Special Benefit Expenses," various "Funding Adjustments" may be applied that may include, but are not limited to:

- "Reserve Fund Collection or (Transfer)," represents an amount being collected and added to the Reserve Fund or available existing Reserve Funds being applied ("Transferred") to pay a portion of the Special Benefit Expenses for the fiscal year.
- "City Loan and/or Service Reductions," represents a further adjustment that addresses the funding gap between the amount budgeted to provide the improvements and services ("Special Benefit Expenses"); and the amount that will be collected through the assessments. This funding gap may be addressed by an additional City contribution, reductions in service and service expenses, or a combination of the two. If the City provides an additional City Contribution to support the operation and maintenance for a given fiscal year, that contribution is carried forward as a deficit applied to the Beginning Fund Balance in the next fiscal year.

These adjustments to the Special Benefit Expenses result in the net special benefit amount to be assessed "Balance to Levy;"

Special Benefit Expenses +/- Funding Adjustments = Balance to Levy

The amount identified as the "Balance to Levy" is divided by the total number of Lots or EBUs for the parcels that receive special benefit to establish the "Assessment Rate" for the fiscal year. This Rate is then applied back to each parcel's individual EBU to calculate the parcel's proportionate special benefit and assessment for the improvements.

Balance to Levy / Total Lots/EBUs = Assessment Rate (for the fiscal year)

Assessment Rate x Parcel's EBU = Parcel Assessment Amount

Part III - Estimate of Costs

Annual Inflationary Adjustment (Assessment Range Formula)

Pursuant to Article XIII D of the California Constitution (Proposition 218), any “new or increased assessments” require certain noticing and balloting requirements. However, Government Code Section 54954.6(a) provides that a “new or increased assessment” does not include “*an assessment which does not exceed an assessment formula or range of assessments...previously adopted by the agency or approved by the voters in the area where the assessment is imposed.*” This definition of a new or increased assessment is reaffirmed in the Proposition 218 Omnibus Implementation Act, Government Code Section 53753.5.

Currently, the maximum assessment rates identified in this Report for Districts 90-01, 90-02, 90-03, 90-04, 91-01, 92-01, 92-02, 93-01, 94-01, 94-02, 94-03, 97-01, 97-02, 97-03, 98-01, and 98-02 are fixed maximum assessment rates that do not include any inflationary adjustment.

However, either at the time of formation or in a subsequent proceeding the maximum assessments for Districts 93-02, 01-01, 01-02, 01-03, 01-04, 02-01, 03-01, 04-01, 04-02, 04-03, 04-04, 05-01, 05-02, 06-01, 07-02, 09-01, 09-02, 14-01, 15-01, 15-02, 16-01, 16-02, 18-01, 19-01, 19-02, 20-01, and 21-01 were balloted for a new or increased assessments that include an inflationary adjustment (assessment range formula).

As previously adopted and approved by the City Council for the Districts with an inflationary adjustment, each fiscal year the maximum assessment rate established for the improvements in the previous fiscal year for each District may be adjusted by the percentage increase in the Local Consumer Price Index (CPI). The Consumer Price Index used for the inflationary adjustment shall be for Urban Wage Earners and Clerical Workers, San Francisco-Oakland-San Jose Area, as developed by U.S. Bureau of Labor Statistics. The CPI used shall be as determined by the Bureau of Labor Statistics for a similar period of time.

January 1, of each calendar year (“Adjustment Date”), the City shall identify the percentage change in the CPI, using the difference over a 12-month period between the current year and of the previous year as of the Adjustment Date (typically December to December). This percentage difference shall then establish the range of increase to the maximum assessment rates allowed. If the percentage change in the CPI is negative, the maximum assessment rates shall not be adjusted from the previous fiscal year (unchanged). Should the Bureau of Labor Statistics revise such index or discontinue the preparation of such index, the Bureau of Labor Statistics will be the sole judge of the comparability of successive indexes, but if the Bureau of Labor Statistics fail to supply indexes it deems comparable or if no succeeding index is published, the City shall determine an appropriate published price index as approved by the City Council for determining fluctuations in the cost of living.

The annual change in CPI from December 2022 to December 2023 as reported by the U.S. Bureau of Labor Statistics was 2.8 percent. Therefore, the maximum assessment rates for fiscal year 2023/2024 will be increased by 2.8 percent for fiscal year 2024/2025 in those Districts with a previously approved inflationary adjustment including, Districts 93-02, 01-01, 01-02, 01-03, 01-04, 02-01, 03-01, 04-01, 04-02, 04-03, 04-04, 05-01, 05-02, 06-01, 07-02, 09-01, 09-02, 14-01, 15-01, 15-02, 16-01, 16-02, 18-01, 19-01, 19-02, 20-01, and 21-01.

This assessment range formula or inflationary adjustment provides for the District maximum assessment rate applicable for the prior fiscal year to be increased each subsequent fiscal year which is consistent with the California Constitution and the above-referenced Government Code sections.

The adoption of the maximum assessment rates and the Assessment Range Formula does not mean that the annual assessments will necessarily increase each fiscal year, nor does it absolutely restrict the assessments to the annually adjusted maximum assessment rate. Although the maximum assessment rate that may be levied shall be increased by this assessment range formula for each applicable District each fiscal year, the actual amount to be assessed will be based on the Balance to Levy for that fiscal year. If the calculated assessment rate is less than the adjusted maximum assessment rate, then the calculated assessment rate may be approved by the City Council for collection. If the calculated assessment rate (based on the proposed budget) is greater than the adjusted maximum assessment rate for that fiscal year, then the assessment would be considered an increased assessment and would require property owner approval through a protest ballot proceeding before imposing such an increase. Otherwise, it would be necessary to reduce the budget or provide funding from other sources to the City to reduce the Balance to Levy to an amount that can be supported by an assessment rate less than or equal to the adjusted maximum assessment rate authorized for that fiscal year.

Annual District Budgets

The following budget pages outline the estimated costs to maintain and service the various landscaping and lighting improvements described in this Report for fiscal year 2024/2025.

The budgeted expenses outlined in the following pages for each District reflect the estimated annual expenses required to support and maintain the improvements to be provided for fiscal year 2024/2025. The Total Annual Expenses minus the general benefit expenses (expenses not assessed and identified as the City's financial obligation to support the improvements) plus any Reserve Fund Collection result in the amount of funding the property owners should reasonably be assessed to fully fund their proportional special benefit from those improvements. Negative Funding Adjustments (Reserve Fund Transfers or City Loan and/or Service Reductions) represent additional funding that is required from either the existing Reserve Funds or from the City to fully support the maintenance and servicing of the improvements.

Budgets for Fund Numbers 0240 through 0261 (Districts 90-01 through 02-01)

Fund No.	District No.	Direct Maintenance Expenses	Incidental Expenses (Admin.)	Total Annual Expenses	General Benefit	Special Benefit Expenses	Reserve Fund Collection or (Transfer)	City Loan and/or Service Reductions	Balance to Levy	EBUs	FY 2024/2025 Assessment Rate	Maximum Assessment Rate	Beginning Fund Balance	Fund Balance Additions or Deficits	Estimated Ending Fund Balance
0240	90-01	\$ 33,984	\$ 4,794	\$ 38,778	\$ (883)	\$ 37,895	\$ 11,208	\$ -	\$ 49,103	352	\$139.50	\$139.50	\$ 56,917	\$ 11,208	\$ 68,125
0241	90-02	\$ 2,819	\$ 591	\$ 3,409	\$ (116)	\$ 3,293	\$ 1,053	\$ -	\$ 4,346	53	\$82.00	\$82.00	\$ 4,875	\$ 1,053	\$ 5,928
0242	90-03	\$ 3,676	\$ 940	\$ 4,616	\$ (222)	\$ 4,394	\$ -	\$ (270)	\$ 4,125	84	\$49.10	\$49.10	\$ (3,137)	\$ (270)	\$ (3,407)
0243	90-04	\$ 1,045	\$ 158	\$ 1,203	\$ (19)	\$ 1,184	\$ -	\$ (312)	\$ 872	14	\$62.30	\$62.30	\$ (1,880)	\$ (312)	\$ (2,191)
0244	91-01	\$ 4,173	\$ 2,171	\$ 6,344	\$ (142)	\$ 6,202	\$ -	\$ (986)	\$ 5,216	285	\$18.30	\$18.30	\$ (2,126)	\$ (986)	\$ (3,112)
0245	92-01	\$ 4,321	\$ 973	\$ 5,294	\$ (259)	\$ 5,036	\$ -	\$ (1,073)	\$ 3,962	78	\$50.80	\$50.80	\$ (7,879)	\$ (1,073)	\$ (8,952)
0246	92-02	\$ 2,030	\$ 881	\$ 2,911	\$ (158)	\$ 2,753	\$ 60	\$ -	\$ 2,813	98	\$28.70	\$28.70	\$ 111	\$ 60	\$ 171
0247	93-01	\$ 3,309	\$ 489	\$ 3,797	\$ (140)	\$ 3,658	\$ 802	\$ -	\$ 4,460	29	\$153.80	\$153.80	\$ 5,154	\$ 802	\$ 5,956
0248	93-02	\$ 5,053	\$ 1,525	\$ 6,579	\$ (201)	\$ 6,377	\$ 1,803	\$ -	\$ 8,180	169	\$48.40	\$48.42	\$ (4,043)	\$ 1,803	\$ (2,240)
0249	94-01	\$ 4,142	\$ 1,028	\$ 5,171	\$ (66)	\$ 5,104	\$ -	\$ (2,130)	\$ 2,975	114	\$26.10	\$26.10	\$ (12,556)	\$ (2,130)	\$ (14,685)
0250	94-02	\$ 38,837	\$ 7,766	\$ 46,603	\$ (1,488)	\$ 45,114	\$ 871	\$ -	\$ 45,985	541	\$85.00	\$85.00	\$ (7,885)	\$ 871	\$ (7,014)
0251	94-03	\$ 20,335	\$ 4,292	\$ 24,627	\$ (1,255)	\$ 23,371	\$ -	\$ (7,322)	\$ 16,049	272	\$59.00	\$59.00	\$ (32,890)	\$ (7,322)	\$ (40,212)
0252	97-01	\$ 1,290	\$ 429	\$ 1,718	\$ (85)	\$ 1,633	\$ 624	\$ -	\$ 2,257	44	\$51.30	\$51.30	\$ (530)	\$ 624	\$ 94
0253	97-02	\$ 1,322	\$ 318	\$ 1,640	\$ (63)	\$ 1,577	\$ -	\$ (296)	\$ 1,281	30	\$42.70	\$42.70	\$ (3,374)	\$ (296)	\$ (3,670)
0254	97-03	\$ 12,226	\$ 2,821	\$ 15,048	\$ (626)	\$ 14,422	\$ 1,253	\$ -	\$ 15,674	250	\$62.70	\$62.70	\$ (9,409)	\$ 1,253	\$ (8,156)
0255	98-01	\$ 5,454	\$ 1,257	\$ 6,711	\$ (195)	\$ 6,516	\$ -	\$ (1,729)	\$ 4,787	126	\$38.00	\$38.00	\$ (6,943)	\$ (1,729)	\$ (8,672)
0256	98-02	\$ 8,392	\$ 1,864	\$ 10,255	\$ (418)	\$ 9,837	\$ 4,581	\$ -	\$ 14,418	162	\$89.00	\$89.00	\$ 19,626	\$ 4,581	\$ 24,207
0257	01-01	\$ 4,221	\$ 1,303	\$ 5,524	\$ (135)	\$ 5,389	\$ (469)	\$ -	\$ 4,920	148	\$33.24	\$49.30	\$ 14,839	\$ (469)	\$ 14,369
0258	01-02	\$ 6,023	\$ 2,046	\$ 8,069	\$ (291)	\$ 7,779	\$ 1,928	\$ -	\$ 9,707	199	\$48.78	\$48.79	\$ 2,728	\$ 1,928	\$ 4,657
0259	01-03	\$ 3,237	\$ 864	\$ 4,100	\$ (159)	\$ 3,941	\$ (176)	\$ -	\$ 3,765	86	\$43.78	\$69.08	\$ 16,561	\$ (176)	\$ 16,385
0260	01-04	\$ 27,160	\$ 5,741	\$ 32,901	\$ (1,289)	\$ 31,612	\$ 6,049	\$ -	\$ 37,660	489	\$77.02	\$77.03	\$ 12,449	\$ 6,049	\$ 18,498
0261	02-01	\$ 16,753	\$ 2,865	\$ 19,618	\$ (862)	\$ 18,756	\$ 4,614	\$ -	\$ 23,369	182	\$128.40	\$128.41	\$ 6,255	\$ 4,614	\$ 10,869

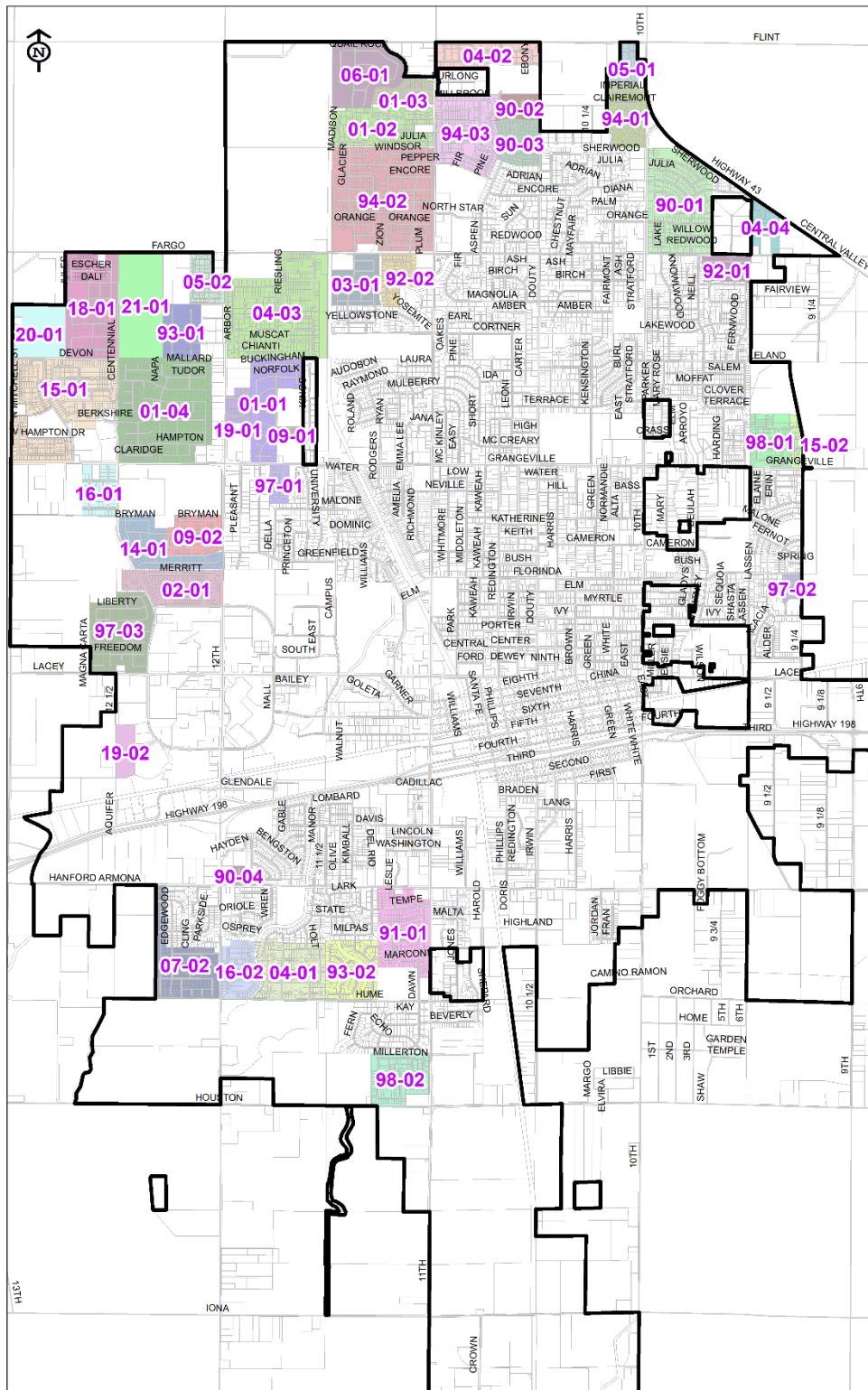
Budgets for Fund Numbers 0262 through 0282 (Districts 03-01 through 21-01)

Fund No.	District No.	Direct Maintenance Expenses	Incidental Expenses (Admin.)	Total Annual Expenses	General Benefit	Special Benefit Expenses	Reserve Fund Collection or (Transfer)	City Loan and/or Service Reductions	Balance to Levy	EBUs	FY 2024/2025 Assessment Rate	Maximum Assessment Rate	Beginning Fund Balance	Fund Balance Additions or Deficits	Estimated Ending Fund Balance
0262	03-01	\$ 7,301	\$ 1,594	\$ 8,896	\$ (236)	\$ 8,659	\$ (27)	\$ -	\$ 8,632	128	\$67.44	\$83.48	\$ 29,117	\$ (27)	\$ 29,090
0263	04-01	\$ 7,183	\$ 2,112	\$ 9,296	\$ (290)	\$ 9,005	\$ (781)	\$ -	\$ 8,225	233	\$35.30	\$47.63	\$ 48,996	\$ (781)	\$ 48,216
0264	04-02	\$ 17,980	\$ 2,251	\$ 20,231	\$ (793)	\$ 19,438	\$ 236	\$ -	\$ 19,674	75	\$262.32	\$269.67	\$ 34,105	\$ 236	\$ 34,341
0265	04-03	\$ 45,880	\$ 7,405	\$ 53,285	\$ (1,893)	\$ 51,392	\$ 17,181	\$ -	\$ 68,573	445	\$154.10	\$154.11	\$ 38,536	\$ 17,181	\$ 55,718
0266	04-04	\$ 7,149	\$ 685	\$ 7,834	\$ (206)	\$ 7,628	\$ (99)	\$ -	\$ 7,529	20	\$376.44	\$539.35	\$ 21,605	\$ (99)	\$ 21,506
0267	05-01	\$ 2,638	\$ 434	\$ 3,072	\$ (46)	\$ 3,026	\$ (210)	\$ -	\$ 2,816	38	\$74.10	\$143.37	\$ 13,123	\$ (210)	\$ 12,913
0268	05-02	\$ 10,708	\$ 2,090	\$ 12,798	\$ (595)	\$ 12,203	\$ (155)	\$ -	\$ 12,048	150	\$80.32	\$121.99	\$ 25,673	\$ (155)	\$ 25,519
0269	06-01	\$ 27,792	\$ 4,389	\$ 32,181	\$ (1,317)	\$ 30,864	\$ 1,571	\$ -	\$ 32,435	144	\$225.24	\$225.25	\$ (4,790)	\$ 1,571	\$ (3,219)
0272	07-02	\$ 6,269	\$ 2,386	\$ 8,655	\$ (397)	\$ 8,258	\$ (827)	\$ -	\$ 7,431	265	\$28.04	\$154.11	\$ 83,343	\$ (827)	\$ 82,516
0270	09-01	\$ 2,089	\$ 290	\$ 2,378	\$ (95)	\$ 2,283	\$ (139)	\$ -	\$ 2,143	14	\$153.10	\$288.94	\$ 10,187	\$ (139)	\$ 10,048
0271	09-02	\$ 19,940	\$ 2,520	\$ 22,460	\$ (703)	\$ 21,756	\$ 3,533	\$ -	\$ 25,289	121	\$209.00	\$224.74	\$ 33,734	\$ 3,533	\$ 37,267
0273	14-01	\$ 30,510	\$ 3,652	\$ 34,162	\$ (1,033)	\$ 33,130	\$ 2,319	\$ -	\$ 35,448	175	\$202.56	\$264.71	\$ 56,460	\$ 2,319	\$ 58,779
0274	15-01	\$ 152,558	\$ 16,142	\$ 168,700	\$ (5,563)	\$ 163,137	\$ 32,648	\$ -	\$ 195,785	467	\$419.24	\$502.83	\$ 208,875	\$ 32,648	\$ 241,522
0275	15-02	\$ 9,283	\$ 890	\$ 10,173	\$ (221)	\$ 9,951	\$ (1,338)	\$ -	\$ 8,613	34	\$253.32	\$253.33	\$ 2,142	\$ (1,338)	\$ 803
0276	16-01	\$ 12,475	\$ 1,294	\$ 13,769	\$ (340)	\$ 13,429	\$ (1,012)	\$ -	\$ 12,417	54	\$229.94	\$229.95	\$ (6)	\$ (1,012)	\$ (1,018)
0277	16-02	\$ 9,713	\$ 1,624	\$ 11,337	\$ (423)	\$ 10,914	\$ (1,125)	\$ -	\$ 9,788	113	\$86.62	\$173.51	\$ 28,045	\$ (1,125)	\$ 26,920
0278	18-01	\$ 72,920	\$ 7,812	\$ 80,732	\$ (2,496)	\$ 78,236	\$ 15,028	\$ -	\$ 93,264	267	\$349.30	\$532.51	\$ 162,804	\$ 15,028	\$ 177,831
0279	19-01	\$ 10,638	\$ 830	\$ 11,467	\$ (177)	\$ 11,290	\$ 937	\$ -	\$ 12,227	22	\$555.78	\$581.62	\$ 9,150	\$ 937	\$ 10,086
0280	19-02	\$ 7,396	\$ 1,002	\$ 8,398	\$ (222)	\$ 8,176	\$ 3,878	\$ -	\$ 12,054	66	\$182.64	\$481.57	\$ 5,770	\$ 3,878	\$ 9,648
0281	20-01	\$ 42,399	\$ 4,598	\$ 46,997	\$ (1,935)	\$ 45,062	\$ 8,466	\$ -	\$ 53,528	80	\$669.10	\$708.41	\$ 39,406	\$ 8,466	\$ 47,872
0282	21-01	\$ 47,574	\$ 4,560	\$ 52,134	\$ (1,815)	\$ 50,319	\$ 5,662	\$ -	\$ 55,981	56	\$999.66	\$1,131.54	\$ 64,457	\$ 5,662	\$ 70,119
District Totals		\$ 760,193	\$ 113,674	\$ 873,867	\$ (29,869)	\$ 843,998	\$ 119,945	\$ (14,117)	\$ 949,826	6,772			\$ 957,596	\$ 105,828	\$ 1,063,424

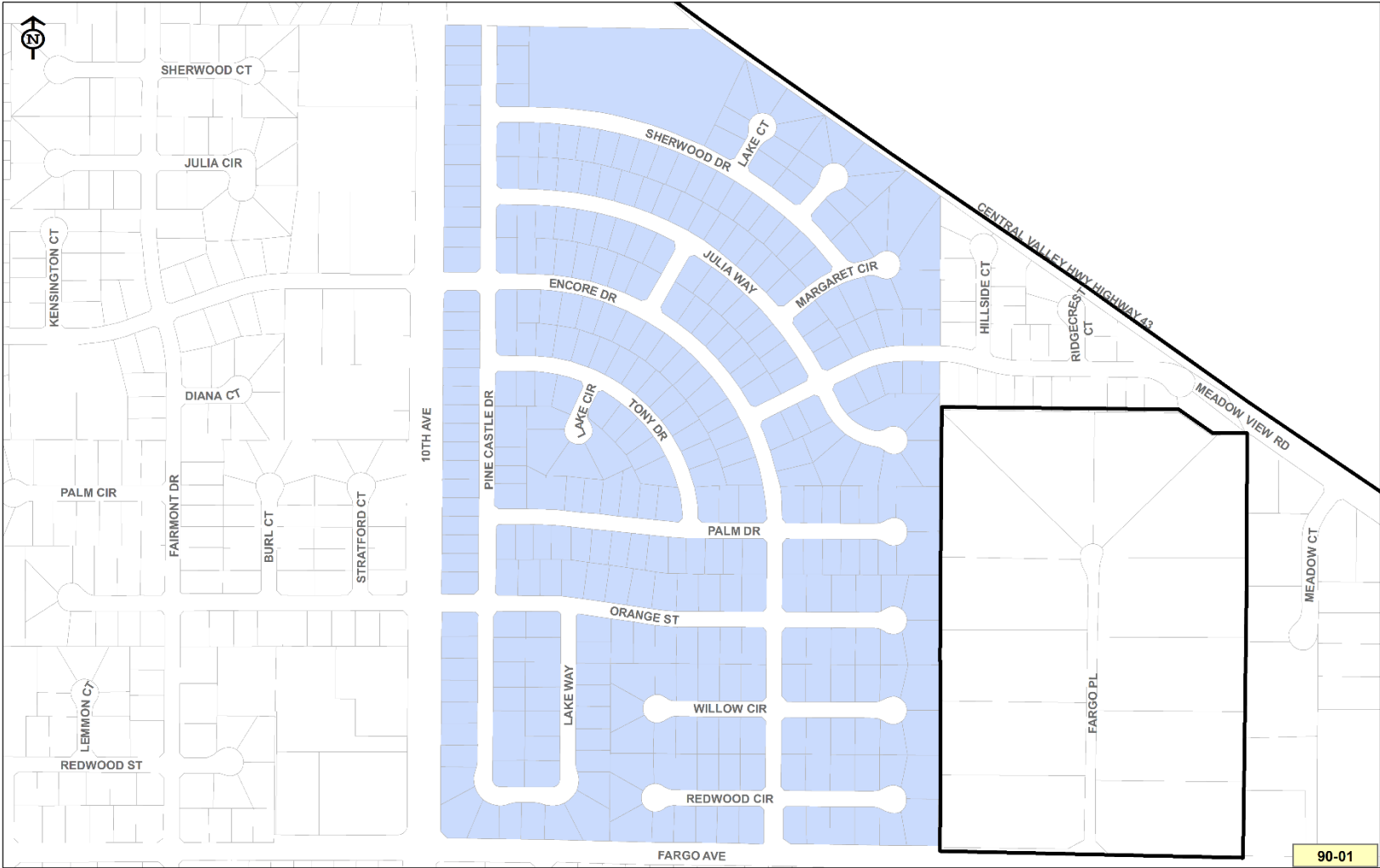
Part IV - District Diagrams

The following pages contain an Overview LLMD Diagram showing the general location of the Districts within the City of Hanford for fiscal year 2024/2025 described within this Report as well as individual District Diagrams for each of the individual Districts, which incorporates the parcels determined to receive special benefits from the various District improvements. All parcels that will receive a special benefit from the improvements provided within each District consist of all lots, parcels and subdivisions of land within the boundaries of those Districts as depicted by these diagrams and the lines and dimensions of those lots, parcels and subdivisions of land shall be those lines and dimensions shown on the current Kings County Assessor's parcel maps and by reference the Kings County Assessor's parcel maps are incorporated herein and made part of this Report. This diagram along with the Assessment Roll incorporated in this Report constitute the District Assessment Diagram for each District for fiscal year 2024/2025.

Overview LLMD Diagram

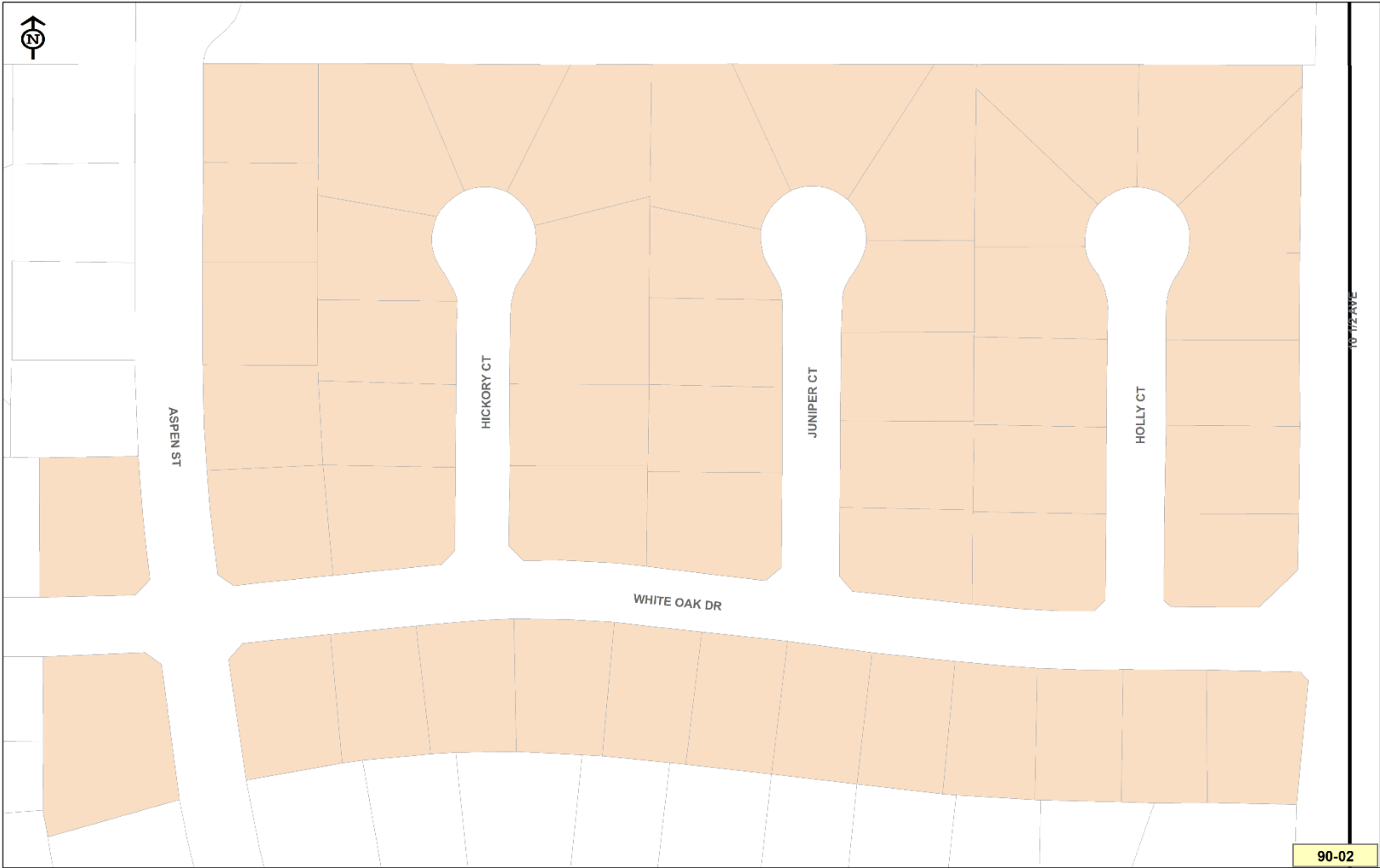


District 90-01: Pinecastle Addition Units 1 through 4



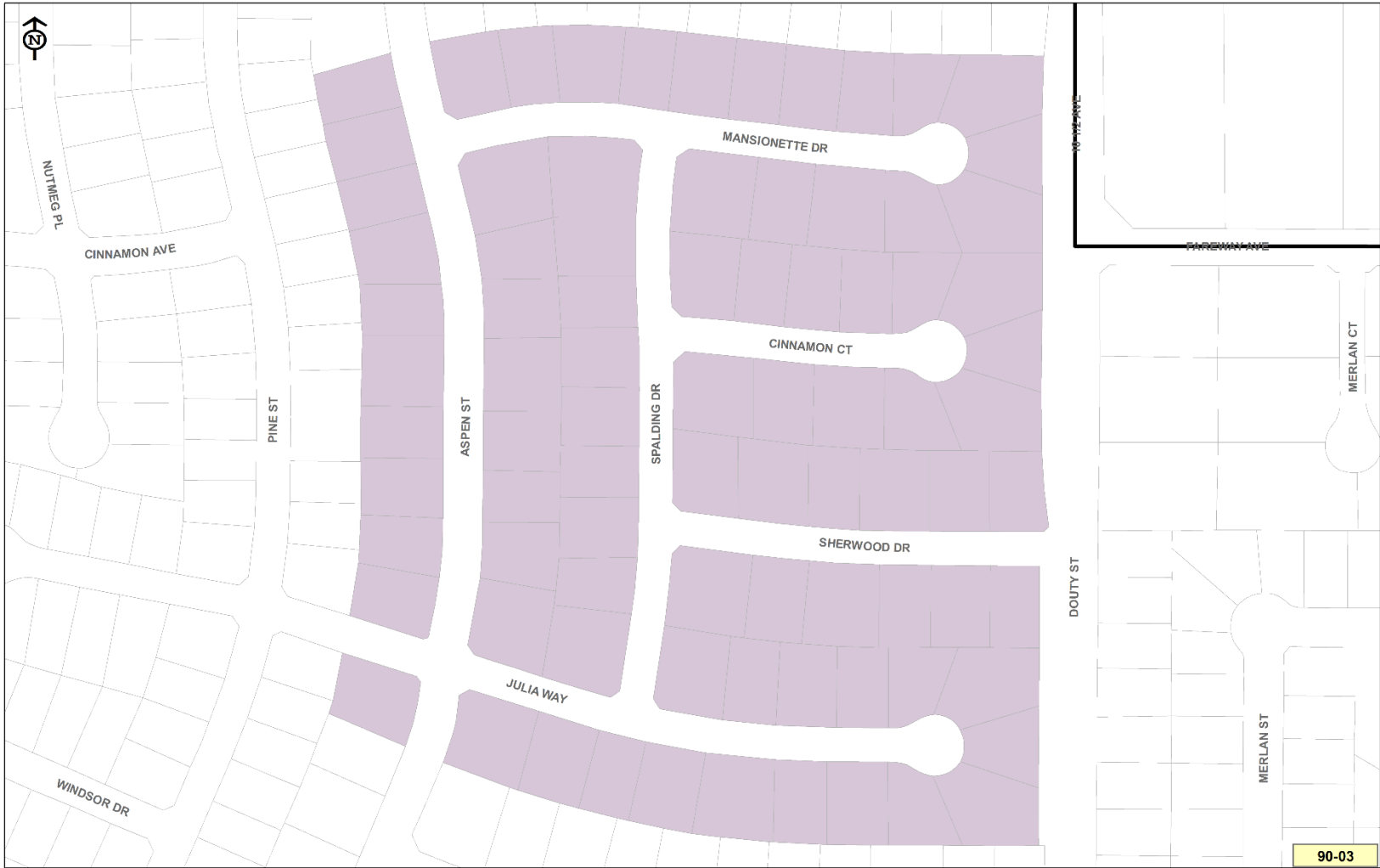
Date: 4/26/2022

District 90-02: Park Monterey Units 1 and 2



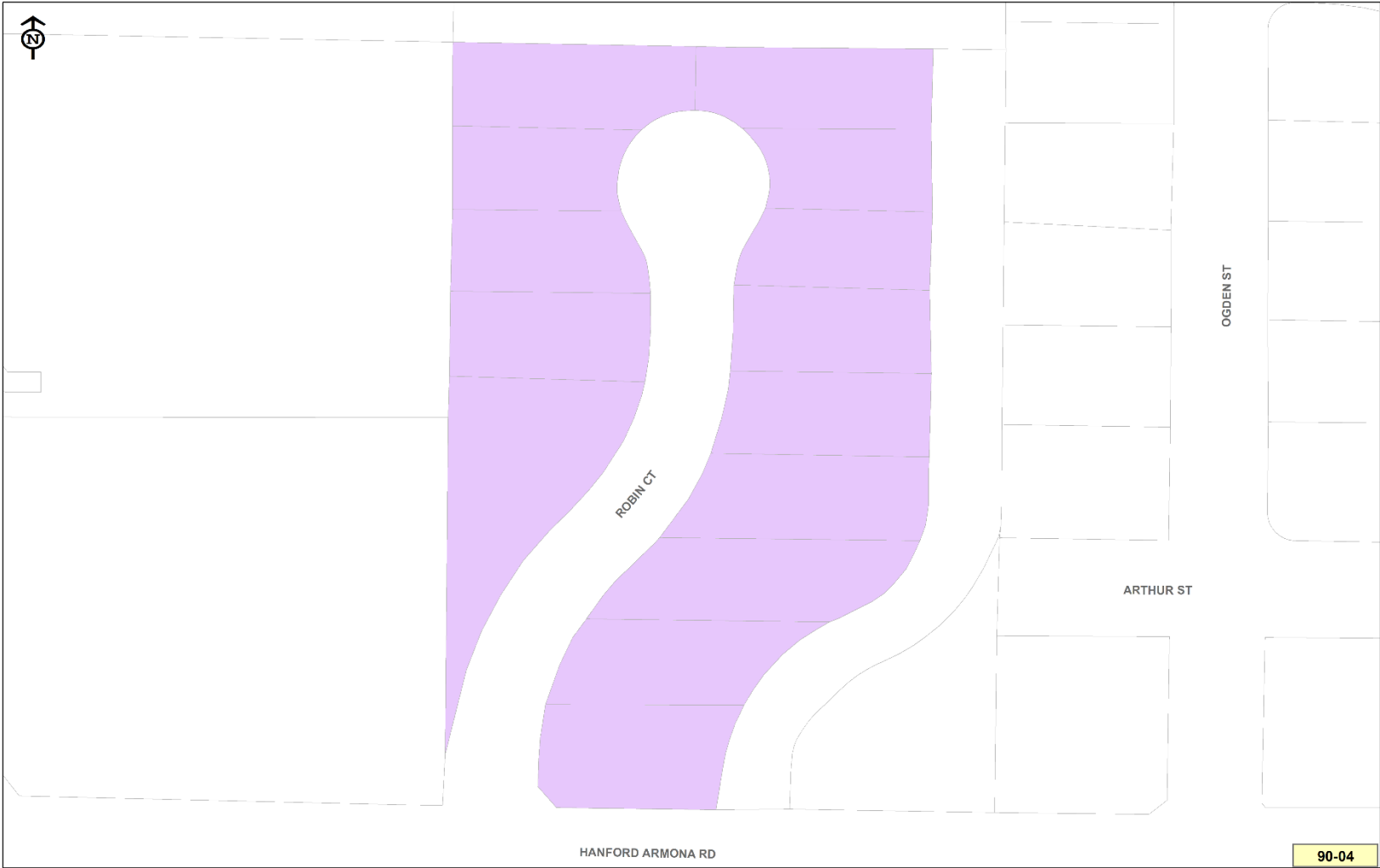
Date: 4/26/2022

District 90-03: Mansionette Units 7 and 8



Date: 4/26/2022

District 90-04: Hyde Park

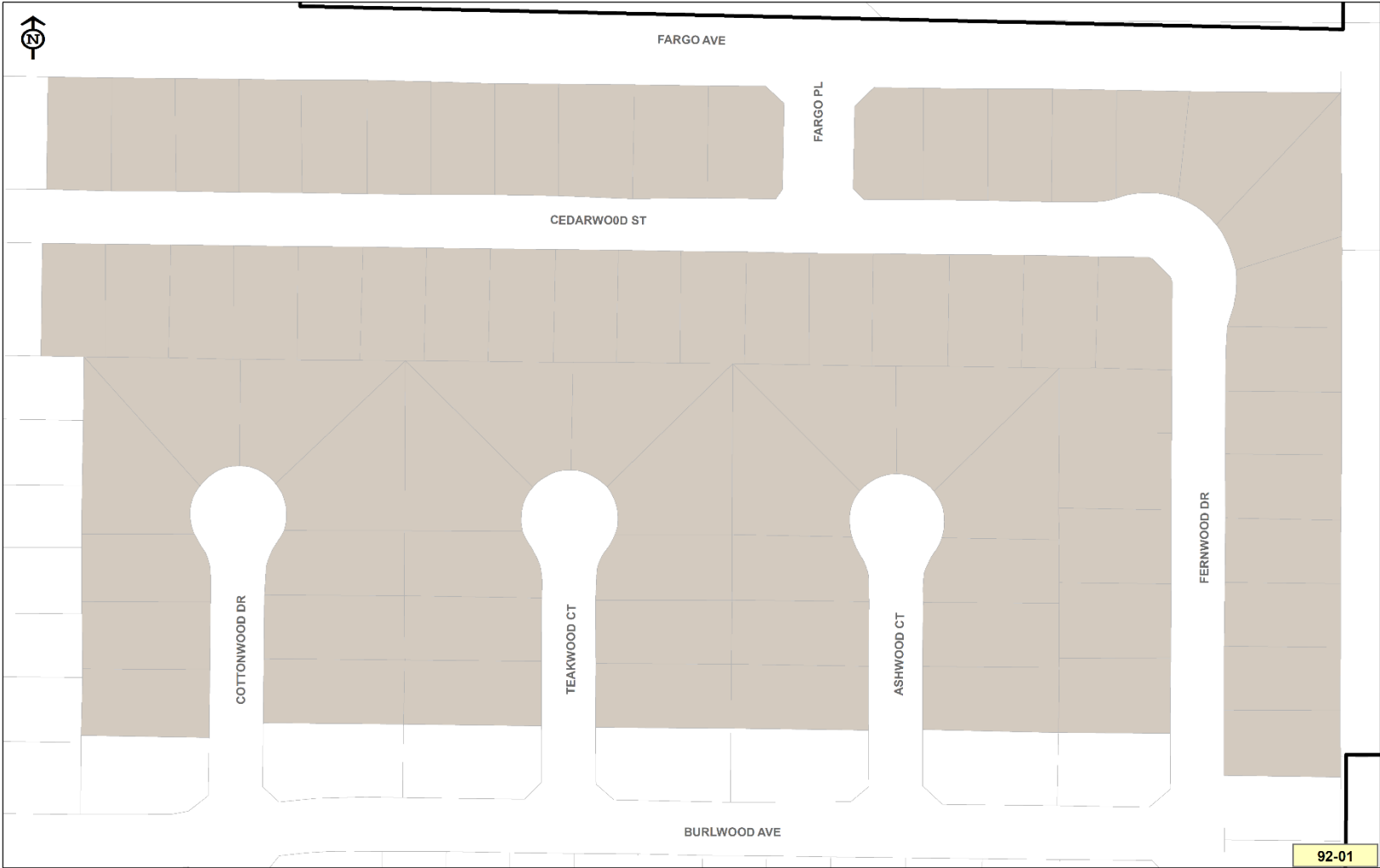


Date: 4/26/2022

District 91-01: Sierra Vista & New Dimensions Units 1 through 5



District 92-01: Portofino Unit Units 1 through 4



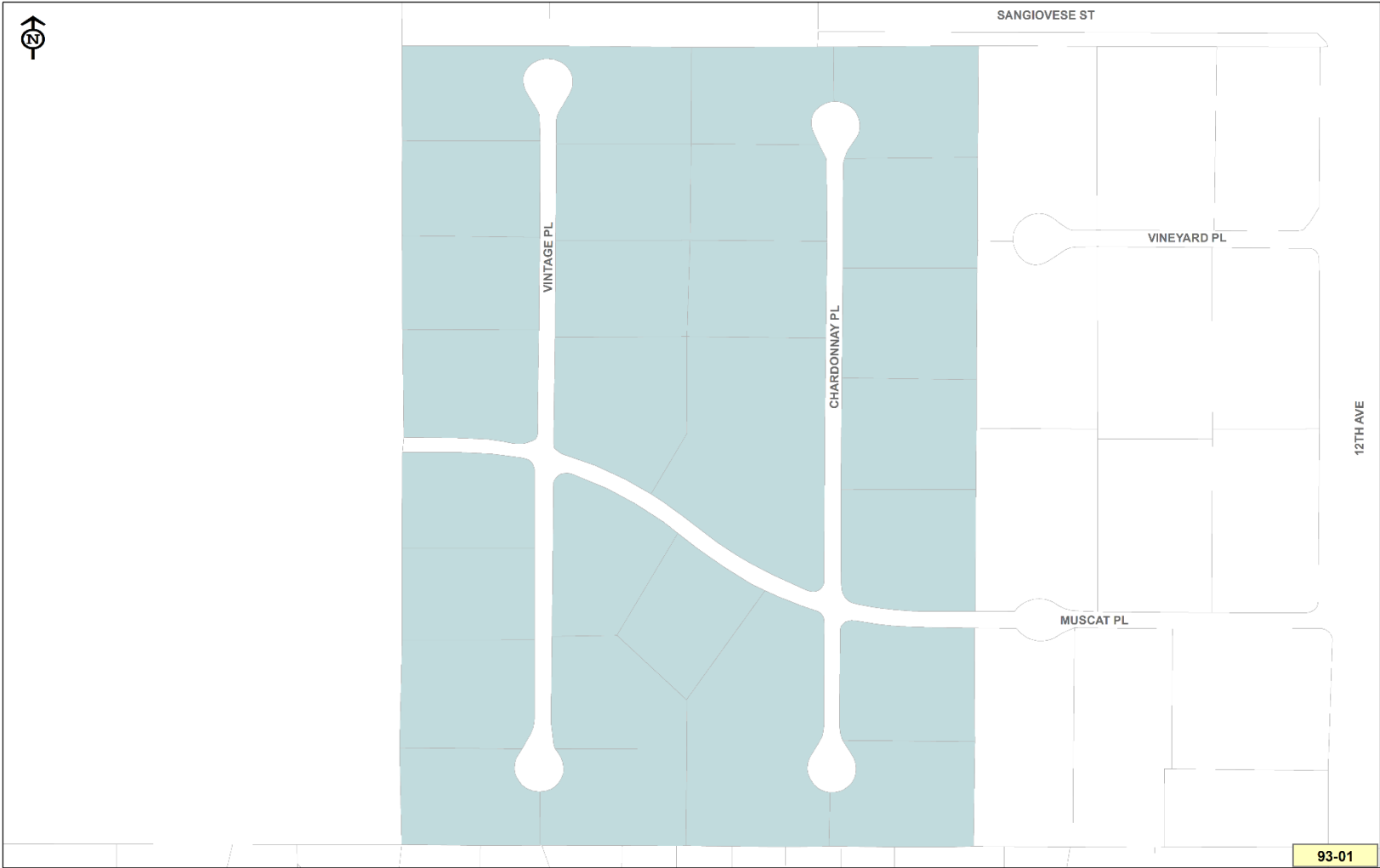
Date: 4/26/2022

District 92-02: Cielo En Tierra Units 1 through 5



Date: 4/26/2022

District 93-01: Vintage Estates



Date: 4/26/2022

District 93-02: Walnut Forest Units 1 through 3

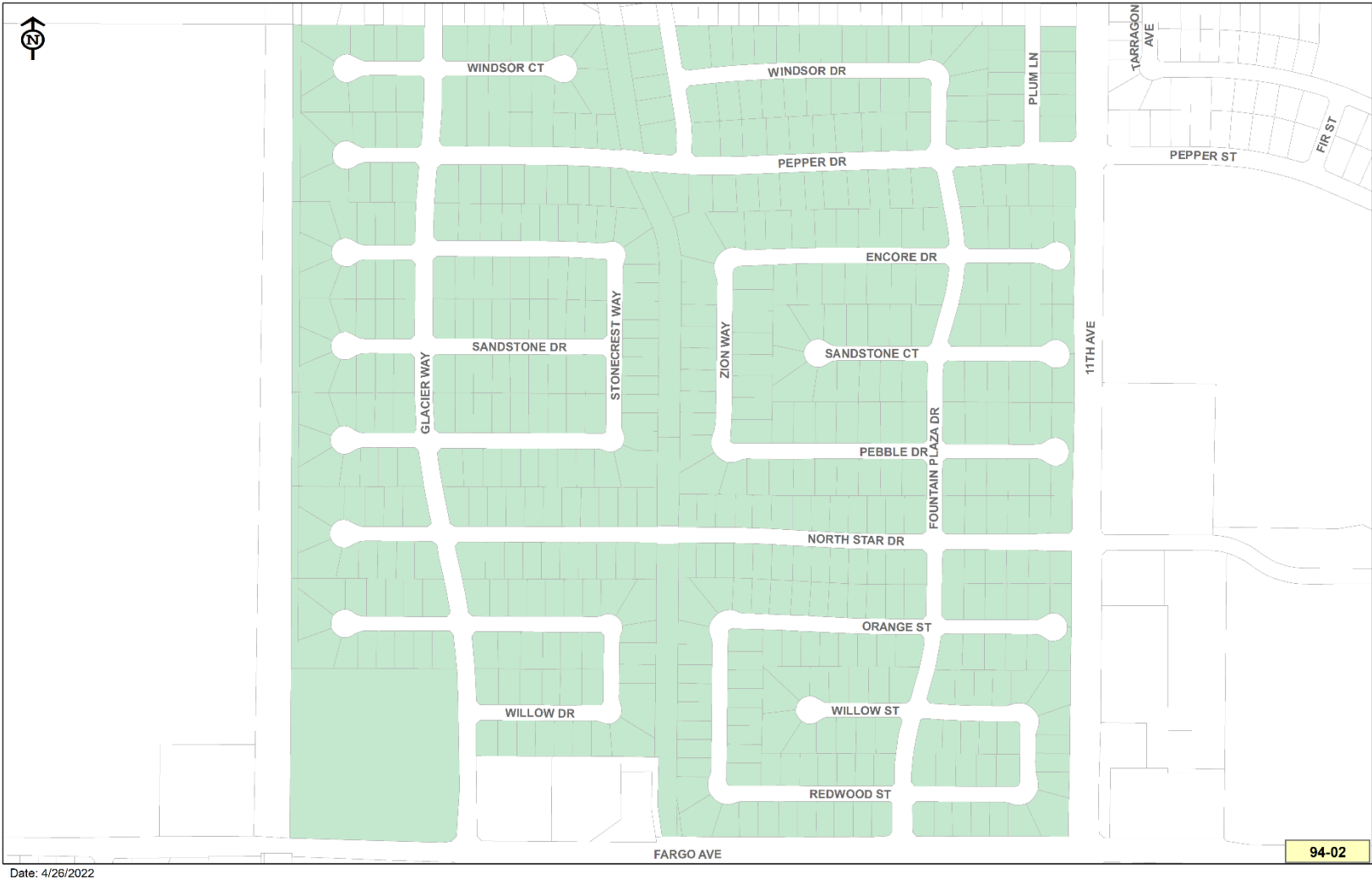


Date: 4/26/2022

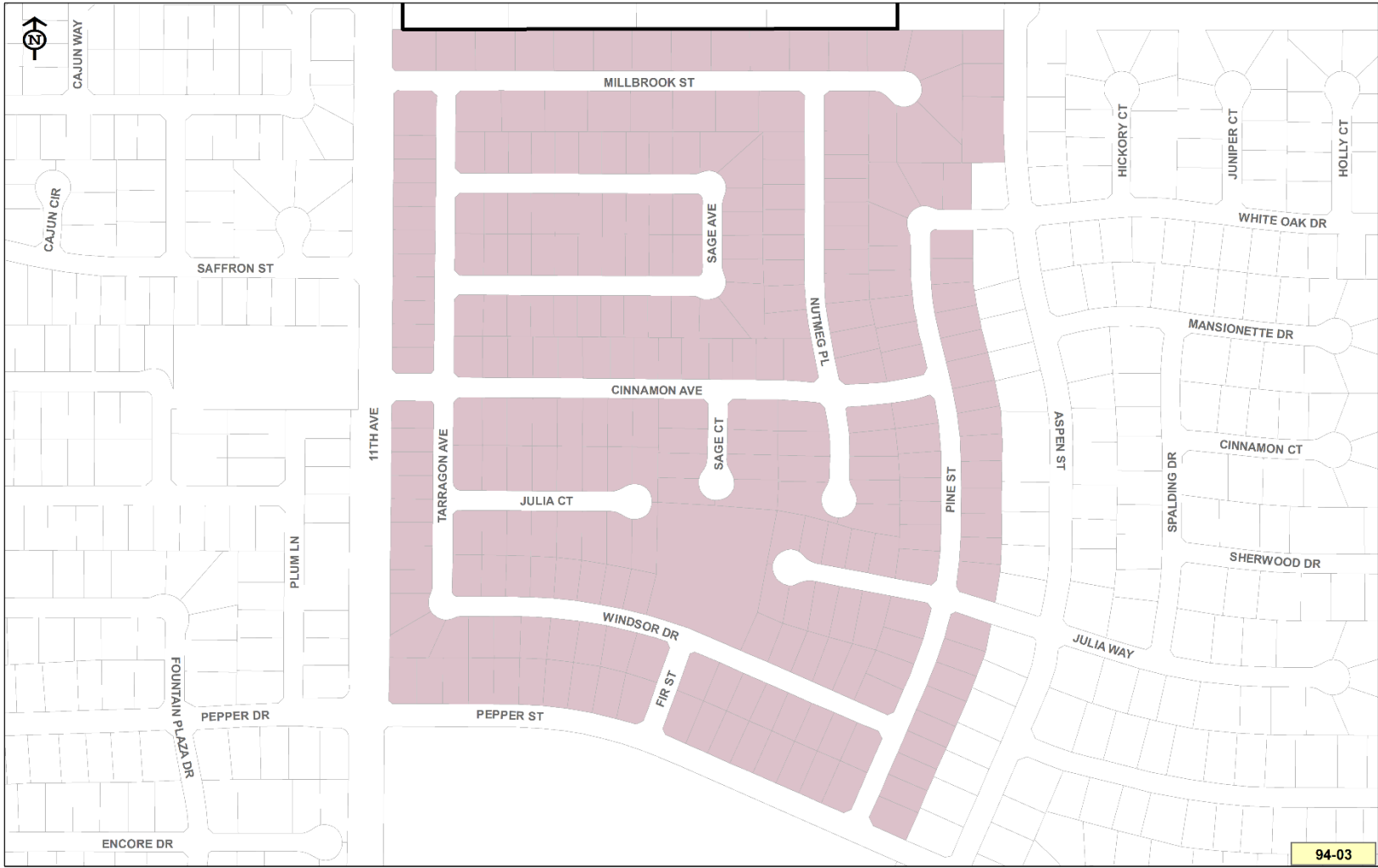
District 94-01: Gateway Estates



District 94-02: Stonecrest Units 1 through 9

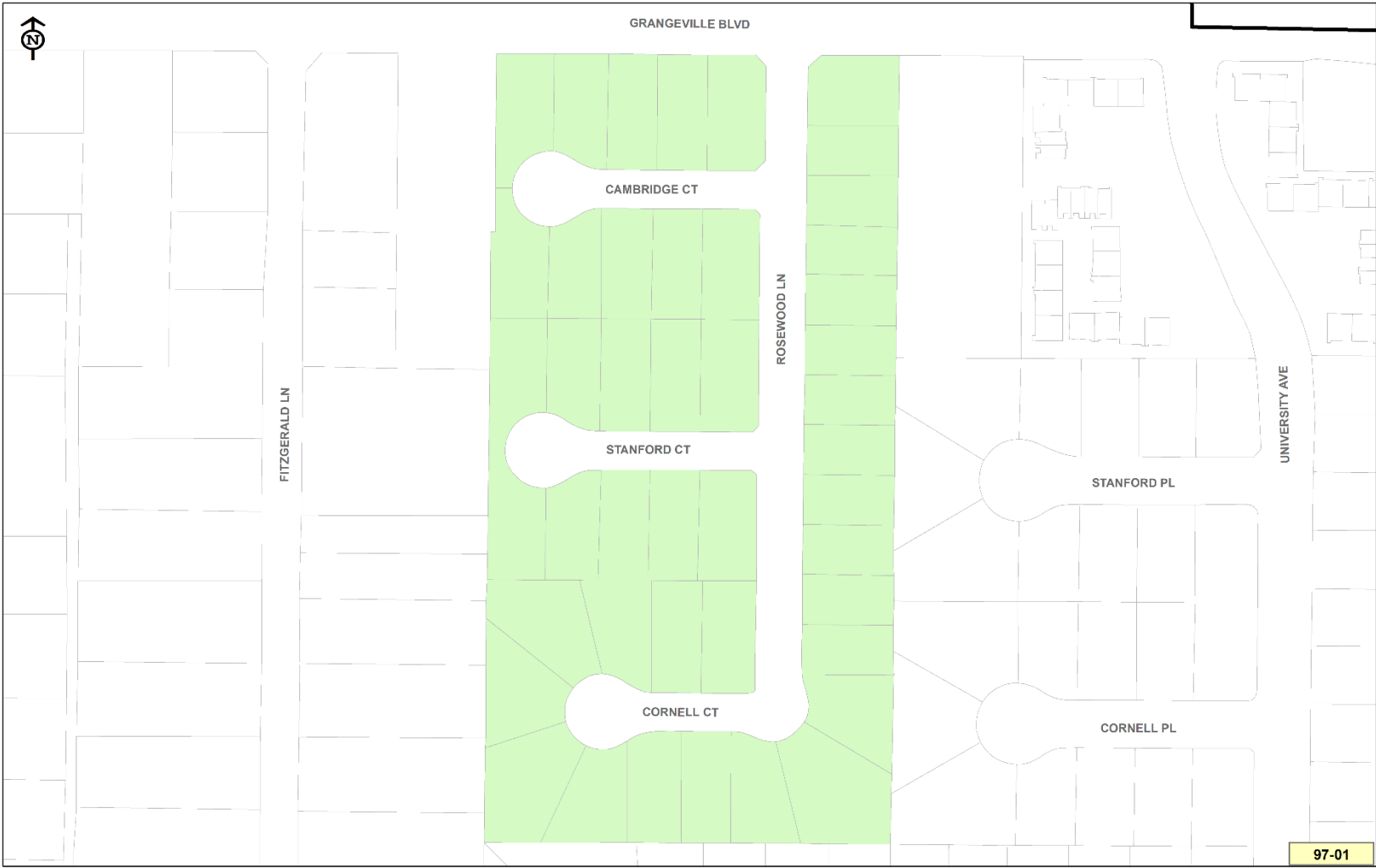


District 94-03: Quail Run Estates Units 1 through 5



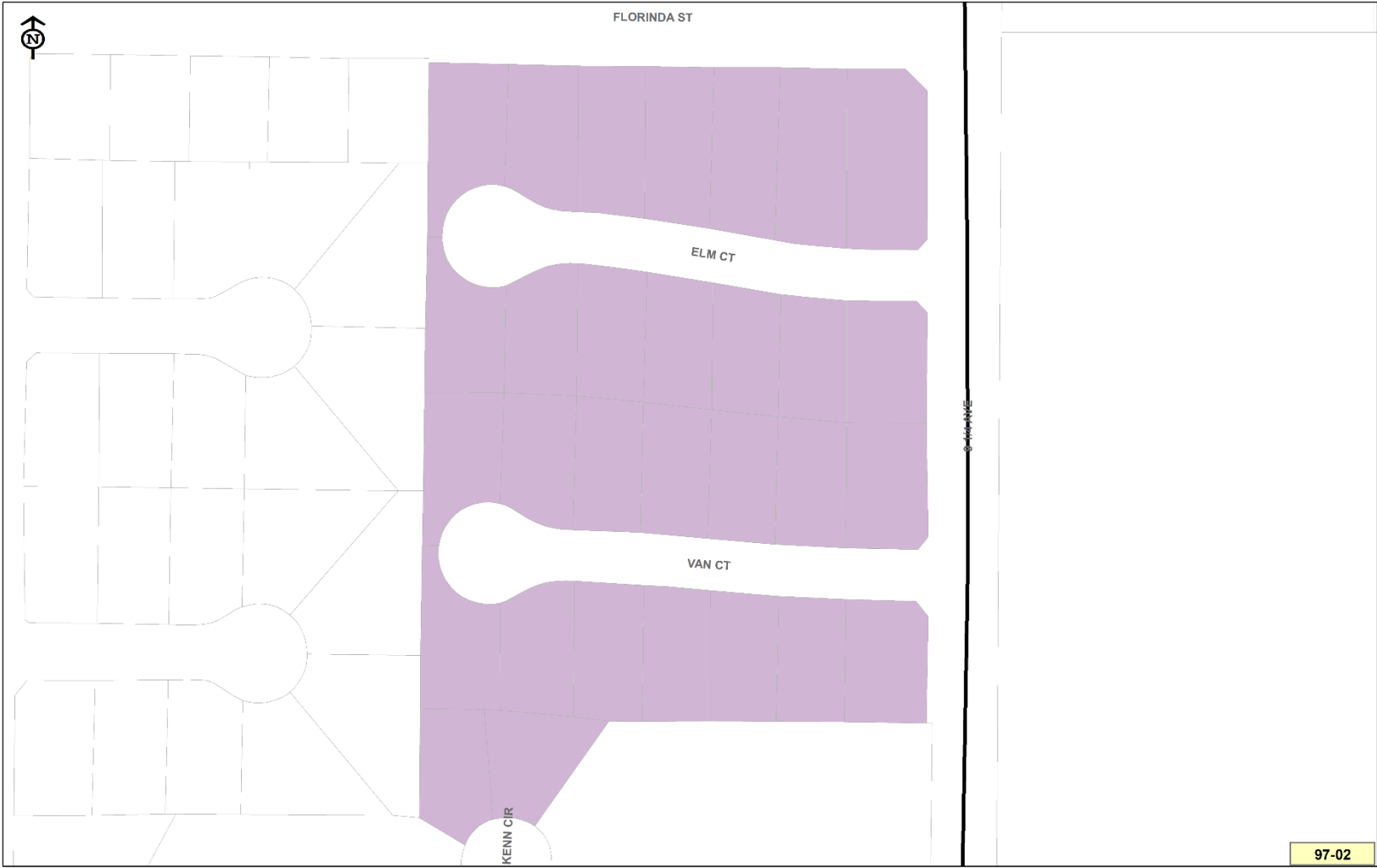
Date: 4/26/2022

District 97-01: Rosewood Estates Units 1 & 2



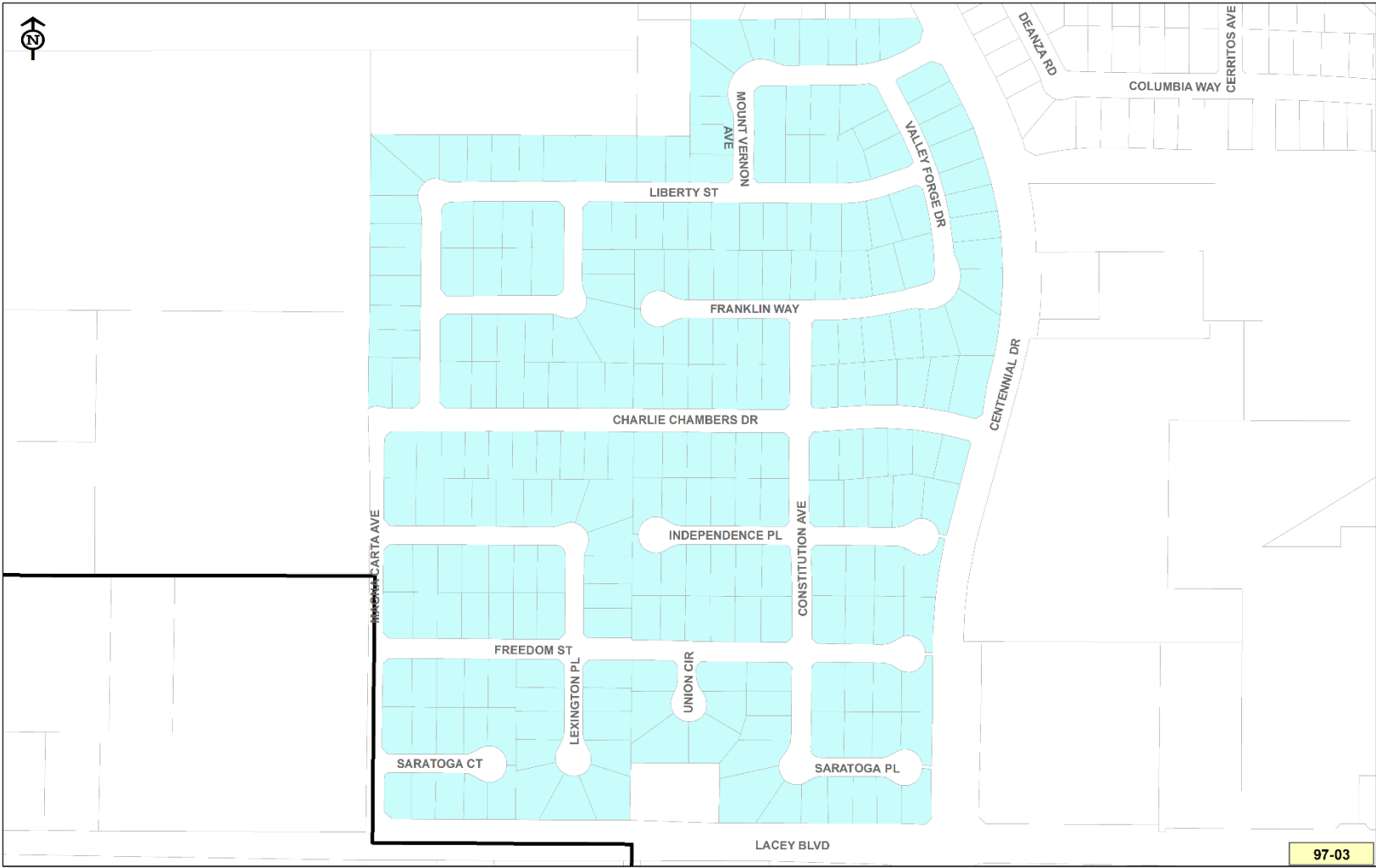
Date: 4/26/2022

District 97-02: Summer Field Addition #2



Date: 4/26/2022

District 97-03: Country Crossing Units 1 through 5



Date: 4/26/2022

District 98-01: Crystal Springs Units 1 through 3



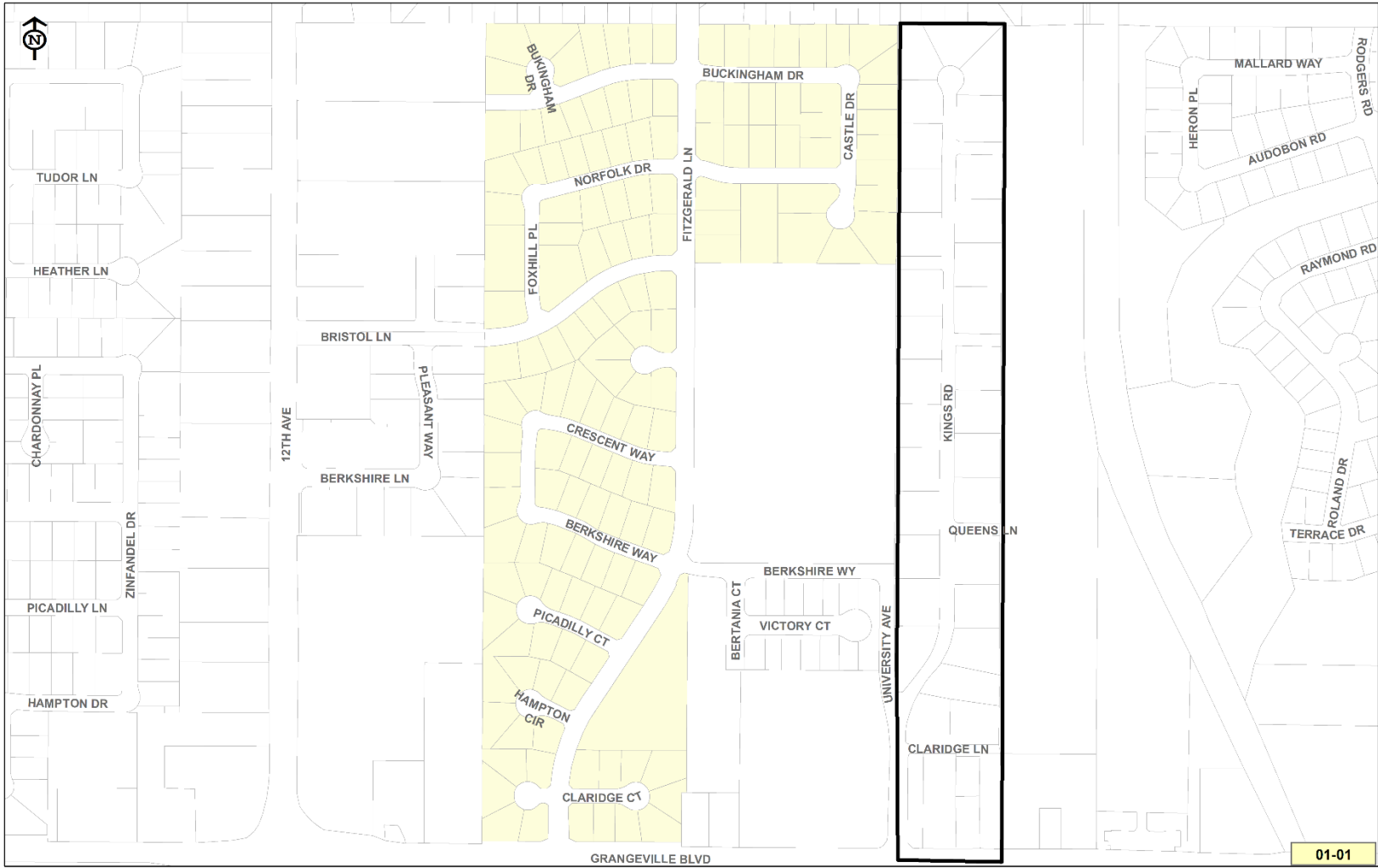
Date: 4/26/2022

District 98-02: Mountain View Estates Units 1 through 6



Date: 4/26/2022

District 01-01: Pacific Grove Units 1 through 3 and N. Pointe Units 1 through 4



District 01-02: Cambridge Homes Units 1 through 3



District 01-03: Poppy Hills Units 1 & 2



Date: 4/26/2022

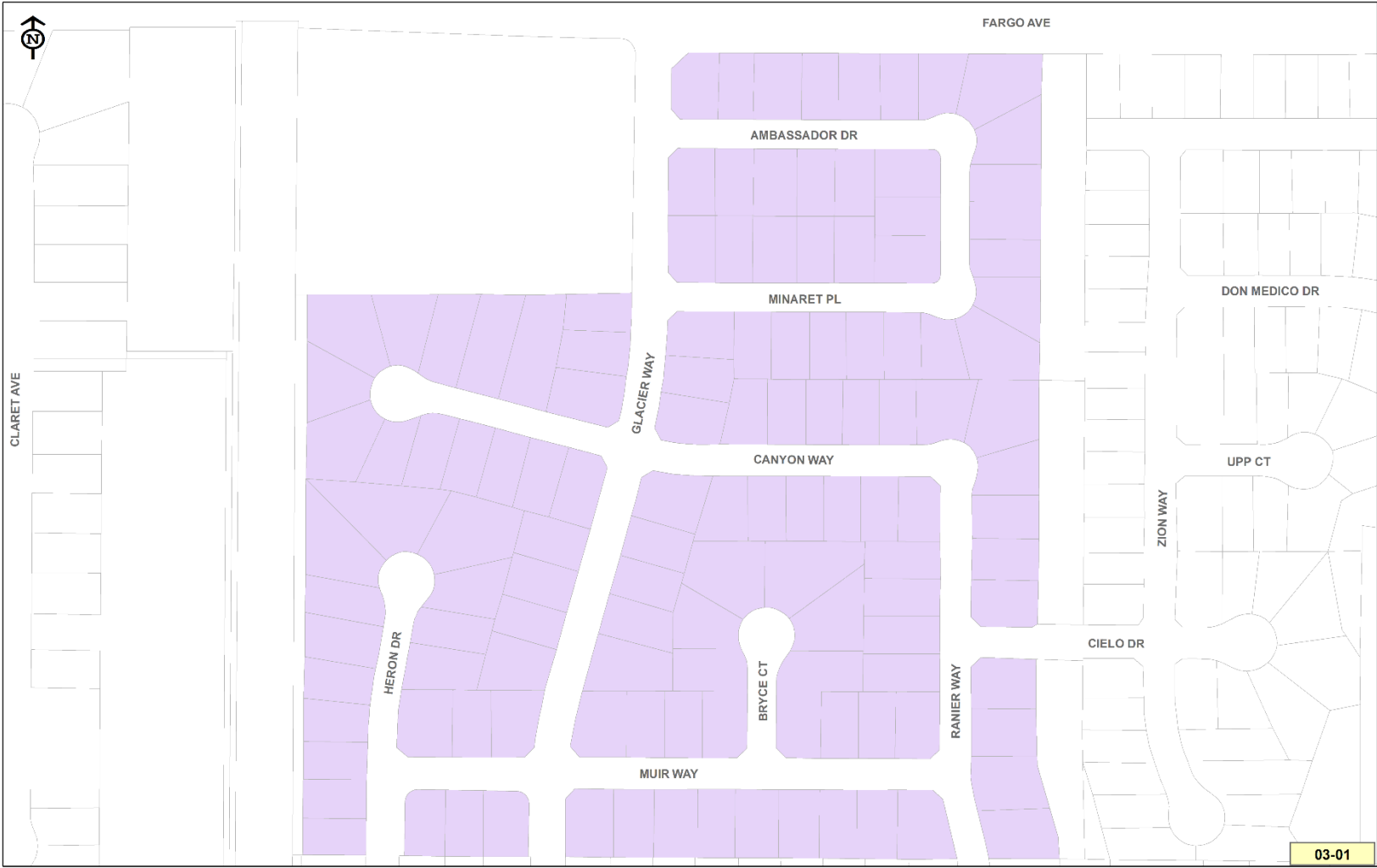
District 01-04: Silver Oaks Units 1 through 5



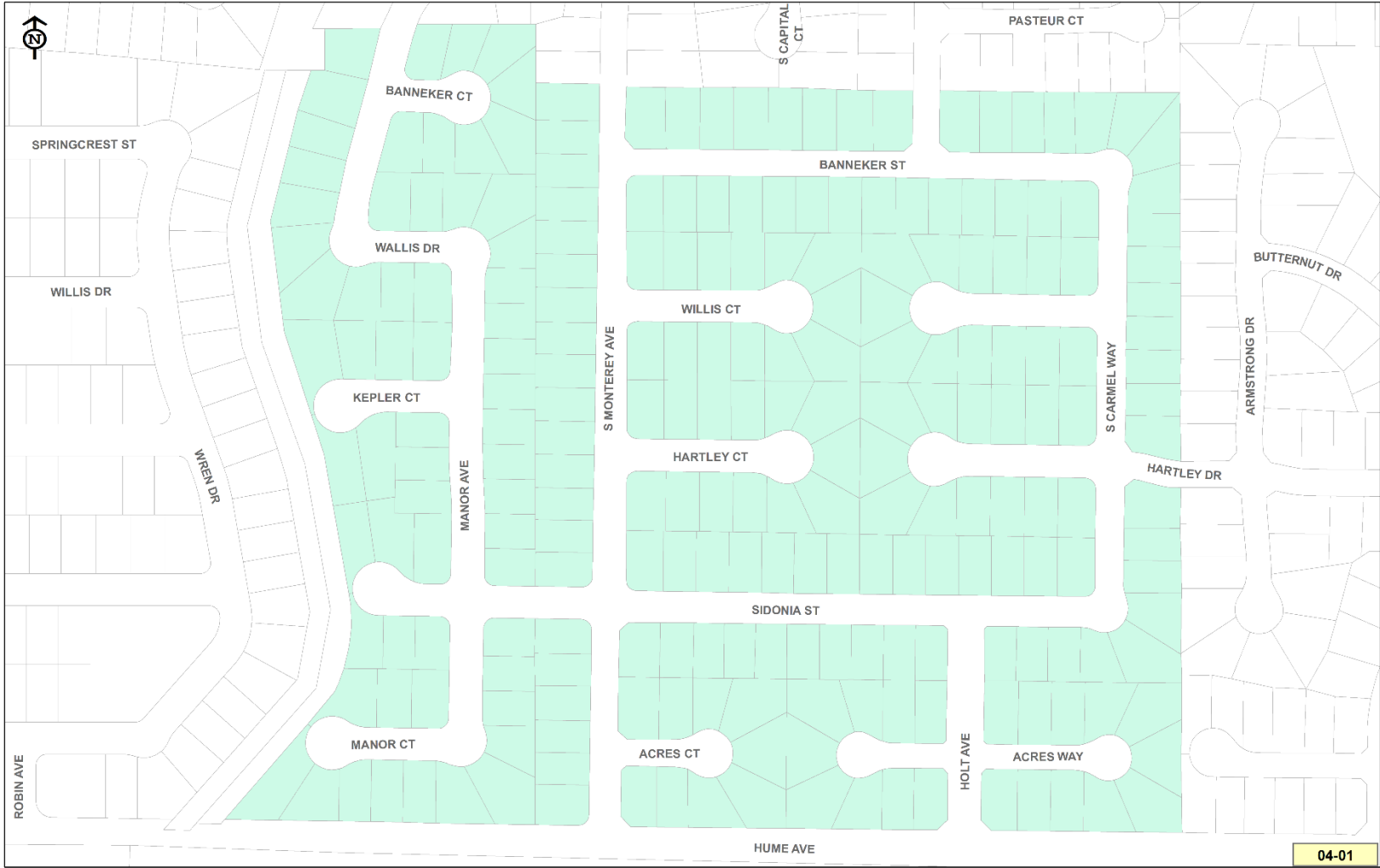
District 02-01: Ashton Park Units 1 through 4



District 03-01: Le Parc Units 1 through 3

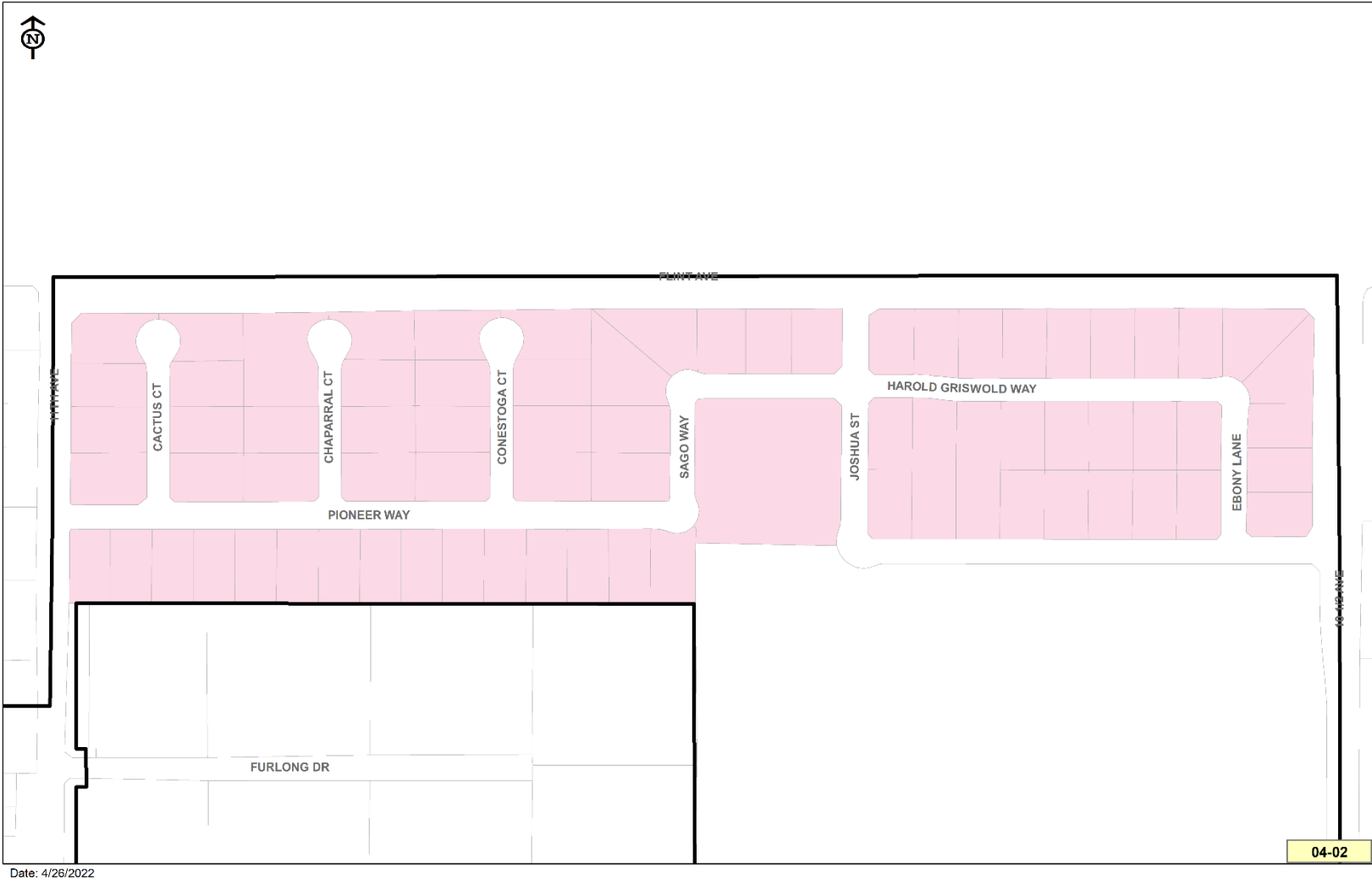


District 04-01: Sidonia Units 1 & 2 and Sidonia Estates II



Date: 4/26/2022

District 04-02: Cambridge Homes/Majesty II



District 04-03: Cambridge Homes - Majesty II #2, Cambridge Homes Units 1 through 6, Cambridge Homes-Vineyards Units 1 through 4

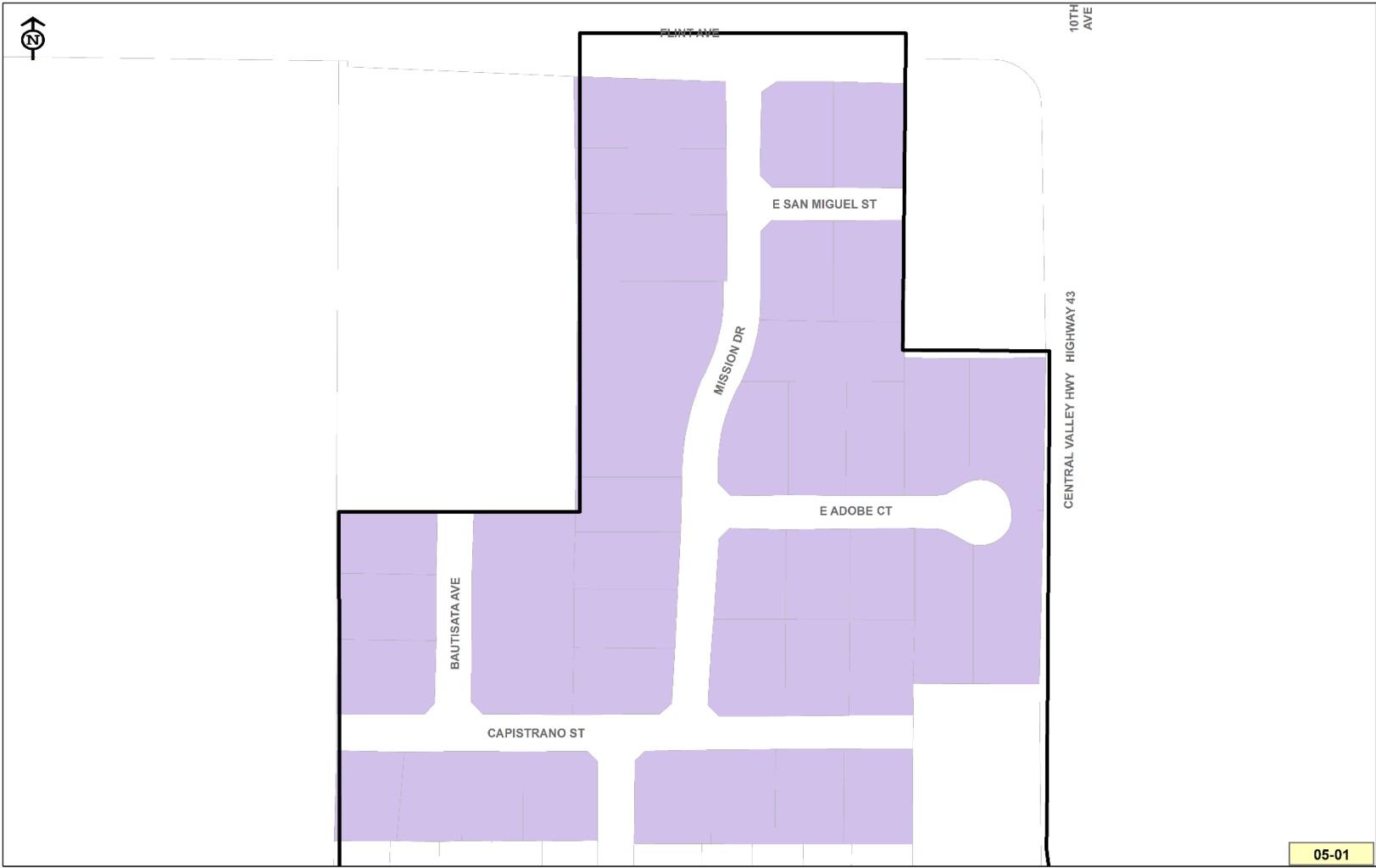


District 04-04: Sierra Heights Units 1 and 2



Date: 4/26/2022

District 05-01: Mission Park



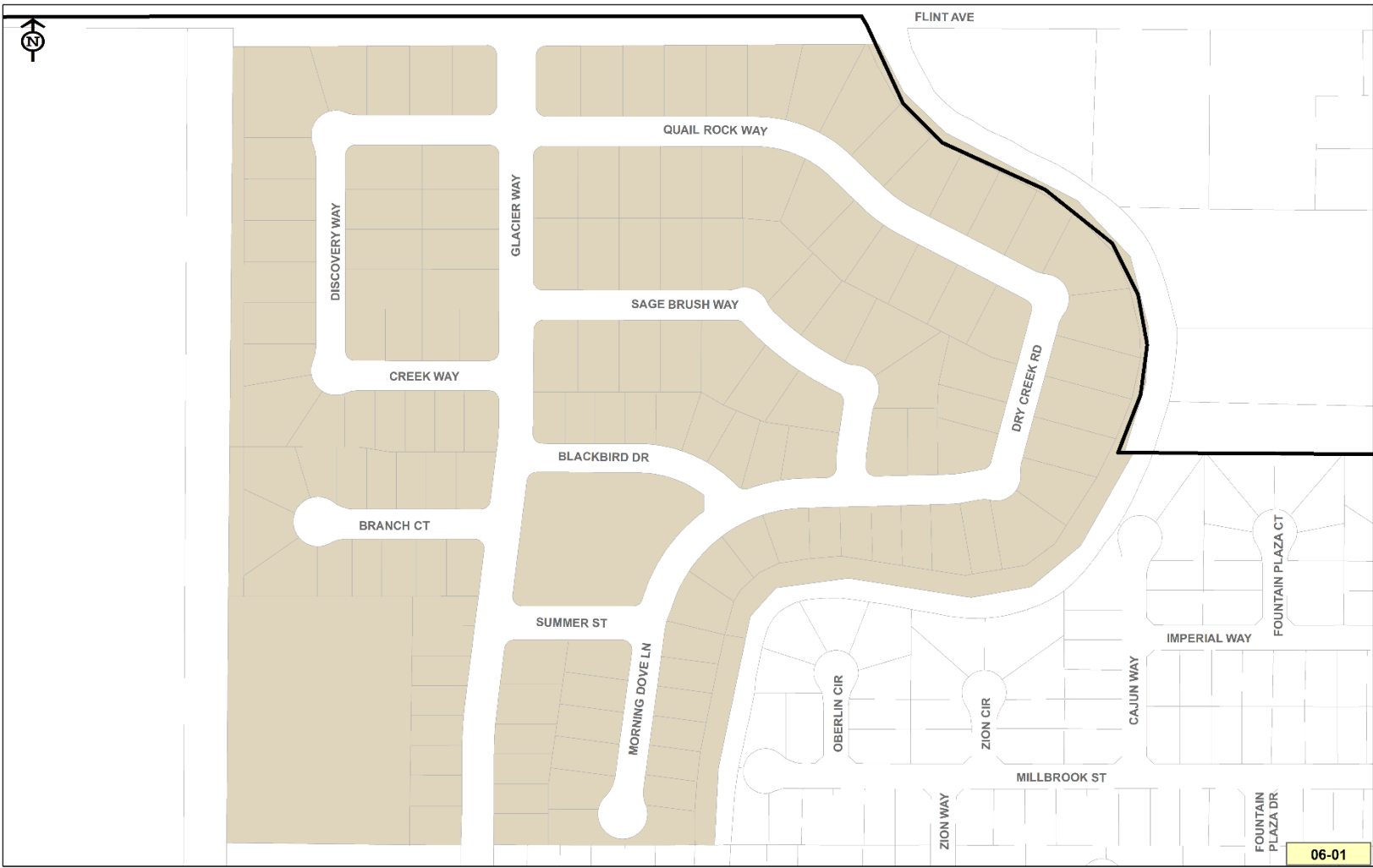
Date: 4/26/2022

District 05-02: Copper Valley

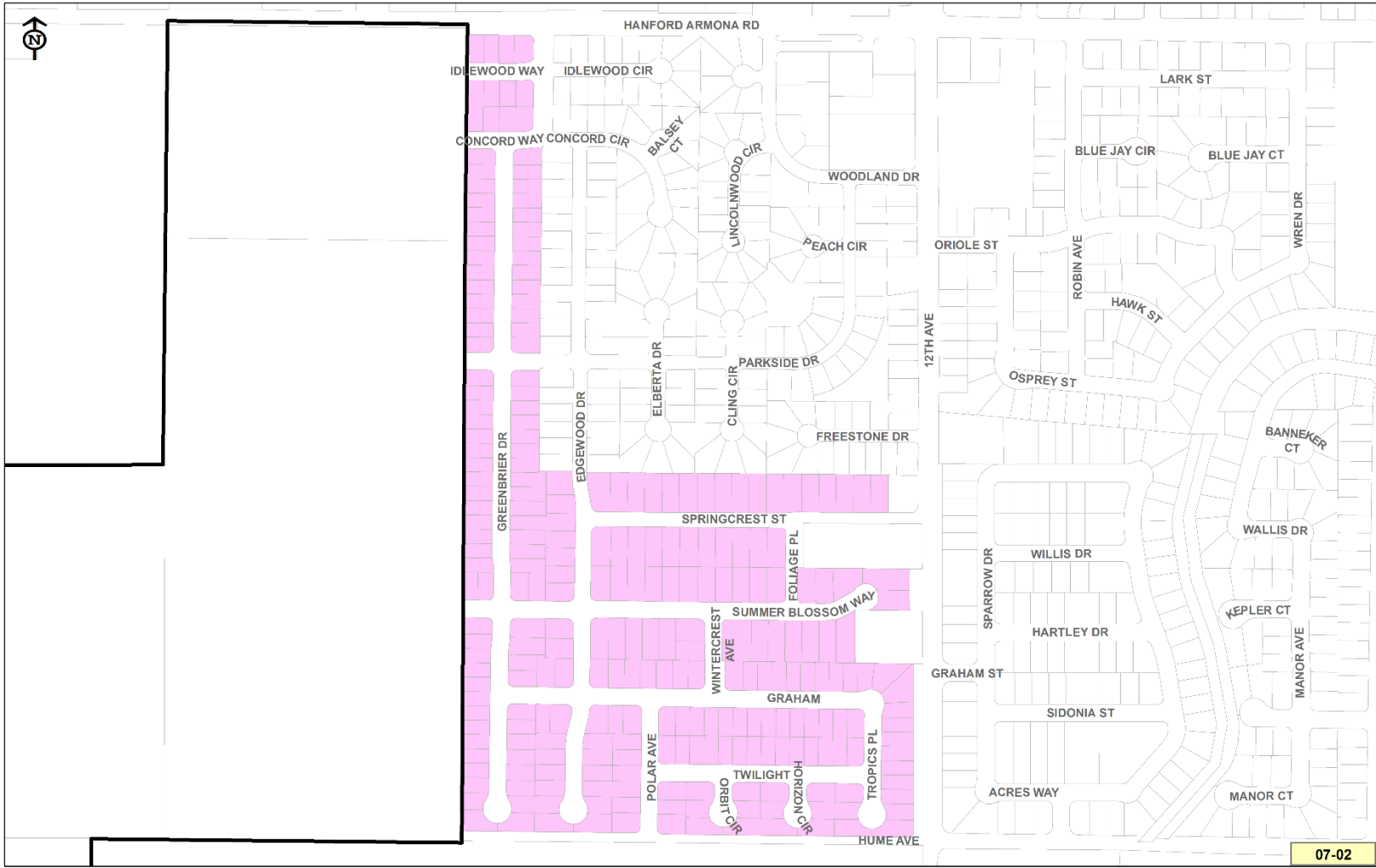


Date: 4/26/2022

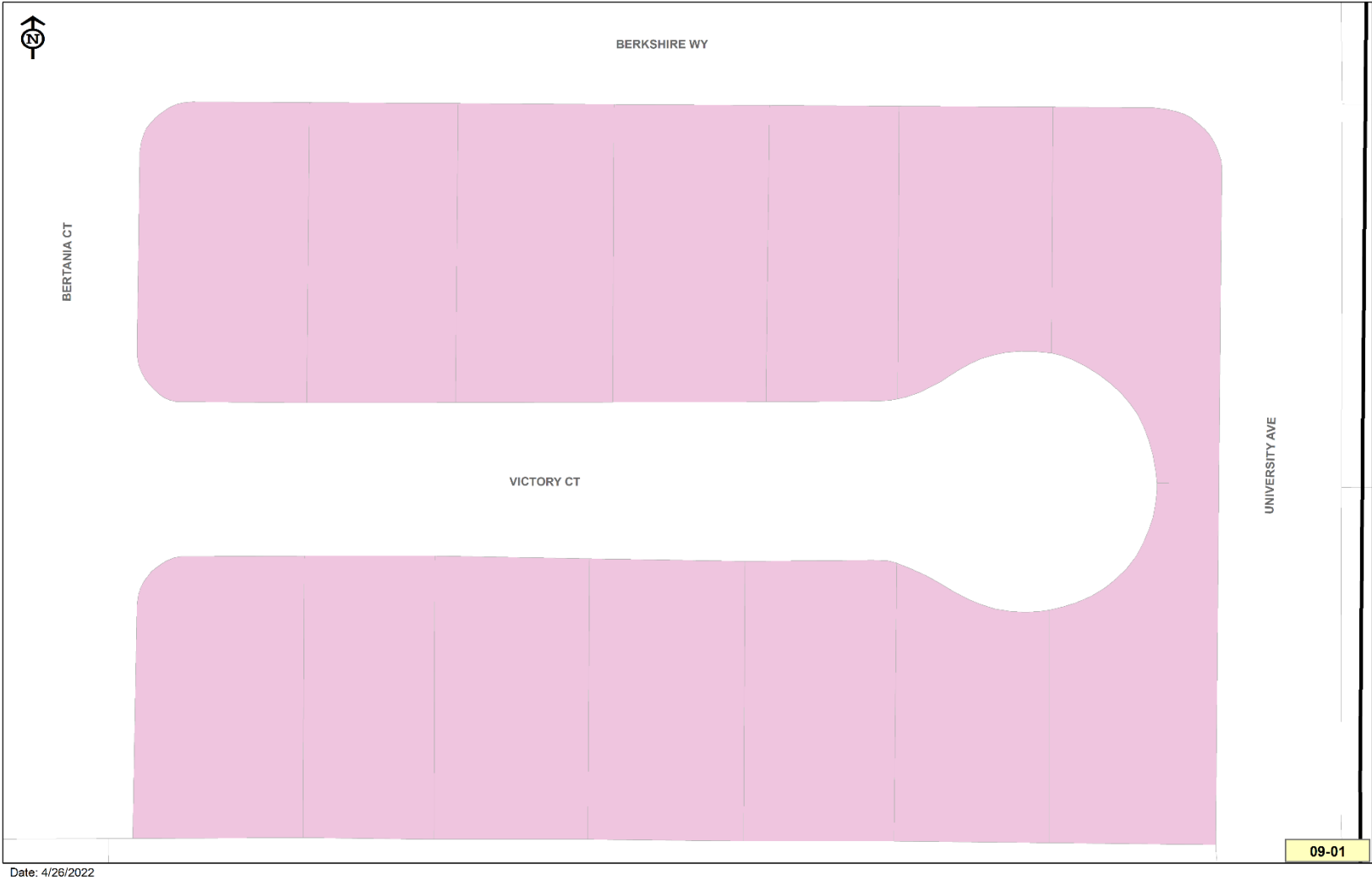
District 06-01: Quail Park Subdivision



District 07-02: South Gate Addition, Greenbrier Gardens, & Live Oak North



District 09-01: Victory Estates

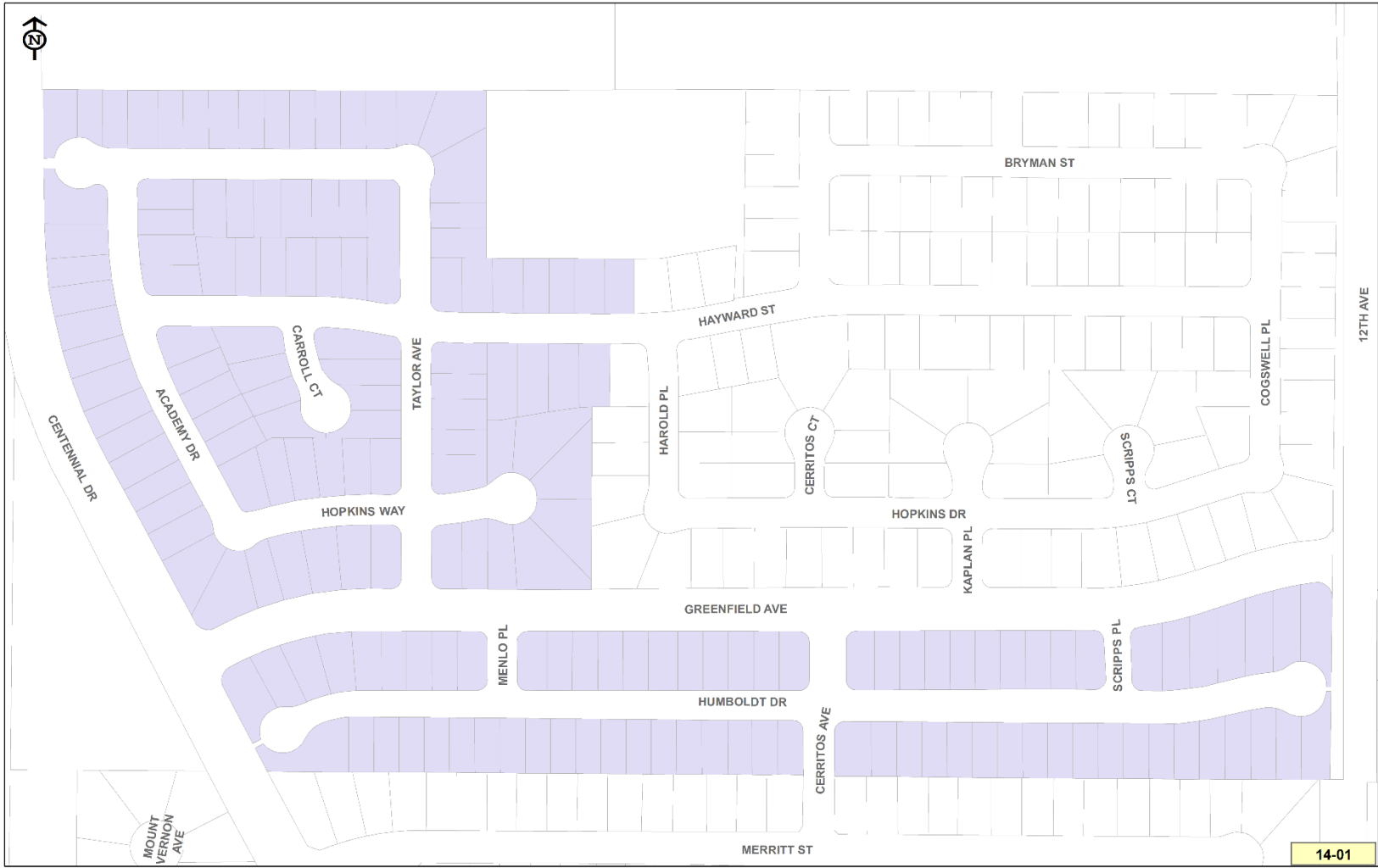


District 09-02: Independence Units 1 & 2

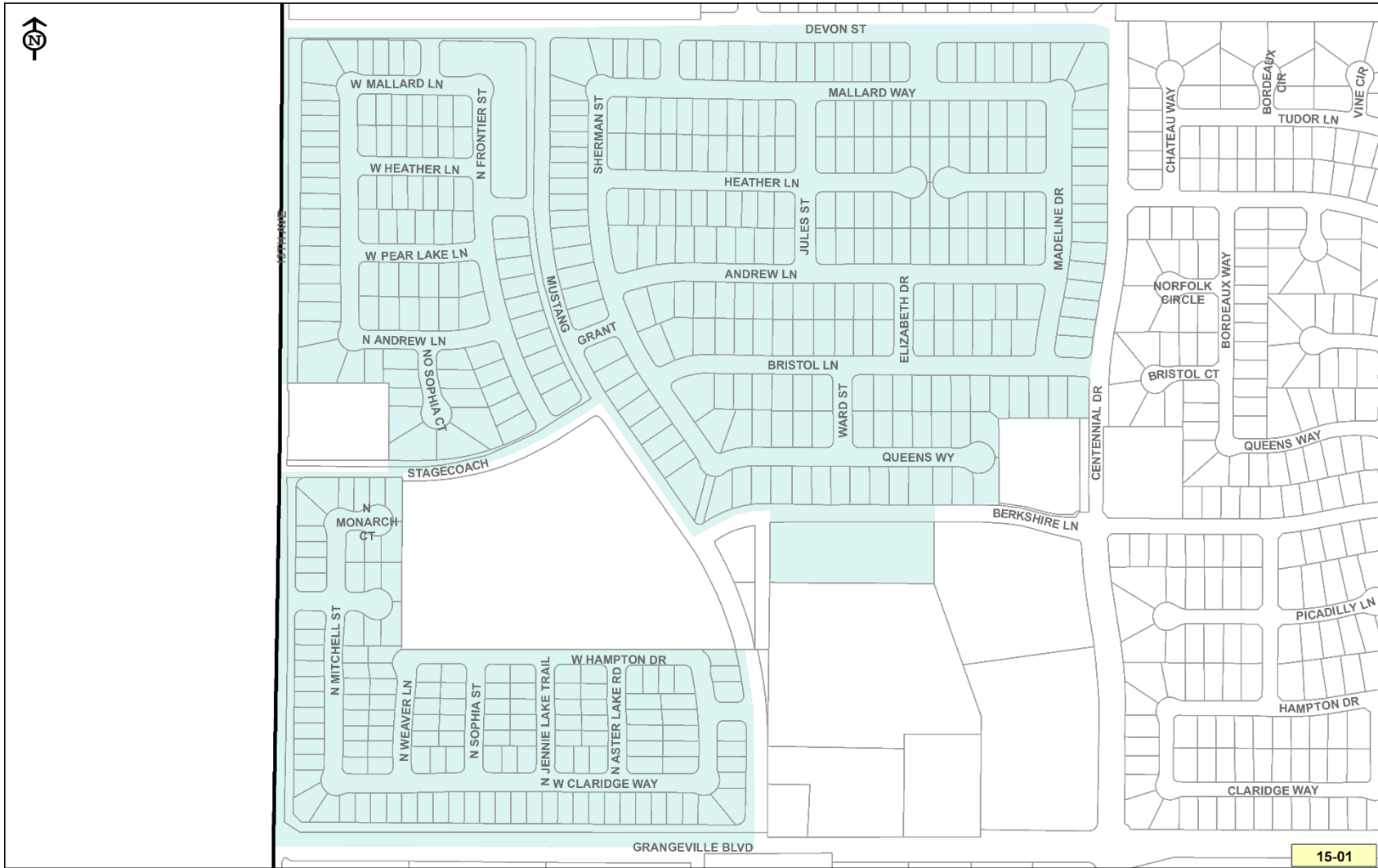


Date: 4/26/2022

District 14-01: Independence Units 3 & 4



District 15-01: Silver Oaks Addition III Units 1 and 2, Lennar Homes Units 1 and 2, and Lennar Homes

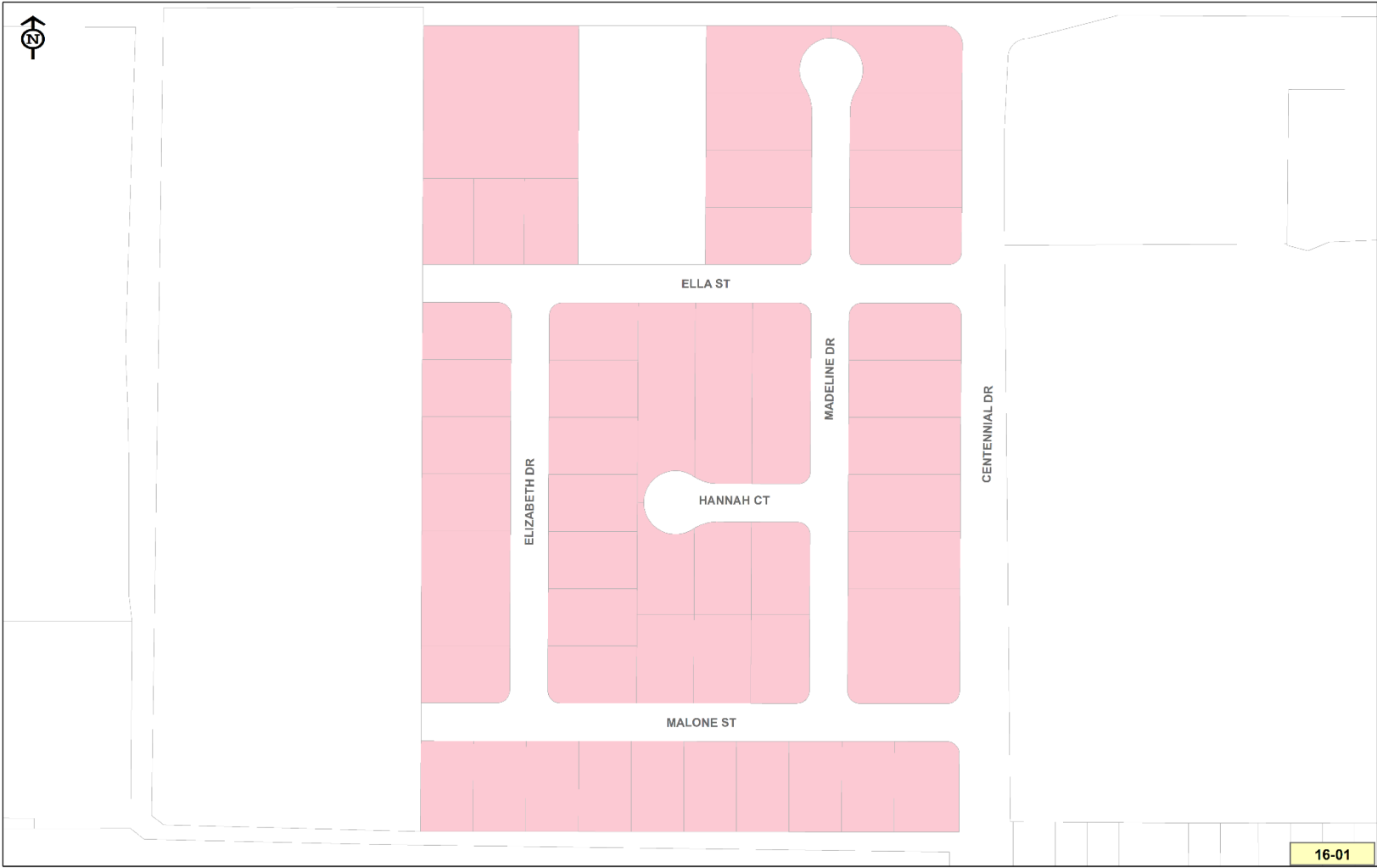


Date: 6/16/2022

District 15-02: The Greens II



District 16-01: Woodside Homes

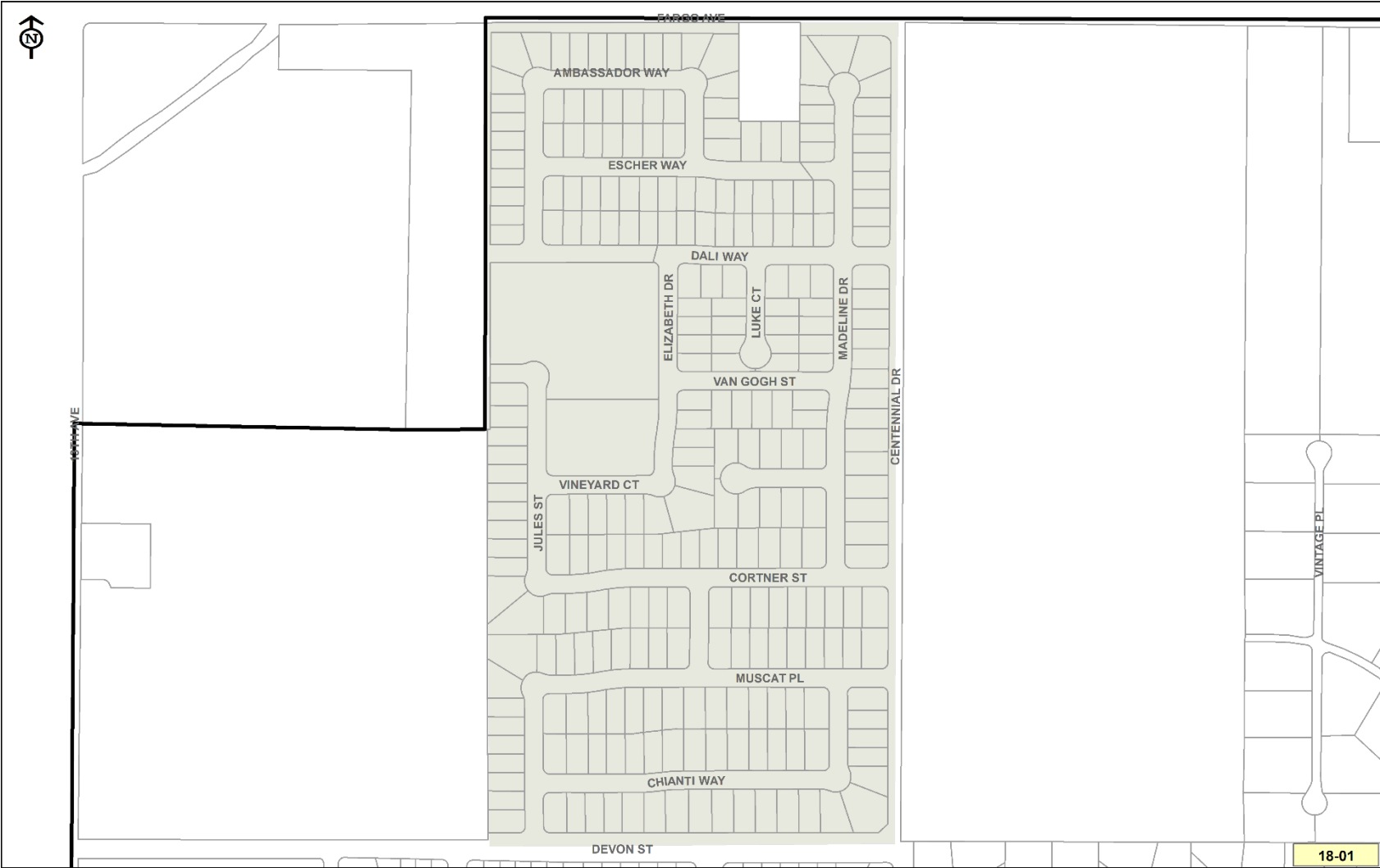


Date: 4/26/2022

District 16-02: Mynderup Units 1 & 2



District 18-01: Bella Vista Units 1 through 4



Date: 6/16/2022

District 19-01: Pacific Grove Addition II



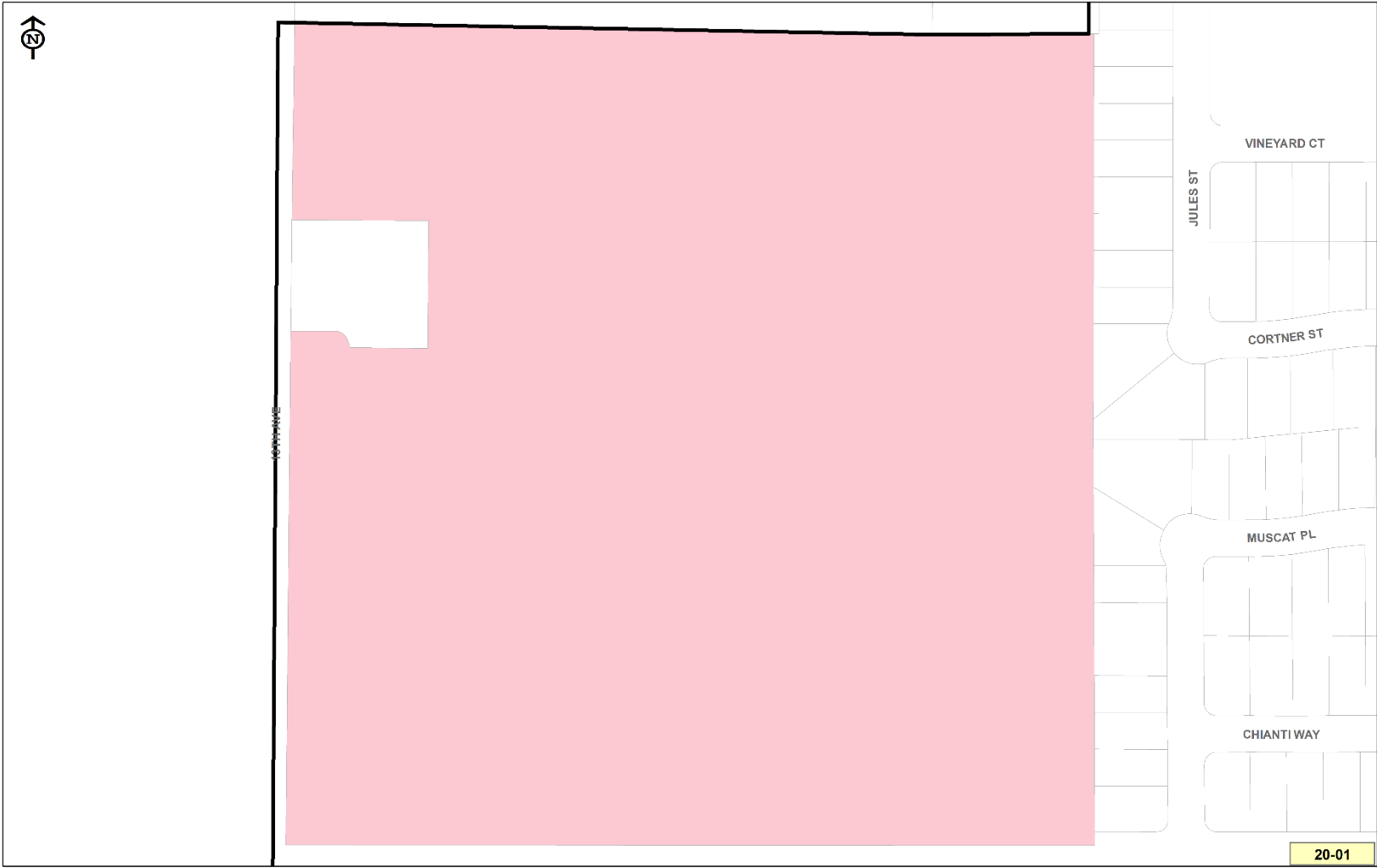
Date: 4/26/2022

District 19-02: The Enclave

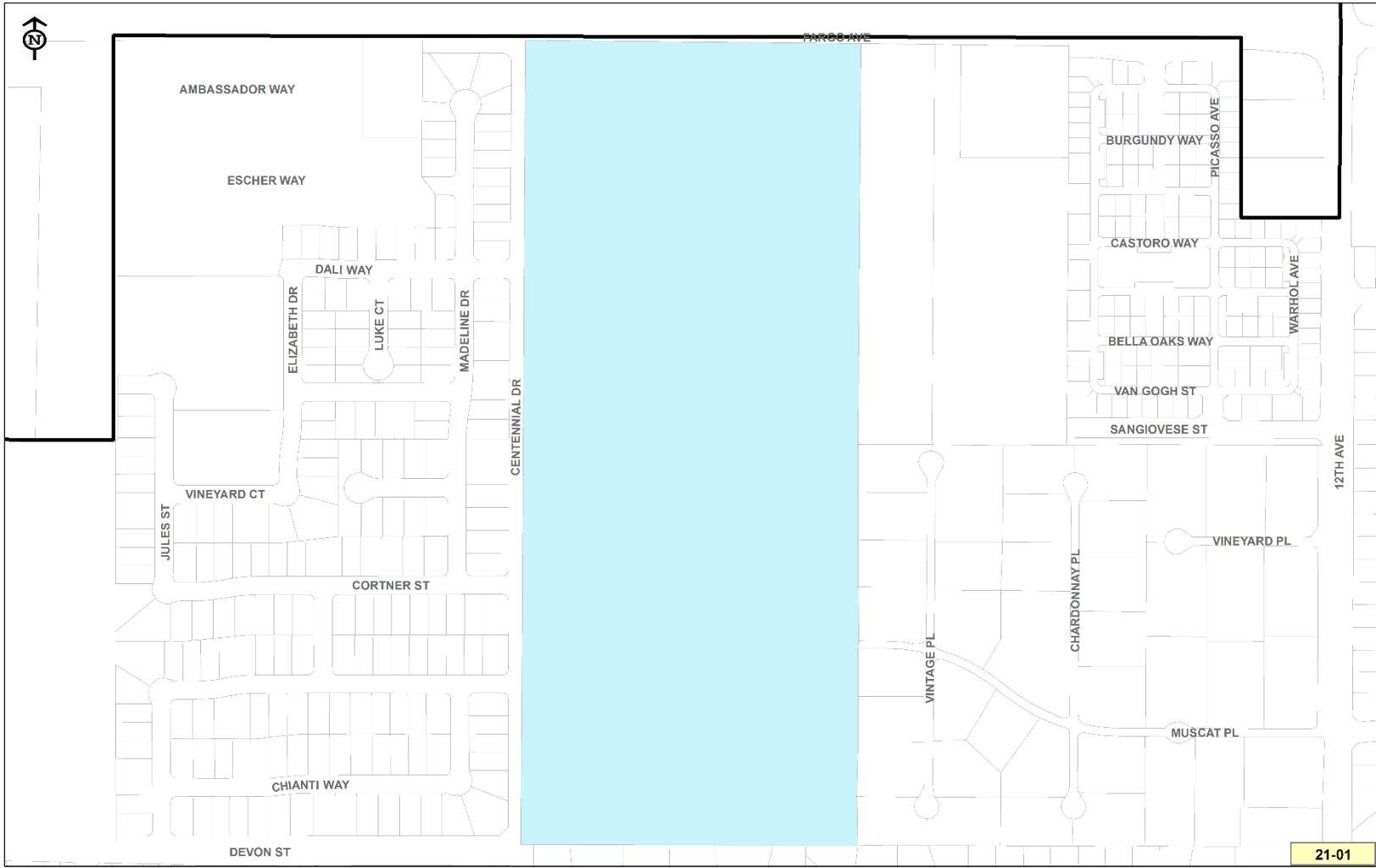


Date: 4/26/2022

District 20-01: Woodside Homes



District 21-01: San Joaquin Valley Homes



Part V - Assessment Rolls

Due to the number of parcels in the Districts, the Assessment Roll for fiscal year 2024/2025 has been filed with the City Clerk in an electronic format and is, by reference, made part of this Report.

The Assessment Roll identifies the parcels within each District that are assessed for special benefits and their corresponding assessment amount for fiscal year 2024/2025. Each parcel listed on the Assessment Roll is currently shown and illustrated on the County Assessor's Roll and the County Assessor's Parcel Number Maps (APN maps). These records are by reference, made part of this Report and shall govern for all details concerning the description of the lots or parcels. All assessments presented on the assessment roll are subject to change as a result of parcel changes made by the County including parcel splits, parcel merges or development changes that occur prior to the County Assessor's Office securing the final roll and generating tax bills for fiscal year 2024/2025.

The proposed Assessment Roll shall be available for public inspection in the City Clerk's Office during normal office hours.



AGENDA STAFF REPORT

MEETING DATE: 6/18/2024

AGENDA SECTION: GENERAL BUSINESS

SUBJECT:

Council review and Final Approval of the Revenue Measure Expenditure Plan which specifies the uses of the proceeds of the potential transactions and use (sales) tax

RECOMMENDATION:

Recommendation: That the City Council approve the Revenue Measure Expenditure Plan which specifies the uses of the proceeds of the potential transactions and use (sales) tax

Recommended Motion: Approve the Revenue Measure Expenditure Plan which specifies the uses of the proceeds of the potential transactions and use (sales) tax

BACKGROUND:

Overview

After review/approval of the City's budget and awareness of the City's General Fund financial condition over the last several years, City Council established (January 2024) a Revenue Measure Committee to determine if a revenue measure was needed based on departmental needs assessments. Over the course of many meetings, the RMC voted that a measure was necessary and unanimously adopted a Draft Expenditure Plan (Plan) based on an exercise that ranked and detailed needs. The Plan includes core areas of operation that the City's General Fund sustains, which could benefit from additional revenue that a potential revenue measure could bring in for the City. Police, Fire, Parks, Streets, Code Enforcement and Other Needs were all areas covered and currently addressed in the Plan.

Council received the Draft Plan at the June 11, 2024 City Council meeting and did not propose any changes to the Draft Plan. The Plan, as attached, is the same as the Draft Plan presented at the June 11, 2024 meeting.

The Expenditure Plan

The Plan outlines what elements will be addressed over a 10-year period, although operations or projects included have ongoing needs or lifespan longer than a 10-year period. However, the Plan lays out a foundation for what could potentially be delivered in that period of time if revenues were realized. Should a revenue measure pass, each year would be looked at independently prior to budget adoption.

After considering all needs, the Plan signifies that a one cent (percent) transaction and use (sales) tax would be necessary. Actual expenditures for projects would be subject to final costs and would need to be determined as projects advance. Operational expenses related to personnel could vary as

they are planned towards the high end of salary and benefit costs. Although some of the elements in the Plan are set amounts, some elements included have assumed annual increases. Should a revenue measure be approved, this Plan would be the basis for future budget development as approved by a potential Oversight Committee and City Council.

The following general assumptions are included:

- 2% annual increase in personnel costs
- 3% annual increase in costs for Road Rehabilitation and Pavement Preservation
- 1% annual increase in park maintenance and improvement costs

Staff believes these to be the minimum cost increases for these areas, but the actual costs may be more.

In discussion with staff and department heads, who are experts in their respective fields; giving consideration to those priorities as indicated by the RMC; and factoring in preliminary results of the National Community Survey, staff updated the Expenditure Plan which would fund those priority areas in the General Fund into a better position to be able to preserve and improve the services and facilities that residents and businesses may most value and appreciate. The RMC adopted a draft Expenditure Plan unanimously which is the basis of the Plan presented. The Plan presented today does not deviate significantly from the original RMC adoption and is the same Plan that was presented at the June 11, 2024 meeting.

Narrative Summary of Plan Elements

The following is a detailed listing of elements in the Plan:

Police

8 Police Officers - These officer positions would be added to Patrol shifts. There are four shifts, so the addition of officers in increments of four is best for the City to see the greatest impact on working towards proactive responses to criminal activity that happens 24 hours a day.

4 Homeless Assistance positions - Three Homeless Assistance Response Team (HART) positions would be added to the existing HART positions. Currently, there are two officers assigned to HART. As planned, there would be two additional officers assigned to HART to cover all four shifts 24 hours a day, in addition to a Sergeant position to supervise the HART team directly and coordinate homeless assistance efforts across all City departments. An additional Park Resource Officer (PRO) would also be added in order to be able to cover all days of the week with two officers working as PROs. Most times, homeless assistance efforts are needed all days of the week and 24 hours a day. These additions would also free up patrol officers' time in order to achieve proactive measures to mitigate criminal activity (not homelessness related).

12 Police Cars and Equipment - For twelve new sworn officer positions on patrol and for homeless assistance. There would be a capital outlay required for vehicles and equipment.

Public Safety Building - The City's existing facilities for the Police Department are substantially aged. Police facilities no longer provide adequate space for many police functions as well as parking, and are in need of significant improvements that will be costly and ultimately still leave deficiencies. A new facility for police operations as well as Fire Administration (currently at Fire Station 1) is proposed in order to provide the City with efficient and effective working space. The current cost estimate of a Public Safety Building is approximately \$50 million based on other cities recent builds. The City would need to purchase property and hire a consulting firm to provide a needs assessment

and schematic (preliminary) design to be able to get a better estimate. The Expenditure Plan assumes a 25-year payback period.

5 Professional Staff - This area would include the addition of professional staff such as Police Service Technicians, systems staffing, other administrative personnel or dispatchers. Professional staff can take on many duties that sworn personnel must otherwise do, at a lower cost and make efficient use of sworn personnel's time.

Professional Staff Vehicles and Equipment - With the addition of staff such as Police Service Technicians, a capital outlay would be required for vehicles and equipment.

1 Specialty Vehicle - Many specialty vehicles for the Police Department are or soon to be outdated. The Plan includes replacement of a specialty vehicle for SWAT or another specialty unit.

Fire

5 new firefighters - These firefighter positions would be added to existing staffing levels across all fire stations and shifts. While minimum staffing levels will remain, these positions will be used to augment existing levels or, as needed maintain minimum staffing (Captain, Engineer and Firefighter) due to paid time off or vacancies. This will help to maintain response times and improve morale by not requiring staff to come in to work to maintain minimum staffing.

Professional Staff (1) - This position would be an analyst level position to assist in the administration of the department and coordinate financial, payroll and other administrative functions for the department. By alleviating some of this work from sworn fire personnel, more focused efforts will be enabled in fire suppression efforts and preparedness in a more cost-effective fashion.

Station #4 Construction - Construction of Station #4 will occur, which will help to improve response times across all the City.

Station #4 Staffing - This includes minimum staffing for each shift (three shifts) with a Captain, an Engineer and a Firefighter.

New Fire Engine (Station #4) - Addition of a new fire engine for Station #4.

Station Improvements/Equipment - To address needed fire station improvements (stations 1-3) and necessary equipment that otherwise would not be funded. Stations increasingly show signs of wear and tear and, with the potential for additional staff, may require some expansion.

Communications Equipment - The project will immediately add updated communications equipment for all stations in order to address ongoing deficiencies in communications and maximize safety for fire personnel.

Training Facility - The City is in a "bare bones" development of a rudimentary training facility at Station #2. With this project, the Training Facility would be developed to become a regional training facility to allow City staff to conduct and receive training and also allow for Police to utilize.

Fire Engine Replacements (2) - Replacement of two fire engines to maintain a reliable fleet for emergency response.

Ladder Truck Replacement - Replacement of a ladder truck to maintain a reliable fleet for emergency response.

Small Truck (Type 6 Apparatus) - Replacement of a small type 6 truck to maintain a reliable fleet for emergency response. This vehicle is used more for wildland fires and quick response to medical aids when staffed appropriately.

Streets

Road Rehabilitation/Pavement Preservation - \$6 million annually is needed to bring and maintain the Pavement Condition Index (PCI) to 65 out of 100. A 65 is considered good condition for most cities. Currently, the City is at 56 with it projected to drop continually with needed repairs costing more as time goes on. The Plan does assume a 3% annual increase in costs for street projects. Road rehabilitation and pavement preservation treatments will vary depending on the condition of a road and engineering evaluation. This would include other ancillary project costs.

Parks and Community Services

Recreation Coordinator - This position will be added to support and add programs for youth and others in the City.

Park Maintenance Workers (5) - These employees will be added to maintain and improve existing parks, facilities, sports complexes, and other city-owned landscaped areas.

Vehicles and equipment - Vehicles will be needed for Park Maintenance Workers. New employees will require additional equipment to carry out their essential functions.

Replacement of Vehicles and Equipment - Replacement of vehicles and equipment will be needed to continue supporting and maintain inventory.

Additional Maintenance within Existing Parks - Maintain existing parks, facilities, and sports complex facilities at satisfactory levels.

Existing Parks Additional Improvements - Additional improvements to existing parks, facilities, and sports complexes

Maintenance and Emerging Needs

This category is intended to not exceed 3% of projected revenues. There are 3 main elements proposed for this category: maintain city buildings (several historic), enhance code compliance, and increase abatement efforts to assist in the safety and beautification of the City.

Code Compliance Officers (2) - Additional two Code Compliance Officers increasing the Code Compliance team from two Officers and a Supervisor to four Officers and a Supervisor. This would allow for the City's code compliance efforts to be more proactive, rather than reactive.

Community Cleanup/Abatement - Funding for Code Enforcement to abate unsafe properties and initiate community cleanup efforts. Some abatement and cleanup efforts could be reimbursed to the City by property liens, but the reimbursement process may take several years, so initial funding is needed to begin the abatement program.

City-Owned Building Maintenance - There have been substantial deferrals of building maintenance across all City-owned buildings. Many are historic buildings that require ongoing maintenance. This project will allow for ongoing building maintenance to occur without continued deferment.

Examples include:

- Civic Auditorium - ADA compliant issues, repairs to restrooms and kitchen area, replace sewer main
- Longfield Center – Hardwood floor in gym, AC improvements
- Ongoing issues in various City-owned buildings such as deferred AC upgrades and replacements, drainage issues, plumbing issues, security issues, and structural issues

Based on polling, national community survey, feedback from the RMC, and feedback from City Council received, Staff recommends approval of the Revenue Measure Expenditure Plan.

FISCAL IMPACT:

Should a revenue measure be approved by voters, an Expenditure Plan will serve as the basis for how revenues will be spent. A one (1) cent/percent Transactions and Use (Sales) Tax is projected to bring in approximately \$19.2 million annually with all funds to remain local.

ATTACHMENTS:

1. Measure Hanford 10 year plan RMC plan rev1

CITY OF HANFORD
Initial Spending Plan With Maintenance and Emerging Needs
All Amounts in Thousand
Growth Rate 2%

Plan Elements												Economic Uncertainty (15% of revenues, \$2,900 min.)	
Year	Revenue Forecast	Units	Police	Fire	Streets	Parks and Community Services	Maintenance & Emerging Needs @ 3%	Total Expenditures	Net gain/(loss)				
1	19,200				New Elements								
			4 Police Officers: Patrol	640	3 Firefighters	330	Road Rehabilitation/Pavement Pres	6,000	2 Park Maintenance Employees *	260	2 Code Compliance Officers *	320	
			4 Homeless Assistance: 1 Park Resource Officer (PRO)	660	Station #4 Design	600	and associated costs		* Equipment/Vehicles		* Equipment/Vehicles		
			3 Homeless Assistance Resource Team (HART)		1 Professional Staff (Analyst)	110							
			8 Police Cars and Equipment	840	Station Improvements/Equipment	100			1 Recreation Coordinator (Youth programs	90	Community Cleanup/Abatement for Code Compliance	100	
									Existing Parks Additional Maintenance	160	City Owned Building Maintenance	151	
			3 Professional Staff *	300	Communications Equipment	825			Existing Parks Additional Improvements	280			
			Professional Staff Cars and Equipment*	180									
			* Dispatchers, Records and CSO Officers										
			Public Safety Building Land/Reserve	6,550									
			Subtotals	9,170	1,965	6,000	790	571	18,496	704	704		
2	19,584				New Elements								
			Public Safety Building Design	3,000	Station #4 Construction Reserve	295							
					1 Fire Engine	1,200							
					Continuing Elements								
			4 Police Officers: Patrol	653	3 Firefighters	337	Road Rehabilitation/Pavement Preserv	6,180	2 Park Maintenance Employees	163	2 Code Compliance Officers	184	
			4 Homeless Assistance: 3 HART, 1 PRO	673	Station Improvements/Equipment	100	* and associated costs		1 Recreation Coordinator	92	Community Cleanup/Abatement for Code Com	100	
			8 Police Cars and Equipment - exp	165	1 Professional Staff	112	3% annual increase		Existing Parks Additional Maintenance	162	City Owned Building Maintenance	299	
			3 Professional Staff	306					Existing Parks Additional Improvements	283			
			Public Safety Building Reserve	4,000									
			Subtotals	8,797	2,044	6,180	699	582	18,303	1,281	1,985		
3	19,976				New Elements								
					Station #4 Construction	6,825			1 Park Maintenance Employee	80			
									* Equipment/Vehicles	60			
					Continuing Elements								
			4 Police Officers: Patrol	666	3 Firefighters	343	Road Rehabilitation/Pavement Preserv	6,365	2 Park Maintenance Employees	250	2 Code Compliance Officers	187	
			4 Homeless Assistance: 3 HART, 1 PRO	686	Station Improvements/Equipment	100	* and associated costs		1 Recreation Coordinator	94	Community Cleanup/Abatement for Code Com	100	
			8 Police Cars and Equipment - exp	165	1 Professional Staff	104	3% annual increase		Existing Parks Additional Maintenance	163	City Owned Building Maintenance	307	
			3 Professional Staff	312					Existing Parks Additional Improvements	286			
			Public Safety Building Reserve	3,000									
			Subtotals	4,829	7,372	6,365	932	594	20,093	(117)	1,868		
4	20,375				New Elements								
			Public Safety Building Furnishings	2,000	1 Firefighter	110							
			Public Safety Building Completion *	4,600	9 Station #4 Staffing	1,800							
			* debt payment		Station #4 Furnishings/Equipment	1,000							
					Continuing Elements								
			8 Police Officers	678	3 Firefighters	350	Road Rehabilitation/Pavement Preserv	6,556	3 Park Maintenance Employees	254	2 Code Compliance Officers	191	
			4 Homeless Assistance: 3 HART, 1 PRO	700	Station Improvements/Equipment	100	* and associated costs		1 Recreation Coordinator	95	Community Cleanup/Abatement for Code Com	100	
			8 Police Cars and Equipment - exp	165	1 Professional Staff	106	3% annual increase		Existing Parks Additional Maintenance	165	City Owned Building Maintenance	315	
			3 Professional Staff	318					Existing Parks Additional Improvements	288			
			Subtotals	8,461	3,466	6,556	803	606	19,892	483	2,351		
5	20,783				New Elements								
			4 Police Officers	691	1 Ladder Truck	2,400							
			Police Cars and Equipment (new & replacements	870									
			Professional Staff vehicle replacements (2)	160									
			2 Professional Staff	200									
					Continuing Elements								
			4 Police Officers	691	4 Firefighters	475	Road Rehabilitation/Pavement Preserv	6,753	3 Park Maintenance Employees	254	2 Code Compliance Officers	194	
			4 Homeless Assistance: 3 HART, 1 PRO	713	9 Station #4 Staffing	1,800	* and associated costs		1 Recreation Coordinator	95	Community Cleanup/Abatement for Code Com	100	
			8 Police Cars and Equipment - exp	45	Station Improvements/Equipment	110	3% annual increase		Existing Parks Additional Maintenance	165	City Owned Building Maintenance	324	
			3 Professional Staff	324	1 Professional Staff	108			Existing Parks Additional Improvements	288			
			Public Safety Building debt payment	4,600									
			Subtotals	8,294	4,893	6,753	803	618	21,362	(579)	1,772		
5 Year Totals			39,551	19,740	31,855	4,027	2,972	98,145					
		Average Per Year	7,910	3,948	6,371	805	594	19,629					
			40%	20%	32%	4%	3%						
6	21,198				New Elements								
					Fire Engine Replacement	1,250			2 Park Maintenance Employees	271			
					Training Facility - Station #2	750			* Equipment/Vehicles Replacements				
					Continuing Elements								
			8 Police Officers	1,408	4 Firefighters	484	Road Rehabilitation/Pavement Preserv	6,956	3 Park Maintenance Employees	274	2 Code Compliance Officers	198	
			4 Homeless Assistance: 3 HART, 1 PRO	726	9 Station #4 Staffing	1,938	* and associated costs		1 Recreation Coordinator	97	Community Cleanup/Abatement for Code Com	100	
			12 Police Cars and Equipment - exp	245	Station Improvements/Equipment	110	3% annual increase		Existing Parks Additional Maintenance	166	City Owned Building Maintenance	332	
			5 Professional Staff	550	1 Professional Staff	110			Existing Parks Additional Improvements	291			
			Public Safety Building debt payment	5,000									
			Subtotals	7,929	4,642	6,956	1,100	630	21,257	(59)	1,713		

CITY OF HANFORD
Initial Spending Plan With Maintenance and Emerging Needs
All Amounts in Thousand
Growth Rate 2%

Plan Elements												
Year	Revenue Forecast	Units	Police	Fire	Streets	Parks and Community Services	Maintenance & Emerging Needs @ 3%	Total Expenditures	Net gain/(loss)	Economic Uncertainty (15% of revenues, \$2,900 min.)		
7	21,622		New Elements									
			Continuing Elements									
8			Police Officers	1,434	4 Firefighters	493	Road Rehabilitation/Pavement Preserv	7,164	5 Park Maintenance Employees	440	2 Code Compliance Officers	202
4			Homeless Assistance: 3 HART, 1 PRO	739	9 Station #4 Staffing	1,976	* and associated costs		1 Recreation Coordinator	99	Community Cleanup/Abatement for Code Com	100
12			Police Cars and Equipment - exp	245	Station Improvements/Equipment	110	3% annual increase		Existing Parks Additional Maintenance	168	City Owned Building Maintenance	341
5			Professional Staff	560	1 Professional Staff	112			Existing Parks Additional Improvements	294		
			Public Safety Building debt payment	6,400								
			Subtotals	9,378	2,691	7,164		1,001	643	20,877	745	2,459
8	22,055		New Elements									
			1 Firefighter	120	Small Truck - Type 6 Apparatus Replacen	500						
			Continuing Elements									
8			Police Officers	1,459	4 Firefighters	502	Road Rehabilitation/Pavement Preserv	7,379	5 Park Maintenance Employees	448	2 Code Compliance Officers	205
4			Homeless Assistance: 3 HART, 1 PRO	752	9 Station #4 Staffing	2,014	* and associated costs		1 Recreation Coordinator	101	Community Cleanup/Abatement for Code Com	100
12			Police Cars and Equipment - exp	245	Station Improvements/Equipment	100	3% annual increase		Existing Parks Additional Maintenance	171	City Owned Building Maintenance	151
5			Professional Staff	570	1 Professional Staff	114			Existing Parks Additional Improvements	300		
			Public Safety Building debt payment	6,400								
			Subtotals	9,427	3,350	7,379		1,020	456	21,631	424	2,882
9	22,496		New Elements									
			Fire Engine Replacement	1,250								
			Continuing Elements									
8			Police Officers	1,485	5 Firefighters	638	Road Rehabilitation/Pavement Preserv	7,601	5 Park Maintenance Employees	456	2 Code Compliance Officers	209
4			Homeless Assistance: 3 HART, 1 PRO	766	9 Station #4 Staffing	2,052	* and associated costs		1 Recreation Coordinator	103	Community Cleanup/Abatement for Code Com	100
12			Police Cars and Equipment - exp	245	Station Improvements/Equipment	200	3% annual increase		Existing Parks Additional Maintenance	173	City Owned Building Maintenance	160
5			Professional Staff	580	1 Professional Staff	116			Existing Parks Additional Improvements	302		
			Public Safety Building debt payment	6,400								
			Subtotals	9,475	4,256	7,601		1,034	469	22,835	(339)	2,543
10	22,946		New Elements									
			Police Vehicles and Equipment (replacements)	1,480								
			Professional Staff vehicle replacements (3)	240								
			Continuing Elements									
8			Police Officers	1,510	5 Firefighters	649	Road Rehabilitation/Pavement Preserv	7,829	5 Park Maintenance Employees	464	2 Code Compliance Officers	212
4			Homeless Assistance: 3 HART, 1 PRO	779	9 Station #4 Staffing	2,090	* and associated costs		1 Recreation Coordinator	104	Community Cleanup/Abatement for Code Com	100
12			Police Cars and Equipment - exp	245	Station Improvements/Equipment	200	3% annual increase		Existing Parks Additional Maintenance	174	City Owned Building Maintenance	170
5			Professional Staff	600	1 Professional Staff	118			Existing Parks Additional Improvements	305		
			Public Safety Building debt payment	6,400								
			Subtotals	11,254	3,057	7,829		1,048	482	23,670	(724)	1,819
5 Year Totals for Years 6-10			47,463	17,995	36,928	5,203	2,681	110,271				
			Average Per Year	9,493	3,599	7,386	1,041	536	22,054			
			Total Years 1-10	87,014	37,735	68,783	9,230	5,653	208,416			
Total	210,235		42%		18%	33%	4%	3%	99%			
10 Year Results			Police	Fire	Roads	Parks and Community Services	Maintenance and Emerging Needs					
			8 Police Officers: Patrol	5 New Firefighters	Road Rehabilitation/Pavement Preservation *	5 Park Maintenance Employees	2 Code Compliance Officers					
			4 Homeless Assistance: 3 HART, 1 PRO	1 Professional Staff	* and associated costs	1 Recreation Coordinator	Equipment and Vehicles					
			12 Police Cars and Equipment	9 Station #4 Staffing	(PCI to 65)	Equipment and Vehicles	Community Cleanup/Abatement for Code Compliance					
			5 Professional Staff	Station #4		Existing Parks Additional Maintenance	City Owned Building Maintenance					
			Police Vehicle and Equipment Replacements	Station Improvements/Equipment		Existing Parks Additional Improvements						
			Public Safety Building	Communications Equipment								
			1 SWAT, special vehicle	Training Facility								
				Fire Engine (New)								
				Ladder Truck (replacement)								
				Fire Engine (replacements - 2)								
				Small Truck - Type 6 Apparatus Replacement								



AGENDA STAFF REPORT

MEETING DATE: 6/18/2024

AGENDA SECTION: GENERAL BUSINESS

SUBJECT:

Council: Further Council discussion about the Central Parking and Business Improvement Area Advisory Board and proposed amendments to the Municipal Code regarding the board composition and how it's filled.

RECOMMENDATION:

Recommendation: That the City Council discuss the Central Parking and Business Improvement Area Advisory Board and proposed amendments to the Municipal Code regarding the board composition and how it's filled and provide direction to staff on an Ordinance amending the Chapter.

BACKGROUND

On April 2, 2024, as part of a presentation to Council regarding downtown matters, Council discussed the City's Business Improvement Area and the required seven-member board, which must be comprised of business owners in the Downtown, that is tasked with making recommendations to Council on funding and other matters in the Business Improvement Area as it relates to the following:

- A. The acquisition, construction or maintenance of parking facilities for the benefit of the area;
- B. The decoration of any public place in the area;
- C. The promotion of public events which are to take place on or in public places in the area;
- D. The furnishing of music in any public place in the area; and
- E. The general promotion of retail trade activities in the area.

During that discussion, Council reviewed a district map that includes seven districts (each district contains an equal number of businesses) and directed staff to move forward with municipal code amendments to add that the board members represent the BID by districts to ensure that the BID has broad representation among the entire area.

On May 7, 2024, the City Council approved the Introduction of Ordinance No. 24-05, amending Chapter 3.28 of the Hanford Municipal Code to allow for the reestablishment of the Central Parking and Business Improvement Area Advisory Board as required by the Hanford Municipal Code with the addition of staggered 4-year terms consistent with other City Committees/Commissions. More specifically, the proposed ordinance amendments would have:

- Increased the terms of the board members to be consistent with other City commissions;
- Amended the duties of the board to go beyond simple budget matters
- Updated various sections related to Business Licensing to be consistent with the current version of Chapters 5.04 and 5.08.

- Amended budget cycle language to be consistent with the City's 2-year budget process.

On June 4, 2024, the Approval and Adoption of the Second Reading of the ordinance to adopt those changes was pulled from the Consent Calendar and Council discussion resulted in a request to bring back a General Business item to reconsider additional language for the ordinance to include a process for how the board would elected/appointed.

Staff is seeking direction on any proposed changes to the HMC Chapter governing the Business Improvement Area.

FISCAL IMPACT:

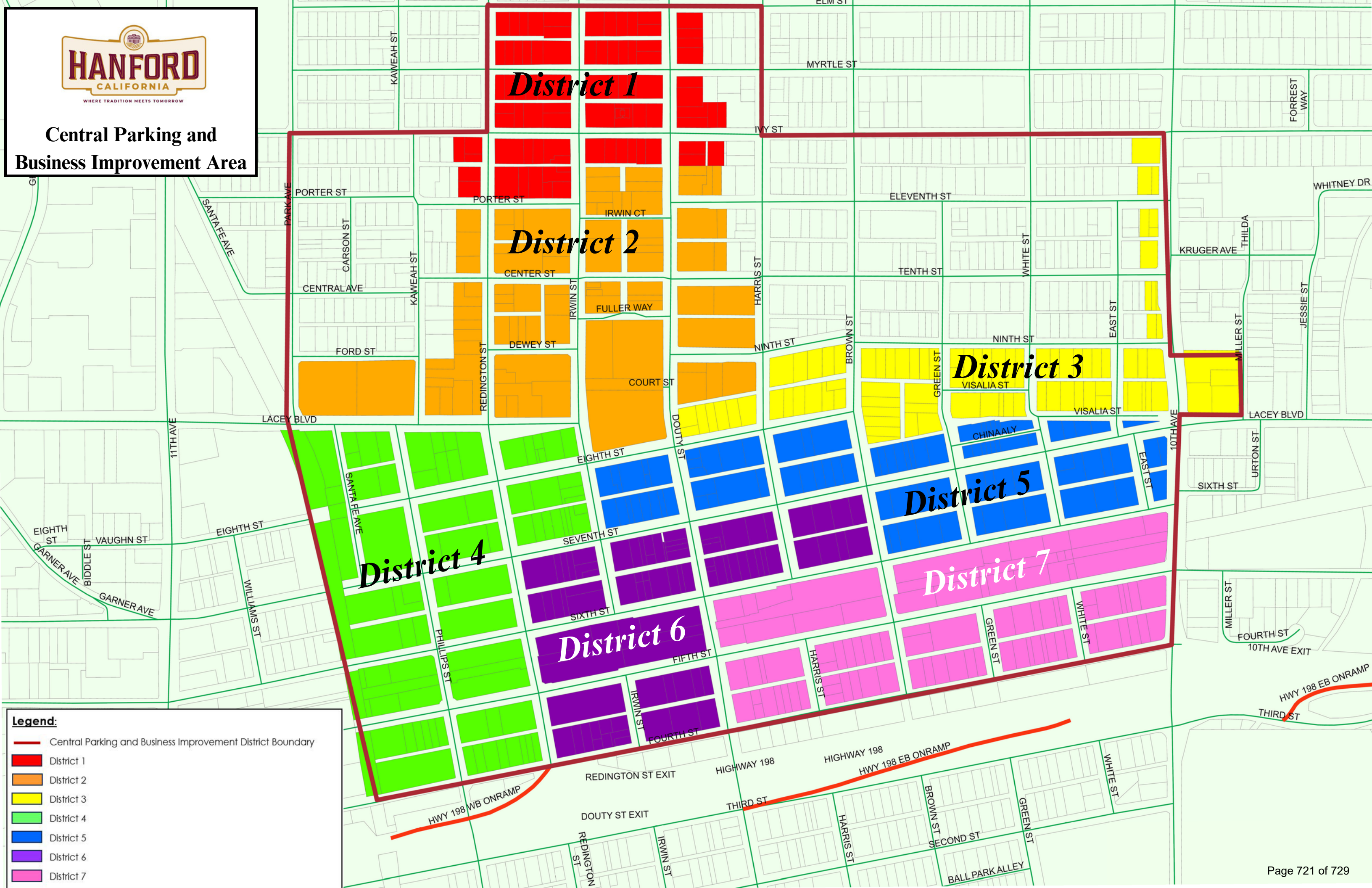
There will be no impact to the General Fund related to any changes in the HMC. However, any staff time related to the creation and oversight of an election process would have to be billed to the BID Fund.

ATTACHMENTS:

1. BIA District Map
2. Chapter 3.28 CENTRAL PARKING AND BUSINESS IMPROVEMENT AREA - Redline



Central Parking and
Business Improvement Area



Chapter 3.28 CENTRAL PARKING AND BUSINESS IMPROVEMENT AREA

3.28.010 Authority.

3.28.020 Designation.

3.28.030 Area description.

3.28.040 Use of regular business license taxes within area.

3.28.050 Imposition of tax.

3.28.060 Initial rate of increase or additional levy of business license tax.

3.28.070 Definitions and classifications.

3.28.080 Collection of tax.

3.28.090 Exemption—Voluntary contributions.

3.28.100 Enforcement of provisions.

3.28.110 Proposed uses.

3.28.120 Advisory board—~~Budget~~.

3.28.130 Regular and additional revenues—Deposits.

3.28.140 Central parking and improvement fund—Established.

3.28.150 Central parking and improvement fund—Use of funds.

3.28.010 Authority.

This chapter is adopted pursuant to the authority of the “Parking and Business Improvement Area Law of 1965,” being Sections 36000 et seq. of the Streets and Highway Code of the state. (Prior code § 3-6.101)

3.28.020 Designation.

There is created and established a parking and business improvement area designated as the “central parking and business improvement area of the city of Hanford,” hereinafter for brevity and convenience referred to as “area.” (Prior code § 3-6.102)

3.28.030 Area description.

A description of the exterior boundaries of said central parking and business improvement area of the city is as follows:

All that certain area situated in the city of Hanford, county of Kings, state of California, more particularly described as follows:

Beginning at the intersection of the center line of Redington Street and Ivy Street; thence northerly along the center line of Redington Street approximately 660 feet to its intersection with the center line of Elm Street; thence easterly along the center line of Elm Street approximately 1,500 feet to the center line of Harris Street; thence southerly along the center line of Harris Street approximately 660 feet to the center line of Ivy Street; thence easterly along the center line of Ivy Street approximately 2,150 feet to the east line of Section 25, said east line being located in the 10th Avenue right-of-way; thence southerly along the east line of said Section 25 approximately 1,300 feet to the north boundary line of the territory annexed by Ordinance No. 651; thence easterly along the boundary line of said annexed territory approximately 190 feet to an angle point in said boundary line, said point being located 10 feet east of the northeast corner of Lot 6 of Block 1 of Orange Addition and also being located on the east line of Assessor's Parcel No. 14-211-10; thence southerly along said line of Assessor's Parcel No. 14-211-10 and its southerly prolongation thereof approximately 180 feet to the south line of Section 30, said line being located in the Lacey Boulevard right-of-way; thence easterly along the south line of Section 30 a distance of approximately 52.5 feet to its point of intersection with the northeast corner of the territory annexed by Ordinance No. 693, said point being located on a northerly prolongation of the east line of Assessor's Parcel No. 16-011-12 and being also located 12.5 feet east of a northerly prolongation of the west line of Lot 9 of Block X of Manasse and Simon Addition; thence southerly along the east line of the territory annexed by Ordinance No. 693 a distance of approximately 200 feet to the southeast corner of said annexed territory, said corner being located on the south line of the alley in Block X; thence westerly along the south line of last said annexed territory a distance of approximately 242.5 feet to the east line of Section 36, said line being located in the 10th Avenue right-of-way; thence southerly along said section line in 10th Avenue approximately 1,200 feet to its intersection with the construction center line of State Highway 198; thence westerly along said construction center line of State Highway 198 approximately 4,280 feet to its point of intersection with the east line of the A.T.&S.F. Railroad right-of-way, said line being also an east line for the right-of-way for the former City street named Thornton Street; thence northerly along the east line of said railroad right-of-way and said former street right-of-way and its northerly prolongation thereof to its point of intersection with the south line of Section 25; thence westerly along the south line of said Section 25 approximately 150 feet to its point of intersection with the center line of Park Avenue; thence northerly along the center line of Park Avenue approximately 1,500 feet to its intersection with the center line of Ivy Street; thence easterly along the center line of Ivy Street approximately 1,050 feet to the point of beginning. (Prior code § 3-6.103)

3.28.040 Use of regular business license taxes within area.

Effective July 1, 1975, all revenue from the regular business license taxes collected pursuant to Chapters 5.04 and 5.08 within the central parking and business improvement area of the city of Hanford shall be credited to the central parking and improvement fund for use as established by Sections 3.28.140 and 3.28.150. (Prior code § 3-6.104)

3.28.050 Imposition of tax.

Effective July 1, 1975, there is imposed an initial rate of increase or additional levy of business license tax upon all permanent businesses located within the boundaries of the central parking and business improvement area of the city established by this chapter and which businesses are required to pay a business license tax upon a monthly or quarterly basis under the provisions of Chapter 5.04. (Prior code § 3-6.105)

3.28.60 Initial rate of increase or additional levy of business license tax.

The additional levy of the license tax imposed upon businesses within said area is hereby fixed, levied, determined and established as follows:

A. An amount equal to one hundred (100) percent of the business license taxes imposed by Chapters 5.04 and 5.08, and subsequent amendments thereto, as the same applies to permanent businesses located within said proposed area and which are required to pay a license tax ~~upon a monthly or quarterly basis~~, excluding those businesses which pay ~~quarterly~~ license fees based upon average monthly gross receipts; and

B. When the amount of the license fee required by the provisions of Chapters 5.04 and 5.08, and subsequent amendments thereto, applies to permanent businesses located within said proposed area which pay a ~~quarterly~~ license tax based upon the amount of gross receipts from the sales of business transacted, the additional levy imposed shall be as follows:

1. An amount equal to one hundred (100) percent on gross annual sales up to five hundred thousand dollars (\$500,000.00) per business,

2. An amount equal to fifty (50) percent on all portions of gross annual sales between five hundred thousand dollars (\$500,000.00) and one million dollars (\$1,000,000.00) per business, and

3. An amount equal to twenty-five percent (25) on all portions of gross annual sales exceeding one million dollars (\$1,000,000.00) per business. (Prior code § 3-6.106)

3.28.070 Definitions and classifications.

The definitions and classifications of business shall be determined by the definitions and classifications set forth in Chapter 5.04 and 5.08 as the same apply to businesses within the area. (Prior code § 3-6.107)

3.28.080 Collection of tax.

The collection of the initial rate of increase or additional levy of business license tax imposed by this chapter shall be made at the same time and in the same manner as the ordinary business license taxes of the city under the provisions of Chapter 5.04 and 5.08 as the same apply to businesses which are required to pay a license tax upon a monthly or quarterly basis. Such tax shall be computed in the manner provided for in Chapter 5.04 and 5.08 and shall be due and payable and subject to the same penalties for delinquencies as provided in Chapter 5.04 and 5.08 of this title as the same applies to businesses paying a regular business license tax on a quarterly or monthly basis. (Prior code § 3-6.108)

3.28.090 Exemption—Voluntary contributions.

Any business, person or institution located within said area, or which is exempt from the payment of the ordinary business license taxes of the city by reason of the laws of the United States or the state shall not be taxed under this chapter but may make a voluntary contribution to the city. Such contributions shall be used for the purposes provided in Section 3.28.110. (Prior code § 3-6.109)

3.28.100 Enforcement of provisions.

It shall be the duty of the director of finance and his or her designee ~~deputies~~ to enforce the provisions of this chapter. The director of finance and his or her designee ~~deputies and the police officers~~ shall have the power to enforce business license requirements as set forth in Chapter 5.04 ~~enter, free of charge, at any time, any place of business for which such license is required and to demand the exhibition of such license. It shall be the duty of all police officers to cause complaints to be filed against all persons violating any of the provisions of this chapter.~~ (Prior code § 3-6.110)

3.28.110 Proposed uses.

The uses to which the business license tax imposed by Chapter 5.04 and 5.08 and the additional revenues received by the initial rate of increase or additional levy of business license tax imposed by this chapter and all voluntary contributions are to be put are as follows:

- A. The acquisition, construction or maintenance of parking facilities for the benefit of the area;
- B. The decoration of any public place in the area;
- C. The promotion of public events which are to take place on or in public places in the area;
- D. The furnishing of music in any public place in the area; and
- E. The general promotion of retail trade activities in the area. (Prior code § 3-6.111)

3.28.120 Advisory board—~~Budget~~.

For the sole purpose of advising the council and making recommendations on the operation and extent of the area, the methods and ways in which the revenue derived from the levy of the license tax imposed by this chapter shall be used within the scope of the purposes set forth in Section 3.28.110, of this article, and to have and to perform such other powers and duties as the council may determine, there shall be created an advisory board, which shall consist of seven (7) members to be appointed by the mayor, with the concurrence of the council, for a term of ~~one~~ four (4) years, to serve at the pleasure of the mayor and the council, said members to be persons who have businesses within the area that pay an additional levy of license tax as provided for by this chapter. The council may ~~annually~~ approve a budget, consistent with the budget cycle used by the City, to include an estimate of expenditures to be made to carry out the purposes of the central parking and business improvement area of the city. (Prior code § 3-6.112)

3.28.130 Regular and additional revenues—Deposits.

The revenues received by the business license tax imposed by Chapters 5.04 and 5.08 from businesses within the area and the additional rate of increase or additional levy of business license tax imposed by this chapter and all voluntary contributions shall be deposited in the central parking and improvement fund created by Section 3.28.140. (Prior code § 3-6.113)

3.28.140 Central parking and improvement fund—Established.

There is established in the city a fund to be designated as the “central parking and improvement fund.” (Prior code § 3-6.201)

3.28.150 Central parking and improvement fund—Use of funds.

All revenues deposited in the central parking and improvement fund shall be used for the following purposes:

- A. The acquisition, construction or maintenance of parking facilities for the benefit of the area;
- B. The decoration of any public place in the area;
- C. The promotion of public events which are to take place on or in public places in the area;
- D. The furnishing of music in any public place in the area; and
- E. The general promotion of retail trade activities in the area. (Prior code § 3-6.202)



AGENDA STAFF REPORT

MEETING DATE: 6/18/2024	AGENDA SECTION: GENERAL BUSINESS
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SUBJECT:

Council: Review and discuss the committees that will have a vacancy due to the resignation of Kalish Morrow and make new Appointments as appropriate.

RECOMMENDATION:

Recommendation: That the Council receive and discuss the list of committees and boards that have Council representation and make appointments as warranted.

BACKGROUND:

The attached list represents the most recent Committee Assignments for City Council members. With the resignation of Kalish Morrow as the District B representative, staff asks the Council to review the list and advise the Mayor on any request to be assigned to any of the committees or boards that Ms. Morrow represented the City on.

The Mayor will then make a recommendation to the full Council regarding which representatives will serve on the boards that Ms. Morrow no longer serves on.

FISCAL IMPACT:

ATTACHMENTS:

1. Council Representation 2024



2024 COUNCIL REPRESENTATION ON BOARDS,

COMMISSIONS, COMMITTEES

Organization	Primary Appointment	Alternate Appointment
<u>Kings Economic Development Corporation</u> (Last Monday each month – 11:30 am)	Kalish Morrow	Travis Paden
<u>Kings County Association of Governments</u> (4th Wednesday each month – 4:30 pm) Requires Form 700	Kalish Morrow	Travis Paden
<u>Kings County Area Public Transit Agency (KART)</u> (4th Wednesday each month – 1:30 pm) Requires Form 700	Kalish Morrow	Travis Paden
<u>Kings County Abandoned Vehicle Authority</u> As needed (4 th Wednesday each month – 4:30 pm) Requires Form 700	Kalish Morrow	Travis Paden
<u>Kings Community Action Organization (KCAO)</u> (3rd Wednesday each month - 4:30 pm) Requires Form 700	Lou Martinez	Travis Paden
<u>Kings Waste and Recycling Authority (KWRA)</u> (2nd Wednesday each month - 8:00 am) Requires Form 700	Lou Martinez	N/A
<u>Mid-Kings River Groundwater Sustainability Agency</u> (2 nd Tuesday of each month – 1:00 pm) (Alternate not required) Requires Form 700	Mark Kairis	N/A
<u>Kings County Area Disaster Council</u> (Meets 2-3 times a year) Director of Emergency Services, Fire Chief, or the City Manager	Mario Cifuentez	Fire Chief
<u>Kings County Commission On Aging</u> (3 rd Thursday each month – 2:30 pm) Community Member The City Council's within Kings County shall appoint one person each.	Susie Chavez	
<u>Kings Mosquito Abatement District Board</u> (3 rd Thursday of each month – 9:00 am) One (1) member from each of the three (3) cities (Corcoran, Hanford, and Lemoore) 3 Year Term	Cindy Harris (Exp. 12/31/2026)	

Council Future Agenda Items				
Originated Date	Item	Originator	Staff Lead	Date Estimate
12/5/2023	Council review of a variety of Zoning Ordinance Clean-Up Items and direction on proposed amendments to several chapters.	Council Direction	Gabrielle Myers	7/2/2024
4/10/2024	Council consideration of a Resolution to place a Sales Tax Measure on the November General Election Ballot.	Council Direction	Chris Tavarez	7/2/2024
6/4/24	Council discussion of the process to honor retired K9's and options for rescue organizations.	Council Direction	Chief Huddleston	8/6/2024
6/4/24	Council review of the Mobile Vending ordinance and the sections related to Food Trucks.	Council Direction	Jason Waters	7/2/2024